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# Éphémérides du Soleil et de la Lune

Navigation astronomique — 2027–2035

**Édition de l'Atlantique à l'océan Indien**

Les heures autour du midi et du passage de la Lune au méridien de Greenwich (0°)

Version du 13 novembre 2026

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# Mode d'emploi

*Exemple suivi d'étape en étape : le Soleil, bord inférieur, le 12 juin 2027 à 10 h 23 min 41 s UTC, œil à 2,5 m, erreur de collimation +1,4'.*

## La hauteur de l'astre

**1 Hauteur instrumentale.** Lisez le sextant ($H_i$) et retranchez l'erreur de collimation $e$. Avec un horizon artificiel, divisez ensuite par 2 : la lecture vaut le double de la hauteur.

$H_s = H_i - e$ — $62°14{,}6' - 1{,}4' = 62°13{,}2'$

**2 Dépression.** Sur l'horizon de mer, ajoutez la dépression (table 1, toujours négative). Rien avec un horizon artificiel.

$H_a = H_s + \text{dép.}$ — $62°13{,}2' - 2{,}8' = 62°10{,}4'$ (œil 2,5 m)

**3 Hauteur vraie.** Ajoutez la correction totale du Soleil (table 2) ou de la Lune (table 3), lue avec $H_a$ et, pour la Lune, la parallaxe horizontale SP de la page du jour. Elle réunit réfraction, parallaxe et demi-diamètre : ne les ajoutez pas une seconde fois.

$H_v = H_a + \text{corr.}$ — $62°10{,}4' + 15{,}4' = 62°25{,}8'$ (table 2)

## La position de l'astre

**4 Angle horaire.** Sur la page du mois, lisez le GHA à l'heure ronde qui précède l'observation, puis interpolez pour les minutes et secondes écoulées : table 4, puis table 5 pour $v$, le Δ'/h de la ligne du GHA (l'excès sur 15°/h pour le Soleil, 14°/h pour la Lune).

$\text{GHA} = \text{GHA}_h + \text{table 4} + \text{table 5}\,(v)$ — $330°02{,}6' + 5°55{,}2' + 0{,}0' = 335°57{,}8'$

**5 Déclinaison.** Lisez la déclinaison à l'heure ronde et ajoutez l'interpolation de $d$, le Δ'/h de la ligne de déclinaison, avec son signe.

$\text{Dec} = \text{Dec}_h + \text{table 5}\,(d)$ — $23°08{,}9' + 0{,}1' = 23°09{,}0'$ ($d = +0{,}2$)

Les tables supposent 10 °C et 1010 hPa ; sous 10° de hauteur, la réfraction varie avec le temps qu'il fait et les mesures sont moins sûres. Formules : dépression $1{,}76'\sqrt{h}$ ; réfraction de Bennett ; parallaxe $0{,}15'\cos H_a$ (Soleil), $\arcsin(\sin SP \cos H_a)$ (Lune) ; demi-diamètre de la Lune $0{,}2725\,SP$.

**Table 1 — Dépression de l'horizon**

| Œil (m) | Dép. |
|---:|---:|
| 0,5 | −1,2 |
| 1,0 | −1,8 |
| 1,5 | −2,2 |
| 2,0 | −2,5 |
| 2,5 | −2,8 |
| 3,0 | −3,0 |
| 3,5 | −3,3 |
| 4,0 | −3,5 |
| 4,5 | −3,7 |
| 5,0 | −3,9 |
| 6,0 | −4,3 |
| 7,0 | −4,7 |
| 8,0 | −5,0 |
| 9,0 | −5,3 |
| 10,0 | −5,6 |
| 12,0 | −6,1 |
| 14,0 | −6,6 |
| 16,0 | −7,0 |
| 18,0 | −7,5 |
| 20,0 | −7,9 |
| 25,0 | −8,8 |
| 30,0 | −9,6 |

**Table 2 — Soleil : correction totale**

| | Octobre – mars | | Avril – septembre | |
|---|---|---|---|---|
| $H_a$ | **Bord inf.** | **Bord sup.** | **Bord inf.** | **Bord sup.** |
| 5°00’ | +6.4 | −25.8 | +6.2 | −25.6 |
| 5°30’ | +7.1 | −25.1 | +6.9 | −24.9 |
| 6°00’ | +7.7 | −24.5 | +7.5 | −24.3 |
| 6°30’ | +8.3 | −23.9 | +8.1 | −23.7 |
| 7°00’ | +8.8 | −23.4 | +8.6 | −23.2 |
| 7°30’ | +9.2 | −23.0 | +9.0 | −22.8 |
| 8°00’ | +9.6 | −22.6 | +9.4 | −22.4 |
| 8°30’ | +10.0 | −22.2 | +9.8 | −22.0 |
| 9°00’ | +10.3 | −21.9 | +10.1 | −21.7 |
| 9°30’ | +10.6 | −21.6 | +10.4 | −21.4 |
| 10°00’ | +10.9 | −21.3 | +10.7 | −21.1 |
| 11°00’ | +11.3 | −20.9 | +11.1 | −20.7 |
| 12°00’ | +11.7 | −20.5 | +11.5 | −20.3 |
| 13°00’ | +12.1 | −20.1 | +11.9 | −19.9 |
| 14°00’ | +12.4 | −19.8 | +12.2 | −19.6 |
| 15°00’ | +12.6 | −19.6 | +12.4 | −19.4 |
| 16°00’ | +12.8 | −19.4 | +12.6 | −19.2 |
| 17°00’ | +13.0 | −19.2 | +12.8 | −19.0 |
| 18°00’ | +13.2 | −19.0 | +13.0 | −18.8 |
| 19°00’ | +13.4 | −18.8 | +13.2 | −18.6 |
| 20°00’ | +13.5 | −18.7 | +13.3 | −18.5 |
| 25°00’ | +14.1 | −18.1 | +13.9 | −17.9 |
| 30°00’ | +14.5 | −17.7 | +14.3 | −17.5 |
| 35°00’ | +14.8 | −17.4 | +14.6 | −17.2 |
| 40°00’ | +15.0 | −17.2 | +14.8 | −17.0 |
| 45°00’ | +15.2 | −17.0 | +15.0 | −16.8 |
| 50°00’ | +15.4 | −16.8 | +15.2 | −16.6 |
| 55°00’ | +15.5 | −16.7 | +15.3 | −16.5 |
| 60°00’ | +15.6 | −16.6 | +15.4 | −16.4 |
| 65°00’ | +15.7 | −16.5 | +15.5 | −16.3 |
| 70°00’ | +15.8 | −16.4 | +15.6 | −16.2 |
| 75°00’ | +15.9 | −16.3 | +15.7 | −16.1 |
| 80°00’ | +16.0 | −16.2 | +15.8 | −16.0 |
| 85°00’ | +16.0 | −16.2 | +15.8 | −16.0 |
| 90°00’ | +16.1 | −16.1 | +15.9 | −15.9 |

Réfraction, parallaxe et demi-diamètre (16,1’ d’octobre à mars, 15,9’ d’avril à septembre). À ajouter à $H_a$.

## Table 3 — Lune : correction totale

| Bord inférieur | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| $H_a$ \ SP | **54'** | **55'** | **56'** | **57'** | **58'** | **59'** | **60'** | **61'** | **62'** |
| 5°00' | +58.6 | +59.9 | +61.2 | +62.4 | +63.7 | +65.0 | +66.2 | +67.5 | +68.8 |
| 6°00' | +59.9 | +61.2 | +62.4 | +63.7 | +65.0 | +66.2 | +67.5 | +68.8 | +70.0 |
| 7°00' | +60.9 | +62.1 | +63.4 | +64.7 | +65.9 | +67.2 | +68.4 | +69.7 | +71.0 |
| 8°00' | +61.6 | +62.8 | +64.1 | +65.4 | +66.6 | +67.9 | +69.1 | +70.4 | +71.7 |
| 9°00' | +62.1 | +63.4 | +64.6 | +65.9 | +67.1 | +68.4 | +69.7 | +70.9 | +72.2 |
| 10°00' | +62.5 | +63.8 | +65.0 | +66.3 | +67.5 | +68.8 | +70.0 | +71.3 | +72.6 |
| 11°00' | +62.8 | +64.1 | +65.3 | +66.6 | +67.8 | +69.1 | +70.3 | +71.6 | +72.8 |
| 12°00' | +63.0 | +64.3 | +65.5 | +66.8 | +68.0 | +69.3 | +70.5 | +71.8 | +73.0 |
| 13°00' | +63.1 | +64.4 | +65.6 | +66.9 | +68.1 | +69.4 | +70.6 | +71.9 | +73.1 |
| 14°00' | +63.2 | +64.5 | +65.7 | +66.9 | +68.2 | +69.4 | +70.7 | +71.9 | +73.2 |
| 15°00' | +63.2 | +64.5 | +65.7 | +67.0 | +68.2 | +69.4 | +70.7 | +71.9 | +73.1 |
| 20°00' | +62.8 | +64.0 | +65.2 | +66.4 | +67.6 | +68.8 | +70.0 | +71.2 | +72.5 |
| 25°00' | +61.5 | +62.7 | +63.9 | +65.1 | +66.2 | +67.4 | +68.6 | +69.8 | +71.0 |
| 30°00' | +59.8 | +60.9 | +62.0 | +63.2 | +64.3 | +65.5 | +66.6 | +67.7 | +68.9 |
| 35°00' | +57.5 | +58.6 | +59.7 | +60.8 | +61.9 | +63.0 | +64.1 | +65.2 | +66.3 |
| 40°00' | +54.9 | +55.9 | +57.0 | +58.0 | +59.0 | +60.1 | +61.1 | +62.2 | +63.2 |
| 45°00' | +51.9 | +52.9 | +53.9 | +54.8 | +55.8 | +56.8 | +57.8 | +58.8 | +59.7 |
| 50°00' | +48.6 | +49.5 | +50.4 | +51.3 | +52.3 | +53.2 | +54.1 | +55.0 | +55.9 |
| 55°00' | +45.0 | +45.8 | +46.7 | +47.5 | +48.4 | +49.2 | +50.1 | +50.9 | +51.8 |
| 60°00' | +41.1 | +41.9 | +42.7 | +43.5 | +44.2 | +45.0 | +45.8 | +46.5 | +47.3 |
| 65°00' | +37.1 | +37.8 | +38.5 | +39.2 | +39.9 | +40.5 | +41.2 | +41.9 | +42.6 |
| 70°00' | +32.8 | +33.4 | +34.1 | +34.7 | +35.3 | +35.9 | +36.5 | +37.1 | +37.7 |
| 75°00' | +28.4 | +29.0 | +29.5 | +30.0 | +30.5 | +31.1 | +31.6 | +32.1 | +32.7 |
| 80°00' | +23.9 | +24.4 | +24.8 | +25.3 | +25.7 | +26.1 | +26.6 | +27.0 | +27.5 |
| 85°00' | +19.3 | +19.7 | +20.1 | +20.4 | +20.8 | +21.1 | +21.5 | +21.9 | +22.2 |
| 90°00' | +14.7 | +15.0 | +15.3 | +15.5 | +15.8 | +16.1 | +16.4 | +16.6 | +16.9 |

| Bord supérieur | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| $H_a$ \ SP | **54'** | **55'** | **56'** | **57'** | **58'** | **59'** | **60'** | **61'** | **62'** |
| 5°00' | +29.2 | +29.9 | +30.6 | +31.4 | +32.1 | +32.8 | +33.5 | +34.3 | +35.0 |
| 6°00' | +30.5 | +31.2 | +31.9 | +32.6 | +33.4 | +34.1 | +34.8 | +35.5 | +36.3 |
| 7°00' | +31.4 | +32.1 | +32.9 | +33.6 | +34.3 | +35.0 | +35.7 | +36.5 | +37.2 |
| 8°00' | +32.1 | +32.9 | +33.6 | +34.3 | +35.0 | +35.7 | +36.4 | +37.2 | +37.9 |
| 9°00' | +32.7 | +33.4 | +34.1 | +34.8 | +35.5 | +36.2 | +37.0 | +37.7 | +38.4 |
| 10°00' | +33.1 | +33.8 | +34.5 | +35.2 | +35.9 | +36.6 | +37.3 | +38.1 | +38.8 |
| 11°00' | +33.4 | +34.1 | +34.8 | +35.5 | +36.2 | +36.9 | +37.6 | +38.3 | +39.0 |
| 12°00' | +33.6 | +34.3 | +35.0 | +35.7 | +36.4 | +37.1 | +37.8 | +38.5 | +39.2 |
| 13°00' | +33.7 | +34.4 | +35.1 | +35.8 | +36.5 | +37.2 | +37.9 | +38.6 | +39.3 |
| 14°00' | +33.8 | +34.5 | +35.2 | +35.9 | +36.6 | +37.3 | +38.0 | +38.7 | +39.4 |
| 15°00' | +33.8 | +34.5 | +35.2 | +35.9 | +36.6 | +37.3 | +38.0 | +38.7 | +39.4 |
| 20°00' | +33.3 | +34.0 | +34.7 | +35.3 | +36.0 | +36.7 | +37.3 | +38.0 | +38.7 |
| 25°00' | +32.1 | +32.7 | +33.4 | +34.0 | +34.6 | +35.3 | +35.9 | +36.5 | +37.2 |
| 30°00' | +30.3 | +30.9 | +31.5 | +32.1 | +32.7 | +33.3 | +33.9 | +34.5 | +35.1 |
| 35°00' | +28.1 | +28.6 | +29.2 | +29.7 | +30.3 | +30.8 | +31.4 | +31.9 | +32.5 |
| 40°00' | +25.5 | +26.0 | +26.5 | +26.9 | +27.4 | +27.9 | +28.4 | +28.9 | +29.4 |
| 45°00' | +22.5 | +22.9 | +23.3 | +23.8 | +24.2 | +24.6 | +25.1 | +25.5 | +25.9 |
| 50°00' | +19.2 | +19.5 | +19.9 | +20.3 | +20.6 | +21.0 | +21.4 | +21.8 | +22.1 |
| 55°00' | +15.6 | +15.9 | +16.2 | +16.5 | +16.8 | +17.1 | +17.4 | +17.7 | +18.0 |
| 60°00' | +11.7 | +11.9 | +12.2 | +12.4 | +12.6 | +12.8 | +13.1 | +13.3 | +13.5 |
| 65°00' | +7.6 | +7.8 | +7.9 | +8.1 | +8.2 | +8.4 | +8.5 | +8.7 | +8.8 |
| 70°00' | +3.4 | +3.5 | +3.5 | +3.6 | +3.7 | +3.7 | +3.8 | +3.9 | +3.9 |
| 75°00' | −1.0 | −1.0 | −1.0 | −1.0 | −1.1 | −1.1 | −1.1 | −1.1 | −1.1 |
| 80°00' | −5.5 | −5.6 | −5.7 | −5.8 | −5.9 | −6.0 | −6.1 | −6.2 | −6.3 |
| 85°00' | −10.1 | −10.3 | −10.5 | −10.7 | −10.8 | −11.0 | −11.2 | −11.4 | −11.6 |
| 90°00' | −14.7 | −15.0 | −15.3 | −15.5 | −15.8 | −16.1 | −16.3 | −16.6 | −16.9 |

Colonnes : parallaxe horizontale SP (page du jour). Réfraction, parallaxe et demi-diamètre ($0{,}2725\,SP$). À ajouter à $H_a$ ; interpolez entre les lignes et les colonnes.

## Table 4 — Interpolation du GHA : minutes et secondes

| min | Soleil | Lune | min | Soleil | Lune | s | Soleil | Lune |
|---|---|---|---|---|---|---|---|---|
| 0 | 0°00.0’ | 0°00.0’ | 30 | 7°30.0’ | 7°00.0’ | 0 | 0,0’ | 0,0’ |
| 1 | 0°15.0’ | 0°14.0’ | 31 | 7°45.0’ | 7°14.0’ | 2 | 0,5’ | 0,5’ |
| 2 | 0°30.0’ | 0°28.0’ | 32 | 8°00.0’ | 7°28.0’ | 4 | 1,0’ | 0,9’ |
| 3 | 0°45.0’ | 0°42.0’ | 33 | 8°15.0’ | 7°42.0’ | 6 | 1,5’ | 1,4’ |
| 4 | 1°00.0’ | 0°56.0’ | 34 | 8°30.0’ | 7°56.0’ | 8 | 2,0’ | 1,9’ |
| 5 | 1°15.0’ | 1°10.0’ | 35 | 8°45.0’ | 8°10.0’ | 10 | 2,5’ | 2,3’ |
| 6 | 1°30.0’ | 1°24.0’ | 36 | 9°00.0’ | 8°24.0’ | 12 | 3,0’ | 2,8’ |
| 7 | 1°45.0’ | 1°38.0’ | 37 | 9°15.0’ | 8°38.0’ | 14 | 3,5’ | 3,3’ |
| 8 | 2°00.0’ | 1°52.0’ | 38 | 9°30.0’ | 8°52.0’ | 16 | 4,0’ | 3,7’ |
| 9 | 2°15.0’ | 2°06.0’ | 39 | 9°45.0’ | 9°06.0’ | 18 | 4,5’ | 4,2’ |
| 10 | 2°30.0’ | 2°20.0’ | 40 | 10°00.0’ | 9°20.0’ | 20 | 5,0’ | 4,7’ |
| 11 | 2°45.0’ | 2°34.0’ | 41 | 10°15.0’ | 9°34.0’ | 22 | 5,5’ | 5,1’ |
| 12 | 3°00.0’ | 2°48.0’ | 42 | 10°30.0’ | 9°48.0’ | 24 | 6,0’ | 5,6’ |
| 13 | 3°15.0’ | 3°02.0’ | 43 | 10°45.0’ | 10°02.0’ | 26 | 6,5’ | 6,1’ |
| 14 | 3°30.0’ | 3°16.0’ | 44 | 11°00.0’ | 10°16.0’ | 28 | 7,0’ | 6,5’ |
| 15 | 3°45.0’ | 3°30.0’ | 45 | 11°15.0’ | 10°30.0’ | 30 | 7,5’ | 7,0’ |
| 16 | 4°00.0’ | 3°44.0’ | 46 | 11°30.0’ | 10°44.0’ | 32 | 8,0’ | 7,5’ |
| 17 | 4°15.0’ | 3°58.0’ | 47 | 11°45.0’ | 10°58.0’ | 34 | 8,5’ | 7,9’ |
| 18 | 4°30.0’ | 4°12.0’ | 48 | 12°00.0’ | 11°12.0’ | 36 | 9,0’ | 8,4’ |
| 19 | 4°45.0’ | 4°26.0’ | 49 | 12°15.0’ | 11°26.0’ | 38 | 9,5’ | 8,9’ |
| 20 | 5°00.0’ | 4°40.0’ | 50 | 12°30.0’ | 11°40.0’ | 40 | 10,0’ | 9,3’ |
| 21 | 5°15.0’ | 4°54.0’ | 51 | 12°45.0’ | 11°54.0’ | 42 | 10,5’ | 9,8’ |
| 22 | 5°30.0’ | 5°08.0’ | 52 | 13°00.0’ | 12°08.0’ | 44 | 11,0’ | 10,3’ |
| 23 | 5°45.0’ | 5°22.0’ | 53 | 13°15.0’ | 12°22.0’ | 46 | 11,5’ | 10,7’ |
| 24 | 6°00.0’ | 5°36.0’ | 54 | 13°30.0’ | 12°36.0’ | 48 | 12,0’ | 11,2’ |
| 25 | 6°15.0’ | 5°50.0’ | 55 | 13°45.0’ | 12°50.0’ | 50 | 12,5’ | 11,7’ |
| 26 | 6°30.0’ | 6°04.0’ | 56 | 14°00.0’ | 13°04.0’ | 52 | 13,0’ | 12,1’ |
| 27 | 6°45.0’ | 6°18.0’ | 57 | 14°15.0’ | 13°18.0’ | 54 | 13,5’ | 12,6’ |
| 28 | 7°00.0’ | 6°32.0’ | 58 | 14°30.0’ | 13°32.0’ | 56 | 14,0’ | 13,1’ |
| 29 | 7°15.0’ | 6°46.0’ | 59 | 14°45.0’ | 13°46.0’ | 58 | 14,5’ | 13,5’ |

Les pages du mois donnent le GHA aux heures rondes ; entre deux, il croît régulièrement, de 15° par heure pour le Soleil et de 14° pour la Lune. Cette table donne ce qu’il gagne pendant les minutes (à gauche) et les secondes (à droite) écoulées depuis l’heure ronde : ajoutez les deux au GHA de l’heure ronde, puis l’interpolation de $v$ (table 5). Exemple, Soleil à 15 h 30 min 52 s : 7°30,0’ + 13,0’ = 7°43,0’.

## Table 5 — Interpolation de $v$ et $d$

| Δ'/h \ min | **5** | **10** | **15** | **20** | **25** | **30** | **35** | **40** | **45** | **50** | **55** | **60** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,1 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 |
| 0,2 | 0,0 | 0,0 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,2 | 0,2 | 0,2 |
| 0,3 | 0,0 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,2 | 0,2 | 0,2 | 0,2 | 0,3 | 0,3 |
| 0,5 | 0,0 | 0,1 | 0,1 | 0,2 | 0,2 | 0,2 | 0,3 | 0,3 | 0,4 | 0,4 | 0,5 | 0,5 |
| 0,7 | 0,1 | 0,1 | 0,2 | 0,2 | 0,3 | 0,3 | 0,4 | 0,5 | 0,5 | 0,6 | 0,6 | 0,7 |
| 1,0 | 0,1 | 0,2 | 0,2 | 0,3 | 0,4 | 0,5 | 0,6 | 0,7 | 0,8 | 0,8 | 0,9 | 1,0 |
| 2,0 | 0,2 | 0,3 | 0,5 | 0,7 | 0,8 | 1,0 | 1,2 | 1,3 | 1,5 | 1,7 | 1,8 | 2,0 |
| 3,0 | 0,2 | 0,5 | 0,8 | 1,0 | 1,2 | 1,5 | 1,8 | 2,0 | 2,2 | 2,5 | 2,8 | 3,0 |
| 4,0 | 0,3 | 0,7 | 1,0 | 1,3 | 1,7 | 2,0 | 2,3 | 2,7 | 3,0 | 3,3 | 3,7 | 4,0 |
| 5,0 | 0,4 | 0,8 | 1,2 | 1,7 | 2,1 | 2,5 | 2,9 | 3,3 | 3,8 | 4,2 | 4,6 | 5,0 |
| 6,0 | 0,5 | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | 3,5 | 4,0 | 4,5 | 5,0 | 5,5 | 6,0 |
| 7,0 | 0,6 | 1,2 | 1,8 | 2,3 | 2,9 | 3,5 | 4,1 | 4,7 | 5,2 | 5,8 | 6,4 | 7,0 |
| 8,0 | 0,7 | 1,3 | 2,0 | 2,7 | 3,3 | 4,0 | 4,7 | 5,3 | 6,0 | 6,7 | 7,3 | 8,0 |
| 9,0 | 0,8 | 1,5 | 2,2 | 3,0 | 3,8 | 4,5 | 5,2 | 6,0 | 6,8 | 7,5 | 8,2 | 9,0 |
| 10,0 | 0,8 | 1,7 | 2,5 | 3,3 | 4,2 | 5,0 | 5,8 | 6,7 | 7,5 | 8,3 | 9,2 | 10,0 |
| 11,0 | 0,9 | 1,8 | 2,8 | 3,7 | 4,6 | 5,5 | 6,4 | 7,3 | 8,2 | 9,2 | 10,1 | 11,0 |
| 12,0 | 1,0 | 2,0 | 3,0 | 4,0 | 5,0 | 6,0 | 7,0 | 8,0 | 9,0 | 10,0 | 11,0 | 12,0 |
| 13,0 | 1,1 | 2,2 | 3,2 | 4,3 | 5,4 | 6,5 | 7,6 | 8,7 | 9,8 | 10,8 | 11,9 | 13,0 |
| 14,0 | 1,2 | 2,3 | 3,5 | 4,7 | 5,8 | 7,0 | 8,2 | 9,3 | 10,5 | 11,7 | 12,8 | 14,0 |
| 15,0 | 1,2 | 2,5 | 3,8 | 5,0 | 6,2 | 7,5 | 8,8 | 10,0 | 11,2 | 12,5 | 13,8 | 15,0 |
| 16,0 | 1,3 | 2,7 | 4,0 | 5,3 | 6,7 | 8,0 | 9,3 | 10,7 | 12,0 | 13,3 | 14,7 | 16,0 |
| 17,0 | 1,4 | 2,8 | 4,2 | 5,7 | 7,1 | 8,5 | 9,9 | 11,3 | 12,8 | 14,2 | 15,6 | 17,0 |
| 18,0 | 1,5 | 3,0 | 4,5 | 6,0 | 7,5 | 9,0 | 10,5 | 12,0 | 13,5 | 15,0 | 16,5 | 18,0 |
| 20,0 | 1,7 | 3,3 | 5,0 | 6,7 | 8,3 | 10,0 | 11,7 | 13,3 | 15,0 | 16,7 | 18,3 | 20,0 |
| 30,0 | 2,5 | 5,0 | 7,5 | 10,0 | 12,5 | 15,0 | 17,5 | 20,0 | 22,5 | 25,0 | 27,5 | 30,0 |
| 40,0 | 3,3 | 6,7 | 10,0 | 13,3 | 16,7 | 20,0 | 23,3 | 26,7 | 30,0 | 33,3 | 36,7 | 40,0 |

Le reste de l'interpolation : le GHA croît en réalité de $v$ de plus que 15° (14°) par heure, la déclinaison de $d$ par heure (Δ'/h sur la page du mois). La table donne $\Delta \times min/60$ pour les minutes écoulées depuis l'heure ronde ; ajoutez-le avec le signe de Δ. Pour un Δ absent, additionnez des lignes : Lune, $v$ = 38,3'/h à 41 min ≈ 30 + 8 + 0,3 : 20,5 + 5,5 + 0,2 = 26,2'.

# SOLEIL

## Janvier 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 269° 10.2 | 284° 09.9 | 299° 09.6 | 314° 09.3 | 329° 09.0 | 344° 08.7 | 359° 08.4 | 14° 08.1 | 29° 07.8 | 44° 07.5 | 59° 07.2 | 74° 06.9 | -0.3 |
| | -23° 01.0 | -23° 00.8 | -23° 00.6 | -23° 00.4 | -23° 00.2 | -23° 00.0 | -22° 59.8 | -22° 59.6 | -22° 59.3 | -22° 59.1 | -22° 58.9 | -22° 58.7 | +0.2 |
| **Sa 2** | 269° 03.1 | 284° 02.8 | 299° 02.5 | 314° 02.2 | 329° 01.9 | 344° 01.6 | 359° 01.3 | 14° 01.0 | 29° 00.8 | 44° 00.5 | 59° 00.2 | 73° 59.9 | -0.3 |
| | -22° 55.9 | -22° 55.7 | -22° 55.5 | -22° 55.2 | -22° 55.0 | -22° 54.8 | -22° 54.6 | -22° 54.3 | -22° 54.1 | -22° 53.9 | -22° 53.7 | -22° 53.4 | +0.2 |
| **Di 3** | 268° 56.1 | 283° 55.8 | 298° 55.5 | 313° 55.2 | 328° 55.0 | 343° 54.7 | 358° 54.4 | 13° 54.1 | 28° 53.8 | 43° 53.5 | 58° 53.2 | 73° 52.9 | -0.3 |
| | -22° 50.4 | -22° 50.1 | -22° 49.9 | -22° 49.6 | -22° 49.4 | -22° 49.2 | -22° 48.9 | -22° 48.7 | -22° 48.4 | -22° 48.2 | -22° 47.9 | -22° 47.7 | +0.2 |
| **Lu 4** | 268° 49.2 | 283° 48.9 | 298° 48.6 | 313° 48.4 | 328° 48.1 | 343° 47.8 | 358° 47.5 | 13° 47.2 | 28° 46.9 | 43° 46.7 | 58° 46.4 | 73° 46.1 | -0.3 |
| | -22° 44.4 | -22° 44.1 | -22° 43.9 | -22° 43.6 | -22° 43.3 | -22° 43.1 | -22° 42.8 | -22° 42.5 | -22° 42.3 | -22° 42.0 | -22° 41.7 | -22° 41.5 | +0.3 |
| **Ma 5** | 268° 42.4 | 283° 42.1 | 298° 41.9 | 313° 41.6 | 328° 41.3 | 343° 41.0 | 358° 40.7 | 13° 40.5 | 28° 40.2 | 43° 39.9 | 58° 39.6 | 73° 39.3 | -0.3 |
| | -22° 37.9 | -22° 37.7 | -22° 37.4 | -22° 37.1 | -22° 36.8 | -22° 36.5 | -22° 36.3 | -22° 36.0 | -22° 35.7 | -22° 35.4 | -22° 35.1 | -22° 34.8 | +0.3 |
| **Me 6** | 268° 35.7 | 283° 35.5 | 298° 35.2 | 313° 34.9 | 328° 34.6 | 343° 34.4 | 358° 34.1 | 13° 33.8 | 28° 33.5 | 43° 33.3 | 58° 33.0 | 73° 32.7 | -0.3 |
| | -22° 31.0 | -22° 30.7 | -22° 30.4 | -22° 30.1 | -22° 29.8 | -22° 29.5 | -22° 29.2 | -22° 28.9 | -22° 28.6 | -22° 28.3 | -22° 28.0 | -22° 27.7 | +0.3 |
| **Je 7** | 268° 29.2 | 283° 28.9 | 298° 28.6 | 313° 28.3 | 328° 28.1 | 343° 27.8 | 358° 27.5 | 13° 27.3 | 28° 27.0 | 43° 26.7 | 58° 26.5 | 73° 26.2 | -0.3 |
| | -22° 23.7 | -22° 23.4 | -22° 23.1 | -22° 22.8 | -22° 22.4 | -22° 22.1 | -22° 21.8 | -22° 21.5 | -22° 21.2 | -22° 20.8 | -22° 20.5 | -22° 20.2 | +0.3 |
| **Ve 8** | 268° 22.7 | 283° 22.4 | 298° 22.2 | 313° 21.9 | 328° 21.6 | 343° 21.4 | 358° 21.1 | 13° 20.8 | 28° 20.6 | 43° 20.3 | 58° 20.0 | 73° 19.8 | -0.3 |
| | -22° 15.9 | -22° 15.6 | -22° 15.3 | -22° 14.9 | -22° 14.6 | -22° 14.2 | -22° 13.9 | -22° 13.6 | -22° 13.2 | -22° 12.9 | -22° 12.6 | -22° 12.2 | +0.3 |
| **Sa 9** | 268° 16.4 | 283° 16.1 | 298° 15.9 | 313° 15.6 | 328° 15.3 | 343° 15.1 | 358° 14.8 | 13° 14.6 | 28° 14.3 | 43° 14.0 | 58° 13.8 | 73° 13.5 | -0.3 |
| | -22° 07.7 | -22° 07.4 | -22° 07.0 | -22° 06.6 | -22° 06.3 | -22° 05.9 | -22° 05.6 | -22° 05.2 | -22° 04.9 | -22° 04.5 | -22° 04.2 | -22° 03.8 | +0.4 |
| **Di 10** | 268° 10.2 | 283° 09.9 | 298° 09.7 | 313° 09.4 | 328° 09.2 | 343° 08.9 | 358° 08.7 | 13° 08.4 | 28° 08.1 | 43° 07.9 | 58° 07.6 | 73° 07.4 | -0.3 |
| | -21° 59.1 | -21° 58.7 | -21° 58.3 | -21° 57.9 | -21° 57.6 | -21° 57.2 | -21° 56.8 | -21° 56.4 | -21° 56.1 | -21° 55.7 | -21° 55.3 | -21° 54.9 | +0.4 |
| **Lu 11** | 268° 04.1 | 283° 03.9 | 298° 03.6 | 313° 03.4 | 328° 03.1 | 343° 02.9 | 358° 02.6 | 13° 02.4 | 28° 02.1 | 43° 01.9 | 58° 01.6 | 73° 01.4 | -0.2 |
| | -21° 50.0 | -21° 49.6 | -21° 49.2 | -21° 48.8 | -21° 48.4 | -21° 48.0 | -21° 47.6 | -21° 47.2 | -21° 46.8 | -21° 46.5 | -21° 46.1 | -21° 45.7 | +0.4 |
| **Ma 12** | 267° 58.2 | 282° 58.0 | 297° 57.7 | 312° 57.5 | 327° 57.3 | 342° 57.0 | 357° 56.8 | 12° 56.5 | 27° 56.3 | 42° 56.1 | 57° 55.8 | 72° 55.6 | -0.2 |
| | -21° 40.5 | -21° 40.1 | -21° 39.7 | -21° 39.2 | -21° 38.8 | -21° 38.4 | -21° 38.0 | -21° 37.6 | -21° 37.2 | -21° 36.8 | -21° 36.4 | -21° 36.0 | +0.4 |
| **Me 13** | 267° 52.5 | 282° 52.2 | 297° 52.0 | 312° 51.8 | 327° 51.5 | 342° 51.3 | 357° 51.1 | 12° 50.8 | 27° 50.6 | 42° 50.4 | 57° 50.1 | 72° 49.9 | -0.2 |
| | -21° 30.5 | -21° 30.1 | -21° 29.7 | -21° 29.3 | -21° 28.8 | -21° 28.4 | -21° 28.0 | -21° 27.6 | -21° 27.1 | -21° 26.7 | -21° 26.3 | -21° 25.9 | +0.4 |
| **Je 14** | 267° 46.9 | 282° 46.7 | 297° 46.4 | 312° 46.2 | 327° 46.0 | 342° 45.7 | 357° 45.5 | 12° 45.3 | 27° 45.1 | 42° 44.8 | 57° 44.6 | 72° 44.4 | -0.2 |
| | -21° 20.2 | -21° 19.8 | -21° 19.3 | -21° 18.9 | -21° 18.4 | -21° 18.0 | -21° 17.5 | -21° 17.1 | -21° 16.7 | -21° 16.2 | -21° 15.8 | -21° 15.3 | +0.4 |
| **Ve 15** | 267° 41.5 | 282° 41.3 | 297° 41.0 | 312° 40.8 | 327° 40.6 | 342° 40.4 | 357° 40.1 | 12° 39.9 | 27° 39.7 | 42° 39.5 | 57° 39.3 | 72° 39.0 | -0.2 |
| | -21° 09.4 | -21° 09.0 | -21° 08.5 | -21° 08.1 | -21° 07.6 | -21° 07.2 | -21° 06.7 | -21° 06.2 | -21° 05.8 | -21° 05.3 | -21° 04.8 | -21° 04.4 | +0.5 |
| **Sa 16** | 267° 36.2 | 282° 36.0 | 297° 35.8 | 312° 35.6 | 327° 35.4 | 342° 35.2 | 357° 34.9 | 12° 34.7 | 27° 34.5 | 42° 34.3 | 57° 34.1 | 72° 33.9 | -0.2 |
| | -20° 58.3 | -20° 57.8 | -20° 57.3 | -20° 56.9 | -20° 56.4 | -20° 55.9 | -20° 55.4 | -20° 55.0 | -20° 54.5 | -20° 54.0 | -20° 53.5 | -20° 53.0 | +0.5 |
| **Di 17** | 267° 31.2 | 282° 30.9 | 297° 30.7 | 312° 30.5 | 327° 30.3 | 342° 30.1 | 357° 29.9 | 12° 29.7 | 27° 29.5 | 42° 29.3 | 57° 29.1 | 72° 28.9 | -0.2 |
| | -20° 46.7 | -20° 46.2 | -20° 45.8 | -20° 45.3 | -20° 44.8 | -20° 44.3 | -20° 43.8 | -20° 43.3 | -20° 42.8 | -20° 42.3 | -20° 41.8 | -20° 41.3 | +0.5 |
| **Lu 18** | 267° 26.3 | 282° 26.1 | 297° 25.9 | 312° 25.7 | 327° 25.5 | 342° 25.3 | 357° 25.1 | 12° 24.9 | 27° 24.7 | 42° 24.5 | 57° 24.3 | 72° 24.1 | -0.2 |
| | -20° 34.8 | -20° 34.3 | -20° 33.8 | -20° 33.3 | -20° 32.8 | -20° 32.3 | -20° 31.7 | -20° 31.2 | -20° 30.7 | -20° 30.2 | -20° 29.7 | -20° 29.2 | +0.5 |
| **Ma 19** | 267° 21.6 | 282° 21.4 | 297° 21.2 | 312° 21.0 | 327° 20.8 | 342° 20.6 | 357° 20.4 | 12° 20.2 | 27° 20.0 | 42° 19.8 | 57° 19.6 | 72° 19.5 | -0.2 |
| | -20° 22.5 | -20° 21.9 | -20° 21.4 | -20° 20.9 | -20° 20.4 | -20° 19.8 | -20° 19.3 | -20° 18.8 | -20° 18.3 | -20° 17.7 | -20° 17.2 | -20° 16.7 | +0.5 |
| **Me 20** | 267° 17.0 | 282° 16.8 | 297° 16.7 | 312° 16.5 | 327° 16.3 | 342° 16.1 | 357° 15.9 | 12° 15.7 | 27° 15.6 | 42° 15.4 | 57° 15.2 | 72° 15.0 | -0.2 |
| | -20° 09.7 | -20° 09.2 | -20° 08.7 | -20° 08.1 | -20° 07.6 | -20° 07.0 | -20° 06.5 | -20° 06.0 | -20° 05.4 | -20° 04.9 | -20° 04.3 | -20° 03.8 | +0.5 |
| **Je 21** | 267° 12.7 | 282° 12.5 | 297° 12.3 | 312° 12.2 | 327° 12.0 | 342° 11.8 | 357° 11.6 | 12° 11.5 | 27° 11.3 | 42° 11.1 | 57° 10.9 | 72° 10.8 | -0.2 |
| | -19° 56.6 | -19° 56.1 | -19° 55.5 | -19° 55.0 | -19° 54.4 | -19° 53.9 | -19° 53.3 | -19° 52.7 | -19° 52.2 | -19° 51.6 | -19° 51.1 | -19° 50.5 | +0.6 |
| **Ve 22** | 267° 08.6 | 282° 08.4 | 297° 08.2 | 312° 08.0 | 327° 07.9 | 342° 07.7 | 357° 07.5 | 12° 07.4 | 27° 07.2 | 42° 07.0 | 57° 06.9 | 72° 06.7 | -0.2 |
| | -19° 43.2 | -19° 42.6 | -19° 42.0 | -19° 41.5 | -19° 40.9 | -19° 40.3 | -19° 39.7 | -19° 39.2 | -19° 38.6 | -19° 38.0 | -19° 37.4 | -19° 36.9 | +0.6 |
| **Sa 23** | 267° 04.6 | 282° 04.4 | 297° 04.3 | 312° 04.1 | 327° 04.0 | 342° 03.8 | 357° 03.6 | 12° 03.5 | 27° 03.3 | 42° 03.2 | 57° 03.0 | 72° 02.9 | -0.2 |
| | -19° 29.3 | -19° 28.8 | -19° 28.2 | -19° 27.6 | -19° 27.0 | -19° 26.4 | -19° 25.8 | -19° 25.2 | -19° 24.6 | -19° 24.1 | -19° 23.5 | -19° 22.9 | +0.6 |
| **Di 24** | 267° 00.8 | 282° 00.7 | 297° 00.5 | 312° 00.4 | 327° 00.2 | 342° 00.1 | 356° 59.9 | 11° 59.8 | 26° 59.6 | 41° 59.5 | 56° 59.3 | 71° 59.2 | -0.2 |
| | -19° 15.1 | -19° 14.5 | -19° 13.9 | -19° 13.3 | -19° 12.7 | -19° 12.1 | -19° 11.5 | -19° 10.9 | -19° 10.3 | -19° 09.7 | -19° 09.1 | -19° 08.5 | +0.6 |
| **Lu 25** | 266° 57.3 | 281° 57.1 | 296° 57.0 | 311° 56.8 | 326° 56.7 | 341° 56.6 | 356° 56.4 | 11° 56.3 | 26° 56.1 | 41° 56.0 | 56° 55.9 | 71° 55.7 | -0.1 |
| | -19° 00.6 | -19° 00.0 | -18° 59.4 | -18° 58.8 | -18° 58.1 | -18° 57.5 | -18° 56.9 | -18° 56.3 | -18° 55.7 | -18° 55.1 | -18° 54.4 | -18° 53.8 | +0.6 |
| **Ma 26** | 266° 53.9 | 281° 53.8 | 296° 53.6 | 311° 53.5 | 326° 53.4 | 341° 53.2 | 356° 53.1 | 11° 53.0 | 26° 52.8 | 41° 52.7 | 56° 52.6 | 71° 52.4 | -0.1 |
| | -18° 45.7 | -18° 45.1 | -18° 44.4 | -18° 43.8 | -18° 43.2 | -18° 42.6 | -18° 41.9 | -18° 41.3 | -18° 40.7 | -18° 40.0 | -18° 39.4 | -18° 38.8 | +0.6 |
| **Me 27** | 266° 50.7 | 281° 50.6 | 296° 50.5 | 311° 50.4 | 326° 50.2 | 341° 50.1 | 356° 50.0 | 11° 49.8 | 26° 49.7 | 41° 49.6 | 56° 49.5 | 71° 49.3 | -0.1 |
| | -18° 30.5 | -18° 29.8 | -18° 29.2 | -18° 28.5 | -18° 27.9 | -18° 27.2 | -18° 26.6 | -18° 26.0 | -18° 25.3 | -18° 24.7 | -18° 24.0 | -18° 23.4 | +0.6 |
| **Je 28** | 266° 47.8 | 281° 47.6 | 296° 47.5 | 311° 47.4 | 326° 47.3 | 341° 47.2 | 356° 47.0 | 11° 46.9 | 26° 46.8 | 41° 46.7 | 56° 46.6 | 71° 46.5 | -0.1 |
| | -18° 14.9 | -18° 14.2 | -18° 13.6 | -18° 12.9 | -18° 12.3 | -18° 11.6 | -18° 10.9 | -18° 10.3 | -18° 09.6 | -18° 09.0 | -18° 08.3 | -18° 07.6 | +0.7 |
| **Ve 29** | 266° 45.0 | 281° 44.9 | 296° 44.8 | 311° 44.6 | 326° 44.5 | 341° 44.4 | 356° 44.3 | 11° 44.2 | 26° 44.1 | 41° 44.0 | 56° 43.9 | 71° 43.8 | -0.1 |
| | -17° 59.0 | -17° 58.3 | -17° 57.6 | -17° 57.0 | -17° 56.3 | -17° 55.6 | -17° 54.9 | -17° 54.3 | -17° 53.6 | -17° 52.9 | -17° 52.2 | -17° 51.6 | +0.7 |
| **Sa 30** | 266° 42.4 | 281° 42.3 | 296° 42.2 | 311° 42.1 | 326° 42.0 | 341° 41.9 | 356° 41.8 | 11° 41.7 | 26° 41.6 | 41° 41.5 | 56° 41.4 | 71° 41.3 | -0.1 |
| | -17° 42.7 | -17° 42.1 | -17° 41.4 | -17° 40.7 | -17° 40.0 | -17° 39.3 | -17° 38.6 | -17° 37.9 | -17° 37.3 | -17° 36.6 | -17° 35.9 | -17° 35.2 | +0.7 |
| **Di 31** | 266° 40.0 | 281° 39.9 | 296° 39.8 | 311° 39.7 | 326° 39.6 | 341° 39.5 | 356° 39.5 | 11° 39.4 | 26° 39.3 | 41° 39.2 | 56° 39.1 | 71° 39.0 | -0.1 |
| | -17° 26.2 | -17° 25.5 | -17° 24.8 | -17° 24.1 | -17° 23.4 | -17° 22.7 | -17° 22.0 | -17° 21.3 | -17° 20.6 | -17° 19.9 | -17° 19.2 | -17° 18.5 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2027

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 233°48.8 | 248°20.9 | 262°52.9 | 277°24.8 | 291°56.7 | 306°28.6 | 321°00.4 | 335°32.2 | 350°04.0 | 4°35.6 | 19°07.3 | +31.8 | 15.1 |
| | -18°26.2 | -18°37.2 | -18°48.2 | -18°59.0 | -19°09.8 | -19°20.4 | -19°31.0 | -19°41.4 | -19°51.8 | -20°02.1 | -20°12.3 | -10.6 | 55.2 |
| Sa 2 | 248°20.9 | 262°52.9 | 277°24.8 | 291°56.7 | 306°28.6 | 321°00.4 | 335°32.2 | 350°04.0 | 4°35.6 | 19°07.3 | 33°38.9 | +31.8 | 15.0 |
| | -18°37.2 | -18°48.2 | -18°59.0 | -19°09.8 | -19°20.4 | -19°31.0 | -19°41.4 | -19°51.8 | -20°02.1 | -20°12.3 | -20°22.3 | -10.5 | 55.2 |
| Di 3 | 251°27.5 | 265°58.4 | 280°29.2 | 295°00.0 | 309°30.8 | 324°01.4 | 338°32.1 | 353°02.7 | 7°33.2 | 22°03.7 | 36°34.2 | +30.7 | 14.9 |
| | -22°41.4 | -22°49.8 | -22°58.1 | -23°06.3 | -23°14.4 | -23°22.4 | -23°30.3 | -23°38.1 | -23°45.7 | -23°53.3 | -24°00.7 | -7.9 | 54.7 |
| Lu 4 | 254°05.9 | 268°35.7 | 283°05.5 | 297°35.2 | 312°04.9 | 326°34.5 | 341°04.1 | 355°33.7 | 10°03.3 | 24°32.8 | 39°02.2 | +29.6 | 14.8 |
| | -25°37.9 | -25°43.4 | -25°48.8 | -25°54.1 | -25°59.2 | -26°04.3 | -26°09.1 | -26°13.9 | -26°18.5 | -26°23.1 | -26°27.4 | -5.0 | 54.3 |
| Ma 5 | 256°21.4 | 270°50.5 | 285°19.6 | 299°48.6 | 314°17.7 | 328°46.8 | 343°15.8 | 357°44.9 | 12°13.9 | 26°42.9 | 41°11.9 | +29.1 | 14.7 |
| | -27°17.6 | -27°19.9 | -27°22.1 | -27°24.1 | -27°26.0 | -27°27.8 | -27°29.4 | -27°30.9 | -27°32.2 | -27°33.5 | -27°34.6 | -1.7 | 54.0 |
| Me 6 | 258°27.3 | 272°56.4 | 287°25.5 | 301°54.7 | 316°23.8 | 330°52.9 | 345°22.1 | 359°51.3 | 14°20.5 | 28°49.8 | 43°19.0 | +29.2 | 14.7 |
| | -27°34.9 | -27°33.8 | -27°32.6 | -27°31.3 | -27°29.9 | -27°28.3 | -27°26.6 | -27°24.8 | -27°22.8 | -27°20.7 | -27°18.4 | +1.6 | 53.9 |
| ● Je 7 | 260°41.6 | 275°11.3 | 289°41.2 | 304°11.0 | 318°40.9 | 333°10.9 | 347°40.9 | 2°10.9 | 16°41.0 | 31°11.2 | 45°41.3 | +30.0 | 14.7 |
| | -26°29.4 | -26°25.1 | -26°20.7 | -26°16.2 | -26°11.5 | -26°06.7 | -26°01.8 | -25°56.8 | -25°51.7 | -25°46.4 | -25°41.0 | +4.8 | 53.9 |
| Ve 8 | 263°20.1 | 277°51.1 | 292°22.2 | 306°53.3 | 321°24.5 | 335°55.7 | 350°27.0 | 4°58.4 | 19°29.8 | 34°01.2 | 48°32.7 | +31.3 | 14.7 |
| | -24°06.5 | -23°59.3 | -23°52.0 | -23°44.6 | -23°37.0 | -23°29.4 | -23°21.7 | -23°13.8 | -23°05.9 | -22°57.9 | -22°49.7 | +7.7 | 53.9 |
| Sa 9 | 266°32.5 | 281°04.9 | 295°37.5 | 310°10.0 | 324°42.6 | 339°15.3 | 353°48.0 | 8°20.8 | 22°53.6 | 37°26.5 | 51°59.5 | +32.7 | 14.7 |
| | -20°35.9 | -20°26.3 | -20°16.5 | -20°06.7 | -19°56.8 | -19°46.8 | -19°36.7 | -19°26.5 | -19°16.3 | -19°05.9 | -18°55.5 | +10.0 | 54.1 |
| Di 10 | 270°20.0 | 284°53.7 | 299°27.5 | 314°01.4 | 328°35.3 | 343°09.2 | 357°43.2 | 12°17.2 | 26°51.3 | 41°25.4 | 55°59.6 | +34.0 | 14.8 |
| | -16°10.0 | -15°58.4 | -15°46.7 | -15°35.0 | -15°23.2 | -15°11.3 | -14°59.4 | -14°47.4 | -14°35.3 | -14°23.2 | -14°11.0 | +11.9 | 54.3 |
| Lu 11 | 274°36.3 | 289°11.0 | 303°45.7 | 318°20.5 | 332°55.3 | 347°30.1 | 2°04.9 | 16°39.7 | 31°14.6 | 45°49.5 | 60°24.4 | +34.8 | 14.9 |
| | -11°01.4 | -10°48.4 | -10°35.3 | -10°22.1 | -10°08.9 | -9°55.7 | -9°42.4 | -9°29.1 | -9°15.7 | -9°02.3 | -8°48.9 | +13.3 | 54.6 |
| Ma 12 | 279°09.9 | 293°45.0 | 308°20.1 | 322°55.2 | 337°30.3 | 352°05.5 | 6°40.6 | 21°15.7 | 35°50.8 | 50°25.9 | 65°00.9 | +35.1 | 15.0 |
| | -5°22.6 | -5°08.6 | -4°54.6 | -4°40.5 | -4°26.4 | -4°12.3 | -3°58.1 | -3°43.9 | -3°29.8 | -3°15.5 | -3°01.3 | +14.1 | 55.1 |
| Me 13 | 283°45.7 | 298°20.5 | 312°55.4 | 327°30.1 | 342°04.9 | 356°39.6 | 11°14.3 | 25°48.9 | 40°23.6 | 54°58.1 | 69°32.7 | +34.7 | 15.2 |
| | 0°34.5 | 0°49.0 | 1°03.5 | 1°18.0 | 1°32.5 | 1°47.1 | 2°01.6 | 2°16.1 | 2°30.7 | 2°45.2 | 2°59.8 | +14.5 | 55.7 |
| Je 14 | 288°05.7 | 302°39.5 | 317°13.3 | 331°46.9 | 346°20.6 | 0°54.1 | 15°27.6 | 30°01.0 | 44°34.4 | 59°07.7 | 73°40.9 | +33.5 | 15.4 |
| | 6°37.6 | 6°52.0 | 7°06.5 | 7°20.9 | 7°35.3 | 7°49.7 | 8°04.1 | 8°18.5 | 8°32.8 | 8°47.1 | 9°01.4 | +14.4 | 56.4 |
| ◐ Ve 15 | 291°50.1 | 306°22.0 | 320°53.8 | 335°25.6 | 349°57.2 | 4°28.8 | 19°00.3 | 33°31.6 | 48°02.9 | 62°34.0 | 77°05.1 | +31.5 | 15.6 |
| | 12°32.5 | 12°46.2 | 13°00.0 | 13°13.7 | 13°27.3 | 13°41.0 | 13°54.5 | 14°08.0 | 14°21.5 | 14°34.9 | 14°48.3 | +13.6 | 57.2 |
| Sa 16 | 294°37.9 | 309°07.2 | 323°36.3 | 338°05.4 | 352°34.3 | 7°03.0 | 21°31.7 | 36°00.2 | 50°28.6 | 64°56.9 | 79°25.0 | +28.7 | 15.8 |
| | 18°01.3 | 18°13.6 | 18°25.8 | 18°38.0 | 18°50.0 | 19°02.0 | 19°13.9 | 19°25.7 | 19°37.4 | 19°49.0 | 20°00.5 | +11.9 | 58.1 |
| Di 17 | 296°11.3 | 310°37.3 | 325°03.2 | 339°28.9 | 353°54.5 | 8°20.0 | 22°45.3 | 37°10.5 | 51°35.6 | 66°00.5 | 80°25.3 | +25.4 | 16.1 |
| | 22°40.9 | 22°50.7 | 23°00.3 | 23°09.8 | 23°19.2 | 23°28.5 | 23°37.6 | 23°46.6 | 23°55.4 | 24°04.1 | 24°12.7 | +9.2 | 59.1 |
| Lu 18 | 296°21.9 | 310°44.7 | 325°07.4 | 339°29.9 | 353°52.4 | 8°14.7 | 22°37.0 | 36°59.1 | 51°21.1 | 65°43.0 | 80°04.8 | +22.3 | 16.3 |
| | 26°02.8 | 26°08.8 | 26°14.7 | 26°20.3 | 26°25.8 | 26°31.1 | 26°36.3 | 26°41.2 | 26°46.0 | 26°50.6 | 26°55.0 | +5.2 | 59.9 |
| Ma 19 | 295°21.8 | 309°42.3 | 324°02.8 | 338°23.3 | 352°43.7 | 7°04.1 | 21°24.4 | 35°44.7 | 50°05.0 | 64°25.2 | 78°45.4 | +20.3 | 16.5 |
| | 27°37.3 | 27°38.5 | 27°39.5 | 27°40.3 | 27°40.9 | 27°41.2 | 27°41.3 | 27°41.3 | 27°41.0 | 27°40.5 | 27°39.8 | +0.2 | 60.7 |
| Me 20 | 293°47.4 | 308°07.6 | 322°27.9 | 336°48.2 | 351°08.5 | 5°28.9 | 19°49.3 | 34°09.7 | 48°30.2 | 62°50.8 | 77°11.4 | +20.4 | 16.7 |
| | 27°03.3 | 26°59.1 | 26°54.8 | 26°50.2 | 26°45.4 | 26°40.4 | 26°35.2 | 26°29.8 | 26°24.2 | 26°18.4 | 26°12.4 | -5.1 | 61.2 |
| Je 21 | 292°28.9 | 306°50.7 | 321°12.6 | 335°34.7 | 349°56.8 | 4°19.0 | 18°41.3 | 33°03.8 | 47°26.3 | 61°48.9 | 76°11.7 | +22.3 | 16.7 |
| | 24°18.2 | 24°09.0 | 23°59.7 | 23°50.3 | 23°40.6 | 23°30.8 | 23°20.8 | 23°10.6 | 23°00.2 | 22°49.7 | 22°39.1 | -9.9 | 61.3 |
| ○ Ve 22 | 292°06.4 | 306°31.0 | 320°55.7 | 335°20.6 | 349°45.5 | 4°10.6 | 18°35.7 | 33°01.0 | 47°26.4 | 61°52.0 | 76°17.6 | +25.1 | 16.7 |
| | 19°40.8 | 19°27.9 | 19°14.8 | 19°01.5 | 18°48.2 | 18°34.7 | 18°21.1 | 18°07.4 | 17°53.6 | 17°39.7 | 17°25.7 | -13.5 | 61.1 |
| Sa 23 | 292°56.2 | 307°23.7 | 321°51.3 | 336°19.0 | 350°46.8 | 5°14.6 | 19°42.6 | 34°10.7 | 48°38.9 | 63°07.2 | 77°35.6 | +27.9 | 16.5 |
| | 13°44.2 | 13°28.8 | 13°13.3 | 12°57.8 | 12°42.2 | 12°26.5 | 12°10.8 | 11°55.0 | 11°39.2 | 11°23.4 | 11°07.4 | -15.7 | 60.5 |
| Di 24 | 294°52.7 | 309°22.5 | 323°52.4 | 338°22.4 | 352°52.4 | 7°22.6 | 21°52.7 | 36°23.0 | 50°53.4 | 65°23.8 | 79°54.2 | +30.2 | 16.3 |
| | 7°04.1 | 6°47.7 | 6°31.2 | 6°14.8 | 5°58.3 | 5°41.8 | 5°25.3 | 5°08.8 | 4°52.3 | 4°35.8 | 4°19.3 | -16.5 | 59.7 |
| Lu 25 | 297°38.5 | 312°09.9 | 326°41.3 | 341°12.8 | 355°44.3 | 10°15.8 | 24°47.4 | 39°19.0 | 53°50.7 | 68°22.4 | 82°54.1 | +31.6 | 16.0 |
| | 0°12.5 | -0°03.9 | -0°20.2 | -0°36.5 | -0°52.7 | -1°08.9 | -1°25.1 | -1°41.3 | -1°57.4 | -2°13.5 | -2°29.6 | -16.2 | 58.7 |
| Ma 26 | 312°09.9 | 326°41.3 | 341°12.8 | 355°44.3 | 10°15.8 | 24°47.4 | 39°19.0 | 53°50.7 | 68°22.4 | 82°54.1 | 97°25.9 | +31.6 | 16.0 |
| | -0°03.9 | -0°20.2 | -0°36.5 | -0°52.7 | -1°08.9 | -1°25.1 | -1°41.3 | -1°57.4 | -2°13.5 | -2°29.6 | -2°45.6 | -16.2 | 58.7 |
| Me 27 | 315°25.3 | 329°57.4 | 344°29.6 | 359°01.7 | 13°33.8 | 28°06.0 | 42°38.2 | 57°10.3 | 71°42.5 | 86°14.7 | 100°46.9 | +32.2 | 15.7 |
| | -6°41.1 | -6°56.4 | -7°11.6 | -7°26.8 | -7°41.9 | -7°57.0 | -8°12.1 | -8°27.0 | -8°41.9 | -8°56.8 | -9°11.5 | -15.1 | 57.7 |
| Je 28 | 318°49.3 | 333°21.3 | 347°53.4 | 2°25.5 | 16°57.5 | 31°29.6 | 46°01.6 | 60°33.6 | 75°05.6 | 89°37.5 | 104°09.5 | +32.0 | 15.5 |
| | -12°45.1 | -12°58.7 | -13°12.3 | -13°25.8 | -13°39.2 | -13°52.6 | -14°05.8 | -14°19.0 | -14°32.1 | -14°45.1 | -14°58.0 | -13.3 | 56.7 |
| ◑ Ve 29 | 322°05.7 | 336°37.2 | 351°08.7 | 5°40.1 | 20°11.6 | 34°42.9 | 49°14.3 | 63°45.6 | 78°16.9 | 92°48.2 | 107°19.4 | +31.4 | 15.2 |
| | -18°01.4 | -18°12.9 | -18°24.3 | -18°35.6 | -18°46.8 | -18°57.9 | -19°08.9 | -19°19.8 | -19°30.6 | -19°41.3 | -19°51.9 | -11.0 | 55.8 |
| Sa 30 | 325°03.4 | 339°34.0 | 354°04.6 | 8°35.2 | 23°05.7 | 37°36.2 | 52°06.7 | 66°37.1 | 81°07.4 | 95°37.8 | 110°08.1 | +30.5 | 15.0 |
| | -22°18.1 | -22°27.0 | -22°35.8 | -22°44.4 | -22°53.0 | -23°01.4 | -23°09.7 | -23°17.9 | -23°26.0 | -23°34.0 | -23°41.8 | -8.4 | 55.1 |
| Di 31 | 327°38.1 | 342°07.8 | 356°37.5 | 11°07.2 | 25°36.9 | 40°06.5 | 54°36.0 | 69°05.6 | 83°35.1 | 98°04.6 | 112°34.1 | +29.6 | 14.9 |
| | -25°25.2 | -25°31.1 | -25°36.9 | -25°42.5 | -25°48.1 | -25°53.5 | -25°58.8 | -26°03.9 | -26°08.9 | -26°13.8 | -26°18.6 | -5.3 | 54.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 7 20h24 — PQ: 15 20h34 — PL: 22 12h17 — DQ: 29 10h55

# SOLEIL

## Février 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 266°37.8 | 281°37.8 | 296°37.7 | 311°37.6 | 326°37.5 | 341°37.4 | 356°37.3 | 11°37.2 | 26°37.2 | 41°37.1 | 56°37.0 | 71°36.9 | -0.1 |
| | -17°09.3 | -17°08.6 | -17°07.9 | -17°07.2 | -17°06.5 | -17°05.8 | -17°05.1 | -17°04.4 | -17°03.6 | -17°02.9 | -17°02.2 | -17°01.5 | +0.7 |
| Ma 2 | 266°35.9 | 281°35.8 | 296°35.7 | 311°35.6 | 326°35.5 | 341°35.5 | 356°35.4 | 11°35.3 | 26°35.2 | 41°35.2 | 56°35.1 | 71°35.0 | -0.1 |
| | -16°52.2 | -16°51.4 | -16°50.7 | -16°50.0 | -16°49.3 | -16°48.6 | -16°47.8 | -16°47.1 | -16°46.4 | -16°45.7 | -16°44.9 | -16°44.2 | +0.7 |
| Me 3 | 266°34.1 | 281°34.0 | 296°33.9 | 311°33.9 | 326°33.8 | 341°33.7 | 356°33.7 | 11°33.6 | 26°33.5 | 41°33.5 | 56°33.4 | 71°33.3 | -0.1 |
| | -16°34.7 | -16°34.0 | -16°33.2 | -16°32.5 | -16°31.8 | -16°31.0 | -16°30.3 | -16°29.6 | -16°28.8 | -16°28.1 | -16°27.3 | -16°26.6 | +0.7 |
| Je 4 | 266°32.5 | 281°32.4 | 296°32.4 | 311°32.3 | 326°32.3 | 341°32.2 | 356°32.1 | 11°32.1 | 26°32.0 | 41°32.0 | 56°31.9 | 71°31.8 | -0.1 |
| | -16°17.0 | -16°16.2 | -16°15.5 | -16°14.7 | -16°14.0 | -16°13.2 | -16°12.5 | -16°11.7 | -16°11.0 | -16°10.2 | -16°09.5 | -16°08.7 | +0.7 |
| Ve 5 | 266°31.1 | 281°31.1 | 296°31.0 | 311°31.0 | 326°30.9 | 341°30.9 | 356°30.8 | 11°30.8 | 26°30.7 | 41°30.7 | 56°30.6 | 71°30.6 | -0.1 |
| | -15°58.9 | -15°58.2 | -15°57.4 | -15°56.6 | -15°55.9 | -15°55.1 | -15°54.4 | -15°53.6 | -15°52.8 | -15°52.1 | -15°51.3 | -15°50.6 | +0.8 |
| Sa 6 | 266°29.9 | 281°29.9 | 296°29.9 | 311°29.8 | 326°29.8 | 341°29.7 | 356°29.7 | 11°29.6 | 26°29.6 | 41°29.6 | 56°29.5 | 71°29.5 | -0.0 |
| | -15°40.6 | -15°39.8 | -15°39.1 | -15°38.3 | -15°37.5 | -15°36.8 | -15°36.0 | -15°35.2 | -15°34.4 | -15°33.7 | -15°32.9 | -15°32.1 | +0.8 |
| Di 7 | 266°29.0 | 281°28.9 | 296°28.9 | 311°28.9 | 326°28.8 | 341°28.8 | 356°28.8 | 11°28.7 | 26°28.7 | 41°28.6 | 56°28.6 | 71°28.6 | -0.0 |
| | -15°22.0 | -15°21.3 | -15°20.5 | -15°19.7 | -15°18.9 | -15°18.1 | -15°17.3 | -15°16.6 | -15°15.8 | -15°15.0 | -15°14.2 | -15°13.4 | +0.8 |
| Lu 8 | 266°28.2 | 281°28.2 | 296°28.1 | 311°28.1 | 326°28.1 | 341°28.0 | 356°28.0 | 11°28.0 | 26°28.0 | 41°27.9 | 56°27.9 | 71°27.9 | -0.0 |
| | -15°03.2 | -15°02.4 | -15°01.6 | -15°00.8 | -15°00.0 | -14°59.2 | -14°58.4 | -14°57.6 | -14°56.9 | -14°56.1 | -14°55.3 | -14°54.5 | +0.8 |
| Ma 9 | 266°27.6 | 281°27.6 | 296°27.6 | 311°27.6 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.5 | 41°27.4 | 56°27.4 | 71°27.4 | -0.0 |
| | -14°44.1 | -14°43.3 | -14°42.5 | -14°41.7 | -14°40.9 | -14°40.1 | -14°39.3 | -14°38.5 | -14°37.7 | -14°36.9 | -14°36.1 | -14°35.3 | +0.8 |
| Me 10 | 266°27.2 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.2 | 341°27.2 | 356°27.2 | 11°27.2 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | -0.0 |
| | -14°24.8 | -14°23.9 | -14°23.1 | -14°22.3 | -14°21.5 | -14°20.7 | -14°19.9 | -14°19.1 | -14°18.3 | -14°17.4 | -14°16.6 | -14°15.8 | +0.8 |
| Je 11 | 266°27.0 | 281°27.0 | 296°27.0 | 311°27.0 | 326°27.0 | 341°27.0 | 356°27.0 | 11°27.0 | 26°27.0 | 41°27.0 | 56°27.0 | 71°27.0 | -0.0 |
| | -14°05.2 | -14°04.4 | -14°03.5 | -14°02.7 | -14°01.9 | -14°01.1 | -14°00.2 | -13°59.4 | -13°58.6 | -13°57.8 | -13°56.9 | -13°56.1 | +0.8 |
| Ve 12 | 266°27.1 | 281°27.1 | 296°27.1 | 311°27.1 | 326°27.1 | 341°27.1 | 356°27.1 | 11°27.1 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | +0.0 |
| | -13°45.4 | -13°44.5 | -13°43.7 | -13°42.9 | -13°42.0 | -13°41.2 | -13°40.4 | -13°39.5 | -13°38.7 | -13°37.9 | -13°37.0 | -13°36.2 | +0.8 |
| Sa 13 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.4 | 26°27.4 | 41°27.4 | 56°27.4 | 71°27.4 | +0.0 |
| | -13°25.3 | -13°24.5 | -13°23.6 | -13°22.8 | -13°22.0 | -13°21.1 | -13°20.3 | -13°19.4 | -13°18.6 | -13°17.8 | -13°16.9 | -13°16.1 | +0.8 |
| Di 14 | 266°27.7 | 281°27.7 | 296°27.7 | 311°27.7 | 326°27.7 | 341°27.8 | 356°27.8 | 11°27.8 | 26°27.8 | 41°27.9 | 56°27.9 | 71°27.9 | +0.0 |
| | -13°05.1 | -13°04.2 | -13°03.4 | -13°02.5 | -13°01.7 | -13°00.8 | -13°00.0 | -12°59.1 | -12°58.3 | -12°57.4 | -12°56.6 | -12°55.7 | +0.9 |
| Lu 15 | 266°28.3 | 281°28.3 | 296°28.3 | 311°28.3 | 326°28.4 | 341°28.4 | 356°28.4 | 11°28.5 | 26°28.5 | 41°28.5 | 56°28.6 | 71°28.6 | +0.0 |
| | -12°44.6 | -12°43.7 | -12°42.9 | -12°42.0 | -12°41.2 | -12°40.3 | -12°39.5 | -12°38.6 | -12°37.7 | -12°36.9 | -12°36.0 | -12°35.2 | +0.9 |
| Ma 16 | 266°29.0 | 281°29.1 | 296°29.1 | 311°29.1 | 326°29.2 | 341°29.2 | 356°29.2 | 11°29.3 | 26°29.3 | 41°29.4 | 56°29.4 | 71°29.4 | +0.0 |
| | -12°23.9 | -12°23.1 | -12°22.2 | -12°21.3 | -12°20.5 | -12°19.6 | -12°18.7 | -12°17.9 | -12°17.0 | -12°16.1 | -12°15.3 | -12°14.4 | +0.9 |
| Me 17 | 266°30.0 | 281°30.0 | 296°30.1 | 311°30.1 | 326°30.2 | 341°30.2 | 356°30.2 | 11°30.3 | 26°30.3 | 41°30.4 | 56°30.4 | 71°30.5 | +0.0 |
| | -12°03.1 | -12°02.2 | -12°01.3 | -12°00.4 | -11°59.6 | -11°58.7 | -11°57.8 | -11°56.9 | -11°56.1 | -11°55.2 | -11°54.3 | -11°53.4 | +0.9 |
| Je 18 | 266°31.1 | 281°31.2 | 296°31.2 | 311°31.3 | 326°31.3 | 341°31.4 | 356°31.4 | 11°31.5 | 26°31.5 | 41°31.6 | 56°31.6 | 71°31.7 | +0.1 |
| | -11°42.0 | -11°41.1 | -11°40.3 | -11°39.4 | -11°38.5 | -11°37.6 | -11°36.7 | -11°35.8 | -11°35.0 | -11°34.1 | -11°33.2 | -11°32.3 | +0.9 |
| Ve 19 | 266°32.4 | 281°32.5 | 296°32.5 | 311°32.6 | 326°32.7 | 341°32.7 | 356°32.8 | 11°32.8 | 26°32.9 | 41°33.0 | 56°33.0 | 71°33.1 | +0.1 |
| | -11°20.8 | -11°19.9 | -11°19.0 | -11°18.1 | -11°17.2 | -11°16.3 | -11°15.4 | -11°14.5 | -11°13.7 | -11°12.8 | -11°11.9 | -11°11.0 | +0.9 |
| Sa 20 | 266°33.9 | 281°34.0 | 296°34.0 | 311°34.1 | 326°34.2 | 341°34.2 | 356°34.3 | 11°34.4 | 26°34.4 | 41°34.5 | 56°34.6 | 71°34.6 | +0.1 |
| | -10°59.4 | -10°58.5 | -10°57.6 | -10°56.7 | -10°55.8 | -10°54.9 | -10°54.0 | -10°53.1 | -10°52.2 | -10°51.3 | -10°50.4 | -10°49.5 | +0.9 |
| Di 21 | 266°35.6 | 281°35.6 | 296°35.7 | 311°35.8 | 326°35.8 | 341°35.9 | 356°36.0 | 11°36.1 | 26°36.1 | 41°36.2 | 56°36.3 | 71°36.4 | +0.1 |
| | -10°37.8 | -10°36.9 | -10°36.0 | -10°35.1 | -10°34.2 | -10°33.3 | -10°32.4 | -10°31.4 | -10°30.5 | -10°29.6 | -10°28.7 | -10°27.8 | +0.9 |
| Lu 22 | 266°37.4 | 281°37.4 | 296°37.5 | 311°37.6 | 326°37.7 | 341°37.8 | 356°37.8 | 11°37.9 | 26°38.0 | 41°38.1 | 56°38.2 | 71°38.2 | +0.1 |
| | -10°16.0 | -10°15.1 | -10°14.2 | -10°13.3 | -10°12.4 | -10°11.5 | -10°10.6 | -10°09.7 | -10°08.7 | -10°07.8 | -10°06.9 | -10°06.0 | +0.9 |
| Ma 23 | 266°39.3 | 281°39.4 | 296°39.5 | 311°39.6 | 326°39.7 | 341°39.7 | 356°39.8 | 11°39.9 | 26°40.0 | 41°40.1 | 56°40.2 | 71°40.3 | +0.1 |
| | -9°54.1 | -9°53.2 | -9°52.3 | -9°51.4 | -9°50.5 | -9°49.5 | -9°48.6 | -9°47.7 | -9°46.8 | -9°45.9 | -9°44.9 | -9°44.0 | +0.9 |
| Me 24 | 266°41.4 | 281°41.5 | 296°41.6 | 311°41.7 | 326°41.8 | 341°41.9 | 356°42.0 | 11°42.1 | 26°42.2 | 41°42.3 | 56°42.4 | 71°42.5 | +0.1 |
| | -9°32.1 | -9°31.1 | -9°30.2 | -9°29.3 | -9°28.4 | -9°27.4 | -9°26.5 | -9°25.6 | -9°24.7 | -9°23.7 | -9°22.8 | -9°21.9 | +0.9 |
| Je 25 | 266°43.7 | 281°43.8 | 296°43.9 | 311°44.0 | 326°44.1 | 341°44.2 | 356°44.3 | 11°44.4 | 26°44.5 | 41°44.6 | 56°44.7 | 71°44.8 | +0.1 |
| | -9°09.8 | -9°08.9 | -9°08.0 | -9°07.1 | -9°06.1 | -9°05.2 | -9°04.3 | -9°03.3 | -9°02.4 | -9°01.5 | -9°00.6 | -8°59.6 | +0.9 |
| Ve 26 | 266°46.1 | 281°46.2 | 296°46.3 | 311°46.4 | 326°46.5 | 341°46.6 | 356°46.7 | 11°46.8 | 26°46.9 | 41°47.0 | 56°47.1 | 71°47.2 | +0.1 |
| | -8°47.5 | -8°46.6 | -8°45.6 | -8°44.7 | -8°43.8 | -8°42.8 | -8°41.9 | -8°41.0 | -8°40.0 | -8°39.1 | -8°38.2 | -8°37.2 | +0.9 |
| Sa 27 | 266°48.6 | 281°48.7 | 296°48.9 | 311°49.0 | 326°49.1 | 341°49.2 | 356°49.3 | 11°49.4 | 26°49.5 | 41°49.6 | 56°49.7 | 71°49.8 | +0.1 |
| | -8°25.0 | -8°24.1 | -8°23.1 | -8°22.2 | -8°21.3 | -8°20.3 | -8°19.4 | -8°18.4 | -8°17.5 | -8°16.6 | -8°15.6 | -8°14.7 | +0.9 |
| Di 28 | 266°51.3 | 281°51.4 | 296°51.5 | 311°51.6 | 326°51.8 | 341°51.9 | 356°52.0 | 11°52.1 | 26°52.2 | 41°52.3 | 56°52.5 | 71°52.6 | +0.1 |
| | -8°02.4 | -8°01.5 | -8°00.5 | -7°59.6 | -7°58.6 | -7°57.7 | -7°56.7 | -7°55.8 | -7°54.9 | -7°53.9 | -7°53.0 | -7°52.0 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2027

| J | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 257°27.4 | 271°56.6 | 286°25.8 | 300°55.0 | 315°24.1 | 329°53.3 | 344°22.4 | 358°51.5 | 13°20.7 | 27°49.8 | 42°18.8 | +29.1 | 14.8 |
| | -26°59.2 | -27°02.5 | -27°05.7 | -27°08.8 | -27°11.7 | -27°14.5 | -27°17.2 | -27°19.8 | -27°22.2 | -27°24.5 | -27°26.6 | -2.7 | 54.3 |
| Ma 2 | 259°34.6 | 274°03.7 | 288°32.7 | 303°01.8 | 317°30.9 | 332°00.0 | 346°29.1 | 0°58.2 | 15°27.3 | 29°56.5 | 44°25.6 | +29.1 | 14.7 |
| | -27°42.7 | -27°42.8 | -27°42.6 | -27°42.4 | -27°42.0 | -27°41.4 | -27°40.8 | -27°40.0 | -27°39.1 | -27°38.0 | -27°36.8 | +0.6 | 54.0 |
| Me 3 | 261°45.6 | 276°15.1 | 290°44.7 | 305°14.3 | 319°43.9 | 334°13.6 | 348°43.3 | 3°13.1 | 17°42.8 | 32°12.7 | 46°42.5 | +29.7 | 14.7 |
| | -27°03.2 | -26°59.9 | -26°56.5 | -26°52.9 | -26°49.3 | -26°45.5 | -26°41.6 | -26°37.6 | -26°33.4 | -26°29.1 | -26°24.7 | +3.8 | 53.9 |
| Je 4 | 264°15.5 | 278°46.1 | 293°16.7 | 307°47.4 | 322°18.1 | 336°48.9 | 351°19.7 | 5°50.6 | 20°21.5 | 34°52.5 | 49°23.5 | +30.8 | 14.7 |
| | -25°04.0 | -24°57.7 | -24°51.3 | -24°44.7 | -24°38.1 | -24°31.3 | -24°24.4 | -24°17.4 | -24°10.3 | -24°03.1 | -23°55.8 | +6.8 | 54.0 |
| Ve 5 | 267°15.3 | 281°47.2 | 296°19.2 | 310°51.2 | 325°23.2 | 339°55.3 | 354°27.5 | 8°59.7 | 23°32.0 | 38°04.3 | 52°36.7 | +32.1 | 14.8 |
| | -21°53.3 | -21°44.4 | -21°35.3 | -21°26.1 | -21°16.9 | -21°07.5 | -20°58.1 | -20°48.6 | -20°38.9 | -20°29.2 | -20°19.4 | +9.4 | 54.1 |
| ● Sa 6 | 270°48.6 | 285°21.8 | 299°55.1 | 314°28.4 | 329°01.7 | 343°35.1 | 358°08.5 | 12°42.0 | 27°15.5 | 41°49.1 | 56°22.7 | +33.4 | 14.8 |
| | -17°42.1 | -17°31.0 | -17°19.8 | -17°08.5 | -16°57.2 | -16°45.7 | -16°34.2 | -16°22.7 | -16°11.0 | -15°59.3 | -15°47.5 | +11.5 | 54.3 |
| Di 7 | 274°51.9 | 289°26.2 | 304°00.5 | 318°34.8 | 333°09.1 | 347°43.5 | 2°17.9 | 16°52.3 | 31°26.8 | 46°01.3 | 60°35.8 | +34.4 | 14.9 |
| | -12°43.1 | -12°30.3 | -12°17.5 | -12°04.6 | -11°51.6 | -11°38.7 | -11°25.6 | -11°12.5 | -10°59.4 | -10°46.2 | -10°32.9 | +13.0 | 54.6 |
| Lu 8 | 279°16.3 | 293°51.1 | 308°26.0 | 323°00.9 | 337°35.7 | 352°10.6 | 6°45.5 | 21°20.4 | 35°55.3 | 50°30.3 | 65°05.2 | +34.9 | 15.0 |
| | -7°09.2 | -6°55.3 | -6°41.3 | -6°27.4 | -6°13.4 | -5°59.4 | -5°45.3 | -5°31.2 | -5°17.1 | -5°03.0 | -4°48.8 | +14.0 | 55.0 |
| Ma 9 | 283°48.9 | 298°23.8 | 312°58.6 | 327°33.5 | 342°08.3 | 356°43.1 | 11°17.9 | 25°52.7 | 40°27.4 | 55°02.2 | 69°36.9 | +34.8 | 15.1 |
| | -1°13.6 | -0°59.1 | -0°44.6 | -0°30.1 | -0°15.6 | -0°01.0 | 0°13.5 | 0°28.0 | 0°42.6 | 0°57.2 | 1°11.7 | +14.5 | 55.5 |
| Me 10 | 288°14.3 | 302°48.5 | 317°22.7 | 331°56.9 | 346°31.0 | 1°05.0 | 15°39.0 | 30°13.0 | 44°46.9 | 59°20.8 | 73°54.6 | +34.0 | 15.3 |
| | 4°50.2 | 5°04.7 | 5°19.2 | 5°33.7 | 5°48.2 | 6°02.7 | 6°17.2 | 6°31.6 | 6°46.0 | 7°00.5 | 7°14.8 | +14.5 | 56.0 |
| Je 11 | 292°15.2 | 306°48.0 | 321°20.8 | 335°53.5 | 350°26.2 | 4°58.8 | 19°31.3 | 34°03.7 | 48°36.1 | 63°08.4 | 77°40.6 | +32.5 | 15.4 |
| | 10°47.8 | 11°01.7 | 11°15.6 | 11°29.5 | 11°43.3 | 11°57.1 | 12°10.9 | 12°24.6 | 12°38.2 | 12°51.8 | 13°05.4 | +13.8 | 56.5 |
| Ve 12 | 295°33.3 | 310°04.1 | 324°34.8 | 339°05.4 | 353°35.9 | 8°06.3 | 22°36.5 | 37°06.7 | 51°36.8 | 66°06.8 | 80°36.7 | +30.3 | 15.6 |
| | 16°22.5 | 16°35.1 | 16°47.7 | 17°00.2 | 17°12.6 | 17°25.0 | 17°37.3 | 17°49.5 | 18°01.6 | 18°13.7 | 18°25.7 | +12.3 | 57.2 |
| Sa 13 | 297°51.9 | 312°20.0 | 326°48.0 | 341°15.9 | 355°43.7 | 10°11.3 | 24°38.8 | 39°06.3 | 53°33.6 | 68°00.8 | 82°27.8 | +27.6 | 15.8 |
| | 21°14.6 | 21°25.0 | 21°35.4 | 21°45.7 | 21°55.8 | 22°05.9 | 22°15.8 | 22°25.6 | 22°35.3 | 22°44.8 | 22°54.3 | +10.0 | 57.9 |
| ◐ Di 14 | 299°00.0 | 313°25.2 | 327°50.4 | 342°15.4 | 356°40.3 | 11°05.1 | 25°29.7 | 39°54.3 | 54°18.8 | 68°43.2 | 83°07.4 | +24.7 | 16.0 |
| | 25°00.5 | 25°07.9 | 25°15.0 | 25°22.0 | 25°28.9 | 25°35.6 | 25°42.1 | 25°48.5 | 25°54.7 | 26°00.8 | 26°06.7 | +6.6 | 58.6 |
| Lu 15 | 299°00.0 | 313°22.8 | 327°45.5 | 342°08.2 | 356°30.8 | 10°53.3 | 25°15.8 | 39°38.2 | 54°00.5 | 68°22.8 | 82°45.0 | +22.5 | 16.2 |
| | 27°15.2 | 27°18.3 | 27°21.3 | 27°24.0 | 27°26.6 | 27°29.0 | 27°31.3 | 27°33.3 | 27°35.1 | 27°36.8 | 27°38.2 | +2.3 | 59.3 |
| Ma 16 | 298°13.1 | 312°34.8 | 326°56.4 | 341°18.1 | 355°39.7 | 10°01.3 | 24°22.9 | 38°44.6 | 53°06.2 | 67°27.8 | 81°49.5 | +21.6 | 16.3 |
| | 27°36.6 | 27°34.9 | 27°33.0 | 27°30.9 | 27°28.6 | 27°26.1 | 27°23.4 | 27°20.5 | 27°17.4 | 27°14.1 | 27°10.6 | -2.6 | 59.9 |
| Me 17 | 297°17.0 | 311°39.2 | 326°01.4 | 340°23.6 | 354°45.9 | 9°08.3 | 23°30.7 | 37°53.2 | 52°15.8 | 66°38.4 | 81°01.1 | +22.4 | 16.5 |
| | 25°54.4 | 25°47.8 | 25°40.9 | 25°33.9 | 25°26.7 | 25°19.4 | 25°11.8 | 25°04.0 | 24°56.1 | 24°48.0 | 24°39.7 | -7.5 | 60.4 |
| Je 18 | 296°50.6 | 311°14.5 | 325°38.6 | 340°02.8 | 354°27.0 | 8°51.3 | 23°15.8 | 37°40.3 | 52°04.9 | 66°29.6 | 80°54.5 | +24.4 | 16.5 |
| | 22°14.8 | 22°03.8 | 21°52.7 | 21°41.4 | 21°30.0 | 21°18.5 | 21°06.8 | 20°54.9 | 20°42.9 | 20°30.8 | 20°18.5 | -11.6 | 60.7 |
| Ve 19 | 297°18.2 | 311°44.5 | 326°11.0 | 340°37.5 | 355°04.2 | 9°30.9 | 23°57.7 | 38°24.7 | 52°51.7 | 67°18.8 | 81°46.0 | +26.8 | 16.5 |
| | 16°59.5 | 16°45.3 | 16°31.0 | 16°16.6 | 16°02.2 | 15°47.6 | 15°32.9 | 15°18.1 | 15°03.3 | 14°48.4 | 14°33.3 | -14.6 | 60.6 |
| ○ Sa 20 | 298°44.5 | 313°13.1 | 327°41.8 | 342°10.5 | 356°39.3 | 11°08.2 | 25°37.1 | 40°06.1 | 54°35.2 | 69°04.4 | 83°33.6 | +28.9 | 16.4 |
| | 10°39.2 | 10°23.1 | 10°07.0 | 9°50.8 | 9°34.5 | 9°18.2 | 9°01.9 | 8°45.6 | 8°29.2 | 8°12.7 | 7°56.2 | -16.3 | 60.3 |
| Di 21 | 300°59.8 | 315°30.0 | 330°00.2 | 344°30.5 | 359°00.9 | 13°31.3 | 28°01.7 | 42°32.2 | 57°02.7 | 71°33.3 | 86°03.9 | +30.4 | 16.3 |
| | 3°46.4 | 3°29.7 | 3°12.9 | 2°56.2 | 2°39.4 | 2°22.7 | 2°05.9 | 1°49.2 | 1°32.5 | 1°15.7 | 0°59.0 | -16.7 | 59.6 |
| Lu 22 | 303°47.1 | 318°18.2 | 332°49.3 | 347°20.5 | 1°51.6 | 16°22.8 | 30°54.0 | 45°25.2 | 59°56.4 | 74°27.7 | 88°58.9 | +31.2 | 16.0 |
| | -3°09.2 | -3°25.5 | -3°41.8 | -3°58.0 | -4°14.2 | -4°30.4 | -4°46.5 | -5°02.5 | -5°18.6 | -5°34.6 | -5°50.5 | -16.1 | 58.8 |
| Ma 23 | 306°48.4 | 321°19.7 | 335°51.0 | 350°22.3 | 4°53.6 | 19°24.9 | 33°56.1 | 48°27.4 | 62°58.7 | 77°29.9 | 92°01.1 | +31.3 | 15.8 |
| | -9°42.8 | -9°57.8 | -10°12.7 | -10°27.5 | -10°42.3 | -10°57.0 | -11°11.7 | -11°26.2 | -11°40.7 | -11°55.1 | -12°09.4 | -14.7 | 57.9 |
| Me 24 | 321°19.7 | 335°51.0 | 350°22.3 | 4°53.6 | 19°24.9 | 33°56.1 | 48°27.4 | 62°58.7 | 77°29.9 | 92°01.1 | 106°32.3 | +31.3 | 15.8 |
| | -9°57.8 | -10°12.7 | -10°27.5 | -10°42.3 | -10°57.0 | -11°11.7 | -11°26.2 | -11°40.7 | -11°55.1 | -12°09.4 | -12°23.7 | -14.6 | 57.9 |
| Je 25 | 324°18.6 | 338°49.5 | 353°20.4 | 7°51.3 | 22°22.2 | 36°53.0 | 51°23.8 | 65°54.6 | 80°25.3 | 94°56.0 | 109°26.7 | +30.8 | 15.5 |
| | -15°47.4 | -16°00.2 | -16°13.0 | -16°25.7 | -16°38.3 | -16°50.7 | -17°03.1 | -17°15.4 | -17°27.6 | -17°39.7 | -17°51.7 | -12.4 | 56.9 |
| Ve 26 | 327°03.4 | 341°33.6 | 356°03.8 | 10°33.9 | 25°04.0 | 39°34.1 | 54°04.1 | 68°34.1 | 83°04.1 | 97°34.0 | 112°03.9 | +30.1 | 15.3 |
| | -20°38.7 | -20°49.0 | -20°59.1 | -21°09.2 | -21°19.1 | -21°28.9 | -21°38.6 | -21°48.2 | -21°57.6 | -22°07.0 | -22°16.2 | -9.7 | 56.1 |
| Sa 27 | 329°28.7 | 343°58.1 | 358°27.5 | 12°56.8 | 27°26.2 | 41°55.5 | 56°24.7 | 70°54.0 | 85°23.2 | 99°52.4 | 114°21.6 | +29.3 | 15.1 |
| | -24°19.8 | -24°27.1 | -24°34.2 | -24°41.2 | -24°48.0 | -24°54.8 | -25°01.4 | -25°07.8 | -25°14.2 | -25°20.4 | -25°26.5 | -6.7 | 55.3 |
| ◑ Di 28 | 331°36.6 | 346°05.5 | 0°34.3 | 15°03.2 | 29°32.0 | 44°00.8 | 58°29.6 | 72°58.5 | 87°27.2 | 101°56.0 | 116°24.8 | +28.8 | 14.9 |
| | -26°41.9 | -26°45.8 | -26°49.6 | -26°53.3 | -26°56.9 | -27°00.3 | -27°03.6 | -27°06.7 | -27°09.7 | -27°12.6 | -27°15.3 | -3.3 | 54.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 15h56 — PQ: 14 07h58 — PL: 20 23h23 — DQ: 28 05h16

# SOLEIL

## Mars 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 266°54.1<br>-7°39.7 | 281°54.2<br>-7°38.7 | 296°54.3<br>-7°37.8 | 311°54.5<br>-7°36.8 | 326°54.6<br>-7°35.9 | 341°54.7<br>-7°34.9 | 356°54.8<br>-7°34.0 | 11°54.9<br>-7°33.0 | 26°55.1<br>-7°32.1 | 41°55.2<br>-7°31.1 | 56°55.3<br>-7°30.2 | 71°55.4<br>-7°29.2 | +0.1<br>+1.0 |
| Ma 2 | 266°57.0<br>-7°16.9 | 281°57.1<br>-7°15.9 | 296°57.3<br>-7°14.9 | 311°57.4<br>-7°14.0 | 326°57.5<br>-7°13.0 | 341°57.6<br>-7°12.1 | 356°57.8<br>-7°11.1 | 11°57.9<br>-7°10.2 | 26°58.0<br>-7°09.2 | 41°58.2<br>-7°08.3 | 56°58.3<br>-7°07.3 | 71°58.4<br>-7°06.4 | +0.1<br>+1.0 |
| Me 3 | 267°00.1<br>-6°53.9 | 282°00.2<br>-6°53.0 | 297°00.3<br>-6°52.0 | 312°00.5<br>-6°51.0 | 327°00.6<br>-6°50.1 | 342°00.7<br>-6°49.1 | 357°00.8<br>-6°48.2 | 12°01.0<br>-6°47.2 | 27°01.1<br>-6°46.2 | 42°01.2<br>-6°45.3 | 57°01.4<br>-6°44.3 | 72°01.5<br>-6°43.4 | +0.1<br>+1.0 |
| Je 4 | 267°03.2<br>-6°30.9 | 282°03.4<br>-6°29.9 | 297°03.5<br>-6°28.9 | 312°03.6<br>-6°28.0 | 327°03.8<br>-6°27.0 | 342°03.9<br>-6°26.1 | 357°04.0<br>-6°25.1 | 12°04.2<br>-6°24.1 | 27°04.3<br>-6°23.2 | 42°04.4<br>-6°22.2 | 57°04.6<br>-6°21.2 | 72°04.7<br>-6°20.3 | +0.1<br>+1.0 |
| Ve 5 | 267°06.5<br>-6°07.7 | 282°06.6<br>-6°06.8 | 297°06.8<br>-6°05.8 | 312°06.9<br>-6°04.8 | 327°07.0<br>-6°03.9 | 342°07.2<br>-6°02.9 | 357°07.3<br>-6°01.9 | 12°07.5<br>-6°01.0 | 27°07.6<br>-6°00.0 | 42°07.7<br>-5°59.0 | 57°07.9<br>-5°58.1 | 72°08.0<br>-5°57.1 | +0.1<br>+1.0 |
| Sa 6 | 267°09.9<br>-5°44.5 | 282°10.0<br>-5°43.5 | 297°10.2<br>-5°42.6 | 312°10.3<br>-5°41.6 | 327°10.4<br>-5°40.6 | 342°10.6<br>-5°39.7 | 357°10.7<br>-5°38.7 | 12°10.9<br>-5°37.7 | 27°11.0<br>-5°36.8 | 42°11.2<br>-5°35.8 | 57°11.3<br>-5°34.8 | 72°11.4<br>-5°33.8 | +0.1<br>+1.0 |
| Di 7 | 267°13.3<br>-5°21.2 | 282°13.5<br>-5°20.2 | 297°13.6<br>-5°19.3 | 312°13.8<br>-5°18.3 | 327°13.9<br>-5°17.3 | 342°14.1<br>-5°16.4 | 357°14.2<br>-5°15.4 | 12°14.4<br>-5°14.4 | 27°14.5<br>-5°13.4 | 42°14.7<br>-5°12.5 | 57°14.8<br>-5°11.5 | 72°15.0<br>-5°10.5 | +0.1<br>+1.0 |
| Lu 8 | 267°16.9<br>-4°57.8 | 282°17.1<br>-4°56.9 | 297°17.2<br>-4°55.9 | 312°17.4<br>-4°54.9 | 327°17.5<br>-4°53.9 | 342°17.7<br>-4°53.0 | 357°17.8<br>-4°52.0 | 12°18.0<br>-4°51.0 | 27°18.1<br>-4°50.0 | 42°18.3<br>-4°49.1 | 57°18.4<br>-4°48.1 | 72°18.6<br>-4°47.1 | +0.2<br>+1.0 |
| Ma 9 | 267°20.6<br>-4°34.4 | 282°20.7<br>-4°33.4 | 297°20.9<br>-4°32.5 | 312°21.1<br>-4°31.5 | 327°21.2<br>-4°30.5 | 342°21.4<br>-4°29.5 | 357°21.5<br>-4°28.5 | 12°21.7<br>-4°27.6 | 27°21.8<br>-4°26.6 | 42°22.0<br>-4°25.6 | 57°22.1<br>-4°24.6 | 72°22.3<br>-4°23.6 | +0.2<br>+1.0 |
| Me 10 | 267°24.4<br>-4°10.9 | 282°24.5<br>-4°09.9 | 297°24.7<br>-4°09.0 | 312°24.8<br>-4°08.0 | 327°25.0<br>-4°07.0 | 342°25.1<br>-4°06.0 | 357°25.3<br>-4°05.0 | 12°25.5<br>-4°04.1 | 27°25.6<br>-4°03.1 | 42°25.8<br>-4°02.1 | 57°25.9<br>-4°01.1 | 72°26.1<br>-4°00.1 | +0.2<br>+1.0 |
| Je 11 | 267°28.2<br>-3°47.4 | 282°28.4<br>-3°46.4 | 297°28.5<br>-3°45.4 | 312°28.7<br>-3°44.4 | 327°28.8<br>-3°43.4 | 342°29.0<br>-3°42.5 | 357°29.2<br>-3°41.5 | 12°29.3<br>-3°40.5 | 27°29.5<br>-3°39.5 | 42°29.7<br>-3°38.5 | 57°29.8<br>-3°37.5 | 72°30.0<br>-3°36.6 | +0.2<br>+1.0 |
| Ve 12 | 267°32.1<br>-3°23.8 | 282°32.3<br>-3°22.8 | 297°32.5<br>-3°21.8 | 312°32.6<br>-3°20.8 | 327°32.8<br>-3°19.8 | 342°33.0<br>-3°18.9 | 357°33.1<br>-3°17.9 | 12°33.3<br>-3°16.9 | 27°33.5<br>-3°15.9 | 42°33.6<br>-3°14.9 | 57°33.8<br>-3°13.9 | 72°34.0<br>-3°13.0 | +0.2<br>+1.0 |
| Sa 13 | 267°36.1<br>-3°00.2 | 282°36.3<br>-2°59.2 | 297°36.5<br>-2°58.2 | 312°36.6<br>-2°57.2 | 327°36.8<br>-2°56.2 | 342°37.0<br>-2°55.2 | 357°37.1<br>-2°54.2 | 12°37.3<br>-2°53.3 | 27°37.5<br>-2°52.3 | 42°37.7<br>-2°51.3 | 57°37.8<br>-2°50.3 | 72°38.0<br>-2°49.3 | +0.2<br>+1.0 |
| Di 14 | 267°40.2<br>-2°36.5 | 282°40.4<br>-2°35.5 | 297°40.6<br>-2°34.5 | 312°40.7<br>-2°33.5 | 327°40.9<br>-2°32.5 | 342°41.1<br>-2°31.6 | 357°41.2<br>-2°30.6 | 12°41.4<br>-2°29.6 | 27°41.6<br>-2°28.6 | 42°41.8<br>-2°27.6 | 57°41.9<br>-2°26.6 | 72°42.1<br>-2°25.6 | +0.2<br>+1.0 |
| Lu 15 | 267°44.4<br>-2°12.8 | 282°44.5<br>-2°11.8 | 297°44.7<br>-2°10.8 | 312°44.9<br>-2°09.8 | 327°45.1<br>-2°08.9 | 342°45.2<br>-2°07.9 | 357°45.4<br>-2°06.9 | 12°45.6<br>-2°05.9 | 27°45.8<br>-2°04.9 | 42°45.9<br>-2°03.9 | 57°46.1<br>-2°02.9 | 72°46.3<br>-2°01.9 | +0.2<br>+1.0 |
| Ma 16 | 267°48.6<br>-1°49.1 | 282°48.7<br>-1°48.1 | 297°48.9<br>-1°47.1 | 312°49.1<br>-1°46.1 | 327°49.3<br>-1°45.2 | 342°49.5<br>-1°44.2 | 357°49.6<br>-1°43.2 | 12°49.8<br>-1°42.2 | 27°50.0<br>-1°41.2 | 42°50.2<br>-1°40.2 | 57°50.3<br>-1°39.2 | 72°50.5<br>-1°38.2 | +0.2<br>+1.0 |
| Me 17 | 267°52.8<br>-1°25.4 | 282°53.0<br>-1°24.4 | 297°53.2<br>-1°23.4 | 312°53.4<br>-1°22.4 | 327°53.6<br>-1°21.4 | 342°53.7<br>-1°20.5 | 357°53.9<br>-1°19.5 | 12°54.1<br>-1°18.5 | 27°54.3<br>-1°17.5 | 42°54.5<br>-1°16.5 | 57°54.6<br>-1°15.5 | 72°54.8<br>-1°14.5 | +0.2<br>+1.0 |
| Je 18 | 267°57.2<br>-1°01.7 | 282°57.3<br>-1°00.7 | 297°57.5<br>-0°59.7 | 312°57.7<br>-0°58.7 | 327°57.9<br>-0°57.7 | 342°58.1<br>-0°56.7 | 357°58.3<br>-0°55.7 | 12°58.4<br>-0°54.8 | 27°58.6<br>-0°53.8 | 42°58.8<br>-0°52.8 | 57°59.0<br>-0°51.8 | 72°59.2<br>-0°50.8 | +0.2<br>+1.0 |
| Ve 19 | 268°01.5<br>-0°38.0 | 283°01.7<br>-0°37.0 | 298°01.9<br>-0°36.0 | 313°02.1<br>-0°35.0 | 328°02.3<br>-0°34.0 | 343°02.5<br>-0°33.0 | 358°02.6<br>-0°32.0 | 13°02.8<br>-0°31.0 | 28°03.0<br>-0°30.0 | 43°03.2<br>-0°29.1 | 58°03.4<br>-0°28.1 | 73°03.6<br>-0°27.1 | +0.2<br>+1.0 |
| Sa 20 | 268°06.0<br>-0°14.2 | 283°06.1<br>-0°13.2 | 298°06.3<br>-0°12.3 | 313°06.5<br>-0°11.3 | 328°06.7<br>-0°10.3 | 343°06.9<br>-0°09.3 | 358°07.1<br>-0°08.3 | 13°07.3<br>-0°07.3 | 28°07.4<br>-0°06.3 | 43°07.6<br>-0°05.3 | 58°07.8<br>-0°04.4 | 73°08.0<br>-0°03.4 | +0.2<br>+1.0 |
| Di 21 | 268°10.4<br>0°09.5 | 283°10.6<br>0°10.5 | 298°10.8<br>0°11.4 | 313°11.0<br>0°12.4 | 328°11.2<br>0°13.4 | 343°11.3<br>0°14.4 | 358°11.5<br>0°15.4 | 13°11.7<br>0°16.4 | 28°11.9<br>0°17.4 | 43°12.1<br>0°18.4 | 58°12.3<br>0°19.3 | 73°12.5<br>0°20.3 | +0.2<br>+1.0 |
| Lu 22 | 268°14.9<br>0°33.2 | 283°15.1<br>0°34.1 | 298°15.3<br>0°35.1 | 313°15.5<br>0°36.1 | 328°15.6<br>0°37.1 | 343°15.8<br>0°38.1 | 358°16.0<br>0°39.1 | 13°16.2<br>0°40.1 | 28°16.4<br>0°41.0 | 43°16.6<br>0°42.0 | 58°16.8<br>0°43.0 | 73°17.0<br>0°44.0 | +0.2<br>+1.0 |
| Ma 23 | 268°19.4<br>0°56.8 | 283°19.6<br>0°57.8 | 298°19.8<br>0°58.8 | 313°20.0<br>0°59.8 | 328°20.1<br>1°00.8 | 343°20.3<br>1°01.8 | 358°20.5<br>1°02.7 | 13°20.7<br>1°03.7 | 28°20.9<br>1°04.7 | 43°21.1<br>1°05.7 | 58°21.3<br>1°06.7 | 73°21.5<br>1°07.7 | +0.2<br>+1.0 |
| Me 24 | 268°23.9<br>1°20.5 | 283°24.1<br>1°21.4 | 298°24.3<br>1°22.4 | 313°24.5<br>1°23.4 | 328°24.7<br>1°24.4 | 343°24.9<br>1°25.4 | 358°25.0<br>1°26.4 | 13°25.2<br>1°27.4 | 28°25.4<br>1°28.3 | 43°25.6<br>1°29.3 | 58°25.8<br>1°30.3 | 73°26.0<br>1°31.3 | +0.2<br>+1.0 |
| Je 25 | 268°28.5<br>1°44.1 | 283°28.6<br>1°45.1 | 298°28.8<br>1°46.0 | 313°29.0<br>1°47.0 | 328°29.2<br>1°48.0 | 343°29.4<br>1°49.0 | 358°29.6<br>1°50.0 | 13°29.8<br>1°51.0 | 28°30.0<br>1°51.9 | 43°30.2<br>1°52.9 | 58°30.3<br>1°53.9 | 73°30.5<br>1°54.9 | +0.2<br>+1.0 |
| Ve 26 | 268°33.0<br>2°07.6 | 283°33.2<br>2°08.6 | 298°33.4<br>2°09.6 | 313°33.6<br>2°10.6 | 328°33.7<br>2°11.6 | 343°33.9<br>2°12.5 | 358°34.1<br>2°13.5 | 13°34.3<br>2°14.5 | 28°34.5<br>2°15.5 | 43°34.7<br>2°16.5 | 58°34.9<br>2°17.5 | 73°35.1<br>2°18.4 | +0.2<br>+1.0 |
| Sa 27 | 268°37.5<br>2°31.2 | 283°37.7<br>2°32.1 | 298°37.9<br>2°33.1 | 313°38.1<br>2°34.1 | 328°38.3<br>2°35.1 | 343°38.5<br>2°36.1 | 358°38.7<br>2°37.0 | 13°38.9<br>2°38.0 | 28°39.0<br>2°39.0 | 43°39.2<br>2°40.0 | 58°39.4<br>2°41.0 | 73°39.6<br>2°41.9 | +0.2<br>+1.0 |
| Di 28 | 268°42.1<br>2°54.6 | 283°42.3<br>2°55.6 | 298°42.4<br>2°56.6 | 313°42.6<br>2°57.6 | 328°42.8<br>2°58.6 | 343°43.0<br>2°59.5 | 358°43.2<br>3°00.5 | 13°43.4<br>3°01.5 | 28°43.6<br>3°02.5 | 43°43.8<br>3°03.4 | 58°44.0<br>3°04.4 | 73°44.1<br>3°05.4 | +0.2<br>+1.0 |
| Lu 29 | 268°46.6<br>3°18.1 | 283°46.8<br>3°19.0 | 298°47.0<br>3°20.0 | 313°47.2<br>3°21.0 | 328°47.3<br>3°22.0 | 343°47.5<br>3°22.9 | 358°47.7<br>3°23.9 | 13°47.9<br>3°24.9 | 28°48.1<br>3°25.9 | 43°48.3<br>3°26.8 | 58°48.5<br>3°27.8 | 73°48.7<br>3°28.8 | +0.2<br>+1.0 |
| Ma 30 | 268°51.1<br>3°41.4 | 283°51.3<br>3°42.4 | 298°51.5<br>3°43.4 | 313°51.7<br>3°44.3 | 328°51.9<br>3°45.3 | 343°52.0<br>3°46.3 | 358°52.2<br>3°47.3 | 13°52.4<br>3°48.2 | 28°52.6<br>3°49.2 | 43°52.8<br>3°50.2 | 58°53.0<br>3°51.1 | 73°53.2<br>3°52.1 | +0.2<br>+1.0 |
| Me 31 | 268°55.6<br>4°04.7 | 283°55.8<br>4°05.7 | 298°56.0<br>4°06.7 | 313°56.2<br>4°07.6 | 328°56.3<br>4°08.6 | 343°56.5<br>4°09.6 | 358°56.7<br>4°10.5 | 13°56.9<br>4°11.5 | 28°57.1<br>4°12.5 | 43°57.3<br>4°13.4 | 58°57.5<br>4°14.4 | 73°57.6<br>4°15.4 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2027

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 234°17.8 | 248°47.0 | 263°16.2 | 277°45.4 | 292°14.6 | 306°43.9 | 321°13.2 | 335°42.5 | 350°11.9 | 4°41.3 | 19°10.8 | +29.3 | 14.8 |
| | -27°29.4 | -27°27.6 | -27°25.6 | -27°23.5 | -27°21.2 | -27°18.9 | -27°16.4 | -27°13.7 | -27°11.0 | -27°08.1 | -27°05.0 | +2.4 | 54.1 |
| Ma 2 | 248°47.0 | 263°16.2 | 277°45.4 | 292°14.6 | 306°43.9 | 321°13.2 | 335°42.5 | 350°11.9 | 4°41.3 | 19°10.8 | 33°40.2 | +29.3 | 14.8 |
| | -27°27.6 | -27°25.6 | -27°23.5 | -27°21.2 | -27°18.9 | -27°16.4 | -27°13.7 | -27°11.0 | -27°08.1 | -27°05.0 | -27°01.9 | +2.6 | 54.1 |
| Me 3 | 251°07.0 | 265°37.2 | 280°07.3 | 294°37.6 | 309°07.8 | 323°38.2 | 338°08.5 | 352°38.9 | 7°09.4 | 21°39.9 | 36°10.5 | +30.3 | 14.7 |
| | -25°59.6 | -25°54.5 | -25°49.2 | -25°43.8 | -25°38.4 | -25°32.7 | -25°27.0 | -25°21.2 | -25°15.2 | -25°09.2 | -25°03.0 | +5.7 | 54.1 |
| Je 4 | 253°54.9 | 268°26.3 | 282°57.8 | 297°29.3 | 312°00.8 | 326°32.4 | 341°04.0 | 355°35.7 | 10°07.5 | 24°39.3 | 39°11.1 | +31.6 | 14.8 |
| | -23°16.8 | -23°08.9 | -23°00.8 | -22°52.7 | -22°44.4 | -22°36.1 | -22°27.7 | -22°19.1 | -22°10.5 | -22°01.7 | -21°52.9 | +8.4 | 54.1 |
| Ve 5 | 257°15.2 | 271°47.9 | 286°20.6 | 300°53.4 | 315°26.2 | 329°59.1 | 344°32.0 | 359°04.9 | 13°37.9 | 28°11.0 | 42°44.1 | +32.9 | 14.8 |
| | -19°29.0 | -19°18.7 | -19°08.3 | -18°57.8 | -18°47.2 | -18°36.6 | -18°25.9 | -18°15.1 | -18°04.2 | -17°53.2 | -17°42.2 | +10.7 | 54.4 |
| Sa 6 | 261°05.6 | 275°39.4 | 290°13.1 | 304°47.0 | 319°20.8 | 333°54.7 | 348°28.6 | 3°02.6 | 17°36.6 | 32°10.6 | 46°44.6 | +33.9 | 14.9 |
| | -14°47.5 | -14°35.3 | -14°23.0 | -14°10.7 | -13°58.3 | -13°45.8 | -13°33.3 | -13°20.7 | -13°08.1 | -12°55.4 | -12°42.6 | +12.5 | 54.7 |
| Di 7 | 265°18.5 | 279°52.9 | 294°27.3 | 309°01.8 | 323°36.3 | 338°10.8 | 352°45.3 | 7°19.8 | 21°54.3 | 36°28.8 | 51°03.4 | +34.5 | 15.0 |
| | -9°24.6 | -9°11.0 | -8°57.3 | -8°43.6 | -8°29.9 | -8°16.1 | -8°02.3 | -7°48.4 | -7°34.5 | -7°20.6 | -7°06.6 | +13.8 | 55.1 |
| ● Lu 8 | 269°42.2 | 284°16.8 | 298°51.3 | 313°25.9 | 328°00.5 | 342°35.0 | 357°09.6 | 11°44.1 | 26°18.6 | 40°53.1 | 55°27.6 | +34.5 | 15.2 |
| | -3°33.0 | -3°18.6 | -3°04.1 | -2°49.6 | -2°35.0 | -2°20.5 | -2°05.9 | -1°51.3 | -1°36.7 | -1°22.1 | -1°07.5 | +14.6 | 55.6 |
| Ma 9 | 274°02.6 | 288°36.7 | 303°10.8 | 317°44.9 | 332°18.9 | 346°52.9 | 1°26.9 | 16°00.8 | 30°34.7 | 45°08.5 | 59°42.3 | +34.0 | 15.3 |
| | 2°33.3 | 2°48.1 | 3°02.8 | 3°17.6 | 3°32.3 | 3°47.0 | 4°01.8 | 4°16.5 | 4°31.2 | 4°45.9 | 5°00.6 | +14.7 | 56.1 |
| Me 10 | 278°03.9 | 292°36.9 | 307°09.9 | 321°42.8 | 336°15.6 | 350°48.4 | 5°21.1 | 19°53.8 | 34°26.4 | 48°58.9 | 63°31.3 | +32.7 | 15.4 |
| | 8°39.2 | 8°53.6 | 9°08.0 | 9°22.3 | 9°36.6 | 9°50.9 | 10°05.1 | 10°19.3 | 10°33.5 | 10°47.6 | 11°01.7 | +14.2 | 56.6 |
| Je 11 | 281°29.6 | 296°00.8 | 310°32.0 | 325°03.1 | 339°34.1 | 354°05.0 | 8°35.9 | 23°06.6 | 37°37.3 | 52°07.8 | 66°38.3 | +30.9 | 15.6 |
| | 14°27.3 | 14°40.6 | 14°53.8 | 15°07.0 | 15°20.1 | 15°33.1 | 15°46.1 | 15°59.0 | 16°11.8 | 16°24.6 | 16°37.2 | +13.0 | 57.1 |
| Ve 12 | 284°04.3 | 298°33.3 | 313°02.2 | 327°30.9 | 341°59.6 | 356°28.1 | 10°56.6 | 25°24.9 | 39°53.2 | 54°21.3 | 68°49.4 | +28.5 | 15.7 |
| | 19°37.7 | 19°49.0 | 20°00.3 | 20°11.4 | 20°22.4 | 20°33.3 | 20°44.1 | 20°54.8 | 21°05.4 | 21°15.9 | 21°26.3 | +10.9 | 57.6 |
| Sa 13 | 285°37.9 | 300°04.3 | 314°30.6 | 328°56.8 | 343°22.9 | 357°49.0 | 12°14.9 | 26°40.7 | 41°06.5 | 55°32.1 | 69°57.7 | +26.0 | 15.8 |
| | 23°47.8 | 23°56.3 | 24°04.5 | 24°12.7 | 24°20.7 | 24°28.6 | 24°36.3 | 24°43.9 | 24°51.3 | 24°58.6 | 25°05.7 | +7.8 | 58.1 |
| Di 14 | 286°10.3 | 300°34.4 | 314°58.6 | 329°22.6 | 343°46.6 | 358°10.5 | 12°34.3 | 26°58.1 | 41°21.8 | 55°45.5 | 70°09.1 | +23.9 | 16.0 |
| | 26°34.3 | 26°39.0 | 26°43.4 | 26°47.7 | 26°51.8 | 26°55.7 | 26°59.5 | 27°03.1 | 27°06.5 | 27°09.7 | 27°12.8 | +3.8 | 58.5 |
| ◐ Lu 15 | 285°57.2 | 300°20.1 | 314°43.0 | 329°05.9 | 343°28.8 | 357°51.6 | 12°14.5 | 26°37.3 | 41°00.1 | 55°22.9 | 69°45.7 | +22.8 | 16.1 |
| | 27°36.9 | 27°37.1 | 27°37.0 | 27°36.8 | 27°36.4 | 27°35.8 | 27°35.0 | 27°34.0 | 27°32.8 | 27°31.4 | 27°29.9 | -0.7 | 59.0 |
| Ma 16 | 285°28.9 | 299°51.9 | 314°15.0 | 328°38.1 | 343°01.3 | 357°24.4 | 11°47.7 | 26°11.0 | 40°34.3 | 54°57.7 | 69°21.1 | +23.2 | 16.2 |
| | 26°44.1 | 26°39.6 | 26°34.8 | 26°29.9 | 26°24.8 | 26°19.6 | 26°14.1 | 26°08.5 | 26°02.7 | 25°56.7 | 25°50.5 | -5.4 | 59.3 |
| Me 17 | 285°19.3 | 299°43.7 | 314°08.2 | 328°32.8 | 342°57.4 | 357°22.1 | 11°46.9 | 26°11.8 | 40°36.7 | 55°01.8 | 69°26.9 | +24.7 | 16.3 |
| | 23°57.5 | 23°48.6 | 23°39.6 | 23°30.4 | 23°21.1 | 23°11.6 | 23°01.9 | 22°52.1 | 22°42.2 | 22°32.1 | 22°21.9 | -9.6 | 59.6 |
| Je 18 | 285°53.3 | 300°19.7 | 314°46.2 | 329°12.8 | 343°39.5 | 358°06.3 | 12°33.1 | 27°00.1 | 41°27.1 | 55°54.2 | 70°21.4 | +26.8 | 16.3 |
| | 19°31.7 | 19°19.3 | 19°06.8 | 18°54.2 | 18°41.4 | 18°28.6 | 18°15.6 | 18°02.5 | 17°49.4 | 17°36.1 | 17°22.7 | -12.9 | 59.8 |
| Ve 19 | 287°18.9 | 301°47.3 | 316°15.9 | 330°44.5 | 345°13.1 | 359°41.9 | 14°10.7 | 28°39.6 | 43°08.5 | 57°37.5 | 72°06.6 | +28.8 | 16.3 |
| | 13°50.3 | 13°35.4 | 13°20.5 | 13°05.5 | 12°50.4 | 12°35.3 | 12°20.1 | 12°04.8 | 11°49.5 | 11°34.1 | 11°18.6 | -15.2 | 59.7 |
| Sa 20 | 289°30.2 | 304°00.3 | 318°30.3 | 333°00.4 | 347°30.6 | 2°00.8 | 16°31.1 | 31°01.4 | 45°31.7 | 60°02.1 | 74°32.5 | +30.2 | 16.2 |
| | 7°20.6 | 7°04.4 | 6°48.2 | 6°31.9 | 6°15.7 | 5°59.3 | 5°43.0 | 5°26.7 | 5°10.3 | 4°53.9 | 4°37.5 | -16.3 | 59.5 |
| Di 21 | 292°13.1 | 306°44.0 | 321°15.0 | 335°46.0 | 350°17.0 | 4°48.0 | 19°19.0 | 33°50.1 | 48°21.1 | 62°52.2 | 77°23.3 | +31.0 | 16.1 |
| | 0°30.3 | 0°13.8 | -0°02.7 | -0°19.1 | -0°35.5 | -0°52.0 | -1°08.4 | -1°24.8 | -1°41.1 | -1°57.5 | -2°13.8 | -16.4 | 59.0 |
| ○ Lu 22 | 295°10.6 | 309°41.7 | 324°12.9 | 338°44.1 | 353°15.2 | 7°46.3 | 22°17.5 | 36°48.6 | 51°19.7 | 65°50.8 | 80°21.9 | +31.1 | 15.9 |
| | -6°15.0 | -6°30.7 | -6°46.5 | -7°02.1 | -7°17.8 | -7°33.3 | -7°48.8 | -8°04.3 | -8°19.7 | -8°35.1 | -8°50.4 | -15.5 | 58.4 |
| Ma 23 | 298°06.5 | 312°37.3 | 327°08.1 | 341°38.8 | 356°09.6 | 10°40.3 | 25°11.0 | 39°41.6 | 54°12.2 | 68°42.8 | 83°13.4 | +30.7 | 15.7 |
| | -12°32.0 | -12°46.2 | -13°00.3 | -13°14.4 | -13°28.3 | -13°42.2 | -13°56.0 | -14°09.7 | -14°23.3 | -14°36.8 | -14°50.3 | -13.8 | 57.7 |
| Me 24 | 300°48.2 | 315°18.2 | 329°48.2 | 344°18.2 | 358°48.2 | 13°18.1 | 27°47.9 | 42°17.8 | 56°47.6 | 71°17.3 | 85°47.1 | +29.9 | 15.5 |
| | -18°00.7 | -18°12.6 | -18°24.4 | -18°36.1 | -18°47.7 | -18°59.2 | -19°10.5 | -19°21.8 | -19°32.9 | -19°44.0 | -19°54.9 | -11.4 | 56.9 |
| Je 25 | 303°08.7 | 317°37.9 | 332°07.0 | 346°36.1 | 1°05.2 | 15°34.2 | 30°03.2 | 44°32.2 | 59°01.1 | 73°30.0 | 87°58.9 | +29.0 | 15.3 |
| | -22°24.7 | -22°33.7 | -22°42.6 | -22°51.4 | -23°00.0 | -23°08.5 | -23°16.9 | -23°25.2 | -23°33.3 | -23°41.3 | -23°49.1 | -8.4 | 56.1 |
| Ve 26 | 317°37.9 | 332°07.0 | 346°36.1 | 1°05.2 | 15°34.2 | 30°03.2 | 44°32.2 | 59°01.1 | 73°30.0 | 87°58.9 | 102°27.7 | +29.0 | 15.3 |
| | -22°33.7 | -22°42.6 | -22°51.4 | -23°00.0 | -23°08.5 | -23°16.9 | -23°25.2 | -23°33.3 | -23°41.3 | -23°49.1 | -23°56.9 | -8.3 | 56.1 |
| Sa 27 | 319°37.3 | 334°05.8 | 348°34.2 | 3°02.6 | 17°31.0 | 31°59.4 | 46°27.8 | 60°56.2 | 75°24.5 | 89°52.9 | 104°21.2 | +28.4 | 15.1 |
| | -25°37.0 | -25°42.6 | -25°48.1 | -25°53.4 | -25°58.6 | -26°03.6 | -26°08.5 | -26°13.3 | -26°17.9 | -26°22.4 | -26°26.7 | -5.0 | 55.4 |
| Di 28 | 321°25.6 | 335°53.9 | 350°22.2 | 4°50.5 | 19°18.8 | 33°47.1 | 48°15.5 | 62°43.8 | 77°12.2 | 91°40.6 | 106°09.0 | +28.3 | 15.0 |
| | -27°15.1 | -27°17.2 | -27°19.2 | -27°21.0 | -27°22.7 | -27°24.2 | -27°25.6 | -27°26.9 | -27°28.0 | -27°29.0 | -27°29.9 | -1.5 | 54.8 |
| Lu 29 | 323°17.4 | 337°46.2 | 352°15.0 | 6°43.9 | 21°12.7 | 35°41.7 | 50°10.6 | 64°39.6 | 79°08.6 | 93°37.7 | 108°06.8 | +28.9 | 14.8 |
| | -27°26.1 | -27°24.7 | -27°23.3 | -27°21.7 | -27°19.9 | -27°18.0 | -27°16.0 | -27°13.9 | -27°11.6 | -27°09.2 | -27°06.7 | +1.9 | 54.4 |
| ◑ Ma 30 | 325°08.5 | 339°58.3 | 354°28.2 | 8°58.1 | 23°28.0 | 37°58.1 | 52°28.2 | 66°58.3 | 81°28.5 | 95°58.7 | 110°29.0 | +30.1 | 14.8 |
| | -26°13.4 | -26°08.8 | -26°04.1 | -25°59.3 | -25°54.4 | -25°49.4 | -25°44.2 | -25°39.0 | -25°33.6 | -25°28.1 | -25°22.4 | +5.1 | 54.2 |
| Me 31 | 328°10.0 | 342°41.1 | 357°12.4 | 11°43.7 | 26°15.0 | 40°46.4 | 55°17.9 | 69°49.4 | 84°21.0 | 98°52.6 | 113°24.3 | +31.4 | 14.8 |
| | -23°44.6 | -23°37.2 | -23°29.7 | -23°22.1 | -23°14.4 | -23°06.6 | -22°58.7 | -22°50.7 | -22°42.5 | -22°34.3 | -22°26.0 | +7.9 | 54.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 8 09h29 — PQ: 15 16h25 — PL: 22 10h43 — DQ: 30 00h53

# SOLEIL

## Avril 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 269°00.1<br>4°27.9 | 284°00.2<br>4°28.9 | 299°00.4<br>4°29.9 | 314°00.6<br>4°30.8 | 329°00.8<br>4°31.8 | 344°01.0<br>4°32.8 | 359°01.2<br>4°33.7 | 14°01.4<br>4°34.7 | 29°01.5<br>4°35.7 | 44°01.7<br>4°36.6 | 59°01.9<br>4°37.6 | 74°02.1<br>4°38.6 | +0.2<br>+1.0 |
| **Ve 2** | 269°04.5<br>4°51.1 | 284°04.7<br>4°52.0 | 299°04.9<br>4°53.0 | 314°05.0<br>4°54.0 | 329°05.2<br>4°54.9 | 344°05.4<br>4°55.9 | 359°05.6<br>4°56.9 | 14°05.8<br>4°57.8 | 29°06.0<br>4°58.8 | 44°06.2<br>4°59.7 | 59°06.3<br>5°00.7 | 74°06.5<br>5°01.7 | +0.2<br>+1.0 |
| **Sa 3** | 269°08.9<br>5°14.1 | 284°09.1<br>5°15.1 | 299°09.3<br>5°16.1 | 314°09.4<br>5°17.0 | 329°09.6<br>5°18.0 | 344°09.8<br>5°18.9 | 359°10.0<br>5°19.9 | 14°10.2<br>5°20.8 | 29°10.4<br>5°21.8 | 44°10.5<br>5°22.8 | 59°10.7<br>5°23.7 | 74°10.9<br>5°24.7 | +0.2<br>+1.0 |
| **Di 4** | 269°13.3<br>5°37.1 | 284°13.4<br>5°38.1 | 299°13.6<br>5°39.0 | 314°13.8<br>5°40.0 | 329°14.0<br>5°40.9 | 344°14.2<br>5°41.9 | 359°14.3<br>5°42.8 | 14°14.5<br>5°43.8 | 29°14.7<br>5°44.7 | 44°14.9<br>5°45.7 | 59°15.1<br>5°46.6 | 74°15.2<br>5°47.6 | +0.2<br>+1.0 |
| **Lu 5** | 269°17.6<br>6°00.0 | 284°17.8<br>6°00.9 | 299°17.9<br>6°01.9 | 314°18.1<br>6°02.8 | 329°18.3<br>6°03.8 | 344°18.5<br>6°04.7 | 359°18.7<br>6°05.7 | 14°18.8<br>6°06.6 | 29°19.0<br>6°07.6 | 44°19.2<br>6°08.5 | 59°19.4<br>6°09.5 | 74°19.5<br>6°10.4 | +0.2<br>+0.9 |
| **Ma 6** | 269°21.9<br>6°22.7 | 284°22.0<br>6°23.7 | 299°22.2<br>6°24.6 | 314°22.4<br>6°25.6 | 329°22.6<br>6°26.5 | 344°22.7<br>6°27.5 | 359°22.9<br>6°28.4 | 14°23.1<br>6°29.3 | 29°23.3<br>6°30.3 | 44°23.4<br>6°31.2 | 59°23.6<br>6°32.2 | 74°23.8<br>6°33.1 | +0.2<br>+0.9 |
| **Me 7** | 269°26.1<br>6°45.4 | 284°26.2<br>6°46.3 | 299°26.4<br>6°47.3 | 314°26.6<br>6°48.2 | 329°26.8<br>6°49.1 | 344°26.9<br>6°50.1 | 359°27.1<br>6°51.0 | 14°27.3<br>6°52.0 | 29°27.5<br>6°52.9 | 44°27.6<br>6°53.8 | 59°27.8<br>6°54.8 | 74°28.0<br>6°55.7 | +0.2<br>+0.9 |
| **Je 8** | 269°30.2<br>7°07.9 | 284°30.4<br>7°08.9 | 299°30.6<br>7°09.8 | 314°30.8<br>7°10.7 | 329°30.9<br>7°11.7 | 344°31.1<br>7°12.6 | 359°31.3<br>7°13.5 | 14°31.4<br>7°14.5 | 29°31.6<br>7°15.4 | 44°31.8<br>7°16.3 | 59°32.0<br>7°17.3 | 74°32.1<br>7°18.2 | +0.2<br>+0.9 |
| **Ve 9** | 269°34.4<br>7°30.3 | 284°34.5<br>7°31.3 | 299°34.7<br>7°32.2 | 314°34.9<br>7°33.1 | 329°35.0<br>7°34.1 | 344°35.2<br>7°35.0 | 359°35.4<br>7°35.9 | 14°35.5<br>7°36.8 | 29°35.7<br>7°37.8 | 44°35.9<br>7°38.7 | 59°36.0<br>7°39.6 | 74°36.2<br>7°40.6 | +0.2<br>+0.9 |
| **Sa 10** | 269°38.4<br>7°52.6 | 284°38.6<br>7°53.5 | 299°38.7<br>7°54.5 | 314°38.9<br>7°55.4 | 329°39.1<br>7°56.3 | 344°39.2<br>7°57.2 | 359°39.4<br>7°58.2 | 14°39.6<br>7°59.1 | 29°39.7<br>8°00.0 | 44°39.9<br>8°00.9 | 59°40.1<br>8°01.9 | 74°40.2<br>8°02.8 | +0.2<br>+0.9 |
| **Di 11** | 269°42.4<br>8°14.8 | 284°42.6<br>8°15.7 | 299°42.7<br>8°16.6 | 314°42.9<br>8°17.5 | 329°43.0<br>8°18.4 | 344°43.2<br>8°19.4 | 359°43.4<br>8°20.3 | 14°43.5<br>8°21.2 | 29°43.7<br>8°22.1 | 44°43.9<br>8°23.0 | 59°44.0<br>8°24.0 | 74°44.2<br>8°24.9 | +0.2<br>+0.9 |
| **Lu 12** | 269°46.3<br>8°36.8 | 284°46.5<br>8°37.7 | 299°46.6<br>8°38.6 | 314°46.8<br>8°39.5 | 329°47.0<br>8°40.4 | 344°47.1<br>8°41.4 | 359°47.3<br>8°42.3 | 14°47.4<br>8°43.2 | 29°47.6<br>8°44.1 | 44°47.8<br>8°45.0 | 59°47.9<br>8°45.9 | 74°48.1<br>8°46.8 | +0.2<br>+0.9 |
| **Ma 13** | 269°50.2<br>8°58.6 | 284°50.3<br>8°59.6 | 299°50.5<br>9°00.5 | 314°50.6<br>9°01.4 | 329°50.8<br>9°02.3 | 344°50.9<br>9°03.2 | 359°51.1<br>9°04.1 | 14°51.3<br>9°05.0 | 29°51.4<br>9°05.9 | 44°51.6<br>9°06.8 | 59°51.7<br>9°07.7 | 74°51.9<br>9°08.6 | +0.2<br>+0.9 |
| **Me 14** | 269°53.9<br>9°20.4 | 284°54.1<br>9°21.3 | 299°54.2<br>9°22.2 | 314°54.4<br>9°23.1 | 329°54.5<br>9°24.0 | 344°54.7<br>9°24.9 | 359°54.9<br>9°25.8 | 14°55.0<br>9°26.7 | 29°55.2<br>9°27.6 | 44°55.3<br>9°28.5 | 59°55.5<br>9°29.4 | 74°55.6<br>9°30.3 | +0.2<br>+0.9 |
| **Je 15** | 269°57.6<br>9°41.9 | 284°57.8<br>9°42.8 | 299°57.9<br>9°43.7 | 314°58.1<br>9°44.6 | 329°58.2<br>9°45.5 | 344°58.4<br>9°46.4 | 359°58.5<br>9°47.3 | 14°58.7<br>9°48.2 | 29°58.8<br>9°49.1 | 44°59.0<br>9°50.0 | 59°59.1<br>9°50.9 | 74°59.3<br>9°51.7 | +0.2<br>+0.9 |
| **Ve 16** | 270°01.2<br>10°03.3 | 285°01.4<br>10°04.2 | 300°01.5<br>10°05.1 | 315°01.7<br>10°06.0 | 330°01.8<br>10°06.9 | 345°02.0<br>10°07.8 | 0°02.1<br>10°08.6 | 15°02.3<br>10°09.5 | 30°02.4<br>10°10.4 | 45°02.6<br>10°11.3 | 60°02.7<br>10°12.2 | 75°02.9<br>10°13.1 | +0.1<br>+0.9 |
| **Sa 17** | 270°04.8<br>10°24.5 | 285°04.9<br>10°25.4 | 300°05.0<br>10°26.3 | 315°05.2<br>10°27.2 | 330°05.3<br>10°28.1 | 345°05.5<br>10°28.9 | 0°05.6<br>10°29.8 | 15°05.8<br>10°30.7 | 30°05.9<br>10°31.6 | 45°06.1<br>10°32.5 | 60°06.2<br>10°33.3 | 75°06.3<br>10°34.2 | +0.1<br>+0.9 |
| **Di 18** | 270°08.2<br>10°45.6 | 285°08.3<br>10°46.5 | 300°08.5<br>10°47.3 | 315°08.6<br>10°48.2 | 330°08.8<br>10°49.1 | 345°08.9<br>10°50.0 | 0°09.0<br>10°50.8 | 15°09.2<br>10°51.7 | 30°09.3<br>10°52.6 | 45°09.5<br>10°53.4 | 60°09.6<br>10°54.3 | 75°09.7<br>10°55.2 | +0.1<br>+0.9 |
| **Lu 19** | 270°11.5<br>11°06.5 | 285°11.7<br>11°07.3 | 300°11.8<br>11°08.2 | 315°11.9<br>11°09.1 | 330°12.1<br>11°09.9 | 345°12.2<br>11°10.8 | 0°12.3<br>11°11.7 | 15°12.5<br>11°12.5 | 30°12.6<br>11°13.4 | 45°12.8<br>11°14.2 | 60°12.9<br>11°15.1 | 75°13.0<br>11°16.0 | +0.1<br>+0.9 |
| **Ma 20** | 270°14.8<br>11°27.2 | 285°14.9<br>11°28.0 | 300°15.0<br>11°28.9 | 315°15.2<br>11°29.7 | 330°15.3<br>11°30.6 | 345°15.4<br>11°31.4 | 0°15.6<br>11°32.3 | 15°15.7<br>11°33.2 | 30°15.8<br>11°34.0 | 45°16.0<br>11°34.9 | 60°16.1<br>11°35.7 | 75°16.2<br>11°36.6 | +0.1<br>+0.9 |
| **Me 21** | 270°17.9<br>11°47.7 | 285°18.0<br>11°48.5 | 300°18.2<br>11°49.4 | 315°18.3<br>11°50.2 | 330°18.4<br>11°51.1 | 345°18.5<br>11°51.9 | 0°18.7<br>11°52.8 | 15°18.8<br>11°53.6 | 30°18.9<br>11°54.4 | 45°19.0<br>11°55.3 | 60°19.2<br>11°56.1 | 75°19.3<br>11°57.0 | +0.1<br>+0.8 |
| **Je 22** | 270°20.9<br>12°08.0 | 285°21.0<br>12°08.8 | 300°21.2<br>12°09.7 | 315°21.3<br>12°10.5 | 330°21.4<br>12°11.3 | 345°21.5<br>12°12.2 | 0°21.7<br>12°13.0 | 15°21.8<br>12°13.9 | 30°21.9<br>12°14.7 | 45°22.0<br>12°15.5 | 60°22.2<br>12°16.4 | 75°22.3<br>12°17.2 | +0.1<br>+0.8 |
| **Ve 23** | 270°23.8<br>12°28.1 | 285°24.0<br>12°28.9 | 300°24.1<br>12°29.7 | 315°24.2<br>12°30.6 | 330°24.3<br>12°31.4 | 345°24.4<br>12°32.2 | 0°24.5<br>12°33.1 | 15°24.7<br>12°33.9 | 30°24.8<br>12°34.7 | 45°24.9<br>12°35.6 | 60°25.0<br>12°36.4 | 75°25.1<br>12°37.2 | +0.1<br>+0.8 |
| **Sa 24** | 270°26.6<br>12°48.0 | 285°26.7<br>12°48.8 | 300°26.9<br>12°49.6 | 315°27.0<br>12°50.5 | 330°27.1<br>12°51.3 | 345°27.2<br>12°52.1 | 0°27.3<br>12°52.9 | 15°27.4<br>12°53.8 | 30°27.5<br>12°54.6 | 45°27.7<br>12°55.4 | 60°27.8<br>12°56.2 | 75°27.9<br>12°57.0 | +0.1<br>+0.8 |
| **Di 25** | 270°29.3<br>13°07.7 | 285°29.4<br>13°08.5 | 300°29.5<br>13°09.3 | 315°29.6<br>13°10.1 | 330°29.7<br>13°10.9 | 345°29.9<br>13°11.8 | 0°30.0<br>13°12.6 | 15°30.1<br>13°13.4 | 30°30.2<br>13°14.2 | 45°30.3<br>13°15.0 | 60°30.4<br>13°15.8 | 75°30.5<br>13°16.6 | +0.1<br>+0.8 |
| **Lu 26** | 270°31.9<br>13°27.2 | 285°32.0<br>13°28.0 | 300°32.1<br>13°28.8 | 315°32.2<br>13°29.6 | 330°32.3<br>13°30.4 | 345°32.4<br>13°31.2 | 0°32.5<br>13°32.0 | 15°32.6<br>13°32.8 | 30°32.7<br>13°33.6 | 45°32.8<br>13°34.4 | 60°32.9<br>13°35.2 | 75°33.0<br>13°36.0 | +0.1<br>+0.8 |
| **Ma 27** | 270°34.3<br>13°46.4 | 285°34.4<br>13°47.2 | 300°34.5<br>13°48.0 | 315°34.6<br>13°48.8 | 330°34.7<br>13°49.6 | 345°34.8<br>13°50.4 | 0°34.9<br>13°51.2 | 15°35.0<br>13°52.0 | 30°35.1<br>13°52.8 | 45°35.2<br>13°53.6 | 60°35.3<br>13°54.4 | 75°35.4<br>13°55.2 | +0.1<br>+0.8 |
| **Me 28** | 270°36.6<br>14°05.5 | 285°36.7<br>14°06.3 | 300°36.8<br>14°07.0 | 315°36.9<br>14°07.8 | 330°37.0<br>14°08.6 | 345°37.0<br>14°09.4 | 0°37.1<br>14°10.2 | 15°37.2<br>14°11.0 | 30°37.3<br>14°11.8 | 45°37.4<br>14°12.5 | 60°37.5<br>14°13.3 | 75°37.6<br>14°14.1 | +0.1<br>+0.8 |
| **Je 29** | 270°38.8<br>14°24.3 | 285°38.8<br>14°25.1 | 300°38.9<br>14°25.8 | 315°39.0<br>14°26.6 | 330°39.1<br>14°27.4 | 345°39.2<br>14°28.2 | 0°39.3<br>14°28.9 | 15°39.4<br>14°29.7 | 30°39.4<br>14°30.5 | 45°39.5<br>14°31.3 | 60°39.6<br>14°32.0 | 75°39.7<br>14°32.8 | +0.1<br>+0.8 |
| **Ve 30** | 270°40.8<br>14°42.8 | 285°40.9<br>14°43.6 | 300°40.9<br>14°44.4 | 315°41.0<br>14°45.2 | 330°41.1<br>14°45.9 | 345°41.2<br>14°46.7 | 0°41.3<br>14°47.5 | 15°41.4<br>14°48.2 | 30°41.4<br>14°49.0 | 45°41.5<br>14°49.7 | 60°41.6<br>14°50.5 | 75°41.7<br>14°51.3 | +0.1<br>+0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2027

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 244°11.9 | 258°44.1 | 273°16.4 | 287°48.8 | 302°21.2 | 316°53.6 | 331°26.1 | 345°58.6 | 0°31.2 | 15°03.9 | 29°36.6 | +32.5 | 14.8 |
| | -21°06.9 | -20°57.6 | -20°48.2 | -20°38.8 | -20°29.2 | -20°19.6 | -20°09.9 | -20°00.1 | -19°50.2 | -19°40.2 | -19°30.2 | +9.7 | 54.3 |
| Ve 2 | 247°52.7 | 262°26.1 | 276°59.6 | 291°33.1 | 306°06.7 | 320°40.3 | 335°13.9 | 349°47.5 | 4°21.2 | 18°55.0 | 33°28.8 | +33.6 | 14.9 |
| | -16°49.4 | -16°38.1 | -16°26.7 | -16°15.2 | -16°03.6 | -15°52.0 | -15°40.3 | -15°28.5 | -15°16.7 | -15°04.8 | -14°52.8 | +11.7 | 54.6 |
| Sa 3 | 251°59.0 | 266°33.3 | 281°07.5 | 295°41.8 | 310°16.1 | 324°50.4 | 339°24.7 | 353°59.1 | 8°33.4 | 23°07.8 | 37°42.2 | +34.3 | 15.0 |
| | -11°45.6 | -11°32.7 | -11°19.7 | -11°06.6 | -10°53.5 | -10°40.3 | -10°27.1 | -10°13.8 | -10°00.5 | -9°47.1 | -9°33.7 | +13.2 | 55.0 |
| Di 4 | 256°19.2 | 270°53.7 | 285°28.2 | 300°02.7 | 314°37.2 | 329°11.7 | 343°46.2 | 358°20.7 | 12°55.1 | 27°29.6 | 42°04.1 | +34.5 | 15.1 |
| | -6°07.0 | -5°52.9 | -5°38.7 | -5°24.5 | -5°10.3 | -4°56.1 | -4°41.8 | -4°27.5 | -4°13.2 | -3°58.8 | -3°44.4 | +14.3 | 55.5 |
| Lu 5 | 260°39.0 | 275°13.1 | 289°47.3 | 304°21.4 | 318°55.4 | 333°29.5 | 348°03.5 | 2°37.5 | 17°11.4 | 31°45.3 | 46°19.2 | +34.0 | 15.3 |
| | -0°05.7 | 0°09.0 | 0°23.8 | 0°38.5 | 0°53.3 | 1°08.1 | 1°22.8 | 1°37.6 | 1°52.4 | 2°07.2 | 2°22.0 | +14.8 | 56.1 |
| ● Ma 6 | 264°42.2 | 279°15.3 | 293°48.4 | 308°21.5 | 322°54.4 | 337°27.4 | 352°00.2 | 6°33.0 | 21°05.8 | 35°38.4 | 50°11.1 | +32.9 | 15.5 |
| | 6°04.0 | 6°18.7 | 6°33.4 | 6°48.1 | 7°02.8 | 7°17.5 | 7°32.2 | 7°46.8 | 8°01.4 | 8°16.0 | 8°30.5 | +14.7 | 56.8 |
| Me 7 | 268°12.0 | 282°43.4 | 297°14.8 | 311°46.1 | 326°17.3 | 340°48.5 | 355°19.5 | 9°50.5 | 24°21.4 | 38°52.2 | 53°22.9 | +31.1 | 15.6 |
| | 12°05.1 | 12°19.1 | 12°33.1 | 12°47.0 | 13°00.8 | 13°14.6 | 13°28.4 | 13°42.0 | 13°55.7 | 14°09.2 | 14°22.8 | +13.8 | 57.4 |
| Je 8 | 270°52.4 | 285°21.6 | 299°50.7 | 314°19.7 | 328°48.6 | 343°17.4 | 357°46.1 | 12°14.7 | 26°43.2 | 41°11.6 | 55°39.9 | +28.8 | 15.8 |
| | 17°37.3 | 17°49.6 | 18°01.9 | 18°14.1 | 18°26.1 | 18°38.1 | 18°50.0 | 19°01.9 | 19°13.6 | 19°25.2 | 19°36.7 | +12.0 | 57.9 |
| Ve 9 | 272°31.9 | 286°58.6 | 301°25.1 | 315°51.6 | 330°17.9 | 344°44.2 | 359°10.3 | 13°36.3 | 28°02.3 | 42°28.1 | 56°53.9 | +26.2 | 15.9 |
| | 22°16.4 | 22°26.1 | 22°35.7 | 22°45.1 | 22°54.4 | 23°03.6 | 23°12.7 | 23°21.6 | 23°30.4 | 23°39.0 | 23°47.5 | +9.1 | 58.4 |
| Sa 10 | 273°09.1 | 287°33.4 | 301°57.7 | 316°21.9 | 330°46.0 | 345°10.0 | 359°33.9 | 13°57.8 | 28°21.7 | 42°45.4 | 57°09.1 | +24.0 | 16.0 |
| | 25°37.1 | 25°43.2 | 25°49.1 | 25°54.8 | 26°00.4 | 26°05.8 | 26°11.0 | 26°16.1 | 26°21.0 | 26°25.7 | 26°30.2 | +5.3 | 58.7 |
| Di 11 | 272°58.1 | 287°21.0 | 301°44.0 | 316°06.8 | 330°29.7 | 344°52.6 | 359°15.4 | 13°38.2 | 28°01.0 | 42°23.8 | 56°46.6 | +22.8 | 16.1 |
| | 27°17.0 | 27°18.7 | 27°20.2 | 27°21.5 | 27°22.6 | 27°23.5 | 27°24.2 | 27°24.8 | 27°25.1 | 27°25.3 | 27°25.3 | +0.8 | 59.0 |
| Lu 12 | 272°28.8 | 286°51.8 | 301°14.8 | 315°37.8 | 330°00.9 | 344°24.0 | 358°47.1 | 13°10.3 | 27°33.5 | 41°56.8 | 56°20.1 | +23.1 | 16.1 |
| | 27°02.6 | 26°59.6 | 26°56.4 | 26°53.1 | 26°49.5 | 26°45.8 | 26°41.9 | 26°37.8 | 26°33.5 | 26°29.0 | 26°24.4 | -3.8 | 59.1 |
| ◐ Ma 13 | 272°16.9 | 286°41.2 | 301°05.6 | 315°30.1 | 329°54.6 | 344°19.2 | 358°44.0 | 13°08.7 | 27°33.6 | 41°58.5 | 56°23.6 | +24.7 | 16.1 |
| | 24°54.1 | 24°46.7 | 24°39.2 | 24°31.5 | 24°23.7 | 24°15.7 | 24°07.5 | 23°59.2 | 23°50.8 | 23°42.1 | 23°33.4 | -8.1 | 59.2 |
| Me 14 | 272°49.4 | 287°15.8 | 301°42.3 | 316°08.9 | 330°35.6 | 345°02.4 | 359°29.3 | 13°56.2 | 28°23.3 | 42°50.4 | 57°17.7 | +26.8 | 16.1 |
| | 21°04.8 | 20°53.9 | 20°42.8 | 20°31.5 | 20°20.2 | 20°08.7 | 19°57.1 | 19°45.4 | 19°33.6 | 19°21.7 | 19°09.7 | -11.5 | 59.2 |
| Je 15 | 274°16.5 | 288°45.1 | 303°13.8 | 317°42.6 | 332°11.4 | 346°40.3 | 1°09.3 | 15°38.3 | 30°07.5 | 44°36.7 | 59°06.0 | +28.9 | 16.1 |
| | 15°56.6 | 15°43.0 | 15°29.3 | 15°15.5 | 15°01.7 | 14°47.7 | 14°33.7 | 14°19.6 | 14°05.4 | 13°51.1 | 13°36.8 | -14.0 | 59.1 |
| Ve 16 | 276°33.4 | 291°03.8 | 305°34.1 | 320°04.6 | 334°35.1 | 349°05.6 | 3°36.2 | 18°06.9 | 32°37.6 | 47°08.3 | 61°39.1 | +30.6 | 16.1 |
| | 9°54.3 | 9°39.1 | 9°23.8 | 9°08.4 | 8°53.0 | 8°37.6 | 8°22.1 | 8°06.6 | 7°51.0 | 7°35.4 | 7°19.8 | -15.5 | 58.9 |
| Sa 17 | 279°25.9 | 293°57.3 | 308°28.7 | 323°00.2 | 337°31.7 | 352°03.2 | 6°34.7 | 21°06.2 | 35°37.8 | 50°09.4 | 64°41.0 | +31.5 | 16.0 |
| | 3°22.5 | 3°06.5 | 2°50.5 | 2°34.6 | 2°18.6 | 2°02.6 | 1°46.6 | 1°30.6 | 1°14.6 | 0°58.6 | 0°42.7 | -16.0 | 58.6 |
| Di 18 | 282°36.4 | 297°08.1 | 311°39.8 | 326°11.6 | 340°43.3 | 355°15.0 | 9°46.8 | 24°18.5 | 38°50.2 | 53°21.9 | 67°53.6 | +31.7 | 15.9 |
| | -3°15.9 | -3°31.6 | -3°47.4 | -4°03.1 | -4°18.8 | -4°34.4 | -4°50.0 | -5°05.6 | -5°21.2 | -5°36.7 | -5°52.2 | -15.6 | 58.2 |
| Lu 19 | 285°47.2 | 300°18.6 | 314°50.0 | 329°21.4 | 343°52.7 | 358°24.0 | 12°55.3 | 27°26.6 | 41°57.8 | 56°29.0 | 71°00.1 | +31.3 | 15.7 |
| | -9°39.1 | -9°53.8 | -10°08.5 | -10°23.1 | -10°37.6 | -10°52.1 | -11°06.5 | -11°20.9 | -11°35.2 | -11°49.4 | -12°03.5 | -14.4 | 57.7 |
| ○ Ma 20 | 288°43.5 | 303°14.1 | 317°44.6 | 332°15.1 | 346°45.6 | 1°16.0 | 15°46.4 | 30°16.8 | 44°47.1 | 59°17.3 | 73°47.5 | +30.4 | 15.6 |
| | -15°26.8 | -15°39.7 | -15°52.5 | -16°05.3 | -16°17.9 | -16°30.4 | -16°42.9 | -16°55.2 | -17°07.5 | -17°19.7 | -17°31.7 | -12.5 | 57.1 |
| Me 21 | 291°15.4 | 305°44.9 | 320°14.4 | 334°43.8 | 349°13.2 | 3°42.5 | 18°11.8 | 32°41.1 | 47°10.3 | 61°39.4 | 76°08.6 | +29.3 | 15.4 |
| | -20°20.4 | -20°30.8 | -20°41.1 | -20°51.2 | -21°01.3 | -21°11.2 | -21°21.0 | -21°30.7 | -21°40.2 | -21°49.7 | -21°59.0 | -9.9 | 56.5 |
| Je 22 | 293°20.6 | 307°49.2 | 322°17.6 | 336°46.1 | 351°14.5 | 5°42.9 | 20°11.3 | 34°39.6 | 49°07.9 | 63°36.2 | 78°04.4 | +28.4 | 15.2 |
| | -24°03.9 | -24°11.2 | -24°18.3 | -24°25.4 | -24°32.2 | -24°39.0 | -24°45.6 | -24°52.1 | -24°58.5 | -25°04.7 | -25°10.8 | -6.7 | 55.8 |
| Ve 23 | 295°05.8 | 309°33.8 | 324°01.8 | 338°29.8 | 352°57.7 | 7°25.7 | 21°53.6 | 36°21.6 | 50°49.5 | 65°17.5 | 79°45.4 | +28.0 | 15.1 |
| | -26°25.3 | -26°29.2 | -26°32.9 | -26°36.4 | -26°39.9 | -26°43.1 | -26°46.3 | -26°49.3 | -26°52.1 | -26°54.8 | -26°57.4 | -3.2 | 55.3 |
| Sa 24 | 296°45.9 | 311°14.0 | 325°42.2 | 340°10.4 | 354°38.6 | 9°06.9 | 23°35.2 | 38°03.5 | 52°31.8 | 67°00.2 | 81°28.6 | +28.3 | 14.9 |
| | -27°18.9 | -27°19.2 | -27°19.3 | -27°19.3 | -27°19.2 | -27°19.0 | -27°18.6 | -27°18.0 | -27°17.4 | -27°16.6 | -27°15.6 | +0.3 | 54.8 |
| Di 25 | 311°14.0 | 325°42.2 | 340°10.4 | 354°38.6 | 9°06.9 | 23°35.2 | 38°03.5 | 52°31.8 | 67°00.2 | 81°28.6 | 95°57.0 | +28.3 | 14.9 |
| | -27°19.2 | -27°19.3 | -27°19.3 | -27°19.2 | -27°19.0 | -27°18.6 | -27°18.0 | -27°17.4 | -27°16.6 | -27°15.6 | -27°14.5 | +0.5 | 54.8 |
| Lu 26 | 313°08.3 | 327°37.4 | 342°06.5 | 356°35.7 | 11°05.0 | 25°34.3 | 40°03.6 | 54°33.0 | 69°02.5 | 83°32.0 | 98°01.6 | +29.3 | 14.8 |
| | -26°42.1 | -26°38.9 | -26°35.6 | -26°32.1 | -26°28.5 | -26°24.8 | -26°21.0 | -26°17.0 | -26°12.9 | -26°08.7 | -26°04.4 | +3.8 | 54.4 |
| Ma 27 | 315°32.0 | 330°02.5 | 344°33.1 | 359°03.7 | 13°34.4 | 28°05.2 | 42°36.0 | 57°06.9 | 71°37.8 | 86°08.8 | 100°39.9 | +30.8 | 14.8 |
| | -24°45.0 | -24°38.8 | -24°32.4 | -24°26.0 | -24°19.5 | -24°12.8 | -24°06.1 | -23°59.2 | -23°52.2 | -23°45.1 | -23°38.0 | +6.7 | 54.2 |
| ◑ Me 28 | 318°33.3 | 333°05.3 | 347°37.4 | 2°09.6 | 16°41.8 | 31°14.1 | 45°46.5 | 60°18.9 | 74°51.3 | 89°23.9 | 103°56.4 | +32.3 | 14.8 |
| | -21°38.1 | -21°29.3 | -21°20.5 | -21°11.5 | -21°02.5 | -20°53.4 | -20°44.2 | -20°34.9 | -20°25.5 | -20°16.0 | -20°06.5 | +9.2 | 54.2 |
| Je 29 | 322°11.5 | 336°44.9 | 351°18.4 | 5°51.9 | 20°25.4 | 34°59.0 | 49°32.7 | 64°06.3 | 78°40.1 | 93°13.8 | 107°47.6 | +33.6 | 14.8 |
| | -17°33.2 | -17°22.4 | -17°11.4 | -17°00.5 | -16°49.4 | -16°38.3 | -16°27.1 | -16°15.8 | -16°04.5 | -15°53.0 | -15°41.6 | +11.2 | 54.4 |
| Ve 30 | 326°19.2 | 340°53.5 | 355°27.9 | 10°02.3 | 24°36.7 | 39°11.2 | 53°45.7 | 68°20.2 | 82°54.7 | 97°29.2 | 112°03.8 | +34.5 | 14.9 |
| | -12°41.7 | -12°29.2 | -12°16.7 | -12°04.1 | -11°51.5 | -11°38.8 | -11°26.0 | -11°13.2 | -11°00.3 | -10°47.4 | -10°34.5 | +12.7 | 54.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 23h51 — PQ: 13 22h56 — PL: 20 22h27 — DQ: 28 20h17

# SOLEIL

## Mai 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 270° 42.7 | 285° 42.8 | 300° 42.8 | 315° 42.9 | 330° 43.0 | 345° 43.1 | 0° 43.1 | 15° 43.2 | 30° 43.3 | 45° 43.4 | 60° 43.4 | 75° 43.5 | +0.1 |
| | 15° 01.2 | 15° 01.9 | 15° 02.7 | 15° 03.4 | 15° 04.2 | 15° 05.0 | 15° 05.7 | 15° 06.5 | 15° 07.2 | 15° 08.0 | 15° 08.7 | 15° 09.5 | +0.8 |
| Di 2 | 270° 44.4 | 285° 44.5 | 300° 44.6 | 315° 44.6 | 330° 44.7 | 345° 44.8 | 0° 44.9 | 15° 44.9 | 30° 45.0 | 45° 45.1 | 60° 45.1 | 75° 45.2 | +0.1 |
| | 15° 19.3 | 15° 20.0 | 15° 20.8 | 15° 21.5 | 15° 22.2 | 15° 23.0 | 15° 23.7 | 15° 24.5 | 15° 25.2 | 15° 26.0 | 15° 26.7 | 15° 27.5 | +0.7 |
| Lu 3 | 270° 46.1 | 285° 46.1 | 300° 46.2 | 315° 46.2 | 330° 46.3 | 345° 46.4 | 0° 46.4 | 15° 46.5 | 30° 46.6 | 45° 46.6 | 60° 46.7 | 75° 46.7 | +0.1 |
| | 15° 37.1 | 15° 37.8 | 15° 38.6 | 15° 39.3 | 15° 40.0 | 15° 40.8 | 15° 41.5 | 15° 42.2 | 15° 43.0 | 15° 43.7 | 15° 44.4 | 15° 45.2 | +0.7 |
| Ma 4 | 270° 47.5 | 285° 47.6 | 300° 47.6 | 315° 47.7 | 330° 47.8 | 345° 47.8 | 0° 47.9 | 15° 47.9 | 30° 48.0 | 45° 48.0 | 60° 48.1 | 75° 48.2 | +0.1 |
| | 15° 54.7 | 15° 55.4 | 15° 56.1 | 15° 56.8 | 15° 57.6 | 15° 58.3 | 15° 59.0 | 15° 59.7 | 16° 00.5 | 16° 01.2 | 16° 01.9 | 16° 02.6 | +0.7 |
| Me 5 | 270° 48.9 | 285° 48.9 | 300° 49.0 | 315° 49.0 | 330° 49.1 | 345° 49.1 | 0° 49.2 | 15° 49.2 | 30° 49.3 | 45° 49.3 | 60° 49.4 | 75° 49.4 | +0.1 |
| | 16° 12.0 | 16° 12.7 | 16° 13.4 | 16° 14.1 | 16° 14.8 | 16° 15.5 | 16° 16.2 | 16° 17.0 | 16° 17.7 | 16° 18.4 | 16° 19.1 | 16° 19.8 | +0.7 |
| Je 6 | 270° 50.1 | 285° 50.1 | 300° 50.2 | 315° 50.2 | 330° 50.2 | 345° 50.3 | 0° 50.3 | 15° 50.4 | 30° 50.4 | 45° 50.5 | 60° 50.5 | 75° 50.6 | +0.0 |
| | 16° 29.0 | 16° 29.7 | 16° 30.4 | 16° 31.1 | 16° 31.8 | 16° 32.5 | 16° 33.2 | 16° 33.9 | 16° 34.6 | 16° 35.3 | 16° 36.0 | 16° 36.7 | +0.7 |
| Ve 7 | 270° 51.1 | 285° 51.2 | 300° 51.2 | 315° 51.2 | 330° 51.3 | 345° 51.3 | 0° 51.4 | 15° 51.4 | 30° 51.4 | 45° 51.5 | 60° 51.5 | 75° 51.6 | +0.0 |
| | 16° 45.8 | 16° 46.5 | 16° 47.1 | 16° 47.8 | 16° 48.5 | 16° 49.2 | 16° 49.9 | 16° 50.6 | 16° 51.3 | 16° 52.0 | 16° 52.7 | 16° 53.4 | +0.7 |
| Sa 8 | 270° 52.0 | 285° 52.1 | 300° 52.1 | 315° 52.1 | 330° 52.2 | 345° 52.2 | 0° 52.2 | 15° 52.3 | 30° 52.3 | 45° 52.3 | 60° 52.4 | 75° 52.4 | +0.0 |
| | 17° 02.2 | 17° 02.9 | 17° 03.6 | 17° 04.3 | 17° 05.0 | 17° 05.6 | 17° 06.3 | 17° 07.0 | 17° 07.7 | 17° 08.4 | 17° 09.0 | 17° 09.7 | +0.7 |
| Di 9 | 270° 52.8 | 285° 52.8 | 300° 52.9 | 315° 52.9 | 330° 52.9 | 345° 52.9 | 0° 53.0 | 15° 53.0 | 30° 53.0 | 45° 53.1 | 60° 53.1 | 75° 53.1 | +0.0 |
| | 17° 18.4 | 17° 19.1 | 17° 19.8 | 17° 20.4 | 17° 21.1 | 17° 21.8 | 17° 22.4 | 17° 23.1 | 17° 23.8 | 17° 24.4 | 17° 25.1 | 17° 25.8 | +0.7 |
| Lu 10 | 270° 53.4 | 285° 53.5 | 300° 53.5 | 315° 53.5 | 330° 53.5 | 345° 53.6 | 0° 53.6 | 15° 53.6 | 30° 53.6 | 45° 53.6 | 60° 53.7 | 75° 53.7 | +0.0 |
| | 17° 34.3 | 17° 35.0 | 17° 35.7 | 17° 36.3 | 17° 37.0 | 17° 37.6 | 17° 38.3 | 17° 38.9 | 17° 39.6 | 17° 40.2 | 17° 40.9 | 17° 41.5 | +0.7 |
| Ma 11 | 270° 53.9 | 285° 53.9 | 300° 54.0 | 315° 54.0 | 330° 54.0 | 345° 54.0 | 0° 54.0 | 15° 54.0 | 30° 54.1 | 45° 54.1 | 60° 54.1 | 75° 54.1 | +0.0 |
| | 17° 50.0 | 17° 50.6 | 17° 51.2 | 17° 51.9 | 17° 52.5 | 17° 53.2 | 17° 53.8 | 17° 54.5 | 17° 55.1 | 17° 55.7 | 17° 56.4 | 17° 57.0 | +0.6 |
| Me 12 | 270° 54.3 | 285° 54.3 | 300° 54.3 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.4 | 15° 54.4 | 30° 54.4 | 45° 54.4 | 60° 54.4 | 75° 54.4 | +0.0 |
| | 18° 05.3 | 18° 05.9 | 18° 06.5 | 18° 07.2 | 18° 07.8 | 18° 08.4 | 18° 09.0 | 18° 09.7 | 18° 10.3 | 18° 10.9 | 18° 11.6 | 18° 12.2 | +0.6 |
| Je 13 | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.6 | 60° 54.6 | 75° 54.6 | +0.0 |
| | 18° 20.3 | 18° 20.9 | 18° 21.5 | 18° 22.1 | 18° 22.7 | 18° 23.4 | 18° 24.0 | 18° 24.6 | 18° 25.2 | 18° 25.8 | 18° 26.4 | 18° 27.0 | +0.6 |
| Ve 14 | 270° 54.6 | 285° 54.6 | 300° 54.6 | 315° 54.6 | 330° 54.6 | 345° 54.6 | 0° 54.6 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | -0.0 |
| | 18° 35.0 | 18° 35.6 | 18° 36.2 | 18° 36.8 | 18° 37.4 | 18° 38.0 | 18° 38.6 | 18° 39.2 | 18° 39.8 | 18° 40.4 | 18° 41.0 | 18° 41.6 | +0.6 |
| Sa 15 | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.5 | 60° 54.5 | 75° 54.5 | -0.0 |
| | 18° 49.3 | 18° 49.9 | 18° 50.5 | 18° 51.1 | 18° 51.7 | 18° 52.3 | 18° 52.9 | 18° 53.5 | 18° 54.1 | 18° 54.7 | 18° 55.2 | 18° 55.8 | +0.6 |
| Di 16 | 270° 54.3 | 285° 54.3 | 300° 54.3 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.3 | 15° 54.3 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.2 | -0.0 |
| | 19° 03.4 | 19° 04.0 | 19° 04.6 | 19° 05.1 | 19° 05.7 | 19° 06.3 | 19° 06.9 | 19° 07.4 | 19° 08.0 | 19° 08.6 | 19° 09.2 | 19° 09.7 | +0.6 |
| Lu 17 | 270° 54.0 | 285° 54.0 | 300° 54.0 | 315° 54.0 | 330° 53.9 | 345° 53.9 | 0° 53.9 | 15° 53.9 | 30° 53.9 | 45° 53.8 | 60° 53.8 | 75° 53.8 | -0.0 |
| | 19° 17.1 | 19° 17.7 | 19° 18.3 | 19° 18.8 | 19° 19.4 | 19° 20.0 | 19° 20.5 | 19° 21.1 | 19° 21.6 | 19° 22.2 | 19° 22.8 | 19° 23.3 | +0.6 |
| Ma 18 | 270° 53.5 | 285° 53.5 | 300° 53.5 | 315° 53.5 | 330° 53.5 | 345° 53.4 | 0° 53.4 | 15° 53.4 | 30° 53.4 | 45° 53.3 | 60° 53.3 | 75° 53.3 | -0.0 |
| | 19° 30.5 | 19° 31.1 | 19° 31.6 | 19° 32.2 | 19° 32.7 | 19° 33.3 | 19° 33.8 | 19° 34.4 | 19° 34.9 | 19° 35.5 | 19° 36.0 | 19° 36.6 | +0.5 |
| Me 19 | 270° 52.9 | 285° 52.9 | 300° 52.9 | 315° 52.9 | 330° 52.8 | 345° 52.8 | 0° 52.8 | 15° 52.7 | 30° 52.7 | 45° 52.7 | 60° 52.6 | 75° 52.6 | -0.0 |
| | 19° 43.6 | 19° 44.2 | 19° 44.7 | 19° 45.2 | 19° 45.8 | 19° 46.3 | 19° 46.8 | 19° 47.4 | 19° 47.9 | 19° 48.4 | 19° 49.0 | 19° 49.5 | +0.5 |
| Je 20 | 270° 52.2 | 285° 52.2 | 300° 52.1 | 315° 52.1 | 330° 52.1 | 345° 52.0 | 0° 52.0 | 15° 52.0 | 30° 51.9 | 45° 51.9 | 60° 51.9 | 75° 51.8 | -0.0 |
| | 19° 56.4 | 19° 56.9 | 19° 57.4 | 19° 57.9 | 19° 58.5 | 19° 59.0 | 19° 59.5 | 20° 00.0 | 20° 00.5 | 20° 01.1 | 20° 01.6 | 20° 02.1 | +0.5 |
| Ve 21 | 270° 51.3 | 285° 51.3 | 300° 51.2 | 315° 51.2 | 330° 51.2 | 345° 51.1 | 0° 51.1 | 15° 51.0 | 30° 51.0 | 45° 51.0 | 60° 50.9 | 75° 50.9 | -0.0 |
| | 20° 08.8 | 20° 09.3 | 20° 09.8 | 20° 10.3 | 20° 10.8 | 20° 11.3 | 20° 11.8 | 20° 12.3 | 20° 12.8 | 20° 13.3 | 20° 13.8 | 20° 14.3 | +0.5 |
| Sa 22 | 270° 50.3 | 285° 50.3 | 300° 50.2 | 315° 50.2 | 330° 50.1 | 345° 50.1 | 0° 50.0 | 15° 50.0 | 30° 50.0 | 45° 49.9 | 60° 49.9 | 75° 49.8 | -0.0 |
| | 20° 20.8 | 20° 21.3 | 20° 21.8 | 20° 22.3 | 20° 22.8 | 20° 23.3 | 20° 23.8 | 20° 24.3 | 20° 24.8 | 20° 25.3 | 20° 25.7 | 20° 26.2 | +0.5 |
| Di 23 | 270° 49.2 | 285° 49.1 | 300° 49.1 | 315° 49.0 | 330° 49.0 | 345° 48.9 | 0° 48.9 | 15° 48.8 | 30° 48.8 | 45° 48.7 | 60° 48.7 | 75° 48.6 | -0.1 |
| | 20° 32.5 | 20° 33.0 | 20° 33.5 | 20° 34.0 | 20° 34.5 | 20° 34.9 | 20° 35.4 | 20° 35.9 | 20° 36.4 | 20° 36.8 | 20° 37.3 | 20° 37.8 | +0.5 |
| Lu 24 | 270° 47.9 | 285° 47.9 | 300° 47.8 | 315° 47.7 | 330° 47.7 | 345° 47.6 | 0° 47.6 | 15° 47.5 | 30° 47.5 | 45° 47.4 | 60° 47.3 | 75° 47.3 | -0.1 |
| | 20° 43.9 | 20° 44.4 | 20° 44.8 | 20° 45.3 | 20° 45.8 | 20° 46.2 | 20° 46.7 | 20° 47.1 | 20° 47.6 | 20° 48.1 | 20° 48.5 | 20° 49.0 | +0.5 |
| Ma 25 | 270° 46.5 | 285° 46.4 | 300° 46.4 | 315° 46.3 | 330° 46.3 | 345° 46.2 | 0° 46.1 | 15° 46.1 | 30° 46.0 | 45° 45.9 | 60° 45.9 | 75° 45.8 | -0.1 |
| | 20° 54.9 | 20° 55.3 | 20° 55.8 | 20° 56.2 | 20° 56.7 | 20° 57.1 | 20° 57.6 | 20° 58.0 | 20° 58.5 | 20° 58.9 | 20° 59.4 | 20° 59.8 | +0.4 |
| Me 26 | 270° 45.0 | 285° 44.9 | 300° 44.8 | 315° 44.8 | 330° 44.7 | 345° 44.6 | 0° 44.6 | 15° 44.5 | 30° 44.4 | 45° 44.4 | 60° 44.3 | 75° 44.2 | -0.1 |
| | 21° 05.5 | 21° 06.0 | 21° 06.4 | 21° 06.8 | 21° 07.3 | 21° 07.7 | 21° 08.1 | 21° 08.6 | 21° 09.0 | 21° 09.4 | 21° 09.9 | 21° 10.3 | +0.4 |
| Je 27 | 270° 43.3 | 285° 43.3 | 300° 43.2 | 315° 43.1 | 330° 43.0 | 345° 43.0 | 0° 42.9 | 15° 42.8 | 30° 42.7 | 45° 42.7 | 60° 42.6 | 75° 42.5 | -0.1 |
| | 21° 15.8 | 21° 16.2 | 21° 16.7 | 21° 17.1 | 21° 17.5 | 21° 17.9 | 21° 18.3 | 21° 18.8 | 21° 19.2 | 21° 19.6 | 21° 20.0 | 21° 20.4 | +0.4 |
| Ve 28 | 270° 41.6 | 285° 41.5 | 300° 41.4 | 315° 41.3 | 330° 41.2 | 345° 41.2 | 0° 41.1 | 15° 41.0 | 30° 40.9 | 45° 40.9 | 60° 40.8 | 75° 40.7 | -0.1 |
| | 21° 25.7 | 21° 26.1 | 21° 26.5 | 21° 26.9 | 21° 27.4 | 21° 27.8 | 21° 28.2 | 21° 28.6 | 21° 29.0 | 21° 29.4 | 21° 29.8 | 21° 30.2 | +0.4 |
| Sa 29 | 270° 39.7 | 285° 39.6 | 300° 39.5 | 315° 39.4 | 330° 39.3 | 345° 39.2 | 0° 39.2 | 15° 39.1 | 30° 39.0 | 45° 38.9 | 60° 38.8 | 75° 38.7 | -0.1 |
| | 21° 35.3 | 21° 35.7 | 21° 36.1 | 21° 36.4 | 21° 36.8 | 21° 37.2 | 21° 37.6 | 21° 38.0 | 21° 38.4 | 21° 38.8 | 21° 39.1 | 21° 39.5 | +0.4 |
| Di 30 | 270° 37.6 | 285° 37.6 | 300° 37.5 | 315° 37.4 | 330° 37.3 | 345° 37.2 | 0° 37.1 | 15° 37.0 | 30° 36.9 | 45° 36.9 | 60° 36.8 | 75° 36.7 | -0.1 |
| | 21° 44.4 | 21° 44.8 | 21° 45.2 | 21° 45.6 | 21° 45.9 | 21° 46.3 | 21° 46.7 | 21° 47.1 | 21° 47.4 | 21° 47.8 | 21° 48.2 | 21° 48.5 | +0.4 |
| Lu 31 | 270° 35.5 | 285° 35.4 | 300° 35.3 | 315° 35.2 | 330° 35.2 | 345° 35.1 | 0° 35.0 | 15° 34.9 | 30° 34.8 | 45° 34.7 | 60° 34.6 | 75° 34.5 | -0.1 |
| | 21° 53.2 | 21° 53.6 | 21° 54.0 | 21° 54.3 | 21° 54.7 | 21° 55.0 | 21° 55.4 | 21° 55.7 | 21° 56.1 | 21° 56.4 | 21° 56.8 | 21° 57.1 | +0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2027

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 243°15.6 | 257°50.3 | 272°25.0 | 286°59.7 | 301°34.5 | 316°09.2 | 330°43.9 | 345°18.7 | 359°53.4 | 14°28.1 | 29°02.9 | +34.7 | 15.0 |
| | -8°35.7 | -8°22.2 | -8°08.8 | -7°55.2 | -7°41.7 | -7°28.1 | -7°14.4 | -7°00.7 | -6°47.0 | -6°33.3 | -6°19.5 | +13.6 | 55.1 |
| Di 2 | 247°43.3 | 262°17.9 | 276°52.4 | 291°27.0 | 306°01.5 | 320°36.0 | 335°10.5 | 349°45.0 | 4°19.4 | 18°53.8 | 33°28.2 | +34.5 | 15.2 |
| | -2°48.5 | -2°34.2 | -2°19.8 | -2°05.5 | -1°51.1 | -1°36.7 | -1°22.3 | -1°07.9 | -0°53.4 | -0°38.9 | -0°24.4 | +14.4 | 55.8 |
| Lu 3 | 251°59.8 | 266°33.5 | 281°07.3 | 295°40.9 | 310°14.6 | 324°48.1 | 339°21.7 | 353°55.1 | 8°28.5 | 23°01.9 | 37°35.2 | +33.5 | 15.4 |
| | 3°14.5 | 3°29.2 | 3°43.9 | 3°58.5 | 4°13.2 | 4°27.9 | 4°42.5 | 4°57.2 | 5°11.8 | 5°26.5 | 5°41.1 | +14.7 | 56.5 |
| Ma 4 | 255°46.9 | 270°19.1 | 284°51.2 | 299°23.2 | 313°55.2 | 328°27.1 | 342°58.9 | 357°30.6 | 12°02.3 | 26°33.8 | 41°05.3 | +31.8 | 15.6 |
| | 9°19.1 | 9°33.5 | 9°47.9 | 10°02.2 | 10°16.5 | 10°30.7 | 10°45.0 | 10°59.1 | 11°13.3 | 11°27.4 | 11°41.5 | +14.2 | 57.3 |
| Me 5 | 258°46.1 | 273°16.0 | 287°45.8 | 302°15.6 | 316°45.2 | 331°14.7 | 345°44.1 | 0°13.4 | 14°42.6 | 29°11.7 | 43°40.6 | +29.5 | 15.8 |
| | 15°07.0 | 15°20.3 | 15°33.5 | 15°46.6 | 15°59.7 | 16°12.6 | 16°25.6 | 16°38.4 | 16°51.2 | 17°03.8 | 17°16.5 | +12.9 | 58.0 |
| ● Je 6 | 260°41.7 | 275°08.8 | 289°35.9 | 304°02.8 | 318°29.6 | 332°56.3 | 347°22.9 | 1°49.3 | 16°15.7 | 30°41.9 | 45°08.0 | +26.6 | 16.0 |
| | 20°14.9 | 20°26.0 | 20°37.0 | 20°47.9 | 20°58.6 | 21°09.3 | 21°19.8 | 21°30.2 | 21°40.5 | 21°50.7 | 22°00.8 | +10.6 | 58.7 |
| Ve 7 | 261°26.3 | 275°50.7 | 290°15.0 | 304°39.1 | 319°03.2 | 333°27.1 | 347°51.0 | 2°14.8 | 16°38.5 | 31°02.1 | 45°25.6 | +23.9 | 16.2 |
| | 24°15.2 | 24°23.1 | 24°30.7 | 24°38.2 | 24°45.5 | 24°52.7 | 24°59.7 | 25°06.6 | 25°13.3 | 25°19.8 | 25°26.1 | +7.1 | 59.2 |
| Sa 8 | 261°08.7 | 275°31.0 | 289°53.3 | 304°15.5 | 318°37.7 | 332°59.9 | 347°22.0 | 1°44.0 | 16°06.1 | 30°28.1 | 44°50.0 | +22.1 | 16.2 |
| | 26°40.4 | 26°43.9 | 26°47.2 | 26°50.4 | 26°53.3 | 26°56.0 | 26°58.6 | 27°01.0 | 27°03.1 | 27°05.1 | 27°06.9 | +2.6 | 59.6 |
| Di 9 | 260°17.5 | 274°39.3 | 289°01.1 | 303°23.0 | 317°44.9 | 332°06.8 | 346°28.7 | 0°50.7 | 15°12.7 | 29°34.7 | 43°56.8 | +21.9 | 16.3 |
| | 27°10.2 | 27°08.9 | 27°07.3 | 27°05.6 | 27°03.7 | 27°01.5 | 26°59.2 | 26°56.7 | 26°54.0 | 26°51.1 | 26°48.0 | -2.2 | 59.7 |
| Lu 10 | 259°33.9 | 273°56.9 | 288°19.9 | 302°43.1 | 317°06.3 | 331°29.6 | 345°52.9 | 0°16.4 | 14°39.9 | 29°03.6 | 43°27.3 | +23.3 | 16.3 |
| | 25°39.2 | 25°33.2 | 25°27.0 | 25°20.6 | 25°14.0 | 25°07.3 | 25°00.4 | 24°53.3 | 24°46.1 | 24°38.7 | 24°31.1 | -6.8 | 59.7 |
| Ma 11 | 259°34.4 | 273°59.6 | 288°25.0 | 302°50.4 | 317°16.0 | 331°41.7 | 346°07.5 | 0°33.3 | 14°59.3 | 29°25.4 | 43°51.6 | +25.7 | 16.2 |
| | 22°18.9 | 22°09.0 | 21°58.8 | 21°48.6 | 21°38.2 | 21°27.7 | 21°17.0 | 21°06.3 | 20°55.4 | 20°44.3 | 20°33.2 | -10.6 | 59.5 |
| Me 12 | 260°36.8 | 275°04.7 | 289°32.6 | 304°00.6 | 318°28.7 | 332°56.9 | 347°25.2 | 1°53.6 | 16°22.1 | 30°50.7 | 45°19.4 | +28.3 | 16.1 |
| | 17°32.5 | 17°19.6 | 17°06.7 | 16°53.6 | 16°40.5 | 16°27.2 | 16°13.9 | 16°00.5 | 15°47.0 | 15°33.5 | 15°19.8 | -13.3 | 59.2 |
| ◐ Je 13 | 262°39.9 | 277°10.0 | 291°40.1 | 306°10.2 | 320°40.5 | 335°10.8 | 349°41.1 | 4°11.6 | 18°42.1 | 33°12.7 | 47°43.3 | +30.3 | 16.0 |
| | 11°46.9 | 11°32.2 | 11°17.4 | 11°02.7 | 10°47.8 | 10°32.9 | 10°18.0 | 10°03.0 | 9°48.0 | 9°33.0 | 9°17.9 | -14.9 | 58.8 |
| Ve 14 | 265°29.9 | 280°01.4 | 294°33.0 | 309°04.6 | 323°36.2 | 338°07.9 | 352°39.6 | 7°11.4 | 21°43.2 | 36°15.0 | 50°46.9 | +31.7 | 15.9 |
| | 5°27.7 | 5°12.1 | 4°56.6 | 4°41.0 | 4°25.4 | 4°09.8 | 3°54.2 | 3°38.6 | 3°23.0 | 3°07.4 | 2°51.7 | -15.6 | 58.3 |
| Sa 15 | 268°47.8 | 283°20.1 | 297°52.3 | 312°24.5 | 326°56.8 | 341°29.0 | 356°01.3 | 10°33.6 | 25°05.8 | 39°38.1 | 54°10.4 | +32.3 | 15.8 |
| | -1°02.6 | -1°18.1 | -1°33.7 | -1°49.2 | -2°04.7 | -2°20.2 | -2°35.6 | -2°51.1 | -3°06.5 | -3°21.9 | -3°37.2 | -15.5 | 57.9 |
| Di 16 | 272°14.1 | 286°46.3 | 301°18.4 | 315°50.6 | 330°22.7 | 344°54.8 | 359°26.9 | 13°58.9 | 28°30.9 | 43°03.0 | 57°34.9 | +32.1 | 15.6 |
| | -7°23.9 | -7°38.7 | -7°53.5 | -8°08.2 | -8°22.9 | -8°37.5 | -8°52.1 | -9°06.6 | -9°21.1 | -9°35.5 | -9°49.8 | -14.6 | 57.4 |
| Lu 17 | 275°31.2 | 290°02.7 | 304°34.2 | 319°05.6 | 333°36.9 | 348°08.3 | 2°39.6 | 17°10.8 | 31°42.0 | 46°13.2 | 60°44.3 | +31.3 | 15.5 |
| | -13°18.1 | -13°31.5 | -13°44.7 | -13°57.9 | -14°11.1 | -14°24.1 | -14°37.1 | -14°50.0 | -15°02.8 | -15°15.6 | -15°28.2 | -13.0 | 56.9 |
| Ma 18 | 278°25.7 | 292°56.1 | 307°26.4 | 321°56.7 | 336°27.0 | 350°57.1 | 5°27.3 | 19°57.4 | 34°27.4 | 48°57.4 | 63°27.3 | +30.2 | 15.4 |
| | -18°27.7 | -18°38.9 | -18°50.0 | -19°01.0 | -19°12.0 | -19°22.8 | -19°33.5 | -19°44.1 | -19°54.6 | -20°05.0 | -20°15.3 | -10.8 | 56.4 |
| Me 19 | 280°50.6 | 295°19.8 | 309°48.9 | 324°18.0 | 338°47.1 | 353°16.1 | 7°45.0 | 22°13.9 | 36°42.8 | 51°11.6 | 65°40.4 | +29.0 | 15.2 |
| | -22°36.3 | -22°44.8 | -22°53.1 | -23°01.3 | -23°09.4 | -23°17.4 | -23°25.3 | -23°33.0 | -23°40.6 | -23°48.1 | -23°55.4 | -7.9 | 55.8 |
| ○ Je 20 | 282°48.0 | 297°16.3 | 311°44.5 | 326°12.7 | 340°40.9 | 355°09.0 | 9°37.2 | 24°05.3 | 38°33.4 | 53°01.5 | 67°29.6 | +28.2 | 15.1 |
| | -25°29.9 | -25°35.1 | -25°40.2 | -25°45.2 | -25°50.0 | -25°54.7 | -25°59.2 | -26°03.6 | -26°07.9 | -26°12.0 | -26°16.0 | -4.6 | 55.4 |
| Ve 21 | 284°29.5 | 298°57.5 | 313°25.5 | 327°53.5 | 342°21.5 | 356°49.5 | 11°17.5 | 25°45.6 | 40°13.6 | 54°41.7 | 69°09.8 | +28.0 | 15.0 |
| | -26°58.9 | -27°00.6 | -27°02.2 | -27°03.7 | -27°05.0 | -27°06.1 | -27°07.2 | -27°08.0 | -27°08.8 | -27°09.4 | -27°09.8 | -1.1 | 54.9 |
| Sa 22 | 286°13.9 | 300°42.4 | 315°11.0 | 329°39.6 | 344°08.2 | 358°36.9 | 13°05.6 | 27°34.4 | 42°03.2 | 56°32.0 | 71°00.9 | +28.7 | 14.9 |
| | -27°00.1 | -26°58.3 | -26°56.4 | -26°54.4 | -26°52.3 | -26°50.0 | -26°47.6 | -26°45.0 | -26°42.4 | -26°39.5 | -26°36.6 | +2.3 | 54.5 |
| Di 23 | 288°20.5 | 302°50.3 | 317°20.1 | 331°50.0 | 346°19.9 | 0°49.9 | 15°19.9 | 29°50.0 | 44°20.2 | 58°50.5 | 73°20.8 | +30.0 | 14.8 |
| | -25°37.3 | -25°32.3 | -25°27.3 | -25°22.1 | -25°16.8 | -25°11.4 | -25°05.9 | -25°00.2 | -24°54.5 | -24°48.6 | -24°42.6 | +5.5 | 54.3 |
| Lu 24 | 291°03.1 | 305°34.4 | 320°05.8 | 334°37.3 | 349°08.9 | 3°40.5 | 18°12.2 | 32°43.9 | 47°15.7 | 61°47.6 | 76°19.5 | +31.6 | 14.8 |
| | -22°59.8 | -22°52.1 | -22°44.3 | -22°36.5 | -22°28.5 | -22°20.4 | -22°12.2 | -22°04.0 | -21°55.6 | -21°47.2 | -21°38.6 | +8.1 | 54.1 |
| Ma 25 | 305°34.4 | 320°05.8 | 334°37.3 | 349°08.9 | 3°40.5 | 18°12.2 | 32°43.9 | 47°15.7 | 61°47.6 | 76°19.5 | 90°51.5 | +31.7 | 14.8 |
| | -22°52.1 | -22°44.3 | -22°36.5 | -22°28.5 | -22°20.4 | -22°12.2 | -22°04.0 | -21°55.6 | -21°47.2 | -21°38.6 | -21°30.0 | +8.2 | 54.1 |
| Me 26 | 308°59.1 | 323°32.1 | 338°05.2 | 352°38.3 | 7°11.4 | 21°44.7 | 36°17.9 | 50°51.3 | 65°24.7 | 79°58.1 | 94°31.6 | +33.3 | 14.8 |
| | -19°10.0 | -19°00.0 | -18°49.9 | -18°39.7 | -18°29.5 | -18°19.2 | -18°08.8 | -17°58.4 | -17°47.9 | -17°37.3 | -17°26.6 | +10.3 | 54.1 |
| Je 27 | 313°00.0 | 327°34.2 | 342°08.5 | 356°42.9 | 11°17.3 | 25°51.7 | 40°26.1 | 55°00.6 | 69°35.1 | 84°09.7 | 98°44.3 | +34.4 | 14.8 |
| | -14°38.4 | -14°26.6 | -14°14.9 | -14°03.0 | -13°51.1 | -13°39.2 | -13°27.1 | -13°15.1 | -13°02.9 | -12°50.8 | -12°38.5 | +12.0 | 54.3 |
| ◑ Ve 28 | 317°26.5 | 332°01.5 | 346°36.5 | 1°11.6 | 15°46.6 | 30°21.7 | 44°56.8 | 59°31.9 | 74°07.0 | 88°42.1 | 103°17.2 | +35.1 | 14.9 |
| | -9°28.9 | -9°15.9 | -9°02.9 | -8°49.8 | -8°36.6 | -8°23.5 | -8°10.2 | -7°57.0 | -7°43.7 | -7°30.4 | -7°17.0 | +13.2 | 54.7 |
| Sa 29 | 322°04.2 | 336°39.3 | 351°14.4 | 5°49.5 | 20°24.6 | 34°59.6 | 49°34.7 | 64°09.7 | 78°44.7 | 93°19.7 | 107°54.7 | +35.0 | 15.1 |
| | -3°52.3 | -3°38.4 | -3°24.5 | -3°10.6 | -2°56.6 | -2°42.6 | -2°28.6 | -2°14.6 | -2°00.5 | -1°46.5 | -1°32.4 | +14.0 | 55.2 |
| Di 30 | 326°36.0 | 341°10.5 | 355°45.0 | 10°19.4 | 24°53.7 | 39°28.0 | 54°02.3 | 68°36.5 | 83°10.7 | 97°44.8 | 112°18.9 | +34.3 | 15.3 |
| | 2°01.0 | 2°15.3 | 2°29.6 | 2°44.0 | 2°58.3 | 3°12.6 | 3°27.0 | 3°41.3 | 3°55.7 | 4°10.0 | 4°24.4 | +14.3 | 55.9 |
| Lu 31 | 330°43.0 | 345°16.0 | 359°49.0 | 14°22.0 | 28°54.8 | 43°27.6 | 58°00.3 | 72°32.9 | 87°05.5 | 101°37.9 | 116°10.3 | +32.7 | 15.5 |
| | 7°59.0 | 8°13.2 | 8°27.4 | 8°41.6 | 8°55.7 | 9°09.9 | 9°24.0 | 9°38.1 | 9°52.1 | 10°06.2 | 10°20.2 | +14.1 | 56.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 10h58 — PQ: 13 04h43 — PL: 20 10h59 — DQ: 28 13h57

# SOLEIL

## Juin 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ma 1** | 270°33.3 | 285°33.2 | 300°33.1 | 315°33.0 | 330°32.9 | 345°32.8 | 0°32.7 | 15°32.6 | 30°32.5 | 45°32.4 | 60°32.3 | 75°32.2 | -0.1 |
| | 22°01.7 | 22°02.0 | 22°02.3 | 22°02.7 | 22°03.0 | 22°03.4 | 22°03.7 | 22°04.0 | 22°04.4 | 22°04.7 | 22°05.0 | 22°05.4 | +0.3 |
| **Me 2** | 270°30.9 | 285°30.8 | 300°30.7 | 315°30.6 | 330°30.5 | 345°30.4 | 0°30.3 | 15°30.2 | 30°30.1 | 45°30.0 | 60°29.9 | 75°29.8 | -0.1 |
| | 22°09.7 | 22°10.0 | 22°10.3 | 22°10.7 | 22°11.0 | 22°11.3 | 22°11.6 | 22°11.9 | 22°12.3 | 22°12.6 | 22°12.9 | 22°13.2 | +0.3 |
| **Je 3** | 270°28.5 | 285°28.4 | 300°28.3 | 315°28.2 | 330°28.1 | 345°28.0 | 0°27.9 | 15°27.8 | 30°27.7 | 45°27.6 | 60°27.5 | 75°27.4 | -0.1 |
| | 22°17.3 | 22°17.6 | 22°17.9 | 22°18.2 | 22°18.6 | 22°18.9 | 22°19.2 | 22°19.5 | 22°19.8 | 22°20.1 | 22°20.4 | 22°20.7 | +0.3 |
| **Ve 4** | 270°26.0 | 285°25.9 | 300°25.8 | 315°25.7 | 330°25.6 | 345°25.4 | 0°25.3 | 15°25.2 | 30°25.1 | 45°25.0 | 60°24.9 | 75°24.8 | -0.1 |
| | 22°24.6 | 22°24.9 | 22°25.2 | 22°25.4 | 22°25.7 | 22°26.0 | 22°26.3 | 22°26.6 | 22°26.9 | 22°27.2 | 22°27.5 | 22°27.8 | +0.3 |
| **Sa 5** | 270°23.4 | 285°23.3 | 300°23.1 | 315°23.0 | 330°22.9 | 345°22.8 | 0°22.7 | 15°22.6 | 30°22.5 | 45°22.4 | 60°22.3 | 75°22.1 | -0.1 |
| | 22°31.4 | 22°31.7 | 22°32.0 | 22°32.3 | 22°32.5 | 22°32.8 | 22°33.1 | 22°33.3 | 22°33.6 | 22°33.9 | 22°34.2 | 22°34.4 | +0.3 |
| **Di 6** | 270°20.7 | 285°20.6 | 300°20.4 | 315°20.3 | 330°20.2 | 345°20.1 | 0°20.0 | 15°19.9 | 30°19.7 | 45°19.6 | 60°19.5 | 75°19.4 | -0.1 |
| | 22°37.9 | 22°38.1 | 22°38.4 | 22°38.7 | 22°38.9 | 22°39.2 | 22°39.4 | 22°39.7 | 22°40.0 | 22°40.2 | 22°40.5 | 22°40.7 | +0.3 |
| **Lu 7** | 270°17.9 | 285°17.8 | 300°17.7 | 315°17.5 | 330°17.4 | 345°17.3 | 0°17.2 | 15°17.1 | 30°17.0 | 45°16.8 | 60°16.7 | 75°16.6 | -0.1 |
| | 22°43.9 | 22°44.2 | 22°44.4 | 22°44.7 | 22°44.9 | 22°45.2 | 22°45.4 | 22°45.6 | 22°45.9 | 22°46.1 | 22°46.4 | 22°46.6 | +0.2 |
| **Ma 8** | 270°15.0 | 285°14.9 | 300°14.8 | 315°14.7 | 330°14.6 | 345°14.4 | 0°14.3 | 15°14.2 | 30°14.1 | 45°14.0 | 60°13.8 | 75°13.7 | -0.1 |
| | 22°49.6 | 22°49.8 | 22°50.1 | 22°50.3 | 22°50.5 | 22°50.7 | 22°51.0 | 22°51.2 | 22°51.4 | 22°51.6 | 22°51.9 | 22°52.1 | +0.2 |
| **Me 9** | 270°12.1 | 285°12.0 | 300°11.9 | 315°11.8 | 330°11.7 | 345°11.5 | 0°11.4 | 15°11.3 | 30°11.2 | 45°11.0 | 60°10.9 | 75°10.8 | -0.1 |
| | 22°54.9 | 22°55.1 | 22°55.3 | 22°55.5 | 22°55.7 | 22°55.9 | 22°56.1 | 22°56.3 | 22°56.5 | 22°56.7 | 22°57.0 | 22°57.2 | +0.2 |
| **Je 10** | 270°09.2 | 285°09.1 | 300°08.9 | 315°08.8 | 330°08.7 | 345°08.6 | 0°08.4 | 15°08.3 | 30°08.2 | 45°08.1 | 60°07.9 | 75°07.8 | -0.1 |
| | 22°59.7 | 22°59.9 | 23°00.1 | 23°00.3 | 23°00.5 | 23°00.7 | 23°00.9 | 23°01.1 | 23°01.3 | 23°01.5 | 23°01.6 | 23°01.8 | +0.2 |
| **Ve 11** | 270°06.2 | 285°06.0 | 300°05.9 | 315°05.8 | 330°05.7 | 345°05.5 | 0°05.4 | 15°05.3 | 30°05.1 | 45°05.0 | 60°04.9 | 75°04.8 | -0.1 |
| | 23°04.2 | 23°04.4 | 23°04.5 | 23°04.7 | 23°04.9 | 23°05.1 | 23°05.2 | 23°05.4 | 23°05.6 | 23°05.8 | 23°05.9 | 23°06.1 | +0.2 |
| **Sa 12** | 270°03.1 | 285°03.0 | 300°02.8 | 315°02.7 | 330°02.6 | 345°02.5 | 0°02.3 | 15°02.2 | 30°02.1 | 45°01.9 | 60°01.8 | 75°01.7 | -0.1 |
| | 23°08.2 | 23°08.4 | 23°08.6 | 23°08.7 | 23°08.9 | 23°09.0 | 23°09.2 | 23°09.3 | 23°09.5 | 23°09.7 | 23°09.8 | 23°10.0 | +0.2 |
| **Di 13** | 270°00.0 | 284°59.9 | 299°59.7 | 314°59.6 | 329°59.5 | 344°59.3 | 359°59.2 | 14°59.1 | 29°59.0 | 44°58.8 | 59°58.7 | 74°58.6 | -0.1 |
| | 23°11.9 | 23°12.0 | 23°12.2 | 23°12.3 | 23°12.4 | 23°12.6 | 23°12.7 | 23°12.9 | 23°13.0 | 23°13.1 | 23°13.3 | 23°13.4 | +0.1 |
| **Lu 14** | 269°56.9 | 284°56.7 | 299°56.6 | 314°56.5 | 329°56.3 | 344°56.2 | 359°56.1 | 14°55.9 | 29°55.8 | 44°55.7 | 59°55.5 | 74°55.4 | -0.1 |
| | 23°15.1 | 23°15.2 | 23°15.4 | 23°15.5 | 23°15.6 | 23°15.7 | 23°15.9 | 23°16.0 | 23°16.1 | 23°16.2 | 23°16.3 | 23°16.5 | +0.1 |
| **Ma 15** | 269°53.7 | 284°53.6 | 299°53.4 | 314°53.3 | 329°53.2 | 344°53.0 | 359°52.9 | 14°52.8 | 29°52.6 | 44°52.5 | 59°52.4 | 74°52.2 | -0.1 |
| | 23°17.9 | 23°18.0 | 23°18.1 | 23°18.3 | 23°18.4 | 23°18.5 | 23°18.6 | 23°18.7 | 23°18.8 | 23°18.9 | 23°19.0 | 23°19.1 | +0.1 |
| **Me 16** | 269°50.5 | 284°50.4 | 299°50.2 | 314°50.1 | 329°50.0 | 344°49.8 | 359°49.7 | 14°49.6 | 29°49.4 | 44°49.3 | 59°49.2 | 74°49.0 | -0.1 |
| | 23°20.3 | 23°20.4 | 23°20.5 | 23°20.6 | 23°20.7 | 23°20.8 | 23°20.9 | 23°21.0 | 23°21.0 | 23°21.1 | 23°21.2 | 23°21.3 | +0.1 |
| **Je 17** | 269°47.3 | 284°47.1 | 299°47.0 | 314°46.9 | 329°46.7 | 344°46.6 | 359°46.5 | 14°46.3 | 29°46.2 | 44°46.1 | 59°45.9 | 74°45.8 | -0.1 |
| | 23°22.3 | 23°22.4 | 23°22.5 | 23°22.6 | 23°22.6 | 23°22.7 | 23°22.8 | 23°22.8 | 23°22.9 | 23°23.0 | 23°23.0 | 23°23.1 | +0.1 |
| **Ve 18** | 269°44.1 | 284°43.9 | 299°43.8 | 314°43.6 | 329°43.5 | 344°43.4 | 359°43.2 | 14°43.1 | 29°43.0 | 44°42.8 | 59°42.7 | 74°42.6 | -0.1 |
| | 23°23.9 | 23°24.0 | 23°24.0 | 23°24.1 | 23°24.1 | 23°24.2 | 23°24.3 | 23°24.3 | 23°24.4 | 23°24.4 | 23°24.5 | 23°24.5 | +0.1 |
| **Sa 19** | 269°40.8 | 284°40.7 | 299°40.5 | 314°40.4 | 329°40.3 | 344°40.1 | 359°40.0 | 14°39.9 | 29°39.7 | 44°39.6 | 59°39.5 | 74°39.3 | -0.1 |
| | 23°25.1 | 23°25.1 | 23°25.2 | 23°25.2 | 23°25.3 | 23°25.3 | 23°25.3 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.5 | 23°25.5 | +0.0 |
| **Di 20** | 269°37.6 | 284°37.4 | 299°37.3 | 314°37.2 | 329°37.0 | 344°36.9 | 359°36.7 | 14°36.6 | 29°36.5 | 44°36.3 | 59°36.2 | 74°36.1 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.1 | 23°26.1 | +0.0 |
| **Lu 21** | 269°34.3 | 284°34.2 | 299°34.0 | 314°33.9 | 329°33.8 | 344°33.6 | 359°33.5 | 14°33.4 | 29°33.2 | 44°33.1 | 59°33.0 | 74°32.8 | -0.1 |
| | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | +0.0 |
| **Ma 22** | 269°31.1 | 284°30.9 | 299°30.8 | 314°30.7 | 329°30.5 | 344°30.4 | 359°30.3 | 14°30.1 | 29°30.0 | 44°29.9 | 59°29.7 | 74°29.6 | -0.1 |
| | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | -0.0 |
| **Me 23** | 269°27.8 | 284°27.7 | 299°27.6 | 314°27.4 | 329°27.3 | 344°27.2 | 359°27.0 | 14°26.9 | 29°26.8 | 44°26.6 | 59°26.5 | 74°26.4 | -0.1 |
| | 23°25.7 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.4 | 23°25.4 | 23°25.3 | 23°25.3 | -0.0 |
| **Je 24** | 269°24.6 | 284°24.5 | 299°24.3 | 314°24.2 | 329°24.1 | 344°23.9 | 359°23.8 | 14°23.7 | 29°23.5 | 44°23.4 | 59°23.3 | 74°23.1 | -0.1 |
| | 23°24.8 | 23°24.7 | 23°24.7 | 23°24.6 | 23°24.6 | 23°24.5 | 23°24.5 | 23°24.4 | 23°24.4 | 23°24.3 | 23°24.3 | 23°24.2 | -0.0 |
| **Ve 25** | 269°21.4 | 284°21.3 | 299°21.1 | 314°21.0 | 329°20.9 | 344°20.7 | 359°20.6 | 14°20.5 | 29°20.3 | 44°20.2 | 59°20.1 | 74°20.0 | -0.1 |
| | 23°23.5 | 23°23.4 | 23°23.4 | 23°23.3 | 23°23.2 | 23°23.2 | 23°23.1 | 23°23.0 | 23°23.0 | 23°22.9 | 23°22.8 | 23°22.7 | -0.1 |
| **Sa 26** | 269°18.2 | 284°18.1 | 299°18.0 | 314°17.8 | 329°17.7 | 344°17.6 | 359°17.4 | 14°17.3 | 29°17.2 | 44°17.1 | 59°16.9 | 74°16.8 | -0.1 |
| | 23°21.8 | 23°21.7 | 23°21.6 | 23°21.5 | 23°21.4 | 23°21.4 | 23°21.3 | 23°21.2 | 23°21.1 | 23°21.0 | 23°20.9 | 23°20.8 | -0.1 |
| **Di 27** | 269°15.1 | 284°15.0 | 299°14.8 | 314°14.7 | 329°14.6 | 344°14.4 | 359°14.3 | 14°14.2 | 29°14.1 | 44°13.9 | 59°13.8 | 74°13.7 | -0.1 |
| | 23°19.6 | 23°19.5 | 23°19.4 | 23°19.3 | 23°19.2 | 23°19.1 | 23°19.0 | 23°18.9 | 23°18.8 | 23°18.7 | 23°18.6 | 23°18.5 | -0.1 |
| **Lu 28** | 269°12.0 | 284°11.9 | 299°11.7 | 314°11.6 | 329°11.5 | 344°11.3 | 359°11.2 | 14°11.1 | 29°11.0 | 44°10.8 | 59°10.7 | 74°10.6 | -0.1 |
| | 23°17.1 | 23°17.0 | 23°16.9 | 23°16.8 | 23°16.6 | 23°16.5 | 23°16.4 | 23°16.3 | 23°16.2 | 23°16.0 | 23°15.9 | 23°15.8 | -0.1 |
| **Ma 29** | 269°08.9 | 284°08.8 | 299°08.7 | 314°08.5 | 329°08.4 | 344°08.3 | 359°08.2 | 14°08.0 | 29°07.9 | 44°07.8 | 59°07.7 | 74°07.5 | -0.1 |
| | 23°14.2 | 23°14.0 | 23°13.9 | 23°13.8 | 23°13.6 | 23°13.5 | 23°13.4 | 23°13.2 | 23°13.1 | 23°12.9 | 23°12.8 | 23°12.7 | -0.1 |
| **Me 30** | 269°05.9 | 284°05.8 | 299°05.6 | 314°05.5 | 329°05.4 | 344°05.3 | 359°05.2 | 14°05.0 | 29°04.9 | 44°04.8 | 59°04.7 | 74°04.5 | -0.1 |
| | 23°10.8 | 23°10.7 | 23°10.5 | 23°10.4 | 23°10.2 | 23°10.1 | 23°09.9 | 23°09.7 | 23°09.6 | 23°09.4 | 23°09.3 | 23°09.1 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2027

| J | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 246°57.7 | 261°29.1 | 276°00.5 | 290°31.8 | 305°03.0 | 319°34.0 | 334°05.0 | 348°35.9 | 3°06.6 | 17°37.3 | 32°07.8 | +31.0 | 15.7 |
| | 12°24.9 | 12°38.6 | 12°52.2 | 13°05.8 | 13°19.3 | 13°32.8 | 13°46.3 | 13°59.7 | 14°13.0 | 14°26.3 | 14°39.6 | +13.5 | 57.5 |
| Me 2 | 249°32.6 | 264°01.3 | 278°29.9 | 292°58.4 | 307°26.7 | 321°55.0 | 336°23.1 | 350°51.0 | 5°18.9 | 19°46.6 | 34°14.2 | +28.2 | 15.9 |
| | 17°50.7 | 18°02.9 | 18°15.0 | 18°27.0 | 18°38.9 | 18°50.7 | 19°02.4 | 19°14.1 | 19°25.6 | 19°37.1 | 19°48.4 | +11.8 | 58.4 |
| Je 3 | 250°52.7 | 265°18.2 | 279°43.7 | 294°08.9 | 308°34.1 | 322°59.1 | 337°24.0 | 351°48.8 | 6°13.5 | 20°38.0 | 35°02.5 | +25.0 | 16.1 |
| | 22°25.7 | 22°35.3 | 22°44.7 | 22°53.9 | 23°03.1 | 23°12.1 | 23°20.9 | 23°29.7 | 23°38.2 | 23°46.7 | 23°55.0 | +8.9 | 59.2 |
| ● Ve 4 | 250°54.9 | 265°17.5 | 279°40.1 | 294°02.5 | 308°24.9 | 322°47.1 | 337°09.3 | 351°31.4 | 5°53.4 | 20°15.3 | 34°37.2 | +22.2 | 16.3 |
| | 25°40.4 | 25°46.1 | 25°51.6 | 25°57.0 | 26°02.1 | 26°07.1 | 26°11.9 | 26°16.5 | 26°20.9 | 26°25.2 | 26°29.2 | +4.9 | 59.9 |
| Sa 5 | 249°57.2 | 264°18.2 | 278°39.1 | 293°00.0 | 307°20.9 | 321°41.8 | 336°02.6 | 350°23.4 | 4°44.3 | 19°05.1 | 33°25.9 | +20.9 | 16.5 |
| | 27°06.7 | 27°07.6 | 27°08.3 | 27°08.8 | 27°09.0 | 27°09.1 | 27°09.0 | 27°08.7 | 27°08.1 | 27°07.4 | 27°06.5 | -0.0 | 60.4 |
| Di 6 | 248°39.6 | 263°00.8 | 277°22.0 | 291°43.2 | 306°04.6 | 320°25.9 | 334°47.4 | 349°08.9 | 3°30.4 | 17°52.1 | 32°13.8 | +21.4 | 16.5 |
| | 26°27.8 | 26°23.6 | 26°19.2 | 26°14.6 | 26°09.8 | 26°04.8 | 25°59.6 | 25°54.3 | 25°48.7 | 25°43.0 | 25°37.0 | -5.1 | 60.5 |
| Lu 7 | 247°48.9 | 262°12.0 | 276°35.2 | 290°58.5 | 305°21.9 | 319°45.4 | 334°09.0 | 348°32.7 | 2°56.5 | 17°20.4 | 31°44.4 | +23.5 | 16.5 |
| | 23°46.2 | 23°37.4 | 23°28.5 | 23°19.4 | 23°10.1 | 23°00.7 | 22°51.1 | 22°41.4 | 22°31.6 | 22°21.5 | 22°11.4 | -9.5 | 60.5 |
| Ma 8 | 247°58.3 | 262°24.2 | 276°50.1 | 291°16.2 | 305°42.4 | 320°08.7 | 334°35.1 | 349°01.6 | 3°28.2 | 17°54.9 | 32°21.8 | +26.3 | 16.4 |
| | 19°22.5 | 19°10.2 | 18°57.9 | 18°45.4 | 18°32.8 | 18°20.1 | 18°07.3 | 17°54.4 | 17°41.4 | 17°28.3 | 17°15.1 | -12.8 | 60.1 |
| Me 9 | 249°17.4 | 263°45.9 | 278°14.6 | 292°43.3 | 307°12.1 | 321°41.0 | 336°10.0 | 350°39.1 | 5°08.3 | 19°37.6 | 34°06.9 | +29.0 | 16.2 |
| | 13°46.7 | 13°32.2 | 13°17.7 | 13°03.1 | 12°48.4 | 12°33.7 | 12°18.9 | 12°04.0 | 11°49.1 | 11°34.2 | 11°19.2 | -14.8 | 59.6 |
| Je 10 | 251°37.1 | 266°07.7 | 280°38.4 | 295°09.2 | 309°40.0 | 324°10.8 | 338°41.7 | 353°12.7 | 7°43.8 | 22°14.9 | 36°46.0 | +30.9 | 16.1 |
| | 7°29.4 | 7°13.8 | 6°58.2 | 6°42.6 | 6°27.0 | 6°11.3 | 5°55.7 | 5°40.0 | 5°24.3 | 5°08.6 | 4°52.9 | -15.7 | 58.9 |
| ◐ Ve 11 | 254°39.1 | 269°11.0 | 283°42.9 | 298°14.8 | 312°46.8 | 327°18.7 | 341°50.7 | 356°22.8 | 10°54.8 | 25°26.9 | 39°59.0 | +32.0 | 15.9 |
| | 0°56.8 | 0°41.1 | 0°25.4 | 0°09.7 | -0°06.0 | -0°21.6 | -0°37.2 | -0°52.9 | -1°08.4 | -1°24.0 | -1°39.6 | -15.6 | 58.2 |
| Sa 12 | 258°02.5 | 272°34.7 | 287°07.0 | 301°39.3 | 316°11.6 | 330°43.9 | 345°16.2 | 359°48.5 | 14°20.7 | 28°53.0 | 43°25.3 | +32.3 | 15.7 |
| | -5°29.5 | -5°44.6 | -5°59.6 | -6°14.6 | -6°29.5 | -6°44.4 | -6°59.3 | -7°14.1 | -7°28.8 | -7°43.5 | -7°58.2 | -14.9 | 57.6 |
| Di 13 | 261°27.5 | 275°59.4 | 290°31.4 | 305°03.3 | 319°35.3 | 334°07.1 | 348°39.0 | 3°10.8 | 17°42.6 | 32°14.4 | 46°46.1 | +31.9 | 15.5 |
| | -11°31.5 | -11°45.3 | -11°59.0 | -12°12.6 | -12°26.1 | -12°39.6 | -12°53.0 | -13°06.3 | -13°19.6 | -13°32.8 | -13°45.9 | -13.4 | 56.9 |
| Lu 14 | 264°37.8 | 279°08.9 | 293°40.0 | 308°11.0 | 322°42.0 | 337°13.0 | 351°43.9 | 6°14.8 | 20°45.6 | 35°16.4 | 49°47.1 | +30.9 | 15.3 |
| | -16°53.2 | -17°05.0 | -17°16.8 | -17°28.4 | -17°40.0 | -17°51.4 | -18°02.8 | -18°14.0 | -18°25.2 | -18°36.3 | -18°47.3 | -11.4 | 56.3 |
| Ma 15 | 267°22.5 | 281°52.5 | 296°22.4 | 310°52.3 | 325°22.1 | 339°51.9 | 354°21.7 | 8°51.4 | 23°21.0 | 37°50.6 | 52°20.2 | +29.8 | 15.2 |
| | -21°19.8 | -21°29.1 | -21°38.3 | -21°47.4 | -21°56.3 | -22°05.2 | -22°14.0 | -22°22.6 | -22°31.1 | -22°39.5 | -22°47.8 | -8.8 | 55.7 |
| Me 16 | 269°38.5 | 284°07.4 | 298°36.2 | 313°05.0 | 327°33.8 | 342°02.6 | 356°31.3 | 11°00.0 | 25°28.7 | 39°57.3 | 54°25.9 | +28.7 | 15.1 |
| | -24°37.5 | -24°43.8 | -24°50.0 | -24°56.0 | -25°02.0 | -25°07.8 | -25°13.4 | -25°19.0 | -25°24.4 | -25°29.6 | -25°34.8 | -5.7 | 55.3 |
| Je 17 | 271°32.1 | 286°00.4 | 300°28.6 | 314°56.9 | 329°25.1 | 343°53.4 | 358°21.6 | 12°49.8 | 27°18.0 | 41°46.3 | 56°14.5 | +28.2 | 15.0 |
| | -26°35.6 | -26°38.5 | -26°41.4 | -26°44.0 | -26°46.6 | -26°49.0 | -26°51.3 | -26°53.4 | -26°55.4 | -26°57.2 | -26°58.9 | -2.3 | 54.9 |
| Ve 18 | 273°18.6 | 287°47.0 | 302°15.4 | 316°43.9 | 331°12.3 | 345°40.8 | 0°09.3 | 14°37.8 | 29°06.4 | 43°35.0 | 58°03.6 | +28.5 | 14.9 |
| | -27°08.0 | -27°07.5 | -27°06.8 | -27°06.0 | -27°05.1 | -27°04.1 | -27°02.9 | -27°01.6 | -27°00.1 | -26°58.5 | -26°56.8 | +1.1 | 54.5 |
| ○ Sa 19 | 275°17.6 | 289°46.9 | 304°16.2 | 318°45.6 | 333°15.0 | 347°44.5 | 2°14.1 | 16°43.7 | 31°13.3 | 45°43.0 | 60°12.8 | +29.5 | 14.8 |
| | -26°15.1 | -26°11.3 | -26°07.4 | -26°03.3 | -25°59.1 | -25°54.8 | -25°50.4 | -25°45.8 | -25°41.1 | -25°36.3 | -25°31.4 | +4.4 | 54.2 |
| Di 20 | 277°46.2 | 292°16.9 | 306°47.7 | 321°18.6 | 335°49.5 | 350°20.5 | 4°51.6 | 19°22.7 | 33°53.9 | 48°25.1 | 62°56.4 | +31.0 | 14.7 |
| | -24°03.8 | -23°57.1 | -23°50.2 | -23°43.3 | -23°36.2 | -23°29.1 | -23°21.8 | -23°14.4 | -23°07.0 | -22°59.4 | -22°51.8 | +7.2 | 54.1 |
| Lu 21 | 280°54.0 | 295°26.4 | 309°58.8 | 324°31.3 | 339°03.9 | 353°36.5 | 8°09.2 | 22°41.9 | 37°14.7 | 51°47.6 | 66°20.5 | +32.7 | 14.7 |
| | -20°45.3 | -20°36.2 | -20°26.9 | -20°17.6 | -20°08.2 | -19°58.7 | -19°49.1 | -19°39.5 | -19°29.7 | -19°19.9 | -19°10.0 | +9.5 | 54.0 |
| Ma 22 | 284°41.6 | 299°15.5 | 313°49.4 | 328°23.3 | 342°57.3 | 357°31.4 | 12°05.5 | 26°39.7 | 41°13.9 | 55°48.1 | 70°22.4 | +34.1 | 14.7 |
| | -16°32.7 | -16°21.7 | -16°10.5 | -15°59.4 | -15°48.1 | -15°36.8 | -15°25.5 | -15°14.1 | -15°02.6 | -14°51.0 | -14°39.4 | +11.3 | 54.0 |
| Me 23 | 289°02.0 | 303°37.0 | 318°12.0 | 332°47.0 | 347°22.0 | 1°57.1 | 16°32.2 | 31°07.3 | 45°42.4 | 60°17.6 | 74°52.8 | +35.1 | 14.8 |
| | -11°38.8 | -11°26.4 | -11°13.9 | -11°01.4 | -10°48.8 | -10°36.2 | -10°23.5 | -10°10.8 | -9°58.0 | -9°45.2 | -9°32.4 | +12.6 | 54.2 |
| Je 24 | 303°37.0 | 318°12.0 | 332°47.0 | 347°22.0 | 1°57.1 | 16°32.2 | 31°07.3 | 45°42.4 | 60°17.6 | 74°52.8 | 89°28.1 | +35.1 | 14.8 |
| | -11°26.4 | -11°13.9 | -11°01.4 | -10°48.8 | -10°36.2 | -10°23.5 | -10°10.8 | -9°58.0 | -9°45.2 | -9°32.4 | -9°19.5 | +12.7 | 54.2 |
| Ve 25 | 308°18.7 | 322°54.2 | 337°29.7 | 352°05.2 | 6°40.7 | 21°16.2 | 35°51.7 | 50°27.2 | 65°02.7 | 79°38.2 | 94°13.7 | +35.5 | 14.9 |
| | -6°02.0 | -5°48.6 | -5°35.1 | -5°21.7 | -5°08.1 | -4°54.6 | -4°41.0 | -4°27.5 | -4°13.8 | -4°00.2 | -3°46.5 | +13.6 | 54.6 |
| Sa 26 | 313°05.3 | 327°40.6 | 342°15.9 | 356°51.2 | 11°26.4 | 26°01.6 | 40°36.8 | 55°12.0 | 69°47.1 | 84°22.3 | 98°57.3 | +35.2 | 15.0 |
| | -0°19.3 | -0°05.3 | 0°08.6 | 0°22.6 | 0°36.5 | 0°50.5 | 1°04.5 | 1°18.5 | 1°32.5 | 1°46.5 | 2°00.6 | +14.0 | 55.1 |
| ◑ Di 27 | 317°39.0 | 332°13.4 | 346°47.7 | 1°22.0 | 15°56.3 | 30°30.5 | 45°04.6 | 59°38.7 | 74°12.7 | 88°46.6 | 103°20.5 | +34.2 | 15.2 |
| | 5°31.0 | 5°45.0 | 5°59.0 | 6°13.0 | 6°27.0 | 6°41.0 | 6°54.9 | 7°08.9 | 7°22.8 | 7°36.7 | 7°50.6 | +14.0 | 55.8 |
| Lu 28 | 321°40.4 | 336°13.1 | 350°45.7 | 5°18.2 | 19°50.7 | 34°23.0 | 48°55.3 | 63°27.4 | 77°59.5 | 92°31.5 | 107°03.4 | +32.3 | 15.4 |
| | 11°16.6 | 11°30.1 | 11°43.6 | 11°57.0 | 12°10.4 | 12°23.8 | 12°37.1 | 12°50.4 | 13°03.7 | 13°16.9 | 13°30.1 | +13.4 | 56.6 |
| Ma 29 | 324°49.3 | 339°19.5 | 353°49.6 | 8°19.5 | 22°49.4 | 37°19.1 | 51°48.7 | 66°18.2 | 80°47.6 | 95°16.8 | 109°45.9 | +29.7 | 15.7 |
| | 16°41.5 | 16°53.8 | 17°06.0 | 17°18.2 | 17°30.3 | 17°42.3 | 17°54.2 | 18°06.1 | 18°17.9 | 18°29.6 | 18°41.2 | +12.0 | 57.6 |
| Me 30 | 326°47.4 | 341°14.5 | 355°41.4 | 10°08.2 | 24°34.9 | 39°01.4 | 53°27.8 | 67°54.1 | 82°20.2 | 96°46.2 | 111°12.1 | +26.5 | 16.0 |
| | 21°24.7 | 21°34.8 | 21°44.8 | 21°54.7 | 22°04.5 | 22°14.1 | 22°23.6 | 22°33.0 | 22°42.3 | 22°51.5 | 23°00.5 | +9.6 | 58.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 19h40 — PQ: 11 10h56 — PL: 19 00h44 — DQ: 27 04h54

# SOLEIL

## Juillet 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 269°02.9<br>23°07.0 | 284°02.8<br>23°06.9 | 299°02.7<br>23°06.7 | 314°02.6<br>23°06.5 | 329°02.4<br>23°06.4 | 344°02.3<br>23°06.2 | 359°02.2<br>23°06.0 | 14°02.1<br>23°05.9 | 29°02.0<br>23°05.7 | 44°01.8<br>23°05.5 | 59°01.7<br>23°05.4 | 74°01.6<br>23°05.2 | -0.1<br>-0.2 |
| Ve 2 | 269°00.0<br>23°02.9 | 283°59.9<br>23°02.7 | 298°59.8<br>23°02.5 | 313°59.7<br>23°02.3 | 328°59.5<br>23°02.1 | 343°59.4<br>23°02.0 | 358°59.3<br>23°01.8 | 13°59.2<br>23°01.6 | 28°59.1<br>23°01.4 | 43°59.0<br>23°01.2 | 58°58.8<br>23°01.0 | 73°58.7<br>23°00.8 | -0.1<br>-0.2 |
| Sa 3 | 268°57.2<br>22°58.3 | 283°57.1<br>22°58.1 | 298°57.0<br>22°57.9 | 313°56.8<br>22°57.7 | 328°56.7<br>22°57.5 | 343°56.6<br>22°57.3 | 358°56.5<br>22°57.1 | 13°56.4<br>22°56.9 | 28°56.3<br>22°56.7 | 43°56.1<br>22°56.5 | 58°56.0<br>22°56.3 | 73°55.9<br>22°56.1 | -0.1<br>-0.2 |
| Di 4 | 268°54.4<br>22°53.3 | 283°54.3<br>22°53.1 | 298°54.2<br>22°52.9 | 313°54.1<br>22°52.7 | 328°54.0<br>22°52.5 | 343°53.9<br>22°52.3 | 358°53.7<br>22°52.0 | 13°53.6<br>22°51.8 | 28°53.5<br>22°51.6 | 43°53.4<br>22°51.4 | 58°53.3<br>22°51.1 | 73°53.2<br>22°50.9 | -0.1<br>-0.2 |
| Lu 5 | 268°51.7<br>22°48.0 | 283°51.6<br>22°47.7 | 298°51.5<br>22°47.5 | 313°51.4<br>22°47.3 | 328°51.3<br>22°47.0 | 343°51.2<br>22°46.8 | 358°51.1<br>22°46.6 | 13°51.0<br>22°46.3 | 28°50.9<br>22°46.1 | 43°50.7<br>22°45.9 | 58°50.6<br>22°45.6 | 73°50.5<br>22°45.4 | -0.1<br>-0.2 |
| Ma 6 | 268°49.1<br>22°42.2 | 283°49.0<br>22°42.0 | 298°48.9<br>22°41.7 | 313°48.8<br>22°41.5 | 328°48.7<br>22°41.2 | 343°48.6<br>22°41.0 | 358°48.5<br>22°40.7 | 13°48.4<br>22°40.4 | 28°48.3<br>22°40.2 | 43°48.2<br>22°39.9 | 58°48.1<br>22°39.7 | 73°48.0<br>22°39.4 | -0.1<br>-0.3 |
| Me 7 | 268°46.6<br>22°36.0 | 283°46.5<br>22°35.8 | 298°46.4<br>22°35.5 | 313°46.3<br>22°35.2 | 328°46.2<br>22°35.0 | 343°46.1<br>22°34.7 | 358°46.0<br>22°34.4 | 13°45.9<br>22°34.2 | 28°45.8<br>22°33.9 | 43°45.7<br>22°33.6 | 58°45.6<br>22°33.4 | 73°45.5<br>22°33.1 | -0.1<br>-0.3 |
| Je 8 | 268°44.2<br>22°29.5 | 283°44.1<br>22°29.2 | 298°44.0<br>22°28.9 | 313°43.9<br>22°28.6 | 328°43.8<br>22°28.4 | 343°43.7<br>22°28.1 | 358°43.6<br>22°27.8 | 13°43.5<br>22°27.5 | 28°43.4<br>22°27.2 | 43°43.3<br>22°26.9 | 58°43.2<br>22°26.6 | 73°43.1<br>22°26.4 | -0.1<br>-0.3 |
| Ve 9 | 268°41.9<br>22°22.6 | 283°41.8<br>22°22.3 | 298°41.7<br>22°22.0 | 313°41.6<br>22°21.7 | 328°41.5<br>22°21.4 | 343°41.4<br>22°21.1 | 358°41.3<br>22°20.8 | 13°41.3<br>22°20.5 | 28°41.2<br>22°20.2 | 43°41.1<br>22°19.9 | 58°41.0<br>22°19.5 | 73°40.9<br>22°19.2 | -0.1<br>-0.3 |
| Sa 10 | 268°39.7<br>22°15.2 | 283°39.6<br>22°14.9 | 298°39.5<br>22°14.6 | 313°39.4<br>22°14.3 | 328°39.4<br>22°14.0 | 343°39.3<br>22°13.7 | 358°39.2<br>22°13.3 | 13°39.1<br>22°13.0 | 28°39.0<br>22°12.7 | 43°38.9<br>22°12.4 | 58°38.8<br>22°12.1 | 73°38.7<br>22°11.7 | -0.1<br>-0.3 |
| Di 11 | 268°37.6<br>22°07.5 | 283°37.5<br>22°07.2 | 298°37.5<br>22°06.9 | 313°37.4<br>22°06.5 | 328°37.3<br>22°06.2 | 343°37.2<br>22°05.9 | 358°37.1<br>22°05.5 | 13°37.0<br>22°05.2 | 28°37.0<br>22°04.9 | 43°36.9<br>22°04.5 | 58°36.8<br>22°04.2 | 73°36.7<br>22°03.9 | -0.1<br>-0.3 |
| Lu 12 | 268°35.7<br>21°59.4 | 283°35.6<br>21°59.1 | 298°35.5<br>21°58.7 | 313°35.4<br>21°58.4 | 328°35.3<br>21°58.0 | 343°35.3<br>21°57.7 | 358°35.2<br>21°57.4 | 13°35.1<br>21°57.0 | 28°35.0<br>21°56.7 | 43°34.9<br>21°56.3 | 58°34.9<br>21°56.0 | 73°34.8<br>21°55.6 | -0.1<br>-0.3 |
| Ma 13 | 268°33.8<br>21°51.0 | 283°33.7<br>21°50.6 | 298°33.7<br>21°50.2 | 313°33.6<br>21°49.9 | 328°33.5<br>21°49.5 | 343°33.4<br>21°49.2 | 358°33.4<br>21°48.8 | 13°33.3<br>21°48.4 | 28°33.2<br>21°48.1 | 43°33.1<br>21°47.7 | 58°33.1<br>21°47.3 | 73°33.0<br>21°47.0 | -0.1<br>-0.4 |
| Me 14 | 268°32.1<br>21°42.1 | 283°32.0<br>21°41.8 | 298°31.9<br>21°41.4 | 313°31.9<br>21°41.0 | 328°31.8<br>21°40.6 | 343°31.7<br>21°40.2 | 358°31.7<br>21°39.9 | 13°31.6<br>21°39.5 | 28°31.5<br>21°39.1 | 43°31.5<br>21°38.7 | 58°31.4<br>21°38.3 | 73°31.3<br>21°38.0 | -0.1<br>-0.4 |
| Je 15 | 268°30.5<br>21°32.9 | 283°30.4<br>21°32.5 | 298°30.3<br>21°32.1 | 313°30.3<br>21°31.8 | 328°30.2<br>21°31.4 | 343°30.2<br>21°31.0 | 358°30.1<br>21°30.6 | 13°30.0<br>21°30.2 | 28°30.0<br>21°29.8 | 43°29.9<br>21°29.4 | 58°29.8<br>21°29.0 | 73°29.8<br>21°28.6 | -0.1<br>-0.4 |
| Ve 16 | 268°29.0<br>21°23.4 | 283°28.9<br>21°23.0 | 298°28.9<br>21°22.5 | 313°28.8<br>21°22.1 | 328°28.8<br>21°21.7 | 343°28.7<br>21°21.3 | 358°28.6<br>21°20.9 | 13°28.6<br>21°20.5 | 28°28.5<br>21°20.1 | 43°28.5<br>21°19.7 | 58°28.4<br>21°19.3 | 73°28.4<br>21°18.9 | -0.1<br>-0.4 |
| Sa 17 | 268°27.7<br>21°13.4 | 283°27.6<br>21°13.0 | 298°27.5<br>21°12.6 | 313°27.5<br>21°12.2 | 328°27.4<br>21°11.7 | 343°27.4<br>21°11.3 | 358°27.3<br>21°10.9 | 13°27.3<br>21°10.5 | 28°27.2<br>21°10.0 | 43°27.2<br>21°09.6 | 58°27.1<br>21°09.2 | 73°27.1<br>21°08.8 | -0.1<br>-0.4 |
| Di 18 | 268°26.4<br>21°03.1 | 283°26.4<br>21°02.7 | 298°26.3<br>21°02.3 | 313°26.3<br>21°01.8 | 328°26.3<br>21°01.4 | 343°26.2<br>21°01.0 | 358°26.2<br>21°00.5 | 13°26.1<br>21°00.1 | 28°26.1<br>20°59.6 | 43°26.0<br>20°59.2 | 58°26.0<br>20°58.7 | 73°25.9<br>20°58.3 | -0.0<br>-0.4 |
| Lu 19 | 268°25.4<br>20°52.5 | 283°25.3<br>20°52.0 | 298°25.3<br>20°51.6 | 313°25.2<br>20°51.1 | 328°25.2<br>20°50.7 | 343°25.2<br>20°50.2 | 358°25.1<br>20°49.8 | 13°25.1<br>20°49.3 | 28°25.0<br>20°48.9 | 43°25.0<br>20°48.4 | 58°25.0<br>20°48.0 | 73°24.9<br>20°47.5 | -0.0<br>-0.5 |
| Ma 20 | 268°24.4<br>20°41.5 | 283°24.4<br>20°41.0 | 298°24.3<br>20°40.6 | 313°24.3<br>20°40.1 | 328°24.3<br>20°39.6 | 343°24.2<br>20°39.2 | 358°24.2<br>20°38.7 | 13°24.2<br>20°38.2 | 28°24.1<br>20°37.8 | 43°24.1<br>20°37.3 | 58°24.1<br>20°36.8 | 73°24.0<br>20°36.3 | -0.0<br>-0.5 |
| Me 21 | 268°23.6<br>20°30.2 | 283°23.6<br>20°29.7 | 298°23.6<br>20°29.2 | 313°23.5<br>20°28.7 | 328°23.5<br>20°28.2 | 343°23.5<br>20°27.7 | 358°23.4<br>20°27.3 | 13°23.4<br>20°26.8 | 28°23.4<br>20°26.3 | 43°23.4<br>20°25.8 | 58°23.3<br>20°25.3 | 73°23.3<br>20°24.8 | -0.0<br>-0.5 |
| Je 22 | 268°23.0<br>20°18.5 | 283°22.9<br>20°18.0 | 298°22.9<br>20°17.5 | 313°22.9<br>20°17.0 | 328°22.9<br>20°16.5 | 343°22.8<br>20°16.0 | 358°22.8<br>20°15.5 | 13°22.8<br>20°15.0 | 28°22.8<br>20°14.5 | 43°22.7<br>20°14.0 | 58°22.7<br>20°13.5 | 73°22.7<br>20°13.0 | -0.0<br>-0.5 |
| Ve 23 | 268°22.4<br>20°06.4 | 283°22.4<br>20°05.9 | 298°22.4<br>20°05.4 | 313°22.4<br>20°04.9 | 328°22.4<br>20°04.4 | 343°22.3<br>20°03.9 | 358°22.3<br>20°03.4 | 13°22.3<br>20°02.9 | 28°22.3<br>20°02.3 | 43°22.3<br>20°01.8 | 58°22.3<br>20°01.3 | 73°22.2<br>20°00.8 | -0.0<br>-0.5 |
| Sa 24 | 268°22.0<br>19°54.1 | 283°22.0<br>19°53.5 | 298°22.0<br>19°53.0 | 313°22.0<br>19°52.5 | 328°22.0<br>19°52.0 | 343°22.0<br>19°51.4 | 358°22.0<br>19°50.9 | 13°22.0<br>19°50.4 | 28°22.0<br>19°49.9 | 43°21.9<br>19°49.3 | 58°21.9<br>19°48.8 | 73°21.9<br>19°48.3 | -0.0<br>-0.5 |
| Di 25 | 268°21.8<br>19°41.4 | 283°21.8<br>19°40.8 | 298°21.8<br>19°40.3 | 313°21.8<br>19°39.8 | 328°21.8<br>19°39.2 | 343°21.8<br>19°38.7 | 358°21.8<br>19°38.1 | 13°21.8<br>19°37.6 | 28°21.8<br>19°37.1 | 43°21.8<br>19°36.5 | 58°21.8<br>19°36.0 | 73°21.7<br>19°35.4 | -0.0<br>-0.5 |
| Lu 26 | 268°21.7<br>19°28.3 | 283°21.7<br>19°27.8 | 298°21.7<br>19°27.2 | 313°21.7<br>19°26.7 | 328°21.7<br>19°26.1 | 343°21.7<br>19°25.6 | 358°21.7<br>19°25.0 | 13°21.7<br>19°24.5 | 28°21.7<br>19°23.9 | 43°21.7<br>19°23.4 | 58°21.7<br>19°22.8 | 73°21.7<br>19°22.3 | +0.0<br>-0.6 |
| Ma 27 | 268°21.8<br>19°15.0 | 283°21.8<br>19°14.4 | 298°21.8<br>19°13.9 | 313°21.8<br>19°13.3 | 328°21.8<br>19°12.7 | 343°21.8<br>19°12.2 | 358°21.8<br>19°11.6 | 13°21.8<br>19°11.0 | 28°21.8<br>19°10.5 | 43°21.8<br>19°09.9 | 58°21.8<br>19°09.3 | 73°21.8<br>19°08.8 | +0.0<br>-0.6 |
| Me 28 | 268°22.0<br>19°01.3 | 283°22.0<br>19°00.7 | 298°22.0<br>19°00.2 | 313°22.0<br>18°59.6 | 328°22.0<br>18°59.0 | 343°22.0<br>18°58.4 | 358°22.0<br>18°57.8 | 13°22.0<br>18°57.3 | 28°22.1<br>18°56.7 | 43°22.1<br>18°56.1 | 58°22.1<br>18°55.5 | 73°22.1<br>18°54.9 | +0.0<br>-0.6 |
| Je 29 | 268°22.3<br>18°47.3 | 283°22.3<br>18°46.7 | 298°22.3<br>18°46.1 | 313°22.3<br>18°45.6 | 328°22.4<br>18°45.0 | 343°22.4<br>18°44.4 | 358°22.4<br>18°43.8 | 13°22.4<br>18°43.2 | 28°22.4<br>18°42.6 | 43°22.5<br>18°42.0 | 58°22.5<br>18°41.4 | 73°22.5<br>18°40.8 | +0.0<br>-0.6 |
| Ve 30 | 268°22.8<br>18°33.0 | 283°22.8<br>18°32.4 | 298°22.8<br>18°31.8 | 313°22.9<br>18°31.2 | 328°22.9<br>18°30.6 | 343°22.9<br>18°30.0 | 358°22.9<br>18°29.4 | 13°23.0<br>18°28.8 | 28°23.0<br>18°28.2 | 43°23.0<br>18°27.6 | 58°23.0<br>18°27.0 | 73°23.1<br>18°26.4 | +0.0<br>-0.6 |
| Sa 31 | 268°23.4<br>18°18.4 | 283°23.4<br>18°17.8 | 298°23.5<br>18°17.2 | 313°23.5<br>18°16.6 | 328°23.5<br>18°16.0 | 343°23.6<br>18°15.3 | 358°23.6<br>18°14.7 | 13°23.6<br>18°14.1 | 28°23.7<br>18°13.5 | 43°23.7<br>18°12.9 | 58°23.7<br>18°12.2 | 73°23.8<br>18°11.6 | +0.0<br>-0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2027

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 255°23.5 | 269°48.0 | 284°12.3 | 298°36.5 | 313°00.5 | 327°24.5 | 341°48.3 | 356°12.0 | 10°35.5 | 24°59.0 | 39°22.3 | +23.9 | 16.2 |
| | 24°23.4 | 24°30.9 | 24°38.3 | 24°45.5 | 24°52.5 | 24°59.4 | 25°06.2 | 25°12.8 | 25°19.2 | 25°25.5 | 25°31.5 | +6.8 | 59.3 |
| Ve 2 | 254°59.6 | 269°21.3 | 283°43.0 | 298°04.5 | 312°26.0 | 326°47.4 | 341°08.8 | 355°30.0 | 9°51.2 | 24°12.4 | 38°33.5 | +21.4 | 16.4 |
| | 26°42.1 | 26°45.4 | 26°48.4 | 26°51.3 | 26°53.9 | 26°56.4 | 26°58.7 | 27°00.7 | 27°02.6 | 27°04.3 | 27°05.8 | +2.4 | 60.2 |
| Sa 3 | 253°44.5 | 268°05.0 | 282°25.5 | 296°46.0 | 311°06.6 | 325°27.1 | 339°47.6 | 354°08.2 | 8°28.7 | 22°49.3 | 37°09.9 | +20.5 | 16.6 |
| | 27°03.4 | 27°01.5 | 26°59.5 | 26°57.3 | 26°54.8 | 26°52.2 | 26°49.3 | 26°46.3 | 26°43.0 | 26°39.5 | 26°35.8 | -2.8 | 60.8 |
| ● Di 4 | 252°23.1 | 266°44.4 | 281°05.8 | 295°27.2 | 309°48.8 | 324°10.3 | 338°32.0 | 352°53.8 | 7°15.6 | 21°37.5 | 35°59.5 | +21.6 | 16.7 |
| | 25°16.1 | 25°09.2 | 25°02.1 | 24°54.8 | 24°47.3 | 24°39.7 | 24°31.8 | 24°23.8 | 24°15.6 | 24°07.2 | 23°58.6 | -7.7 | 61.1 |
| Lu 5 | 251°40.7 | 266°04.3 | 280°28.0 | 294°51.7 | 309°15.6 | 323°39.6 | 338°03.7 | 352°28.0 | 6°52.3 | 21°16.7 | 35°41.3 | +24.1 | 16.7 |
| | 21°29.8 | 21°18.7 | 21°07.3 | 20°55.8 | 20°44.2 | 20°32.5 | 20°20.6 | 20°08.6 | 19°56.4 | 19°44.1 | 19°31.7 | -11.8 | 61.1 |
| Ma 6 | 252°03.1 | 266°29.4 | 280°55.9 | 295°22.4 | 309°49.1 | 324°15.9 | 338°42.7 | 353°09.7 | 7°36.8 | 22°04.0 | 36°31.3 | +26.8 | 16.6 |
| | 16°11.4 | 15°57.2 | 15°42.9 | 15°28.6 | 15°14.1 | 14°59.6 | 14°45.0 | 14°30.3 | 14°15.5 | 14°00.6 | 13°45.7 | -14.6 | 60.7 |
| Me 7 | 253°32.6 | 268°01.4 | 282°30.3 | 296°59.3 | 311°28.4 | 325°57.5 | 340°26.7 | 354°56.1 | 9°25.5 | 23°54.9 | 38°24.5 | +29.2 | 16.4 |
| | 9°54.5 | 9°38.7 | 9°22.9 | 9°07.0 | 8°51.1 | 8°35.1 | 8°19.1 | 8°03.1 | 7°47.1 | 7°31.0 | 7°14.9 | -16.0 | 60.1 |
| Je 8 | 255°55.9 | 270°26.5 | 284°57.1 | 299°27.8 | 313°58.6 | 328°29.4 | 343°00.2 | 357°31.1 | 12°02.0 | 26°33.0 | 41°04.0 | +30.8 | 16.2 |
| | 3°11.8 | 2°55.5 | 2°39.3 | 2°23.1 | 2°06.8 | 1°50.6 | 1°34.4 | 1°18.2 | 1°02.0 | 0°45.8 | 0°29.7 | -16.2 | 59.3 |
| Ve 9 | 258°53.4 | 273°24.9 | 287°56.4 | 302°28.0 | 316°59.5 | 331°31.1 | 346°02.7 | 0°34.4 | 15°06.0 | 29°37.6 | 44°09.3 | +31.6 | 15.9 |
| | -3°29.8 | -3°45.5 | -4°01.2 | -4°16.9 | -4°32.5 | -4°48.0 | -5°03.6 | -5°19.0 | -5°34.5 | -5°49.9 | -6°05.2 | -15.5 | 58.4 |
| ◐ Sa 10 | 262°04.5 | 276°36.2 | 291°07.8 | 305°39.5 | 320°11.1 | 334°42.7 | 349°14.3 | 3°45.9 | 18°17.5 | 32°49.1 | 47°20.6 | +31.6 | 15.7 |
| | -9°48.9 | -10°03.3 | -10°17.7 | -10°32.0 | -10°46.2 | -11°00.4 | -11°14.5 | -11°28.6 | -11°42.5 | -11°56.4 | -12°10.2 | -14.1 | 57.6 |
| Di 11 | 265°11.4 | 279°42.6 | 294°13.7 | 308°44.8 | 323°15.9 | 337°47.0 | 352°18.0 | 6°49.0 | 21°19.9 | 35°50.9 | 50°21.8 | +31.0 | 15.5 |
| | -15°28.2 | -15°40.7 | -15°53.2 | -16°05.5 | -16°17.8 | -16°30.0 | -16°42.1 | -16°54.1 | -17°06.0 | -17°17.8 | -17°29.5 | -12.1 | 56.7 |
| Lu 12 | 268°00.7 | 282°31.0 | 297°01.3 | 311°31.5 | 326°01.6 | 340°31.8 | 355°01.9 | 9°31.9 | 24°01.9 | 38°31.9 | 53°01.8 | +30.1 | 15.3 |
| | -20°13.3 | -20°23.4 | -20°33.4 | -20°43.2 | -20°53.0 | -21°02.7 | -21°12.2 | -21°21.6 | -21°31.0 | -21°40.2 | -21°49.3 | -9.6 | 56.0 |
| Ma 13 | 270°26.0 | 284°55.3 | 299°24.6 | 313°53.8 | 328°23.0 | 342°52.2 | 357°21.3 | 11°50.4 | 26°19.5 | 40°48.5 | 55°17.5 | +29.2 | 15.1 |
| | -23°51.6 | -23°58.8 | -24°05.8 | -24°12.8 | -24°19.6 | -24°26.3 | -24°32.8 | -24°39.3 | -24°45.6 | -24°51.7 | -24°57.8 | -6.6 | 55.4 |
| Me 14 | 272°29.3 | 286°57.9 | 301°26.5 | 315°55.0 | 330°23.6 | 344°52.1 | 359°20.7 | 13°49.2 | 28°17.7 | 42°46.2 | 57°14.6 | +28.5 | 15.0 |
| | -26°12.8 | -26°16.7 | -26°20.5 | -26°24.2 | -26°27.7 | -26°31.1 | -26°34.4 | -26°37.5 | -26°40.5 | -26°43.4 | -26°46.1 | -3.3 | 54.9 |
| Je 15 | 274°21.5 | 288°50.0 | 303°18.5 | 317°47.0 | 332°15.5 | 346°44.1 | 1°12.6 | 15°41.2 | 30°09.8 | 44°38.4 | 59°07.0 | +28.5 | 14.9 |
| | -27°10.3 | -27°10.9 | -27°11.3 | -27°11.5 | -27°11.6 | -27°11.6 | -27°11.4 | -27°11.1 | -27°10.7 | -27°10.1 | -27°09.4 | +0.1 | 54.5 |
| Ve 16 | 276°19.6 | 290°48.7 | 305°17.8 | 319°47.0 | 334°16.2 | 348°45.5 | 3°14.8 | 17°44.1 | 32°13.5 | 46°43.0 | 61°12.4 | +29.3 | 14.8 |
| | -26°42.9 | -26°40.1 | -26°37.1 | -26°34.0 | -26°30.8 | -26°27.5 | -26°24.0 | -26°20.4 | -26°16.7 | -26°12.9 | -26°08.9 | +3.4 | 54.2 |
| Sa 17 | 278°40.7 | 293°11.0 | 307°41.4 | 322°11.9 | 336°42.4 | 351°12.9 | 5°43.5 | 20°14.2 | 34°44.9 | 49°15.7 | 63°46.6 | +30.6 | 14.7 |
| | -24°54.9 | -24°49.1 | -24°43.1 | -24°37.0 | -24°30.8 | -24°24.5 | -24°18.0 | -24°11.5 | -24°04.8 | -23°58.1 | -23°51.2 | +6.4 | 54.0 |
| ○ Di 18 | 281°36.9 | 296°08.8 | 310°40.7 | 325°12.7 | 339°44.8 | 354°16.9 | 8°49.1 | 23°21.3 | 37°53.6 | 52°26.0 | 66°58.4 | +32.1 | 14.7 |
| | -21°56.0 | -21°47.5 | -21°39.0 | -21°30.3 | -21°21.6 | -21°12.8 | -21°03.8 | -20°54.8 | -20°45.7 | -20°36.6 | -20°27.3 | +8.9 | 53.9 |
| Lu 19 | 285°12.2 | 299°45.6 | 314°19.0 | 328°52.5 | 343°26.1 | 357°59.7 | 12°33.4 | 27°07.1 | 41°40.9 | 56°14.7 | 70°48.6 | +33.6 | 14.7 |
| | -17°58.5 | -17°48.0 | -17°37.3 | -17°26.7 | -17°15.9 | -17°05.1 | -16°54.2 | -16°43.3 | -16°32.3 | -16°21.2 | -16°10.0 | +10.8 | 53.9 |
| Ma 20 | 289°22.8 | 303°57.5 | 318°32.2 | 333°06.9 | 347°41.6 | 2°16.5 | 16°51.3 | 31°26.2 | 46°01.1 | 60°36.0 | 75°11.0 | +34.8 | 14.7 |
| | -13°15.6 | -13°03.5 | -12°51.4 | -12°39.2 | -12°27.0 | -12°14.7 | -12°02.4 | -11°50.0 | -11°37.6 | -11°25.1 | -11°12.6 | +12.3 | 54.0 |
| Me 21 | 293°59.5 | 308°34.9 | 323°10.4 | 337°45.8 | 352°21.3 | 6°56.8 | 21°32.4 | 36°07.9 | 50°43.5 | 65°19.0 | 79°54.6 | +35.5 | 14.8 |
| | -8°00.0 | -7°46.9 | -7°33.7 | -7°20.5 | -7°07.3 | -6°54.0 | -6°40.7 | -6°27.4 | -6°14.1 | -6°00.7 | -5°47.3 | +13.3 | 54.3 |
| Je 22 | 298°49.1 | 313°24.8 | 328°00.4 | 342°36.0 | 357°11.7 | 11°47.3 | 26°22.9 | 40°58.5 | 55°34.1 | 70°09.7 | 84°45.2 | +35.6 | 14.9 |
| | -2°23.6 | -2°09.9 | -1°56.1 | -1°42.4 | -1°28.6 | -1°14.8 | -1°01.0 | -0°47.2 | -0°33.4 | -0°19.6 | -0°05.7 | +13.8 | 54.6 |
| Ve 23 | 313°24.8 | 328°00.4 | 342°36.0 | 357°11.7 | 11°47.3 | 26°22.9 | 40°58.5 | 55°34.1 | 70°09.7 | 84°45.2 | 99°20.8 | +35.6 | 14.9 |
| | -2°09.9 | -1°56.1 | -1°42.4 | -1°28.6 | -1°14.8 | -1°01.0 | -0°47.2 | -0°33.4 | -0°19.6 | -0°05.7 | 0°08.1 | +13.8 | 54.6 |
| Sa 24 | 318°11.4 | 332°46.6 | 347°21.7 | 1°56.8 | 16°31.9 | 31°06.9 | 45°41.9 | 60°16.8 | 74°51.7 | 89°26.6 | 104°01.4 | +35.0 | 15.0 |
| | 3°36.2 | 3°50.1 | 4°04.0 | 4°17.8 | 4°31.7 | 4°45.5 | 4°59.4 | 5°13.2 | 5°27.0 | 5°40.8 | 5°54.6 | +13.8 | 55.1 |
| Di 25 | 322°37.5 | 337°11.5 | 351°45.4 | 6°19.2 | 20°53.0 | 35°26.7 | 50°00.3 | 64°33.8 | 79°07.3 | 93°40.7 | 108°14.1 | +33.7 | 15.2 |
| | 9°19.7 | 9°33.2 | 9°46.7 | 10°00.1 | 10°13.5 | 10°26.9 | 10°40.3 | 10°53.6 | 11°06.9 | 11°20.2 | 11°33.4 | +13.4 | 55.7 |
| ◑ Lu 26 | 326°24.5 | 340°56.5 | 355°28.4 | 10°00.2 | 24°31.9 | 39°03.5 | 53°35.0 | 68°06.4 | 82°37.8 | 97°09.0 | 111°40.1 | +31.6 | 15.4 |
| | 14°47.0 | 14°59.5 | 15°12.0 | 15°24.4 | 15°36.8 | 15°49.1 | 16°01.3 | 16°13.5 | 16°25.7 | 16°37.7 | 16°49.7 | +12.3 | 56.5 |
| Ma 27 | 329°13.9 | 343°43.2 | 358°12.4 | 12°41.5 | 27°10.5 | 41°39.4 | 56°08.2 | 70°36.8 | 85°05.3 | 99°33.7 | 114°01.9 | +28.8 | 15.6 |
| | 19°41.1 | 19°51.9 | 20°02.6 | 20°13.2 | 20°23.7 | 20°34.2 | 20°44.5 | 20°54.7 | 21°04.9 | 21°14.9 | 21°24.8 | +10.4 | 57.4 |
| Me 28 | 330°51.1 | 345°17.3 | 359°43.5 | 14°09.5 | 28°35.4 | 43°01.2 | 57°26.9 | 71°52.4 | 86°17.8 | 100°43.1 | 115°08.3 | +25.7 | 15.9 |
| | 23°40.5 | 23°48.6 | 23°56.6 | 24°04.4 | 24°12.1 | 24°19.6 | 24°27.0 | 24°34.3 | 24°41.4 | 24°48.4 | 24°55.3 | +7.5 | 58.3 |
| Je 29 | 331°12.1 | 345°35.5 | 359°58.8 | 14°22.0 | 28°45.0 | 43°08.0 | 57°30.9 | 71°53.8 | 86°16.5 | 100°39.1 | 115°01.7 | +22.9 | 16.2 |
| | 26°19.6 | 26°23.9 | 26°28.0 | 26°32.0 | 26°35.8 | 26°39.4 | 26°42.9 | 26°46.1 | 26°49.2 | 26°52.1 | 26°54.8 | +3.5 | 59.3 |
| Ve 30 | 330°31.3 | 344°52.9 | 359°14.3 | 13°35.8 | 27°57.2 | 42°18.5 | 56°39.9 | 71°01.2 | 85°22.5 | 99°43.7 | 114°05.0 | +21.4 | 16.4 |
| | 27°12.9 | 27°12.6 | 27°12.0 | 27°11.3 | 27°10.3 | 27°09.2 | 27°07.8 | 27°06.3 | 27°04.5 | 27°02.6 | 27°00.4 | -1.3 | 60.1 |
| Sa 31 | 329°23.2 | 343°44.6 | 358°05.9 | 12°27.3 | 26°48.7 | 41°10.2 | 55°31.7 | 69°53.2 | 84°14.8 | 98°36.4 | 112°58.1 | +21.5 | 16.6 |
| | 26°03.8 | 25°58.4 | 25°52.8 | 25°47.0 | 25°41.0 | 25°34.8 | 25°28.5 | 25°21.9 | 25°15.2 | 25°08.2 | 25°01.1 | -6.3 | 60.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 03h02 — PQ: 10 18h39 — PL: 18 15h44 — DQ: 26 16h54

# SOLEIL

## Août 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 268° 24.2 | 283° 24.2 | 298° 24.3 | 313° 24.3 | 328° 24.3 | 343° 24.4 | 358° 24.4 | 13° 24.5 | 28° 24.5 | 43° 24.5 | 58° 24.6 | 73° 24.6 | +0.0 |
| | 18° 03.5 | 18° 02.9 | 18° 02.3 | 18° 01.6 | 18° 01.0 | 18° 00.4 | 17° 59.7 | 17° 59.1 | 17° 58.5 | 17° 57.9 | 17° 57.2 | 17° 56.6 | -0.6 |
| Lu 2 | 268° 25.1 | 283° 25.2 | 298° 25.2 | 313° 25.3 | 328° 25.3 | 343° 25.4 | 358° 25.4 | 13° 25.4 | 28° 25.5 | 43° 25.5 | 58° 25.6 | 73° 25.6 | +0.0 |
| | 17° 48.3 | 17° 47.7 | 17° 47.0 | 17° 46.4 | 17° 45.8 | 17° 45.1 | 17° 44.5 | 17° 43.8 | 17° 43.2 | 17° 42.5 | 17° 41.9 | 17° 41.3 | -0.6 |
| Ma 3 | 268° 26.2 | 283° 26.3 | 298° 26.3 | 313° 26.4 | 328° 26.4 | 343° 26.5 | 358° 26.5 | 13° 26.6 | 28° 26.6 | 43° 26.7 | 58° 26.7 | 73° 26.8 | +0.1 |
| | 17° 32.8 | 17° 32.2 | 17° 31.5 | 17° 30.9 | 17° 30.2 | 17° 29.6 | 17° 28.9 | 17° 28.3 | 17° 27.6 | 17° 27.0 | 17° 26.3 | 17° 25.6 | -0.7 |
| Me 4 | 268° 27.5 | 283° 27.5 | 298° 27.6 | 313° 27.6 | 328° 27.7 | 343° 27.7 | 358° 27.8 | 13° 27.9 | 28° 27.9 | 43° 28.0 | 58° 28.0 | 73° 28.1 | +0.1 |
| | 17° 17.1 | 17° 16.4 | 17° 15.7 | 17° 15.1 | 17° 14.4 | 17° 13.7 | 17° 13.1 | 17° 12.4 | 17° 11.7 | 17° 11.1 | 17° 10.4 | 17° 09.7 | -0.7 |
| Je 5 | 268° 28.9 | 283° 28.9 | 298° 29.0 | 313° 29.0 | 328° 29.1 | 343° 29.2 | 358° 29.2 | 13° 29.3 | 28° 29.4 | 43° 29.4 | 58° 29.5 | 73° 29.6 | +0.1 |
| | 17° 01.0 | 17° 00.3 | 16° 59.7 | 16° 59.0 | 16° 58.3 | 16° 57.6 | 16° 57.0 | 16° 56.3 | 16° 55.6 | 16° 54.9 | 16° 54.2 | 16° 53.6 | -0.7 |
| Ve 6 | 268° 30.4 | 283° 30.5 | 298° 30.5 | 313° 30.6 | 328° 30.7 | 343° 30.8 | 358° 30.8 | 13° 30.9 | 28° 31.0 | 43° 31.0 | 58° 31.1 | 73° 31.2 | +0.1 |
| | 16° 44.7 | 16° 44.0 | 16° 43.3 | 16° 42.6 | 16° 41.9 | 16° 41.2 | 16° 40.6 | 16° 39.9 | 16° 39.2 | 16° 38.5 | 16° 37.8 | 16° 37.1 | -0.7 |
| Sa 7 | 268° 32.1 | 283° 32.2 | 298° 32.3 | 313° 32.3 | 328° 32.4 | 343° 32.5 | 358° 32.6 | 13° 32.6 | 28° 32.7 | 43° 32.8 | 58° 32.9 | 73° 32.9 | +0.1 |
| | 16° 28.1 | 16° 27.4 | 16° 26.7 | 16° 26.0 | 16° 25.3 | 16° 24.6 | 16° 23.9 | 16° 23.2 | 16° 22.5 | 16° 21.8 | 16° 21.1 | 16° 20.4 | -0.7 |
| Di 8 | 268° 34.0 | 283° 34.0 | 298° 34.1 | 313° 34.2 | 328° 34.3 | 343° 34.4 | 358° 34.4 | 13° 34.5 | 28° 34.6 | 43° 34.7 | 58° 34.8 | 73° 34.9 | +0.1 |
| | 16° 11.2 | 16° 10.5 | 16° 09.8 | 16° 09.1 | 16° 08.4 | 16° 07.7 | 16° 07.0 | 16° 06.3 | 16° 05.5 | 16° 04.8 | 16° 04.1 | 16° 03.4 | -0.7 |
| Lu 9 | 268° 36.0 | 283° 36.1 | 298° 36.1 | 313° 36.2 | 328° 36.3 | 343° 36.4 | 358° 36.5 | 13° 36.6 | 28° 36.7 | 43° 36.8 | 58° 36.8 | 73° 36.9 | +0.1 |
| | 15° 54.1 | 15° 53.4 | 15° 52.7 | 15° 51.9 | 15° 51.2 | 15° 50.5 | 15° 49.8 | 15° 49.1 | 15° 48.3 | 15° 47.6 | 15° 46.9 | 15° 46.2 | -0.7 |
| Ma 10 | 268° 38.1 | 283° 38.2 | 298° 38.3 | 313° 38.4 | 328° 38.5 | 343° 38.6 | 358° 38.7 | 13° 38.8 | 28° 38.9 | 43° 39.0 | 58° 39.1 | 73° 39.2 | +0.1 |
| | 15° 36.7 | 15° 36.0 | 15° 35.3 | 15° 34.5 | 15° 33.8 | 15° 33.1 | 15° 32.4 | 15° 31.6 | 15° 30.9 | 15° 30.2 | 15° 29.4 | 15° 28.7 | -0.7 |
| Me 11 | 268° 40.4 | 283° 40.5 | 298° 40.6 | 313° 40.7 | 328° 40.8 | 343° 40.9 | 358° 41.0 | 13° 41.1 | 28° 41.2 | 43° 41.3 | 58° 41.4 | 73° 41.5 | +0.1 |
| | 15° 19.1 | 15° 18.4 | 15° 17.6 | 15° 16.9 | 15° 16.2 | 15° 15.4 | 15° 14.7 | 15° 13.9 | 15° 13.2 | 15° 12.4 | 15° 11.7 | 15° 11.0 | -0.7 |
| Je 12 | 268° 42.9 | 283° 43.0 | 298° 43.1 | 313° 43.2 | 328° 43.3 | 343° 43.4 | 358° 43.5 | 13° 43.6 | 28° 43.7 | 43° 43.8 | 58° 43.9 | 73° 44.0 | +0.1 |
| | 15° 01.3 | 15° 00.5 | 14° 59.8 | 14° 59.0 | 14° 58.3 | 14° 57.5 | 14° 56.8 | 14° 56.0 | 14° 55.2 | 14° 54.5 | 14° 53.7 | 14° 53.0 | -0.8 |
| Ve 13 | 268° 45.5 | 283° 45.6 | 298° 45.7 | 313° 45.8 | 328° 45.9 | 343° 46.0 | 358° 46.1 | 13° 46.2 | 28° 46.4 | 43° 46.5 | 58° 46.6 | 73° 46.7 | +0.1 |
| | 14° 43.2 | 14° 42.4 | 14° 41.6 | 14° 40.9 | 14° 40.1 | 14° 39.4 | 14° 38.6 | 14° 37.8 | 14° 37.1 | 14° 36.3 | 14° 35.5 | 14° 34.8 | -0.8 |
| Sa 14 | 268° 48.2 | 283° 48.3 | 298° 48.4 | 313° 48.6 | 328° 48.7 | 343° 48.8 | 358° 48.9 | 13° 49.0 | 28° 49.1 | 43° 49.3 | 58° 49.4 | 73° 49.5 | +0.1 |
| | 14° 24.8 | 14° 24.1 | 14° 23.3 | 14° 22.5 | 14° 21.7 | 14° 21.0 | 14° 20.2 | 14° 19.4 | 14° 18.7 | 14° 17.9 | 14° 17.1 | 14° 16.3 | -0.8 |
| Di 15 | 268° 51.1 | 283° 51.2 | 298° 51.3 | 313° 51.4 | 328° 51.6 | 343° 51.7 | 358° 51.8 | 13° 51.9 | 28° 52.1 | 43° 52.2 | 58° 52.3 | 73° 52.4 | +0.1 |
| | 14° 06.3 | 14° 05.5 | 14° 04.7 | 14° 03.9 | 14° 03.2 | 14° 02.4 | 14° 01.6 | 14° 00.8 | 14° 00.0 | 13° 59.2 | 13° 58.5 | 13° 57.7 | -0.8 |
| Lu 16 | 268° 54.1 | 283° 54.2 | 298° 54.3 | 313° 54.5 | 328° 54.6 | 343° 54.7 | 358° 54.8 | 13° 55.0 | 28° 55.1 | 43° 55.2 | 58° 55.4 | 73° 55.5 | +0.1 |
| | 13° 47.5 | 13° 46.7 | 13° 45.9 | 13° 45.1 | 13° 44.3 | 13° 43.5 | 13° 42.8 | 13° 42.0 | 13° 41.2 | 13° 40.4 | 13° 39.6 | 13° 38.8 | -0.8 |
| Ma 17 | 268° 57.2 | 283° 57.3 | 298° 57.5 | 313° 57.6 | 328° 57.7 | 343° 57.9 | 358° 58.0 | 13° 58.2 | 28° 58.3 | 43° 58.4 | 58° 58.6 | 73° 58.7 | +0.1 |
| | 13° 28.5 | 13° 27.7 | 13° 26.9 | 13° 26.1 | 13° 25.3 | 13° 24.5 | 13° 23.7 | 13° 22.9 | 13° 22.1 | 13° 21.3 | 13° 20.5 | 13° 19.7 | -0.8 |
| Me 18 | 269° 00.5 | 284° 00.6 | 299° 00.8 | 314° 00.9 | 329° 01.0 | 344° 01.2 | 359° 01.3 | 14° 01.5 | 29° 01.6 | 44° 01.7 | 59° 01.9 | 74° 02.0 | +0.1 |
| | 13° 09.3 | 13° 08.5 | 13° 07.7 | 13° 06.9 | 13° 06.0 | 13° 05.2 | 13° 04.4 | 13° 03.6 | 13° 02.8 | 13° 02.0 | 13° 01.2 | 13° 00.4 | -0.8 |
| Je 19 | 269° 03.9 | 284° 04.0 | 299° 04.2 | 314° 04.3 | 329° 04.4 | 344° 04.6 | 359° 04.7 | 14° 04.9 | 29° 05.0 | 44° 05.2 | 59° 05.3 | 74° 05.5 | +0.1 |
| | 12° 49.8 | 12° 49.0 | 12° 48.2 | 12° 47.4 | 12° 46.6 | 12° 45.8 | 12° 45.0 | 12° 44.1 | 12° 43.3 | 12° 42.5 | 12° 41.7 | 12° 40.9 | -0.8 |
| Ve 20 | 269° 07.4 | 284° 07.5 | 299° 07.7 | 314° 07.8 | 329° 08.0 | 344° 08.1 | 359° 08.3 | 14° 08.4 | 29° 08.6 | 44° 08.7 | 59° 08.9 | 74° 09.0 | +0.2 |
| | 12° 30.2 | 12° 29.4 | 12° 28.6 | 12° 27.8 | 12° 26.9 | 12° 26.1 | 12° 25.3 | 12° 24.5 | 12° 23.6 | 12° 22.8 | 12° 22.0 | 12° 21.2 | -0.8 |
| Sa 21 | 269° 11.0 | 284° 11.2 | 299° 11.3 | 314° 11.5 | 329° 11.6 | 344° 11.8 | 359° 11.9 | 14° 12.1 | 29° 12.2 | 44° 12.4 | 59° 12.6 | 74° 12.7 | +0.2 |
| | 12° 10.4 | 12° 09.6 | 12° 08.7 | 12° 07.9 | 12° 07.1 | 12° 06.2 | 12° 05.4 | 12° 04.6 | 12° 03.7 | 12° 02.9 | 12° 02.1 | 12° 01.2 | -0.8 |
| Di 22 | 269° 14.8 | 284° 14.9 | 299° 15.1 | 314° 15.2 | 329° 15.4 | 344° 15.6 | 359° 15.7 | 14° 15.9 | 29° 16.0 | 44° 16.2 | 59° 16.3 | 74° 16.5 | +0.2 |
| | 11° 50.4 | 11° 49.5 | 11° 48.7 | 11° 47.9 | 11° 47.0 | 11° 46.2 | 11° 45.3 | 11° 44.5 | 11° 43.7 | 11° 42.8 | 11° 42.0 | 11° 41.1 | -0.8 |
| Lu 23 | 269° 18.6 | 284° 18.8 | 299° 18.9 | 314° 19.1 | 329° 19.3 | 344° 19.4 | 359° 19.6 | 14° 19.8 | 29° 19.9 | 44° 20.1 | 59° 20.2 | 74° 20.4 | +0.2 |
| | 11° 30.2 | 11° 29.3 | 11° 28.5 | 11° 27.6 | 11° 26.8 | 11° 25.9 | 11° 25.1 | 11° 24.2 | 11° 23.4 | 11° 22.5 | 11° 21.7 | 11° 20.8 | -0.8 |
| Ma 24 | 269° 22.6 | 284° 22.7 | 299° 22.9 | 314° 23.1 | 329° 23.2 | 344° 23.4 | 359° 23.6 | 14° 23.7 | 29° 23.9 | 44° 24.1 | 59° 24.2 | 74° 24.4 | +0.2 |
| | 11° 09.8 | 11° 08.9 | 11° 08.1 | 11° 07.2 | 11° 06.4 | 11° 05.5 | 11° 04.6 | 11° 03.8 | 11° 02.9 | 11° 02.1 | 11° 01.2 | 11° 00.4 | -0.9 |
| Me 25 | 269° 26.6 | 284° 26.8 | 299° 27.0 | 314° 27.1 | 329° 27.3 | 344° 27.5 | 359° 27.7 | 14° 27.8 | 29° 28.0 | 44° 28.2 | 59° 28.4 | 74° 28.5 | +0.2 |
| | 10° 49.2 | 10° 48.3 | 10° 47.5 | 10° 46.6 | 10° 45.8 | 10° 44.9 | 10° 44.0 | 10° 43.2 | 10° 42.3 | 10° 41.4 | 10° 40.6 | 10° 39.7 | -0.9 |
| Je 26 | 269° 30.8 | 284° 31.0 | 299° 31.1 | 314° 31.3 | 329° 31.5 | 344° 31.7 | 359° 31.8 | 14° 32.0 | 29° 32.2 | 44° 32.4 | 59° 32.6 | 74° 32.7 | +0.2 |
| | 10° 28.5 | 10° 27.6 | 10° 26.7 | 10° 25.9 | 10° 25.0 | 10° 24.1 | 10° 23.2 | 10° 22.4 | 10° 21.5 | 10° 20.6 | 10° 19.8 | 10° 18.9 | -0.9 |
| Ve 27 | 269° 35.0 | 284° 35.2 | 299° 35.4 | 314° 35.6 | 329° 35.8 | 344° 35.9 | 359° 36.1 | 14° 36.3 | 29° 36.5 | 44° 36.7 | 59° 36.8 | 74° 37.0 | +0.2 |
| | 10° 07.5 | 10° 06.7 | 10° 05.8 | 10° 04.9 | 10° 04.0 | 10° 03.2 | 10° 02.3 | 10° 01.4 | 10° 00.5 | 9° 59.7 | 9° 58.8 | 9° 57.9 | -0.9 |
| Sa 28 | 269° 39.4 | 284° 39.6 | 299° 39.8 | 314° 39.9 | 329° 40.1 | 344° 40.3 | 359° 40.5 | 14° 40.7 | 29° 40.9 | 44° 41.0 | 59° 41.2 | 74° 41.4 | +0.2 |
| | 9° 46.5 | 9° 45.6 | 9° 44.7 | 9° 43.8 | 9° 42.9 | 9° 42.1 | 9° 41.2 | 9° 40.3 | 9° 39.4 | 9° 38.5 | 9° 37.6 | 9° 36.8 | -0.9 |
| Di 29 | 269° 43.8 | 284° 44.0 | 299° 44.2 | 314° 44.4 | 329° 44.6 | 344° 44.8 | 359° 44.9 | 14° 45.1 | 29° 45.3 | 44° 45.5 | 59° 45.7 | 74° 45.9 | +0.2 |
| | 9° 25.2 | 9° 24.4 | 9° 23.5 | 9° 22.6 | 9° 21.7 | 9° 20.8 | 9° 19.9 | 9° 19.0 | 9° 18.1 | 9° 17.2 | 9° 16.3 | 9° 15.5 | -0.9 |
| Lu 30 | 269° 48.3 | 284° 48.5 | 299° 48.7 | 314° 48.9 | 329° 49.1 | 344° 49.3 | 359° 49.5 | 14° 49.7 | 29° 49.9 | 44° 50.1 | 59° 50.2 | 74° 50.4 | +0.2 |
| | 9° 03.9 | 9° 03.0 | 9° 02.1 | 9° 01.2 | 9° 00.3 | 8° 59.4 | 8° 58.5 | 8° 57.6 | 8° 56.7 | 8° 55.8 | 8° 54.9 | 8° 54.0 | -0.9 |
| Ma 31 | 269° 52.9 | 284° 53.1 | 299° 53.3 | 314° 53.5 | 329° 53.7 | 344° 53.9 | 359° 54.1 | 14° 54.3 | 29° 54.5 | 44° 54.7 | 59° 54.9 | 74° 55.1 | +0.2 |
| | 8° 42.3 | 8° 41.4 | 8° 40.5 | 8° 39.6 | 8° 38.7 | 8° 37.8 | 8° 36.9 | 8° 36.0 | 8° 35.1 | 8° 34.2 | 8° 33.3 | 8° 32.4 | -0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2027

| J | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 242°15.8 | 256°38.0 | 271°00.4 | 285°22.8 | 299°45.3 | 314°07.9 | 328°30.6 | 342°53.3 | 357°16.2 | 11°39.1 | 26°02.1 | +22.6 | 16.7 |
| | 23°48.4 | 23°39.4 | 23°30.2 | 23°20.9 | 23°11.3 | 23°01.7 | 22°51.8 | 22°41.8 | 22°31.6 | 22°21.2 | 22°10.7 | -9.8 | 61.1 |
| ● Lu 2 | 241°57.7 | 256°22.2 | 270°46.7 | 285°11.4 | 299°36.1 | 314°01.0 | 328°25.9 | 342°51.0 | 357°16.1 | 11°41.4 | 26°06.7 | +24.9 | 16.7 |
| | 19°14.5 | 19°01.6 | 18°48.6 | 18°35.5 | 18°22.2 | 18°08.8 | 17°55.3 | 17°41.7 | 17°27.9 | 17°14.1 | 17°00.1 | -13.4 | 61.3 |
| Ma 3 | 242°38.5 | 257°05.4 | 271°32.3 | 285°59.4 | 300°26.5 | 314°53.8 | 329°21.1 | 343°48.5 | 358°16.0 | 12°43.5 | 27°11.2 | +27.3 | 16.7 |
| | 13°18.7 | 13°03.3 | 12°47.8 | 12°32.2 | 12°16.5 | 12°00.8 | 11°45.0 | 11°29.1 | 11°13.2 | 10°57.2 | 10°41.2 | -15.8 | 61.1 |
| Me 4 | 244°15.6 | 258°44.4 | 273°13.4 | 287°42.4 | 302°11.4 | 316°40.6 | 331°09.8 | 345°39.0 | 0°08.3 | 14°37.7 | 29°07.1 | +29.2 | 16.5 |
| | 6°35.4 | 6°18.7 | 6°02.1 | 5°45.4 | 5°28.7 | 5°12.0 | 4°55.3 | 4°38.5 | 4°21.8 | 4°05.0 | 3°48.2 | -16.7 | 60.5 |
| Je 5 | 246°34.4 | 261°04.6 | 275°34.8 | 290°05.0 | 304°35.3 | 319°05.6 | 333°35.9 | 348°06.3 | 2°36.7 | 17°07.1 | 31°37.5 | +30.3 | 16.3 |
| | -0°22.6 | -0°39.2 | -0°55.8 | -1°12.4 | -1°28.9 | -1°45.4 | -2°01.9 | -2°18.3 | -2°34.8 | -2°51.1 | -3°07.5 | -16.5 | 59.7 |
| Ve 6 | 249°16.5 | 263°47.2 | 278°17.9 | 292°48.6 | 307°19.3 | 321°50.0 | 336°20.7 | 350°51.4 | 5°22.2 | 19°52.9 | 34°23.6 | +30.7 | 16.0 |
| | -7°07.3 | -7°22.9 | -7°38.4 | -7°53.9 | -8°09.3 | -8°24.6 | -8°39.9 | -8°55.1 | -9°10.3 | -9°25.3 | -9°40.3 | -15.3 | 58.8 |
| Sa 7 | 252°03.6 | 266°34.2 | 281°04.7 | 295°35.3 | 310°05.8 | 324°36.3 | 339°06.8 | 353°37.2 | 8°07.7 | 22°38.1 | 37°08.5 | +30.5 | 15.8 |
| | -13°16.5 | -13°30.2 | -13°43.9 | -13°57.5 | -14°11.0 | -14°24.4 | -14°37.7 | -14°50.9 | -15°04.1 | -15°17.1 | -15°30.1 | -13.4 | 57.8 |
| Di 8 | 254°41.4 | 269°11.4 | 283°41.4 | 298°11.3 | 312°41.2 | 327°11.0 | 341°40.9 | 356°10.6 | 10°40.4 | 25°10.1 | 39°39.8 | +29.8 | 15.5 |
| | -18°32.4 | -18°43.8 | -18°55.0 | -19°06.1 | -19°17.1 | -19°28.0 | -19°38.8 | -19°49.4 | -20°00.0 | -20°10.4 | -20°20.8 | -10.8 | 56.9 |
| ◐ Lu 9 | 257°01.5 | 271°30.7 | 285°59.9 | 300°29.0 | 314°58.1 | 329°27.2 | 343°56.3 | 358°25.3 | 12°54.3 | 27°23.2 | 41°52.1 | +29.1 | 15.3 |
| | -22°41.5 | -22°50.0 | -22°58.3 | -23°06.4 | -23°14.5 | -23°22.4 | -23°30.2 | -23°37.8 | -23°45.3 | -23°52.7 | -24°00.0 | -7.8 | 56.0 |
| Ma 10 | 259°03.1 | 273°31.7 | 288°00.3 | 302°28.8 | 316°57.3 | 331°25.8 | 345°54.3 | 0°22.7 | 14°51.2 | 29°19.6 | 43°48.1 | +28.5 | 15.1 |
| | -25°33.4 | -25°38.5 | -25°43.6 | -25°48.5 | -25°53.2 | -25°57.8 | -26°02.3 | -26°06.6 | -26°10.9 | -26°14.9 | -26°18.9 | -4.5 | 55.3 |
| Me 11 | 260°53.9 | 275°22.3 | 289°50.7 | 304°19.1 | 318°47.5 | 333°16.0 | 347°44.4 | 2°12.8 | 16°41.3 | 31°09.8 | 45°38.3 | +28.4 | 14.9 |
| | -27°01.4 | -27°03.1 | -27°04.7 | -27°06.1 | -27°07.5 | -27°08.6 | -27°09.7 | -27°10.6 | -27°11.3 | -27°12.0 | -27°12.5 | -1.1 | 54.8 |
| Je 12 | 262°48.0 | 277°16.8 | 291°45.7 | 306°14.7 | 320°43.6 | 335°12.6 | 349°41.6 | 4°10.7 | 18°39.8 | 33°08.9 | 47°38.1 | +29.0 | 14.8 |
| | -27°03.6 | -27°01.9 | -27°00.1 | -26°58.2 | -26°56.2 | -26°54.0 | -26°51.6 | -26°49.2 | -26°46.6 | -26°43.9 | -26°41.1 | +2.3 | 54.4 |
| Ve 13 | 265°01.1 | 279°31.1 | 294°01.0 | 308°31.1 | 323°01.1 | 337°31.3 | 352°01.5 | 6°31.7 | 21°02.0 | 35°32.3 | 50°02.8 | +30.2 | 14.8 |
| | -25°43.5 | -25°38.6 | -25°33.7 | -25°28.6 | -25°23.5 | -25°18.2 | -25°12.8 | -25°07.2 | -25°01.6 | -24°55.9 | -24°50.0 | +5.3 | 54.1 |
| Sa 14 | 267°45.9 | 282°17.2 | 296°48.6 | 311°20.1 | 325°51.6 | 340°23.2 | 354°54.9 | 9°26.6 | 23°58.4 | 38°30.2 | 53°02.1 | +31.6 | 14.7 |
| | -23°08.9 | -23°01.4 | -22°53.7 | -22°45.9 | -22°38.0 | -22°30.1 | -22°22.0 | -22°13.8 | -22°05.5 | -21°57.2 | -21°48.7 | +8.0 | 54.0 |
| Di 15 | 271°07.9 | 285°40.7 | 300°13.6 | 314°46.6 | 329°19.6 | 343°52.7 | 358°25.9 | 12°59.1 | 27°32.3 | 42°05.6 | 56°39.0 | +33.1 | 14.7 |
| | -19°31.2 | -19°21.3 | -19°11.4 | -19°01.4 | -18°51.3 | -18°41.2 | -18°30.9 | -18°20.6 | -18°10.2 | -17°59.7 | -17°49.2 | +10.2 | 53.9 |
| Lu 16 | 275°05.6 | 289°39.8 | 304°14.0 | 318°48.3 | 333°22.6 | 347°56.9 | 2°31.3 | 17°05.7 | 31°40.2 | 46°14.7 | 60°49.3 | +34.4 | 14.7 |
| | -15°02.8 | -14°51.2 | -14°39.5 | -14°27.8 | -14°16.0 | -14°04.2 | -13°52.3 | -13°40.3 | -13°28.3 | -13°16.3 | -13°04.2 | +11.9 | 54.0 |
| ○ Ma 17 | 279°31.9 | 294°07.0 | 308°42.1 | 323°17.3 | 337°52.5 | 352°27.7 | 7°02.9 | 21°38.1 | 36°13.4 | 50°48.7 | 65°24.0 | +35.2 | 14.8 |
| | -9°56.6 | -9°43.7 | -9°30.9 | -9°17.9 | -9°04.9 | -8°51.9 | -8°38.9 | -8°25.8 | -8°12.7 | -7°59.5 | -7°46.3 | +13.0 | 54.2 |
| Me 18 | 284°15.6 | 298°51.1 | 313°26.6 | 328°02.2 | 342°37.7 | 357°13.3 | 11°48.8 | 26°24.3 | 40°59.9 | 55°35.4 | 70°11.0 | +35.5 | 14.9 |
| | -4°25.0 | -4°11.4 | -3°57.7 | -3°44.1 | -3°30.4 | -3°16.7 | -3°03.0 | -2°49.3 | -2°35.5 | -2°21.7 | -2°08.0 | +13.7 | 54.5 |
| Je 19 | 289°03.1 | 303°38.4 | 318°13.8 | 332°49.1 | 347°24.4 | 1°59.7 | 16°35.0 | 31°10.2 | 45°45.4 | 60°20.6 | 74°55.7 | +35.3 | 14.9 |
| | 1°19.9 | 1°33.8 | 1°47.7 | 2°01.6 | 2°15.5 | 2°29.4 | 2°43.3 | 2°57.1 | 3°11.0 | 3°24.9 | 3°38.8 | +13.9 | 54.8 |
| Ve 20 | 293°39.1 | 308°13.7 | 322°48.2 | 337°22.7 | 351°57.1 | 6°31.5 | 21°05.8 | 35°40.1 | 50°14.3 | 64°48.5 | 79°22.6 | +34.4 | 15.1 |
| | 7°05.7 | 7°19.4 | 7°33.0 | 7°46.6 | 8°00.2 | 8°13.8 | 8°27.4 | 8°40.9 | 8°54.4 | 9°07.9 | 9°21.4 | +13.6 | 55.3 |
| Sa 21 | 297°47.3 | 312°20.4 | 326°53.4 | 341°26.4 | 355°59.3 | 10°32.1 | 25°04.8 | 39°37.5 | 54°10.1 | 68°42.6 | 83°15.0 | +32.8 | 15.2 |
| | 12°39.1 | 12°52.0 | 13°04.8 | 13°17.6 | 13°30.3 | 13°43.0 | 13°55.7 | 14°08.3 | 14°20.8 | 14°33.3 | 14°45.7 | +12.5 | 55.8 |
| Di 22 | 312°20.4 | 326°53.4 | 341°26.4 | 355°59.3 | 10°32.1 | 25°04.8 | 39°37.5 | 54°10.1 | 68°42.6 | 83°15.0 | 97°47.4 | +32.7 | 15.2 |
| | 12°52.0 | 13°04.8 | 13°17.6 | 13°30.3 | 13°43.0 | 13°55.7 | 14°08.3 | 14°20.8 | 14°33.3 | 14°45.7 | 14°58.1 | +12.6 | 55.8 |
| Lu 23 | 315°42.2 | 330°13.1 | 344°43.9 | 359°14.6 | 13°45.3 | 28°15.8 | 42°46.2 | 57°16.5 | 71°46.8 | 86°16.9 | 100°46.9 | +30.5 | 15.4 |
| | 17°56.3 | 18°07.6 | 18°18.9 | 18°30.0 | 18°41.1 | 18°52.1 | 19°03.1 | 19°13.9 | 19°24.7 | 19°35.4 | 19°46.0 | +11.0 | 56.5 |
| Ma 24 | 318°04.7 | 332°33.0 | 347°01.2 | 1°29.3 | 15°57.3 | 30°25.2 | 44°53.0 | 59°20.7 | 73°48.2 | 88°15.7 | 102°43.0 | +27.8 | 15.6 |
| | 22°13.7 | 22°22.7 | 22°31.7 | 22°40.5 | 22°49.2 | 22°57.7 | 23°06.2 | 23°14.6 | 23°22.8 | 23°30.9 | 23°38.9 | +8.5 | 57.2 |
| ◑ Me 25 | 319°20.3 | 333°46.0 | 348°11.5 | 2°37.0 | 17°02.3 | 31°27.6 | 45°52.7 | 60°17.8 | 74°42.7 | 89°07.6 | 103°32.4 | +25.2 | 15.8 |
| | 25°22.9 | 25°28.8 | 25°34.4 | 25°40.0 | 25°45.3 | 25°50.6 | 25°55.7 | 26°00.6 | 26°05.3 | 26°10.0 | 26°14.4 | +5.2 | 58.0 |
| Je 26 | 319°33.9 | 333°57.4 | 348°20.9 | 2°44.2 | 17°07.6 | 31°30.8 | 45°54.0 | 60°17.2 | 74°40.2 | 89°03.3 | 103°26.3 | +23.2 | 16.0 |
| | 27°01.4 | 27°03.2 | 27°04.8 | 27°06.2 | 27°07.4 | 27°08.5 | 27°09.4 | 27°10.0 | 27°10.6 | 27°10.9 | 27°11.0 | +1.0 | 58.8 |
| Ve 27 | 319°06.9 | 333°29.4 | 347°52.0 | 2°14.5 | 16°37.0 | 30°59.5 | 45°22.0 | 59°44.5 | 74°07.0 | 88°29.5 | 102°52.1 | +22.5 | 16.3 |
| | 26°50.7 | 26°47.9 | 26°44.8 | 26°41.6 | 26°38.1 | 26°34.5 | 26°30.7 | 26°26.7 | 26°22.5 | 26°18.1 | 26°13.6 | -3.7 | 59.6 |
| Sa 28 | 318°32.7 | 332°55.7 | 347°18.7 | 1°41.8 | 16°04.9 | 30°28.0 | 44°51.3 | 59°14.5 | 73°37.8 | 88°01.2 | 102°24.7 | +23.2 | 16.4 |
| | 24°42.7 | 24°35.1 | 24°27.4 | 24°19.6 | 24°11.5 | 24°03.3 | 23°54.9 | 23°46.3 | 23°37.6 | 23°28.6 | 23°19.5 | -8.3 | 60.3 |
| Di 29 | 318°23.9 | 332°48.4 | 347°13.0 | 1°37.7 | 16°02.4 | 30°27.2 | 44°52.1 | 59°17.1 | 73°42.1 | 88°07.2 | 102°32.4 | +24.8 | 16.6 |
| | 20°43.9 | 20°32.3 | 20°20.5 | 20°08.6 | 19°56.6 | 19°44.4 | 19°32.1 | 19°19.7 | 19°07.1 | 18°54.4 | 18°41.6 | -12.2 | 60.8 |
| Lu 30 | 318°59.8 | 333°26.3 | 347°52.8 | 2°19.4 | 16°46.1 | 31°12.8 | 45°39.7 | 60°06.6 | 74°33.5 | 89°00.6 | 103°27.7 | +26.8 | 16.6 |
| | 15°14.8 | 15°00.1 | 14°45.4 | 14°30.5 | 14°15.6 | 14°00.6 | 13°45.5 | 13°30.3 | 13°15.0 | 12°59.6 | 12°44.2 | -15.1 | 61.0 |
| ● Ma 31 | 320°22.8 | 334°51.0 | 349°19.3 | 3°47.6 | 18°15.9 | 32°44.4 | 47°12.8 | 61°41.4 | 76°09.9 | 90°38.6 | 105°07.3 | +28.4 | 16.6 |
| | 8°44.4 | 8°28.0 | 8°11.5 | 7°55.0 | 7°38.4 | 7°21.8 | 7°05.2 | 6°48.5 | 6°31.8 | 6°15.1 | 5°58.3 | -16.6 | 60.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 10h05 — PQ: 9 04h54 — PL: 17 07h28 — DQ: 25 02h27 — NL: 31 17h41

# SOLEIL

## Septembre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 269°57.6 | 284°57.8 | 299°58.0 | 314°58.2 | 329°58.4 | 344°58.6 | 359°58.8 | 14°59.0 | 29°59.2 | 44°59.4 | 59°59.6 | 74°59.8 | +0.2 |
| | 8°20.7 | 8°19.8 | 8°18.8 | 8°17.9 | 8°17.0 | 8°16.1 | 8°15.2 | 8°14.3 | 8°13.4 | 8°12.5 | 8°11.6 | 8°10.7 | -0.9 |
| Je 2 | 270°02.4 | 285°02.6 | 300°02.8 | 315°03.0 | 330°03.2 | 345°03.4 | 0°03.6 | 15°03.8 | 30°04.0 | 45°04.2 | 60°04.4 | 75°04.6 | +0.2 |
| | 7°58.9 | 7°57.9 | 7°57.0 | 7°56.1 | 7°55.2 | 7°54.3 | 7°53.4 | 7°52.5 | 7°51.6 | 7°50.7 | 7°49.7 | 7°48.8 | -0.9 |
| Ve 3 | 270°07.2 | 285°07.4 | 300°07.6 | 315°07.8 | 330°08.0 | 345°08.2 | 0°08.4 | 15°08.6 | 30°08.8 | 45°09.0 | 60°09.2 | 75°09.4 | +0.2 |
| | 7°36.9 | 7°36.0 | 7°35.1 | 7°34.2 | 7°33.3 | 7°32.3 | 7°31.4 | 7°30.5 | 7°29.6 | 7°28.7 | 7°27.8 | 7°26.8 | -0.9 |
| Sa 4 | 270°12.1 | 285°12.3 | 300°12.5 | 315°12.7 | 330°12.9 | 345°13.1 | 0°13.3 | 15°13.5 | 30°13.8 | 45°14.0 | 60°14.2 | 75°14.4 | +0.2 |
| | 7°14.9 | 7°14.0 | 7°13.0 | 7°12.1 | 7°11.2 | 7°10.3 | 7°09.4 | 7°08.4 | 7°07.5 | 7°06.6 | 7°05.7 | 7°04.7 | -0.9 |
| Di 5 | 270°17.1 | 285°17.3 | 300°17.5 | 315°17.7 | 330°17.9 | 345°18.1 | 0°18.3 | 15°18.5 | 30°18.7 | 45°18.9 | 60°19.2 | 75°19.4 | +0.2 |
| | 6°52.7 | 6°51.8 | 6°50.9 | 6°49.9 | 6°49.0 | 6°48.1 | 6°47.2 | 6°46.2 | 6°45.3 | 6°44.4 | 6°43.4 | 6°42.5 | -0.9 |
| Lu 6 | 270°22.1 | 285°22.3 | 300°22.5 | 315°22.7 | 330°22.9 | 345°23.1 | 0°23.4 | 15°23.6 | 30°23.8 | 45°24.0 | 60°24.2 | 75°24.4 | +0.2 |
| | 6°30.4 | 6°29.5 | 6°28.6 | 6°27.6 | 6°26.7 | 6°25.8 | 6°24.9 | 6°23.9 | 6°23.0 | 6°22.1 | 6°21.1 | 6°20.2 | -0.9 |
| Ma 7 | 270°27.2 | 285°27.4 | 300°27.6 | 315°27.8 | 330°28.0 | 345°28.2 | 0°28.5 | 15°28.7 | 30°28.9 | 45°29.1 | 60°29.3 | 75°29.5 | +0.2 |
| | 6°08.1 | 6°07.1 | 6°06.2 | 6°05.3 | 6°04.3 | 6°03.4 | 6°02.5 | 6°01.5 | 6°00.6 | 5°59.6 | 5°58.7 | 5°57.8 | -0.9 |
| Me 8 | 270°32.3 | 285°32.5 | 300°32.7 | 315°33.0 | 330°33.2 | 345°33.4 | 0°33.6 | 15°33.8 | 30°34.0 | 45°34.3 | 60°34.5 | 75°34.7 | +0.2 |
| | 5°45.6 | 5°44.6 | 5°43.7 | 5°42.8 | 5°41.8 | 5°40.9 | 5°39.9 | 5°39.0 | 5°38.1 | 5°37.1 | 5°36.2 | 5°35.2 | -0.9 |
| Je 9 | 270°37.5 | 285°37.7 | 300°37.9 | 315°38.1 | 330°38.4 | 345°38.6 | 0°38.8 | 15°39.0 | 30°39.2 | 45°39.5 | 60°39.7 | 75°39.9 | +0.2 |
| | 5°23.0 | 5°22.1 | 5°21.1 | 5°20.2 | 5°19.2 | 5°18.3 | 5°17.3 | 5°16.4 | 5°15.5 | 5°14.5 | 5°13.6 | 5°12.6 | -0.9 |
| Ve 10 | 270°42.7 | 285°42.9 | 300°43.2 | 315°43.4 | 330°43.6 | 345°43.8 | 0°44.0 | 15°44.3 | 30°44.5 | 45°44.7 | 60°44.9 | 75°45.1 | +0.2 |
| | 5°00.3 | 4°59.4 | 4°58.5 | 4°57.5 | 4°56.6 | 4°55.6 | 4°54.7 | 4°53.7 | 4°52.8 | 4°51.8 | 4°50.9 | 4°49.9 | -0.9 |
| Sa 11 | 270°48.0 | 285°48.2 | 300°48.4 | 315°48.6 | 330°48.9 | 345°49.1 | 0°49.3 | 15°49.5 | 30°49.8 | 45°50.0 | 60°50.2 | 75°50.4 | +0.2 |
| | 4°37.6 | 4°36.7 | 4°35.7 | 4°34.8 | 4°33.8 | 4°32.9 | 4°31.9 | 4°31.0 | 4°30.0 | 4°29.0 | 4°28.1 | 4°27.1 | -1.0 |
| Di 12 | 270°53.3 | 285°53.5 | 300°53.7 | 315°54.0 | 330°54.2 | 345°54.4 | 0°54.6 | 15°54.8 | 30°55.1 | 45°55.3 | 60°55.5 | 75°55.7 | +0.2 |
| | 4°14.8 | 4°13.8 | 4°12.9 | 4°11.9 | 4°11.0 | 4°10.0 | 4°09.1 | 4°08.1 | 4°07.2 | 4°06.2 | 4°05.2 | 4°04.3 | -1.0 |
| Lu 13 | 270°58.6 | 285°58.8 | 300°59.1 | 315°59.3 | 330°59.5 | 345°59.7 | 0°59.9 | 16°00.2 | 31°00.4 | 46°00.6 | 61°00.8 | 76°01.1 | +0.2 |
| | 3°51.9 | 3°50.9 | 3°50.0 | 3°49.0 | 3°48.1 | 3°47.1 | 3°46.1 | 3°45.2 | 3°44.2 | 3°43.3 | 3°42.3 | 3°41.4 | -1.0 |
| Ma 14 | 271°04.0 | 286°04.2 | 301°04.4 | 316°04.6 | 331°04.9 | 346°05.1 | 1°05.3 | 16°05.5 | 31°05.7 | 46°06.0 | 61°06.2 | 76°06.4 | +0.2 |
| | 3°28.9 | 3°28.0 | 3°27.0 | 3°26.0 | 3°25.1 | 3°24.1 | 3°23.2 | 3°22.2 | 3°21.2 | 3°20.3 | 3°19.3 | 3°18.4 | -1.0 |
| Me 15 | 271°09.3 | 286°09.6 | 301°09.8 | 316°10.0 | 331°10.2 | 346°10.4 | 1°10.7 | 16°10.9 | 31°11.1 | 46°11.3 | 61°11.6 | 76°11.8 | +0.2 |
| | 3°05.9 | 3°04.9 | 3°04.0 | 3°03.0 | 3°02.0 | 3°01.1 | 3°00.1 | 2°59.2 | 2°58.2 | 2°57.2 | 2°56.3 | 2°55.3 | -1.0 |
| Je 16 | 271°14.7 | 286°14.9 | 301°15.2 | 316°15.4 | 331°15.6 | 346°15.8 | 1°16.0 | 16°16.3 | 31°16.5 | 46°16.7 | 61°16.9 | 76°17.2 | +0.2 |
| | 2°42.8 | 2°41.8 | 2°40.9 | 2°39.9 | 2°39.0 | 2°38.0 | 2°37.0 | 2°36.1 | 2°35.1 | 2°34.1 | 2°33.2 | 2°32.2 | -1.0 |
| Ve 17 | 271°20.1 | 286°20.3 | 301°20.5 | 316°20.8 | 331°21.0 | 346°21.2 | 1°21.4 | 16°21.7 | 31°21.9 | 46°22.1 | 61°22.3 | 76°22.6 | +0.2 |
| | 2°19.7 | 2°18.7 | 2°17.7 | 2°16.8 | 2°15.8 | 2°14.8 | 2°13.9 | 2°12.9 | 2°11.9 | 2°11.0 | 2°10.0 | 2°09.0 | -1.0 |
| Sa 18 | 271°25.5 | 286°25.7 | 301°25.9 | 316°26.1 | 331°26.4 | 346°26.6 | 1°26.8 | 16°27.0 | 31°27.3 | 46°27.5 | 61°27.7 | 76°27.9 | +0.2 |
| | 1°56.5 | 1°55.5 | 1°54.6 | 1°53.6 | 1°52.6 | 1°51.6 | 1°50.7 | 1°49.7 | 1°48.7 | 1°47.8 | 1°46.8 | 1°45.8 | -1.0 |
| Di 19 | 271°30.8 | 286°31.1 | 301°31.3 | 316°31.5 | 331°31.7 | 346°32.0 | 1°32.2 | 16°32.4 | 31°32.6 | 46°32.9 | 61°33.1 | 76°33.3 | +0.2 |
| | 1°33.3 | 1°32.3 | 1°31.3 | 1°30.4 | 1°29.4 | 1°28.4 | 1°27.4 | 1°26.5 | 1°25.5 | 1°24.5 | 1°23.6 | 1°22.6 | -1.0 |
| Lu 20 | 271°36.2 | 286°36.4 | 301°36.7 | 316°36.9 | 331°37.1 | 346°37.3 | 1°37.5 | 16°37.8 | 31°38.0 | 46°38.2 | 61°38.4 | 76°38.7 | +0.2 |
| | 1°10.0 | 1°09.0 | 1°08.1 | 1°07.1 | 1°06.1 | 1°05.1 | 1°04.2 | 1°03.2 | 1°02.2 | 1°01.3 | 1°00.3 | 0°59.3 | -1.0 |
| Ma 21 | 271°41.5 | 286°41.8 | 301°42.0 | 316°42.2 | 331°42.4 | 346°42.7 | 1°42.9 | 16°43.1 | 31°43.3 | 46°43.5 | 61°43.8 | 76°44.0 | +0.2 |
| | 0°46.7 | 0°45.7 | 0°44.8 | 0°43.8 | 0°42.8 | 0°41.8 | 0°40.9 | 0°39.9 | 0°38.9 | 0°38.0 | 0°37.0 | 0°36.0 | -1.0 |
| Me 22 | 271°46.9 | 286°47.1 | 301°47.3 | 316°47.5 | 331°47.8 | 346°48.0 | 1°48.2 | 16°48.4 | 31°48.6 | 46°48.9 | 61°49.1 | 76°49.3 | +0.2 |
| | 0°23.4 | 0°22.4 | 0°21.4 | 0°20.5 | 0°19.5 | 0°18.5 | 0°17.5 | 0°16.6 | 0°15.6 | 0°14.6 | 0°13.7 | 0°12.7 | -1.0 |
| Je 23 | 271°52.2 | 286°52.4 | 301°52.6 | 316°52.8 | 331°53.0 | 346°53.3 | 1°53.5 | 16°53.7 | 31°53.9 | 46°54.1 | 61°54.4 | 76°54.6 | +0.2 |
| | 0°00.0 | -0°00.9 | -0°01.9 | -0°02.9 | -0°03.9 | -0°04.8 | -0°05.8 | -0°06.8 | -0°07.8 | -0°08.7 | -0°09.7 | -0°10.7 | -1.0 |
| Ve 24 | 271°57.4 | 286°57.6 | 301°57.9 | 316°58.1 | 331°58.3 | 346°58.5 | 1°58.7 | 16°58.9 | 31°59.2 | 46°59.4 | 61°59.6 | 76°59.8 | +0.2 |
| | -0°23.3 | -0°24.3 | -0°25.3 | -0°26.2 | -0°27.2 | -0°28.2 | -0°29.2 | -0°30.1 | -0°31.1 | -0°32.1 | -0°33.1 | -0°34.0 | -1.0 |
| Sa 25 | 272°02.6 | 287°02.9 | 302°03.1 | 317°03.3 | 332°03.5 | 347°03.7 | 2°03.9 | 17°04.2 | 32°04.4 | 47°04.6 | 62°04.8 | 77°05.0 | +0.2 |
| | -0°46.7 | -0°47.7 | -0°48.6 | -0°49.6 | -0°50.6 | -0°51.6 | -0°52.5 | -0°53.5 | -0°54.5 | -0°55.5 | -0°56.4 | -0°57.4 | -1.0 |
| Di 26 | 272°07.8 | 287°08.0 | 302°08.2 | 317°08.5 | 332°08.7 | 347°08.9 | 2°09.1 | 17°09.3 | 32°09.5 | 47°09.7 | 62°10.0 | 77°10.2 | +0.2 |
| | -1°10.1 | -1°11.0 | -1°12.0 | -1°13.0 | -1°14.0 | -1°14.9 | -1°15.9 | -1°16.9 | -1°17.9 | -1°18.8 | -1°19.8 | -1°20.8 | -1.0 |
| Lu 27 | 272°12.9 | 287°13.1 | 302°13.4 | 317°13.6 | 332°13.8 | 347°14.0 | 2°14.2 | 17°14.4 | 32°14.6 | 47°14.8 | 62°15.1 | 77°15.3 | +0.2 |
| | -1°33.4 | -1°34.4 | -1°35.4 | -1°36.4 | -1°37.3 | -1°38.3 | -1°39.3 | -1°40.3 | -1°41.2 | -1°42.2 | -1°43.2 | -1°44.1 | -1.0 |
| Ma 28 | 272°18.0 | 287°18.2 | 302°18.4 | 317°18.6 | 332°18.8 | 347°19.1 | 2°19.3 | 17°19.5 | 32°19.7 | 47°19.9 | 62°20.1 | 77°20.3 | +0.2 |
| | -1°56.8 | -1°57.8 | -1°58.7 | -1°59.7 | -2°00.7 | -2°01.7 | -2°02.6 | -2°03.6 | -2°04.6 | -2°05.6 | -2°06.5 | -2°07.5 | -1.0 |
| Me 29 | 272°23.0 | 287°23.2 | 302°23.4 | 317°23.6 | 332°23.8 | 347°24.1 | 2°24.3 | 17°24.5 | 32°24.7 | 47°24.9 | 62°25.1 | 77°25.3 | +0.2 |
| | -2°20.1 | -2°21.1 | -2°22.1 | -2°23.1 | -2°24.0 | -2°25.0 | -2°26.0 | -2°27.0 | -2°27.9 | -2°28.9 | -2°29.9 | -2°30.8 | -1.0 |
| Je 30 | 272°28.0 | 287°28.2 | 302°28.4 | 317°28.6 | 332°28.8 | 347°29.0 | 2°29.2 | 17°29.4 | 32°29.6 | 47°29.8 | 62°30.0 | 77°30.2 | +0.2 |
| | -2°43.5 | -2°44.4 | -2°45.4 | -2°46.4 | -2°47.4 | -2°48.3 | -2°49.3 | -2°50.3 | -2°51.2 | -2°52.2 | -2°53.2 | -2°54.1 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2027

| J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 249°56.7 | 264°25.9 | 278°55.1 | 293°24.4 | 307°53.7 | 322°23.0 | 336°52.4 | 351°21.8 | 5°51.2 | 20°20.7 | 34°50.2 | +29.3 | 16.5 |
| | 3°09.6 | 2°52.7 | 2°35.8 | 2°18.8 | 2°01.9 | 1°44.9 | 1°28.0 | 1°11.0 | 0°54.1 | 0°37.2 | 0°20.3 | -16.9 | 60.5 |
| Je 2 | 252°15.3 | 266°45.2 | 281°15.0 | 295°44.8 | 310°14.7 | 324°44.5 | 339°14.4 | 353°44.3 | 8°14.2 | 22°44.0 | 37°13.9 | +29.9 | 16.3 |
| | -3°51.0 | -4°07.5 | -4°24.0 | -4°40.4 | -4°56.8 | -5°13.1 | -5°29.4 | -5°45.6 | -6°01.8 | -6°18.0 | -6°34.1 | -16.3 | 59.8 |
| Ve 3 | 254°42.0 | 269°11.8 | 283°41.6 | 298°11.4 | 312°41.2 | 327°10.9 | 341°40.7 | 356°10.4 | 10°40.1 | 25°09.8 | 39°39.5 | +29.8 | 16.1 |
| | -10°28.2 | -10°43.3 | -10°58.2 | -11°13.2 | -11°28.0 | -11°42.7 | -11°57.4 | -12°12.0 | -12°26.5 | -12°40.9 | -12°55.2 | -14.7 | 59.0 |
| Sa 4 | 257°02.3 | 271°31.7 | 286°01.0 | 300°30.2 | 314°59.5 | 329°28.7 | 343°57.9 | 358°27.1 | 12°56.2 | 27°25.3 | 41°54.4 | +29.2 | 15.8 |
| | -16°18.9 | -16°31.7 | -16°44.4 | -16°56.9 | -17°09.4 | -17°21.8 | -17°34.0 | -17°46.2 | -17°58.2 | -18°10.1 | -18°21.9 | -12.3 | 58.0 |
| Di 5 | 259°07.2 | 273°35.9 | 288°04.5 | 302°33.0 | 317°01.6 | 331°30.1 | 345°58.6 | 0°27.0 | 14°55.5 | 29°23.9 | 43°52.2 | +28.5 | 15.6 |
| | -21°04.8 | -21°14.7 | -21°24.5 | -21°34.1 | -21°43.6 | -21°53.0 | -22°02.2 | -22°11.3 | -22°20.3 | -22°29.2 | -22°37.9 | -9.3 | 57.1 |
| Lu 6 | 260°55.1 | 275°23.2 | 289°51.2 | 304°19.2 | 318°47.2 | 333°15.1 | 347°43.1 | 2°11.0 | 16°39.0 | 31°06.9 | 45°34.8 | +28.0 | 15.3 |
| | -24°32.6 | -24°39.2 | -24°45.6 | -24°51.9 | -24°58.0 | -25°04.0 | -25°09.9 | -25°15.6 | -25°21.2 | -25°26.6 | -25°31.9 | -5.9 | 56.2 |
| ◐ Ma 7 | 262°32.8 | 277°00.7 | 291°28.6 | 305°56.4 | 320°24.3 | 334°52.2 | 349°20.1 | 3°48.1 | 18°16.0 | 32°43.9 | 47°11.9 | +27.9 | 15.1 |
| | -26°34.3 | -26°37.3 | -26°40.2 | -26°42.9 | -26°45.5 | -26°47.9 | -26°50.3 | -26°52.4 | -26°54.4 | -26°56.3 | -26°58.1 | -2.4 | 55.4 |
| Me 8 | 264°13.7 | 278°42.1 | 293°10.4 | 307°38.8 | 322°07.3 | 336°35.7 | 351°04.2 | 5°32.8 | 20°01.3 | 34°29.9 | 48°58.6 | +28.5 | 14.9 |
| | -27°07.3 | -27°06.8 | -27°06.2 | -27°05.4 | -27°04.5 | -27°03.5 | -27°02.3 | -27°01.0 | -26°59.6 | -26°58.0 | -26°56.3 | +1.1 | 54.8 |
| Je 9 | 266°13.7 | 280°43.0 | 295°12.5 | 309°42.0 | 324°11.5 | 338°41.1 | 353°10.8 | 7°40.5 | 22°10.3 | 36°40.1 | 51°10.0 | +29.6 | 14.8 |
| | -26°15.0 | -26°11.2 | -26°07.3 | -26°03.3 | -25°59.1 | -25°54.9 | -25°50.5 | -25°46.0 | -25°41.3 | -25°36.6 | -25°31.7 | +4.3 | 54.4 |
| Ve 10 | 268°45.2 | 283°16.1 | 297°47.0 | 312°17.9 | 326°49.0 | 341°20.0 | 355°51.2 | 10°22.4 | 24°53.7 | 39°25.0 | 53°56.4 | +31.1 | 14.8 |
| | -24°05.0 | -23°58.4 | -23°51.6 | -23°44.7 | -23°37.7 | -23°30.7 | -23°23.5 | -23°16.2 | -23°08.8 | -23°01.3 | -22°53.7 | +7.1 | 54.1 |
| Sa 11 | 271°54.7 | 286°27.1 | 300°59.5 | 315°32.0 | 330°04.5 | 344°37.1 | 359°09.8 | 13°42.5 | 28°15.3 | 42°48.1 | 57°21.0 | +32.6 | 14.7 |
| | -20°48.3 | -20°39.3 | -20°30.1 | -20°20.8 | -20°11.5 | -20°02.1 | -19°52.5 | -19°42.9 | -19°33.3 | -19°23.5 | -19°13.7 | +9.5 | 54.0 |
| Di 12 | 275°41.0 | 290°14.7 | 304°48.5 | 319°22.3 | 333°56.2 | 348°30.1 | 3°04.1 | 17°38.1 | 32°12.2 | 46°46.3 | 61°20.4 | +33.9 | 14.7 |
| | -16°36.9 | -16°25.9 | -16°14.8 | -16°03.7 | -15°52.4 | -15°41.2 | -15°29.8 | -15°18.4 | -15°06.9 | -14°55.4 | -14°43.8 | +11.3 | 54.1 |
| Lu 13 | 279°57.4 | 294°32.1 | 309°06.9 | 323°41.7 | 338°16.5 | 352°51.4 | 7°26.3 | 22°01.2 | 36°36.1 | 51°11.1 | 65°46.1 | +34.9 | 14.8 |
| | -11°43.0 | -11°30.5 | -11°18.0 | -11°05.4 | -10°52.8 | -10°40.2 | -10°27.5 | -10°14.7 | -10°01.9 | -9°49.1 | -9°36.2 | +12.7 | 54.2 |
| Ma 14 | 284°33.2 | 299°08.5 | 313°43.8 | 328°19.0 | 342°54.3 | 357°29.6 | 12°04.9 | 26°40.2 | 41°15.6 | 55°50.9 | 70°26.2 | +35.3 | 14.9 |
| | -6°18.6 | -6°05.1 | -5°51.7 | -5°38.2 | -5°24.7 | -5°11.1 | -4°57.5 | -4°43.9 | -4°30.3 | -4°16.6 | -4°03.0 | +13.6 | 54.5 |
| ○ Me 15 | 289°15.6 | 303°50.8 | 318°26.1 | 333°01.3 | 347°36.4 | 2°11.6 | 16°46.8 | 31°21.9 | 45°57.0 | 60°32.1 | 75°07.2 | +35.2 | 15.0 |
| | -0°35.7 | -0°21.8 | -0°07.9 | 0°06.1 | 0°20.0 | 0°33.9 | 0°47.9 | 1°01.9 | 1°15.8 | 1°29.8 | 1°43.8 | +14.0 | 54.9 |
| Je 16 | 293°50.1 | 308°24.7 | 322°59.2 | 337°33.8 | 352°08.3 | 6°42.7 | 21°17.1 | 35°51.5 | 50°25.8 | 65°00.0 | 79°34.3 | +34.4 | 15.1 |
| | 5°12.9 | 5°26.8 | 5°40.7 | 5°54.5 | 6°08.4 | 6°22.2 | 6°36.0 | 6°49.8 | 7°03.5 | 7°17.3 | 7°31.0 | +13.8 | 55.3 |
| Ve 17 | 298°01.5 | 312°34.8 | 327°08.1 | 341°41.4 | 356°14.5 | 10°47.6 | 25°20.7 | 39°53.6 | 54°26.5 | 68°59.4 | 83°32.1 | +33.1 | 15.2 |
| | 10°53.6 | 11°06.8 | 11°20.0 | 11°33.2 | 11°46.3 | 11°59.4 | 12°12.4 | 12°25.4 | 12°38.4 | 12°51.3 | 13°04.1 | +13.1 | 55.7 |
| Sa 18 | 301°34.7 | 316°06.2 | 330°37.7 | 345°09.0 | 359°40.3 | 14°11.5 | 28°42.6 | 43°13.7 | 57°44.6 | 72°15.5 | 86°46.2 | +31.2 | 15.3 |
| | 16°10.5 | 16°22.4 | 16°34.3 | 16°46.0 | 16°57.8 | 17°09.4 | 17°21.0 | 17°32.5 | 17°43.9 | 17°55.3 | 18°06.6 | +11.6 | 56.2 |
| Di 19 | 304°16.7 | 318°46.0 | 333°15.1 | 347°44.2 | 2°13.2 | 16°42.1 | 31°10.9 | 45°39.6 | 60°08.2 | 74°36.7 | 89°05.1 | +28.8 | 15.5 |
| | 20°45.5 | 20°55.3 | 21°05.1 | 21°14.7 | 21°24.3 | 21°33.7 | 21°43.0 | 21°52.3 | 22°01.4 | 22°10.4 | 22°19.3 | +9.4 | 56.8 |
| Lu 20 | 318°46.0 | 333°15.1 | 347°44.2 | 2°13.2 | 16°42.1 | 31°10.9 | 45°39.6 | 60°08.2 | 74°36.7 | 89°05.1 | 103°33.5 | +28.7 | 15.5 |
| | 20°55.3 | 21°05.1 | 21°14.7 | 21°24.3 | 21°33.7 | 21°43.0 | 21°52.3 | 22°01.4 | 22°10.4 | 22°19.3 | 22°28.1 | +9.3 | 56.8 |
| Ma 21 | 320°26.7 | 334°53.5 | 349°20.2 | 3°46.9 | 18°13.4 | 32°39.8 | 47°06.2 | 61°32.5 | 75°58.7 | 90°24.8 | 104°50.8 | +26.4 | 15.6 |
| | 24°25.4 | 24°32.2 | 24°38.9 | 24°45.4 | 24°51.8 | 24°58.0 | 25°04.1 | 25°10.1 | 25°15.9 | 25°21.6 | 25°27.1 | +6.2 | 57.4 |
| Me 22 | 321°11.6 | 335°36.4 | 350°01.2 | 4°25.9 | 18°50.5 | 33°15.1 | 47°39.6 | 62°04.1 | 76°28.5 | 90°52.9 | 105°17.2 | +24.6 | 15.8 |
| | 26°32.0 | 26°35.1 | 26°38.0 | 26°40.7 | 26°43.3 | 26°45.7 | 26°47.9 | 26°50.0 | 26°51.9 | 26°53.7 | 26°55.2 | +2.3 | 58.0 |
| ◑ Je 23 | 321°17.3 | 335°41.0 | 350°04.8 | 4°28.5 | 18°52.3 | 33°16.0 | 47°39.7 | 62°03.4 | 76°27.1 | 90°50.8 | 105°14.5 | +23.7 | 16.0 |
| | 26°58.1 | 26°56.9 | 26°55.5 | 26°53.9 | 26°52.1 | 26°50.2 | 26°48.1 | 26°45.8 | 26°43.4 | 26°40.8 | 26°38.0 | -2.0 | 58.6 |
| Ve 24 | 321°11.2 | 335°35.1 | 349°59.1 | 4°23.1 | 18°47.1 | 33°11.2 | 47°35.3 | 61°59.4 | 76°23.6 | 90°47.8 | 105°12.1 | +24.1 | 16.1 |
| | 25°34.6 | 25°29.0 | 25°23.2 | 25°17.2 | 25°11.1 | 25°04.8 | 24°58.3 | 24°51.7 | 24°44.9 | 24°37.9 | 24°30.7 | -6.4 | 59.2 |
| Sa 25 | 321°22.0 | 335°47.1 | 350°12.3 | 4°37.5 | 19°02.8 | 33°28.2 | 47°53.6 | 62°19.1 | 76°44.6 | 91°10.2 | 105°35.9 | +25.4 | 16.3 |
| | 22°24.2 | 22°14.6 | 22°04.7 | 21°54.8 | 21°44.7 | 21°34.4 | 21°24.0 | 21°13.4 | 21°02.8 | 20°51.9 | 20°41.0 | -10.3 | 59.7 |
| Di 26 | 322°09.0 | 336°35.7 | 351°02.5 | 5°29.4 | 19°56.4 | 34°23.4 | 48°50.4 | 63°17.6 | 77°44.8 | 92°12.1 | 106°39.4 | +27.0 | 16.4 |
| | 17°40.9 | 17°27.9 | 17°14.8 | 17°01.6 | 16°48.3 | 16°34.9 | 16°21.4 | 16°07.7 | 15°54.0 | 15°40.2 | 15°26.3 | -13.5 | 60.1 |
| Lu 27 | 323°36.9 | 338°05.1 | 352°33.5 | 7°01.9 | 21°30.4 | 35°58.9 | 50°27.4 | 64°56.0 | 79°24.7 | 93°53.4 | 108°22.1 | +28.5 | 16.4 |
| | 11°46.6 | 11°31.3 | 11°15.9 | 11°00.5 | 10°45.0 | 10°29.5 | 10°13.9 | 9°58.2 | 9°42.5 | 9°26.7 | 9°10.9 | -15.6 | 60.3 |
| Ma 28 | 325°38.5 | 340°07.9 | 354°37.3 | 9°06.7 | 23°36.2 | 38°05.7 | 52°35.2 | 67°04.8 | 81°34.4 | 96°04.0 | 110°33.6 | +29.5 | 16.4 |
| | 5°07.8 | 4°51.3 | 4°34.8 | 4°18.3 | 4°01.8 | 3°45.2 | 3°28.6 | 3°12.0 | 2°55.4 | 2°38.8 | 2°22.1 | -16.6 | 60.2 |
| Me 29 | 327°59.9 | 342°29.7 | 356°59.6 | 11°29.4 | 25°59.3 | 40°29.1 | 54°59.0 | 69°28.8 | 83°58.7 | 98°28.5 | 112°58.4 | +29.9 | 16.3 |
| | -1°47.4 | -2°04.0 | -2°20.5 | -2°37.0 | -2°53.5 | -3°10.0 | -3°26.5 | -3°42.9 | -3°59.3 | -4°15.6 | -4°31.9 | -16.5 | 59.9 |
| ● Je 30 | 330°25.0 | 344°54.6 | 359°24.3 | 13°53.9 | 28°23.5 | 42°53.1 | 57°22.7 | 71°52.2 | 86°21.7 | 100°51.2 | 115°20.7 | +29.6 | 16.2 |
| | -8°31.6 | -8°47.2 | -9°02.7 | -9°18.1 | -9°33.5 | -9°48.8 | -10°04.1 | -10°19.2 | -10°34.3 | -10°49.4 | -11°04.4 | -15.3 | 59.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 7 18h31 — PL: 15 23h03 — DQ: 23 10h20 — NL: 30 02h36

# SOLEIL

## Octobre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 272°32.9 | 287°33.1 | 302°33.3 | 317°33.5 | 332°33.7 | 347°33.9 | 2°34.1 | 17°34.3 | 32°34.5 | 47°34.7 | 62°34.9 | 77°35.1 | +0.2 |
| | -3°06.8 | -3°07.7 | -3°08.7 | -3°09.7 | -3°10.6 | -3°11.6 | -3°12.6 | -3°13.6 | -3°14.5 | -3°15.5 | -3°16.5 | -3°17.4 | -1.0 |
| Sa 2 | 272°37.7 | 287°37.9 | 302°38.1 | 317°38.3 | 332°38.5 | 347°38.7 | 2°38.9 | 17°39.1 | 32°39.3 | 47°39.5 | 62°39.7 | 77°39.9 | +0.2 |
| | -3°30.0 | -3°31.0 | -3°32.0 | -3°32.9 | -3°33.9 | -3°34.9 | -3°35.8 | -3°36.8 | -3°37.8 | -3°38.7 | -3°39.7 | -3°40.7 | -1.0 |
| Di 3 | 272°42.4 | 287°42.6 | 302°42.8 | 317°43.0 | 332°43.2 | 347°43.4 | 2°43.6 | 17°43.8 | 32°44.0 | 47°44.2 | 62°44.4 | 77°44.6 | +0.2 |
| | -3°53.2 | -3°54.2 | -3°55.2 | -3°56.1 | -3°57.1 | -3°58.1 | -3°59.0 | -4°00.0 | -4°01.0 | -4°01.9 | -4°02.9 | -4°03.9 | -1.0 |
| Lu 4 | 272°47.1 | 287°47.3 | 302°47.5 | 317°47.6 | 332°47.8 | 347°48.0 | 2°48.2 | 17°48.4 | 32°48.6 | 47°48.8 | 62°49.0 | 77°49.2 | +0.2 |
| | -4°16.4 | -4°17.4 | -4°18.4 | -4°19.3 | -4°20.3 | -4°21.2 | -4°22.2 | -4°23.2 | -4°24.1 | -4°25.1 | -4°26.1 | -4°27.0 | -1.0 |
| Ma 5 | 272°51.7 | 287°51.8 | 302°52.0 | 317°52.2 | 332°52.4 | 347°52.6 | 2°52.8 | 17°53.0 | 32°53.2 | 47°53.3 | 62°53.5 | 77°53.7 | +0.2 |
| | -4°39.5 | -4°40.5 | -4°41.5 | -4°42.4 | -4°43.4 | -4°44.4 | -4°45.3 | -4°46.3 | -4°47.2 | -4°48.2 | -4°49.2 | -4°50.1 | -1.0 |
| Me 6 | 272°56.1 | 287°56.3 | 302°56.5 | 317°56.7 | 332°56.9 | 347°57.1 | 2°57.3 | 17°57.4 | 32°57.6 | 47°57.8 | 62°58.0 | 77°58.2 | +0.2 |
| | -5°02.6 | -5°03.6 | -5°04.5 | -5°05.5 | -5°06.4 | -5°07.4 | -5°08.4 | -5°09.3 | -5°10.3 | -5°11.2 | -5°12.2 | -5°13.2 | -1.0 |
| Je 7 | 273°00.5 | 288°00.7 | 303°00.9 | 318°01.1 | 333°01.3 | 348°01.4 | 3°01.6 | 18°01.8 | 33°02.0 | 48°02.2 | 63°02.3 | 78°02.5 | +0.2 |
| | -5°25.6 | -5°26.6 | -5°27.5 | -5°28.5 | -5°29.4 | -5°30.4 | -5°31.3 | -5°32.3 | -5°33.3 | -5°34.2 | -5°35.2 | -5°36.1 | -1.0 |
| Ve 8 | 273°04.8 | 288°05.0 | 303°05.2 | 318°05.4 | 333°05.6 | 348°05.7 | 3°05.9 | 18°06.1 | 33°06.3 | 48°06.4 | 63°06.6 | 78°06.8 | +0.2 |
| | -5°48.5 | -5°49.5 | -5°50.4 | -5°51.4 | -5°52.4 | -5°53.3 | -5°54.3 | -5°55.2 | -5°56.2 | -5°57.1 | -5°58.1 | -5°59.0 | -1.0 |
| Sa 9 | 273°09.0 | 288°09.2 | 303°09.4 | 318°09.6 | 333°09.7 | 348°09.9 | 3°10.1 | 18°10.3 | 33°10.4 | 48°10.6 | 63°10.8 | 78°10.9 | +0.2 |
| | -6°11.4 | -6°12.3 | -6°13.3 | -6°14.2 | -6°15.2 | -6°16.1 | -6°17.1 | -6°18.0 | -6°19.0 | -6°19.9 | -6°20.9 | -6°21.8 | -0.9 |
| Di 10 | 273°13.1 | 288°13.3 | 303°13.5 | 318°13.6 | 333°13.8 | 348°14.0 | 3°14.1 | 18°14.3 | 33°14.5 | 48°14.7 | 63°14.8 | 78°15.0 | +0.2 |
| | -6°34.2 | -6°35.1 | -6°36.0 | -6°37.0 | -6°37.9 | -6°38.9 | -6°39.8 | -6°40.8 | -6°41.7 | -6°42.7 | -6°43.6 | -6°44.6 | -0.9 |
| Lu 11 | 273°17.1 | 288°17.3 | 303°17.5 | 318°17.6 | 333°17.8 | 348°17.9 | 3°18.1 | 18°18.3 | 33°18.4 | 48°18.6 | 63°18.8 | 78°18.9 | +0.2 |
| | -6°56.8 | -6°57.8 | -6°58.7 | -6°59.7 | -7°00.6 | -7°01.5 | -7°02.5 | -7°03.4 | -7°04.4 | -7°05.3 | -7°06.3 | -7°07.2 | -0.9 |
| Ma 12 | 273°21.0 | 288°21.2 | 303°21.3 | 318°21.5 | 333°21.6 | 348°21.8 | 3°21.9 | 18°22.1 | 33°22.3 | 48°22.4 | 63°22.6 | 78°22.7 | +0.2 |
| | -7°19.4 | -7°20.4 | -7°21.3 | -7°22.2 | -7°23.2 | -7°24.1 | -7°25.0 | -7°26.0 | -7°26.9 | -7°27.9 | -7°28.8 | -7°29.7 | -0.9 |
| Me 13 | 273°24.7 | 288°24.9 | 303°25.0 | 318°25.2 | 333°25.3 | 348°25.5 | 3°25.7 | 18°25.8 | 33°26.0 | 48°26.1 | 63°26.3 | 78°26.4 | +0.2 |
| | -7°41.9 | -7°42.8 | -7°43.8 | -7°44.7 | -7°45.6 | -7°46.6 | -7°47.5 | -7°48.4 | -7°49.4 | -7°50.3 | -7°51.2 | -7°52.2 | -0.9 |
| Je 14 | 273°28.4 | 288°28.5 | 303°28.6 | 318°28.8 | 333°28.9 | 348°29.1 | 3°29.2 | 18°29.4 | 33°29.5 | 48°29.7 | 63°29.8 | 78°30.0 | +0.1 |
| | -8°04.3 | -8°05.2 | -8°06.1 | -8°07.1 | -8°08.0 | -8°08.9 | -8°09.9 | -8°10.8 | -8°11.7 | -8°12.6 | -8°13.6 | -8°14.5 | -0.9 |
| Ve 15 | 273°31.8 | 288°32.0 | 303°32.1 | 318°32.3 | 333°32.4 | 348°32.5 | 3°32.7 | 18°32.8 | 33°33.0 | 48°33.1 | 63°33.2 | 78°33.4 | +0.1 |
| | -8°26.5 | -8°27.5 | -8°28.4 | -8°29.3 | -8°30.2 | -8°31.2 | -8°32.1 | -8°33.0 | -8°33.9 | -8°34.9 | -8°35.8 | -8°36.7 | -0.9 |
| Sa 16 | 273°35.2 | 288°35.3 | 303°35.5 | 318°35.6 | 333°35.7 | 348°35.9 | 3°36.0 | 18°36.1 | 33°36.3 | 48°36.4 | 63°36.5 | 78°36.7 | +0.1 |
| | -8°48.7 | -8°49.6 | -8°50.5 | -8°51.4 | -8°52.4 | -8°53.3 | -8°54.2 | -8°55.1 | -8°56.0 | -8°57.0 | -8°57.9 | -8°58.8 | -0.9 |
| Di 17 | 273°38.4 | 288°38.5 | 303°38.6 | 318°38.8 | 333°38.9 | 348°39.0 | 3°39.2 | 18°39.3 | 33°39.4 | 48°39.5 | 63°39.7 | 78°39.8 | +0.1 |
| | -9°10.7 | -9°11.6 | -9°12.5 | -9°13.5 | -9°14.4 | -9°15.3 | -9°16.2 | -9°17.1 | -9°18.0 | -9°18.9 | -9°19.8 | -9°20.8 | -0.9 |
| Lu 18 | 273°41.4 | 288°41.6 | 303°41.7 | 318°41.8 | 333°41.9 | 348°42.0 | 3°42.2 | 18°42.3 | 33°42.4 | 48°42.5 | 63°42.7 | 78°42.8 | +0.1 |
| | -9°32.6 | -9°33.5 | -9°34.4 | -9°35.3 | -9°36.2 | -9°37.1 | -9°38.1 | -9°39.0 | -9°39.9 | -9°40.8 | -9°41.7 | -9°42.6 | -0.9 |
| Ma 19 | 273°44.3 | 288°44.4 | 303°44.6 | 318°44.7 | 333°44.8 | 348°44.9 | 3°45.0 | 18°45.1 | 33°45.3 | 48°45.4 | 63°45.5 | 78°45.6 | +0.1 |
| | -9°54.4 | -9°55.3 | -9°56.2 | -9°57.1 | -9°58.0 | -9°58.9 | -9°59.8 | -10°00.7 | -10°01.6 | -10°02.5 | -10°03.4 | -10°04.3 | -0.9 |
| Me 20 | 273°47.1 | 288°47.2 | 303°47.3 | 318°47.4 | 333°47.5 | 348°47.6 | 3°47.7 | 18°47.8 | 33°47.9 | 48°48.1 | 63°48.2 | 78°48.3 | +0.1 |
| | -10°16.0 | -10°16.9 | -10°17.8 | -10°18.7 | -10°19.6 | -10°20.5 | -10°21.4 | -10°22.2 | -10°23.1 | -10°24.0 | -10°24.9 | -10°25.8 | -0.9 |
| Je 21 | 273°49.6 | 288°49.8 | 303°49.9 | 318°50.0 | 333°50.1 | 348°50.2 | 3°50.3 | 18°50.4 | 33°50.5 | 48°50.6 | 63°50.7 | 78°50.8 | +0.1 |
| | -10°37.4 | -10°38.3 | -10°39.2 | -10°40.1 | -10°41.0 | -10°41.9 | -10°42.8 | -10°43.7 | -10°44.6 | -10°45.4 | -10°46.3 | -10°47.2 | -0.9 |
| Ve 22 | 273°52.1 | 288°52.2 | 303°52.2 | 318°52.3 | 333°52.4 | 348°52.5 | 3°52.6 | 18°52.7 | 33°52.8 | 48°52.9 | 63°53.0 | 78°53.1 | +0.1 |
| | -10°58.7 | -10°59.6 | -11°00.5 | -11°01.4 | -11°02.3 | -11°03.2 | -11°04.1 | -11°04.9 | -11°05.8 | -11°06.7 | -11°07.6 | -11°08.5 | -0.9 |
| Sa 23 | 273°54.3 | 288°54.4 | 303°54.5 | 318°54.6 | 333°54.6 | 348°54.7 | 3°54.8 | 18°54.9 | 33°55.0 | 48°55.1 | 63°55.2 | 78°55.3 | +0.1 |
| | -11°19.9 | -11°20.8 | -11°21.7 | -11°22.5 | -11°23.4 | -11°24.3 | -11°25.2 | -11°26.0 | -11°26.9 | -11°27.8 | -11°28.7 | -11°29.5 | -0.9 |
| Di 24 | 273°56.3 | 288°56.4 | 303°56.5 | 318°56.6 | 333°56.7 | 348°56.8 | 3°56.8 | 18°56.9 | 33°57.0 | 48°57.1 | 63°57.2 | 78°57.2 | +0.1 |
| | -11°40.9 | -11°41.7 | -11°42.6 | -11°43.5 | -11°44.4 | -11°45.2 | -11°46.1 | -11°47.0 | -11°47.8 | -11°48.7 | -11°49.6 | -11°50.4 | -0.9 |
| Lu 25 | 273°58.2 | 288°58.3 | 303°58.4 | 318°58.4 | 333°58.5 | 348°58.6 | 3°58.7 | 18°58.7 | 33°58.8 | 48°58.9 | 63°59.0 | 78°59.0 | +0.1 |
| | -12°01.7 | -12°02.5 | -12°03.4 | -12°04.3 | -12°05.1 | -12°06.0 | -12°06.9 | -12°07.7 | -12°08.6 | -12°09.4 | -12°10.3 | -12°11.2 | -0.9 |
| Ma 26 | 273°59.9 | 289°00.0 | 304°00.1 | 319°00.1 | 334°00.2 | 349°00.2 | 4°00.3 | 19°00.4 | 34°00.4 | 49°00.5 | 64°00.6 | 79°00.6 | +0.1 |
| | -12°22.3 | -12°23.2 | -12°24.0 | -12°24.9 | -12°25.7 | -12°26.6 | -12°27.4 | -12°28.3 | -12°29.1 | -12°30.0 | -12°30.8 | -12°31.7 | -0.9 |
| Me 27 | 274°01.4 | 289°01.5 | 304°01.5 | 319°01.6 | 334°01.7 | 349°01.7 | 4°01.8 | 19°01.8 | 34°01.9 | 49°01.9 | 64°02.0 | 79°02.1 | +0.1 |
| | -12°42.7 | -12°43.6 | -12°44.4 | -12°45.3 | -12°46.1 | -12°47.0 | -12°47.8 | -12°48.7 | -12°49.5 | -12°50.3 | -12°51.2 | -12°52.0 | -0.8 |
| Je 28 | 274°02.8 | 289°02.8 | 304°02.9 | 319°02.9 | 334°03.0 | 349°03.0 | 4°03.1 | 19°03.1 | 34°03.1 | 49°03.2 | 64°03.2 | 79°03.3 | +0.0 |
| | -13°03.0 | -13°03.8 | -13°04.6 | -13°05.5 | -13°06.3 | -13°07.2 | -13°08.0 | -13°08.8 | -13°09.7 | -13°10.5 | -13°11.3 | -13°12.2 | -0.8 |
| Ve 29 | 274°03.9 | 289°03.9 | 304°04.0 | 319°04.0 | 334°04.1 | 349°04.1 | 4°04.1 | 19°04.2 | 34°04.2 | 49°04.3 | 64°04.3 | 79°04.3 | +0.0 |
| | -13°23.0 | -13°23.8 | -13°24.7 | -13°25.5 | -13°26.3 | -13°27.1 | -13°28.0 | -13°28.8 | -13°29.6 | -13°30.5 | -13°31.3 | -13°32.1 | -0.8 |
| Sa 30 | 274°04.8 | 289°04.9 | 304°04.9 | 319°04.9 | 334°05.0 | 349°05.0 | 4°05.0 | 19°05.1 | 34°05.1 | 49°05.1 | 64°05.2 | 79°05.2 | +0.0 |
| | -13°42.8 | -13°43.6 | -13°44.5 | -13°45.3 | -13°46.1 | -13°46.9 | -13°47.7 | -13°48.6 | -13°49.4 | -13°50.2 | -13°51.0 | -13°51.8 | -0.8 |
| Di 31 | 274°05.6 | 289°05.6 | 304°05.6 | 319°05.6 | 334°05.7 | 349°05.7 | 4°05.7 | 19°05.7 | 34°05.8 | 49°05.8 | 64°05.8 | 79°05.8 | +0.0 |
| | -14°02.4 | -14°03.2 | -14°04.0 | -14°04.9 | -14°05.7 | -14°06.5 | -14°07.3 | -14°08.1 | -14°08.9 | -14°09.7 | -14°10.5 | -14°11.3 | -0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2027

| J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 245°44.8 | 260°14.0 | 274°43.1 | 289°12.3 | 303°41.4 | 318°10.4 | 332°39.5 | 347°08.5 | 1°37.4 | 16°06.4 | 30°35.3 | +29.1 | 16.0 |
| | -13°15.5 | -13°29.7 | -13°43.7 | -13°57.7 | -14°11.6 | -14°25.4 | -14°39.1 | -14°52.7 | -15°06.2 | -15°19.6 | -15°33.0 | -13.7 | 58.8 |
| Sa 2 | 247°44.6 | 262°13.0 | 276°41.3 | 291°09.5 | 305°37.7 | 320°05.9 | 334°34.1 | 349°02.2 | 3°30.3 | 17°58.4 | 32°26.4 | +28.2 | 15.8 |
| | -18°40.0 | -18°51.6 | -19°03.0 | -19°14.4 | -19°25.6 | -19°36.7 | -19°47.7 | -19°58.5 | -20°09.2 | -20°19.8 | -20°30.3 | -11.0 | 58.0 |
| Di 3 | 249°22.8 | 263°50.3 | 278°17.8 | 292°45.2 | 307°12.7 | 321°40.1 | 336°07.5 | 350°34.9 | 5°02.3 | 19°29.6 | 33°56.9 | +27.4 | 15.6 |
| | -22°51.7 | -23°00.0 | -23°08.2 | -23°16.3 | -23°24.2 | -23°32.0 | -23°39.6 | -23°47.1 | -23°54.5 | -24°01.7 | -24°08.8 | -7.7 | 57.1 |
| Lu 4 | 250°45.0 | 265°12.1 | 279°39.2 | 294°06.4 | 308°33.5 | 323°00.6 | 337°27.8 | 351°54.9 | 6°22.0 | 20°49.2 | 35°16.3 | +27.1 | 15.3 |
| | -25°37.5 | -25°42.2 | -25°46.8 | -25°51.3 | -25°55.6 | -25°59.7 | -26°03.7 | -26°07.6 | -26°11.3 | -26°14.8 | -26°18.2 | -4.1 | 56.3 |
| Ma 5 | 252°05.4 | 266°32.8 | 281°00.3 | 295°27.8 | 309°55.3 | 324°22.9 | 338°50.5 | 353°18.1 | 7°45.7 | 22°13.4 | 36°41.2 | +27.6 | 15.1 |
| | -26°51.6 | -26°52.6 | -26°53.5 | -26°54.3 | -26°54.9 | -26°55.4 | -26°55.7 | -26°55.9 | -26°56.0 | -26°55.9 | -26°55.6 | -0.4 | 55.5 |
| Me 6 | 253°42.3 | 268°10.7 | 282°39.2 | 297°07.8 | 311°36.4 | 326°05.1 | 340°33.8 | 355°02.6 | 9°31.5 | 24°00.4 | 38°29.3 | +28.7 | 15.0 |
| | -26°35.4 | -26°32.9 | -26°30.4 | -26°27.6 | -26°24.8 | -26°21.9 | -26°18.8 | -26°15.5 | -26°12.2 | -26°08.7 | -26°05.1 | +3.0 | 54.9 |
| ◐ Je 7 | 255°51.3 | 270°21.3 | 284°51.4 | 299°21.5 | 313°51.7 | 328°21.9 | 342°52.3 | 357°22.6 | 11°53.1 | 26°23.6 | 40°54.2 | +30.3 | 14.9 |
| | -24°56.4 | -24°50.8 | -24°45.2 | -24°39.5 | -24°33.6 | -24°27.6 | -24°21.5 | -24°15.3 | -24°09.0 | -24°02.6 | -23°56.1 | +6.0 | 54.5 |
| Ve 8 | 258°41.3 | 273°13.0 | 287°44.7 | 302°16.5 | 316°48.4 | 331°20.4 | 345°52.4 | 0°24.5 | 14°56.6 | 29°28.8 | 44°01.1 | +32.0 | 14.8 |
| | -22°06.0 | -21°57.8 | -21°49.6 | -21°41.3 | -21°32.9 | -21°24.4 | -21°15.8 | -21°07.1 | -20°58.4 | -20°49.5 | -20°40.6 | +8.5 | 54.2 |
| Sa 9 | 262°12.5 | 276°45.7 | 291°19.0 | 305°52.4 | 320°25.8 | 334°59.2 | 349°32.7 | 4°06.3 | 18°39.9 | 33°13.5 | 47°47.3 | +33.5 | 14.8 |
| | -18°16.7 | -18°06.5 | -17°56.2 | -17°45.8 | -17°35.4 | -17°24.9 | -17°14.3 | -17°03.6 | -16°52.9 | -16°42.1 | -16°31.3 | +10.5 | 54.1 |
| Di 10 | 266°18.5 | 280°52.9 | 295°27.3 | 310°01.8 | 324°36.4 | 339°10.9 | 353°45.5 | 8°20.1 | 22°54.8 | 37°29.5 | 52°04.2 | +34.6 | 14.8 |
| | -13°40.9 | -13°29.0 | -13°17.1 | -13°05.2 | -12°53.2 | -12°41.1 | -12°29.0 | -12°16.9 | -12°04.7 | -11°52.4 | -11°40.1 | +12.1 | 54.2 |
| Lu 11 | 270°48.2 | 285°23.3 | 299°58.4 | 314°33.6 | 329°08.7 | 343°43.9 | 358°19.0 | 12°54.2 | 27°29.4 | 42°04.6 | 56°39.8 | +35.2 | 14.9 |
| | -8°30.0 | -8°17.0 | -8°04.0 | -7°50.9 | -7°37.8 | -7°24.6 | -7°11.5 | -6°58.2 | -6°45.0 | -6°31.7 | -6°18.4 | +13.2 | 54.5 |
| Ma 12 | 275°28.3 | 290°03.5 | 304°38.7 | 319°13.9 | 333°49.0 | 348°24.2 | 2°59.4 | 17°34.5 | 32°09.6 | 46°44.7 | 61°19.8 | +35.2 | 15.0 |
| | -2°55.3 | -2°41.6 | -2°27.8 | -2°14.1 | -2°00.3 | -1°46.5 | -1°32.7 | -1°18.8 | -1°05.0 | -0°51.1 | -0°37.3 | +13.8 | 54.9 |
| Me 13 | 280°03.6 | 294°38.3 | 309°13.0 | 323°47.6 | 338°22.2 | 352°56.8 | 7°31.3 | 22°05.7 | 36°40.2 | 51°14.6 | 65°48.9 | +34.5 | 15.1 |
| | 2°51.7 | 3°05.7 | 3°19.7 | 3°33.6 | 3°47.6 | 4°01.5 | 4°15.5 | 4°29.4 | 4°43.3 | 4°57.2 | 5°11.2 | +13.9 | 55.3 |
| Je 14 | 284°18.6 | 298°52.2 | 313°25.6 | 327°59.1 | 342°32.5 | 357°05.8 | 11°39.0 | 26°12.2 | 40°45.3 | 55°18.4 | 69°51.4 | +33.3 | 15.2 |
| | 8°38.0 | 8°51.6 | 9°05.2 | 9°18.8 | 9°32.4 | 9°45.9 | 9°59.4 | 10°12.8 | 10°26.2 | 10°39.6 | 10°52.9 | +13.5 | 55.9 |
| ○ Ve 15 | 287°57.6 | 302°29.4 | 317°01.1 | 331°32.8 | 346°04.3 | 0°35.8 | 15°07.2 | 29°38.5 | 44°09.8 | 58°40.9 | 73°11.9 | +31.4 | 15.4 |
| | 14°08.0 | 14°20.6 | 14°33.2 | 14°45.7 | 14°58.1 | 15°10.5 | 15°22.8 | 15°35.0 | 15°47.2 | 15°59.3 | 16°11.4 | +12.3 | 56.4 |
| Sa 16 | 290°46.9 | 305°16.5 | 319°46.0 | 334°15.4 | 348°44.7 | 3°13.9 | 17°43.0 | 32°12.0 | 46°41.0 | 61°09.8 | 75°38.5 | +29.2 | 15.5 |
| | 19°03.1 | 19°13.9 | 19°24.6 | 19°35.2 | 19°45.7 | 19°56.2 | 20°06.5 | 20°16.7 | 20°26.8 | 20°36.8 | 20°46.8 | +10.4 | 56.9 |
| Di 17 | 292°37.9 | 307°05.1 | 321°32.2 | 335°59.3 | 350°26.2 | 4°53.0 | 19°19.8 | 33°46.4 | 48°13.0 | 62°39.5 | 77°05.9 | +26.8 | 15.7 |
| | 23°02.2 | 23°10.3 | 23°18.3 | 23°26.1 | 23°33.8 | 23°41.4 | 23°48.8 | 23°56.1 | 24°03.3 | 24°10.3 | 24°17.2 | +7.5 | 57.4 |
| Lu 18 | 293°32.1 | 307°57.2 | 322°22.3 | 336°47.3 | 351°12.3 | 5°37.2 | 20°02.0 | 34°26.8 | 48°51.5 | 63°16.1 | 77°40.7 | +24.9 | 15.8 |
| | 25°43.3 | 25°47.9 | 25°52.2 | 25°56.5 | 26°00.5 | 26°04.4 | 26°08.2 | 26°11.7 | 26°15.2 | 26°18.4 | 26°21.5 | +3.8 | 57.9 |
| Ma 19 | 293°44.6 | 308°08.5 | 322°32.5 | 336°56.5 | 351°20.4 | 5°44.3 | 20°08.2 | 34°32.1 | 48°56.0 | 63°19.9 | 77°43.8 | +23.9 | 15.9 |
| | 26°47.7 | 26°48.0 | 26°48.2 | 26°48.3 | 26°48.1 | 26°47.8 | 26°47.3 | 26°46.6 | 26°45.8 | 26°44.8 | 26°43.6 | -0.4 | 58.3 |
| Me 20 | 308°08.5 | 322°32.5 | 336°56.5 | 351°20.4 | 5°44.3 | 20°08.2 | 34°32.1 | 48°56.0 | 63°19.9 | 77°43.8 | 92°07.6 | +23.9 | 15.9 |
| | 26°48.0 | 26°48.2 | 26°48.3 | 26°48.1 | 26°47.8 | 26°47.3 | 26°46.6 | 26°45.8 | 26°44.8 | 26°43.6 | 26°42.2 | -0.6 | 58.3 |
| Je 21 | 308°06.7 | 322°30.8 | 336°54.9 | 351°19.1 | 5°43.3 | 20°07.5 | 34°31.8 | 48°56.1 | 63°20.4 | 77°44.8 | 92°09.2 | +24.2 | 16.0 |
| | 26°00.8 | 25°56.7 | 25°52.4 | 25°47.9 | 25°43.2 | 25°38.4 | 25°33.4 | 25°28.3 | 25°22.9 | 25°17.5 | 25°11.8 | -4.9 | 58.7 |
| ◑ Ve 22 | 308°21.7 | 322°47.0 | 337°12.4 | 351°37.8 | 6°03.3 | 20°28.8 | 34°54.5 | 49°20.1 | 63°45.9 | 78°11.7 | 92°37.6 | +25.6 | 16.1 |
| | 23°27.8 | 23°19.6 | 23°11.3 | 23°02.8 | 22°54.2 | 22°45.5 | 22°36.5 | 22°27.5 | 22°18.3 | 22°09.0 | 21°59.5 | -8.8 | 59.0 |
| Sa 23 | 309°14.5 | 323°41.5 | 338°08.6 | 352°35.8 | 7°03.0 | 21°30.3 | 35°57.7 | 50°25.2 | 64°52.7 | 79°20.3 | 93°48.0 | +27.4 | 16.2 |
| | 19°21.6 | 19°10.1 | 18°58.4 | 18°46.7 | 18°34.8 | 18°22.8 | 18°10.7 | 17°58.5 | 17°46.2 | 17°33.8 | 17°21.3 | -12.0 | 59.2 |
| Di 24 | 310°51.3 | 325°20.0 | 339°48.8 | 354°17.7 | 8°46.6 | 23°15.5 | 37°44.6 | 52°13.6 | 66°42.8 | 81°12.0 | 95°41.2 | +29.0 | 16.2 |
| | 14°01.9 | 13°47.9 | 13°33.9 | 13°19.7 | 13°05.5 | 12°51.2 | 12°36.8 | 12°22.4 | 12°07.9 | 11°53.3 | 11°38.6 | -14.3 | 59.4 |
| Lu 25 | 313°05.8 | 327°35.7 | 342°05.8 | 356°35.8 | 11°05.9 | 25°36.0 | 40°06.2 | 54°36.4 | 69°06.6 | 83°36.8 | 98°07.1 | +30.1 | 16.2 |
| | 7°51.8 | 7°36.3 | 7°20.8 | 7°05.2 | 6°49.5 | 6°33.9 | 6°18.1 | 6°02.4 | 5°46.6 | 5°30.8 | 5°15.0 | -15.7 | 59.4 |
| Ma 26 | 315°43.8 | 330°14.3 | 344°44.9 | 359°15.5 | 13°46.1 | 28°16.7 | 42°47.3 | 57°17.9 | 71°48.5 | 86°19.1 | 100°49.7 | +30.6 | 16.2 |
| | 1°15.1 | 0°59.1 | 0°43.0 | 0°26.9 | 0°10.8 | -0°05.3 | -0°21.4 | -0°37.4 | -0°53.5 | -1°09.6 | -1°25.6 | -16.1 | 59.3 |
| Me 27 | 318°28.2 | 332°58.6 | 347°29.1 | 1°59.5 | 16°29.9 | 31°00.3 | 45°30.7 | 60°01.0 | 74°31.3 | 89°01.6 | 103°31.9 | +30.4 | 16.1 |
| | -5°24.2 | -5°39.9 | -5°55.6 | -6°11.2 | -6°26.8 | -6°42.4 | -6°57.9 | -7°13.3 | -7°28.7 | -7°44.1 | -7°59.4 | -15.5 | 59.1 |
| Je 28 | 321°02.4 | 335°32.1 | 350°01.8 | 4°31.5 | 19°01.2 | 33°30.8 | 48°00.3 | 62°29.8 | 76°59.3 | 91°28.8 | 105°58.1 | +29.6 | 16.0 |
| | -11°42.6 | -11°57.0 | -12°11.3 | -12°25.5 | -12°39.6 | -12°53.7 | -13°07.7 | -13°21.6 | -13°35.4 | -13°49.2 | -14°02.9 | -14.0 | 58.6 |
| ● Ve 29 | 323°13.6 | 337°42.3 | 352°10.9 | 6°39.5 | 21°08.0 | 35°36.5 | 50°04.9 | 64°33.3 | 79°01.6 | 93°29.9 | 107°58.1 | +28.4 | 15.8 |
| | -17°16.9 | -17°29.1 | -17°41.1 | -17°53.1 | -18°04.9 | -18°16.6 | -18°28.2 | -18°39.7 | -18°51.1 | -19°02.4 | -19°13.5 | -11.7 | 58.1 |
| Sa 30 | 324°56.2 | 339°23.7 | 353°51.2 | 8°18.7 | 22°46.1 | 37°13.5 | 51°40.8 | 66°08.1 | 80°35.4 | 95°02.6 | 109°29.8 | +27.4 | 15.7 |
| | -21°46.3 | -21°55.5 | -22°04.5 | -22°13.4 | -22°22.2 | -22°30.8 | -22°39.3 | -22°47.6 | -22°55.9 | -23°03.9 | -23°11.9 | -8.6 | 57.4 |
| Di 31 | 326°14.4 | 340°41.2 | 355°08.0 | 9°34.7 | 24°01.5 | 38°28.2 | 52°54.9 | 67°21.7 | 81°48.4 | 96°15.1 | 110°41.8 | +26.7 | 15.5 |
| | -24°53.9 | -24°59.5 | -25°05.0 | -25°10.4 | -25°15.6 | -25°20.6 | -25°25.5 | -25°30.2 | -25°34.8 | -25°39.3 | -25°43.5 | -5.0 | 56.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 7 11h47 — PL: 15 13h47 — DQ: 22 17h29 — NL: 29 13h36

# SOLEIL

## Novembre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 274°06.1 | 289°06.1 | 304°06.2 | 319°06.2 | 334°06.2 | 349°06.2 | 4°06.2 | 19°06.2 | 34°06.3 | 49°06.3 | 64°06.3 | 79°06.3 | +0.0 |
| | -14°21.8 | -14°22.6 | -14°23.4 | -14°24.2 | -14°25.0 | -14°25.8 | -14°26.6 | -14°27.4 | -14°28.2 | -14°29.0 | -14°29.8 | -14°30.6 | -0.8 |
| **Ma 2** | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°40.9 | -14°41.7 | -14°42.5 | -14°43.3 | -14°44.1 | -14°44.9 | -14°45.7 | -14°46.5 | -14°47.3 | -14°48.1 | -14°48.9 | -14°49.6 | -0.8 |
| **Me 3** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°59.9 | -15°00.6 | -15°01.4 | -15°02.2 | -15°03.0 | -15°03.8 | -15°04.5 | -15°05.3 | -15°06.1 | -15°06.9 | -15°07.7 | -15°08.4 | -0.8 |
| **Je 4** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.5 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.5 | 64°06.5 | 79°06.5 | -0.0 |
| | -15°18.5 | -15°19.3 | -15°20.1 | -15°20.8 | -15°21.6 | -15°22.4 | -15°23.1 | -15°23.9 | -15°24.7 | -15°25.5 | -15°26.2 | -15°27.0 | -0.8 |
| **Ve 5** | 274°06.3 | 289°06.3 | 304°06.3 | 319°06.3 | 334°06.3 | 349°06.3 | 4°06.2 | 19°06.2 | 34°06.2 | 49°06.2 | 64°06.2 | 79°06.2 | -0.0 |
| | -15°36.9 | -15°37.7 | -15°38.5 | -15°39.2 | -15°40.0 | -15°40.7 | -15°41.5 | -15°42.3 | -15°43.0 | -15°43.8 | -15°44.5 | -15°45.3 | -0.8 |
| **Sa 6** | 274°05.9 | 289°05.9 | 304°05.8 | 319°05.8 | 334°05.8 | 349°05.8 | 4°05.7 | 19°05.7 | 34°05.7 | 49°05.7 | 64°05.6 | 79°05.6 | -0.0 |
| | -15°55.1 | -15°55.8 | -15°56.6 | -15°57.3 | -15°58.1 | -15°58.8 | -15°59.6 | -16°00.3 | -16°01.1 | -16°01.8 | -16°02.6 | -16°03.3 | -0.7 |
| **Di 7** | 274°05.2 | 289°05.2 | 304°05.2 | 319°05.1 | 334°05.1 | 349°05.1 | 4°05.0 | 19°05.0 | 34°05.0 | 49°04.9 | 64°04.9 | 79°04.9 | -0.0 |
| | -16°13.0 | -16°13.7 | -16°14.4 | -16°15.2 | -16°15.9 | -16°16.7 | -16°17.4 | -16°18.1 | -16°18.9 | -16°19.6 | -16°20.3 | -16°21.1 | -0.7 |
| **Lu 8** | 274°04.4 | 289°04.3 | 304°04.3 | 319°04.3 | 334°04.2 | 349°04.2 | 4°04.1 | 19°04.1 | 34°04.1 | 49°04.0 | 64°04.0 | 79°03.9 | -0.0 |
| | -16°30.6 | -16°31.3 | -16°32.0 | -16°32.8 | -16°33.5 | -16°34.2 | -16°34.9 | -16°35.7 | -16°36.4 | -16°37.1 | -16°37.8 | -16°38.6 | -0.7 |
| **Ma 9** | 274°03.3 | 289°03.3 | 304°03.2 | 319°03.2 | 334°03.1 | 349°03.1 | 4°03.0 | 19°03.0 | 34°02.9 | 49°02.9 | 64°02.8 | 79°02.8 | -0.1 |
| | -16°47.9 | -16°48.6 | -16°49.3 | -16°50.1 | -16°50.8 | -16°51.5 | -16°52.2 | -16°52.9 | -16°53.6 | -16°54.3 | -16°55.1 | -16°55.8 | -0.7 |
| **Me 10** | 274°02.0 | 289°02.0 | 304°01.9 | 319°01.9 | 334°01.8 | 349°01.8 | 4°01.7 | 19°01.6 | 34°01.6 | 49°01.5 | 64°01.5 | 79°01.4 | -0.1 |
| | -17°05.0 | -17°05.7 | -17°06.4 | -17°07.1 | -17°07.8 | -17°08.5 | -17°09.2 | -17°09.9 | -17°10.6 | -17°11.3 | -17°12.0 | -17°12.7 | -0.7 |
| **Je 11** | 274°00.6 | 289°00.5 | 304°00.4 | 319°00.4 | 334°00.3 | 349°00.2 | 4°00.2 | 19°00.1 | 34°00.0 | 49°00.0 | 63°59.9 | 78°59.8 | -0.1 |
| | -17°21.7 | -17°22.4 | -17°23.1 | -17°23.8 | -17°24.5 | -17°25.2 | -17°25.9 | -17°26.6 | -17°27.2 | -17°27.9 | -17°28.6 | -17°29.3 | -0.7 |
| **Ve 12** | 273°58.9 | 288°58.8 | 303°58.7 | 318°58.7 | 333°58.6 | 348°58.5 | 3°58.4 | 18°58.3 | 33°58.3 | 48°58.2 | 63°58.1 | 78°58.0 | -0.1 |
| | -17°38.2 | -17°38.9 | -17°39.5 | -17°40.2 | -17°40.9 | -17°41.6 | -17°42.2 | -17°42.9 | -17°43.6 | -17°44.3 | -17°44.9 | -17°45.6 | -0.7 |
| **Sa 13** | 273°57.0 | 288°56.9 | 303°56.8 | 318°56.7 | 333°56.6 | 348°56.6 | 3°56.5 | 18°56.4 | 33°56.3 | 48°56.2 | 63°56.1 | 78°56.0 | -0.1 |
| | -17°54.3 | -17°55.0 | -17°55.7 | -17°56.3 | -17°57.0 | -17°57.7 | -17°58.3 | -17°59.0 | -17°59.6 | -18°00.3 | -18°01.0 | -18°01.6 | -0.7 |
| **Di 14** | 273°54.9 | 288°54.8 | 303°54.7 | 318°54.6 | 333°54.5 | 348°54.4 | 3°54.3 | 18°54.2 | 33°54.1 | 48°54.0 | 63°53.9 | 78°53.8 | -0.1 |
| | -18°10.2 | -18°10.8 | -18°11.5 | -18°12.1 | -18°12.8 | -18°13.4 | -18°14.1 | -18°14.7 | -18°15.4 | -18°16.0 | -18°16.7 | -18°17.3 | -0.7 |
| **Lu 15** | 273°52.6 | 288°52.5 | 303°52.3 | 318°52.2 | 333°52.1 | 348°52.0 | 3°51.9 | 18°51.8 | 33°51.7 | 48°51.6 | 63°51.5 | 78°51.4 | -0.1 |
| | -18°25.7 | -18°26.3 | -18°27.0 | -18°27.6 | -18°28.3 | -18°28.9 | -18°29.5 | -18°30.2 | -18°30.8 | -18°31.4 | -18°32.1 | -18°32.7 | -0.6 |
| **Ma 16** | 273°50.0 | 288°49.9 | 303°49.8 | 318°49.7 | 333°49.6 | 348°49.5 | 3°49.4 | 18°49.2 | 33°49.1 | 48°49.0 | 63°48.9 | 78°48.8 | -0.1 |
| | -18°40.9 | -18°41.5 | -18°42.2 | -18°42.8 | -18°43.4 | -18°44.0 | -18°44.7 | -18°45.3 | -18°45.9 | -18°46.5 | -18°47.1 | -18°47.8 | -0.6 |
| **Me 17** | 273°47.3 | 288°47.2 | 303°47.0 | 318°46.9 | 333°46.8 | 348°46.7 | 3°46.6 | 18°46.4 | 33°46.3 | 48°46.2 | 63°46.1 | 78°45.9 | -0.1 |
| | -18°55.8 | -18°56.4 | -18°57.0 | -18°57.6 | -18°58.2 | -18°58.8 | -18°59.5 | -19°00.1 | -19°00.7 | -19°01.3 | -19°01.9 | -19°02.5 | -0.6 |
| **Je 18** | 273°44.3 | 288°44.2 | 303°44.1 | 318°43.9 | 333°43.8 | 348°43.7 | 3°43.5 | 18°43.4 | 33°43.3 | 48°43.2 | 63°43.0 | 78°42.9 | -0.1 |
| | -19°10.3 | -19°10.9 | -19°11.5 | -19°12.1 | -19°12.7 | -19°13.3 | -19°13.9 | -19°14.5 | -19°15.1 | -19°15.7 | -19°16.3 | -19°16.9 | -0.6 |
| **Ve 19** | 273°41.1 | 288°41.0 | 303°40.9 | 318°40.7 | 333°40.6 | 348°40.5 | 3°40.3 | 18°40.2 | 33°40.0 | 48°39.9 | 63°39.8 | 78°39.6 | -0.1 |
| | -19°24.5 | -19°25.1 | -19°25.7 | -19°26.3 | -19°26.9 | -19°27.4 | -19°28.0 | -19°28.6 | -19°29.2 | -19°29.8 | -19°30.3 | -19°30.9 | -0.6 |
| **Sa 20** | 273°37.8 | 288°37.6 | 303°37.5 | 318°37.3 | 333°37.2 | 348°37.0 | 3°36.9 | 18°36.7 | 33°36.6 | 48°36.4 | 63°36.3 | 78°36.1 | -0.1 |
| | -19°38.4 | -19°38.9 | -19°39.5 | -19°40.1 | -19°40.7 | -19°41.2 | -19°41.8 | -19°42.4 | -19°42.9 | -19°43.5 | -19°44.0 | -19°44.6 | -0.6 |
| **Di 21** | 273°34.2 | 288°34.0 | 303°33.9 | 318°33.7 | 333°33.6 | 348°33.4 | 3°33.2 | 18°33.1 | 33°32.9 | 48°32.8 | 63°32.6 | 78°32.5 | -0.2 |
| | -19°51.9 | -19°52.4 | -19°53.0 | -19°53.5 | -19°54.1 | -19°54.6 | -19°55.2 | -19°55.7 | -19°56.3 | -19°56.8 | -19°57.4 | -19°57.9 | -0.6 |
| **Lu 22** | 273°30.4 | 288°30.2 | 303°30.1 | 318°29.9 | 333°29.7 | 348°29.6 | 3°29.4 | 18°29.2 | 33°29.1 | 48°28.9 | 63°28.7 | 78°28.6 | -0.2 |
| | -20°05.0 | -20°05.6 | -20°06.1 | -20°06.6 | -20°07.2 | -20°07.7 | -20°08.2 | -20°08.8 | -20°09.3 | -20°09.8 | -20°10.4 | -20°10.9 | -0.5 |
| **Ma 23** | 273°26.4 | 288°26.2 | 303°26.0 | 318°25.9 | 333°25.7 | 348°25.5 | 3°25.3 | 18°25.2 | 33°25.0 | 48°24.8 | 63°24.6 | 78°24.5 | -0.2 |
| | -20°17.8 | -20°18.3 | -20°18.8 | -20°19.3 | -20°19.9 | -20°20.4 | -20°20.9 | -20°21.4 | -20°22.0 | -20°22.5 | -20°23.0 | -20°23.5 | -0.5 |
| **Me 24** | 273°22.2 | 288°22.0 | 303°21.8 | 318°21.6 | 333°21.5 | 348°21.3 | 3°21.1 | 18°20.9 | 33°20.7 | 48°20.5 | 63°20.4 | 78°20.2 | -0.2 |
| | -20°30.2 | -20°30.7 | -20°31.2 | -20°31.7 | -20°32.2 | -20°32.7 | -20°33.2 | -20°33.7 | -20°34.2 | -20°34.7 | -20°35.2 | -20°35.7 | -0.5 |
| **Je 25** | 273°17.8 | 288°17.6 | 303°17.4 | 318°17.2 | 333°17.0 | 348°16.8 | 3°16.6 | 18°16.5 | 33°16.3 | 48°16.1 | 63°15.9 | 78°15.7 | -0.2 |
| | -20°42.2 | -20°42.7 | -20°43.2 | -20°43.7 | -20°44.2 | -20°44.6 | -20°45.1 | -20°45.6 | -20°46.1 | -20°46.6 | -20°47.1 | -20°47.6 | -0.5 |
| **Ve 26** | 273°13.2 | 288°13.0 | 303°12.8 | 318°12.6 | 333°12.4 | 348°12.2 | 3°12.0 | 18°11.8 | 33°11.6 | 48°11.4 | 63°11.2 | 78°11.0 | -0.2 |
| | -20°53.8 | -20°54.3 | -20°54.8 | -20°55.2 | -20°55.7 | -20°56.2 | -20°56.7 | -20°57.1 | -20°57.6 | -20°58.1 | -20°58.6 | -20°59.0 | -0.5 |
| **Sa 27** | 273°08.4 | 288°08.2 | 303°08.0 | 318°07.8 | 333°07.6 | 348°07.4 | 3°07.2 | 18°07.0 | 33°06.8 | 48°06.6 | 63°06.4 | 78°06.1 | -0.2 |
| | -21°05.1 | -21°05.5 | -21°06.0 | -21°06.4 | -21°06.9 | -21°07.4 | -21°07.8 | -21°08.3 | -21°08.7 | -21°09.2 | -21°09.6 | -21°10.1 | -0.5 |
| **Di 28** | 273°03.4 | 288°03.2 | 303°03.0 | 318°02.8 | 333°02.6 | 348°02.4 | 3°02.2 | 18°02.0 | 33°01.7 | 48°01.5 | 63°01.3 | 78°01.1 | -0.2 |
| | -21°15.9 | -21°16.3 | -21°16.8 | -21°17.2 | -21°17.7 | -21°18.1 | -21°18.6 | -21°19.0 | -21°19.4 | -21°19.9 | -21°20.3 | -21°20.7 | -0.4 |
| **Lu 29** | 272°58.3 | 287°58.1 | 302°57.9 | 317°57.6 | 332°57.4 | 347°57.2 | 2°57.0 | 17°56.8 | 32°56.5 | 47°56.3 | 62°56.1 | 77°55.9 | -0.2 |
| | -21°26.3 | -21°26.8 | -21°27.2 | -21°27.6 | -21°28.0 | -21°28.5 | -21°28.9 | -21°29.3 | -21°29.7 | -21°30.2 | -21°30.6 | -21°31.0 | -0.4 |
| **Ma 30** | 272°53.0 | 287°52.8 | 302°52.5 | 317°52.3 | 332°52.1 | 347°51.9 | 2°51.6 | 17°51.4 | 32°51.2 | 47°50.9 | 62°50.7 | 77°50.5 | -0.2 |
| | -21°36.4 | -21°36.8 | -21°37.2 | -21°37.6 | -21°38.0 | -21°38.4 | -21°38.8 | -21°39.2 | -21°39.6 | -21°40.0 | -21°40.4 | -21°40.8 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 255°08.9 | 269°35.7 | 284°02.4 | 298°29.2 | 312°56.0 | 327°22.8 | 341°49.6 | 356°16.4 | 10°43.3 | 25°10.2 | 39°37.1 | +26.8 | 15.3 |
| | -26°18.2 | -26°20.8 | -26°23.3 | -26°25.6 | -26°27.8 | -26°29.8 | -26°31.7 | -26°33.4 | -26°35.0 | -26°36.5 | -26°37.7 | -2.0 | 56.1 |
| Ma 2 | 256°24.6 | 270°52.0 | 285°19.6 | 299°47.1 | 314°14.8 | 328°42.4 | 343°10.2 | 357°37.9 | 12°05.8 | 26°33.6 | 41°01.6 | +27.7 | 15.1 |
| | -26°39.3 | -26°38.3 | -26°37.1 | -26°35.7 | -26°34.3 | -26°32.6 | -26°30.9 | -26°29.0 | -26°27.0 | -26°24.8 | -26°22.5 | +1.7 | 55.5 |
| Me 3 | 258°07.9 | 272°36.9 | 287°05.9 | 301°34.9 | 316°04.1 | 330°33.3 | 345°02.6 | 359°32.0 | 14°01.4 | 28°30.9 | 43°00.5 | +29.3 | 15.0 |
| | -25°32.0 | -25°27.6 | -25°23.1 | -25°18.5 | -25°13.8 | -25°08.9 | -25°03.9 | -24°58.8 | -24°53.5 | -24°48.2 | -24°42.7 | +4.9 | 54.9 |
| Je 4 | 260°33.2 | 275°04.0 | 289°34.8 | 304°05.7 | 318°36.7 | 333°07.8 | 347°39.0 | 2°10.2 | 16°41.5 | 31°12.9 | 45°44.3 | +31.1 | 14.9 |
| | -23°07.5 | -23°00.3 | -22°53.0 | -22°45.6 | -22°38.1 | -22°30.5 | -22°22.8 | -22°15.0 | -22°07.1 | -21°59.1 | -21°51.0 | +7.6 | 54.5 |
| Ve 5 | 263°44.7 | 278°17.3 | 292°50.0 | 307°22.7 | 321°55.5 | 336°28.3 | 351°01.2 | 5°34.2 | 20°07.3 | 34°40.4 | 49°13.5 | +32.9 | 14.8 |
| | -19°39.3 | -19°29.9 | -19°20.3 | -19°10.7 | -19°01.1 | -18°51.3 | -18°41.5 | -18°31.6 | -18°21.6 | -18°11.5 | -18°01.4 | +9.8 | 54.2 |
| ◐ Sa 6 | 267°38.0 | 282°12.1 | 296°46.2 | 311°20.4 | 325°54.6 | 340°28.9 | 355°03.2 | 9°37.5 | 24°11.9 | 38°46.4 | 53°20.8 | +34.3 | 14.8 |
| | -15°21.3 | -15°10.1 | -14°58.9 | -14°47.6 | -14°36.2 | -14°24.8 | -14°13.3 | -14°01.8 | -13°50.2 | -13°38.6 | -13°26.9 | +11.4 | 54.2 |
| Di 7 | 272°02.6 | 286°37.6 | 301°12.7 | 315°47.8 | 330°22.9 | 344°58.0 | 359°33.2 | 14°08.3 | 28°43.6 | 43°18.8 | 57°54.0 | +35.2 | 14.8 |
| | -10°25.6 | -10°13.1 | -10°00.6 | -9°48.1 | -9°35.5 | -9°22.9 | -9°10.2 | -8°57.5 | -8°44.8 | -8°32.0 | -8°19.2 | +12.6 | 54.3 |
| Lu 8 | 276°44.2 | 291°19.6 | 305°55.0 | 320°30.4 | 335°05.8 | 349°41.2 | 4°16.6 | 18°52.0 | 33°27.4 | 48°02.8 | 62°38.1 | +35.4 | 14.9 |
| | -5°03.0 | -4°49.7 | -4°36.3 | -4°22.9 | -4°09.5 | -3°56.1 | -3°42.7 | -3°29.2 | -3°15.7 | -3°02.2 | -2°48.7 | +13.4 | 54.6 |
| Ma 9 | 281°27.1 | 296°02.2 | 310°37.2 | 325°12.3 | 339°47.3 | 354°22.3 | 8°57.2 | 23°32.2 | 38°07.1 | 52°41.9 | 67°16.8 | +35.0 | 15.0 |
| | 0°36.1 | 0°49.9 | 1°03.7 | 1°17.4 | 1°31.2 | 1°45.0 | 1°58.8 | 2°12.6 | 2°26.4 | 2°40.2 | 2°54.0 | +13.8 | 55.1 |
| Me 10 | 285°54.1 | 300°28.2 | 315°02.3 | 329°36.3 | 344°10.2 | 358°44.1 | 13°18.0 | 27°51.7 | 42°25.4 | 56°59.1 | 71°32.6 | +33.9 | 15.2 |
| | 6°20.6 | 6°34.3 | 6°48.0 | 7°01.7 | 7°15.4 | 7°29.0 | 7°42.7 | 7°56.3 | 8°09.9 | 8°23.4 | 8°37.0 | +13.6 | 55.7 |
| Je 11 | 289°48.0 | 304°20.5 | 318°52.8 | 333°25.1 | 347°57.2 | 2°29.3 | 17°01.3 | 31°33.3 | 46°05.1 | 60°36.9 | 75°08.5 | +32.1 | 15.4 |
| | 11°57.0 | 12°10.1 | 12°23.1 | 12°36.1 | 12°49.0 | 13°01.9 | 13°14.7 | 13°27.5 | 13°40.3 | 13°53.0 | 14°05.6 | +12.9 | 56.4 |
| Ve 12 | 292°52.2 | 307°22.4 | 321°52.4 | 336°22.3 | 350°52.2 | 5°21.9 | 19°51.5 | 34°21.0 | 48°50.5 | 63°19.8 | 77°49.0 | +29.7 | 15.6 |
| | 17°08.2 | 17°19.9 | 17°31.4 | 17°42.9 | 17°54.3 | 18°05.7 | 18°16.9 | 18°28.1 | 18°39.2 | 18°50.1 | 19°01.1 | +11.3 | 57.1 |
| Sa 13 | 294°54.2 | 309°21.7 | 323°49.1 | 338°16.4 | 352°43.6 | 7°10.7 | 21°37.6 | 36°04.5 | 50°31.2 | 64°57.9 | 79°24.4 | +27.0 | 15.7 |
| | 21°33.1 | 21°42.3 | 21°51.5 | 22°00.6 | 22°09.5 | 22°18.3 | 22°27.0 | 22°35.6 | 22°44.1 | 22°52.4 | 23°00.6 | +8.8 | 57.7 |
| ○ Di 14 | 295°50.8 | 310°15.8 | 324°40.7 | 339°05.5 | 353°30.3 | 7°55.0 | 22°19.6 | 36°44.1 | 51°08.5 | 65°32.9 | 79°57.1 | +24.6 | 15.9 |
| | 24°47.2 | 24°53.2 | 24°59.0 | 25°04.6 | 25°10.1 | 25°15.5 | 25°20.7 | 25°25.7 | 25°30.5 | 25°35.2 | 25°39.8 | +5.3 | 58.3 |
| Lu 15 | 295°53.8 | 310°17.2 | 324°40.5 | 339°03.8 | 353°27.0 | 7°50.2 | 22°13.4 | 36°36.6 | 50°59.7 | 65°22.9 | 79°46.0 | +23.2 | 16.0 |
| | 26°27.7 | 26°29.5 | 26°31.1 | 26°32.6 | 26°33.9 | 26°35.0 | 26°35.9 | 26°36.6 | 26°37.2 | 26°37.5 | 26°37.7 | +1.0 | 58.8 |
| Ma 16 | 295°31.6 | 309°54.7 | 324°17.8 | 338°40.9 | 353°04.1 | 7°27.3 | 21°50.5 | 36°13.8 | 50°37.1 | 65°00.4 | 79°23.8 | +23.2 | 16.1 |
| | 26°18.9 | 26°16.2 | 26°13.3 | 26°10.2 | 26°07.0 | 26°03.6 | 26°00.0 | 25°56.2 | 25°52.2 | 25°48.1 | 25°43.8 | -3.5 | 59.1 |
| Me 17 | 295°20.1 | 309°44.3 | 324°08.6 | 338°33.0 | 352°57.4 | 7°21.9 | 21°46.5 | 36°11.1 | 50°35.8 | 65°00.6 | 79°25.5 | +24.5 | 16.2 |
| | 24°18.6 | 24°11.6 | 24°04.4 | 23°57.1 | 23°49.6 | 23°42.0 | 23°34.2 | 23°26.3 | 23°18.2 | 23°09.9 | 23°01.5 | -7.7 | 59.3 |
| Je 18 | 309°44.3 | 324°08.6 | 338°33.0 | 352°57.4 | 7°21.9 | 21°46.5 | 36°11.1 | 50°35.8 | 65°00.6 | 79°25.5 | 93°50.5 | +24.6 | 16.2 |
| | 24°11.6 | 24°04.4 | 23°57.1 | 23°49.6 | 23°42.0 | 23°34.2 | 23°26.3 | 23°18.2 | 23°09.9 | 23°01.5 | 22°53.0 | -7.9 | 59.3 |
| Ve 19 | 310°14.6 | 324°40.8 | 339°07.2 | 353°33.7 | 8°00.2 | 22°26.8 | 36°53.6 | 51°20.4 | 65°47.2 | 80°14.2 | 94°41.3 | +26.7 | 16.2 |
| | 20°28.0 | 20°17.3 | 20°06.5 | 19°55.5 | 19°44.4 | 19°33.2 | 19°21.9 | 19°10.5 | 18°58.9 | 18°47.3 | 18°35.5 | -11.3 | 59.3 |
| Sa 20 | 311°37.3 | 326°05.7 | 340°34.2 | 355°02.7 | 9°31.3 | 24°00.0 | 38°28.8 | 52°57.7 | 67°26.6 | 81°55.6 | 96°24.6 | +28.7 | 16.2 |
| | 15°26.9 | 15°13.6 | 15°00.2 | 14°46.7 | 14°33.1 | 14°19.5 | 14°05.8 | 13°52.0 | 13°38.1 | 13°24.2 | 13°10.2 | -13.7 | 59.2 |
| ◑ Di 21 | 313°48.5 | 328°18.6 | 342°48.7 | 357°18.9 | 11°49.2 | 26°19.4 | 40°49.8 | 55°20.2 | 69°50.6 | 84°21.1 | 98°51.6 | +30.3 | 16.1 |
| | 9°32.7 | 9°17.8 | 9°02.8 | 8°47.8 | 8°32.7 | 8°17.6 | 8°02.5 | 7°47.3 | 7°32.1 | 7°16.9 | 7°01.6 | -15.1 | 59.1 |
| Lu 22 | 316°34.0 | 331°05.1 | 345°36.2 | 0°07.3 | 14°38.4 | 29°09.6 | 43°40.8 | 58°12.0 | 72°43.2 | 87°14.4 | 101°45.7 | +31.2 | 16.0 |
| | 3°09.4 | 2°53.8 | 2°38.2 | 2°22.6 | 2°06.9 | 1°51.3 | 1°35.6 | 1°20.0 | 1°04.3 | 0°48.7 | 0°33.0 | -15.6 | 58.8 |
| Ma 23 | 319°35.3 | 334°06.6 | 348°37.9 | 3°09.2 | 17°40.5 | 32°11.8 | 46°43.0 | 61°14.3 | 75°45.5 | 90°16.8 | 104°48.0 | +31.3 | 16.0 |
| | -3°20.7 | -3°36.2 | -3°51.6 | -4°07.0 | -4°22.4 | -4°37.7 | -4°53.0 | -5°08.3 | -5°23.6 | -5°38.8 | -5°54.0 | -15.3 | 58.5 |
| Me 24 | 322°33.7 | 337°04.5 | 351°35.3 | 6°06.1 | 20°36.8 | 35°07.5 | 49°38.2 | 64°08.8 | 78°39.4 | 93°09.9 | 107°40.5 | +30.7 | 15.9 |
| | -9°37.0 | -9°51.4 | -10°05.8 | -10°20.2 | -10°34.5 | -10°48.8 | -11°02.9 | -11°17.1 | -11°31.1 | -11°45.1 | -11°59.0 | -14.2 | 58.2 |
| Je 25 | 325°13.0 | 339°42.8 | 354°12.5 | 8°42.2 | 23°11.9 | 37°41.5 | 52°11.0 | 66°40.5 | 81°10.0 | 95°39.4 | 110°08.7 | +29.6 | 15.7 |
| | -15°19.1 | -15°31.8 | -15°44.4 | -15°56.9 | -16°09.4 | -16°21.7 | -16°34.0 | -16°46.1 | -16°58.2 | -17°10.1 | -17°22.0 | -12.3 | 57.7 |
| Ve 26 | 327°22.5 | 341°51.0 | 356°19.5 | 10°47.9 | 25°16.2 | 39°44.5 | 54°12.7 | 68°40.9 | 83°09.1 | 97°37.2 | 112°05.2 | +28.3 | 15.6 |
| | -20°07.5 | -20°17.7 | -20°27.7 | -20°37.7 | -20°47.5 | -20°57.2 | -21°06.7 | -21°16.2 | -21°25.5 | -21°34.7 | -21°43.8 | -9.6 | 57.3 |
| Sa 27 | 329°00.4 | 343°27.7 | 357°55.0 | 12°22.3 | 26°49.6 | 41°16.8 | 55°43.9 | 70°11.1 | 84°38.2 | 99°05.3 | 113°32.4 | +27.2 | 15.5 |
| | -23°44.3 | -23°51.3 | -23°58.1 | -24°04.8 | -24°11.4 | -24°17.8 | -24°24.0 | -24°30.2 | -24°36.1 | -24°42.0 | -24°47.7 | -6.3 | 56.7 |
| ● Di 28 | 330°15.8 | 344°42.7 | 359°09.4 | 13°36.2 | 28°03.0 | 42°29.8 | 56°56.6 | 71°23.4 | 85°50.2 | 100°17.0 | 114°43.9 | +26.8 | 15.3 |
| | -25°55.7 | -25°59.0 | -26°02.2 | -26°05.3 | -26°08.2 | -26°10.9 | -26°13.6 | -26°16.0 | -26°18.3 | -26°20.5 | -26°22.5 | -2.7 | 56.2 |
| Lu 29 | 331°28.1 | 345°55.3 | 0°22.5 | 14°49.7 | 29°17.0 | 43°44.3 | 58°11.6 | 72°39.0 | 87°06.4 | 101°33.9 | 116°01.4 | +27.3 | 15.2 |
| | -26°34.9 | -26°34.5 | -26°34.0 | -26°33.4 | -26°32.6 | -26°31.7 | -26°30.6 | -26°29.4 | -26°28.0 | -26°26.5 | -26°24.9 | +1.0 | 55.6 |
| Ma 30 | 333°00.3 | 347°28.7 | 1°57.1 | 16°25.6 | 30°54.2 | 45°22.9 | 59°51.6 | 74°20.4 | 88°49.2 | 103°18.1 | 117°47.1 | +28.7 | 15.0 |
| | -25°43.8 | -25°40.0 | -25°36.1 | -25°32.0 | -25°27.8 | -25°23.5 | -25°19.1 | -25°14.5 | -25°09.8 | -25°05.0 | -25°00.1 | +4.4 | 55.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 08h00 — PL: 14 03h25 — DQ: 21 00h48 — NL: 28 03h24

# SOLEIL

## Décembre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 272°47.5 | 287°47.3 | 302°47.0 | 317°46.8 | 332°46.6 | 347°46.3 | 2°46.1 | 17°45.9 | 32°45.6 | 47°45.4 | 62°45.2 | 77°44.9 | -0.2 |
| | -21°46.0 | -21°46.4 | -21°46.8 | -21°47.2 | -21°47.6 | -21°48.0 | -21°48.3 | -21°48.7 | -21°49.1 | -21°49.5 | -21°49.9 | -21°50.3 | -0.4 |
| Je 2 | 272°41.9 | 287°41.6 | 302°41.4 | 317°41.2 | 332°40.9 | 347°40.7 | 2°40.4 | 17°40.2 | 32°40.0 | 47°39.7 | 62°39.5 | 77°39.2 | -0.2 |
| | -21°55.2 | -21°55.6 | -21°56.0 | -21°56.3 | -21°56.7 | -21°57.1 | -21°57.5 | -21°57.8 | -21°58.2 | -21°58.6 | -21°58.9 | -21°59.3 | -0.4 |
| Ve 3 | 272°36.1 | 287°35.8 | 302°35.6 | 317°35.3 | 332°35.1 | 347°34.8 | 2°34.6 | 17°34.4 | 32°34.1 | 47°33.9 | 62°33.6 | 77°33.4 | -0.2 |
| | -22°04.0 | -22°04.4 | -22°04.7 | -22°05.1 | -22°05.4 | -22°05.8 | -22°06.1 | -22°06.5 | -22°06.8 | -22°07.2 | -22°07.5 | -22°07.9 | -0.4 |
| Sa 4 | 272°30.1 | 287°29.9 | 302°29.6 | 317°29.4 | 332°29.1 | 347°28.9 | 2°28.6 | 17°28.4 | 32°28.1 | 47°27.9 | 62°27.6 | 77°27.4 | -0.3 |
| | -22°12.4 | -22°12.7 | -22°13.0 | -22°13.4 | -22°13.7 | -22°14.0 | -22°14.4 | -22°14.7 | -22°15.1 | -22°15.4 | -22°15.7 | -22°16.0 | -0.3 |
| Di 5 | 272°24.1 | 287°23.8 | 302°23.5 | 317°23.3 | 332°23.0 | 347°22.8 | 2°22.5 | 17°22.3 | 32°22.0 | 47°21.7 | 62°21.5 | 77°21.2 | -0.3 |
| | -22°20.3 | -22°20.6 | -22°20.9 | -22°21.3 | -22°21.6 | -22°21.9 | -22°22.2 | -22°22.5 | -22°22.8 | -22°23.2 | -22°23.5 | -22°23.8 | -0.3 |
| Lu 6 | 272°17.8 | 287°17.6 | 302°17.3 | 317°17.1 | 332°16.8 | 347°16.5 | 2°16.3 | 17°16.0 | 32°15.7 | 47°15.5 | 62°15.2 | 77°14.9 | -0.3 |
| | -22°27.8 | -22°28.1 | -22°28.4 | -22°28.7 | -22°29.0 | -22°29.3 | -22°29.6 | -22°29.9 | -22°30.2 | -22°30.5 | -22°30.8 | -22°31.1 | -0.3 |
| Ma 7 | 272°11.5 | 287°11.2 | 302°11.0 | 317°10.7 | 332°10.4 | 347°10.2 | 2°09.9 | 17°09.6 | 32°09.3 | 47°09.1 | 62°08.8 | 77°08.5 | -0.3 |
| | -22°34.8 | -22°35.1 | -22°35.4 | -22°35.7 | -22°36.0 | -22°36.3 | -22°36.5 | -22°36.8 | -22°37.1 | -22°37.4 | -22°37.7 | -22°37.9 | -0.3 |
| Me 8 | 272°05.0 | 287°04.8 | 302°04.5 | 317°04.2 | 332°03.9 | 347°03.7 | 2°03.4 | 17°03.1 | 32°02.8 | 47°02.6 | 62°02.3 | 77°02.0 | -0.3 |
| | -22°41.5 | -22°41.7 | -22°42.0 | -22°42.3 | -22°42.5 | -22°42.8 | -22°43.0 | -22°43.3 | -22°43.6 | -22°43.8 | -22°44.1 | -22°44.3 | -0.3 |
| Je 9 | 271°58.4 | 286°58.2 | 301°57.9 | 316°57.6 | 331°57.3 | 346°57.1 | 1°56.8 | 16°56.5 | 31°56.2 | 46°55.9 | 61°55.7 | 76°55.4 | -0.3 |
| | -22°47.6 | -22°47.9 | -22°48.1 | -22°48.4 | -22°48.6 | -22°48.9 | -22°49.1 | -22°49.3 | -22°49.6 | -22°49.8 | -22°50.1 | -22°50.3 | -0.2 |
| Ve 10 | 271°51.8 | 286°51.5 | 301°51.2 | 316°50.9 | 331°50.6 | 346°50.3 | 1°50.1 | 16°49.8 | 31°49.5 | 46°49.2 | 61°48.9 | 76°48.7 | -0.3 |
| | -22°53.4 | -22°53.6 | -22°53.8 | -22°54.0 | -22°54.3 | -22°54.5 | -22°54.7 | -22°54.9 | -22°55.2 | -22°55.4 | -22°55.6 | -22°55.8 | -0.2 |
| Sa 11 | 271°45.0 | 286°44.7 | 301°44.4 | 316°44.1 | 331°43.8 | 346°43.5 | 1°43.2 | 16°43.0 | 31°42.7 | 46°42.4 | 61°42.1 | 76°41.8 | -0.3 |
| | -22°58.6 | -22°58.8 | -22°59.0 | -22°59.3 | -22°59.5 | -22°59.7 | -22°59.9 | -23°00.1 | -23°00.3 | -23°00.5 | -23°00.7 | -23°00.9 | -0.2 |
| Di 12 | 271°38.1 | 286°37.8 | 301°37.5 | 316°37.2 | 331°36.9 | 346°36.6 | 1°36.3 | 16°36.0 | 31°35.8 | 46°35.5 | 61°35.2 | 76°34.9 | -0.3 |
| | -23°03.4 | -23°03.6 | -23°03.8 | -23°04.0 | -23°04.2 | -23°04.4 | -23°04.6 | -23°04.8 | -23°05.0 | -23°05.1 | -23°05.3 | -23°05.5 | -0.2 |
| Lu 13 | 271°31.1 | 286°30.8 | 301°30.5 | 316°30.2 | 331°29.9 | 346°29.6 | 1°29.3 | 16°29.0 | 31°28.8 | 46°28.5 | 61°28.2 | 76°27.9 | -0.3 |
| | -23°07.8 | -23°08.0 | -23°08.2 | -23°08.3 | -23°08.5 | -23°08.7 | -23°08.8 | -23°09.0 | -23°09.2 | -23°09.3 | -23°09.5 | -23°09.7 | -0.2 |
| Ma 14 | 271°24.0 | 286°23.7 | 301°23.4 | 316°23.1 | 331°22.9 | 346°22.6 | 1°22.3 | 16°22.0 | 31°21.7 | 46°21.4 | 61°21.1 | 76°20.8 | -0.3 |
| | -23°11.7 | -23°11.9 | -23°12.0 | -23°12.2 | -23°12.3 | -23°12.5 | -23°12.6 | -23°12.8 | -23°12.9 | -23°13.1 | -23°13.2 | -23°13.4 | -0.1 |
| Me 15 | 271°16.9 | 286°16.6 | 301°16.3 | 316°16.0 | 331°15.7 | 346°15.4 | 1°15.1 | 16°14.8 | 31°14.5 | 46°14.2 | 61°13.9 | 76°13.6 | -0.3 |
| | -23°15.2 | -23°15.3 | -23°15.4 | -23°15.6 | -23°15.7 | -23°15.8 | -23°16.0 | -23°16.1 | -23°16.2 | -23°16.3 | -23°16.5 | -23°16.6 | -0.1 |
| Je 16 | 271°09.7 | 286°09.4 | 301°09.1 | 316°08.8 | 331°08.5 | 346°08.2 | 1°07.9 | 16°07.6 | 31°07.3 | 46°07.0 | 61°06.7 | 76°06.4 | -0.3 |
| | -23°18.1 | -23°18.3 | -23°18.4 | -23°18.5 | -23°18.6 | -23°18.7 | -23°18.8 | -23°18.9 | -23°19.0 | -23°19.1 | -23°19.3 | -23°19.4 | -0.1 |
| Ve 17 | 271°02.4 | 286°02.1 | 301°01.8 | 316°01.5 | 331°01.2 | 346°00.9 | 1°00.6 | 16°00.3 | 31°00.0 | 45°59.7 | 60°59.4 | 75°59.1 | -0.3 |
| | -23°20.7 | -23°20.8 | -23°20.9 | -23°20.9 | -23°21.0 | -23°21.1 | -23°21.2 | -23°21.3 | -23°21.4 | -23°21.5 | -23°21.6 | -23°21.7 | -0.1 |
| Sa 18 | 270°55.1 | 285°54.8 | 300°54.5 | 315°54.2 | 330°53.9 | 345°53.6 | 0°53.3 | 15°53.0 | 30°52.7 | 45°52.4 | 60°52.1 | 75°51.7 | -0.3 |
| | -23°22.7 | -23°22.8 | -23°22.9 | -23°22.9 | -23°23.0 | -23°23.1 | -23°23.2 | -23°23.2 | -23°23.3 | -23°23.4 | -23°23.4 | -23°23.5 | -0.1 |
| Di 19 | 270°47.8 | 285°47.4 | 300°47.1 | 315°46.8 | 330°46.5 | 345°46.2 | 0°45.9 | 15°45.6 | 30°45.3 | 45°45.0 | 60°44.7 | 75°44.4 | -0.3 |
| | -23°24.3 | -23°24.4 | -23°24.4 | -23°24.5 | -23°24.5 | -23°24.6 | -23°24.6 | -23°24.7 | -23°24.7 | -23°24.8 | -23°24.8 | -23°24.9 | -0.1 |
| Lu 20 | 270°40.3 | 285°40.0 | 300°39.7 | 315°39.4 | 330°39.1 | 345°38.8 | 0°38.5 | 15°38.2 | 30°37.9 | 45°37.6 | 60°37.3 | 75°36.9 | -0.3 |
| | -23°25.4 | -23°25.4 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.8 | -0.0 |
| Ma 21 | 270°32.9 | 285°32.6 | 300°32.3 | 315°32.0 | 330°31.7 | 345°31.4 | 0°31.0 | 15°30.7 | 30°30.4 | 45°30.1 | 60°29.8 | 75°29.5 | -0.3 |
| | -23°26.0 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -0.0 |
| Me 22 | 270°25.5 | 285°25.1 | 300°24.8 | 315°24.5 | 330°24.2 | 345°23.9 | 0°23.6 | 15°23.3 | 30°23.0 | 45°22.7 | 60°22.3 | 75°22.0 | -0.3 |
| | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.1 | +0.0 |
| Je 23 | 270°18.0 | 285°17.7 | 300°17.4 | 315°17.0 | 330°16.7 | 345°16.4 | 0°16.1 | 15°15.8 | 30°15.5 | 45°15.2 | 60°14.9 | 75°14.6 | -0.3 |
| | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.6 | +0.0 |
| Ve 24 | 270°10.5 | 285°10.2 | 300°09.9 | 315°09.6 | 330°09.3 | 345°08.9 | 0°08.6 | 15°08.3 | 30°08.0 | 45°07.7 | 60°07.4 | 75°07.1 | -0.3 |
| | -23°25.1 | -23°25.1 | -23°25.1 | -23°25.0 | -23°25.0 | -23°24.9 | -23°24.9 | -23°24.8 | -23°24.8 | -23°24.7 | -23°24.7 | -23°24.6 | +0.0 |
| Sa 25 | 270°03.0 | 285°02.7 | 300°02.4 | 315°02.1 | 330°01.8 | 345°01.5 | 0°01.2 | 15°00.9 | 30°00.6 | 45°00.2 | 59°59.9 | 74°59.6 | -0.3 |
| | -23°23.9 | -23°23.8 | -23°23.8 | -23°23.7 | -23°23.6 | -23°23.6 | -23°23.5 | -23°23.5 | -23°23.4 | -23°23.3 | -23°23.2 | -23°23.2 | +0.1 |
| Di 26 | 269°55.6 | 284°55.3 | 299°55.0 | 314°54.7 | 329°54.3 | 344°54.0 | 359°53.7 | 14°53.4 | 29°53.1 | 44°52.8 | 59°52.5 | 74°52.2 | -0.3 |
| | -23°22.2 | -23°22.1 | -23°22.0 | -23°21.9 | -23°21.9 | -23°21.8 | -23°21.7 | -23°21.6 | -23°21.5 | -23°21.4 | -23°21.3 | -23°21.2 | +0.1 |
| Lu 27 | 269°48.2 | 284°47.8 | 299°47.5 | 314°47.2 | 329°46.9 | 344°46.6 | 359°46.3 | 14°46.0 | 29°45.7 | 44°45.4 | 59°45.1 | 74°44.8 | -0.3 |
| | -23°20.0 | -23°19.9 | -23°19.8 | -23°19.7 | -23°19.6 | -23°19.5 | -23°19.4 | -23°19.3 | -23°19.2 | -23°19.1 | -23°19.0 | -23°18.8 | +0.1 |
| Ma 28 | 269°40.8 | 284°40.5 | 299°40.1 | 314°39.8 | 329°39.5 | 344°39.2 | 359°38.9 | 14°38.6 | 29°38.3 | 44°38.0 | 59°37.7 | 74°37.4 | -0.3 |
| | -23°17.4 | -23°17.2 | -23°17.1 | -23°17.0 | -23°16.9 | -23°16.7 | -23°16.6 | -23°16.5 | -23°16.4 | -23°16.2 | -23°16.1 | -23°16.0 | +0.1 |
| Me 29 | 269°33.4 | 284°33.1 | 299°32.8 | 314°32.5 | 329°32.2 | 344°31.9 | 359°31.6 | 14°31.3 | 29°31.0 | 44°30.7 | 59°30.4 | 74°30.1 | -0.3 |
| | -23°14.2 | -23°14.1 | -23°13.9 | -23°13.8 | -23°13.7 | -23°13.5 | -23°13.4 | -23°13.2 | -23°13.1 | -23°12.9 | -23°12.8 | -23°12.6 | +0.1 |
| Je 30 | 269°26.1 | 284°25.8 | 299°25.5 | 314°25.2 | 329°24.9 | 344°24.6 | 359°24.3 | 14°24.0 | 29°23.7 | 44°23.4 | 59°23.1 | 74°22.8 | -0.3 |
| | -23°10.6 | -23°10.5 | -23°10.3 | -23°10.2 | -23°10.0 | -23°09.8 | -23°09.7 | -23°09.5 | -23°09.3 | -23°09.2 | -23°09.0 | -23°08.8 | +0.2 |
| Ve 31 | 269°18.9 | 284°18.6 | 299°18.3 | 314°18.0 | 329°17.7 | 344°17.4 | 359°17.1 | 14°16.8 | 29°16.5 | 44°16.2 | 59°15.9 | 74°15.6 | -0.3 |
| | -23°06.6 | -23°06.4 | -23°06.2 | -23°06.1 | -23°05.9 | -23°05.7 | -23°05.5 | -23°05.3 | -23°05.1 | -23°05.0 | -23°04.8 | -23°04.6 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Décembre 2027

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 248°11.3<br>-24°10.3 | 262°41.1<br>-24°04.2 | 277°10.9<br>-23°58.0 | 291°40.7<br>-23°51.7 | 306°10.7<br>-23°45.3 | 320°40.7<br>-23°38.7 | 335°10.8<br>-23°32.1 | 349°41.0<br>-23°25.3 | 4°11.3<br>-23°18.5 | 18°41.6<br>-23°11.5 | 33°12.0<br>-23°04.4 | +30.1<br>+6.6 | 14.9<br>54.7 |
| Je 2 | 250°57.6<br>-21°06.5 | 265°29.3<br>-20°57.9 | 280°01.0<br>-20°49.2 | 294°32.8<br>-20°40.4 | 309°04.7<br>-20°31.5 | 323°36.7<br>-20°22.6 | 338°08.7<br>-20°13.6 | 352°40.8<br>-20°04.4 | 7°13.0<br>-19°55.2 | 21°45.3<br>-19°46.0 | 36°17.6<br>-19°36.6 | +32.0<br>+9.0 | 14.8<br>54.4 |
| Ve 3 | 254°31.0<br>-17°07.2 | 269°04.4<br>-16°56.7 | 283°37.9<br>-16°46.1 | 298°11.5<br>-16°35.5 | 312°45.1<br>-16°24.8 | 327°18.8<br>-16°14.0 | 341°52.5<br>-16°03.2 | 356°26.3<br>-15°52.3 | 11°00.2<br>-15°41.3 | 25°34.1<br>-15°30.3 | 40°08.1<br>-15°19.2 | +33.7<br>+10.8 | 14.8<br>54.2 |
| Sa 4 | 258°44.0<br>-12°26.6 | 273°18.8<br>-12°14.7 | 287°53.6<br>-12°02.7 | 302°28.5<br>-11°50.7 | 317°03.4<br>-11°38.7 | 331°38.3<br>-11°26.6 | 346°13.3<br>-11°14.4 | 0°48.3<br>-11°02.3 | 15°23.4<br>-10°50.1 | 29°58.5<br>-10°37.8 | 44°33.6<br>-10°25.5 | +35.0<br>+12.1 | 14.8<br>54.1 |
| Di 5 | 263°24.0<br>-7°16.7 | 277°59.6<br>-7°03.8 | 292°35.1<br>-6°50.9 | 307°10.7<br>-6°38.0 | 321°46.3<br>-6°25.1 | 336°21.9<br>-6°12.1 | 350°57.5<br>-5°59.1 | 5°33.2<br>-5°46.1 | 20°08.8<br>-5°33.1 | 34°44.5<br>-5°20.0 | 49°20.2<br>-5°06.9 | +35.6<br>+13.0 | 14.8<br>54.3 |
| ◖ Lu 6 | 268°15.5<br>-1°48.0 | 282°51.2<br>-1°34.6 | 297°26.8<br>-1°21.2 | 312°02.5<br>-1°07.8 | 326°38.1<br>-0°54.3 | 341°13.7<br>-0°40.9 | 355°49.3<br>-0°27.4 | 10°24.9<br>-0°14.0 | 25°00.5<br>-0°00.5 | 39°36.0<br>0°13.0 | 54°11.5<br>0°26.5 | +35.6<br>+13.5 | 14.9<br>54.6 |
| Ma 7 | 273°01.4<br>3°49.5 | 287°36.4<br>4°03.0 | 302°11.4<br>4°16.6 | 316°46.4<br>4°30.1 | 331°21.4<br>4°43.6 | 345°56.3<br>4°57.1 | 0°31.1<br>5°10.6 | 15°05.9<br>5°24.2 | 29°40.7<br>5°37.6 | 44°15.4<br>5°51.1 | 58°50.1<br>6°04.6 | +34.9<br>+13.5 | 15.0<br>55.1 |
| Me 8 | 277°23.3<br>9°25.0 | 291°57.0<br>9°38.2 | 306°30.7<br>9°51.3 | 321°04.3<br>10°04.5 | 335°37.8<br>10°17.6 | 350°11.2<br>10°30.7 | 4°44.5<br>10°43.8 | 19°17.8<br>10°56.8 | 33°51.0<br>11°09.8 | 48°24.2<br>11°22.8 | 62°57.2<br>11°35.7 | +33.4<br>+13.1 | 15.2<br>55.8 |
| Je 9 | 281°02.7<br>14°44.9 | 295°34.3<br>14°57.1 | 310°05.9<br>15°09.3 | 324°37.3<br>15°21.4 | 339°08.6<br>15°33.5 | 353°39.9<br>15°45.5 | 8°11.0<br>15°57.5 | 22°42.1<br>16°09.4 | 37°13.0<br>16°21.2 | 51°43.8<br>16°33.0 | 66°14.5<br>16°44.7 | +31.2<br>+12.0 | 15.4<br>56.6 |
| Ve 10 | 283°42.2<br>19°31.4 | 298°11.2<br>19°41.9 | 312°40.0<br>19°52.2 | 327°08.7<br>20°02.5 | 341°37.3<br>20°12.7 | 356°05.8<br>20°22.8 | 10°34.1<br>20°32.8 | 25°02.4<br>20°42.7 | 39°30.5<br>20°52.5 | 53°58.5<br>21°02.2 | 68°26.3<br>21°11.7 | +28.4<br>+10.0 | 15.7<br>57.4 |
| Sa 11 | 285°10.3<br>23°21.9 | 299°36.3<br>23°29.5 | 314°02.2<br>23°37.1 | 328°27.9<br>23°44.5 | 342°53.6<br>23°51.8 | 357°19.1<br>23°59.0 | 11°44.6<br>24°06.0 | 26°09.9<br>24°12.8 | 40°35.1<br>24°19.5 | 55°00.2<br>24°26.1 | 69°25.2<br>24°32.6 | +25.5<br>+7.1 | 15.9<br>58.3 |
| Di 12 | 285°28.0<br>25°50.4 | 299°51.4<br>25°54.3 | 314°14.8<br>25°58.0 | 328°38.1<br>26°01.6 | 343°01.3<br>26°05.0 | 357°24.4<br>26°08.1 | 11°47.5<br>26°11.2 | 26°10.5<br>26°14.0 | 40°33.4<br>26°16.7 | 54°56.3<br>26°19.2 | 69°19.1<br>26°21.5 | +23.1<br>+3.1 | 16.1<br>59.1 |
| ○ Lu 13 | 284°55.1<br>26°34.0 | 299°17.2<br>26°33.3 | 313°39.3<br>26°32.4 | 328°01.4<br>26°31.4 | 342°23.4<br>26°30.1 | 356°45.5<br>26°28.7 | 11°07.5<br>26°27.1 | 25°29.6<br>26°25.3 | 39°51.6<br>26°23.3 | 54°13.7<br>26°21.1 | 68°35.7<br>26°18.7 | +22.1<br>-1.5 | 16.3<br>59.7 |
| Ma 14 | 284°08.5<br>25°20.2 | 298°30.9<br>25°14.8 | 312°53.4<br>25°09.3 | 327°15.9<br>25°03.5 | 341°38.5<br>24°57.6 | 356°01.2<br>24°51.5 | 10°23.9<br>24°45.2 | 24°46.6<br>24°38.7 | 39°09.4<br>24°32.1 | 53°32.3<br>24°25.3 | 67°55.2<br>24°18.3 | +22.7<br>-6.2 | 16.4<br>60.0 |
| Me 15 | 283°47.9<br>22°13.6 | 298°12.1<br>22°04.1 | 312°36.3<br>21°54.3 | 327°00.7<br>21°44.5 | 341°25.1<br>21°34.5 | 355°49.6<br>21°24.3 | 10°14.2<br>21°14.0 | 24°38.9<br>21°03.6 | 39°03.7<br>20°53.0 | 53°28.6<br>20°42.3 | 67°53.5<br>20°31.5 | +24.6<br>-10.2 | 16.4<br>60.2 |
| Je 16 | 284°19.6<br>17°33.9 | 298°46.1<br>17°21.1 | 313°12.7<br>17°08.3 | 327°39.4<br>16°55.3 | 342°06.2<br>16°42.3 | 356°33.1<br>16°29.2 | 11°00.0<br>16°15.9 | 25°27.1<br>16°02.6 | 39°54.3<br>15°49.2 | 54°21.5<br>15°35.6 | 68°48.9<br>15°22.0 | +26.9<br>-13.2 | 16.4<br>60.1 |
| Ve 17 | 285°49.6<br>11°48.7 | 300°18.3<br>11°33.9 | 314°47.1<br>11°19.1 | 329°16.0<br>11°04.3 | 343°45.0<br>10°49.3 | 358°14.0<br>10°34.4 | 12°43.1<br>10°19.3 | 27°12.3<br>10°04.3 | 41°41.5<br>9°49.2 | 56°10.8<br>9°34.0 | 70°40.2<br>9°18.8 | +29.1<br>-15.0 | 16.3<br>59.8 |
| Sa 18 | 300°18.3<br>11°33.9 | 314°47.1<br>11°19.1 | 329°16.0<br>11°04.3 | 343°45.0<br>10°49.3 | 358°14.0<br>10°34.4 | 12°43.1<br>10°19.3 | 27°12.3<br>10°04.3 | 41°41.5<br>9°49.2 | 56°10.8<br>9°34.0 | 70°40.2<br>9°18.8 | 85°09.7<br>9°03.5 | +29.1<br>-15.0 | 16.3<br>59.7 |
| Di 19 | 302°38.9<br>5°11.0 | 317°09.3<br>4°55.3 | 331°39.7<br>4°39.6 | 346°10.2<br>4°23.9 | 0°40.7<br>4°08.1 | 15°11.3<br>3°52.4 | 29°41.9<br>3°36.6 | 44°12.6<br>3°20.9 | 58°43.3<br>3°05.1 | 73°14.0<br>2°49.4 | 87°44.8<br>2°33.6 | +30.6<br>-15.7 | 16.2<br>59.3 |
| ◑ Lu 20 | 305°30.1<br>-1°22.3 | 320°01.3<br>-1°38.0 | 334°32.5<br>-1°53.6 | 349°03.7<br>-2°09.1 | 3°35.0<br>-2°24.7 | 18°06.2<br>-2°40.2 | 32°37.5<br>-2°55.8 | 47°08.8<br>-3°11.2 | 61°40.1<br>-3°26.7 | 76°11.4<br>-3°42.1 | 90°42.7<br>-3°57.5 | +31.3<br>-15.5 | 16.0<br>58.7 |
| Ma 21 | 308°32.1<br>-7°44.1 | 323°03.4<br>-7°58.9 | 337°34.6<br>-8°13.6 | 352°05.8<br>-8°28.2 | 6°37.0<br>-8°42.8 | 21°08.2<br>-8°57.4 | 35°39.3<br>-9°11.9 | 50°10.5<br>-9°26.3 | 64°41.6<br>-9°40.7 | 79°12.7<br>-9°55.0 | 93°43.8<br>-10°09.2 | +31.2<br>-14.5 | 15.9<br>58.2 |
| Me 22 | 311°26.7<br>-13°35.3 | 325°57.3<br>-13°48.4 | 340°27.9<br>-14°01.5 | 354°58.4<br>-14°14.5 | 9°28.9<br>-14°27.4 | 23°59.3<br>-14°40.2 | 38°29.8<br>-14°53.0 | 53°00.1<br>-15°05.7 | 67°30.5<br>-15°18.3 | 82°00.8<br>-15°30.8 | 96°31.0<br>-15°43.2 | +30.4<br>-12.8 | 15.7<br>57.6 |
| Je 23 | 313°59.5<br>-18°38.3 | 328°29.0<br>-18°49.2 | 342°58.5<br>-19°00.0 | 357°27.9<br>-19°10.6 | 11°57.3<br>-19°21.2 | 26°26.7<br>-19°31.7 | 40°55.9<br>-19°42.0 | 55°25.2<br>-19°52.3 | 69°54.4<br>-20°02.4 | 84°23.5<br>-20°12.4 | 98°52.6<br>-20°22.3 | +29.3<br>-10.4 | 15.6<br>57.0 |
| Ve 24 | 316°03.2<br>-22°37.0 | 330°31.5<br>-22°45.0 | 344°59.8<br>-22°52.9 | 359°28.1<br>-23°00.7 | 13°56.3<br>-23°08.3 | 28°24.5<br>-23°15.8 | 42°52.6<br>-23°23.2 | 57°20.7<br>-23°30.4 | 71°48.7<br>-23°37.5 | 86°16.7<br>-23°44.5 | 100°44.7<br>-23°51.3 | +28.1<br>-7.4 | 15.4<br>56.5 |
| Sa 25 | 317°40.1<br>-25°17.7 | 332°07.6<br>-25°22.3 | 346°35.0<br>-25°26.8 | 1°02.4<br>-25°31.2 | 15°29.8<br>-25°35.4 | 29°57.2<br>-25°39.5 | 44°24.6<br>-25°43.4 | 58°51.9<br>-25°47.2 | 73°19.3<br>-25°50.9 | 87°46.6<br>-25°54.4 | 102°13.9<br>-25°57.8 | +27.4<br>-4.0 | 15.3<br>56.0 |
| Di 26 | 319°03.1<br>-26°30.9 | 333°30.4<br>-26°32.0 | 347°57.7<br>-26°32.9 | 2°25.0<br>-26°33.7 | 16°52.4<br>-26°34.3 | 31°19.7<br>-26°34.8 | 45°47.1<br>-26°35.1 | 60°14.5<br>-26°35.3 | 74°41.9<br>-26°35.3 | 89°09.4<br>-26°35.2 | 103°36.8<br>-26°35.0 | +27.4<br>-0.4 | 15.1<br>55.5 |
| ● Lu 27 | 320°32.5<br>-26°14.5 | 335°00.5<br>-26°12.0 | 349°28.6<br>-26°09.4 | 3°56.7<br>-26°06.7 | 18°24.8<br>-26°03.8 | 32°53.1<br>-26°00.8 | 47°21.3<br>-25°57.6 | 61°49.6<br>-25°54.4 | 76°18.0<br>-25°51.0 | 90°46.4<br>-25°47.4 | 105°14.9<br>-25°43.8 | +28.2<br>+3.1 | 15.0<br>55.1 |
| Ma 28 | 322°29.1<br>-24°33.7 | 336°58.6<br>-24°28.0 | 351°28.1<br>-24°22.3 | 5°57.7<br>-24°16.4 | 20°27.4<br>-24°10.4 | 34°57.1<br>-24°04.3 | 49°26.9<br>-23°58.1 | 63°56.8<br>-23°51.8 | 78°26.7<br>-23°45.4 | 92°56.8<br>-23°38.8 | 107°26.9<br>-23°32.2 | +29.8<br>+6.2 | 14.9<br>54.7 |
| Me 29 | 325°07.2<br>-21°39.9 | 339°38.4<br>-21°31.7 | 354°09.8<br>-21°23.3 | 8°41.2<br>-21°14.9 | 23°12.7<br>-21°06.3 | 37°44.3<br>-20°57.7 | 52°16.0<br>-20°49.0 | 66°47.7<br>-20°40.2 | 81°19.5<br>-20°31.3 | 95°51.4<br>-20°22.3 | 110°23.3<br>-20°13.3 | +31.6<br>+8.7 | 14.8<br>54.4 |
| Je 30 | 328°31.2<br>-17°47.8 | 343°04.3<br>-17°37.6 | 357°37.5<br>-17°27.2 | 12°10.7<br>-17°16.8 | 26°44.0<br>-17°06.3 | 41°17.3<br>-16°55.7 | 55°50.7<br>-16°45.1 | 70°24.2<br>-16°34.4 | 84°57.8<br>-16°23.7 | 99°31.4<br>-16°12.9 | 114°05.0<br>-16°02.0 | +33.4<br>+10.6 | 14.8<br>54.1 |
| Ve 31 | 332°37.1<br>-13°12.2 | 347°11.7<br>-13°00.4 | 1°46.3<br>-12°48.7 | 16°21.0<br>-12°36.8 | 30°55.7<br>-12°25.0 | 45°30.4<br>-12°13.0 | 60°05.3<br>-12°01.1 | 74°40.1<br>-11°49.1 | 89°15.0<br>-11°37.0 | 103°50.0<br>-11°24.9 | 118°25.0<br>-11°12.8 | +34.8<br>+11.9 | 14.7<br>54.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 05h22 — PL: 13 16h08 — DQ: 20 09h10 — NL: 27 20h12

# SOLEIL

## Janvier 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269° 11.7 | 284° 11.4 | 299° 11.1 | 314° 10.8 | 329° 10.5 | 344° 10.2 | 359° 09.9 | 14° 09.6 | 29° 09.3 | 44° 09.0 | 59° 08.7 | 74° 08.5 | -0.3 |
| | -23° 02.1 | -23° 01.9 | -23° 01.7 | -23° 01.5 | -23° 01.3 | -23° 01.1 | -23° 00.9 | -23° 00.7 | -23° 00.5 | -23° 00.3 | -23° 00.1 | -22° 59.9 | +0.2 |
| Di 2 | 269° 04.6 | 284° 04.3 | 299° 04.0 | 314° 03.7 | 329° 03.5 | 344° 03.2 | 359° 02.9 | 14° 02.6 | 29° 02.3 | 44° 02.0 | 59° 01.7 | 74° 01.4 | -0.3 |
| | -22° 57.1 | -22° 56.9 | -22° 56.7 | -22° 56.5 | -22° 56.2 | -22° 56.0 | -22° 55.8 | -22° 55.6 | -22° 55.3 | -22° 55.1 | -22° 54.9 | -22° 54.7 | +0.2 |
| Lu 3 | 268° 57.6 | 283° 57.3 | 298° 57.0 | 313° 56.8 | 328° 56.5 | 343° 56.2 | 358° 55.9 | 13° 55.6 | 28° 55.3 | 43° 55.0 | 58° 54.7 | 73° 54.4 | -0.3 |
| | -22° 51.7 | -22° 51.4 | -22° 51.2 | -22° 51.0 | -22° 50.7 | -22° 50.5 | -22° 50.3 | -22° 50.0 | -22° 49.8 | -22° 49.5 | -22° 49.3 | -22° 49.0 | +0.2 |
| Ma 4 | 268° 50.7 | 283° 50.4 | 298° 50.2 | 313° 49.9 | 328° 49.6 | 343° 49.3 | 358° 49.0 | 13° 48.7 | 28° 48.4 | 43° 48.2 | 58° 47.9 | 73° 47.6 | -0.3 |
| | -22° 45.8 | -22° 45.5 | -22° 45.3 | -22° 45.0 | -22° 44.8 | -22° 44.5 | -22° 44.3 | -22° 44.0 | -22° 43.7 | -22° 43.5 | -22° 43.2 | -22° 42.9 | +0.3 |
| Me 5 | 268° 43.9 | 283° 43.6 | 298° 43.4 | 313° 43.1 | 328° 42.8 | 343° 42.5 | 358° 42.2 | 13° 42.0 | 28° 41.7 | 43° 41.4 | 58° 41.1 | 73° 40.8 | -0.3 |
| | -22° 39.5 | -22° 39.2 | -22° 38.9 | -22° 38.6 | -22° 38.4 | -22° 38.1 | -22° 37.8 | -22° 37.5 | -22° 37.2 | -22° 37.0 | -22° 36.7 | -22° 36.4 | +0.3 |
| Je 6 | 268° 37.2 | 283° 37.0 | 298° 36.7 | 313° 36.4 | 328° 36.1 | 343° 35.9 | 358° 35.6 | 13° 35.3 | 28° 35.0 | 43° 34.8 | 58° 34.5 | 73° 34.2 | -0.3 |
| | -22° 32.7 | -22° 32.4 | -22° 32.1 | -22° 31.8 | -22° 31.5 | -22° 31.2 | -22° 30.9 | -22° 30.6 | -22° 30.3 | -22° 30.0 | -22° 29.7 | -22° 29.4 | +0.3 |
| Ve 7 | 268° 30.7 | 283° 30.4 | 298° 30.1 | 313° 29.8 | 328° 29.6 | 343° 29.3 | 358° 29.0 | 13° 28.8 | 28° 28.5 | 43° 28.2 | 58° 28.0 | 73° 27.7 | -0.3 |
| | -22° 25.4 | -22° 25.1 | -22° 24.8 | -22° 24.5 | -22° 24.2 | -22° 23.9 | -22° 23.6 | -22° 23.3 | -22° 22.9 | -22° 22.6 | -22° 22.3 | -22° 22.0 | +0.3 |
| Sa 8 | 268° 24.2 | 283° 23.9 | 298° 23.7 | 313° 23.4 | 328° 23.1 | 343° 22.9 | 358° 22.6 | 13° 22.4 | 28° 22.1 | 43° 21.8 | 58° 21.6 | 73° 21.3 | -0.3 |
| | -22° 17.8 | -22° 17.5 | -22° 17.1 | -22° 16.8 | -22° 16.5 | -22° 16.1 | -22° 15.8 | -22° 15.5 | -22° 15.1 | -22° 14.8 | -22° 14.5 | -22° 14.1 | +0.3 |
| Di 9 | 268° 17.9 | 283° 17.6 | 298° 17.4 | 313° 17.1 | 328° 16.9 | 343° 16.6 | 358° 16.3 | 13° 16.1 | 28° 15.8 | 43° 15.6 | 58° 15.3 | 73° 15.0 | -0.3 |
| | -22° 09.7 | -22° 09.3 | -22° 09.0 | -22° 08.6 | -22° 08.3 | -22° 07.9 | -22° 07.6 | -22° 07.2 | -22° 06.9 | -22° 06.5 | -22° 06.2 | -22° 05.8 | +0.4 |
| Lu 10 | 268° 11.7 | 283° 11.5 | 298° 11.2 | 313° 10.9 | 328° 10.7 | 343° 10.4 | 358° 10.2 | 13° 09.9 | 28° 09.7 | 43° 09.4 | 58° 09.2 | 73° 08.9 | -0.3 |
| | -22° 01.1 | -22° 00.8 | -22° 00.4 | -22° 00.0 | -21° 59.7 | -21° 59.3 | -21° 58.9 | -21° 58.6 | -21° 58.2 | -21° 57.8 | -21° 57.5 | -21° 57.1 | +0.4 |
| Ma 11 | 268° 05.7 | 283° 05.4 | 298° 05.2 | 313° 04.9 | 328° 04.7 | 343° 04.4 | 358° 04.2 | 13° 03.9 | 28° 03.7 | 43° 03.4 | 58° 03.2 | 73° 02.9 | -0.2 |
| | -21° 52.2 | -21° 51.8 | -21° 51.4 | -21° 51.0 | -21° 50.6 | -21° 50.2 | -21° 49.9 | -21° 49.5 | -21° 49.1 | -21° 48.7 | -21° 48.3 | -21° 47.9 | +0.4 |
| Me 12 | 267° 59.8 | 282° 59.5 | 297° 59.3 | 312° 59.0 | 327° 58.8 | 342° 58.6 | 357° 58.3 | 12° 58.1 | 27° 57.8 | 42° 57.6 | 57° 57.4 | 72° 57.1 | -0.2 |
| | -21° 42.8 | -21° 42.4 | -21° 42.0 | -21° 41.6 | -21° 41.2 | -21° 40.8 | -21° 40.4 | -21° 40.0 | -21° 39.6 | -21° 39.1 | -21° 38.7 | -21° 38.3 | +0.4 |
| Je 13 | 267° 54.0 | 282° 53.8 | 297° 53.6 | 312° 53.3 | 327° 53.1 | 342° 52.9 | 357° 52.6 | 12° 52.4 | 27° 52.1 | 42° 51.9 | 57° 51.7 | 72° 51.4 | -0.2 |
| | -21° 33.0 | -21° 32.5 | -21° 32.1 | -21° 31.7 | -21° 31.3 | -21° 30.9 | -21° 30.4 | -21° 30.0 | -21° 29.6 | -21° 29.2 | -21° 28.8 | -21° 28.3 | +0.4 |
| Ve 14 | 267° 48.4 | 282° 48.2 | 297° 48.0 | 312° 47.7 | 327° 47.5 | 342° 47.3 | 357° 47.1 | 12° 46.8 | 27° 46.6 | 42° 46.4 | 57° 46.2 | 72° 45.9 | -0.2 |
| | -21° 22.7 | -21° 22.3 | -21° 21.9 | -21° 21.4 | -21° 21.0 | -21° 20.6 | -21° 20.1 | -21° 19.7 | -21° 19.2 | -21° 18.8 | -21° 18.3 | -21° 17.9 | +0.4 |
| Sa 15 | 267° 43.0 | 282° 42.8 | 297° 42.6 | 312° 42.3 | 327° 42.1 | 342° 41.9 | 357° 41.7 | 12° 41.4 | 27° 41.2 | 42° 41.0 | 57° 40.8 | 72° 40.6 | -0.2 |
| | -21° 12.1 | -21° 11.6 | -21° 11.2 | -21° 10.7 | -21° 10.3 | -21° 09.8 | -21° 09.4 | -21° 08.9 | -21° 08.5 | -21° 08.0 | -21° 07.5 | -21° 07.1 | +0.5 |
| Di 16 | 267° 37.7 | 282° 37.5 | 297° 37.3 | 312° 37.1 | 327° 36.9 | 342° 36.6 | 357° 36.4 | 12° 36.2 | 27° 36.0 | 42° 35.8 | 57° 35.6 | 72° 35.4 | -0.2 |
| | -21° 01.0 | -21° 00.6 | -21° 00.1 | -20° 59.6 | -20° 59.2 | -20° 58.7 | -20° 58.2 | -20° 57.7 | -20° 57.3 | -20° 56.8 | -20° 56.3 | -20° 55.8 | +0.5 |
| Lu 17 | 267° 32.6 | 282° 32.4 | 297° 32.2 | 312° 32.0 | 327° 31.8 | 342° 31.6 | 357° 31.4 | 12° 31.2 | 27° 31.0 | 42° 30.7 | 57° 30.5 | 72° 30.3 | -0.2 |
| | -20° 49.6 | -20° 49.1 | -20° 48.6 | -20° 48.1 | -20° 47.6 | -20° 47.2 | -20° 46.7 | -20° 46.2 | -20° 45.7 | -20° 45.2 | -20° 44.7 | -20° 44.2 | +0.5 |
| Ma 18 | 267° 27.7 | 282° 27.5 | 297° 27.3 | 312° 27.1 | 327° 26.9 | 342° 26.7 | 357° 26.5 | 12° 26.3 | 27° 26.1 | 42° 25.9 | 57° 25.7 | 72° 25.5 | -0.2 |
| | -20° 37.7 | -20° 37.2 | -20° 36.7 | -20° 36.2 | -20° 35.7 | -20° 35.2 | -20° 34.7 | -20° 34.2 | -20° 33.7 | -20° 33.2 | -20° 32.7 | -20° 32.2 | +0.5 |
| Me 19 | 267° 22.9 | 282° 22.7 | 297° 22.5 | 312° 22.3 | 327° 22.1 | 342° 21.9 | 357° 21.7 | 12° 21.6 | 27° 21.4 | 42° 21.2 | 57° 21.0 | 72° 20.8 | -0.2 |
| | -20° 25.5 | -20° 25.0 | -20° 24.5 | -20° 23.9 | -20° 23.4 | -20° 22.9 | -20° 22.4 | -20° 21.8 | -20° 21.3 | -20° 20.8 | -20° 20.3 | -20° 19.8 | +0.5 |
| Je 20 | 267° 18.3 | 282° 18.1 | 297° 17.9 | 312° 17.8 | 327° 17.6 | 342° 17.4 | 357° 17.2 | 12° 17.0 | 27° 16.8 | 42° 16.6 | 57° 16.5 | 72° 16.3 | -0.2 |
| | -20° 12.9 | -20° 12.3 | -20° 11.8 | -20° 11.3 | -20° 10.7 | -20° 10.2 | -20° 09.6 | -20° 09.1 | -20° 08.6 | -20° 08.0 | -20° 07.5 | -20° 06.9 | +0.5 |
| Ve 21 | 267° 13.9 | 282° 13.7 | 297° 13.6 | 312° 13.4 | 327° 13.2 | 342° 13.0 | 357° 12.8 | 12° 12.7 | 27° 12.5 | 42° 12.3 | 57° 12.1 | 72° 12.0 | -0.2 |
| | -19° 59.8 | -19° 59.3 | -19° 58.7 | -19° 58.2 | -19° 57.6 | -19° 57.1 | -19° 56.5 | -19° 56.0 | -19° 55.4 | -19° 54.9 | -19° 54.3 | -19° 53.8 | +0.6 |
| Sa 22 | 267° 09.7 | 282° 09.5 | 297° 09.3 | 312° 09.2 | 327° 09.0 | 342° 08.8 | 357° 08.7 | 12° 08.5 | 27° 08.3 | 42° 08.2 | 57° 08.0 | 72° 07.8 | -0.2 |
| | -19° 46.5 | -19° 45.9 | -19° 45.3 | -19° 44.8 | -19° 44.2 | -19° 43.6 | -19° 43.1 | -19° 42.5 | -19° 41.9 | -19° 41.3 | -19° 40.8 | -19° 40.2 | +0.6 |
| Di 23 | 267° 05.6 | 282° 05.5 | 297° 05.3 | 312° 05.2 | 327° 05.0 | 342° 04.8 | 357° 04.7 | 12° 04.5 | 27° 04.3 | 42° 04.2 | 57° 04.0 | 72° 03.9 | -0.2 |
| | -19° 32.7 | -19° 32.1 | -19° 31.5 | -19° 31.0 | -19° 30.4 | -19° 29.8 | -19° 29.2 | -19° 28.6 | -19° 28.0 | -19° 27.4 | -19° 26.9 | -19° 26.3 | +0.6 |
| Lu 24 | 267° 01.8 | 282° 01.6 | 297° 01.5 | 312° 01.3 | 327° 01.2 | 342° 01.0 | 357° 00.9 | 12° 00.7 | 27° 00.6 | 42° 00.4 | 57° 00.3 | 72° 00.1 | -0.2 |
| | -19° 18.6 | -19° 18.0 | -19° 17.4 | -19° 16.8 | -19° 16.2 | -19° 15.6 | -19° 15.0 | -19° 14.4 | -19° 13.8 | -19° 13.2 | -19° 12.6 | -19° 12.0 | +0.6 |
| Ma 25 | 266° 58.1 | 281° 58.0 | 296° 57.9 | 311° 57.7 | 326° 57.6 | 341° 57.4 | 356° 57.3 | 11° 57.1 | 26° 57.0 | 41° 56.8 | 56° 56.7 | 71° 56.5 | -0.1 |
| | -19° 04.1 | -19° 03.5 | -19° 02.9 | -19° 02.3 | -19° 01.7 | -19° 01.0 | -19° 00.4 | -18° 59.8 | -18° 59.2 | -18° 58.6 | -18° 58.0 | -18° 57.4 | +0.6 |
| Me 26 | 266° 54.7 | 281° 54.6 | 296° 54.4 | 311° 54.3 | 326° 54.1 | 341° 54.0 | 356° 53.9 | 11° 53.7 | 26° 53.6 | 41° 53.4 | 56° 53.3 | 71° 53.2 | -0.1 |
| | -18° 49.3 | -18° 48.7 | -18° 48.0 | -18° 47.4 | -18° 46.8 | -18° 46.1 | -18° 45.5 | -18° 44.9 | -18° 44.3 | -18° 43.6 | -18° 43.0 | -18° 42.4 | +0.6 |
| Je 27 | 266° 51.4 | 281° 51.3 | 296° 51.2 | 311° 51.0 | 326° 50.9 | 341° 50.8 | 356° 50.7 | 11° 50.5 | 26° 50.4 | 41° 50.3 | 56° 50.1 | 71° 50.0 | -0.1 |
| | -18° 34.1 | -18° 33.5 | -18° 32.8 | -18° 32.2 | -18° 31.5 | -18° 30.9 | -18° 30.3 | -18° 29.6 | -18° 29.0 | -18° 28.3 | -18° 27.7 | -18° 27.0 | +0.6 |
| Ve 28 | 266° 48.4 | 281° 48.3 | 296° 48.1 | 311° 48.0 | 326° 47.9 | 341° 47.8 | 356° 47.6 | 11° 47.5 | 26° 47.4 | 41° 47.3 | 56° 47.2 | 71° 47.0 | -0.1 |
| | -18° 18.6 | -18° 17.9 | -18° 17.3 | -18° 16.6 | -18° 16.0 | -18° 15.3 | -18° 14.7 | -18° 14.0 | -18° 13.4 | -18° 12.7 | -18° 12.0 | -18° 11.4 | +0.7 |
| Sa 29 | 266° 45.5 | 281° 45.4 | 296° 45.3 | 311° 45.2 | 326° 45.1 | 341° 45.0 | 356° 44.8 | 11° 44.7 | 26° 44.6 | 41° 44.5 | 56° 44.4 | 71° 44.3 | -0.1 |
| | -18° 02.8 | -18° 02.1 | -18° 01.4 | -18° 00.8 | -18° 00.1 | -17° 59.4 | -17° 58.8 | -17° 58.1 | -17° 57.4 | -17° 56.7 | -17° 56.1 | -17° 55.4 | +0.7 |
| Di 30 | 266° 42.9 | 281° 42.8 | 296° 42.7 | 311° 42.6 | 326° 42.5 | 341° 42.4 | 356° 42.3 | 11° 42.1 | 26° 42.0 | 41° 41.9 | 56° 41.8 | 71° 41.7 | -0.1 |
| | -17° 46.6 | -17° 45.9 | -17° 45.2 | -17° 44.6 | -17° 43.9 | -17° 43.2 | -17° 42.5 | -17° 41.8 | -17° 41.1 | -17° 40.5 | -17° 39.8 | -17° 39.1 | +0.7 |
| Lu 31 | 266° 40.4 | 281° 40.3 | 296° 40.2 | 311° 40.2 | 326° 40.1 | 341° 40.0 | 356° 39.9 | 11° 39.8 | 26° 39.7 | 41° 39.6 | 56° 39.5 | 71° 39.4 | -0.1 |
| | -17° 30.1 | -17° 29.4 | -17° 28.7 | -17° 28.0 | -17° 27.3 | -17° 26.7 | -17° 26.0 | -17° 25.3 | -17° 24.6 | -17° 23.9 | -17° 23.2 | -17° 22.5 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2028

| J | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 249°41.7<br>-9°21.9 | 264°17.0<br>-9°09.4 | 278°52.4<br>-8°56.8 | 293°27.9<br>-8°44.2 | 308°03.4<br>-8°31.6 | 322°38.9<br>-8°19.0 | 337°14.4<br>-8°06.4 | 351°49.9<br>-7°53.7 | 6°25.5<br>-7°40.9 | 21°01.1<br>-7°28.2 | 35°36.8<br>-7°15.4 | +35.5<br>+12.6 | 14.7<br>54.0 |
| Di 2 | 254°33.7<br>-4°00.9 | 269°09.6<br>-3°47.8 | 283°45.5<br>-3°34.7 | 298°21.4<br>-3°21.5 | 312°57.4<br>-3°08.3 | 327°33.3<br>-2°55.2 | 342°09.2<br>-2°42.0 | 356°45.2<br>-2°28.7 | 11°21.1<br>-2°15.5 | 25°57.0<br>-2°02.3 | 40°33.0<br>-1°49.0 | +35.9<br>+13.2 | 14.8<br>54.1 |
| Lu 3 | 259°31.3<br>1°30.6 | 274°07.1<br>1°44.0 | 288°42.8<br>1°57.3 | 303°18.6<br>2°10.6 | 317°54.3<br>2°24.0 | 332°30.0<br>2°37.3 | 347°05.7<br>2°50.7 | 1°41.3<br>3°04.0 | 16°16.9<br>3°17.3 | 30°52.5<br>3°30.7 | 45°28.1<br>3°44.0 | +35.7<br>+13.3 | 14.8<br>54.4 |
| Ma 4 | 264°17.4<br>7°02.7 | 278°52.4<br>7°15.8 | 293°27.3<br>7°29.0 | 308°02.1<br>7°42.1 | 322°37.0<br>7°55.2 | 337°11.7<br>8°08.2 | 351°46.4<br>8°21.3 | 6°21.1<br>8°34.3 | 20°55.6<br>8°47.3 | 35°30.2<br>9°00.3 | 50°04.7<br>9°13.3 | +34.7<br>+13.1 | 15.0<br>54.9 |
| ◐ Me 5 | 268°34.0<br>12°24.2 | 283°07.4<br>12°36.7 | 297°40.7<br>12°49.1 | 312°13.9<br>13°01.5 | 326°47.1<br>13°13.8 | 341°20.2<br>13°26.1 | 355°53.1<br>13°38.4 | 10°26.1<br>13°50.6 | 24°58.9<br>14°02.7 | 39°31.6<br>14°14.8 | 54°04.2<br>14°26.9 | +33.0<br>+12.3 | 15.2<br>55.6 |
| Je 6 | 272°02.7<br>17°21.4 | 286°33.8<br>17°32.5 | 301°04.8<br>17°43.6 | 315°35.7<br>17°54.6 | 330°06.5<br>18°05.6 | 344°37.2<br>18°16.4 | 359°07.7<br>18°27.2 | 13°38.2<br>18°37.9 | 28°08.5<br>18°48.6 | 42°38.8<br>18°59.1 | 57°08.9<br>19°09.6 | +30.6<br>+10.8 | 15.4<br>56.4 |
| Ve 7 | 274°27.1<br>21°36.3 | 288°55.3<br>21°45.4 | 303°23.5<br>21°54.3 | 317°51.5<br>22°03.1 | 332°19.4<br>22°11.8 | 346°47.2<br>22°20.3 | 1°14.9<br>22°28.8 | 15°42.4<br>22°37.2 | 30°09.8<br>22°45.4 | 44°37.1<br>22°53.6 | 59°04.3<br>23°01.6 | +27.7<br>+8.5 | 15.6<br>57.4 |
| Sa 8 | 275°37.7<br>24°46.5 | 290°03.0<br>24°52.4 | 304°28.2<br>24°58.2 | 318°53.2<br>25°03.8 | 333°18.2<br>25°09.3 | 347°43.0<br>25°14.6 | 2°07.8<br>25°19.8 | 16°32.4<br>25°24.8 | 30°56.9<br>25°29.6 | 45°21.4<br>25°34.3 | 59°45.7<br>25°38.9 | +24.8<br>+5.2 | 15.9<br>58.4 |
| Di 9 | 275°39.2<br>26°27.1 | 290°02.1<br>26°28.9 | 304°24.9<br>26°30.5 | 318°47.7<br>26°32.0 | 333°10.3<br>26°33.3 | 347°33.0<br>26°34.4 | 1°55.5<br>26°35.3 | 16°18.0<br>26°36.1 | 30°40.5<br>26°36.6 | 45°02.8<br>26°37.0 | 59°25.2<br>26°37.1 | +22.6<br>+1.0 | 16.2<br>59.3 |
| Lu 10 | 274°55.5<br>26°16.9 | 289°17.4<br>26°14.0 | 303°39.2<br>26°10.9 | 318°01.0<br>26°07.6 | 332°22.8<br>26°04.2 | 346°44.7<br>26°00.5 | 1°06.5<br>25°56.7 | 15°28.3<br>25°52.6 | 29°50.1<br>25°48.4 | 44°12.0<br>25°43.9 | 58°33.9<br>25°39.3 | +21.8<br>-3.8 | 16.4<br>60.1 |
| Ma 11 | 274°05.2<br>24°07.3 | 288°27.6<br>23°59.7 | 302°50.1<br>23°51.9 | 317°12.6<br>23°43.9 | 331°35.2<br>23°35.8 | 345°57.8<br>23°27.5 | 0°20.5<br>23°19.0 | 14°43.3<br>23°10.3 | 29°06.1<br>23°01.5 | 43°29.0<br>22°52.5 | 57°52.0<br>22°43.3 | +22.7<br>-8.4 | 16.6<br>60.7 |
| ○ Me 12 | 273°45.6<br>20°06.8 | 288°09.8<br>19°55.2 | 302°34.2<br>19°43.5 | 316°58.6<br>19°31.6 | 331°23.1<br>19°19.5 | 345°47.6<br>19°07.4 | 0°12.3<br>18°55.1 | 14°37.1<br>18°42.7 | 29°01.9<br>18°30.1 | 43°26.9<br>18°17.5 | 57°51.9<br>18°04.7 | +24.6<br>-12.2 | 16.6<br>61.0 |
| Je 13 | 274°18.3<br>14°39.5 | 288°44.8<br>14°25.1 | 303°11.4<br>14°10.5 | 317°38.0<br>13°55.9 | 332°04.8<br>13°41.2 | 346°31.6<br>13°26.4 | 0°58.5<br>13°11.5 | 15°25.5<br>12°56.5 | 29°52.6<br>12°41.5 | 44°19.8<br>12°26.4 | 58°47.0<br>12°11.2 | +26.9<br>-14.8 | 16.6<br>60.9 |
| Ve 14 | 275°45.3<br>8°16.8 | 290°13.7<br>8°00.7 | 304°42.3<br>7°44.7 | 319°10.9<br>7°28.6 | 333°39.6<br>7°12.5 | 348°08.3<br>6°56.4 | 2°37.1<br>6°40.2 | 17°06.0<br>6°24.0 | 31°34.9<br>6°07.8 | 46°03.9<br>5°51.6 | 60°32.9<br>5°35.3 | +28.8<br>-16.1 | 16.5<br>60.6 |
| Sa 15 | 277°54.8<br>1°30.3 | 292°24.7<br>1°14.0 | 306°54.5<br>0°57.7 | 321°24.4<br>0°41.3 | 335°54.4<br>0°25.0 | 350°24.3<br>0°08.7 | 4°54.3<br>-0°07.5 | 19°24.4<br>-0°23.8 | 33°54.4<br>-0°40.0 | 48°24.5<br>-0°56.2 | 62°54.7<br>-1°12.4 | +30.0<br>-16.3 | 16.3<br>59.9 |
| Di 16 | 280°29.2<br>-5°11.8 | 294°59.6<br>-5°27.4 | 309°30.0<br>-5°43.0 | 324°00.5<br>-5°58.6 | 338°30.9<br>-6°14.1 | 353°01.4<br>-6°29.6 | 7°31.8<br>-6°45.0 | 22°02.3<br>-7°00.3 | 36°32.7<br>-7°15.6 | 51°03.2<br>-7°30.9 | 65°33.6<br>-7°46.1 | +30.5<br>-15.4 | 16.1<br>59.2 |
| Lu 17 | 294°59.6<br>-5°27.4 | 309°30.0<br>-5°43.0 | 324°00.5<br>-5°58.6 | 338°30.9<br>-6°14.1 | 353°01.4<br>-6°29.6 | 7°31.8<br>-6°45.0 | 22°02.3<br>-7°00.3 | 36°32.7<br>-7°15.6 | 51°03.2<br>-7°30.9 | 65°33.6<br>-7°46.1 | 80°04.1<br>-8°01.2 | +30.5<br>-15.4 | 16.1<br>59.2 |
| ◑ Ma 18 | 297°40.1<br>-11°40.5 | 312°10.4<br>-11°54.5 | 326°40.6<br>-12°08.5 | 341°10.9<br>-12°22.4 | 355°41.1<br>-12°36.2 | 10°11.4<br>-12°50.0 | 24°41.6<br>-13°03.6 | 39°11.7<br>-13°17.2 | 53°41.9<br>-13°30.7 | 68°12.0<br>-13°44.1 | 82°42.1<br>-13°57.4 | +30.2<br>-13.7 | 15.9<br>58.3 |
| Me 19 | 300°10.4<br>-17°06.3 | 314°40.0<br>-17°18.1 | 329°09.6<br>-17°29.8 | 343°39.2<br>-17°41.4 | 358°08.7<br>-17°52.9 | 12°38.2<br>-18°04.3 | 27°07.7<br>-18°15.6 | 41°37.1<br>-18°26.8 | 56°06.5<br>-18°37.9 | 70°35.9<br>-18°48.9 | 85°05.2<br>-18°59.7 | +29.5<br>-11.3 | 15.7<br>57.5 |
| Je 20 | 302°20.6<br>-21°29.0 | 316°49.3<br>-21°38.1 | 331°18.0<br>-21°46.9 | 345°46.7<br>-21°55.7 | 0°15.3<br>-22°04.3 | 14°43.9<br>-22°12.9 | 29°12.4<br>-22°21.2 | 43°40.9<br>-22°29.5 | 58°09.4<br>-22°37.6 | 72°37.8<br>-22°45.7 | 87°06.2<br>-22°53.5 | +28.6<br>-8.5 | 15.5<br>56.8 |
| Ve 21 | 304°08.7<br>-24°36.1 | 318°36.6<br>-24°41.8 | 333°04.5<br>-24°47.5 | 347°32.4<br>-24°53.0 | 2°00.3<br>-24°58.3 | 16°28.1<br>-25°03.5 | 30°55.9<br>-25°08.6 | 45°23.8<br>-25°13.6 | 59°51.5<br>-25°18.4 | 74°19.3<br>-25°23.0 | 88°47.1<br>-25°27.5 | +27.8<br>-5.1 | 15.3<br>56.1 |
| Sa 22 | 305°42.2<br>-26°18.5 | 320°09.8<br>-26°20.8 | 334°37.4<br>-26°22.9 | 349°05.1<br>-26°24.9 | 3°32.7<br>-26°26.7 | 18°00.4<br>-26°28.4 | 32°28.0<br>-26°30.0 | 46°55.7<br>-26°31.4 | 61°23.4<br>-26°32.7 | 75°51.1<br>-26°33.8 | 90°18.8<br>-26°34.8 | +27.7<br>-1.6 | 15.1<br>55.5 |
| Di 23 | 307°16.5<br>-26°32.9 | 321°44.6<br>-26°31.6 | 336°12.7<br>-26°30.2 | 350°40.8<br>-26°28.7 | 5°09.0<br>-26°27.1 | 19°37.2<br>-26°25.3 | 34°05.4<br>-26°23.4 | 48°33.7<br>-26°21.3 | 63°02.0<br>-26°19.1 | 77°30.3<br>-26°16.8 | 91°58.7<br>-26°14.4 | +28.2<br>+1.9 | 15.0<br>55.0 |
| Lu 24 | 309°10.3<br>-25°22.0 | 323°39.4<br>-25°17.5 | 338°08.7<br>-25°12.9 | 352°38.0<br>-25°08.1 | 7°07.4<br>-25°03.3 | 21°36.8<br>-24°58.3 | 36°06.2<br>-24°53.2 | 50°35.8<br>-24°48.0 | 65°05.4<br>-24°42.6 | 79°35.0<br>-24°37.2 | 94°04.8<br>-24°31.6 | +29.4<br>+5.0 | 14.9<br>54.6 |
| Ma 25 | 311°38.4<br>-22°54.7 | 326°09.2<br>-22°47.4 | 340°40.1<br>-22°40.0 | 355°11.0<br>-22°32.5 | 9°42.0<br>-22°24.9 | 24°13.0<br>-22°17.1 | 38°44.1<br>-22°09.3 | 53°15.3<br>-22°01.4 | 67°46.6<br>-21°53.4 | 82°17.9<br>-21°45.3 | 96°49.3<br>-21°37.1 | +31.1<br>+7.8 | 14.8<br>54.3 |
| ● Me 26 | 314°48.7<br>-19°23.6 | 329°21.2<br>-19°14.1 | 343°53.7<br>-19°04.4 | 358°26.4<br>-18°54.7 | 12°59.1<br>-18°44.9 | 27°31.8<br>-18°35.0 | 42°04.6<br>-18°25.1 | 56°37.5<br>-18°15.1 | 71°10.5<br>-18°05.0 | 85°43.5<br>-17°54.8 | 100°16.6<br>-17°44.5 | +32.8<br>+9.9 | 14.7<br>54.1 |
| Je 27 | 318°40.3<br>-15°03.0 | 333°14.4<br>-14°51.8 | 347°48.5<br>-14°40.5 | 2°22.6<br>-14°29.1 | 16°56.8<br>-14°17.7 | 31°31.1<br>-14°06.2 | 46°05.4<br>-13°54.7 | 60°39.8<br>-13°43.1 | 75°14.2<br>-13°31.5 | 89°48.7<br>-13°19.8 | 104°23.2<br>-13°08.1 | +34.3<br>+11.5 | 14.7<br>53.9 |
| Ve 28 | 323°06.4<br>-10°06.9 | 337°41.6<br>-9°54.5 | 352°16.9<br>-9°42.0 | 6°52.1<br>-9°29.5 | 21°27.5<br>-9°17.0 | 36°02.8<br>-9°04.5 | 50°38.2<br>-8°51.9 | 65°13.6<br>-8°39.3 | 79°49.1<br>-8°26.7 | 94°24.5<br>-8°14.0 | 109°00.1<br>-8°01.3 | +35.4<br>+12.6 | 14.7<br>53.9 |
| Sa 29 | 327°55.7<br>-4°47.9 | 342°31.6<br>-4°34.8 | 357°07.4<br>-4°21.8 | 11°43.3<br>-4°08.7 | 26°19.2<br>-3°55.5 | 40°55.2<br>-3°42.4 | 55°31.1<br>-3°29.3 | 70°07.0<br>-3°16.1 | 84°43.0<br>-3°02.9 | 99°18.9<br>-2°49.8 | 113°54.9<br>-2°36.6 | +35.9<br>+13.1 | 14.7<br>54.0 |
| Di 30 | 332°54.5<br>0°42.2 | 347°30.5<br>0°55.5 | 2°06.4<br>1°08.8 | 16°42.3<br>1°22.1 | 31°18.3<br>1°35.4 | 45°54.2<br>1°48.7 | 60°30.0<br>2°01.9 | 75°05.9<br>2°15.2 | 89°41.8<br>2°28.5 | 104°17.6<br>2°41.7 | 118°53.4<br>2°55.0 | +35.9<br>+13.3 | 14.8<br>54.1 |
| Lu 31 | 337°47.9<br>6°12.7 | 352°23.3<br>6°25.8 | 6°58.6<br>6°38.8 | 21°34.0<br>6°51.9 | 36°09.2<br>7°04.9 | 50°44.5<br>7°17.9 | 65°19.7<br>7°30.9 | 79°54.8<br>7°43.8 | 94°30.0<br>7°56.8 | 109°05.0<br>8°09.7 | 123°40.1<br>8°22.5 | +35.2<br>+13.0 | 14.8<br>54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 5 01h40 — PL: 12 04h03 — DQ: 18 19h25 — NL: 26 15h12

# SOLEIL

## Février 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 266° 38.2 | 281° 38.1 | 296° 38.0 | 311° 37.9 | 326° 37.9 | 341° 37.8 | 356° 37.7 | 11° 37.6 | 26° 37.5 | 41° 37.4 | 56° 37.3 | 71° 37.3 | -0.1 |
| | -17° 13.3 | -17° 12.6 | -17° 11.9 | -17° 11.2 | -17° 10.5 | -17° 09.8 | -17° 09.1 | -17° 08.4 | -17° 07.7 | -17° 07.0 | -17° 06.3 | -17° 05.5 | +0.7 |
| Me 2 | 266° 36.2 | 281° 36.1 | 296° 36.0 | 311° 35.9 | 326° 35.9 | 341° 35.8 | 356° 35.7 | 11° 35.6 | 26° 35.6 | 41° 35.5 | 56° 35.4 | 71° 35.3 | -0.1 |
| | -16° 56.2 | -16° 55.5 | -16° 54.8 | -16° 54.1 | -16° 53.4 | -16° 52.6 | -16° 51.9 | -16° 51.2 | -16° 50.5 | -16° 49.8 | -16° 49.0 | -16° 48.3 | +0.7 |
| Je 3 | 266° 34.4 | 281° 34.3 | 296° 34.2 | 311° 34.2 | 326° 34.1 | 341° 34.0 | 356° 33.9 | 11° 33.9 | 26° 33.8 | 41° 33.7 | 56° 33.7 | 71° 33.6 | -0.1 |
| | -16° 38.9 | -16° 38.1 | -16° 37.4 | -16° 36.7 | -16° 35.9 | -16° 35.2 | -16° 34.5 | -16° 33.7 | -16° 33.0 | -16° 32.3 | -16° 31.5 | -16° 30.8 | +0.7 |
| Ve 4 | 266° 32.8 | 281° 32.7 | 296° 32.6 | 311° 32.6 | 326° 32.5 | 341° 32.5 | 356° 32.4 | 11° 32.3 | 26° 32.3 | 41° 32.2 | 56° 32.2 | 71° 32.1 | -0.1 |
| | -16° 21.2 | -16° 20.4 | -16° 19.7 | -16° 19.0 | -16° 18.2 | -16° 17.5 | -16° 16.7 | -16° 16.0 | -16° 15.2 | -16° 14.5 | -16° 13.7 | -16° 13.0 | +0.7 |
| Sa 5 | 266° 31.4 | 281° 31.3 | 296° 31.3 | 311° 31.2 | 326° 31.1 | 341° 31.1 | 356° 31.0 | 11° 31.0 | 26° 30.9 | 41° 30.9 | 56° 30.8 | 71° 30.8 | -0.1 |
| | -16° 03.2 | -16° 02.5 | -16° 01.7 | -16° 01.0 | -16° 00.2 | -15° 59.5 | -15° 58.7 | -15° 57.9 | -15° 57.2 | -15° 56.4 | -15° 55.7 | -15° 54.9 | +0.8 |
| Di 6 | 266° 30.2 | 281° 30.1 | 296° 30.1 | 311° 30.0 | 326° 30.0 | 341° 29.9 | 356° 29.9 | 11° 29.9 | 26° 29.8 | 41° 29.8 | 56° 29.7 | 71° 29.7 | -0.0 |
| | -15° 45.0 | -15° 44.2 | -15° 43.5 | -15° 42.7 | -15° 41.9 | -15° 41.2 | -15° 40.4 | -15° 39.6 | -15° 38.9 | -15° 38.1 | -15° 37.3 | -15° 36.6 | +0.8 |
| Lu 7 | 266° 29.2 | 281° 29.1 | 296° 29.1 | 311° 29.1 | 326° 29.0 | 341° 29.0 | 356° 29.0 | 11° 28.9 | 26° 28.9 | 41° 28.9 | 56° 28.8 | 71° 28.8 | -0.0 |
| | -15° 26.5 | -15° 25.7 | -15° 24.9 | -15° 24.2 | -15° 23.4 | -15° 22.6 | -15° 21.8 | -15° 21.1 | -15° 20.3 | -15° 19.5 | -15° 18.7 | -15° 17.9 | +0.8 |
| Ma 8 | 266° 28.4 | 281° 28.4 | 296° 28.3 | 311° 28.3 | 326° 28.3 | 341° 28.3 | 356° 28.2 | 11° 28.2 | 26° 28.2 | 41° 28.1 | 56° 28.1 | 71° 28.1 | -0.0 |
| | -15° 07.7 | -15° 07.0 | -15° 06.2 | -15° 05.4 | -15° 04.6 | -15° 03.8 | -15° 03.0 | -15° 02.2 | -15° 01.4 | -15° 00.6 | -14° 59.8 | -14° 59.1 | +0.8 |
| Me 9 | 266° 27.8 | 281° 27.8 | 296° 27.8 | 311° 27.7 | 326° 27.7 | 341° 27.7 | 356° 27.7 | 11° 27.7 | 26° 27.7 | 41° 27.6 | 56° 27.6 | 71° 27.6 | -0.0 |
| | -14° 48.7 | -14° 47.9 | -14° 47.1 | -14° 46.3 | -14° 45.5 | -14° 44.7 | -14° 43.9 | -14° 43.1 | -14° 42.3 | -14° 41.5 | -14° 40.7 | -14° 39.9 | +0.8 |
| Je 10 | 266° 27.4 | 281° 27.4 | 296° 27.4 | 311° 27.4 | 326° 27.4 | 341° 27.4 | 356° 27.4 | 11° 27.3 | 26° 27.3 | 41° 27.3 | 56° 27.3 | 71° 27.3 | -0.0 |
| | -14° 29.5 | -14° 28.7 | -14° 27.8 | -14° 27.0 | -14° 26.2 | -14° 25.4 | -14° 24.6 | -14° 23.8 | -14° 23.0 | -14° 22.2 | -14° 21.4 | -14° 20.6 | +0.8 |
| Ve 11 | 266° 27.2 | 281° 27.2 | 296° 27.2 | 311° 27.2 | 326° 27.2 | 341° 27.2 | 356° 27.2 | 11° 27.2 | 26° 27.2 | 41° 27.2 | 56° 27.2 | 71° 27.2 | -0.0 |
| | -14° 10.0 | -14° 09.1 | -14° 08.3 | -14° 07.5 | -14° 06.7 | -14° 05.9 | -14° 05.0 | -14° 04.2 | -14° 03.4 | -14° 02.6 | -14° 01.8 | -14° 00.9 | +0.8 |
| Sa 12 | 266° 27.2 | 281° 27.2 | 296° 27.2 | 311° 27.2 | 326° 27.2 | 341° 27.3 | 356° 27.3 | 11° 27.3 | 26° 27.3 | 41° 27.3 | 56° 27.3 | 71° 27.3 | +0.0 |
| | -13° 50.2 | -13° 49.4 | -13° 48.6 | -13° 47.7 | -13° 46.9 | -13° 46.1 | -13° 45.2 | -13° 44.4 | -13° 43.6 | -13° 42.8 | -13° 41.9 | -13° 41.1 | +0.8 |
| Di 13 | 266° 27.4 | 281° 27.4 | 296° 27.4 | 311° 27.5 | 326° 27.5 | 341° 27.5 | 356° 27.5 | 11° 27.5 | 26° 27.5 | 41° 27.5 | 56° 27.5 | 71° 27.6 | +0.0 |
| | -13° 30.2 | -13° 29.4 | -13° 28.6 | -13° 27.7 | -13° 26.9 | -13° 26.1 | -13° 25.2 | -13° 24.4 | -13° 23.5 | -13° 22.7 | -13° 21.9 | -13° 21.0 | +0.8 |
| Lu 14 | 266° 27.8 | 281° 27.8 | 296° 27.8 | 311° 27.8 | 326° 27.9 | 341° 27.9 | 356° 27.9 | 11° 27.9 | 26° 28.0 | 41° 28.0 | 56° 28.0 | 71° 28.0 | +0.0 |
| | -13° 10.1 | -13° 09.2 | -13° 08.4 | -13° 07.5 | -13° 06.7 | -13° 05.8 | -13° 05.0 | -13° 04.1 | -13° 03.3 | -13° 02.4 | -13° 01.6 | -13° 00.7 | +0.8 |
| Ma 15 | 266° 28.3 | 281° 28.4 | 296° 28.4 | 311° 28.4 | 326° 28.5 | 341° 28.5 | 356° 28.5 | 11° 28.5 | 26° 28.6 | 41° 28.6 | 56° 28.6 | 71° 28.7 | +0.0 |
| | -12° 49.6 | -12° 48.8 | -12° 47.9 | -12° 47.1 | -12° 46.2 | -12° 45.4 | -12° 44.5 | -12° 43.7 | -12° 42.8 | -12° 41.9 | -12° 41.1 | -12° 40.2 | +0.9 |
| Me 16 | 266° 29.1 | 281° 29.1 | 296° 29.1 | 311° 29.2 | 326° 29.2 | 341° 29.2 | 356° 29.3 | 11° 29.3 | 26° 29.4 | 41° 29.4 | 56° 29.4 | 71° 29.5 | +0.0 |
| | -12° 29.0 | -12° 28.2 | -12° 27.3 | -12° 26.4 | -12° 25.6 | -12° 24.7 | -12° 23.8 | -12° 23.0 | -12° 22.1 | -12° 21.2 | -12° 20.4 | -12° 19.5 | +0.9 |
| Je 17 | 266° 30.0 | 281° 30.0 | 296° 30.1 | 311° 30.1 | 326° 30.1 | 341° 30.2 | 356° 30.2 | 11° 30.3 | 26° 30.3 | 41° 30.4 | 56° 30.4 | 71° 30.5 | +0.0 |
| | -12° 08.2 | -12° 07.3 | -12° 06.5 | -12° 05.6 | -12° 04.7 | -12° 03.8 | -12° 03.0 | -12° 02.1 | -12° 01.2 | -12° 00.3 | -11° 59.5 | -11° 58.6 | +0.9 |
| Ve 18 | 266° 31.1 | 281° 31.1 | 296° 31.2 | 311° 31.2 | 326° 31.3 | 341° 31.3 | 356° 31.4 | 11° 31.4 | 26° 31.5 | 41° 31.5 | 56° 31.6 | 71° 31.6 | +0.1 |
| | -11° 47.2 | -11° 46.3 | -11° 45.4 | -11° 44.5 | -11° 43.7 | -11° 42.8 | -11° 41.9 | -11° 41.0 | -11° 40.1 | -11° 39.3 | -11° 38.4 | -11° 37.5 | +0.9 |
| Sa 19 | 266° 32.3 | 281° 32.4 | 296° 32.4 | 311° 32.5 | 326° 32.5 | 341° 32.6 | 356° 32.6 | 11° 32.7 | 26° 32.8 | 41° 32.8 | 56° 32.9 | 71° 32.9 | +0.1 |
| | -11° 26.0 | -11° 25.1 | -11° 24.2 | -11° 23.3 | -11° 22.4 | -11° 21.5 | -11° 20.7 | -11° 19.8 | -11° 18.9 | -11° 18.0 | -11° 17.1 | -11° 16.2 | +0.9 |
| Di 20 | 266° 33.7 | 281° 33.8 | 296° 33.8 | 311° 33.9 | 326° 34.0 | 341° 34.0 | 356° 34.1 | 11° 34.2 | 26° 34.2 | 41° 34.3 | 56° 34.3 | 71° 34.4 | +0.1 |
| | -11° 04.6 | -11° 03.7 | -11° 02.8 | -11° 01.9 | -11° 01.0 | -11° 00.1 | -10° 59.2 | -10° 58.3 | -10° 57.4 | -10° 56.5 | -10° 55.6 | -10° 54.7 | +0.9 |
| Lu 21 | 266° 35.3 | 281° 35.4 | 296° 35.4 | 311° 35.5 | 326° 35.6 | 341° 35.6 | 356° 35.7 | 11° 35.8 | 26° 35.8 | 41° 35.9 | 56° 36.0 | 71° 36.1 | +0.1 |
| | -10° 43.0 | -10° 42.1 | -10° 41.2 | -10° 40.3 | -10° 39.4 | -10° 38.5 | -10° 37.6 | -10° 36.7 | -10° 35.8 | -10° 34.9 | -10° 34.0 | -10° 33.1 | +0.9 |
| Ma 22 | 266° 37.0 | 281° 37.1 | 296° 37.2 | 311° 37.2 | 326° 37.3 | 341° 37.4 | 356° 37.5 | 11° 37.5 | 26° 37.6 | 41° 37.7 | 56° 37.8 | 71° 37.9 | +0.1 |
| | -10° 21.3 | -10° 20.4 | -10° 19.5 | -10° 18.6 | -10° 17.7 | -10° 16.8 | -10° 15.8 | -10° 14.9 | -10° 14.0 | -10° 13.1 | -10° 12.2 | -10° 11.3 | +0.9 |
| Me 23 | 266° 38.9 | 281° 39.0 | 296° 39.1 | 311° 39.1 | 326° 39.2 | 341° 39.3 | 356° 39.4 | 11° 39.5 | 26° 39.6 | 41° 39.6 | 56° 39.7 | 71° 39.8 | +0.1 |
| | -9° 59.4 | -9° 58.5 | -9° 57.6 | -9° 56.7 | -9° 55.7 | -9° 54.8 | -9° 53.9 | -9° 53.0 | -9° 52.1 | -9° 51.2 | -9° 50.2 | -9° 49.3 | +0.9 |
| Je 24 | 266° 40.9 | 281° 41.0 | 296° 41.1 | 311° 41.2 | 326° 41.3 | 341° 41.4 | 356° 41.5 | 11° 41.6 | 26° 41.7 | 41° 41.7 | 56° 41.8 | 71° 41.9 | +0.1 |
| | -9° 37.4 | -9° 36.4 | -9° 35.5 | -9° 34.6 | -9° 33.7 | -9° 32.8 | -9° 31.8 | -9° 30.9 | -9° 30.0 | -9° 29.1 | -9° 28.1 | -9° 27.2 | +0.9 |
| Ve 25 | 266° 43.1 | 281° 43.2 | 296° 43.3 | 311° 43.4 | 326° 43.5 | 341° 43.6 | 356° 43.7 | 11° 43.8 | 26° 43.9 | 41° 44.0 | 56° 44.1 | 71° 44.2 | +0.1 |
| | -9° 15.2 | -9° 14.3 | -9° 13.3 | -9° 12.4 | -9° 11.5 | -9° 10.5 | -9° 09.6 | -9° 08.7 | -9° 07.8 | -9° 06.8 | -9° 05.9 | -9° 05.0 | +0.9 |
| Sa 26 | 266° 45.5 | 281° 45.6 | 296° 45.7 | 311° 45.8 | 326° 45.9 | 341° 46.0 | 356° 46.1 | 11° 46.2 | 26° 46.3 | 41° 46.4 | 56° 46.5 | 71° 46.6 | +0.1 |
| | -8° 52.9 | -8° 51.9 | -8° 51.0 | -8° 50.1 | -8° 49.1 | -8° 48.2 | -8° 47.3 | -8° 46.3 | -8° 45.4 | -8° 44.4 | -8° 43.5 | -8° 42.6 | +0.9 |
| Di 27 | 266° 47.9 | 281° 48.1 | 296° 48.2 | 311° 48.3 | 326° 48.4 | 341° 48.5 | 356° 48.6 | 11° 48.7 | 26° 48.8 | 41° 48.9 | 56° 49.0 | 71° 49.1 | +0.1 |
| | -8° 30.4 | -8° 29.5 | -8° 28.5 | -8° 27.6 | -8° 26.6 | -8° 25.7 | -8° 24.8 | -8° 23.8 | -8° 22.9 | -8° 21.9 | -8° 21.0 | -8° 20.1 | +0.9 |
| Lu 28 | 266° 50.6 | 281° 50.7 | 296° 50.8 | 311° 50.9 | 326° 51.0 | 341° 51.1 | 356° 51.2 | 11° 51.4 | 26° 51.5 | 41° 51.6 | 56° 51.7 | 71° 51.8 | +0.1 |
| | -8° 07.8 | -8° 06.9 | -8° 05.9 | -8° 05.0 | -8° 04.0 | -8° 03.1 | -8° 02.1 | -8° 01.2 | -8° 00.3 | -7° 59.3 | -7° 58.4 | -7° 57.4 | +0.9 |
| Ma 29 | 266° 53.3 | 281° 53.4 | 296° 53.6 | 311° 53.7 | 326° 53.8 | 341° 53.9 | 356° 54.0 | 11° 54.1 | 26° 54.3 | 41° 54.4 | 56° 54.5 | 71° 54.6 | +0.1 |
| | -7° 45.1 | -7° 44.2 | -7° 43.2 | -7° 42.3 | -7° 41.3 | -7° 40.4 | -7° 39.4 | -7° 38.5 | -7° 37.5 | -7° 36.6 | -7° 35.6 | -7° 34.7 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2028

| J | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 254°53.2<br>10°17.3 | 269°27.8<br>10°29.9 | 284°02.2<br>10°42.5 | 298°36.7<br>10°55.0 | 313°11.0<br>11°07.5 | 327°45.3<br>11°20.0 | 342°19.6<br>11°32.4 | 356°53.7<br>11°44.8 | 11°27.9<br>11°57.1 | 26°01.9<br>12°09.5 | 40°35.9<br>12°21.7 | +34.3<br>+12.4 | 14.9<br>54.8 |
| Me 2 | 258°57.4<br>15°20.5 | 273°30.2<br>15°32.0 | 288°02.9<br>15°43.5 | 302°35.6<br>15°54.9 | 317°08.2<br>16°06.2 | 331°40.6<br>16°17.5 | 346°13.0<br>16°28.8 | 0°45.4<br>16°39.9 | 15°17.6<br>16°51.0 | 29°49.7<br>17°02.1 | 44°21.8<br>17°13.0 | +32.4<br>+11.3 | 15.1<br>55.4 |
| ◐ Je 3 | 262°11.3<br>19°49.2 | 276°41.8<br>19°59.0 | 291°12.2<br>20°08.7 | 305°42.5<br>20°18.3 | 320°12.7<br>20°27.8 | 334°42.8<br>20°37.3 | 349°12.8<br>20°46.6 | 3°42.7<br>20°55.9 | 18°12.5<br>21°05.0 | 32°42.2<br>21°14.1 | 47°11.7<br>21°23.1 | +30.0<br>+9.4 | 15.3<br>56.1 |
| Ve 4 | 264°22.3<br>23°25.5 | 278°50.1<br>23°32.7 | 293°17.8<br>23°39.9 | 307°45.4<br>23°46.9 | 322°12.9<br>23°53.8 | 336°40.3<br>24°00.6 | 351°07.6<br>24°07.3 | 5°34.7<br>24°13.8 | 20°01.8<br>24°20.2 | 34°28.8<br>24°26.5 | 48°55.6<br>24°32.7 | +27.3<br>+6.7 | 15.6<br>57.0 |
| Sa 5 | 265°25.8<br>25°48.5 | 279°51.0<br>25°52.3 | 294°16.1<br>25°56.1 | 308°41.1<br>25°59.6 | 323°06.1<br>26°03.1 | 337°30.9<br>26°06.3 | 351°55.7<br>26°09.4 | 6°20.3<br>26°12.4 | 20°44.9<br>26°15.2 | 35°09.4<br>26°17.8 | 49°33.8<br>26°20.3 | +24.8<br>+3.2 | 15.8<br>58.0 |
| Di 6 | 265°31.1<br>26°36.9 | 279°54.5<br>26°36.6 | 294°17.7<br>26°36.1 | 308°40.9<br>26°35.5 | 323°04.1<br>26°34.6 | 337°27.2<br>26°33.6 | 351°50.3<br>26°32.4 | 6°13.3<br>26°31.0 | 20°36.3<br>26°29.5 | 34°59.3<br>26°27.7 | 49°22.2<br>26°25.8 | +23.1<br>-1.1 | 16.1<br>59.0 |
| Lu 7 | 265°03.4<br>25°34.7 | 279°26.0<br>25°29.8 | 293°48.7<br>25°24.7 | 308°11.4<br>25°19.5 | 322°34.1<br>25°14.0 | 336°56.8<br>25°08.4 | 351°19.5<br>25°02.6 | 5°42.2<br>24°56.6 | 20°05.0<br>24°50.4 | 34°27.7<br>24°44.0 | 48°50.5<br>24°37.5 | +22.7<br>-5.7 | 16.4<br>60.0 |
| Ma 8 | 264°36.1<br>22°38.0 | 278°59.5<br>22°28.6 | 293°22.9<br>22°19.1 | 307°46.4<br>22°09.4 | 322°09.9<br>21°59.6 | 336°33.5<br>21°49.6 | 350°57.1<br>21°39.4 | 5°20.8<br>21°29.1 | 19°44.6<br>21°18.6 | 34°08.4<br>21°08.0 | 48°32.2<br>20°57.2 | +23.6<br>-10.1 | 16.6<br>60.8 |
| Me 9 | 264°38.1<br>17°57.9 | 279°03.1<br>17°44.9 | 293°28.1<br>17°31.7 | 307°53.2<br>17°18.4 | 322°18.3<br>17°05.0 | 336°43.6<br>16°51.5 | 351°08.9<br>16°37.8 | 5°34.2<br>16°24.0 | 19°59.7<br>16°10.2 | 34°25.2<br>15°56.2 | 48°50.8<br>15°42.1 | +25.3<br>-13.6 | 16.7<br>61.3 |
| ○ Je 10 | 265°23.3<br>11°58.8 | 279°50.0<br>11°43.2 | 294°16.8<br>11°27.6 | 308°43.6<br>11°11.9 | 323°10.5<br>10°56.1 | 337°37.5<br>10°40.2 | 352°04.6<br>10°24.3 | 6°31.7<br>10°08.3 | 20°58.8<br>9°52.3 | 35°26.1<br>9°36.2 | 49°53.4<br>9°20.0 | +27.0<br>-15.9 | 16.7<br>61.4 |
| Ve 11 | 266°49.6<br>5°12.3 | 281°17.8<br>4°55.5 | 295°46.0<br>4°38.7 | 310°14.2<br>4°21.9 | 324°42.5<br>4°05.1 | 339°10.9<br>3°48.3 | 353°39.3<br>3°31.4 | 8°07.7<br>3°14.5 | 22°36.1<br>2°57.7 | 37°04.6<br>2°40.8 | 51°33.2<br>2°23.9 | +28.4<br>-16.9 | 16.7<br>61.2 |
| Sa 12 | 268°45.1<br>-1°48.6 | 283°14.1<br>-2°05.3 | 297°43.1<br>-2°22.0 | 312°12.1<br>-2°38.6 | 326°41.2<br>-2°55.2 | 341°10.3<br>-3°11.8 | 355°39.3<br>-3°28.3 | 10°08.4<br>-3°44.8 | 24°37.6<br>-4°01.3 | 39°06.7<br>-4°17.7 | 53°35.8<br>-4°34.1 | +29.1<br>-16.6 | 16.5<br>60.6 |
| Di 13 | 270°53.5<br>-8°33.8 | 285°22.7<br>-8°49.3 | 299°51.9<br>-9°04.7 | 314°21.0<br>-9°20.1 | 328°50.2<br>-9°35.4 | 343°19.4<br>-9°50.6 | 357°48.5<br>-10°05.7 | 12°17.6<br>-10°20.8 | 26°46.8<br>-10°35.8 | 41°15.9<br>-10°50.7 | 55°45.0<br>-11°05.5 | +29.1<br>-15.2 | 16.3<br>59.8 |
| Lu 14 | 272°59.6<br>-14°37.7 | 287°28.4<br>-14°51.1 | 301°57.2<br>-15°04.4 | 316°26.0<br>-15°17.6 | 330°54.8<br>-15°30.7 | 345°23.5<br>-15°43.6 | 359°52.2<br>-15°56.5 | 14°20.9<br>-16°09.3 | 28°49.5<br>-16°22.0 | 43°18.2<br>-16°34.5 | 57°46.8<br>-16°47.0 | +28.7<br>-12.9 | 16.0<br>58.9 |
| Ma 15 | 274°52.6<br>-19°40.1 | 289°20.7<br>-19°50.6 | 303°48.9<br>-20°01.1 | 318°17.0<br>-20°11.4 | 332°45.1<br>-20°21.6 | 347°13.1<br>-20°31.7 | 1°41.2<br>-20°41.7 | 16°09.1<br>-20°51.5 | 30°37.1<br>-21°01.2 | 45°05.1<br>-21°10.8 | 59°33.0<br>-21°20.2 | +28.0<br>-10.0 | 15.8<br>57.9 |
| Me 16 | 289°20.7<br>-19°50.6 | 303°48.9<br>-20°01.1 | 318°17.0<br>-20°11.4 | 332°45.1<br>-20°21.6 | 347°13.1<br>-20°31.7 | 1°41.2<br>-20°41.7 | 16°09.1<br>-20°51.5 | 30°37.1<br>-21°01.2 | 45°05.1<br>-21°10.8 | 59°33.0<br>-21°20.2 | 74°00.9<br>-21°29.5 | +28.0<br>-9.9 | 15.8<br>57.8 |
| ◑ Je 17 | 290°56.3<br>-23°33.1 | 305°23.9<br>-23°40.2 | 319°51.4<br>-23°47.2 | 334°18.9<br>-23°54.1 | 348°46.3<br>-24°00.8 | 3°13.8<br>-24°07.4 | 17°41.2<br>-24°13.8 | 32°08.7<br>-24°20.1 | 46°36.1<br>-24°26.3 | 61°03.5<br>-24°32.3 | 75°30.9<br>-24°38.2 | +27.4<br>-6.5 | 15.5<br>56.9 |
| Ve 18 | 292°20.8<br>-25°49.0 | 306°48.1<br>-25°52.5 | 321°15.5<br>-25°56.0 | 335°42.8<br>-25°59.2 | 350°10.1<br>-26°02.4 | 4°37.4<br>-26°05.3 | 19°04.8<br>-26°08.2 | 33°32.1<br>-26°10.9 | 47°59.5<br>-26°13.4 | 62°26.9<br>-26°15.8 | 76°54.3<br>-26°18.1 | +27.3<br>-2.9 | 15.3<br>56.1 |
| Sa 19 | 293°47.4<br>-26°34.8 | 308°15.2<br>-26°34.8 | 322°42.9<br>-26°34.7 | 337°10.7<br>-26°34.4 | 351°38.6<br>-26°33.9 | 6°06.5<br>-26°33.3 | 20°34.4<br>-26°32.6 | 35°02.3<br>-26°31.8 | 49°30.3<br>-26°30.8 | 63°58.3<br>-26°29.7 | 78°26.4<br>-26°28.4 | +27.9<br>+0.6 | 15.1<br>55.4 |
| Di 20 | 295°32.8<br>-25°53.4 | 310°01.6<br>-25°50.0 | 324°30.5<br>-25°46.5 | 338°59.4<br>-25°42.9 | 353°28.4<br>-25°39.2 | 7°57.5<br>-25°35.3 | 22°26.6<br>-25°31.3 | 36°55.7<br>-25°27.2 | 51°25.0<br>-25°22.9 | 65°54.2<br>-25°18.6 | 80°23.6<br>-25°14.1 | +29.1<br>+3.9 | 14.9<br>54.8 |
| Lu 21 | 297°51.2<br>-23°52.8 | 312°21.6<br>-23°46.5 | 326°52.0<br>-23°40.1 | 341°22.5<br>-23°33.5 | 355°53.1<br>-23°26.9 | 10°23.7<br>-23°20.2 | 24°54.4<br>-23°13.3 | 39°25.2<br>-23°06.4 | 53°56.0<br>-22°59.3 | 68°26.9<br>-22°52.2 | 82°57.9<br>-22°44.9 | +30.7<br>+6.8 | 14.8<br>54.4 |
| Ma 22 | 300°50.6<br>-20°44.7 | 315°22.6<br>-20°36.0 | 329°54.7<br>-20°27.2 | 344°26.9<br>-20°18.2 | 358°59.2<br>-20°09.2 | 13°31.5<br>-20°00.2 | 28°03.9<br>-19°51.0 | 42°36.3<br>-19°41.8 | 57°08.8<br>-19°32.4 | 71°41.4<br>-19°23.0 | 86°14.0<br>-19°13.6 | +32.4<br>+9.1 | 14.8<br>54.1 |
| Me 23 | 304°31.1<br>-16°42.5 | 319°04.7<br>-16°31.8 | 333°38.4<br>-16°21.1 | 348°12.1<br>-16°10.4 | 2°45.9<br>-15°59.6 | 17°19.7<br>-15°48.7 | 31°53.6<br>-15°37.8 | 46°27.6<br>-15°26.8 | 61°01.6<br>-15°15.7 | 75°35.6<br>-15°04.6 | 90°09.7<br>-14°53.4 | +33.9<br>+10.9 | 14.7<br>53.9 |
| Je 24 | 308°47.1<br>-11°59.4 | 323°21.9<br>-11°47.4 | 337°56.8<br>-11°35.4 | 352°31.7<br>-11°23.3 | 7°06.7<br>-11°11.2 | 21°41.7<br>-10°59.0 | 36°16.7<br>-10°46.8 | 50°51.8<br>-10°34.6 | 65°26.9<br>-10°22.3 | 80°02.0<br>-10°10.0 | 94°37.2<br>-9°57.6 | +35.0<br>+12.2 | 14.7<br>53.9 |
| ● Ve 25 | 313°28.5<br>-6°48.3 | 328°04.1<br>-6°35.4 | 342°39.7<br>-6°22.6 | 357°15.4<br>-6°09.6 | 11°51.1<br>-5°56.7 | 26°26.7<br>-5°43.8 | 41°02.5<br>-5°30.8 | 55°38.2<br>-5°17.8 | 70°13.9<br>-5°04.8 | 84°49.7<br>-4°51.8 | 99°25.5<br>-4°38.7 | +35.7<br>+13.0 | 14.7<br>53.9 |
| Sa 26 | 318°23.1<br>-1°21.1 | 332°59.0<br>-1°07.9 | 347°34.8<br>-0°54.6 | 2°10.7<br>-0°41.3 | 16°46.6<br>-0°28.1 | 31°22.4<br>-0°14.8 | 45°58.3<br>-0°01.5 | 60°34.1<br>0°11.8 | 75°10.0<br>0°25.1 | 89°45.8<br>0°38.4 | 104°21.7<br>0°51.6 | +35.9<br>+13.3 | 14.7<br>54.0 |
| Di 27 | 323°17.4<br>4°10.5 | 337°53.0<br>4°23.7 | 352°28.5<br>4°36.9 | 7°04.1<br>4°50.0 | 21°39.5<br>5°03.2 | 36°15.0<br>5°16.3 | 50°50.4<br>5°29.5 | 65°25.8<br>5°42.6 | 80°01.2<br>5°55.7 | 94°36.6<br>6°08.7 | 109°11.9<br>6°21.8 | +35.4<br>+13.1 | 14.8<br>54.2 |
| Lu 28 | 327°57.2<br>9°34.9 | 342°31.9<br>9°47.5 | 357°06.5<br>10°00.1 | 11°41.1<br>10°12.7 | 26°15.6<br>10°25.3 | 40°50.1<br>10°37.8 | 55°24.5<br>10°50.2 | 69°58.9<br>11°02.7 | 84°33.2<br>11°15.1 | 99°07.5<br>11°27.5 | 113°41.7<br>11°39.8 | +34.5<br>+12.5 | 14.9<br>54.6 |
| Ma 29 | 332°07.9<br>14°39.3 | 346°41.1<br>14°50.9 | 1°14.2<br>15°02.4 | 15°47.3<br>15°13.9 | 30°20.3<br>15°25.3 | 44°53.3<br>15°36.6 | 59°26.1<br>15°47.9 | 73°58.9<br>15°59.2 | 88°31.7<br>16°10.3 | 103°04.3<br>16°21.4 | 117°36.9<br>16°32.5 | +32.9<br>+11.3 | 15.0<br>55.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 3 19h10 — PL: 10 15h03 — DQ: 17 08h08 — NL: 25 10h37

# SOLEIL

## Mars 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 266°56.2<br>-7°22.3 | 281°56.3<br>-7°21.3 | 296°56.4<br>-7°20.4 | 311°56.6<br>-7°19.4 | 326°56.7<br>-7°18.5 | 341°56.8<br>-7°17.5 | 356°56.9<br>-7°16.6 | 11°57.1<br>-7°15.6 | 26°57.2<br>-7°14.7 | 41°57.3<br>-7°13.7 | 56°57.4<br>-7°12.8 | 71°57.6<br>-7°11.8 | +0.1<br>+1.0 |
| Je 2 | 266°59.2<br>-6°59.4 | 281°59.3<br>-6°58.4 | 296°59.5<br>-6°57.5 | 311°59.6<br>-6°56.5 | 326°59.7<br>-6°55.6 | 341°59.9<br>-6°54.6 | 357°00.0<br>-6°53.6 | 12°00.1<br>-6°52.7 | 27°00.2<br>-6°51.7 | 42°00.4<br>-6°50.8 | 57°00.5<br>-6°49.8 | 72°00.6<br>-6°48.8 | +0.1<br>+1.0 |
| Ve 3 | 267°02.3<br>-6°36.4 | 282°02.5<br>-6°35.4 | 297°02.6<br>-6°34.4 | 312°02.7<br>-6°33.5 | 327°02.9<br>-6°32.5 | 342°03.0<br>-6°31.6 | 357°03.1<br>-6°30.6 | 12°03.3<br>-6°29.6 | 27°03.4<br>-6°28.7 | 42°03.6<br>-6°27.7 | 57°03.7<br>-6°26.8 | 72°03.8<br>-6°25.8 | +0.1<br>+1.0 |
| Sa 4 | 267°05.6<br>-6°13.3 | 282°05.7<br>-6°12.3 | 297°05.9<br>-6°11.3 | 312°06.0<br>-6°10.4 | 327°06.2<br>-6°09.4 | 342°06.3<br>-6°08.4 | 357°06.4<br>-6°07.5 | 12°06.6<br>-6°06.5 | 27°06.7<br>-6°05.5 | 42°06.8<br>-6°04.6 | 57°07.0<br>-6°03.6 | 72°07.1<br>-6°02.6 | +0.1<br>+1.0 |
| Di 5 | 267°09.0<br>-5°50.1 | 282°09.1<br>-5°49.1 | 297°09.3<br>-5°48.1 | 312°09.4<br>-5°47.2 | 327°09.5<br>-5°46.2 | 342°09.7<br>-5°45.2 | 357°09.8<br>-5°44.3 | 12°10.0<br>-5°43.3 | 27°10.1<br>-5°42.3 | 42°10.3<br>-5°41.4 | 57°10.4<br>-5°40.4 | 72°10.5<br>-5°39.4 | +0.1<br>+1.0 |
| Lu 6 | 267°12.4<br>-5°26.8 | 282°12.6<br>-5°25.8 | 297°12.7<br>-5°24.9 | 312°12.9<br>-5°23.9 | 327°13.0<br>-5°22.9 | 342°13.2<br>-5°22.0 | 357°13.3<br>-5°21.0 | 12°13.5<br>-5°20.0 | 27°13.6<br>-5°19.0 | 42°13.8<br>-5°18.1 | 57°13.9<br>-5°17.1 | 72°14.1<br>-5°16.1 | +0.1<br>+1.0 |
| Ma 7 | 267°16.0<br>-5°03.5 | 282°16.2<br>-5°02.5 | 297°16.3<br>-5°01.5 | 312°16.5<br>-5°00.6 | 327°16.6<br>-4°59.6 | 342°16.8<br>-4°58.6 | 357°16.9<br>-4°57.6 | 12°17.1<br>-4°56.7 | 27°17.2<br>-4°55.7 | 42°17.4<br>-4°54.7 | 57°17.6<br>-4°53.7 | 72°17.7<br>-4°52.8 | +0.2<br>+1.0 |
| Me 8 | 267°19.7<br>-4°40.1 | 282°19.9<br>-4°39.1 | 297°20.0<br>-4°38.1 | 312°20.2<br>-4°37.1 | 327°20.3<br>-4°36.2 | 342°20.5<br>-4°35.2 | 357°20.6<br>-4°34.2 | 12°20.8<br>-4°33.2 | 27°21.0<br>-4°32.3 | 42°21.1<br>-4°31.3 | 57°21.3<br>-4°30.3 | 72°21.4<br>-4°29.3 | +0.2<br>+1.0 |
| Je 9 | 267°23.5<br>-4°16.6 | 282°23.6<br>-4°15.6 | 297°23.8<br>-4°14.7 | 312°24.0<br>-4°13.7 | 327°24.1<br>-4°12.7 | 342°24.3<br>-4°11.7 | 357°24.4<br>-4°10.7 | 12°24.6<br>-4°09.8 | 27°24.8<br>-4°08.8 | 42°24.9<br>-4°07.8 | 57°25.1<br>-4°06.8 | 72°25.3<br>-4°05.8 | +0.2<br>+1.0 |
| Ve 10 | 267°27.4<br>-3°53.1 | 282°27.5<br>-3°52.1 | 297°27.7<br>-3°51.1 | 312°27.8<br>-3°50.2 | 327°28.0<br>-3°49.2 | 342°28.2<br>-3°48.2 | 357°28.3<br>-3°47.2 | 12°28.5<br>-3°46.2 | 27°28.7<br>-3°45.3 | 42°28.8<br>-3°44.3 | 57°29.0<br>-3°43.3 | 72°29.2<br>-3°42.3 | +0.2<br>+1.0 |
| Sa 11 | 267°31.3<br>-3°29.5 | 282°31.5<br>-3°28.6 | 297°31.6<br>-3°27.6 | 312°31.8<br>-3°26.6 | 327°32.0<br>-3°25.6 | 342°32.1<br>-3°24.6 | 357°32.3<br>-3°23.6 | 12°32.5<br>-3°22.7 | 27°32.6<br>-3°21.7 | 42°32.8<br>-3°20.7 | 57°33.0<br>-3°19.7 | 72°33.1<br>-3°18.7 | +0.2<br>+1.0 |
| Di 12 | 267°35.3<br>-3°05.9 | 282°35.5<br>-3°05.0 | 297°35.7<br>-3°04.0 | 312°35.8<br>-3°03.0 | 327°36.0<br>-3°02.0 | 342°36.2<br>-3°01.0 | 357°36.3<br>-3°00.0 | 12°36.5<br>-2°59.1 | 27°36.7<br>-2°58.1 | 42°36.9<br>-2°57.1 | 57°37.0<br>-2°56.1 | 72°37.2<br>-2°55.1 | +0.2<br>+1.0 |
| Lu 13 | 267°39.4<br>-2°42.3 | 282°39.6<br>-2°41.3 | 297°39.8<br>-2°40.3 | 312°39.9<br>-2°39.3 | 327°40.1<br>-2°38.4 | 342°40.3<br>-2°37.4 | 357°40.5<br>-2°36.4 | 12°40.6<br>-2°35.4 | 27°40.8<br>-2°34.4 | 42°41.0<br>-2°33.4 | 57°41.1<br>-2°32.4 | 72°41.3<br>-2°31.5 | +0.2<br>+1.0 |
| Ma 14 | 267°43.6<br>-2°18.6 | 282°43.7<br>-2°17.7 | 297°43.9<br>-2°16.7 | 312°44.1<br>-2°15.7 | 327°44.3<br>-2°14.7 | 342°44.4<br>-2°13.7 | 357°44.6<br>-2°12.7 | 12°44.8<br>-2°11.7 | 27°45.0<br>-2°10.7 | 42°45.1<br>-2°09.8 | 57°45.3<br>-2°08.8 | 72°45.5<br>-2°07.8 | +0.2<br>+1.0 |
| Me 15 | 267°47.8<br>-1°54.9 | 282°48.0<br>-1°54.0 | 297°48.1<br>-1°53.0 | 312°48.3<br>-1°52.0 | 327°48.5<br>-1°51.0 | 342°48.7<br>-1°50.0 | 357°48.8<br>-1°49.0 | 12°49.0<br>-1°48.0 | 27°49.2<br>-1°47.0 | 42°49.4<br>-1°46.1 | 57°49.6<br>-1°45.1 | 72°49.7<br>-1°44.1 | +0.2<br>+1.0 |
| Je 16 | 267°52.1<br>-1°31.2 | 282°52.2<br>-1°30.2 | 297°52.4<br>-1°29.3 | 312°52.6<br>-1°28.3 | 327°52.8<br>-1°27.3 | 342°52.9<br>-1°26.3 | 357°53.1<br>-1°25.3 | 12°53.3<br>-1°24.3 | 27°53.5<br>-1°23.3 | 42°53.7<br>-1°22.3 | 57°53.8<br>-1°21.4 | 72°54.0<br>-1°20.4 | +0.2<br>+1.0 |
| Ve 17 | 267°56.4<br>-1°07.5 | 282°56.5<br>-1°06.5 | 297°56.7<br>-1°05.5 | 312°56.9<br>-1°04.5 | 327°57.1<br>-1°03.6 | 342°57.3<br>-1°02.6 | 357°57.4<br>-1°01.6 | 12°57.6<br>-1°00.6 | 27°57.8<br>-0°59.6 | 42°58.0<br>-0°58.6 | 57°58.2<br>-0°57.6 | 72°58.4<br>-0°56.6 | +0.2<br>+1.0 |
| Sa 18 | 268°00.7<br>-0°43.8 | 283°00.9<br>-0°42.8 | 298°01.1<br>-0°41.8 | 313°01.3<br>-0°40.8 | 328°01.4<br>-0°39.8 | 343°01.6<br>-0°38.8 | 358°01.8<br>-0°37.8 | 13°02.0<br>-0°36.9 | 28°02.2<br>-0°35.9 | 43°02.4<br>-0°34.9 | 58°02.5<br>-0°33.9 | 73°02.7<br>-0°32.9 | +0.2<br>+1.0 |
| Di 19 | 268°05.1<br>-0°20.1 | 283°05.3<br>-0°19.1 | 298°05.5<br>-0°18.1 | 313°05.7<br>-0°17.1 | 328°05.8<br>-0°16.1 | 343°06.0<br>-0°15.1 | 358°06.2<br>-0°14.1 | 13°06.4<br>-0°13.1 | 28°06.6<br>-0°12.1 | 43°06.8<br>-0°11.2 | 58°06.9<br>-0°10.2 | 73°07.1<br>-0°09.2 | +0.2<br>+1.0 |
| Lu 20 | 268°09.5<br>0°03.7 | 283°09.7<br>0°04.7 | 298°09.9<br>0°05.6 | 313°10.1<br>0°06.6 | 328°10.3<br>0°07.6 | 343°10.4<br>0°08.6 | 358°10.6<br>0°09.6 | 13°10.8<br>0°10.6 | 28°11.0<br>0°11.6 | 43°11.2<br>0°12.6 | 58°11.4<br>0°13.6 | 73°11.6<br>0°14.5 | +0.2<br>+1.0 |
| Ma 21 | 268°14.0<br>0°27.4 | 283°14.1<br>0°28.4 | 298°14.3<br>0°29.4 | 313°14.5<br>0°30.3 | 328°14.7<br>0°31.3 | 343°14.9<br>0°32.3 | 358°15.1<br>0°33.3 | 13°15.3<br>0°34.3 | 28°15.5<br>0°35.3 | 43°15.6<br>0°36.3 | 58°15.8<br>0°37.3 | 73°16.0<br>0°38.2 | +0.2<br>+1.0 |
| Me 22 | 268°18.4<br>0°51.1 | 283°18.6<br>0°52.1 | 298°18.8<br>0°53.0 | 313°19.0<br>0°54.0 | 328°19.2<br>0°55.0 | 343°19.4<br>0°56.0 | 358°19.6<br>0°57.0 | 13°19.7<br>0°58.0 | 28°19.9<br>0°59.0 | 43°20.1<br>1°00.0 | 58°20.3<br>1°00.9 | 73°20.5<br>1°01.9 | +0.2<br>+1.0 |
| Je 23 | 268°22.9<br>1°14.7 | 283°23.1<br>1°15.7 | 298°23.3<br>1°16.7 | 313°23.5<br>1°17.7 | 328°23.7<br>1°18.7 | 343°23.9<br>1°19.7 | 358°24.0<br>1°20.6 | 13°24.2<br>1°21.6 | 28°24.4<br>1°22.6 | 43°24.6<br>1°23.6 | 58°24.8<br>1°24.6 | 73°25.0<br>1°25.6 | +0.2<br>+1.0 |
| Ve 24 | 268°27.4<br>1°38.4 | 283°27.6<br>1°39.4 | 298°27.8<br>1°40.3 | 313°28.0<br>1°41.3 | 328°28.2<br>1°42.3 | 343°28.3<br>1°43.3 | 358°28.5<br>1°44.3 | 13°28.7<br>1°45.3 | 28°28.9<br>1°46.2 | 43°29.1<br>1°47.2 | 58°29.3<br>1°48.2 | 73°29.5<br>1°49.2 | +0.2<br>+1.0 |
| Sa 25 | 268°31.9<br>2°02.0 | 283°32.1<br>2°02.9 | 298°32.3<br>2°03.9 | 313°32.5<br>2°04.9 | 328°32.7<br>2°05.9 | 343°32.9<br>2°06.9 | 358°33.0<br>2°07.9 | 13°33.2<br>2°08.8 | 28°33.4<br>2°09.8 | 43°33.6<br>2°10.8 | 58°33.8<br>2°11.8 | 73°34.0<br>2°12.8 | +0.2<br>+1.0 |
| Di 26 | 268°36.4<br>2°25.5 | 283°36.6<br>2°26.5 | 298°36.8<br>2°27.5 | 313°37.0<br>2°28.5 | 328°37.2<br>2°29.4 | 343°37.4<br>2°30.4 | 358°37.5<br>2°31.4 | 13°37.7<br>2°32.4 | 28°37.9<br>2°33.4 | 43°38.1<br>2°34.3 | 58°38.3<br>2°35.3 | 73°38.5<br>2°36.3 | +0.2<br>+1.0 |
| Lu 27 | 268°40.9<br>2°49.0 | 283°41.1<br>2°50.0 | 298°41.3<br>2°51.0 | 313°41.5<br>2°52.0 | 328°41.7<br>2°52.9 | 343°41.9<br>2°53.9 | 358°42.1<br>2°54.9 | 13°42.2<br>2°55.9 | 28°42.4<br>2°56.8 | 43°42.6<br>2°57.8 | 58°42.8<br>2°58.8 | 73°43.0<br>2°59.8 | +0.2<br>+1.0 |
| Ma 28 | 268°45.4<br>3°12.5 | 283°45.6<br>3°13.4 | 298°45.8<br>3°14.4 | 313°46.0<br>3°15.4 | 328°46.2<br>3°16.4 | 343°46.4<br>3°17.3 | 358°46.6<br>3°18.3 | 13°46.7<br>3°19.3 | 28°46.9<br>3°20.3 | 43°47.1<br>3°21.2 | 58°47.3<br>3°22.2 | 73°47.5<br>3°23.2 | +0.2<br>+1.0 |
| Me 29 | 268°49.9<br>3°35.8 | 283°50.1<br>3°36.8 | 298°50.3<br>3°37.8 | 313°50.5<br>3°38.8 | 328°50.7<br>3°39.7 | 343°50.9<br>3°40.7 | 358°51.0<br>3°41.7 | 13°51.2<br>3°42.7 | 28°51.4<br>3°43.6 | 43°51.6<br>3°44.6 | 58°51.8<br>3°45.6 | 73°52.0<br>3°46.5 | +0.2<br>+1.0 |
| Je 30 | 268°54.4<br>3°59.2 | 283°54.6<br>4°00.1 | 298°54.8<br>4°01.1 | 313°55.0<br>4°02.1 | 328°55.2<br>4°03.0 | 343°55.3<br>4°04.0 | 358°55.5<br>4°05.0 | 13°55.7<br>4°05.9 | 28°55.9<br>4°06.9 | 43°56.1<br>4°07.9 | 58°56.3<br>4°08.8 | 73°56.5<br>4°09.8 | +0.2<br>+1.0 |
| Ve 31 | 268°58.9<br>4°22.4 | 283°59.1<br>4°23.4 | 298°59.2<br>4°24.3 | 313°59.4<br>4°25.3 | 328°59.6<br>4°26.3 | 343°59.8<br>4°27.2 | 359°00.0<br>4°28.2 | 14°00.2<br>4°29.2 | 29°00.4<br>4°30.1 | 44°00.5<br>4°31.1 | 59°00.7<br>4°32.1 | 74°00.9<br>4°33.0 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2028

| J | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 248°26.5<br>18°08.8 | 262°58.2<br>18°19.2 | 277°29.9<br>18°29.5 | 292°01.5<br>18°39.7 | 306°33.1<br>18°49.8 | 321°04.5<br>18°59.8 | 335°35.8<br>19°09.8 | 350°07.1<br>19°19.7 | 4°38.3<br>19°29.5 | 19°09.4<br>19°39.2 | 33°40.4<br>19°48.9 | +31.4<br>+10.0 | 15.1<br>55.4 |
| Je 2 | 251°14.6<br>22°02.7 | 265°44.1<br>22°10.8 | 280°13.6<br>22°18.9 | 294°42.9<br>22°26.8 | 309°12.2<br>22°34.6 | 323°41.4<br>22°42.4 | 338°10.4<br>22°50.0 | 352°39.4<br>22°57.5 | 7°08.3<br>23°04.9 | 21°37.1<br>23°12.2 | 36°05.8<br>23°19.3 | +29.1<br>+7.7 | 15.3<br>56.0 |
| Ve 3 | 253°05.3<br>24°52.6 | 267°32.5<br>24°57.8 | 281°59.7<br>25°02.9 | 296°26.7<br>25°07.8 | 310°53.7<br>25°12.7 | 325°20.6<br>25°17.3 | 339°47.4<br>25°21.9 | 354°14.1<br>25°26.2 | 8°40.8<br>25°30.5 | 23°07.3<br>25°34.6 | 37°33.8<br>25°38.6 | +26.9<br>+4.6 | 15.5<br>56.8 |
| ◐ Sa 4 | 254°02.0<br>26°20.4 | 268°27.3<br>26°22.0 | 282°52.6<br>26°23.4 | 297°17.8<br>26°24.7 | 311°42.9<br>26°25.8 | 326°08.0<br>26°26.7 | 340°33.0<br>26°27.5 | 354°58.0<br>26°28.1 | 9°22.9<br>26°28.5 | 23°47.8<br>26°28.8 | 38°12.6<br>26°28.8 | +25.1<br>+0.8 | 15.7<br>57.6 |
| Di 5 | 254°20.2<br>26°10.6 | 268°44.4<br>26°08.0 | 283°08.7<br>26°05.3 | 297°32.9<br>26°02.4 | 311°57.1<br>25°59.3 | 326°21.3<br>25°56.0 | 340°45.4<br>25°52.6 | 355°09.6<br>25°49.0 | 9°33.7<br>25°45.2 | 23°57.9<br>25°41.2 | 38°22.0<br>25°37.1 | +24.2<br>-3.3 | 16.0<br>58.6 |
| Lu 6 | 254°24.5<br>24°14.7 | 268°48.7<br>24°07.9 | 283°13.0<br>24°00.8 | 297°37.3<br>23°53.7 | 312°01.6<br>23°46.3 | 326°26.0<br>23°38.8 | 340°50.4<br>23°31.1 | 355°14.8<br>23°23.3 | 9°39.2<br>23°15.3 | 24°03.7<br>23°07.1 | 38°28.2<br>22°58.8 | +24.4<br>-7.6 | 16.2<br>59.5 |
| Ma 7 | 254°40.1<br>20°35.2 | 269°05.3<br>20°24.4 | 283°30.5<br>20°13.5 | 297°55.7<br>20°02.4 | 312°21.0<br>19°51.2 | 326°46.3<br>19°39.9 | 341°11.7<br>19°28.4 | 355°37.1<br>19°16.7 | 10°02.6<br>19°05.0 | 24°28.2<br>18°53.1 | 38°53.7<br>18°41.1 | +25.4<br>-11.4 | 16.4<br>60.3 |
| Me 8 | 255°23.8<br>15°25.8 | 269°50.2<br>15°11.8 | 284°16.7<br>14°57.8 | 298°43.2<br>14°43.6 | 313°09.8<br>14°29.4 | 327°36.4<br>14°15.0 | 342°03.1<br>14°00.6 | 356°29.8<br>13°46.0 | 10°56.6<br>13°31.4 | 25°23.4<br>13°16.6 | 39°50.3<br>13°01.8 | +26.7<br>-14.4 | 16.6<br>60.9 |
| Je 9 | 256°39.1<br>9°09.6 | 271°06.7<br>8°53.6 | 285°34.3<br>8°37.5 | 300°02.0<br>8°21.3 | 314°29.7<br>8°05.1 | 328°57.5<br>7°48.9 | 343°25.3<br>7°32.5 | 357°53.1<br>7°16.2 | 12°20.9<br>6°59.8 | 26°48.8<br>6°43.3 | 41°16.8<br>6°26.8 | +27.8<br>-16.3 | 16.7<br>61.2 |
| Ve 10 | 258°19.0<br>2°15.6 | 272°47.3<br>1°58.7 | 287°15.7<br>1°41.8 | 301°44.0<br>1°24.9 | 316°12.4<br>1°07.9 | 330°40.8<br>0°51.0 | 345°09.2<br>0°34.1 | 359°37.6<br>0°17.1 | 14°06.1<br>0°00.2 | 28°34.5<br>-0°16.7 | 43°03.0<br>-0°33.6 | +28.4<br>-16.9 | 16.7<br>61.2 |
| ○ Sa 11 | 260°10.2<br>-4°45.0 | 274°38.7<br>-5°01.6 | 289°07.2<br>-5°18.0 | 303°35.6<br>-5°34.5 | 318°04.1<br>-5°50.9 | 332°32.5<br>-6°07.2 | 347°01.0<br>-6°23.5 | 1°29.4<br>-6°39.8 | 15°57.8<br>-6°56.0 | 30°26.2<br>-7°12.1 | 44°54.6<br>-7°28.2 | +28.4<br>-16.3 | 16.6<br>60.8 |
| Di 12 | 261°58.3<br>-11°21.8 | 276°26.4<br>-11°36.7 | 290°54.4<br>-11°51.6 | 305°22.5<br>-12°06.4 | 319°50.5<br>-12°21.1 | 334°18.4<br>-12°35.7 | 348°46.4<br>-12°50.3 | 3°14.3<br>-13°04.7 | 17°42.2<br>-13°19.1 | 32°10.1<br>-13°33.3 | 46°37.9<br>-13°47.5 | +28.0<br>-14.6 | 16.4<br>60.2 |
| Lu 13 | 263°31.8<br>-17°07.3 | 277°59.2<br>-17°19.8 | 292°26.5<br>-17°32.1 | 306°53.8<br>-17°44.3 | 321°21.0<br>-17°56.3 | 335°48.2<br>-18°08.3 | 350°15.4<br>-18°20.1 | 4°42.6<br>-18°31.8 | 19°09.7<br>-18°43.4 | 33°36.8<br>-18°54.8 | 48°03.8<br>-19°06.1 | +27.2<br>-11.9 | 16.2<br>59.3 |
| Ma 14 | 264°46.2<br>-21°39.9 | 279°12.9<br>-21°49.0 | 293°39.4<br>-21°58.0 | 308°06.0<br>-22°06.9 | 322°32.6<br>-22°15.6 | 336°59.1<br>-22°24.2 | 351°25.6<br>-22°32.6 | 5°52.1<br>-22°40.9 | 20°18.5<br>-22°49.0 | 34°45.0<br>-22°57.0 | 49°11.4<br>-23°04.8 | +26.5<br>-8.5 | 15.9<br>58.3 |
| Me 15 | 265°46.4<br>-24°44.5 | 280°12.7<br>-24°49.9 | 294°39.0<br>-24°55.2 | 309°05.3<br>-25°00.3 | 323°31.6<br>-25°05.3 | 337°57.9<br>-25°10.1 | 352°24.1<br>-25°14.7 | 6°50.4<br>-25°19.2 | 21°16.8<br>-25°23.6 | 35°43.1<br>-25°27.8 | 50°09.4<br>-25°31.8 | +26.3<br>-4.7 | 15.6<br>57.3 |
| Je 16 | 266°46.3<br>-26°14.2 | 281°12.9<br>-26°15.8 | 295°39.6<br>-26°17.3 | 310°06.3<br>-26°18.6 | 324°33.0<br>-26°19.8 | 338°59.8<br>-26°20.8 | 353°26.6<br>-26°21.6 | 7°53.5<br>-26°22.4 | 22°20.3<br>-26°22.9 | 36°47.3<br>-26°23.4 | 51°14.2<br>-26°23.6 | +26.8<br>-0.9 | 15.4<br>56.3 |
| ◑ Ve 17 | 281°12.9<br>-26°15.8 | 295°39.6<br>-26°17.3 | 310°06.3<br>-26°18.6 | 324°33.0<br>-26°19.8 | 338°59.8<br>-26°20.8 | 353°26.6<br>-26°21.6 | 7°53.5<br>-26°22.4 | 22°20.3<br>-26°22.9 | 36°47.3<br>-26°23.4 | 51°14.2<br>-26°23.6 | 65°41.2<br>-26°23.8 | +26.8<br>-0.8 | 15.4<br>56.3 |
| Sa 18 | 282°32.1<br>-26°08.6 | 296°59.9<br>-26°06.4 | 311°27.8<br>-26°04.2 | 325°55.7<br>-26°01.8 | 340°23.7<br>-25°59.3 | 354°51.8<br>-25°56.6 | 9°19.9<br>-25°53.8 | 23°48.0<br>-25°50.9 | 38°16.3<br>-25°47.8 | 52°44.6<br>-25°44.6 | 67°13.0<br>-25°41.3 | +28.1<br>+2.7 | 15.1<br>55.5 |
| Di 19 | 284°26.7<br>-24°36.6 | 298°56.2<br>-24°31.3 | 313°25.8<br>-24°25.9 | 327°55.4<br>-24°20.4 | 342°25.1<br>-24°14.8 | 356°54.9<br>-24°09.1 | 11°24.8<br>-24°03.2 | 25°54.7<br>-23°57.3 | 40°24.7<br>-23°51.2 | 54°54.8<br>-23°45.1 | 69°24.9<br>-23°38.8 | +29.8<br>+5.8 | 15.0<br>54.9 |
| Lu 20 | 287°06.2<br>-21°52.4 | 301°37.5<br>-21°44.5 | 316°09.0<br>-21°36.5 | 330°40.5<br>-21°28.5 | 345°12.0<br>-21°20.3 | 359°43.7<br>-21°12.1 | 14°15.4<br>-21°03.8 | 28°47.2<br>-20°55.4 | 43°19.0<br>-20°46.9 | 57°51.0<br>-20°38.3 | 72°23.0<br>-20°29.6 | +31.7<br>+8.3 | 14.8<br>54.4 |
| Ma 21 | 290°31.2<br>-18°09.9 | 305°04.3<br>-18°00.0 | 319°37.4<br>-17°50.0 | 334°10.7<br>-17°39.9 | 348°43.9<br>-17°29.8 | 3°17.3<br>-17°19.6 | 17°50.6<br>-17°09.3 | 32°24.1<br>-16°59.0 | 46°57.6<br>-16°48.6 | 61°31.2<br>-16°38.1 | 76°04.8<br>-16°27.6 | +33.4<br>+10.2 | 14.8<br>54.1 |
| Me 22 | 294°35.7<br>-13°42.6 | 309°10.2<br>-13°31.1 | 323°44.7<br>-13°19.7 | 338°19.3<br>-13°08.1 | 352°53.9<br>-12°56.5 | 7°28.5<br>-12°44.9 | 22°03.2<br>-12°33.2 | 36°37.9<br>-12°21.4 | 51°12.7<br>-12°09.7 | 65°47.5<br>-11°57.8 | 80°22.4<br>-11°46.0 | +34.7<br>+11.7 | 14.7<br>54.0 |
| Je 23 | 299°09.4<br>-8°42.9 | 313°44.8<br>-8°30.4 | 328°20.2<br>-8°17.9 | 342°55.6<br>-8°05.4 | 357°31.0<br>-7°52.8 | 12°06.5<br>-7°40.1 | 26°42.0<br>-7°27.5 | 41°17.5<br>-7°14.8 | 55°53.1<br>-7°02.1 | 70°28.6<br>-6°49.4 | 85°04.2<br>-6°36.6 | +35.5<br>+12.6 | 14.7<br>54.0 |
| Ve 24 | 303°59.5<br>-3°22.4 | 318°35.3<br>-3°09.3 | 333°11.0<br>-2°56.2 | 347°46.8<br>-2°43.1 | 2°22.5<br>-2°30.0 | 16°58.3<br>-2°16.8 | 31°34.1<br>-2°03.7 | 46°09.8<br>-1°50.5 | 60°45.6<br>-1°37.3 | 75°21.3<br>-1°24.1 | 89°57.1<br>-1°10.9 | +35.8<br>+13.2 | 14.7<br>54.1 |
| Sa 25 | 308°52.4<br>2°07.7 | 323°28.0<br>2°20.9 | 338°03.5<br>2°34.2 | 352°39.0<br>2°47.4 | 7°14.6<br>3°00.6 | 21°50.1<br>3°13.8 | 36°25.5<br>3°27.0 | 51°01.0<br>3°40.3 | 65°36.4<br>3°53.5 | 80°11.8<br>4°06.6 | 94°47.2<br>4°19.8 | +35.5<br>+13.2 | 14.8<br>54.3 |
| ● Di 26 | 313°34.0<br>7°35.7 | 328°08.8<br>7°48.6 | 342°43.6<br>8°01.5 | 357°18.3<br>8°14.4 | 11°53.0<br>8°27.2 | 26°27.7<br>8°40.0 | 41°02.3<br>8°52.8 | 55°36.9<br>9°05.5 | 70°11.4<br>9°18.2 | 84°45.8<br>9°30.9 | 99°20.3<br>9°43.5 | +34.6<br>+12.8 | 14.9<br>54.6 |
| Lu 27 | 317°50.3<br>12°48.9 | 332°23.8<br>13°00.9 | 346°57.3<br>13°12.9 | 1°30.7<br>13°24.8 | 16°04.1<br>13°36.7 | 30°37.3<br>13°48.5 | 45°10.6<br>14°00.3 | 59°43.7<br>14°12.0 | 74°16.8<br>14°23.7 | 88°49.8<br>14°35.3 | 103°22.8<br>14°46.9 | +33.3<br>+11.8 | 15.0<br>54.9 |
| Ma 28 | 321°28.5<br>17°32.8 | 336°00.3<br>17°43.4 | 350°32.0<br>17°53.8 | 5°03.6<br>18°04.2 | 19°35.1<br>18°14.5 | 34°06.6<br>18°24.7 | 48°38.0<br>18°34.8 | 63°09.3<br>18°44.9 | 77°40.5<br>18°54.9 | 92°11.6<br>19°04.8 | 106°42.7<br>19°14.6 | +31.4<br>+10.2 | 15.1<br>55.4 |
| Me 29 | 324°18.6<br>21°31.2 | 338°48.4<br>21°39.5 | 353°18.0<br>21°47.8 | 7°47.5<br>21°55.9 | 22°17.0<br>22°03.9 | 36°46.4<br>22°11.9 | 51°15.7<br>22°19.7 | 65°44.9<br>22°27.4 | 80°14.1<br>22°35.0 | 94°43.1<br>22°42.5 | 109°12.1<br>22°49.9 | +29.3<br>+7.9 | 15.2<br>55.9 |
| Je 30 | 326°16.7<br>24°26.5 | 340°44.4<br>24°31.9 | 355°12.0<br>24°37.3 | 9°39.5<br>24°42.5 | 24°07.0<br>24°47.5 | 38°34.4<br>24°52.4 | 53°01.7<br>24°57.2 | 67°28.9<br>25°01.9 | 81°56.1<br>25°06.4 | 96°23.2<br>25°10.8 | 110°50.2<br>25°15.1 | +27.3<br>+4.9 | 15.4<br>56.4 |
| Ve 31 | 327°27.9<br>26°01.8 | 341°54.0<br>26°03.7 | 356°20.0<br>26°05.5 | 10°45.9<br>26°07.1 | 25°11.8<br>26°08.6 | 39°37.7<br>26°09.9 | 54°03.5<br>26°11.1 | 68°29.3<br>26°12.1 | 82°55.1<br>26°13.0 | 97°20.8<br>26°13.7 | 111°46.4<br>26°14.3 | +25.8<br>+1.3 | 15.6<br>57.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 4 09h02 — PL: 11 01h06 — DQ: 17 23h22 — NL: 26 04h31

# SOLEIL

## Avril 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°03.3 | 284°03.5 | 299°03.7 | 314°03.9 | 329°04.0 | 344°04.2 | 359°04.4 | 14°04.6 | 29°04.8 | 44°05.0 | 59°05.2 | 74°05.3 | +0.2 |
| | 4°45.5 | 4°46.5 | 4°47.5 | 4°48.4 | 4°49.4 | 4°50.4 | 4°51.3 | 4°52.3 | 4°53.2 | 4°54.2 | 4°55.2 | 4°56.1 | +1.0 |
| Di 2 | 269°07.7 | 284°07.9 | 299°08.1 | 314°08.3 | 329°08.5 | 344°08.6 | 359°08.8 | 14°09.0 | 29°09.2 | 44°09.4 | 59°09.6 | 74°09.7 | +0.2 |
| | 5°08.6 | 5°09.6 | 5°10.5 | 5°11.5 | 5°12.5 | 5°13.4 | 5°14.4 | 5°15.3 | 5°16.3 | 5°17.2 | 5°18.2 | 5°19.2 | +1.0 |
| Lu 3 | 269°12.1 | 284°12.3 | 299°12.5 | 314°12.7 | 329°12.8 | 344°13.0 | 359°13.2 | 14°13.4 | 29°13.6 | 44°13.8 | 59°13.9 | 74°14.1 | +0.2 |
| | 5°31.6 | 5°32.5 | 5°33.5 | 5°34.5 | 5°35.4 | 5°36.4 | 5°37.3 | 5°38.3 | 5°39.2 | 5°40.2 | 5°41.1 | 5°42.1 | +1.0 |
| Ma 4 | 269°16.5 | 284°16.6 | 299°16.8 | 314°17.0 | 329°17.2 | 344°17.4 | 359°17.5 | 14°17.7 | 29°17.9 | 44°18.1 | 59°18.3 | 74°18.4 | +0.2 |
| | 5°54.5 | 5°55.4 | 5°56.4 | 5°57.3 | 5°58.3 | 5°59.2 | 6°00.2 | 6°01.1 | 6°02.1 | 6°03.0 | 6°04.0 | 6°04.9 | +0.9 |
| Me 5 | 269°20.8 | 284°21.0 | 299°21.1 | 314°21.3 | 329°21.5 | 344°21.7 | 359°21.9 | 14°22.0 | 29°22.2 | 44°22.4 | 59°22.6 | 74°22.7 | +0.2 |
| | 6°17.2 | 6°18.2 | 6°19.1 | 6°20.1 | 6°21.0 | 6°22.0 | 6°22.9 | 6°23.9 | 6°24.8 | 6°25.8 | 6°26.7 | 6°27.6 | +0.9 |
| Je 6 | 269°25.1 | 284°25.2 | 299°25.4 | 314°25.6 | 329°25.8 | 344°25.9 | 359°26.1 | 14°26.3 | 29°26.5 | 44°26.6 | 59°26.8 | 74°27.0 | +0.2 |
| | 6°39.9 | 6°40.8 | 6°41.8 | 6°42.7 | 6°43.7 | 6°44.6 | 6°45.6 | 6°46.5 | 6°47.4 | 6°48.4 | 6°49.3 | 6°50.3 | +0.9 |
| Ve 7 | 269°29.3 | 284°29.4 | 299°29.6 | 314°29.8 | 329°30.0 | 344°30.1 | 359°30.3 | 14°30.5 | 29°30.7 | 44°30.8 | 59°31.0 | 74°31.2 | +0.2 |
| | 7°02.4 | 7°03.4 | 7°04.3 | 7°05.3 | 7°06.2 | 7°07.1 | 7°08.1 | 7°09.0 | 7°09.9 | 7°10.9 | 7°11.8 | 7°12.7 | +0.9 |
| Sa 8 | 269°33.4 | 284°33.6 | 299°33.8 | 314°34.0 | 329°34.1 | 344°34.3 | 359°34.5 | 14°34.6 | 29°34.8 | 44°35.0 | 59°35.2 | 74°35.3 | +0.2 |
| | 7°24.9 | 7°25.8 | 7°26.7 | 7°27.7 | 7°28.6 | 7°29.5 | 7°30.5 | 7°31.4 | 7°32.3 | 7°33.3 | 7°34.2 | 7°35.1 | +0.9 |
| Di 9 | 269°37.5 | 284°37.7 | 299°37.9 | 314°38.0 | 329°38.2 | 344°38.4 | 359°38.6 | 14°38.7 | 29°38.9 | 44°39.1 | 59°39.2 | 74°39.4 | +0.2 |
| | 7°47.2 | 7°48.1 | 7°49.0 | 7°50.0 | 7°50.9 | 7°51.8 | 7°52.7 | 7°53.7 | 7°54.6 | 7°55.5 | 7°56.4 | 7°57.4 | +0.9 |
| Lu 10 | 269°41.6 | 284°41.7 | 299°41.9 | 314°42.1 | 329°42.2 | 344°42.4 | 359°42.6 | 14°42.7 | 29°42.9 | 44°43.1 | 59°43.2 | 74°43.4 | +0.2 |
| | 8°09.3 | 8°10.3 | 8°11.2 | 8°12.1 | 8°13.0 | 8°13.9 | 8°14.9 | 8°15.8 | 8°16.7 | 8°17.6 | 8°18.5 | 8°19.5 | +0.9 |
| Ma 11 | 269°45.5 | 284°45.7 | 299°45.9 | 314°46.0 | 329°46.2 | 344°46.4 | 359°46.5 | 14°46.7 | 29°46.9 | 44°47.0 | 59°47.2 | 74°47.3 | +0.2 |
| | 8°31.4 | 8°32.3 | 8°33.2 | 8°34.1 | 8°35.0 | 8°35.9 | 8°36.9 | 8°37.8 | 8°38.7 | 8°39.6 | 8°40.5 | 8°41.4 | +0.9 |
| Me 12 | 269°49.4 | 284°49.6 | 299°49.8 | 314°49.9 | 329°50.1 | 344°50.2 | 359°50.4 | 14°50.6 | 29°50.7 | 44°50.9 | 59°51.0 | 74°51.2 | +0.2 |
| | 8°53.3 | 8°54.2 | 8°55.1 | 8°56.0 | 8°56.9 | 8°57.8 | 8°58.7 | 8°59.6 | 9°00.5 | 9°01.4 | 9°02.3 | 9°03.3 | +0.9 |
| Je 13 | 269°53.3 | 284°53.4 | 299°53.6 | 314°53.7 | 329°53.9 | 344°54.0 | 359°54.2 | 14°54.3 | 29°54.5 | 44°54.7 | 59°54.8 | 74°55.0 | +0.2 |
| | 9°15.0 | 9°15.9 | 9°16.8 | 9°17.7 | 9°18.6 | 9°19.5 | 9°20.4 | 9°21.3 | 9°22.2 | 9°23.1 | 9°24.0 | 9°24.9 | +0.9 |
| Ve 14 | 269°57.0 | 284°57.1 | 299°57.3 | 314°57.4 | 329°57.6 | 344°57.7 | 359°57.9 | 14°58.0 | 29°58.2 | 44°58.4 | 59°58.5 | 74°58.7 | +0.2 |
| | 9°36.6 | 9°37.5 | 9°38.4 | 9°39.3 | 9°40.2 | 9°41.1 | 9°42.0 | 9°42.9 | 9°43.8 | 9°44.7 | 9°45.6 | 9°46.5 | +0.9 |
| Sa 15 | 270°00.6 | 285°00.8 | 300°00.9 | 315°01.1 | 330°01.2 | 345°01.4 | 0°01.5 | 15°01.7 | 30°01.8 | 45°02.0 | 60°02.1 | 75°02.2 | +0.1 |
| | 9°58.0 | 9°58.9 | 9°59.8 | 10°00.7 | 10°01.6 | 10°02.5 | 10°03.4 | 10°04.3 | 10°05.2 | 10°06.0 | 10°06.9 | 10°07.8 | +0.9 |
| Di 16 | 270°04.2 | 285°04.3 | 300°04.4 | 315°04.6 | 330°04.7 | 345°04.9 | 0°05.0 | 15°05.2 | 30°05.3 | 45°05.5 | 60°05.6 | 75°05.7 | +0.1 |
| | 10°19.3 | 10°20.2 | 10°21.1 | 10°22.0 | 10°22.8 | 10°23.7 | 10°24.6 | 10°25.5 | 10°26.4 | 10°27.3 | 10°28.1 | 10°29.0 | +0.9 |
| Lu 17 | 270°07.6 | 285°07.7 | 300°07.9 | 315°08.0 | 330°08.2 | 345°08.3 | 0°08.4 | 15°08.6 | 30°08.7 | 45°08.9 | 60°09.0 | 75°09.1 | +0.1 |
| | 10°40.4 | 10°41.3 | 10°42.2 | 10°43.1 | 10°43.9 | 10°44.8 | 10°45.7 | 10°46.5 | 10°47.4 | 10°48.3 | 10°49.2 | 10°50.0 | +0.9 |
| Ma 18 | 270°10.9 | 285°11.1 | 300°11.2 | 315°11.4 | 330°11.5 | 345°11.6 | 0°11.8 | 15°11.9 | 30°12.0 | 45°12.2 | 60°12.3 | 75°12.4 | +0.1 |
| | 11°01.4 | 11°02.2 | 11°03.1 | 11°04.0 | 11°04.8 | 11°05.7 | 11°06.6 | 11°07.4 | 11°08.3 | 11°09.2 | 11°10.0 | 11°10.9 | +0.9 |
| Me 19 | 270°14.2 | 285°14.3 | 300°14.4 | 315°14.6 | 330°14.7 | 345°14.8 | 0°15.0 | 15°15.1 | 30°15.2 | 45°15.4 | 60°15.5 | 75°15.6 | +0.1 |
| | 11°22.1 | 11°23.0 | 11°23.8 | 11°24.7 | 11°25.5 | 11°26.4 | 11°27.3 | 11°28.1 | 11°29.0 | 11°29.8 | 11°30.7 | 11°31.6 | +0.9 |
| Je 20 | 270°17.3 | 285°17.4 | 300°17.6 | 315°17.7 | 330°17.8 | 345°17.9 | 0°18.1 | 15°18.2 | 30°18.3 | 45°18.4 | 60°18.6 | 75°18.7 | +0.1 |
| | 11°42.7 | 11°43.5 | 11°44.4 | 11°45.2 | 11°46.1 | 11°46.9 | 11°47.8 | 11°48.6 | 11°49.5 | 11°50.3 | 11°51.2 | 11°52.0 | +0.9 |
| Ve 21 | 270°20.3 | 285°20.4 | 300°20.6 | 315°20.7 | 330°20.8 | 345°20.9 | 0°21.1 | 15°21.2 | 30°21.3 | 45°21.4 | 60°21.5 | 75°21.7 | +0.1 |
| | 12°03.0 | 12°03.9 | 12°04.7 | 12°05.6 | 12°06.4 | 12°07.3 | 12°08.1 | 12°08.9 | 12°09.8 | 12°10.6 | 12°11.5 | 12°12.3 | +0.8 |
| Sa 22 | 270°23.2 | 285°23.3 | 300°23.5 | 315°23.6 | 330°23.7 | 345°23.8 | 0°23.9 | 15°24.0 | 30°24.2 | 45°24.3 | 60°24.4 | 75°24.5 | +0.1 |
| | 12°23.2 | 12°24.0 | 12°24.9 | 12°25.7 | 12°26.6 | 12°27.4 | 12°28.2 | 12°29.1 | 12°29.9 | 12°30.7 | 12°31.6 | 12°32.4 | +0.8 |
| Di 23 | 270°26.0 | 285°26.1 | 300°26.2 | 315°26.4 | 330°26.5 | 345°26.6 | 0°26.7 | 15°26.8 | 30°26.9 | 45°27.0 | 60°27.1 | 75°27.2 | +0.1 |
| | 12°43.2 | 12°44.0 | 12°44.8 | 12°45.7 | 12°46.5 | 12°47.3 | 12°48.1 | 12°49.0 | 12°49.8 | 12°50.6 | 12°51.4 | 12°52.3 | +0.8 |
| Lu 24 | 270°28.7 | 285°28.8 | 300°28.9 | 315°29.0 | 330°29.1 | 345°29.2 | 0°29.3 | 15°29.4 | 30°29.5 | 45°29.6 | 60°29.8 | 75°29.9 | +0.1 |
| | 13°02.9 | 13°03.8 | 13°04.6 | 13°05.4 | 13°06.2 | 13°07.0 | 13°07.8 | 13°08.7 | 13°09.5 | 13°10.3 | 13°11.1 | 13°11.9 | +0.8 |
| Ma 25 | 270°31.2 | 285°31.3 | 300°31.4 | 315°31.5 | 330°31.6 | 345°31.7 | 0°31.8 | 15°31.9 | 30°32.1 | 45°32.2 | 60°32.3 | 75°32.4 | +0.1 |
| | 13°22.5 | 13°23.3 | 13°24.1 | 13°24.9 | 13°25.7 | 13°26.5 | 13°27.3 | 13°28.1 | 13°28.9 | 13°29.8 | 13°30.6 | 13°31.4 | +0.8 |
| Me 26 | 270°33.7 | 285°33.8 | 300°33.9 | 315°33.9 | 330°34.0 | 345°34.1 | 0°34.2 | 15°34.3 | 30°34.4 | 45°34.5 | 60°34.6 | 75°34.7 | +0.1 |
| | 13°41.8 | 13°42.6 | 13°43.4 | 13°44.2 | 13°45.0 | 13°45.8 | 13°46.6 | 13°47.4 | 13°48.2 | 13°49.0 | 13°49.8 | 13°50.6 | +0.8 |
| Je 27 | 270°36.0 | 285°36.0 | 300°36.1 | 315°36.2 | 330°36.3 | 345°36.4 | 0°36.5 | 15°36.6 | 30°36.7 | 45°36.8 | 60°36.9 | 75°37.0 | +0.1 |
| | 14°00.9 | 14°01.7 | 14°02.5 | 14°03.3 | 14°04.1 | 14°04.9 | 14°05.6 | 14°06.4 | 14°07.2 | 14°08.0 | 14°08.8 | 14°09.6 | +0.8 |
| Ve 28 | 270°38.1 | 285°38.2 | 300°38.3 | 315°38.4 | 330°38.5 | 345°38.6 | 0°38.7 | 15°38.7 | 30°38.8 | 45°38.9 | 60°39.0 | 75°39.1 | +0.1 |
| | 14°19.8 | 14°20.5 | 14°21.3 | 14°22.1 | 14°22.9 | 14°23.7 | 14°24.4 | 14°25.2 | 14°26.0 | 14°26.8 | 14°27.6 | 14°28.3 | +0.8 |
| Sa 29 | 270°40.2 | 285°40.3 | 300°40.3 | 315°40.4 | 330°40.5 | 345°40.6 | 0°40.7 | 15°40.8 | 30°40.8 | 45°40.9 | 60°41.0 | 75°41.1 | +0.1 |
| | 14°38.4 | 14°39.2 | 14°39.9 | 14°40.7 | 14°41.5 | 14°42.2 | 14°43.0 | 14°43.8 | 14°44.6 | 14°45.3 | 14°46.1 | 14°46.9 | +0.8 |
| Di 30 | 270°42.1 | 285°42.2 | 300°42.3 | 315°42.3 | 330°42.4 | 345°42.5 | 0°42.6 | 15°42.6 | 30°42.7 | 45°42.8 | 60°42.9 | 75°42.9 | +0.1 |
| | 14°56.8 | 14°57.5 | 14°58.3 | 14°59.1 | 14°59.8 | 15°00.6 | 15°01.3 | 15°02.1 | 15°02.9 | 15°03.6 | 15°04.4 | 15°05.1 | +0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2028

| J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 256°01.2 | 270°26.6 | 284°51.9 | 299°17.2 | 313°42.5 | 328°07.7 | 342°33.0 | 356°58.2 | 11°23.4 | 25°48.7 | 40°13.9 | +25.3 | 15.7 |
| | 26°11.2 | 26°10.0 | 26°08.7 | 26°07.2 | 26°05.5 | 26°03.7 | 26°01.7 | 25°59.6 | 25°57.3 | 25°54.8 | 25°52.2 | -1.9 | 57.6 |
| Di 2 | 256°32.1 | 270°57.4 | 285°22.7 | 299°48.0 | 314°13.4 | 328°38.7 | 343°04.1 | 357°29.5 | 11°54.9 | 26°20.4 | 40°45.9 | +25.4 | 15.9 |
| | 24°53.4 | 24°48.3 | 24°42.9 | 24°37.4 | 24°31.7 | 24°25.9 | 24°19.9 | 24°13.8 | 24°07.5 | 24°01.1 | 23°54.5 | -5.9 | 58.3 |
| Lu 3 | 257°12.0 | 271°38.0 | 286°04.1 | 300°30.2 | 314°56.4 | 329°22.6 | 343°48.8 | 358°15.1 | 12°41.4 | 27°07.8 | 41°34.2 | +26.2 | 16.1 |
| | 21°57.4 | 21°48.4 | 21°39.3 | 21°30.0 | 21°20.6 | 21°11.1 | 21°01.4 | 20°51.6 | 20°41.6 | 20°31.6 | 20°21.3 | -9.6 | 59.0 |
| Ma 4 | 258°16.2 | 272°43.4 | 287°10.6 | 301°37.9 | 316°05.2 | 330°32.6 | 345°00.0 | 359°27.4 | 13°54.9 | 28°22.5 | 42°50.1 | +27.4 | 16.3 |
| | 17°32.8 | 17°20.6 | 17°08.2 | 16°55.8 | 16°43.3 | 16°30.6 | 16°17.9 | 16°05.0 | 15°52.0 | 15°39.0 | 15°25.8 | -12.7 | 59.6 |
| Me 5 | 259°49.1 | 274°17.3 | 288°45.6 | 303°13.9 | 317°42.3 | 332°10.7 | 346°39.1 | 1°07.5 | 15°36.0 | 30°04.6 | 44°33.1 | +28.4 | 16.4 |
| | 11°56.7 | 11°42.1 | 11°27.4 | 11°12.6 | 10°57.8 | 10°42.8 | 10°27.8 | 10°12.8 | 9°57.6 | 9°42.4 | 9°27.1 | -15.0 | 60.2 |
| Je 6 | 261°44.4 | 276°13.3 | 290°42.2 | 305°11.1 | 319°40.1 | 334°09.1 | 348°38.0 | 3°07.0 | 17°36.0 | 32°05.0 | 46°34.0 | +29.0 | 16.5 |
| | 5°31.4 | 5°15.3 | 4°59.2 | 4°43.1 | 4°26.9 | 4°10.7 | 3°54.4 | 3°38.2 | 3°21.9 | 3°05.5 | 2°49.2 | -16.2 | 60.5 |
| Ve 7 | 263°49.3 | 278°18.3 | 292°47.3 | 307°16.2 | 321°45.2 | 336°14.1 | 350°43.0 | 5°11.9 | 19°40.8 | 34°09.7 | 48°38.5 | +28.9 | 16.5 |
| | -1°17.4 | -1°33.9 | -1°50.3 | -2°06.7 | -2°23.2 | -2°39.6 | -2°56.0 | -3°12.3 | -3°28.7 | -3°45.0 | -4°01.3 | -16.4 | 60.6 |
| Sa 8 | 265°48.6 | 280°17.1 | 294°45.5 | 309°13.9 | 323°42.2 | 338°10.5 | 352°38.8 | 7°07.0 | 21°35.2 | 36°03.4 | 50°31.5 | +28.3 | 16.5 |
| | -8°01.9 | -8°17.6 | -8°33.2 | -8°48.8 | -9°04.3 | -9°19.8 | -9°35.2 | -9°50.5 | -10°05.8 | -10°21.0 | -10°36.1 | -15.4 | 60.4 |
| Di 9 | 267°28.6 | 281°56.0 | 296°23.4 | 310°50.8 | 325°18.1 | 339°45.4 | 354°12.6 | 8°39.8 | 23°06.9 | 37°34.0 | 52°01.0 | +27.2 | 16.3 |
| | -14°13.7 | -14°27.5 | -14°41.2 | -14°54.8 | -15°08.3 | -15°21.7 | -15°35.0 | -15°48.2 | -16°01.3 | -16°14.3 | -16°27.1 | -13.3 | 59.9 |
| Lu 10 | 268°41.2 | 283°07.5 | 297°33.8 | 312°00.1 | 326°26.3 | 340°52.4 | 355°18.5 | 9°44.6 | 24°10.7 | 38°36.7 | 53°02.6 | +26.1 | 16.1 |
| | -19°26.0 | -19°36.9 | -19°47.7 | -19°58.4 | -20°08.9 | -20°19.3 | -20°29.5 | -20°39.6 | -20°49.6 | -20°59.4 | -21°09.1 | -10.3 | 59.2 |
| Ma 11 | 269°28.4 | 283°53.9 | 298°19.4 | 312°44.9 | 327°10.3 | 341°35.8 | 356°01.2 | 10°26.6 | 24°52.0 | 39°17.4 | 53°42.8 | +25.4 | 15.9 |
| | -23°16.8 | -23°24.1 | -23°31.3 | -23°38.3 | -23°45.1 | -23°51.8 | -23°58.4 | -24°04.7 | -24°10.9 | -24°17.0 | -24°22.9 | -6.6 | 58.3 |
| Me 12 | 270°03.5 | 284°29.0 | 298°54.5 | 313°19.9 | 327°45.4 | 342°11.0 | 356°36.5 | 11°02.1 | 25°27.7 | 39°53.3 | 54°19.0 | +25.5 | 15.7 |
| | -25°32.3 | -25°35.6 | -25°38.8 | -25°41.8 | -25°44.7 | -25°47.4 | -25°49.9 | -25°52.3 | -25°54.5 | -25°56.6 | -25°58.5 | -2.6 | 57.4 |
| Je 13 | 270°48.5 | 285°14.8 | 299°41.2 | 314°07.6 | 328°34.1 | 343°00.7 | 357°27.3 | 11°54.0 | 26°20.7 | 40°47.5 | 55°14.4 | +26.6 | 15.4 |
| | -26°08.5 | -26°07.9 | -26°07.2 | -26°06.3 | -26°05.3 | -26°04.2 | -26°02.9 | -26°01.4 | -25°59.9 | -25°58.1 | -25°56.2 | +1.2 | 56.5 |
| Ve 14 | 272°05.7 | 286°33.7 | 301°01.8 | 315°30.0 | 329°58.2 | 344°26.5 | 358°54.9 | 13°23.4 | 27°52.0 | 42°20.7 | 56°49.4 | +28.4 | 15.2 |
| | -25°11.5 | -25°07.5 | -25°03.3 | -24°59.0 | -24°54.5 | -24°50.0 | -24°45.3 | -24°40.5 | -24°35.6 | -24°30.5 | -24°25.4 | +4.6 | 55.7 |
| Sa 15 | 286°33.7 | 301°01.8 | 315°30.0 | 329°58.2 | 344°26.5 | 358°54.9 | 13°23.4 | 27°52.0 | 42°20.7 | 56°49.4 | 71°18.2 | +28.5 | 15.2 |
| | -25°07.5 | -25°03.3 | -24°59.0 | -24°54.5 | -24°50.0 | -24°45.3 | -24°40.5 | -24°35.6 | -24°30.5 | -24°25.4 | -24°20.1 | +4.7 | 55.7 |
| Di 16 | 288°40.6 | 303°10.8 | 317°41.0 | 332°11.4 | 346°41.8 | 1°12.3 | 15°42.9 | 30°13.6 | 44°44.3 | 59°15.2 | 73°46.1 | +30.6 | 15.0 |
| | -22°47.3 | -22°40.3 | -22°33.1 | -22°25.9 | -22°18.5 | -22°11.1 | -22°03.6 | -21°55.9 | -21°48.2 | -21°40.4 | -21°32.5 | +7.5 | 55.0 |
| Lu 17 | 291°39.7 | 306°12.0 | 320°44.2 | 335°16.6 | 349°49.0 | 4°21.5 | 18°54.1 | 33°26.8 | 47°59.5 | 62°32.3 | 77°05.1 | +32.5 | 14.9 |
| | -19°23.2 | -19°13.9 | -19°04.6 | -18°55.1 | -18°45.6 | -18°36.1 | -18°26.4 | -18°16.7 | -18°06.9 | -17°57.0 | -17°47.1 | +9.6 | 54.5 |
| Ma 18 | 295°26.1 | 310°00.0 | 324°34.0 | 339°08.0 | 353°42.0 | 8°16.2 | 22°50.3 | 37°24.6 | 51°58.8 | 66°33.2 | 81°07.6 | +34.1 | 14.8 |
| | -15°10.3 | -14°59.4 | -14°48.4 | -14°37.3 | -14°26.2 | -14°15.1 | -14°03.9 | -13°52.6 | -13°41.3 | -13°29.9 | -13°18.5 | +11.2 | 54.2 |
| Me 19 | 299°48.8 | 314°23.9 | 328°59.0 | 343°34.2 | 358°09.3 | 12°44.6 | 27°19.8 | 41°55.1 | 56°30.4 | 71°05.7 | 85°41.1 | +35.2 | 14.7 |
| | -10°22.0 | -10°09.9 | -9°57.7 | -9°45.6 | -9°33.4 | -9°21.1 | -9°08.8 | -8°56.5 | -8°44.2 | -8°31.8 | -8°19.4 | +12.3 | 54.1 |
| Je 20 | 304°34.1 | 319°09.8 | 333°45.5 | 348°21.2 | 2°56.9 | 17°32.6 | 32°08.3 | 46°44.0 | 61°19.8 | 75°55.5 | 90°31.2 | +35.7 | 14.8 |
| | -5°09.9 | -4°57.0 | -4°44.2 | -4°31.3 | -4°18.4 | -4°05.5 | -3°52.6 | -3°39.6 | -3°26.7 | -3°13.7 | -3°00.7 | +12.9 | 54.1 |
| Ve 21 | 309°27.0 | 324°02.7 | 338°38.3 | 353°13.9 | 7°49.6 | 22°25.2 | 37°00.7 | 51°36.3 | 66°11.8 | 80°47.4 | 95°22.9 | +35.6 | 14.8 |
| | 0°15.5 | 0°28.7 | 0°41.8 | 0°55.0 | 1°08.1 | 1°21.3 | 1°34.4 | 1°47.6 | 2°00.7 | 2°13.9 | 2°27.0 | +13.2 | 54.3 |
| Sa 22 | 314°12.2 | 328°47.2 | 343°22.2 | 357°57.1 | 12°32.1 | 27°06.9 | 41°41.8 | 56°16.5 | 70°51.3 | 85°26.0 | 100°00.7 | +34.9 | 14.9 |
| | 5°43.5 | 5°56.5 | 6°09.5 | 6°22.5 | 6°35.5 | 6°48.4 | 7°01.3 | 7°14.2 | 7°27.1 | 7°40.0 | 7°52.8 | +12.9 | 54.6 |
| Di 23 | 318°34.4 | 333°08.3 | 347°42.0 | 2°15.7 | 16°49.3 | 31°22.9 | 45°56.4 | 60°29.8 | 75°03.2 | 89°36.5 | 104°09.7 | +33.5 | 15.0 |
| | 11°02.2 | 11°14.5 | 11°26.9 | 11°39.2 | 11°51.4 | 12°03.6 | 12°15.8 | 12°27.9 | 12°40.0 | 12°52.0 | 13°04.0 | +12.2 | 55.0 |
| Lu 24 | 322°19.7 | 336°51.8 | 351°23.8 | 5°55.7 | 20°27.5 | 34°59.3 | 49°31.0 | 64°02.6 | 78°34.1 | 93°05.5 | 107°36.8 | +31.7 | 15.1 |
| | 15°57.6 | 16°08.7 | 16°19.7 | 16°30.7 | 16°41.6 | 16°52.4 | 17°03.2 | 17°13.9 | 17°24.5 | 17°35.1 | 17°45.6 | +10.8 | 55.5 |
| Ma 25 | 325°16.8 | 339°46.8 | 354°16.6 | 8°46.4 | 23°16.2 | 37°45.8 | 52°15.3 | 66°44.8 | 81°14.1 | 95°43.4 | 110°12.6 | +29.6 | 15.3 |
| | 20°13.2 | 20°22.3 | 20°31.3 | 20°40.3 | 20°49.1 | 20°57.9 | 21°06.5 | 21°15.1 | 21°23.6 | 21°31.9 | 21°40.1 | +8.7 | 56.0 |
| Me 26 | 327°20.2 | 341°48.0 | 356°15.8 | 10°43.5 | 25°11.1 | 39°38.6 | 54°06.1 | 68°33.4 | 83°00.7 | 97°28.0 | 111°55.1 | +27.5 | 15.4 |
| | 23°30.5 | 23°36.9 | 23°43.2 | 23°49.4 | 23°55.4 | 24°01.3 | 24°07.1 | 24°12.7 | 24°18.3 | 24°23.6 | 24°28.9 | +5.8 | 56.5 |
| Je 27 | 328°34.3 | 343°00.4 | 357°26.4 | 11°52.5 | 26°18.4 | 40°44.3 | 55°10.2 | 69°36.0 | 84°01.8 | 98°27.6 | 112°53.2 | +25.9 | 15.5 |
| | 25°31.1 | 25°34.1 | 25°37.0 | 25°39.7 | 25°42.2 | 25°44.6 | 25°46.9 | 25°49.0 | 25°50.9 | 25°52.7 | 25°54.3 | +2.3 | 57.0 |
| Ve 28 | 329°14.8 | 343°40.0 | 358°05.3 | 12°30.5 | 26°55.7 | 41°20.9 | 55°46.1 | 70°11.3 | 84°36.5 | 99°01.7 | 113°26.9 | +25.2 | 15.7 |
| | 26°00.2 | 25°59.3 | 25°58.3 | 25°57.1 | 25°55.7 | 25°54.2 | 25°52.6 | 25°50.7 | 25°48.7 | 25°46.6 | 25°44.3 | -1.6 | 57.5 |
| Sa 29 | 329°45.9 | 344°11.3 | 358°36.8 | 13°02.2 | 27°27.7 | 41°53.3 | 56°18.8 | 70°44.4 | 85°10.1 | 99°35.7 | 114°01.4 | +25.5 | 15.8 |
| | 24°50.5 | 24°45.6 | 24°40.6 | 24°35.5 | 24°30.2 | 24°24.7 | 24°19.1 | 24°13.3 | 24°07.4 | 24°01.3 | 23°55.1 | -5.5 | 58.0 |
| Di 30 | 330°32.0 | 344°58.4 | 359°24.9 | 13°51.4 | 28°18.0 | 42°44.6 | 57°11.3 | 71°37.8 | 86°04.8 | 100°31.6 | 114°58.5 | +26.7 | 16.0 |
| | 22°04.3 | 21°55.8 | 21°47.2 | 21°38.4 | 21°29.5 | 21°20.4 | 21°11.2 | 21°01.9 | 20°52.5 | 20°42.9 | 20°33.2 | -9.1 | 58.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 2 19h15 — PL: 9 10h26 — DQ: 16 16h36 — NL: 24 19h46

# SOLEIL

## Mai 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 270° 43.9 | 285° 44.0 | 300° 44.0 | 315° 44.1 | 330° 44.2 | 345° 44.3 | 0° 44.3 | 15° 44.4 | 30° 44.5 | 45° 44.5 | 60° 44.6 | 75° 44.7 | +0.1 |
| | 15° 14.9 | 15° 15.7 | 15° 16.4 | 15° 17.2 | 15° 17.9 | 15° 18.7 | 15° 19.4 | 15° 20.2 | 15° 20.9 | 15° 21.7 | 15° 22.4 | 15° 23.1 | +0.7 |
| **Ma 2** | 270° 45.6 | 285° 45.6 | 300° 45.7 | 315° 45.8 | 330° 45.8 | 345° 45.9 | 0° 46.0 | 15° 46.0 | 30° 46.1 | 45° 46.2 | 60° 46.2 | 75° 46.3 | +0.1 |
| | 15° 32.8 | 15° 33.5 | 15° 34.3 | 15° 35.0 | 15° 35.8 | 15° 36.5 | 15° 37.2 | 15° 38.0 | 15° 38.7 | 15° 39.4 | 15° 40.2 | 15° 40.9 | +0.7 |
| **Me 3** | 270° 47.1 | 285° 47.2 | 300° 47.2 | 315° 47.3 | 330° 47.3 | 345° 47.4 | 0° 47.5 | 15° 47.5 | 30° 47.6 | 45° 47.6 | 60° 47.7 | 75° 47.8 | +0.1 |
| | 15° 50.4 | 15° 51.1 | 15° 51.9 | 15° 52.6 | 15° 53.3 | 15° 54.1 | 15° 54.8 | 15° 55.5 | 15° 56.2 | 15° 57.0 | 15° 57.7 | 15° 58.4 | +0.7 |
| **Je 4** | 270° 48.5 | 285° 48.6 | 300° 48.6 | 315° 48.7 | 330° 48.7 | 345° 48.8 | 0° 48.8 | 15° 48.9 | 30° 48.9 | 45° 49.0 | 60° 49.0 | 75° 49.1 | +0.1 |
| | 16° 07.8 | 16° 08.5 | 16° 09.2 | 16° 09.9 | 16° 10.6 | 16° 11.4 | 16° 12.1 | 16° 12.8 | 16° 13.5 | 16° 14.2 | 16° 14.9 | 16° 15.6 | +0.7 |
| **Ve 5** | 270° 49.8 | 285° 49.8 | 300° 49.9 | 315° 49.9 | 330° 50.0 | 345° 50.0 | 0° 50.1 | 15° 50.1 | 30° 50.2 | 45° 50.2 | 60° 50.3 | 75° 50.3 | +0.0 |
| | 16° 24.9 | 16° 25.6 | 16° 26.3 | 16° 27.0 | 16° 27.7 | 16° 28.4 | 16° 29.1 | 16° 29.8 | 16° 30.5 | 16° 31.2 | 16° 31.9 | 16° 32.6 | +0.7 |
| **Sa 6** | 270° 50.9 | 285° 50.9 | 300° 51.0 | 315° 51.0 | 330° 51.1 | 345° 51.1 | 0° 51.2 | 15° 51.2 | 30° 51.2 | 45° 51.3 | 60° 51.3 | 75° 51.4 | +0.0 |
| | 16° 41.7 | 16° 42.4 | 16° 43.1 | 16° 43.8 | 16° 44.5 | 16° 45.2 | 16° 45.8 | 16° 46.5 | 16° 47.2 | 16° 47.9 | 16° 48.6 | 16° 49.3 | +0.7 |
| **Di 7** | 270° 51.9 | 285° 51.9 | 300° 52.0 | 315° 52.0 | 330° 52.0 | 345° 52.1 | 0° 52.1 | 15° 52.2 | 30° 52.2 | 45° 52.2 | 60° 52.3 | 75° 52.3 | +0.0 |
| | 16° 58.2 | 16° 58.9 | 16° 59.6 | 17° 00.3 | 17° 00.9 | 17° 01.6 | 17° 02.3 | 17° 03.0 | 17° 03.7 | 17° 04.3 | 17° 05.0 | 17° 05.7 | +0.7 |
| **Lu 8** | 270° 52.7 | 285° 52.8 | 300° 52.8 | 315° 52.8 | 330° 52.9 | 345° 52.9 | 0° 52.9 | 15° 53.0 | 30° 53.0 | 45° 53.0 | 60° 53.1 | 75° 53.1 | +0.0 |
| | 17° 14.5 | 17° 15.1 | 17° 15.8 | 17° 16.5 | 17° 17.2 | 17° 17.8 | 17° 18.5 | 17° 19.2 | 17° 19.8 | 17° 20.5 | 17° 21.2 | 17° 21.8 | +0.7 |
| **Ma 9** | 270° 53.5 | 285° 53.5 | 300° 53.5 | 315° 53.5 | 330° 53.6 | 345° 53.6 | 0° 53.6 | 15° 53.6 | 30° 53.7 | 45° 53.7 | 60° 53.7 | 75° 53.7 | +0.0 |
| | 17° 30.4 | 17° 31.1 | 17° 31.8 | 17° 32.4 | 17° 33.1 | 17° 33.7 | 17° 34.4 | 17° 35.0 | 17° 35.7 | 17° 36.4 | 17° 37.0 | 17° 37.7 | +0.7 |
| **Me 10** | 270° 54.0 | 285° 54.0 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.1 | 15° 54.2 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.2 | +0.0 |
| | 17° 46.1 | 17° 46.8 | 17° 47.4 | 17° 48.1 | 17° 48.7 | 17° 49.3 | 17° 50.0 | 17° 50.6 | 17° 51.3 | 17° 51.9 | 17° 52.6 | 17° 53.2 | +0.6 |
| **Je 11** | 270° 54.4 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | +0.0 |
| | 18° 01.5 | 18° 02.1 | 18° 02.8 | 18° 03.4 | 18° 04.0 | 18° 04.7 | 18° 05.3 | 18° 05.9 | 18° 06.5 | 18° 07.2 | 18° 07.8 | 18° 08.4 | +0.6 |
| **Ve 12** | 270° 54.7 | 285° 54.7 | 300° 54.7 | 315° 54.7 | 330° 54.8 | 345° 54.8 | 0° 54.8 | 15° 54.8 | 30° 54.8 | 45° 54.8 | 60° 54.8 | 75° 54.8 | +0.0 |
| | 18° 16.6 | 18° 17.2 | 18° 17.8 | 18° 18.4 | 18° 19.0 | 18° 19.7 | 18° 20.3 | 18° 20.9 | 18° 21.5 | 18° 22.1 | 18° 22.8 | 18° 23.4 | +0.6 |
| **Sa 13** | 270° 54.9 | 285° 54.9 | 300° 54.9 | 315° 54.9 | 330° 54.9 | 345° 54.9 | 0° 54.9 | 15° 54.9 | 30° 54.9 | 45° 54.9 | 60° 54.9 | 75° 54.9 | +0.0 |
| | 18° 31.3 | 18° 31.9 | 18° 32.6 | 18° 33.2 | 18° 33.8 | 18° 34.4 | 18° 35.0 | 18° 35.6 | 18° 36.2 | 18° 36.8 | 18° 37.4 | 18° 38.0 | +0.6 |
| **Di 14** | 270° 54.8 | 285° 54.8 | 300° 54.8 | 315° 54.8 | 330° 54.8 | 345° 54.8 | 0° 54.8 | 15° 54.8 | 30° 54.8 | 45° 54.8 | 60° 54.8 | 75° 54.8 | -0.0 |
| | 18° 45.8 | 18° 46.4 | 18° 47.0 | 18° 47.6 | 18° 48.2 | 18° 48.8 | 18° 49.4 | 18° 50.0 | 18° 50.5 | 18° 51.1 | 18° 51.7 | 18° 52.3 | +0.6 |
| **Lu 15** | 270° 54.7 | 285° 54.7 | 300° 54.7 | 315° 54.7 | 330° 54.6 | 345° 54.6 | 0° 54.6 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | -0.0 |
| | 18° 59.9 | 19° 00.5 | 19° 01.1 | 19° 01.7 | 19° 02.3 | 19° 02.8 | 19° 03.4 | 19° 04.0 | 19° 04.6 | 19° 05.2 | 19° 05.7 | 19° 06.3 | +0.6 |
| **Ma 16** | 270° 54.4 | 285° 54.4 | 300° 54.3 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.3 | 15° 54.3 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.2 | -0.0 |
| | 19° 13.8 | 19° 14.3 | 19° 14.9 | 19° 15.5 | 19° 16.0 | 19° 16.6 | 19° 17.2 | 19° 17.7 | 19° 18.3 | 19° 18.9 | 19° 19.4 | 19° 20.0 | +0.6 |
| **Me 17** | 270° 53.9 | 285° 53.9 | 300° 53.9 | 315° 53.9 | 330° 53.8 | 345° 53.8 | 0° 53.8 | 15° 53.8 | 30° 53.7 | 45° 53.7 | 60° 53.7 | 75° 53.7 | -0.0 |
| | 19° 27.3 | 19° 27.8 | 19° 28.4 | 19° 28.9 | 19° 29.5 | 19° 30.0 | 19° 30.6 | 19° 31.1 | 19° 31.7 | 19° 32.2 | 19° 32.8 | 19° 33.3 | +0.6 |
| **Je 18** | 270° 53.3 | 285° 53.3 | 300° 53.3 | 315° 53.3 | 330° 53.2 | 345° 53.2 | 0° 53.2 | 15° 53.1 | 30° 53.1 | 45° 53.1 | 60° 53.0 | 75° 53.0 | -0.0 |
| | 19° 40.4 | 19° 41.0 | 19° 41.5 | 19° 42.0 | 19° 42.6 | 19° 43.1 | 19° 43.7 | 19° 44.2 | 19° 44.7 | 19° 45.3 | 19° 45.8 | 19° 46.3 | +0.5 |
| **Ve 19** | 270° 52.6 | 285° 52.6 | 300° 52.5 | 315° 52.5 | 330° 52.5 | 345° 52.4 | 0° 52.4 | 15° 52.4 | 30° 52.3 | 45° 52.3 | 60° 52.3 | 75° 52.2 | -0.0 |
| | 19° 53.3 | 19° 53.8 | 19° 54.3 | 19° 54.8 | 19° 55.4 | 19° 55.9 | 19° 56.4 | 19° 56.9 | 19° 57.5 | 19° 58.0 | 19° 58.5 | 19° 59.0 | +0.5 |
| **Sa 20** | 270° 51.7 | 285° 51.7 | 300° 51.6 | 315° 51.6 | 330° 51.6 | 345° 51.5 | 0° 51.5 | 15° 51.4 | 30° 51.4 | 45° 51.4 | 60° 51.3 | 75° 51.3 | -0.0 |
| | 20° 05.7 | 20° 06.3 | 20° 06.8 | 20° 07.3 | 20° 07.8 | 20° 08.3 | 20° 08.8 | 20° 09.3 | 20° 09.8 | 20° 10.3 | 20° 10.8 | 20° 11.4 | +0.5 |
| **Di 21** | 270° 50.7 | 285° 50.7 | 300° 50.6 | 315° 50.6 | 330° 50.5 | 345° 50.5 | 0° 50.4 | 15° 50.4 | 30° 50.3 | 45° 50.3 | 60° 50.2 | 75° 50.2 | -0.0 |
| | 20° 17.9 | 20° 18.4 | 20° 18.9 | 20° 19.4 | 20° 19.9 | 20° 20.4 | 20° 20.9 | 20° 21.4 | 20° 21.9 | 20° 22.4 | 20° 22.9 | 20° 23.3 | +0.5 |
| **Lu 22** | 270° 49.6 | 285° 49.5 | 300° 49.5 | 315° 49.4 | 330° 49.4 | 345° 49.3 | 0° 49.3 | 15° 49.2 | 30° 49.2 | 45° 49.1 | 60° 49.0 | 75° 49.0 | -0.1 |
| | 20° 29.7 | 20° 30.2 | 20° 30.7 | 20° 31.1 | 20° 31.6 | 20° 32.1 | 20° 32.6 | 20° 33.1 | 20° 33.5 | 20° 34.0 | 20° 34.5 | 20° 35.0 | +0.5 |
| **Ma 23** | 270° 48.3 | 285° 48.2 | 300° 48.2 | 315° 48.1 | 330° 48.1 | 345° 48.0 | 0° 47.9 | 15° 47.9 | 30° 47.8 | 45° 47.8 | 60° 47.7 | 75° 47.7 | -0.1 |
| | 20° 41.1 | 20° 41.6 | 20° 42.1 | 20° 42.5 | 20° 43.0 | 20° 43.5 | 20° 43.9 | 20° 44.4 | 20° 44.9 | 20° 45.3 | 20° 45.8 | 20° 46.3 | +0.5 |
| **Me 24** | 270° 46.9 | 285° 46.8 | 300° 46.8 | 315° 46.7 | 330° 46.6 | 345° 46.6 | 0° 46.5 | 15° 46.4 | 30° 46.4 | 45° 46.3 | 60° 46.3 | 75° 46.2 | -0.1 |
| | 20° 52.2 | 20° 52.7 | 20° 53.1 | 20° 53.6 | 20° 54.0 | 20° 54.5 | 20° 55.0 | 20° 55.4 | 20° 55.9 | 20° 56.3 | 20° 56.8 | 20° 57.2 | +0.5 |
| **Je 25** | 270° 45.3 | 285° 45.3 | 300° 45.2 | 315° 45.1 | 330° 45.1 | 345° 45.0 | 0° 44.9 | 15° 44.9 | 30° 44.8 | 45° 44.7 | 60° 44.7 | 75° 44.6 | -0.1 |
| | 21° 03.0 | 21° 03.4 | 21° 03.8 | 21° 04.3 | 21° 04.7 | 21° 05.2 | 21° 05.6 | 21° 06.0 | 21° 06.5 | 21° 06.9 | 21° 07.3 | 21° 07.8 | +0.4 |
| **Ve 26** | 270° 43.7 | 285° 43.6 | 300° 43.5 | 315° 43.5 | 330° 43.4 | 345° 43.3 | 0° 43.3 | 15° 43.2 | 30° 43.1 | 45° 43.0 | 60° 43.0 | 75° 42.9 | -0.1 |
| | 21° 13.3 | 21° 13.8 | 21° 14.2 | 21° 14.6 | 21° 15.0 | 21° 15.5 | 21° 15.9 | 21° 16.3 | 21° 16.7 | 21° 17.1 | 21° 17.6 | 21° 18.0 | +0.4 |
| **Sa 27** | 270° 41.9 | 285° 41.8 | 300° 41.8 | 315° 41.7 | 330° 41.6 | 345° 41.5 | 0° 41.5 | 15° 41.4 | 30° 41.3 | 45° 41.2 | 60° 41.1 | 75° 41.1 | -0.1 |
| | 21° 23.3 | 21° 23.7 | 21° 24.2 | 21° 24.6 | 21° 25.0 | 21° 25.4 | 21° 25.8 | 21° 26.2 | 21° 26.6 | 21° 27.0 | 21° 27.4 | 21° 27.8 | +0.4 |
| **Di 28** | 270° 40.0 | 285° 40.0 | 300° 39.9 | 315° 39.8 | 330° 39.7 | 345° 39.6 | 0° 39.5 | 15° 39.5 | 30° 39.4 | 45° 39.3 | 60° 39.2 | 75° 39.1 | -0.1 |
| | 21° 33.0 | 21° 33.4 | 21° 33.8 | 21° 34.1 | 21° 34.5 | 21° 34.9 | 21° 35.3 | 21° 35.7 | 21° 36.1 | 21° 36.5 | 21° 36.9 | 21° 37.3 | +0.4 |
| **Lu 29** | 270° 38.0 | 285° 38.0 | 300° 37.9 | 315° 37.8 | 330° 37.7 | 345° 37.6 | 0° 37.5 | 15° 37.4 | 30° 37.4 | 45° 37.3 | 60° 37.2 | 75° 37.1 | -0.1 |
| | 21° 42.2 | 21° 42.6 | 21° 43.0 | 21° 43.4 | 21° 43.7 | 21° 44.1 | 21° 44.5 | 21° 44.9 | 21° 45.2 | 21° 45.6 | 21° 46.0 | 21° 46.3 | +0.4 |
| **Ma 30** | 270° 35.9 | 285° 35.9 | 300° 35.8 | 315° 35.7 | 330° 35.6 | 345° 35.5 | 0° 35.4 | 15° 35.3 | 30° 35.2 | 45° 35.1 | 60° 35.0 | 75° 35.0 | -0.1 |
| | 21° 51.1 | 21° 51.5 | 21° 51.8 | 21° 52.2 | 21° 52.6 | 21° 52.9 | 21° 53.3 | 21° 53.6 | 21° 54.0 | 21° 54.3 | 21° 54.7 | 21° 55.1 | +0.4 |
| **Me 31** | 270° 33.8 | 285° 33.7 | 300° 33.6 | 315° 33.5 | 330° 33.4 | 345° 33.3 | 0° 33.2 | 15° 33.1 | 30° 33.0 | 45° 32.9 | 60° 32.8 | 75° 32.7 | -0.1 |
| | 21° 59.6 | 22° 00.0 | 22° 00.3 | 22° 00.6 | 22° 01.0 | 22° 01.3 | 22° 01.7 | 22° 02.0 | 22° 02.4 | 22° 02.7 | 22° 03.0 | 22° 03.4 | +0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2028

| J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 245°03.1<br>19°00.3 | 259°30.6<br>18°49.4 | 273°58.1<br>18°38.4 | 288°25.7<br>18°27.2 | 302°53.3<br>18°16.0 | 317°21.0<br>18°04.6 | 331°48.7<br>17°53.1 | 346°16.5<br>17°41.6 | 0°44.3<br>17°29.9 | 15°12.2<br>17°18.1 | 29°40.2<br>17°06.2 | +27.7<br>-11.4 | 16.0<br>58.8 |
| ◐ Ma 2 | 246°46.0<br>13°55.8 | 261°14.7<br>13°42.4 | 275°43.6<br>13°28.9 | 290°12.5<br>13°15.4 | 304°41.4<br>13°01.7 | 319°10.4<br>12°48.0 | 333°39.4<br>12°34.2 | 348°08.4<br>12°20.3 | 2°37.5<br>12°06.3 | 17°06.7<br>11°52.3 | 31°35.8<br>11°38.2 | +29.0<br>-13.8 | 16.1<br>59.2 |
| Me 3 | 248°57.9<br>7°59.0 | 263°27.7<br>7°43.9 | 277°57.4<br>7°28.8 | 292°27.2<br>7°13.6 | 306°57.0<br>6°58.4 | 321°26.8<br>6°43.2 | 335°56.6<br>6°27.9 | 350°26.5<br>6°12.6 | 4°56.4<br>5°57.2 | 19°26.3<br>5°41.8 | 33°56.2<br>5°26.4 | +29.8<br>-15.3 | 16.2<br>59.5 |
| Je 4 | 251°26.2<br>1°31.5 | 265°56.2<br>1°15.7 | 280°26.2<br>0°59.9 | 294°56.3<br>0°44.1 | 309°26.3<br>0°28.2 | 323°56.3<br>0°12.4 | 338°26.3<br>-0°03.5 | 352°56.3<br>-0°19.3 | 7°26.3<br>-0°35.2 | 21°56.3<br>-0°51.0 | 36°26.3<br>-1°06.9 | +30.0<br>-15.8 | 16.3<br>59.7 |
| Ve 5 | 253°54.0<br>-5°03.3 | 268°23.7<br>-5°18.9 | 282°53.3<br>-5°34.5 | 297°22.9<br>-5°50.1 | 311°52.5<br>-6°05.6 | 326°22.1<br>-6°21.0 | 340°51.6<br>-6°36.5 | 355°21.0<br>-6°51.9 | 9°50.5<br>-7°07.3 | 24°19.9<br>-7°22.6 | 38°49.3<br>-7°37.9 | +29.5<br>-15.5 | 16.3<br>59.7 |
| Sa 6 | 256°04.9<br>-11°21.1 | 270°33.6<br>-11°35.5 | 285°02.2<br>-11°49.8 | 299°30.8<br>-12°04.1 | 313°59.3<br>-12°18.3 | 328°27.8<br>-12°32.4 | 342°56.2<br>-12°46.4 | 357°24.6<br>-13°00.4 | 11°52.9<br>-13°14.3 | 26°21.1<br>-13°28.1 | 40°49.3<br>-13°41.8 | +28.4<br>-14.1 | 16.2<br>59.6 |
| Di 7 | 257°45.7<br>-16°56.6 | 272°13.0<br>-17°08.8 | 286°40.3<br>-17°20.9 | 301°07.5<br>-17°32.9 | 315°34.6<br>-17°44.7 | 330°01.7<br>-17°56.5 | 344°28.7<br>-18°08.1 | 358°55.6<br>-18°19.6 | 13°22.5<br>-18°31.0 | 27°49.4<br>-18°42.3 | 42°16.2<br>-18°53.5 | +27.0<br>-11.7 | 16.1<br>59.2 |
| ○ Lu 8 | 258°51.5<br>-21°25.6 | 273°17.4<br>-21°34.7 | 287°43.3<br>-21°43.6 | 302°09.2<br>-21°52.4 | 316°35.0<br>-22°01.1 | 331°00.8<br>-22°09.6 | 345°26.5<br>-22°17.9 | 359°52.2<br>-22°26.2 | 14°17.9<br>-22°34.2 | 28°43.5<br>-22°42.1 | 43°09.0<br>-22°49.9 | +25.8<br>-8.4 | 16.0<br>58.7 |
| Ma 9 | 259°29.0<br>-24°28.2 | 273°54.1<br>-24°33.5 | 288°19.3<br>-24°38.6 | 302°44.4<br>-24°43.6 | 317°09.5<br>-24°48.5 | 331°34.6<br>-24°53.1 | 345°59.7<br>-24°57.6 | 0°24.8<br>-25°02.0 | 14°49.9<br>-25°06.2 | 29°15.0<br>-25°10.2 | 43°40.1<br>-25°14.0 | +25.1<br>-4.6 | 15.8<br>58.0 |
| Me 10 | 259°57.6<br>-25°52.6 | 274°23.0<br>-25°53.9 | 288°48.3<br>-25°55.1 | 303°13.7<br>-25°56.0 | 317°39.1<br>-25°56.8 | 332°04.6<br>-25°57.5 | 346°30.1<br>-25°58.0 | 0°55.6<br>-25°58.3 | 15°21.2<br>-25°58.5 | 29°46.8<br>-25°58.5 | 44°12.5<br>-25°58.4 | +25.5<br>-0.6 | 15.6<br>57.2 |
| Je 11 | 260°43.6<br>-25°38.2 | 275°10.2<br>-25°35.7 | 289°36.8<br>-25°33.0 | 304°03.5<br>-25°30.2 | 318°30.3<br>-25°27.3 | 332°57.1<br>-25°24.2 | 347°24.0<br>-25°20.9 | 1°51.0<br>-25°17.6 | 16°18.1<br>-25°14.1 | 30°45.2<br>-25°10.4 | 45°12.4<br>-25°06.6 | +26.9<br>+3.2 | 15.4<br>56.5 |
| Ve 12 | 262°10.4<br>-23°54.4 | 276°38.9<br>-23°48.6 | 291°07.6<br>-23°42.6 | 305°36.3<br>-23°36.6 | 320°05.1<br>-23°30.4 | 334°34.0<br>-23°24.2 | 349°03.0<br>-23°17.8 | 3°32.0<br>-23°11.3 | 18°01.2<br>-23°04.7 | 32°30.5<br>-22°58.0 | 46°59.8<br>-22°51.2 | +28.9<br>+6.3 | 15.2<br>55.7 |
| Sa 13 | 264°30.8<br>-20°56.7 | 279°01.5<br>-20°48.3 | 293°32.4<br>-20°39.8 | 308°03.4<br>-20°31.2 | 322°34.4<br>-20°22.6 | 337°05.5<br>-20°13.8 | 351°36.7<br>-20°05.0 | 6°08.0<br>-19°56.1 | 20°39.4<br>-19°47.1 | 35°10.9<br>-19°38.0 | 49°42.4<br>-19°28.8 | +31.2<br>+8.8 | 15.0<br>55.1 |
| Di 14 | 267°45.5<br>-17°02.4 | 282°18.4<br>-16°52.1 | 296°51.3<br>-16°41.7 | 311°24.2<br>-16°31.3 | 325°57.3<br>-16°20.8 | 340°30.4<br>-16°10.2 | 355°03.6<br>-15°59.6 | 9°36.9<br>-15°48.9 | 24°10.2<br>-15°38.2 | 38°43.6<br>-15°27.3 | 53°17.0<br>-15°16.5 | +33.2<br>+10.6 | 14.9<br>54.6 |
| Lu 15 | 282°18.4<br>-16°52.1 | 296°51.3<br>-16°41.7 | 311°24.2<br>-16°31.3 | 325°57.3<br>-16°20.8 | 340°30.4<br>-16°10.2 | 355°03.6<br>-15°59.6 | 9°36.9<br>-15°48.9 | 24°10.2<br>-15°38.2 | 38°43.6<br>-15°27.3 | 53°17.0<br>-15°16.5 | 67°50.6<br>-15°05.6 | +33.2<br>+10.7 | 14.9<br>54.6 |
| ◑ Ma 16 | 286°20.9<br>-12°15.7 | 300°55.4<br>-12°04.0 | 315°29.9<br>-11°52.3 | 330°04.5<br>-11°40.5 | 344°39.1<br>-11°28.7 | 359°13.8<br>-11°16.8 | 13°48.5<br>-11°04.9 | 28°23.3<br>-10°53.0 | 42°58.1<br>-10°41.0 | 57°32.9<br>-10°29.0 | 72°07.8<br>-10°16.9 | +34.7<br>+11.9 | 14.8<br>54.3 |
| Me 17 | 290°55.7<br>-7°12.2 | 305°31.2<br>-6°59.7 | 320°06.7<br>-6°47.1 | 334°42.2<br>-6°34.5 | 349°17.7<br>-6°21.9 | 3°53.2<br>-6°09.3 | 18°28.8<br>-5°56.6 | 33°04.4<br>-5°44.0 | 47°40.0<br>-5°31.3 | 62°15.6<br>-5°18.5 | 76°51.2<br>-5°05.8 | +35.6<br>+12.6 | 14.8<br>54.2 |
| Je 18 | 295°47.2<br>-1°52.7 | 310°23.0<br>-1°39.7 | 324°58.7<br>-1°26.8 | 339°34.5<br>-1°13.8 | 354°10.3<br>-1°00.8 | 8°46.0<br>-0°47.8 | 23°21.8<br>-0°34.8 | 37°57.5<br>-0°21.7 | 52°33.3<br>-0°08.7 | 67°09.0<br>0°04.3 | 81°44.8<br>0°17.3 | +35.8<br>+13.0 | 14.8<br>54.3 |
| Ve 19 | 300°38.8<br>3°32.9 | 315°14.2<br>3°45.9 | 329°49.7<br>3°58.9 | 344°25.0<br>4°11.9 | 359°00.4<br>4°24.8 | 13°35.7<br>4°37.8 | 28°11.0<br>4°50.8 | 42°46.2<br>5°03.7 | 57°21.5<br>5°16.7 | 71°56.6<br>5°29.6 | 86°31.8<br>5°42.5 | +35.3<br>+13.0 | 14.9<br>54.5 |
| Sa 20 | 305°14.0<br>8°54.1 | 319°48.4<br>9°06.7 | 334°22.8<br>9°19.2 | 348°57.1<br>9°31.8 | 3°31.4<br>9°44.3 | 18°05.6<br>9°56.8 | 32°39.8<br>10°09.2 | 47°13.8<br>10°21.6 | 61°47.9<br>10°34.0 | 76°21.9<br>10°46.4 | 90°55.8<br>10°58.7 | +34.2<br>+12.5 | 15.0<br>54.9 |
| Di 21 | 309°16.5<br>13°58.8 | 323°49.3<br>14°10.4 | 338°22.0<br>14°22.0 | 352°54.7<br>14°33.6 | 7°27.3<br>14°45.1 | 21°59.8<br>14°56.5 | 36°32.2<br>15°07.9 | 51°04.5<br>15°19.2 | 65°36.8<br>15°30.5 | 80°08.9<br>15°41.7 | 94°41.0<br>15°52.8 | +32.5<br>+11.4 | 15.1<br>55.4 |
| Lu 22 | 312°32.0<br>18°32.0 | 327°02.6<br>18°42.0 | 341°33.2<br>18°52.0 | 356°03.7<br>19°01.8 | 10°34.1<br>19°11.6 | 25°04.4<br>19°21.3 | 39°34.6<br>19°30.9 | 54°04.7<br>19°40.4 | 68°34.8<br>19°49.9 | 83°04.7<br>19°59.2 | 97°34.5<br>20°08.5 | +30.3<br>+9.7 | 15.3<br>56.0 |
| Ma 23 | 314°50.5<br>22°15.5 | 329°18.8<br>22°23.1 | 343°47.1<br>22°30.6 | 358°15.2<br>22°38.0 | 12°43.2<br>22°45.3 | 27°11.1<br>22°52.5 | 41°39.0<br>22°59.5 | 56°06.7<br>23°06.4 | 70°34.4<br>23°13.3 | 85°02.0<br>23°19.9 | 99°29.4<br>23°26.5 | +27.9<br>+7.1 | 15.4<br>56.6 |
| ● Me 24 | 316°11.4<br>24°49.2 | 330°37.5<br>24°53.6 | 345°03.6<br>24°57.9 | 359°29.6<br>25°02.0 | 13°55.6<br>25°06.0 | 28°21.5<br>25°09.9 | 42°47.3<br>25°13.6 | 57°13.0<br>25°17.1 | 71°38.7<br>25°20.5 | 86°04.3<br>25°23.7 | 100°29.8<br>25°26.8 | +25.8<br>+3.8 | 15.6<br>57.2 |
| Je 25 | 316°46.6<br>25°54.6 | 331°11.4<br>25°55.1 | 345°36.2<br>25°55.5 | 0°00.9<br>25°55.8 | 14°25.6<br>25°55.9 | 28°50.2<br>25°55.8 | 43°14.9<br>25°55.5 | 57°39.5<br>25°55.1 | 72°04.1<br>25°54.6 | 86°28.6<br>25°53.8 | 100°53.2<br>25°52.9 | +24.6<br>-0.2 | 15.8<br>57.8 |
| Ve 26 | 317°00.9<br>25°19.5 | 331°25.5<br>25°16.0 | 345°50.0<br>25°12.3 | 0°14.6<br>25°08.4 | 14°39.2<br>25°04.4 | 29°03.9<br>25°00.2 | 43°28.5<br>24°55.8 | 57°53.2<br>24°51.3 | 72°17.9<br>24°46.6 | 86°42.7<br>24°41.8 | 101°07.4<br>24°36.8 | +24.6<br>-4.3 | 15.9<br>58.3 |
| Sa 27 | 317°23.7<br>23°03.1 | 331°49.1<br>22°55.6 | 346°14.7<br>22°48.0 | 0°40.2<br>22°40.2 | 15°05.8<br>22°32.3 | 29°31.5<br>22°24.3 | 43°57.3<br>22°16.1 | 58°23.1<br>22°07.8 | 72°48.9<br>21°59.4 | 87°14.8<br>21°50.8 | 101°40.8<br>21°42.0 | +25.7<br>-8.1 | 16.0<br>58.7 |
| Di 28 | 318°18.1<br>19°15.4 | 332°45.1<br>19°04.6 | 347°12.2<br>18°53.7 | 1°39.3<br>18°42.7 | 16°06.6<br>18°31.6 | 30°33.9<br>18°20.4 | 45°01.2<br>18°09.1 | 59°28.6<br>17°57.6 | 73°56.1<br>17°46.1 | 88°23.7<br>17°34.4 | 102°51.3<br>17°22.7 | +27.3<br>-11.3 | 16.1<br>59.0 |
| Lu 29 | 319°53.6<br>14°14.8 | 334°22.3<br>14°01.5 | 348°51.0<br>13°48.2 | 3°19.8<br>13°34.8 | 17°48.7<br>13°21.4 | 32°17.6<br>13°07.8 | 46°46.5<br>12°54.2 | 61°15.5<br>12°40.5 | 75°44.6<br>12°26.8 | 90°13.7<br>12°12.9 | 104°42.9<br>11°59.0 | +28.9<br>-13.6 | 16.1<br>59.1 |
| Ma 30 | 322°06.5<br>8°23.3 | 336°36.4<br>8°08.5 | 351°06.4<br>7°53.6 | 5°36.4<br>7°38.7 | 20°06.5<br>7°23.8 | 34°36.5<br>7°08.9 | 49°06.6<br>6°53.9 | 63°36.8<br>6°38.8 | 78°07.0<br>6°23.7 | 92°37.2<br>6°08.6 | 107°07.4<br>5°53.5 | +30.1<br>-15.0 | 16.1<br>59.2 |
| ◐ Me 31 | 324°43.8<br>2°03.4 | 339°14.3<br>1°47.9 | 353°44.9<br>1°32.4 | 8°15.5<br>1°17.0 | 22°46.1<br>1°01.5 | 37°16.7<br>0°46.0 | 51°47.3<br>0°30.5 | 66°17.9<br>0°15.0 | 80°48.5<br>-0°00.5 | 95°19.1<br>-0°16.0 | 109°49.7<br>-0°31.5 | +30.6<br>-15.5 | 16.1<br>59.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 2 02h25 — PL: 8 19h48 — DQ: 16 10h43 — NL: 24 08h16 — PQ: 31 07h36

# SOLEIL

## Juin 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 270°31.5 | 285°31.4 | 300°31.3 | 315°31.2 | 330°31.1 | 345°31.0 | 0°30.9 | 15°30.8 | 30°30.7 | 45°30.6 | 60°30.5 | 75°30.4 | -0.1 |
| | 22°07.7 | 22°08.1 | 22°08.4 | 22°08.7 | 22°09.0 | 22°09.4 | 22°09.7 | 22°10.0 | 22°10.3 | 22°10.7 | 22°11.0 | 22°11.3 | +0.3 |
| Ve 2 | 270°29.1 | 285°29.0 | 300°28.9 | 315°28.8 | 330°28.7 | 345°28.6 | 0°28.5 | 15°28.4 | 30°28.3 | 45°28.2 | 60°28.1 | 75°28.0 | -0.1 |
| | 22°15.4 | 22°15.8 | 22°16.1 | 22°16.4 | 22°16.7 | 22°17.0 | 22°17.3 | 22°17.6 | 22°17.9 | 22°18.2 | 22°18.6 | 22°18.9 | +0.3 |
| Sa 3 | 270°26.6 | 285°26.5 | 300°26.4 | 315°26.3 | 330°26.2 | 345°26.1 | 0°26.0 | 15°25.9 | 30°25.8 | 45°25.7 | 60°25.6 | 75°25.5 | -0.1 |
| | 22°22.8 | 22°23.1 | 22°23.4 | 22°23.7 | 22°24.0 | 22°24.3 | 22°24.6 | 22°24.9 | 22°25.1 | 22°25.4 | 22°25.7 | 22°26.0 | +0.3 |
| Di 4 | 270°24.1 | 285°24.0 | 300°23.9 | 315°23.7 | 330°23.6 | 345°23.5 | 0°23.4 | 15°23.3 | 30°23.2 | 45°23.1 | 60°23.0 | 75°22.9 | -0.1 |
| | 22°29.7 | 22°30.0 | 22°30.3 | 22°30.6 | 22°30.9 | 22°31.1 | 22°31.4 | 22°31.7 | 22°32.0 | 22°32.2 | 22°32.5 | 22°32.8 | +0.3 |
| Lu 5 | 270°21.4 | 285°21.3 | 300°21.2 | 315°21.1 | 330°21.0 | 345°20.9 | 0°20.8 | 15°20.7 | 30°20.5 | 45°20.4 | 60°20.3 | 75°20.2 | -0.1 |
| | 22°36.3 | 22°36.6 | 22°36.8 | 22°37.1 | 22°37.3 | 22°37.6 | 22°37.9 | 22°38.1 | 22°38.4 | 22°38.6 | 22°38.9 | 22°39.2 | +0.3 |
| Ma 6 | 270°18.7 | 285°18.6 | 300°18.5 | 315°18.4 | 330°18.3 | 345°18.2 | 0°18.0 | 15°17.9 | 30°17.8 | 45°17.7 | 60°17.6 | 75°17.5 | -0.1 |
| | 22°42.4 | 22°42.7 | 22°42.9 | 22°43.2 | 22°43.4 | 22°43.7 | 22°43.9 | 22°44.2 | 22°44.4 | 22°44.7 | 22°44.9 | 22°45.1 | +0.2 |
| Me 7 | 270°15.9 | 285°15.8 | 300°15.7 | 315°15.6 | 330°15.5 | 345°15.4 | 0°15.2 | 15°15.1 | 30°15.0 | 45°14.9 | 60°14.8 | 75°14.7 | -0.1 |
| | 22°48.2 | 22°48.4 | 22°48.7 | 22°48.9 | 22°49.1 | 22°49.4 | 22°49.6 | 22°49.8 | 22°50.0 | 22°50.3 | 22°50.5 | 22°50.7 | +0.2 |
| Je 8 | 270°13.1 | 285°13.0 | 300°12.9 | 315°12.7 | 330°12.6 | 345°12.5 | 0°12.4 | 15°12.3 | 30°12.1 | 45°12.0 | 60°11.9 | 75°11.8 | -0.1 |
| | 22°53.6 | 22°53.8 | 22°54.0 | 22°54.2 | 22°54.4 | 22°54.6 | 22°54.8 | 22°55.1 | 22°55.3 | 22°55.5 | 22°55.7 | 22°55.9 | +0.2 |
| Ve 9 | 270°10.2 | 285°10.1 | 300°09.9 | 315°09.8 | 330°09.7 | 345°09.6 | 0°09.4 | 15°09.3 | 30°09.2 | 45°09.1 | 60°09.0 | 75°08.8 | -0.1 |
| | 22°58.5 | 22°58.7 | 22°58.9 | 22°59.1 | 22°59.3 | 22°59.5 | 22°59.7 | 22°59.9 | 23°00.1 | 23°00.3 | 23°00.5 | 23°00.7 | +0.2 |
| Sa 10 | 270°07.2 | 285°07.1 | 300°07.0 | 315°06.8 | 330°06.7 | 345°06.6 | 0°06.5 | 15°06.3 | 30°06.2 | 45°06.1 | 60°06.0 | 75°05.8 | -0.1 |
| | 23°03.1 | 23°03.3 | 23°03.4 | 23°03.6 | 23°03.8 | 23°04.0 | 23°04.2 | 23°04.3 | 23°04.5 | 23°04.7 | 23°04.9 | 23°05.0 | +0.2 |
| Di 11 | 270°04.2 | 285°04.1 | 300°03.9 | 315°03.8 | 330°03.7 | 345°03.5 | 0°03.4 | 15°03.3 | 30°03.2 | 45°03.0 | 60°02.9 | 75°02.8 | -0.1 |
| | 23°07.2 | 23°07.4 | 23°07.6 | 23°07.7 | 23°07.9 | 23°08.0 | 23°08.2 | 23°08.4 | 23°08.5 | 23°08.7 | 23°08.8 | 23°09.0 | +0.2 |
| Lu 12 | 270°01.1 | 285°01.0 | 300°00.8 | 315°00.7 | 330°00.6 | 345°00.5 | 0°00.3 | 15°00.2 | 30°00.1 | 44°59.9 | 59°59.8 | 74°59.7 | -0.1 |
| | 23°11.0 | 23°11.1 | 23°11.3 | 23°11.4 | 23°11.6 | 23°11.7 | 23°11.9 | 23°12.0 | 23°12.1 | 23°12.3 | 23°12.4 | 23°12.6 | +0.1 |
| Ma 13 | 269°58.0 | 284°57.8 | 299°57.7 | 314°57.6 | 329°57.4 | 344°57.3 | 359°57.2 | 14°57.1 | 29°56.9 | 44°56.8 | 59°56.7 | 74°56.5 | -0.1 |
| | 23°14.3 | 23°14.4 | 23°14.6 | 23°14.7 | 23°14.8 | 23°15.0 | 23°15.1 | 23°15.2 | 23°15.3 | 23°15.5 | 23°15.6 | 23°15.7 | +0.1 |
| Me 14 | 269°54.8 | 284°54.7 | 299°54.5 | 314°54.4 | 329°54.3 | 344°54.1 | 359°54.0 | 14°53.9 | 29°53.7 | 44°53.6 | 59°53.5 | 74°53.3 | -0.1 |
| | 23°17.2 | 23°17.4 | 23°17.5 | 23°17.6 | 23°17.7 | 23°17.8 | 23°17.9 | 23°18.0 | 23°18.1 | 23°18.2 | 23°18.3 | 23°18.4 | +0.1 |
| Je 15 | 269°51.6 | 284°51.5 | 299°51.3 | 314°51.2 | 329°51.1 | 344°50.9 | 359°50.8 | 14°50.7 | 29°50.5 | 44°50.4 | 59°50.3 | 74°50.1 | -0.1 |
| | 23°19.8 | 23°19.8 | 23°19.9 | 23°20.0 | 23°20.1 | 23°20.2 | 23°20.3 | 23°20.4 | 23°20.5 | 23°20.6 | 23°20.7 | 23°20.8 | +0.1 |
| Ve 16 | 269°48.4 | 284°48.2 | 299°48.1 | 314°48.0 | 329°47.8 | 344°47.7 | 359°47.6 | 14°47.4 | 29°47.3 | 44°47.2 | 59°47.0 | 74°46.9 | -0.1 |
| | 23°21.9 | 23°21.9 | 23°22.0 | 23°22.1 | 23°22.2 | 23°22.2 | 23°22.3 | 23°22.4 | 23°22.5 | 23°22.5 | 23°22.6 | 23°22.7 | +0.1 |
| Sa 17 | 269°45.1 | 284°45.0 | 299°44.8 | 314°44.7 | 329°44.6 | 344°44.4 | 359°44.3 | 14°44.2 | 29°44.0 | 44°43.9 | 59°43.8 | 74°43.6 | -0.1 |
| | 23°23.5 | 23°23.6 | 23°23.7 | 23°23.7 | 23°23.8 | 23°23.8 | 23°23.9 | 23°24.0 | 23°24.0 | 23°24.1 | 23°24.1 | 23°24.2 | +0.1 |
| Di 18 | 269°41.8 | 284°41.7 | 299°41.6 | 314°41.4 | 329°41.3 | 344°41.2 | 359°41.0 | 14°40.9 | 29°40.8 | 44°40.6 | 59°40.5 | 74°40.3 | -0.1 |
| | 23°24.8 | 23°24.9 | 23°24.9 | 23°24.9 | 23°25.0 | 23°25.0 | 23°25.1 | 23°25.1 | 23°25.1 | 23°25.2 | 23°25.2 | 23°25.3 | +0.0 |
| Lu 19 | 269°38.6 | 284°38.4 | 299°38.3 | 314°38.1 | 329°38.0 | 344°37.9 | 359°37.7 | 14°37.6 | 29°37.5 | 44°37.3 | 59°37.2 | 74°37.1 | -0.1 |
| | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | +0.0 |
| Ma 20 | 269°35.3 | 284°35.1 | 299°35.0 | 314°34.9 | 329°34.7 | 344°34.6 | 359°34.4 | 14°34.3 | 29°34.2 | 44°34.0 | 59°33.9 | 74°33.8 | -0.1 |
| | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | 23°26.2 | +0.0 |
| Me 21 | 269°32.0 | 284°31.8 | 299°31.7 | 314°31.6 | 329°31.4 | 344°31.3 | 359°31.2 | 14°31.0 | 29°30.9 | 44°30.8 | 59°30.6 | 74°30.5 | -0.1 |
| | 23°26.2 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.0 | 23°26.0 | -0.0 |
| Je 22 | 269°28.7 | 284°28.6 | 299°28.4 | 314°28.3 | 329°28.2 | 344°28.0 | 359°27.9 | 14°27.7 | 29°27.6 | 44°27.5 | 59°27.3 | 74°27.2 | -0.1 |
| | 23°25.8 | 23°25.8 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.5 | 23°25.5 | 23°25.5 | -0.0 |
| Ve 23 | 269°25.4 | 284°25.3 | 299°25.2 | 314°25.0 | 329°24.9 | 344°24.8 | 359°24.6 | 14°24.5 | 29°24.4 | 44°24.2 | 59°24.1 | 74°24.0 | -0.1 |
| | 23°25.0 | 23°24.9 | 23°24.9 | 23°24.9 | 23°24.8 | 23°24.8 | 23°24.7 | 23°24.7 | 23°24.6 | 23°24.6 | 23°24.5 | 23°24.5 | -0.0 |
| Sa 24 | 269°22.2 | 284°22.1 | 299°21.9 | 314°21.8 | 329°21.7 | 344°21.5 | 359°21.4 | 14°21.3 | 29°21.1 | 44°21.0 | 59°20.9 | 74°20.7 | -0.1 |
| | 23°23.8 | 23°23.7 | 23°23.7 | 23°23.6 | 23°23.5 | 23°23.5 | 23°23.4 | 23°23.3 | 23°23.3 | 23°23.2 | 23°23.2 | 23°23.1 | -0.1 |
| Di 25 | 269°19.0 | 284°18.9 | 299°18.7 | 314°18.6 | 329°18.5 | 344°18.3 | 359°18.2 | 14°18.1 | 29°17.9 | 44°17.8 | 59°17.7 | 74°17.5 | -0.1 |
| | 23°22.2 | 23°22.1 | 23°22.0 | 23°21.9 | 23°21.8 | 23°21.8 | 23°21.7 | 23°21.6 | 23°21.5 | 23°21.4 | 23°21.4 | 23°21.3 | -0.1 |
| Lu 26 | 269°15.8 | 284°15.7 | 299°15.6 | 314°15.4 | 329°15.3 | 344°15.2 | 359°15.0 | 14°14.9 | 29°14.8 | 44°14.6 | 59°14.5 | 74°14.4 | -0.1 |
| | 23°20.1 | 23°20.0 | 23°19.9 | 23°19.8 | 23°19.7 | 23°19.7 | 23°19.6 | 23°19.5 | 23°19.4 | 23°19.3 | 23°19.2 | 23°19.1 | -0.1 |
| Ma 27 | 269°12.7 | 284°12.6 | 299°12.4 | 314°12.3 | 329°12.2 | 344°12.0 | 359°11.9 | 14°11.8 | 29°11.7 | 44°11.5 | 59°11.4 | 74°11.3 | -0.1 |
| | 23°17.7 | 23°17.6 | 23°17.5 | 23°17.4 | 23°17.2 | 23°17.1 | 23°17.0 | 23°16.9 | 23°16.8 | 23°16.7 | 23°16.5 | 23°16.4 | -0.1 |
| Me 28 | 269°09.6 | 284°09.5 | 299°09.4 | 314°09.2 | 329°09.1 | 344°09.0 | 359°08.8 | 14°08.7 | 29°08.6 | 44°08.5 | 59°08.3 | 74°08.2 | -0.1 |
| | 23°14.8 | 23°14.7 | 23°14.6 | 23°14.5 | 23°14.3 | 23°14.2 | 23°14.1 | 23°13.9 | 23°13.8 | 23°13.7 | 23°13.5 | 23°13.4 | -0.1 |
| Je 29 | 269°06.6 | 284°06.5 | 299°06.3 | 314°06.2 | 329°06.1 | 344°06.0 | 359°05.8 | 14°05.7 | 29°05.6 | 44°05.5 | 59°05.3 | 74°05.2 | -0.1 |
| | 23°11.6 | 23°11.4 | 23°11.3 | 23°11.1 | 23°11.0 | 23°10.9 | 23°10.7 | 23°10.6 | 23°10.4 | 23°10.3 | 23°10.1 | 23°10.0 | -0.1 |
| Ve 30 | 269°03.6 | 284°03.5 | 299°03.4 | 314°03.3 | 329°03.1 | 344°03.0 | 359°02.9 | 14°02.8 | 29°02.7 | 44°02.5 | 59°02.4 | 74°02.3 | -0.1 |
| | 23°07.9 | 23°07.8 | 23°07.6 | 23°07.4 | 23°07.3 | 23°07.1 | 23°06.9 | 23°06.8 | 23°06.6 | 23°06.4 | 23°06.3 | 23°06.1 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2028

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 254°55.5<br>-3°06.1 | 269°26.1<br>-3°21.5 | 283°56.6<br>-3°36.9 | 298°27.1<br>-3°52.2 | 312°57.6<br>-4°07.5 | 327°28.1<br>-4°22.8 | 341°58.5<br>-4°38.1 | 356°29.0<br>-4°53.3 | 10°59.4<br>-5°08.5 | 25°29.8<br>-5°23.7 | 40°00.2<br>-5°38.9 | +30.5<br>-15.3 | 16.1<br>59.1 |
| Ve 2 | 257°32.5<br>-9°21.7 | 272°02.3<br>-9°36.2 | 286°32.2<br>-9°50.6 | 301°02.0<br>-10°05.0 | 315°31.7<br>-10°19.3 | 330°01.5<br>-10°33.6 | 344°31.1<br>-10°47.8 | 359°00.8<br>-11°01.9 | 13°30.3<br>-11°16.0 | 27°59.9<br>-11°30.0 | 42°29.4<br>-11°43.9 | +29.7<br>-14.2 | 16.1<br>59.0 |
| Sa 3 | 259°45.8<br>-15°04.3 | 274°14.4<br>-15°17.1 | 288°43.0<br>-15°29.7 | 303°11.6<br>-15°42.2 | 317°40.1<br>-15°54.6 | 332°08.5<br>-16°07.0 | 346°36.9<br>-16°19.2 | 1°05.2<br>-16°31.4 | 15°33.5<br>-16°43.4 | 30°01.7<br>-16°55.4 | 44°29.8<br>-17°07.3 | +28.4<br>-12.3 | 16.0<br>58.7 |
| Di 4 | 261°24.9<br>-19°52.2 | 275°52.1<br>-20°02.3 | 290°19.2<br>-20°12.2 | 304°46.3<br>-20°22.1 | 319°13.3<br>-20°31.8 | 333°40.3<br>-20°41.4 | 348°07.2<br>-20°50.8 | 2°34.1<br>-21°00.1 | 17°00.9<br>-21°09.3 | 31°27.6<br>-21°18.4 | 45°54.3<br>-21°27.4 | +26.9<br>-9.5 | 15.9<br>58.3 |
| Lu 5 | 262°28.9<br>-23°25.0 | 276°54.8<br>-23°31.7 | 291°20.7<br>-23°38.3 | 305°46.6<br>-23°44.7 | 320°12.5<br>-23°51.0 | 334°38.3<br>-23°57.1 | 349°04.1<br>-24°03.1 | 3°29.8<br>-24°08.9 | 17°55.5<br>-24°14.6 | 32°21.2<br>-24°20.1 | 46°46.9<br>-24°25.5 | +25.8<br>-6.0 | 15.8<br>57.9 |
| Ma 6 | 263°09.6<br>-25°27.4 | 277°35.1<br>-25°30.3 | 292°00.5<br>-25°33.0 | 306°26.0<br>-25°35.6 | 320°51.4<br>-25°38.0 | 335°16.9<br>-25°40.2 | 349°42.3<br>-25°42.3 | 4°07.8<br>-25°44.3 | 18°33.3<br>-25°46.0 | 32°58.8<br>-25°47.7 | 47°24.3<br>-25°49.1 | +25.5<br>-2.2 | 15.6<br>57.3 |
| ○ Me 7 | 263°50.0<br>-25°52.4 | 278°16.0<br>-25°51.4 | 292°42.0<br>-25°50.2 | 307°08.1<br>-25°48.9 | 321°34.2<br>-25°47.4 | 336°00.4<br>-25°45.8 | 350°26.6<br>-25°44.0 | 4°52.9<br>-25°42.1 | 19°19.2<br>-25°40.1 | 33°45.6<br>-25°37.9 | 48°12.0<br>-25°35.5 | +26.2<br>+1.7 | 15.5<br>56.7 |
| Je 8 | 264°56.1<br>-24°43.4 | 279°23.6<br>-24°38.8 | 293°51.2<br>-24°34.1 | 308°18.9<br>-24°29.3 | 322°46.6<br>-24°24.3 | 337°14.4<br>-24°19.2 | 351°42.3<br>-24°14.0 | 6°10.3<br>-24°08.7 | 20°38.3<br>-24°03.3 | 35°06.5<br>-23°57.7 | 49°34.7<br>-23°52.0 | +27.9<br>+5.1 | 15.3<br>56.1 |
| Ve 9 | 266°48.1<br>-22°12.6 | 281°17.7<br>-22°05.1 | 295°47.3<br>-21°57.5 | 310°17.1<br>-21°49.8 | 324°47.0<br>-21°42.0 | 339°16.9<br>-21°34.1 | 353°46.9<br>-21°26.1 | 8°17.1<br>-21°18.0 | 22°47.3<br>-21°09.8 | 37°17.6<br>-21°01.5 | 51°48.0<br>-20°53.2 | +30.0<br>+8.0 | 15.1<br>55.5 |
| Sa 10 | 269°34.1<br>-18°37.0 | 284°05.9<br>-18°27.3 | 298°37.7<br>-18°17.5 | 313°09.6<br>-18°07.6 | 327°41.7<br>-17°57.7 | 342°13.7<br>-17°47.7 | 356°45.9<br>-17°37.6 | 11°18.1<br>-17°27.4 | 25°50.5<br>-17°17.2 | 40°22.9<br>-17°06.9 | 54°55.3<br>-16°56.6 | +32.1<br>+10.0 | 15.0<br>54.9 |
| Di 11 | 273°11.4<br>-14°13.9 | 287°45.0<br>-14°02.7 | 302°18.7<br>-13°51.3 | 316°52.5<br>-13°39.9 | 331°26.3<br>-13°28.5 | 346°00.2<br>-13°17.0 | 0°34.1<br>-13°05.5 | 15°08.1<br>-12°53.9 | 29°42.2<br>-12°42.3 | 44°16.3<br>-12°30.7 | 58°50.5<br>-12°19.0 | +33.9<br>+11.5 | 14.9<br>54.5 |
| Lu 12 | 277°29.5<br>-9°18.8 | 292°04.5<br>-9°06.5 | 306°39.5<br>-8°54.2 | 321°14.6<br>-8°41.8 | 335°49.7<br>-8°29.5 | 350°24.8<br>-8°17.1 | 5°00.0<br>-8°04.6 | 19°35.2<br>-7°52.2 | 34°10.4<br>-7°39.7 | 48°45.7<br>-7°27.2 | 63°21.0<br>-7°14.7 | +35.2<br>+12.4 | 14.8<br>54.3 |
| Ma 13 | 292°04.5<br>-9°06.5 | 306°39.5<br>-8°54.2 | 321°14.6<br>-8°41.8 | 335°49.7<br>-8°29.5 | 350°24.8<br>-8°17.1 | 5°00.0<br>-8°04.6 | 19°35.2<br>-7°52.2 | 34°10.4<br>-7°39.7 | 48°45.7<br>-7°27.2 | 63°21.0<br>-7°14.7 | 77°56.4<br>-7°02.1 | +35.2<br>+12.4 | 14.8<br>54.3 |
| Me 14 | 296°49.8<br>-3°51.5 | 311°25.5<br>-3°38.6 | 326°01.2<br>-3°25.8 | 340°37.0<br>-3°12.9 | 355°12.8<br>-3°00.1 | 9°48.5<br>-2°47.2 | 24°24.3<br>-2°34.3 | 39°00.1<br>-2°21.4 | 53°35.9<br>-2°08.5 | 68°11.7<br>-1°55.6 | 82°47.5<br>-1°42.6 | +35.8<br>+12.9 | 14.8<br>54.2 |
| ◑ Je 15 | 301°44.7<br>1°31.7 | 316°20.5<br>1°44.7 | 330°56.2<br>1°57.7 | 345°32.0<br>2°10.6 | 0°07.7<br>2°23.6 | 14°43.4<br>2°36.5 | 29°19.1<br>2°49.4 | 43°54.8<br>3°02.4 | 58°30.4<br>3°15.3 | 73°06.0<br>3°28.2 | 87°41.7<br>3°41.1 | +35.7<br>+12.9 | 14.8<br>54.3 |
| Ve 16 | 306°32.5<br>6°53.3 | 321°07.6<br>7°06.0 | 335°42.7<br>7°18.7 | 350°17.7<br>7°31.3 | 4°52.7<br>7°43.9 | 19°27.7<br>7°56.6 | 34°02.6<br>8°09.1 | 48°37.4<br>8°21.7 | 63°12.2<br>8°34.2 | 77°47.0<br>8°46.7 | 92°21.7<br>8°59.2 | +34.9<br>+12.6 | 14.9<br>54.6 |
| Sa 17 | 310°55.9<br>12°02.8 | 325°29.7<br>12°14.7 | 340°03.5<br>12°26.6 | 354°37.1<br>12°38.5 | 9°10.7<br>12°50.3 | 23°44.2<br>13°02.1 | 38°17.7<br>13°13.9 | 52°51.1<br>13°25.6 | 67°24.4<br>13°37.2 | 81°57.6<br>13°48.8 | 96°30.8<br>14°00.4 | +33.5<br>+11.8 | 15.0<br>55.0 |
| Di 18 | 314°38.6<br>16°47.4 | 329°10.5<br>16°58.1 | 343°42.2<br>17°08.7 | 358°13.9<br>17°19.2 | 12°45.5<br>17°29.7 | 27°17.0<br>17°40.1 | 41°48.4<br>17°50.4 | 56°19.7<br>18°00.6 | 70°50.9<br>18°10.8 | 85°22.0<br>18°20.9 | 99°53.0<br>18°30.9 | +31.4<br>+10.4 | 15.2<br>55.7 |
| Lu 19 | 317°26.6<br>20°51.5 | 331°56.1<br>21°00.2 | 346°25.4<br>21°08.7 | 0°54.7<br>21°17.2 | 15°23.8<br>21°25.5 | 29°52.8<br>21°33.8 | 44°21.8<br>21°42.0 | 58°50.6<br>21°50.0 | 73°19.3<br>21°58.0 | 87°48.0<br>22°05.8 | 102°16.5<br>22°13.5 | +29.0<br>+8.2 | 15.4<br>56.4 |
| Ma 20 | 319°12.3<br>23°55.8 | 333°39.3<br>24°01.6 | 348°06.1<br>24°07.3 | 2°32.9<br>24°12.9 | 16°59.5<br>24°18.3 | 31°26.1<br>24°23.6 | 45°52.5<br>24°28.8 | 60°18.9<br>24°33.8 | 74°45.2<br>24°38.7 | 89°11.4<br>24°43.5 | 103°37.5<br>24°48.1 | +26.5<br>+5.2 | 15.6<br>57.1 |
| Me 21 | 319°59.6<br>25°39.7 | 334°24.5<br>25°41.9 | 348°49.3<br>25°43.9 | 3°14.1<br>25°45.8 | 17°38.8<br>25°47.6 | 32°03.4<br>25°49.1 | 46°28.0<br>25°50.6 | 60°52.6<br>25°51.8 | 75°17.1<br>25°52.9 | 89°41.5<br>25°53.8 | 104°05.9<br>25°54.6 | +24.6<br>+1.5 | 15.8<br>57.9 |
| ● Je 22 | 320°07.2<br>25°45.8 | 334°31.1<br>25°43.9 | 348°55.0<br>25°41.7 | 3°18.8<br>25°39.5 | 17°42.7<br>25°37.0 | 32°06.5<br>25°34.4 | 46°30.4<br>25°31.6 | 60°54.2<br>25°28.6 | 75°18.0<br>25°25.4 | 89°41.9<br>25°22.1 | 104°05.7<br>25°18.6 | +23.8<br>-2.7 | 16.0<br>58.6 |
| Ve 23 | 320°05.2<br>24°06.0 | 334°29.4<br>23°59.9 | 348°53.6<br>23°53.5 | 3°17.8<br>23°47.0 | 17°42.1<br>23°40.4 | 32°06.5<br>23°33.6 | 46°30.8<br>23°26.6 | 60°55.2<br>23°19.5 | 75°19.7<br>23°12.2 | 89°44.2<br>23°04.7 | 104°08.8<br>22°57.1 | +24.4<br>-6.9 | 16.1<br>59.2 |
| Sa 24 | 320°24.0<br>20°45.2 | 334°49.5<br>20°35.3 | 349°15.0<br>20°25.2 | 3°40.7<br>20°15.0 | 18°06.4<br>20°04.7 | 32°32.2<br>19°54.2 | 46°58.0<br>19°43.6 | 61°23.9<br>19°32.9 | 75°49.9<br>19°22.1 | 90°16.0<br>19°11.1 | 104°42.1<br>19°00.0 | +25.8<br>-10.5 | 16.2<br>59.6 |
| Di 25 | 321°22.7<br>16°00.1 | 335°50.0<br>15°47.2 | 350°17.4<br>15°34.3 | 4°44.8<br>15°21.3 | 19°12.3<br>15°08.1 | 33°39.8<br>14°54.9 | 48°07.5<br>14°41.6 | 62°35.2<br>14°28.3 | 77°03.0<br>14°14.8 | 91°30.8<br>14°01.2 | 105°58.7<br>13°47.6 | +27.6<br>-13.3 | 16.3<br>59.7 |
| Lu 26 | 323°05.2<br>10°14.4 | 337°34.1<br>9°59.7 | 352°03.1<br>9°44.9 | 6°32.1<br>9°30.1 | 21°01.2<br>9°15.3 | 35°30.3<br>9°00.3 | 49°59.5<br>8°45.4 | 64°28.7<br>8°30.4 | 78°58.0<br>8°15.3 | 93°27.4<br>8°00.2 | 107°56.7<br>7°45.1 | +29.2<br>-14.9 | 16.3<br>59.7 |
| Ma 27 | 325°22.7<br>3°54.2 | 339°52.7<br>3°38.6 | 354°22.7<br>3°23.0 | 8°52.8<br>3°07.4 | 23°22.9<br>2°51.8 | 37°53.0<br>2°36.2 | 52°23.2<br>2°20.5 | 66°53.4<br>2°04.9 | 81°23.6<br>1°49.3 | 95°53.8<br>1°33.6 | 110°24.0<br>1°18.0 | +30.1<br>-15.6 | 16.2<br>59.6 |
| Me 28 | 327°59.4<br>-2°36.0 | 342°29.9<br>-2°51.5 | 357°00.3<br>-3°06.9 | 11°30.7<br>-3°22.4 | 26°01.1<br>-3°37.8 | 40°31.5<br>-3°53.2 | 55°01.9<br>-4°08.5 | 69°32.4<br>-4°23.9 | 84°02.8<br>-4°39.2 | 98°33.2<br>-4°54.4 | 113°03.5<br>-5°09.7 | +30.4<br>-15.4 | 16.2<br>59.3 |
| ◐ Je 29 | 330°37.6<br>-8°53.3 | 345°07.7<br>-9°07.8 | 359°37.8<br>-9°22.3 | 14°07.8<br>-9°36.7 | 28°37.9<br>-9°51.0 | 43°07.8<br>-10°05.3 | 57°37.8<br>-10°19.6 | 72°07.8<br>-10°33.7 | 86°37.7<br>-10°47.8 | 101°07.5<br>-11°01.9 | 115°37.4<br>-11°15.8 | +30.0<br>-14.3 | 16.1<br>58.9 |
| Ve 30 | 333°00.4<br>-14°36.7 | 347°29.6<br>-14°49.4 | 1°58.7<br>-15°02.1 | 16°27.8<br>-15°14.7 | 30°56.9<br>-15°27.1 | 45°25.9<br>-15°39.5 | 59°54.9<br>-15°51.8 | 74°23.8<br>-16°04.0 | 88°52.6<br>-16°16.2 | 103°21.5<br>-16°28.2 | 117°50.2<br>-16°40.1 | +29.0<br>-12.3 | 15.9<br>58.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 7 06h08 — DQ: 15 04h27 — NL: 22 18h27 — PQ: 29 12h10

# SOLEIL

## Juillet 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°00.7 | 284°00.6 | 299°00.5 | 314°00.4 | 329°00.3 | 344°00.1 | 359°00.0 | 13°59.9 | 28°59.8 | 43°59.7 | 58°59.6 | 73°59.4 | -0.1 |
| | 23°03.9 | 23°03.7 | 23°03.5 | 23°03.3 | 23°03.1 | 23°03.0 | 23°02.8 | 23°02.6 | 23°02.4 | 23°02.2 | 23°02.0 | 23°01.9 | -0.2 |
| Di 2 | 268°57.9 | 283°57.8 | 298°57.7 | 313°57.6 | 328°57.5 | 343°57.3 | 358°57.2 | 13°57.1 | 28°57.0 | 43°56.9 | 58°56.8 | 73°56.7 | -0.1 |
| | 22°59.4 | 22°59.2 | 22°59.0 | 22°58.8 | 22°58.6 | 22°58.4 | 22°58.2 | 22°58.0 | 22°57.8 | 22°57.6 | 22°57.4 | 22°57.2 | -0.2 |
| Lu 3 | 268°55.2 | 283°55.1 | 298°55.0 | 313°54.8 | 328°54.7 | 343°54.6 | 358°54.5 | 13°54.4 | 28°54.3 | 43°54.2 | 58°54.1 | 73°53.9 | -0.1 |
| | 22°54.5 | 22°54.3 | 22°54.1 | 22°53.9 | 22°53.7 | 22°53.5 | 22°53.2 | 22°53.0 | 22°52.8 | 22°52.6 | 22°52.4 | 22°52.2 | -0.2 |
| Ma 4 | 268°52.5 | 283°52.4 | 298°52.3 | 313°52.2 | 328°52.1 | 343°52.0 | 358°51.9 | 13°51.8 | 28°51.7 | 43°51.5 | 58°51.4 | 73°51.3 | -0.1 |
| | 22°49.3 | 22°49.0 | 22°48.8 | 22°48.6 | 22°48.3 | 22°48.1 | 22°47.9 | 22°47.6 | 22°47.4 | 22°47.2 | 22°46.9 | 22°46.7 | -0.2 |
| Me 5 | 268°49.9 | 283°49.8 | 298°49.7 | 313°49.6 | 328°49.5 | 343°49.4 | 358°49.3 | 13°49.2 | 28°49.1 | 43°49.0 | 58°48.9 | 73°48.8 | -0.1 |
| | 22°43.6 | 22°43.3 | 22°43.1 | 22°42.9 | 22°42.6 | 22°42.4 | 22°42.1 | 22°41.9 | 22°41.6 | 22°41.4 | 22°41.1 | 22°40.9 | -0.2 |
| Je 6 | 268°47.5 | 283°47.4 | 298°47.3 | 313°47.2 | 328°47.1 | 343°47.0 | 358°46.8 | 13°46.7 | 28°46.6 | 43°46.5 | 58°46.4 | 73°46.3 | -0.1 |
| | 22°37.5 | 22°37.3 | 22°37.0 | 22°36.8 | 22°36.5 | 22°36.2 | 22°36.0 | 22°35.7 | 22°35.4 | 22°35.2 | 22°34.9 | 22°34.6 | -0.3 |
| Ve 7 | 268°45.1 | 283°45.0 | 298°44.9 | 313°44.8 | 328°44.7 | 343°44.6 | 358°44.5 | 13°44.4 | 28°44.3 | 43°44.2 | 58°44.1 | 73°44.0 | -0.1 |
| | 22°31.1 | 22°30.8 | 22°30.5 | 22°30.3 | 22°30.0 | 22°29.7 | 22°29.4 | 22°29.1 | 22°28.9 | 22°28.6 | 22°28.3 | 22°28.0 | -0.3 |
| Sa 8 | 268°42.8 | 283°42.7 | 298°42.6 | 313°42.5 | 328°42.4 | 343°42.3 | 358°42.2 | 13°42.1 | 28°42.0 | 43°41.9 | 58°41.8 | 73°41.7 | -0.1 |
| | 22°24.3 | 22°24.0 | 22°23.7 | 22°23.4 | 22°23.1 | 22°22.8 | 22°22.5 | 22°22.2 | 22°21.9 | 22°21.6 | 22°21.3 | 22°21.0 | -0.3 |
| Di 9 | 268°40.6 | 283°40.5 | 298°40.4 | 313°40.3 | 328°40.2 | 343°40.1 | 358°40.0 | 13°39.9 | 28°39.9 | 43°39.8 | 58°39.7 | 73°39.6 | -0.1 |
| | 22°17.0 | 22°16.7 | 22°16.4 | 22°16.1 | 22°15.8 | 22°15.5 | 22°15.2 | 22°14.9 | 22°14.5 | 22°14.2 | 22°13.9 | 22°13.6 | -0.3 |
| Lu 10 | 268°38.5 | 283°38.4 | 298°38.3 | 313°38.2 | 328°38.1 | 343°38.1 | 358°38.0 | 13°37.9 | 28°37.8 | 43°37.7 | 58°37.6 | 73°37.6 | -0.1 |
| | 22°09.4 | 22°09.1 | 22°08.8 | 22°08.5 | 22°08.1 | 22°07.8 | 22°07.5 | 22°07.1 | 22°06.8 | 22°06.5 | 22°06.1 | 22°05.8 | -0.3 |
| Ma 11 | 268°36.5 | 283°36.4 | 298°36.3 | 313°36.3 | 328°36.2 | 343°36.1 | 358°36.0 | 13°35.9 | 28°35.9 | 43°35.8 | 58°35.7 | 73°35.6 | -0.1 |
| | 22°01.4 | 22°01.1 | 22°00.8 | 22°00.4 | 22°00.1 | 21°59.7 | 21°59.4 | 21°59.0 | 21°58.7 | 21°58.3 | 21°58.0 | 21°57.7 | -0.3 |
| Me 12 | 268°34.6 | 283°34.5 | 298°34.5 | 313°34.4 | 328°34.3 | 343°34.2 | 358°34.2 | 13°34.1 | 28°34.0 | 43°33.9 | 58°33.9 | 73°33.8 | -0.1 |
| | 21°53.1 | 21°52.7 | 21°52.4 | 21°52.0 | 21°51.6 | 21°51.3 | 21°50.9 | 21°50.6 | 21°50.2 | 21°49.8 | 21°49.5 | 21°49.1 | -0.4 |
| Je 13 | 268°32.9 | 283°32.8 | 298°32.7 | 313°32.6 | 328°32.6 | 343°32.5 | 358°32.4 | 13°32.4 | 28°32.3 | 43°32.2 | 58°32.2 | 73°32.1 | -0.1 |
| | 21°44.3 | 21°44.0 | 21°43.6 | 21°43.2 | 21°42.8 | 21°42.5 | 21°42.1 | 21°41.7 | 21°41.3 | 21°41.0 | 21°40.6 | 21°40.2 | -0.4 |
| Ve 14 | 268°31.2 | 283°31.1 | 298°31.1 | 313°31.0 | 328°30.9 | 343°30.9 | 358°30.8 | 13°30.8 | 28°30.7 | 43°30.6 | 58°30.6 | 73°30.5 | -0.1 |
| | 21°35.2 | 21°34.8 | 21°34.4 | 21°34.1 | 21°33.7 | 21°33.3 | 21°32.9 | 21°32.5 | 21°32.1 | 21°31.7 | 21°31.3 | 21°30.9 | -0.4 |
| Sa 15 | 268°29.7 | 283°29.6 | 298°29.6 | 313°29.5 | 328°29.4 | 343°29.4 | 358°29.3 | 13°29.3 | 28°29.2 | 43°29.1 | 58°29.1 | 73°29.0 | -0.1 |
| | 21°25.7 | 21°25.3 | 21°24.9 | 21°24.5 | 21°24.1 | 21°23.7 | 21°23.3 | 21°22.9 | 21°22.5 | 21°22.1 | 21°21.7 | 21°21.3 | -0.4 |
| Di 16 | 268°28.3 | 283°28.2 | 298°28.2 | 313°28.1 | 328°28.1 | 343°28.0 | 358°28.0 | 13°27.9 | 28°27.8 | 43°27.8 | 58°27.7 | 73°27.7 | -0.1 |
| | 21°15.9 | 21°15.5 | 21°15.0 | 21°14.6 | 21°14.2 | 21°13.8 | 21°13.4 | 21°12.9 | 21°12.5 | 21°12.1 | 21°11.7 | 21°11.3 | -0.4 |
| Lu 17 | 268°27.0 | 283°27.0 | 298°26.9 | 313°26.9 | 328°26.8 | 343°26.8 | 358°26.7 | 13°26.7 | 28°26.6 | 43°26.6 | 58°26.5 | 73°26.5 | -0.0 |
| | 21°05.7 | 21°05.2 | 21°04.8 | 21°04.4 | 21°03.9 | 21°03.5 | 21°03.1 | 21°02.6 | 21°02.2 | 21°01.8 | 21°01.3 | 21°00.9 | -0.4 |
| Ma 18 | 268°25.9 | 283°25.8 | 298°25.8 | 313°25.7 | 328°25.7 | 343°25.6 | 358°25.6 | 13°25.6 | 28°25.5 | 43°25.5 | 58°25.4 | 73°25.4 | -0.0 |
| | 20°55.1 | 20°54.7 | 20°54.2 | 20°53.8 | 20°53.3 | 20°52.9 | 20°52.4 | 20°52.0 | 20°51.5 | 20°51.1 | 20°50.6 | 20°50.1 | -0.5 |
| Me 19 | 268°24.8 | 283°24.8 | 298°24.8 | 313°24.7 | 328°24.7 | 343°24.7 | 358°24.6 | 13°24.6 | 28°24.5 | 43°24.5 | 58°24.5 | 73°24.4 | -0.0 |
| | 20°44.2 | 20°43.7 | 20°43.3 | 20°42.8 | 20°42.3 | 20°41.9 | 20°41.4 | 20°40.9 | 20°40.5 | 20°40.0 | 20°39.5 | 20°39.1 | -0.5 |
| Je 20 | 268°24.0 | 283°23.9 | 298°23.9 | 313°23.9 | 328°23.8 | 343°23.8 | 358°23.8 | 13°23.7 | 28°23.7 | 43°23.7 | 58°23.6 | 73°23.6 | -0.0 |
| | 20°32.9 | 20°32.4 | 20°32.0 | 20°31.5 | 20°31.0 | 20°30.5 | 20°30.0 | 20°29.6 | 20°29.1 | 20°28.6 | 20°28.1 | 20°27.6 | -0.5 |
| Ve 21 | 268°23.2 | 283°23.2 | 298°23.2 | 313°23.1 | 328°23.1 | 343°23.1 | 358°23.1 | 13°23.0 | 28°23.0 | 43°23.0 | 58°23.0 | 73°22.9 | -0.0 |
| | 20°21.3 | 20°20.8 | 20°20.3 | 20°19.8 | 20°19.3 | 20°18.8 | 20°18.3 | 20°17.8 | 20°17.3 | 20°16.8 | 20°16.3 | 20°15.9 | -0.5 |
| Sa 22 | 268°22.6 | 283°22.6 | 298°22.6 | 313°22.6 | 328°22.5 | 343°22.5 | 358°22.5 | 13°22.5 | 28°22.5 | 43°22.4 | 58°22.4 | 73°22.4 | -0.0 |
| | 20°09.3 | 20°08.8 | 20°08.3 | 20°07.8 | 20°07.3 | 20°06.8 | 20°06.3 | 20°05.8 | 20°05.3 | 20°04.8 | 20°04.2 | 20°03.7 | -0.5 |
| Di 23 | 268°22.2 | 283°22.2 | 298°22.1 | 313°22.1 | 328°22.1 | 343°22.1 | 358°22.1 | 13°22.1 | 28°22.1 | 43°22.0 | 58°22.0 | 73°22.0 | -0.0 |
| | 19°57.0 | 19°56.5 | 19°56.0 | 19°55.5 | 19°55.0 | 19°54.4 | 19°53.9 | 19°53.4 | 19°52.9 | 19°52.3 | 19°51.8 | 19°51.3 | -0.5 |
| Lu 24 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.8 | 328°21.8 | 343°21.8 | 358°21.8 | 13°21.8 | 28°21.8 | 43°21.8 | 58°21.8 | 73°21.8 | -0.0 |
| | 19°44.4 | 19°43.9 | 19°43.3 | 19°42.8 | 19°42.3 | 19°41.7 | 19°41.2 | 19°40.7 | 19°40.1 | 19°39.6 | 19°39.0 | 19°38.5 | -0.5 |
| Ma 25 | 268°21.7 | 283°21.7 | 298°21.7 | 313°21.7 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.7 | -0.0 |
| | 19°31.5 | 19°30.9 | 19°30.4 | 19°29.8 | 19°29.3 | 19°28.7 | 19°28.2 | 19°27.6 | 19°27.1 | 19°26.5 | 19°26.0 | 19°25.4 | -0.5 |
| Me 26 | 268°21.7 | 283°21.7 | 298°21.7 | 313°21.7 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.8 | 58°21.8 | 73°21.8 | +0.0 |
| | 19°18.2 | 19°17.6 | 19°17.1 | 19°16.5 | 19°15.9 | 19°15.4 | 19°14.8 | 19°14.2 | 19°13.7 | 19°13.1 | 19°12.5 | 19°12.0 | -0.6 |
| Je 27 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.9 | 13°21.9 | 28°22.0 | 43°22.0 | 58°22.0 | 73°22.0 | +0.0 |
| | 19°04.6 | 19°03.4 | 19°02.9 | 19°02.3 | 19°01.7 | 19°01.1 | 19°00.6 | 19°00.0 | 18°59.4 | 18°58.8 | 18°58.2 | -0.6 | |
| Ve 28 | 268°22.2 | 283°22.2 | 298°22.2 | 313°22.2 | 328°22.2 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.3 | 43°22.3 | 58°22.4 | 73°22.4 | +0.0 |
| | 18°50.7 | 18°50.1 | 18°49.5 | 18°48.9 | 18°48.3 | 18°47.7 | 18°47.1 | 18°46.5 | 18°46.0 | 18°45.4 | 18°44.8 | 18°44.2 | -0.6 |
| Sa 29 | 268°22.6 | 283°22.7 | 298°22.7 | 313°22.7 | 328°22.7 | 343°22.8 | 358°22.8 | 13°22.8 | 28°22.8 | 43°22.9 | 58°22.9 | 73°22.9 | +0.0 |
| | 18°36.4 | 18°35.8 | 18°35.2 | 18°34.6 | 18°34.0 | 18°33.4 | 18°32.8 | 18°32.2 | 18°31.6 | 18°31.0 | 18°30.4 | 18°29.8 | -0.6 |
| Di 30 | 268°23.3 | 283°23.3 | 298°23.3 | 313°23.4 | 328°23.4 | 343°23.4 | 358°23.4 | 13°23.5 | 28°23.5 | 43°23.5 | 58°23.6 | 73°23.6 | +0.0 |
| | 18°21.9 | 18°21.3 | 18°20.7 | 18°20.1 | 18°19.5 | 18°18.9 | 18°18.2 | 18°17.6 | 18°17.0 | 18°16.4 | 18°15.8 | 18°15.2 | -0.6 |
| Lu 31 | 268°24.0 | 283°24.1 | 298°24.1 | 313°24.1 | 328°24.2 | 343°24.2 | 358°24.3 | 13°24.3 | 28°24.3 | 43°24.4 | 58°24.4 | 73°24.5 | +0.0 |
| | 18°07.1 | 18°06.5 | 18°05.9 | 18°05.2 | 18°04.6 | 18°04.0 | 18°03.4 | 18°02.7 | 18°02.1 | 18°01.5 | 18°00.8 | 18°00.2 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2028

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 248°06.9 | 262°35.1 | 277°03.4 | 291°31.5 | 305°59.6 | 320°27.7 | 334°55.7 | 349°23.6 | 3°51.5 | 18°19.4 | 32°47.2 | +28.0 | 15.8 |
| | -18°22.8 | -18°33.7 | -18°44.5 | -18°55.1 | -19°05.7 | -19°16.1 | -19°26.5 | -19°36.7 | -19°46.8 | -19°56.8 | -20°06.6 | -10.4 | 58.1 |
| Di 2 | 249°38.1 | 264°05.1 | 278°32.1 | 292°59.0 | 307°25.9 | 321°52.7 | 336°19.5 | 350°46.3 | 5°13.0 | 19°39.7 | 34°06.4 | +26.8 | 15.7 |
| | -22°19.7 | -22°27.6 | -22°35.3 | -22°42.9 | -22°50.3 | -22°57.6 | -23°04.8 | -23°11.8 | -23°18.7 | -23°25.4 | -23°32.0 | -7.2 | 57.6 |
| Lu 3 | 250°42.3 | 265°08.4 | 279°34.6 | 294°00.8 | 308°26.9 | 322°53.1 | 337°19.2 | 351°45.3 | 6°11.4 | 20°37.5 | 35°03.5 | +26.1 | 15.6 |
| | -24°53.9 | -24°58.1 | -25°02.3 | -25°06.3 | -25°10.1 | -25°13.8 | -25°17.3 | -25°20.7 | -25°23.9 | -25°27.0 | -25°29.9 | -3.6 | 57.1 |
| Ma 4 | 251°35.1 | 266°01.3 | 280°27.5 | 294°53.7 | 309°20.0 | 323°46.3 | 338°12.6 | 352°38.9 | 7°05.3 | 21°31.7 | 35°58.1 | +26.3 | 15.4 |
| | -25°55.6 | -25°56.1 | -25°56.4 | -25°56.6 | -25°56.7 | -25°56.6 | -25°56.3 | -25°55.9 | -25°55.4 | -25°54.7 | -25°53.8 | +0.2 | 56.5 |
| Me 5 | 252°39.6 | 267°06.7 | 281°33.9 | 296°01.2 | 310°28.5 | 324°55.9 | 339°23.3 | 353°50.8 | 8°18.4 | 22°46.0 | 37°13.7 | +27.4 | 15.3 |
| | -25°23.7 | -25°20.6 | -25°17.3 | -25°13.9 | -25°10.3 | -25°06.6 | -25°02.8 | -24°58.8 | -24°54.7 | -24°50.5 | -24°46.2 | +3.8 | 56.0 |
| ○ Je 6 | 254°17.6 | 268°46.4 | 283°15.4 | 297°44.4 | 312°13.5 | 326°42.6 | 341°11.9 | 355°41.2 | 10°10.6 | 24°40.1 | 39°09.6 | +29.2 | 15.1 |
| | -23°25.7 | -23°19.4 | -23°12.9 | -23°06.4 | -22°59.7 | -22°52.9 | -22°46.0 | -22°39.0 | -22°31.9 | -22°24.7 | -22°17.4 | +6.8 | 55.5 |
| Ve 7 | 256°42.9 | 271°13.8 | 285°44.7 | 300°15.8 | 314°46.9 | 329°18.1 | 343°49.4 | 358°20.7 | 12°52.2 | 27°23.7 | 41°55.3 | +31.2 | 15.0 |
| | -20°15.6 | -20°06.7 | -19°57.8 | -19°48.7 | -19°39.6 | -19°30.4 | -19°21.1 | -19°11.7 | -19°02.2 | -18°52.7 | -18°43.1 | +9.3 | 55.1 |
| Sa 8 | 259°58.6 | 274°31.4 | 289°04.3 | 303°37.2 | 318°10.3 | 332°43.4 | 347°16.5 | 1°49.8 | 16°23.1 | 30°56.4 | 45°29.9 | +33.1 | 14.9 |
| | -16°10.1 | -15°59.4 | -15°48.6 | -15°37.7 | -15°26.8 | -15°15.8 | -15°04.8 | -14°53.7 | -14°42.6 | -14°31.4 | -14°20.1 | +11.0 | 54.7 |
| Di 9 | 263°58.8 | 278°33.2 | 293°07.6 | 307°42.1 | 322°16.6 | 336°51.2 | 351°25.8 | 6°00.5 | 20°35.3 | 35°10.0 | 49°44.9 | +34.6 | 14.8 |
| | -11°25.7 | -11°13.7 | -11°01.7 | -10°49.6 | -10°37.6 | -10°25.4 | -10°13.3 | -10°01.1 | -9°48.9 | -9°36.6 | -9°24.3 | +12.1 | 54.3 |
| Lu 10 | 268°32.1 | 283°07.5 | 297°43.0 | 312°18.5 | 326°54.0 | 341°29.5 | 356°05.1 | 10°40.7 | 25°16.3 | 39°51.9 | 54°27.6 | +35.6 | 14.8 |
| | -6°16.8 | -6°04.2 | -5°51.5 | -5°38.7 | -5°26.0 | -5°13.3 | -5°00.5 | -4°47.7 | -4°34.9 | -4°22.1 | -4°09.3 | +12.8 | 54.1 |
| Ma 11 | 273°24.3 | 288°00.2 | 302°36.1 | 317°11.9 | 331°47.8 | 346°23.7 | 0°59.6 | 15°35.4 | 30°11.3 | 44°47.2 | 59°23.1 | +35.9 | 14.8 |
| | -0°55.9 | -0°42.9 | -0°30.0 | -0°17.0 | -0°04.1 | 0°08.8 | 0°21.8 | 0°34.7 | 0°47.7 | 1°00.6 | 1°13.5 | +12.9 | 54.1 |
| Me 12 | 278°19.9 | 292°55.6 | 307°31.2 | 322°06.8 | 336°42.4 | 351°18.0 | 5°53.5 | 20°29.1 | 35°04.6 | 49°40.0 | 64°15.4 | +35.6 | 14.8 |
| | 4°26.6 | 4°39.4 | 4°52.2 | 5°04.9 | 5°17.7 | 5°30.4 | 5°43.1 | 5°55.8 | 6°08.5 | 6°21.1 | 6°33.8 | +12.7 | 54.2 |
| Je 13 | 292°55.6 | 307°31.2 | 322°06.8 | 336°42.4 | 351°18.0 | 5°53.5 | 20°29.1 | 35°04.6 | 49°40.0 | 64°15.4 | 78°50.8 | +35.5 | 14.8 |
| | 4°39.4 | 4°52.2 | 5°04.9 | 5°17.7 | 5°30.4 | 5°43.1 | 5°55.8 | 6°08.5 | 6°21.1 | 6°33.8 | 6°46.4 | +12.7 | 54.2 |
| ◑ Ve 14 | 297°37.4 | 312°12.2 | 326°46.9 | 341°21.5 | 355°56.1 | 10°30.7 | 25°05.2 | 39°39.6 | 54°14.0 | 68°48.4 | 83°22.7 | +34.5 | 14.9 |
| | 9°52.7 | 10°04.9 | 10°17.0 | 10°29.2 | 10°41.3 | 10°53.3 | 11°05.4 | 11°17.3 | 11°29.3 | 11°41.2 | 11°53.1 | +12.0 | 54.5 |
| Sa 15 | 301°49.3 | 316°22.6 | 330°55.7 | 345°28.8 | 0°01.8 | 14°34.7 | 29°07.6 | 43°40.4 | 58°13.0 | 72°45.7 | 87°18.2 | +32.9 | 15.0 |
| | 14°46.0 | 14°57.2 | 15°08.3 | 15°19.3 | 15°30.3 | 15°41.2 | 15°52.1 | 16°02.9 | 16°13.6 | 16°24.3 | 16°35.0 | +10.9 | 55.0 |
| Di 16 | 305°15.9 | 319°47.1 | 334°18.1 | 348°49.0 | 3°19.9 | 17°50.6 | 32°21.3 | 46°51.9 | 61°22.3 | 75°52.7 | 90°23.0 | +30.7 | 15.2 |
| | 19°06.4 | 19°15.9 | 19°25.3 | 19°34.7 | 19°44.0 | 19°53.2 | 20°02.3 | 20°11.3 | 20°20.2 | 20°29.1 | 20°37.8 | +9.1 | 55.7 |
| Lu 17 | 307°45.1 | 322°13.7 | 336°42.3 | 351°10.8 | 5°39.1 | 20°07.4 | 34°35.6 | 49°03.6 | 63°31.6 | 77°59.5 | 92°27.2 | +28.2 | 15.4 |
| | 22°37.7 | 22°44.9 | 22°51.9 | 22°58.9 | 23°05.7 | 23°12.4 | 23°19.0 | 23°25.5 | 23°31.9 | 23°38.2 | 23°44.3 | +6.7 | 56.4 |
| Ma 18 | 309°12.1 | 323°38.4 | 338°04.6 | 352°30.6 | 6°56.6 | 21°22.5 | 35°48.4 | 50°14.1 | 64°39.8 | 79°05.3 | 93°30.8 | +25.9 | 15.6 |
| | 25°01.0 | 25°05.0 | 25°08.9 | 25°12.7 | 25°16.3 | 25°19.8 | 25°23.1 | 25°26.3 | 25°29.3 | 25°32.2 | 25°34.9 | +3.4 | 57.3 |
| Me 19 | 309°44.9 | 324°09.3 | 338°33.7 | 352°58.1 | 7°22.4 | 21°46.6 | 36°10.8 | 50°35.0 | 64°59.1 | 79°23.2 | 93°47.2 | +24.2 | 15.9 |
| | 25°57.0 | 25°57.2 | 25°57.2 | 25°57.1 | 25°56.8 | 25°56.3 | 25°55.6 | 25°54.8 | 25°53.8 | 25°52.7 | 25°51.4 | -0.6 | 58.2 |
| Je 20 | 309°45.0 | 324°08.7 | 338°32.5 | 352°56.2 | 7°20.0 | 21°43.7 | 36°07.5 | 50°31.2 | 64°55.0 | 79°18.8 | 93°42.6 | +23.8 | 16.1 |
| | 25°10.9 | 25°06.8 | 25°02.6 | 24°58.1 | 24°53.5 | 24°48.8 | 24°43.8 | 24°38.7 | 24°33.4 | 24°28.0 | 24°22.4 | -4.9 | 59.1 |
| Ve 21 | 309°42.5 | 324°06.8 | 338°31.1 | 352°55.4 | 7°19.8 | 21°44.3 | 36°08.8 | 50°33.3 | 64°57.9 | 79°22.5 | 93°47.2 | +24.5 | 16.3 |
| | 22°38.0 | 22°29.8 | 22°21.4 | 22°12.8 | 22°04.1 | 21°55.2 | 21°46.2 | 21°37.0 | 21°27.7 | 21°18.2 | 21°08.5 | -9.0 | 59.8 |
| ● Sa 22 | 310°04.4 | 324°30.0 | 338°55.7 | 353°21.5 | 7°47.3 | 22°13.2 | 36°39.1 | 51°05.2 | 65°31.2 | 79°57.4 | 94°23.6 | +25.9 | 16.5 |
| | 18°27.2 | 18°15.4 | 18°03.5 | 17°51.4 | 17°39.2 | 17°26.9 | 17°14.5 | 17°02.0 | 16°49.3 | 16°36.6 | 16°23.7 | -12.4 | 60.3 |
| Di 23 | 311°04.7 | 325°32.0 | 339°59.3 | 354°26.7 | 8°54.1 | 23°21.6 | 37°49.2 | 52°16.8 | 66°44.5 | 81°12.2 | 95°40.0 | +27.5 | 16.5 |
| | 12°58.7 | 12°44.4 | 12°29.9 | 12°15.4 | 12°00.7 | 11°46.0 | 11°31.3 | 11°16.5 | 11°01.6 | 10°46.6 | 10°31.6 | -14.7 | 60.6 |
| Lu 24 | 312°43.3 | 327°12.0 | 341°40.6 | 356°09.3 | 10°38.0 | 25°06.8 | 39°35.7 | 54°04.5 | 68°33.4 | 83°02.3 | 97°31.3 | +28.8 | 16.5 |
| | 6°39.7 | 6°23.9 | 6°08.1 | 5°52.2 | 5°36.3 | 5°20.4 | 5°04.4 | 4°48.4 | 4°32.4 | 4°16.4 | 4°00.4 | -15.9 | 60.5 |
| Ma 25 | 314°49.5 | 329°18.9 | 343°48.3 | 358°17.7 | 12°47.2 | 27°16.6 | 41°46.1 | 56°15.6 | 70°45.1 | 85°14.6 | 99°44.1 | +29.5 | 16.4 |
| | -0°01.1 | -0°17.2 | -0°33.2 | -0°49.3 | -1°05.3 | -1°21.4 | -1°37.4 | -1°53.4 | -2°09.4 | -2°25.3 | -2°41.2 | -16.0 | 60.2 |
| Me 26 | 317°07.3 | 331°36.9 | 346°06.4 | 0°35.9 | 15°05.4 | 29°34.9 | 44°04.3 | 58°33.8 | 73°03.2 | 87°32.7 | 102°02.1 | +29.5 | 16.3 |
| | -6°36.2 | -6°51.6 | -7°06.8 | -7°22.1 | -7°37.3 | -7°52.4 | -8°07.5 | -8°22.5 | -8°37.4 | -8°52.3 | -9°07.2 | -15.1 | 59.7 |
| Je 27 | 319°20.7 | 333°49.8 | 348°18.8 | 2°47.7 | 17°16.7 | 31°45.6 | 46°14.5 | 60°43.3 | 75°12.2 | 89°40.9 | 104°09.7 | +28.9 | 16.1 |
| | -12°41.4 | -12°55.1 | -13°08.6 | -13°22.2 | -13°35.6 | -13°48.9 | -14°02.1 | -14°15.3 | -14°28.4 | -14°41.3 | -14°54.2 | -13.3 | 59.0 |
| ◐ Ve 28 | 321°16.5 | 335°44.7 | 350°12.8 | 4°40.8 | 19°08.9 | 33°36.8 | 48°04.8 | 62°32.7 | 77°00.5 | 91°28.4 | 105°56.2 | +28.0 | 15.9 |
| | -17°55.3 | -18°06.6 | -18°17.7 | -18°28.7 | -18°39.6 | -18°50.4 | -19°01.0 | -19°11.6 | -19°22.0 | -19°32.3 | -19°42.5 | -10.7 | 58.3 |
| Sa 29 | 322°48.2 | 337°15.4 | 351°42.5 | 6°09.6 | 20°36.7 | 35°03.7 | 49°30.7 | 63°57.7 | 78°24.6 | 92°51.5 | 107°18.4 | +27.0 | 15.7 |
| | -22°00.2 | -22°08.4 | -22°16.4 | -22°24.3 | -22°32.0 | -22°39.6 | -22°47.1 | -22°54.4 | -23°01.6 | -23°08.7 | -23°15.6 | -7.5 | 57.6 |
| Di 30 | 323°58.6 | 338°25.2 | 352°51.7 | 7°18.2 | 21°44.7 | 36°11.2 | 50°37.6 | 65°04.1 | 79°30.6 | 93°57.0 | 108°23.5 | +26.5 | 15.5 |
| | -24°42.3 | -24°46.9 | -24°51.4 | -24°55.7 | -24°59.9 | -25°03.9 | -25°07.8 | -25°11.5 | -25°15.1 | -25°18.5 | -25°21.8 | -4.0 | 57.0 |
| Lu 31 | 325°00.7 | 339°27.3 | 353°53.9 | 8°20.5 | 22°47.1 | 37°13.8 | 51°40.4 | 66°07.2 | 80°33.9 | 95°00.7 | 109°27.4 | +26.7 | 15.4 |
| | -25°53.3 | -25°54.2 | -25°55.0 | -25°55.6 | -25°56.1 | -25°56.4 | -25°56.6 | -25°56.6 | -25°56.5 | -25°56.2 | -25°55.8 | -0.2 | 56.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 6 18h10 — DQ: 14 20h56 — NL: 22 03h01 — PQ: 28 17h40

# SOLEIL

## Août 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 268°25.0<br>17°52.0 | 283°25.0<br>17°51.4 | 298°25.1<br>17°50.7 | 313°25.1<br>17°50.1 | 328°25.1<br>17°49.4 | 343°25.2<br>17°48.8 | 358°25.2<br>17°48.2 | 13°25.3<br>17°47.5 | 28°25.3<br>17°46.9 | 43°25.4<br>17°46.2 | 58°25.4<br>17°45.6 | 73°25.5<br>17°45.0 | +0.0<br>-0.6 |
| Me 2 | 268°26.1<br>17°36.6 | 283°26.1<br>17°35.9 | 298°26.2<br>17°35.3 | 313°26.2<br>17°34.6 | 328°26.3<br>17°34.0 | 343°26.3<br>17°33.3 | 358°26.4<br>17°32.7 | 13°26.4<br>17°32.0 | 28°26.5<br>17°31.4 | 43°26.5<br>17°30.7 | 58°26.6<br>17°30.1 | 73°26.6<br>17°29.4 | +0.1<br>-0.7 |
| Je 3 | 268°27.3<br>17°20.9 | 283°27.4<br>17°20.2 | 298°27.4<br>17°19.6 | 313°27.5<br>17°18.9 | 328°27.5<br>17°18.3 | 343°27.6<br>17°17.6 | 358°27.6<br>17°16.9 | 13°27.7<br>17°16.3 | 28°27.8<br>17°15.6 | 43°27.8<br>17°14.9 | 58°27.9<br>17°14.3 | 73°27.9<br>17°13.6 | +0.1<br>-0.7 |
| Ve 4 | 268°28.7<br>17°04.9 | 283°28.8<br>17°04.3 | 298°28.8<br>17°03.6 | 313°28.9<br>17°02.9 | 328°29.0<br>17°02.2 | 343°29.0<br>17°01.6 | 358°29.1<br>17°00.9 | 13°29.1<br>17°00.2 | 28°29.2<br>16°59.5 | 43°29.3<br>16°58.9 | 58°29.3<br>16°58.2 | 73°29.4<br>16°57.5 | +0.1<br>-0.7 |
| Sa 5 | 268°30.2<br>16°48.7 | 283°30.3<br>16°48.0 | 298°30.4<br>16°47.3 | 313°30.5<br>16°46.6 | 328°30.5<br>16°45.9 | 343°30.6<br>16°45.3 | 358°30.7<br>16°44.6 | 13°30.7<br>16°43.9 | 28°30.8<br>16°43.2 | 43°30.9<br>16°42.5 | 58°30.9<br>16°41.8 | 73°31.0<br>16°41.1 | +0.1<br>-0.7 |
| Di 6 | 268°31.9<br>16°32.2 | 283°32.0<br>16°31.5 | 298°32.1<br>16°30.8 | 313°32.2<br>16°30.1 | 328°32.2<br>16°29.4 | 343°32.3<br>16°28.7 | 358°32.4<br>16°28.0 | 13°32.5<br>16°27.3 | 28°32.5<br>16°26.6 | 43°32.6<br>16°25.9 | 58°32.7<br>16°25.2 | 73°32.8<br>16°24.5 | +0.1<br>-0.7 |
| Lu 7 | 268°33.8<br>16°15.4 | 283°33.9<br>16°14.7 | 298°33.9<br>16°14.0 | 313°34.0<br>16°13.3 | 328°34.1<br>16°12.6 | 343°34.2<br>16°11.9 | 358°34.3<br>16°11.1 | 13°34.4<br>16°10.4 | 28°34.4<br>16°09.7 | 43°34.5<br>16°09.0 | 58°34.6<br>16°08.3 | 73°34.7<br>16°07.6 | +0.1<br>-0.7 |
| Ma 8 | 268°35.8<br>15°58.3 | 283°35.9<br>15°57.6 | 298°35.9<br>15°56.9 | 313°36.0<br>15°56.2 | 328°36.1<br>15°55.5 | 343°36.2<br>15°54.8 | 358°36.3<br>15°54.0 | 13°36.4<br>15°53.3 | 28°36.5<br>15°52.6 | 43°36.6<br>15°51.9 | 58°36.6<br>15°51.2 | 73°36.7<br>15°50.4 | +0.1<br>-0.7 |
| Me 9 | 268°37.9<br>15°41.0 | 283°38.0<br>15°40.3 | 298°38.1<br>15°39.6 | 313°38.2<br>15°38.9 | 328°38.3<br>15°38.1 | 343°38.4<br>15°37.4 | 358°38.5<br>15°36.7 | 13°38.6<br>15°35.9 | 28°38.7<br>15°35.2 | 43°38.7<br>15°34.5 | 58°38.8<br>15°33.8 | 73°38.9<br>15°33.0 | +0.1<br>-0.7 |
| Je 10 | 268°40.2<br>15°23.5 | 283°40.3<br>15°22.7 | 298°40.4<br>15°22.0 | 313°40.5<br>15°21.3 | 328°40.6<br>15°20.5 | 343°40.7<br>15°19.8 | 358°40.8<br>15°19.1 | 13°40.9<br>15°18.3 | 28°41.0<br>15°17.6 | 43°41.1<br>15°16.8 | 58°41.2<br>15°16.1 | 73°41.3<br>15°15.4 | +0.1<br>-0.7 |
| Ve 11 | 268°42.6<br>15°05.7 | 283°42.7<br>15°04.9 | 298°42.8<br>15°04.2 | 313°42.9<br>15°03.4 | 328°43.0<br>15°02.7 | 343°43.1<br>15°01.9 | 358°43.2<br>15°01.2 | 13°43.3<br>15°00.4 | 28°43.4<br>14°59.7 | 43°43.5<br>14°58.9 | 58°43.6<br>14°58.2 | 73°43.8<br>14°57.4 | +0.1<br>-0.7 |
| Sa 12 | 268°45.1<br>14°47.6 | 283°45.3<br>14°46.9 | 298°45.4<br>14°46.1 | 313°45.5<br>14°45.4 | 328°45.6<br>14°44.6 | 343°45.7<br>14°43.8 | 358°45.8<br>14°43.1 | 13°45.9<br>14°42.3 | 28°46.0<br>14°41.6 | 43°46.1<br>14°40.8 | 58°46.3<br>14°40.0 | 73°46.4<br>14°39.3 | +0.1<br>-0.8 |
| Di 13 | 268°47.8<br>14°29.4 | 283°47.9<br>14°28.6 | 298°48.1<br>14°27.8 | 313°48.2<br>14°27.1 | 328°48.3<br>14°26.3 | 343°48.4<br>14°25.5 | 358°48.5<br>14°24.7 | 13°48.6<br>14°24.0 | 28°48.8<br>14°23.2 | 43°48.9<br>14°22.4 | 58°49.0<br>14°21.7 | 73°49.1<br>14°20.9 | +0.1<br>-0.8 |
| Lu 14 | 268°50.6<br>14°10.8 | 283°50.8<br>14°10.1 | 298°50.9<br>14°09.3 | 313°51.0<br>14°08.5 | 328°51.1<br>14°07.7 | 343°51.3<br>14°07.0 | 358°51.4<br>14°06.2 | 13°51.5<br>14°05.4 | 28°51.6<br>14°04.6 | 43°51.7<br>14°03.8 | 58°51.9<br>14°03.1 | 73°52.0<br>14°02.3 | +0.1<br>-0.8 |
| Ma 15 | 268°53.6<br>13°52.1 | 283°53.7<br>13°51.3 | 298°53.8<br>13°50.5 | 313°54.0<br>13°49.7 | 328°54.1<br>13°49.0 | 343°54.2<br>13°48.2 | 358°54.4<br>13°47.4 | 13°54.5<br>13°46.6 | 28°54.6<br>13°45.8 | 43°54.7<br>13°45.0 | 58°54.9<br>13°44.2 | 73°55.0<br>13°43.4 | +0.1<br>-0.8 |
| Me 16 | 268°56.7<br>13°33.1 | 283°56.8<br>13°32.3 | 298°56.9<br>13°31.5 | 313°57.1<br>13°30.8 | 328°57.2<br>13°30.0 | 343°57.3<br>13°29.2 | 358°57.5<br>13°28.4 | 13°57.6<br>13°27.6 | 28°57.7<br>13°26.8 | 43°57.9<br>13°26.0 | 58°58.0<br>13°25.2 | 73°58.1<br>13°24.4 | +0.1<br>-0.8 |
| Je 17 | 268°59.9<br>13°14.0 | 284°00.0<br>13°13.2 | 299°00.1<br>13°12.3 | 314°00.3<br>13°11.5 | 329°00.4<br>13°10.7 | 344°00.5<br>13°09.9 | 359°00.7<br>13°09.1 | 14°00.8<br>13°08.3 | 29°01.0<br>13°07.5 | 44°01.1<br>13°06.7 | 59°01.2<br>13°05.9 | 74°01.4<br>13°05.1 | +0.1<br>-0.8 |
| Ve 18 | 269°03.2<br>12°54.6 | 284°03.3<br>12°53.8 | 299°03.5<br>12°52.9 | 314°03.6<br>12°52.1 | 329°03.8<br>12°51.3 | 344°03.9<br>12°50.5 | 359°04.0<br>12°49.7 | 14°04.2<br>12°48.9 | 29°04.3<br>12°48.1 | 44°04.5<br>12°47.2 | 59°04.6<br>12°46.4 | 74°04.7<br>12°45.6 | +0.1<br>-0.8 |
| Sa 19 | 269°06.6<br>12°35.0 | 284°06.8<br>12°34.1 | 299°06.9<br>12°33.3 | 314°07.1<br>12°32.5 | 329°07.2<br>12°31.7 | 344°07.4<br>12°30.9 | 359°07.5<br>12°30.0 | 14°07.7<br>12°29.2 | 29°07.8<br>12°28.4 | 44°08.0<br>12°27.6 | 59°08.1<br>12°26.7 | 74°08.2<br>12°25.9 | +0.1<br>-0.8 |
| Di 20 | 269°10.2<br>12°15.2 | 284°10.3<br>12°14.3 | 299°10.5<br>12°13.5 | 314°10.6<br>12°12.7 | 329°10.8<br>12°11.9 | 344°10.9<br>12°11.0 | 359°11.1<br>12°10.2 | 14°11.3<br>12°09.4 | 29°11.4<br>12°08.5 | 44°11.6<br>12°07.7 | 59°11.7<br>12°06.9 | 74°11.9<br>12°06.0 | +0.2<br>-0.8 |
| Lu 21 | 269°13.9<br>11°55.2 | 284°14.0<br>11°54.4 | 299°14.2<br>11°53.5 | 314°14.3<br>11°52.7 | 329°14.5<br>11°51.8 | 344°14.6<br>11°51.0 | 359°14.8<br>11°50.2 | 14°15.0<br>11°49.3 | 29°15.1<br>11°48.5 | 44°15.3<br>11°47.6 | 59°15.4<br>11°46.8 | 74°15.6<br>11°46.0 | +0.2<br>-0.8 |
| Ma 22 | 269°17.7<br>11°35.0 | 284°17.8<br>11°34.2 | 299°18.0<br>11°33.3 | 314°18.1<br>11°32.5 | 329°18.3<br>11°31.6 | 344°18.5<br>11°30.8 | 359°18.6<br>11°29.9 | 14°18.8<br>11°29.1 | 29°19.0<br>11°28.2 | 44°19.1<br>11°27.4 | 59°19.3<br>11°26.6 | 74°19.4<br>11°25.7 | +0.2<br>-0.8 |
| Me 23 | 269°21.6<br>11°14.7 | 284°21.7<br>11°13.8 | 299°21.9<br>11°12.9 | 314°22.1<br>11°12.1 | 329°22.2<br>11°11.2 | 344°22.4<br>11°10.4 | 359°22.6<br>11°09.5 | 14°22.7<br>11°08.7 | 29°22.9<br>11°07.8 | 44°23.1<br>11°07.0 | 59°23.2<br>11°06.1 | 74°23.4<br>11°05.3 | +0.2<br>-0.9 |
| Je 24 | 269°25.6<br>10°54.1 | 284°25.8<br>10°53.3 | 299°25.9<br>10°52.4 | 314°26.1<br>10°51.5 | 329°26.3<br>10°50.7 | 344°26.4<br>10°49.8 | 359°26.6<br>10°49.0 | 14°26.8<br>10°48.1 | 29°26.9<br>10°47.2 | 44°27.1<br>10°46.4 | 59°27.3<br>10°45.5 | 74°27.5<br>10°44.7 | +0.2<br>-0.9 |
| Ve 25 | 269°29.7<br>10°33.4 | 284°29.9<br>10°32.5 | 299°30.1<br>10°31.7 | 314°30.2<br>10°30.8 | 329°30.4<br>10°29.9 | 344°30.6<br>10°29.1 | 359°30.8<br>10°28.2 | 14°30.9<br>10°27.3 | 29°31.1<br>10°26.5 | 44°31.3<br>10°25.6 | 59°31.5<br>10°24.7 | 74°31.6<br>10°23.9 | +0.2<br>-0.9 |
| Sa 26 | 269°33.9<br>10°12.5 | 284°34.1<br>10°11.7 | 299°34.3<br>10°10.8 | 314°34.5<br>10°09.9 | 329°34.7<br>10°09.0 | 344°34.8<br>10°08.2 | 359°35.0<br>10°07.3 | 14°35.2<br>10°06.4 | 29°35.4<br>10°05.6 | 44°35.5<br>10°04.7 | 59°35.7<br>10°03.8 | 74°35.9<br>10°02.9 | +0.2<br>-0.9 |
| Di 27 | 269°38.3<br>9°51.5 | 284°38.4<br>9°50.6 | 299°38.6<br>9°49.8 | 314°38.8<br>9°48.9 | 329°39.0<br>9°48.0 | 344°39.2<br>9°47.1 | 359°39.4<br>9°46.2 | 14°39.5<br>9°45.3 | 29°39.7<br>9°44.5 | 44°39.9<br>9°43.6 | 59°40.1<br>9°42.7 | 74°40.3<br>9°41.8 | +0.2<br>-0.9 |
| Lu 28 | 269°42.7<br>9°30.3 | 284°42.9<br>9°29.4 | 299°43.1<br>9°28.6 | 314°43.3<br>9°27.7 | 329°43.4<br>9°26.8 | 344°43.6<br>9°25.9 | 359°43.8<br>9°25.0 | 14°44.0<br>9°24.1 | 29°44.2<br>9°23.2 | 44°44.4<br>9°22.3 | 59°44.6<br>9°21.5 | 74°44.8<br>9°20.6 | +0.2<br>-0.9 |
| Ma 29 | 269°47.2<br>9°09.0 | 284°47.4<br>9°08.1 | 299°47.6<br>9°07.2 | 314°47.8<br>9°06.3 | 329°48.0<br>9°05.4 | 344°48.2<br>9°04.5 | 359°48.4<br>9°03.6 | 14°48.5<br>9°02.7 | 29°48.7<br>9°01.9 | 44°48.9<br>9°01.0 | 59°49.1<br>9°00.1 | 74°49.3<br>8°59.2 | +0.2<br>-0.9 |
| Me 30 | 269°51.8<br>8°47.5 | 284°52.0<br>8°46.6 | 299°52.2<br>8°45.7 | 314°52.4<br>8°44.8 | 329°52.6<br>8°43.9 | 344°52.8<br>8°43.0 | 359°53.0<br>8°42.1 | 14°53.2<br>8°41.2 | 29°53.4<br>8°40.3 | 44°53.6<br>8°39.4 | 59°53.8<br>8°38.5 | 74°54.0<br>8°37.6 | +0.2<br>-0.9 |
| Je 31 | 269°56.5<br>8°25.9 | 284°56.7<br>8°25.0 | 299°56.9<br>8°24.1 | 314°57.1<br>8°23.2 | 329°57.3<br>8°22.3 | 344°57.5<br>8°21.4 | 359°57.7<br>8°20.5 | 14°57.9<br>8°19.6 | 29°58.1<br>8°18.7 | 44°58.3<br>8°17.8 | 59°58.5<br>8°16.9 | 74°58.7<br>8°15.9 | +0.2<br>-0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2028

| J | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 253° 57.3<br>-25° 43.8 | 268° 24.5<br>-25° 41.9 | 282° 51.8<br>-25° 39.7 | 297° 19.0<br>-25° 37.5 | 311° 46.4<br>-25° 35.1 | 326° 13.8<br>-25° 32.6 | 340° 41.2<br>-25° 29.9 | 355° 08.7<br>-25° 27.1 | 9° 36.3<br>-25° 24.1 | 24° 03.9<br>-25° 21.1 | 38° 31.5<br>-25° 17.8 | +27.4<br>+2.6 | 15.2<br>55.9 |
| Me 2 | 255° 33.3<br>-24° 14.1 | 270° 02.0<br>-24° 08.8 | 284° 30.7<br>-24° 03.4 | 298° 59.4<br>-23° 57.9 | 313° 28.3<br>-23° 52.3 | 327° 57.2<br>-23° 46.6 | 342° 26.2<br>-23° 40.7 | 356° 55.2<br>-23° 34.8 | 11° 24.3<br>-23° 28.7 | 25° 53.5<br>-23° 22.5 | 40° 22.8<br>-23° 16.2 | +28.9<br>+5.8 | 15.1<br>55.4 |
| Je 3 | 257° 50.7<br>-21° 28.7 | 272° 21.2<br>-21° 20.7 | 286° 51.7<br>-21° 12.6 | 301° 22.3<br>-21° 04.4 | 315° 53.0<br>-20° 56.2 | 330° 23.8<br>-20° 47.8 | 344° 54.6<br>-20° 39.3 | 359° 25.5<br>-20° 30.8 | 13° 56.5<br>-20° 22.2 | 28° 27.6<br>-20° 13.4 | 42° 58.7<br>-20° 04.6 | +30.8<br>+8.4 | 15.0<br>55.0 |
| Ve 4 | 260° 54.9<br>-17° 42.6 | 275° 27.2<br>-17° 32.5 | 289° 59.6<br>-17° 22.4 | 304° 32.1<br>-17° 12.2 | 319° 04.6<br>-17° 01.9 | 333° 37.3<br>-16° 51.5 | 348° 09.9<br>-16° 41.1 | 2° 42.7<br>-16° 30.6 | 17° 15.5<br>-16° 20.1 | 31° 48.4<br>-16° 09.4 | 46° 21.3<br>-15° 58.8 | +32.6<br>+10.4 | 14.9<br>54.6 |
| ○ Sa 5 | 264° 43.2<br>-13° 11.7 | 279° 17.1<br>-13° 00.1 | 293° 51.1<br>-12° 48.5 | 308° 25.1<br>-12° 36.9 | 322° 59.2<br>-12° 25.2 | 337° 33.4<br>-12° 13.5 | 352° 07.6<br>-12° 01.7 | 6° 41.9<br>-11° 49.9 | 21° 16.2<br>-11° 38.0 | 35° 50.6<br>-11° 26.1 | 50° 25.0<br>-11° 14.2 | +34.2<br>+11.8 | 14.8<br>54.3 |
| Di 6 | 269° 06.7<br>-8° 10.8 | 283° 41.8<br>-7° 58.4 | 298° 17.0<br>-7° 45.9 | 312° 52.1<br>-7° 33.4 | 327° 27.4<br>-7° 20.8 | 342° 02.6<br>-7° 08.3 | 356° 37.9<br>-6° 55.7 | 11° 13.2<br>-6° 43.1 | 25° 48.6<br>-6° 30.4 | 40° 23.9<br>-6° 17.8 | 54° 59.3<br>-6° 05.1 | +35.3<br>+12.6 | 14.8<br>54.1 |
| Lu 7 | 273° 53.4<br>-2° 53.3 | 288° 29.1<br>-2° 40.4 | 303° 04.9<br>-2° 27.5 | 317° 40.7<br>-2° 14.6 | 332° 16.5<br>-2° 01.7 | 346° 52.3<br>-1° 48.8 | 1° 28.1<br>-1° 35.9 | 16° 04.0<br>-1° 23.0 | 30° 39.8<br>-1° 10.1 | 45° 15.6<br>-0° 57.1 | 59° 51.5<br>-0° 44.2 | +35.8<br>+12.9 | 14.7<br>54.0 |
| Ma 8 | 278° 49.5<br>2° 29.3 | 293° 25.3<br>2° 42.1 | 308° 01.1<br>2° 55.0 | 322° 37.0<br>3° 07.8 | 337° 12.8<br>3° 20.6 | 351° 48.6<br>3° 33.4 | 6° 24.3<br>3° 46.2 | 21° 00.1<br>3° 59.0 | 35° 35.9<br>4° 11.8 | 50° 11.6<br>4° 24.5 | 64° 47.3<br>4° 37.3 | +35.8<br>+12.8 | 14.7<br>54.0 |
| Me 9 | 283° 40.5<br>7° 46.0 | 298° 15.8<br>7° 58.4 | 312° 51.1<br>8° 10.8 | 327° 26.3<br>8° 23.1 | 342° 01.5<br>8° 35.4 | 356° 36.7<br>8° 47.7 | 11° 11.9<br>9° 00.0 | 25° 47.0<br>9° 12.2 | 40° 22.1<br>9° 24.4 | 54° 57.1<br>9° 36.6 | 69° 32.1<br>9° 48.7 | +35.2<br>+12.3 | 14.8<br>54.1 |
| Je 10 | 288° 11.5<br>12° 46.2 | 302° 45.7<br>12° 57.7 | 317° 19.9<br>13° 09.1 | 331° 54.0<br>13° 20.5 | 346° 28.0<br>13° 31.9 | 1° 02.0<br>13° 43.2 | 15° 35.9<br>13° 54.5 | 30° 09.8<br>14° 05.7 | 44° 43.6<br>14° 16.8 | 59° 17.4<br>14° 27.9 | 73° 51.0<br>14° 39.0 | +34.0<br>+11.2 | 14.8<br>54.4 |
| Ve 11 | 302° 45.7<br>12° 57.7 | 317° 19.9<br>13° 09.1 | 331° 54.0<br>13° 20.5 | 346° 28.0<br>13° 31.9 | 1° 02.0<br>13° 43.2 | 15° 35.9<br>13° 54.5 | 30° 09.8<br>14° 05.7 | 44° 43.6<br>14° 16.8 | 59° 17.4<br>14° 27.9 | 73° 51.0<br>14° 39.0 | 88° 24.7<br>14° 50.0 | +33.9<br>+11.2 | 14.8<br>54.4 |
| Sa 12 | 306° 40.7<br>17° 28.1 | 321° 13.2<br>17° 38.2 | 335° 45.6<br>17° 48.1 | 350° 17.9<br>17° 58.0 | 4° 50.2<br>18° 07.9 | 19° 22.3<br>18° 17.6 | 33° 54.4<br>18° 27.3 | 48° 26.4<br>18° 36.9 | 62° 58.4<br>18° 46.4 | 77° 30.2<br>18° 55.9 | 92° 02.0<br>19° 05.3 | +32.1<br>+9.7 | 15.0<br>54.9 |
| ◑ Di 13 | 309° 48.2<br>21° 16.2 | 324° 18.6<br>21° 24.2 | 338° 48.9<br>21° 32.1 | 353° 19.1<br>21° 40.0 | 7° 49.2<br>21° 47.7 | 22° 19.2<br>21° 55.3 | 36° 49.1<br>22° 02.9 | 51° 18.9<br>22° 10.3 | 65° 48.7<br>22° 17.6 | 80° 18.3<br>22° 24.9 | 94° 47.9<br>22° 32.0 | +30.0<br>+7.6 | 15.1<br>55.5 |
| Lu 14 | 312° 00.3<br>24° 05.9 | 326° 28.4<br>24° 11.2 | 340° 56.4<br>24° 16.4 | 355° 24.3<br>24° 21.5 | 9° 52.1<br>24° 26.5 | 24° 19.9<br>24° 31.3 | 38° 47.5<br>24° 36.0 | 53° 15.1<br>24° 40.6 | 67° 42.6<br>24° 45.1 | 82° 10.0<br>24° 49.4 | 96° 37.3<br>24° 53.6 | +27.7<br>+4.8 | 15.4<br>56.3 |
| Ma 15 | 313° 17.3<br>25° 40.0 | 327° 43.3<br>25° 41.9 | 342° 09.3<br>25° 43.7 | 356° 35.3<br>25° 45.4 | 11° 01.1<br>25° 46.9 | 25° 26.9<br>25° 48.2 | 39° 52.6<br>25° 49.4 | 54° 18.3<br>25° 50.5 | 68° 43.9<br>25° 51.4 | 83° 09.4<br>25° 52.1 | 97° 34.9<br>25° 52.7 | +25.8<br>+1.3 | 15.6<br>57.3 |
| Me 16 | 313° 51.1<br>25° 42.5 | 328° 15.8<br>25° 40.5 | 342° 40.5<br>25° 38.3 | 357° 05.2<br>25° 36.0 | 11° 29.9<br>25° 33.6 | 25° 54.5<br>25° 30.9 | 40° 19.1<br>25° 28.1 | 54° 43.7<br>25° 25.1 | 69° 08.2<br>25° 22.0 | 83° 32.7<br>25° 18.7 | 97° 57.2<br>25° 15.2 | +24.6<br>-2.7 | 15.9<br>58.2 |
| Je 17 | 314° 03.7<br>24° 03.2 | 328° 28.2<br>23° 57.0 | 342° 52.6<br>23° 50.7 | 357° 17.1<br>23° 44.3 | 11° 41.5<br>23° 37.7 | 26° 06.0<br>23° 30.9 | 40° 30.5<br>23° 23.9 | 54° 55.0<br>23° 16.8 | 69° 19.5<br>23° 09.5 | 83° 44.1<br>23° 02.1 | 98° 08.6<br>22° 54.5 | +24.5<br>-6.9 | 16.1<br>59.2 |
| Ve 18 | 314° 20.4<br>20° 41.9 | 328° 45.5<br>20° 31.9 | 343° 10.6<br>20° 21.7 | 357° 35.7<br>20° 11.3 | 12° 00.9<br>20° 00.9 | 26° 26.1<br>19° 50.2 | 40° 51.4<br>19° 39.5 | 55° 16.7<br>19° 28.6 | 69° 42.1<br>19° 17.6 | 84° 07.4<br>19° 06.4 | 98° 32.9<br>18° 55.1 | +25.2<br>-10.7 | 16.4<br>60.1 |
| Sa 19 | 315° 00.2<br>15° 50.2 | 329° 26.4<br>15° 37.0 | 343° 52.6<br>15° 23.6 | 358° 18.9<br>15° 10.1 | 12° 45.3<br>14° 56.5 | 27° 11.7<br>14° 42.8 | 41° 38.2<br>14° 29.0 | 56° 04.7<br>14° 15.1 | 70° 31.2<br>14° 01.1 | 84° 57.8<br>13° 47.0 | 99° 24.5<br>13° 32.8 | +26.4<br>-13.7 | 16.6<br>60.7 |
| ● Di 20 | 316° 10.0<br>9° 49.7 | 330° 37.4<br>9° 34.3 | 345° 04.8<br>9° 18.7 | 359° 32.3<br>9° 03.1 | 13° 59.8<br>8° 47.5 | 28° 27.3<br>8° 31.8 | 42° 54.9<br>8° 16.0 | 57° 22.5<br>8° 00.2 | 71° 50.2<br>7° 44.3 | 86° 17.9<br>7° 28.4 | 100° 45.6<br>7° 12.4 | +27.6<br>-15.7 | 16.7<br>61.1 |
| Lu 21 | 317° 45.5<br>3° 08.5 | 332° 13.7<br>2° 52.0 | 346° 41.9<br>2° 35.6 | 1° 10.2<br>2° 19.1 | 15° 38.4<br>2° 02.6 | 30° 06.7<br>1° 46.0 | 44° 35.0<br>1° 29.5 | 59° 03.3<br>1° 13.0 | 73° 31.7<br>0° 56.5 | 88° 00.0<br>0° 40.0 | 102° 28.4<br>0° 23.4 | +28.3<br>-16.5 | 16.7<br>61.1 |
| Ma 22 | 319° 34.9<br>-3° 42.9 | 334° 03.4<br>-3° 59.2 | 348° 31.8<br>-4° 15.4 | 3° 00.3<br>-4° 31.6 | 17° 28.7<br>-4° 47.7 | 31° 57.2<br>-5° 03.8 | 46° 25.6<br>-5° 19.9 | 60° 54.1<br>-5° 35.9 | 75° 22.5<br>-5° 51.8 | 89° 50.9<br>-6° 07.8 | 104° 19.4<br>-6° 23.6 | +28.4<br>-16.1 | 16.6<br>60.8 |
| Me 23 | 321° 23.9<br>-10° 14.9 | 335° 52.1<br>-10° 29.8 | 350° 20.2<br>-10° 44.6 | 4° 48.3<br>-10° 59.3 | 19° 16.4<br>-11° 14.0 | 33° 44.5<br>-11° 28.6 | 48° 12.6<br>-11° 43.0 | 62° 40.6<br>-11° 57.5 | 77° 08.6<br>-12° 11.8 | 91° 36.5<br>-12° 26.0 | 106° 04.5<br>-12° 40.2 | +28.1<br>-14.5 | 16.4<br>60.2 |
| Je 24 | 323° 00.0<br>-16° 00.9 | 337° 27.5<br>-16° 13.4 | 351° 54.9<br>-16° 25.9 | 6° 22.3<br>-16° 38.2 | 20° 49.7<br>-16° 50.4 | 35° 17.0<br>-17° 02.5 | 49° 44.3<br>-17° 14.5 | 64° 11.5<br>-17° 26.4 | 78° 38.7<br>-17° 38.2 | 93° 05.9<br>-17° 49.8 | 107° 33.1<br>-18° 01.3 | +27.3<br>-12.0 | 16.2<br>59.4 |
| Ve 25 | 324° 16.4<br>-20° 39.0 | 338° 43.1<br>-20° 48.4 | 353° 09.7<br>-20° 57.8 | 7° 36.3<br>-21° 07.0 | 22° 02.8<br>-21° 16.0 | 36° 29.4<br>-21° 24.9 | 50° 55.9<br>-21° 33.7 | 65° 22.3<br>-21° 42.3 | 79° 48.8<br>-21° 50.8 | 94° 15.2<br>-21° 59.2 | 108° 41.6<br>-22° 07.4 | +26.5<br>-8.8 | 16.0<br>58.6 |
| Sa 26 | 325° 15.1<br>-23° 53.2 | 339° 41.2<br>-23° 59.0 | 354° 07.3<br>-24° 04.8 | 8° 33.4<br>-24° 10.3 | 22° 59.5<br>-24° 15.8 | 37° 25.6<br>-24° 21.0 | 51° 51.7<br>-24° 26.1 | 66° 17.7<br>-24° 31.1 | 80° 43.8<br>-24° 35.9 | 95° 09.9<br>-24° 40.6 | 109° 35.9<br>-24° 45.1 | +26.1<br>-5.2 | 15.7<br>57.7 |
| ◐ Di 27 | 326° 07.6<br>-25° 34.5 | 340° 33.8<br>-25° 36.6 | 355° 00.1<br>-25° 38.5 | 9° 26.3<br>-25° 40.3 | 23° 52.6<br>-25° 41.9 | 38° 18.9<br>-25° 43.4 | 52° 45.2<br>-25° 44.7 | 67° 11.6<br>-25° 45.9 | 81° 38.0<br>-25° 46.9 | 96° 04.4<br>-25° 47.8 | 110° 30.8<br>-25° 48.6 | +26.3<br>-1.4 | 15.5<br>56.8 |
| Lu 28 | 327° 12.0<br>-25° 41.9 | 341° 39.1<br>-25° 40.4 | 356° 06.3<br>-25° 38.6 | 10° 33.5<br>-25° 36.8 | 25° 00.7<br>-25° 34.8 | 39° 28.0<br>-25° 32.6 | 53° 55.4<br>-25° 30.3 | 68° 22.8<br>-25° 27.9 | 82° 50.3<br>-25° 25.4 | 97° 17.8<br>-25° 22.7 | 111° 45.4<br>-25° 19.8 | +27.3<br>+2.2 | 15.3<br>56.1 |
| Ma 29 | 328° 46.7<br>-24° 21.8 | 343° 15.3<br>-24° 17.0 | 357° 44.0<br>-24° 12.0 | 12° 12.8<br>-24° 06.9 | 26° 41.6<br>-24° 01.6 | 41° 10.5<br>-23° 56.3 | 55° 39.5<br>-23° 50.8 | 70° 08.5<br>-23° 45.2 | 84° 37.7<br>-23° 39.5 | 99° 06.9<br>-23° 33.7 | 113° 36.1<br>-23° 27.8 | +28.9<br>+5.4 | 15.1<br>55.5 |
| Me 30 | 331° 04.2<br>-21° 46.0 | 345° 34.7<br>-21° 38.4 | 0° 05.3<br>-21° 30.7 | 14° 35.9<br>-21° 22.9 | 29° 06.6<br>-21° 15.0 | 43° 37.4<br>-21° 07.1 | 58° 08.2<br>-20° 59.0 | 72° 39.2<br>-20° 50.8 | 87° 10.2<br>-20° 42.5 | 101° 41.3<br>-20° 34.2 | 116° 12.4<br>-20° 25.8 | +30.8<br>+8.0 | 15.0<br>54.9 |
| Je 31 | 334° 08.7<br>-18° 09.1 | 348° 41.0<br>-17° 59.4 | 3° 13.4<br>-17° 49.6 | 17° 45.8<br>-17° 39.7 | 32° 18.4<br>-17° 29.8 | 46° 51.0<br>-17° 19.7 | 61° 23.6<br>-17° 09.7 | 75° 56.4<br>-16° 59.5 | 90° 29.2<br>-16° 49.3 | 105° 02.0<br>-16° 39.0 | 119° 35.0<br>-16° 28.6 | +32.6<br>+10.1 | 14.9<br>54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 5 08h09 — DQ: 13 11h45 — NL: 20 10h43 — PQ: 27 01h35

# SOLEIL

## Septembre 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 270°01.3 | 285°01.5 | 300°01.7 | 315°01.9 | 330°02.1 | 345°02.3 | 0°02.5 | 15°02.7 | 30°02.9 | 45°03.1 | 60°03.3 | 75°03.5 | +0.2 |
| | 8°04.1 | 8°03.2 | 8°02.3 | 8°01.4 | 8°00.5 | 7°59.6 | 7°58.7 | 7°57.8 | 7°56.9 | 7°56.0 | 7°55.0 | 7°54.1 | -0.9 |
| **Sa 2** | 270°06.1 | 285°06.3 | 300°06.5 | 315°06.7 | 330°06.9 | 345°07.1 | 0°07.4 | 15°07.6 | 30°07.8 | 45°08.0 | 60°08.2 | 75°08.4 | +0.2 |
| | 7°42.3 | 7°41.4 | 7°40.4 | 7°39.5 | 7°38.6 | 7°37.7 | 7°36.8 | 7°35.9 | 7°34.9 | 7°34.0 | 7°33.1 | 7°32.2 | -0.9 |
| **Di 3** | 270°11.0 | 285°11.3 | 300°11.5 | 315°11.7 | 330°11.9 | 345°12.1 | 0°12.3 | 15°12.5 | 30°12.7 | 45°12.9 | 60°13.1 | 75°13.3 | +0.2 |
| | 7°20.3 | 7°19.3 | 7°18.4 | 7°17.5 | 7°16.6 | 7°15.7 | 7°14.7 | 7°13.8 | 7°12.9 | 7°12.0 | 7°11.1 | 7°10.1 | -0.9 |
| **Lu 4** | 270°16.0 | 285°16.2 | 300°16.4 | 315°16.6 | 330°16.9 | 345°17.1 | 0°17.3 | 15°17.5 | 30°17.7 | 45°17.9 | 60°18.1 | 75°18.3 | +0.2 |
| | 6°58.1 | 6°57.2 | 6°56.3 | 6°55.4 | 6°54.4 | 6°53.5 | 6°52.6 | 6°51.7 | 6°50.7 | 6°49.8 | 6°48.9 | 6°48.0 | -0.9 |
| **Ma 5** | 270°21.1 | 285°21.3 | 300°21.5 | 315°21.7 | 330°21.9 | 345°22.1 | 0°22.3 | 15°22.5 | 30°22.8 | 45°23.0 | 60°23.2 | 75°23.4 | +0.2 |
| | 6°35.9 | 6°35.0 | 6°34.1 | 6°33.1 | 6°32.2 | 6°31.3 | 6°30.3 | 6°29.4 | 6°28.5 | 6°27.5 | 6°26.6 | 6°25.7 | -0.9 |
| **Me 6** | 270°26.2 | 285°26.4 | 300°26.6 | 315°26.8 | 330°27.0 | 345°27.2 | 0°27.4 | 15°27.6 | 30°27.9 | 45°28.1 | 60°28.3 | 75°28.5 | +0.2 |
| | 6°13.6 | 6°12.6 | 6°11.7 | 6°10.8 | 6°09.8 | 6°08.9 | 6°08.0 | 6°07.0 | 6°06.1 | 6°05.2 | 6°04.2 | 6°03.3 | -0.9 |
| **Je 7** | 270°31.3 | 285°31.5 | 300°31.7 | 315°31.9 | 330°32.2 | 345°32.4 | 0°32.6 | 15°32.8 | 30°33.0 | 45°33.2 | 60°33.4 | 75°33.7 | +0.2 |
| | 5°51.1 | 5°50.2 | 5°49.2 | 5°48.3 | 5°47.4 | 5°46.4 | 5°45.5 | 5°44.6 | 5°43.6 | 5°42.7 | 5°41.7 | 5°40.8 | -0.9 |
| **Ve 8** | 270°36.5 | 285°36.7 | 300°36.9 | 315°37.1 | 330°37.3 | 345°37.6 | 0°37.8 | 15°38.0 | 30°38.2 | 45°38.4 | 60°38.6 | 75°38.9 | +0.2 |
| | 5°28.6 | 5°27.6 | 5°26.7 | 5°25.7 | 5°24.8 | 5°23.9 | 5°22.9 | 5°22.0 | 5°21.0 | 5°20.1 | 5°19.1 | 5°18.2 | -0.9 |
| **Sa 9** | 270°41.7 | 285°41.9 | 300°42.1 | 315°42.3 | 330°42.6 | 345°42.8 | 0°43.0 | 15°43.2 | 30°43.4 | 45°43.7 | 60°43.9 | 75°44.1 | +0.2 |
| | 5°05.9 | 5°05.0 | 5°04.0 | 5°03.1 | 5°02.1 | 5°01.2 | 5°00.3 | 4°59.3 | 4°58.4 | 4°57.4 | 4°56.5 | 4°55.5 | -0.9 |
| **Di 10** | 270°46.9 | 285°47.2 | 300°47.4 | 315°47.6 | 330°47.8 | 345°48.0 | 0°48.3 | 15°48.5 | 30°48.7 | 45°48.9 | 60°49.1 | 75°49.4 | +0.2 |
| | 4°43.2 | 4°42.3 | 4°41.3 | 4°40.4 | 4°39.4 | 4°38.5 | 4°37.5 | 4°36.6 | 4°35.6 | 4°34.7 | 4°33.7 | 4°32.8 | -0.9 |
| **Lu 11** | 270°52.2 | 285°52.4 | 300°52.7 | 315°52.9 | 330°53.1 | 345°53.3 | 0°53.6 | 15°53.8 | 30°54.0 | 45°54.2 | 60°54.4 | 75°54.7 | +0.2 |
| | 4°20.4 | 4°19.4 | 4°18.5 | 4°17.5 | 4°16.6 | 4°15.6 | 4°14.7 | 4°13.7 | 4°12.8 | 4°11.8 | 4°10.9 | 4°09.9 | -1.0 |
| **Ma 12** | 270°57.5 | 285°57.8 | 300°58.0 | 315°58.2 | 330°58.4 | 345°58.6 | 0°58.9 | 15°59.1 | 30°59.3 | 45°59.5 | 60°59.7 | 76°00.0 | +0.2 |
| | 3°57.5 | 3°56.5 | 3°55.6 | 3°54.6 | 3°53.7 | 3°52.7 | 3°51.8 | 3°50.8 | 3°49.9 | 3°48.9 | 3°47.9 | 3°47.0 | -1.0 |
| **Me 13** | 271°02.8 | 286°03.1 | 301°03.3 | 316°03.5 | 331°03.7 | 346°04.0 | 1°04.2 | 16°04.4 | 31°04.6 | 46°04.8 | 61°05.1 | 76°05.3 | +0.2 |
| | 3°34.5 | 3°33.6 | 3°32.6 | 3°31.7 | 3°30.7 | 3°29.7 | 3°28.8 | 3°27.8 | 3°26.9 | 3°25.9 | 3°24.9 | 3°24.0 | -1.0 |
| **Je 14** | 271°08.2 | 286°08.4 | 301°08.6 | 316°08.8 | 331°09.1 | 346°09.3 | 1°09.5 | 16°09.7 | 31°10.0 | 46°10.2 | 61°10.4 | 76°10.6 | +0.2 |
| | 3°11.5 | 3°10.5 | 3°09.6 | 3°08.6 | 3°07.7 | 3°06.7 | 3°05.7 | 3°04.8 | 3°03.8 | 3°02.9 | 3°01.9 | 3°00.9 | -1.0 |
| **Ve 15** | 271°13.5 | 286°13.7 | 301°14.0 | 316°14.2 | 331°14.4 | 346°14.6 | 1°14.9 | 16°15.1 | 31°15.3 | 46°15.5 | 61°15.7 | 76°16.0 | +0.2 |
| | 2°48.4 | 2°47.5 | 2°46.5 | 2°45.5 | 2°44.6 | 2°43.6 | 2°42.6 | 2°41.7 | 2°40.7 | 2°39.7 | 2°38.8 | 2°37.8 | -1.0 |
| **Sa 16** | 271°18.9 | 286°19.1 | 301°19.3 | 316°19.5 | 331°19.8 | 346°20.0 | 1°20.2 | 16°20.4 | 31°20.6 | 46°20.9 | 61°21.1 | 76°21.3 | +0.2 |
| | 2°25.3 | 2°24.3 | 2°23.3 | 2°22.4 | 2°21.4 | 2°20.4 | 2°19.5 | 2°18.5 | 2°17.5 | 2°16.6 | 2°15.6 | 2°14.6 | -1.0 |
| **Di 17** | 271°24.2 | 286°24.4 | 301°24.6 | 316°24.9 | 331°25.1 | 346°25.3 | 1°25.5 | 16°25.8 | 31°26.0 | 46°26.2 | 61°26.4 | 76°26.6 | +0.2 |
| | 2°02.1 | 2°01.1 | 2°00.1 | 1°59.2 | 1°58.2 | 1°57.2 | 1°56.3 | 1°55.3 | 1°54.3 | 1°53.4 | 1°52.4 | 1°51.4 | -1.0 |
| **Lu 18** | 271°29.5 | 286°29.8 | 301°30.0 | 316°30.2 | 331°30.4 | 346°30.6 | 1°30.9 | 16°31.1 | 31°31.3 | 46°31.5 | 61°31.8 | 76°32.0 | +0.2 |
| | 1°38.8 | 1°37.9 | 1°36.9 | 1°35.9 | 1°35.0 | 1°34.0 | 1°33.0 | 1°32.1 | 1°31.1 | 1°30.1 | 1°29.1 | 1°28.2 | -1.0 |
| **Ma 19** | 271°34.9 | 286°35.1 | 301°35.3 | 316°35.5 | 331°35.7 | 346°36.0 | 1°36.2 | 16°36.4 | 31°36.6 | 46°36.9 | 61°37.1 | 76°37.3 | +0.2 |
| | 1°15.6 | 1°14.6 | 1°13.6 | 1°12.7 | 1°11.7 | 1°10.7 | 1°09.7 | 1°08.8 | 1°07.8 | 1°06.8 | 1°05.9 | 1°04.9 | -1.0 |
| **Me 20** | 271°40.2 | 286°40.4 | 301°40.6 | 316°40.8 | 331°41.1 | 346°41.3 | 1°41.5 | 16°41.7 | 31°41.9 | 46°42.2 | 61°42.4 | 76°42.6 | +0.2 |
| | 0°52.3 | 0°51.3 | 0°50.3 | 0°49.4 | 0°48.4 | 0°47.4 | 0°46.4 | 0°45.5 | 0°44.5 | 0°43.5 | 0°42.5 | 0°41.6 | -1.0 |
| **Je 21** | 271°45.5 | 286°45.7 | 301°45.9 | 316°46.1 | 331°46.4 | 346°46.6 | 1°46.8 | 16°47.0 | 31°47.2 | 46°47.5 | 61°47.7 | 76°47.9 | +0.2 |
| | 0°28.9 | 0°28.0 | 0°27.0 | 0°26.0 | 0°25.0 | 0°24.1 | 0°23.1 | 0°22.1 | 0°21.2 | 0°20.2 | 0°19.2 | 0°18.2 | -1.0 |
| **Ve 22** | 271°50.7 | 286°51.0 | 301°51.2 | 316°51.4 | 331°51.6 | 346°51.8 | 1°52.1 | 16°52.3 | 31°52.5 | 46°52.7 | 61°52.9 | 76°53.2 | +0.2 |
| | 0°05.6 | 0°04.6 | 0°03.6 | 0°02.7 | 0°01.7 | 0°00.7 | -0°00.2 | -0°01.2 | -0°02.2 | -0°03.2 | -0°04.1 | -0°05.1 | -1.0 |
| **Sa 23** | 271°56.0 | 286°56.2 | 301°56.4 | 316°56.6 | 331°56.9 | 346°57.1 | 1°57.3 | 16°57.5 | 31°57.7 | 46°58.0 | 61°58.2 | 76°58.4 | +0.2 |
| | -0°17.8 | -0°18.7 | -0°19.7 | -0°20.7 | -0°21.7 | -0°22.6 | -0°23.6 | -0°24.6 | -0°25.6 | -0°26.5 | -0°27.5 | -0°28.5 | -1.0 |
| **Di 24** | 272°01.2 | 287°01.4 | 302°01.6 | 317°01.9 | 332°02.1 | 347°02.3 | 2°02.5 | 17°02.7 | 32°02.9 | 47°03.2 | 62°03.4 | 77°03.6 | +0.2 |
| | -0°41.1 | -0°42.1 | -0°43.1 | -0°44.1 | -0°45.0 | -0°46.0 | -0°47.0 | -0°47.9 | -0°48.9 | -0°49.9 | -0°50.9 | -0°51.8 | -1.0 |
| **Lu 25** | 272°06.4 | 287°06.6 | 302°06.8 | 317°07.0 | 332°07.3 | 347°07.5 | 2°07.7 | 17°07.9 | 32°08.1 | 47°08.3 | 62°08.5 | 77°08.8 | +0.2 |
| | -1°04.5 | -1°05.5 | -1°06.4 | -1°07.4 | -1°08.4 | -1°09.4 | -1°10.3 | -1°11.3 | -1°12.3 | -1°13.3 | -1°14.2 | -1°15.2 | -1.0 |
| **Ma 26** | 272°11.5 | 287°11.8 | 302°12.0 | 317°12.2 | 332°12.4 | 347°12.6 | 2°12.8 | 17°13.0 | 32°13.2 | 47°13.5 | 62°13.7 | 77°13.9 | +0.2 |
| | -1°27.9 | -1°28.8 | -1°29.8 | -1°30.8 | -1°31.8 | -1°32.7 | -1°33.7 | -1°34.7 | -1°35.6 | -1°36.6 | -1°37.6 | -1°38.6 | -1.0 |
| **Me 27** | 272°16.6 | 287°16.9 | 302°17.1 | 317°17.3 | 332°17.5 | 347°17.7 | 2°17.9 | 17°18.1 | 32°18.3 | 47°18.5 | 62°18.8 | 77°19.0 | +0.2 |
| | -1°51.2 | -1°52.2 | -1°53.2 | -1°54.1 | -1°55.1 | -1°56.1 | -1°57.0 | -1°58.0 | -1°59.0 | -2°00.0 | -2°00.9 | -2°01.9 | -1.0 |
| **Je 28** | 272°21.7 | 287°21.9 | 302°22.1 | 317°22.3 | 332°22.5 | 347°22.7 | 2°22.9 | 17°23.2 | 32°23.4 | 47°23.6 | 62°23.8 | 77°24.0 | +0.2 |
| | -2°14.5 | -2°15.5 | -2°16.5 | -2°17.5 | -2°18.4 | -2°19.4 | -2°20.4 | -2°21.4 | -2°22.3 | -2°23.3 | -2°24.3 | -2°25.2 | -1.0 |
| **Ve 29** | 272°26.7 | 287°26.9 | 302°27.1 | 317°27.3 | 332°27.5 | 347°27.7 | 2°27.9 | 17°28.1 | 32°28.3 | 47°28.5 | 62°28.7 | 77°29.0 | +0.2 |
| | -2°37.9 | -2°38.8 | -2°39.8 | -2°40.8 | -2°41.7 | -2°42.7 | -2°43.7 | -2°44.7 | -2°45.6 | -2°46.6 | -2°47.6 | -2°48.5 | -1.0 |
| **Sa 30** | 272°31.6 | 287°31.8 | 302°32.0 | 317°32.2 | 332°32.4 | 347°32.6 | 2°32.8 | 17°33.0 | 32°33.2 | 47°33.4 | 62°33.7 | 77°33.9 | +0.2 |
| | -3°01.1 | -3°02.1 | -3°03.1 | -3°04.1 | -3°05.0 | -3°06.0 | -3°07.0 | -3°07.9 | -3°08.9 | -3°09.9 | -3°10.8 | -3°11.8 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2028

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 250°34.2 | 265°07.7 | 279°41.4 | 294°15.0 | 308°48.8 | 323°22.5 | 337°56.4 | 352°30.3 | 7°04.2 | 21°38.2 | 36°12.3 | +33.8 | 14.8 |
| | -14°52.7 | -14°41.7 | -14°30.7 | -14°19.7 | -14°08.5 | -13°57.4 | -13°46.1 | -13°34.9 | -13°23.6 | -13°12.2 | -13°00.8 | +11.2 | 54.3 |
| **Sa 2** | 254°49.1 | 269°23.9 | 283°58.7 | 298°33.6 | 313°08.5 | 327°43.5 | 342°18.5 | 356°53.6 | 11°28.6 | 26°03.8 | 40°38.9 | +35.0 | 14.7 |
| | -10°04.2 | -9°52.2 | -9°40.0 | -9°27.9 | -9°15.7 | -9°03.5 | -8°51.3 | -8°39.0 | -8°26.7 | -8°14.4 | -8°02.0 | +12.2 | 54.1 |
| ○ **Di 3** | 259°29.6 | 274°05.2 | 288°40.8 | 303°16.4 | 317°52.1 | 332°27.7 | 347°03.4 | 1°39.1 | 16°14.8 | 30°50.5 | 45°26.2 | +35.7 | 14.7 |
| | -4°53.8 | -4°41.1 | -4°28.4 | -4°15.7 | -4°02.9 | -3°50.2 | -3°37.4 | -3°24.6 | -3°11.8 | -2°59.0 | -2°46.2 | +12.8 | 53.9 |
| **Lu 4** | 264°23.2 | 278°59.0 | 293°34.8 | 308°10.6 | 322°46.4 | 337°22.2 | 351°58.0 | 6°33.8 | 21°09.6 | 35°45.4 | 50°21.2 | +35.8 | 14.7 |
| | 0°26.5 | 0°39.4 | 0°52.2 | 1°05.1 | 1°17.9 | 1°30.8 | 1°43.6 | 1°56.4 | 2°09.3 | 2°22.1 | 2°34.9 | +12.8 | 53.9 |
| **Ma 5** | 269°16.2 | 283°51.8 | 298°27.3 | 313°02.7 | 327°38.2 | 342°13.6 | 356°49.0 | 11°24.4 | 25°59.7 | 40°35.0 | 55°10.3 | +35.4 | 14.7 |
| | 5°45.4 | 5°57.9 | 6°10.5 | 6°23.0 | 6°35.5 | 6°48.0 | 7°00.4 | 7°12.9 | 7°25.3 | 7°37.6 | 7°50.0 | +12.5 | 54.0 |
| **Me 6** | 273°55.4 | 288°30.1 | 303°04.8 | 317°39.4 | 332°13.9 | 346°48.4 | 1°22.9 | 15°57.3 | 30°31.7 | 45°06.0 | 59°40.3 | +34.5 | 14.8 |
| | 10°51.5 | 11°03.3 | 11°15.1 | 11°26.8 | 11°38.5 | 11°50.2 | 12°01.8 | 12°13.4 | 12°24.9 | 12°36.3 | 12°47.8 | +11.6 | 54.1 |
| **Je 7** | 278°07.8 | 292°41.2 | 307°14.5 | 321°47.7 | 336°20.9 | 350°54.0 | 5°27.0 | 20°00.0 | 34°32.9 | 49°05.8 | 63°38.6 | +33.1 | 14.8 |
| | 15°33.1 | 15°43.7 | 15°54.2 | 16°04.7 | 16°15.1 | 16°25.4 | 16°35.7 | 16°45.9 | 16°56.0 | 17°06.1 | 17°16.1 | +10.3 | 54.4 |
| **Ve 8** | 281°41.9 | 296°13.5 | 310°45.1 | 325°16.6 | 339°48.0 | 354°19.3 | 8°50.6 | 23°21.7 | 37°52.8 | 52°23.9 | 66°54.8 | +31.3 | 15.0 |
| | 19°37.5 | 19°46.3 | 19°55.0 | 20°03.6 | 20°12.2 | 20°20.6 | 20°29.0 | 20°37.3 | 20°45.5 | 20°53.6 | 21°01.6 | +8.4 | 54.9 |
| **Sa 9** | 284°29.6 | 298°59.2 | 313°28.9 | 327°58.4 | 342°27.8 | 356°57.2 | 11°26.5 | 25°55.7 | 40°24.8 | 54°53.9 | 69°22.9 | +29.3 | 15.1 |
| | 22°50.4 | 22°56.8 | 23°03.1 | 23°09.4 | 23°15.5 | 23°21.5 | 23°27.4 | 23°33.1 | 23°38.8 | 23°44.4 | 23°49.8 | +5.9 | 55.4 |
| **Di 10** | 298°59.2 | 313°28.9 | 327°58.4 | 342°27.8 | 356°57.2 | 11°26.5 | 25°55.7 | 40°24.8 | 54°53.9 | 69°22.9 | 83°51.8 | +29.3 | 15.1 |
| | 22°56.8 | 23°03.1 | 23°09.4 | 23°15.5 | 23°21.5 | 23°27.4 | 23°33.1 | 23°38.8 | 23°44.4 | 23°49.8 | 23°55.1 | +5.8 | 55.4 |
| **Lu 11** | 300°56.5 | 315°24.2 | 329°51.9 | 344°19.5 | 358°47.0 | 13°14.5 | 27°41.9 | 42°09.3 | 56°36.6 | 71°03.8 | 85°30.9 | +27.4 | 15.3 |
| | 25°00.3 | 25°03.7 | 25°06.9 | 25°09.9 | 25°12.9 | 25°15.7 | 25°18.3 | 25°20.9 | 25°23.3 | 25°25.5 | 25°27.7 | +2.7 | 56.2 |
| ◑ **Ma 12** | 302°11.8 | 316°38.1 | 331°04.4 | 345°30.6 | 359°56.9 | 14°23.0 | 28°49.2 | 43°15.3 | 57°41.3 | 72°07.3 | 86°33.3 | +26.2 | 15.5 |
| | 25°42.5 | 25°42.3 | 25°42.0 | 25°41.5 | 25°40.9 | 25°40.1 | 25°39.2 | 25°38.1 | 25°36.8 | 25°35.5 | 25°33.9 | -0.9 | 57.0 |
| **Me 13** | 303°00.3 | 317°26.0 | 331°51.6 | 346°17.3 | 0°42.9 | 15°08.5 | 29°34.1 | 43°59.8 | 58°25.4 | 72°51.0 | 87°16.6 | +25.6 | 15.8 |
| | 24°52.4 | 24°48.4 | 24°44.3 | 24°39.9 | 24°35.5 | 24°30.8 | 24°26.1 | 24°21.1 | 24°16.0 | 24°10.8 | 24°05.4 | -4.7 | 57.9 |
| **Je 14** | 303°41.7 | 318°07.5 | 332°33.3 | 346°59.1 | 1°24.9 | 15°50.8 | 30°16.7 | 44°42.6 | 59°08.5 | 73°34.4 | 88°00.4 | +25.9 | 16.1 |
| | 22°25.9 | 22°18.1 | 22°10.1 | 22°01.9 | 21°53.7 | 21°45.2 | 21°36.7 | 21°27.9 | 21°19.1 | 21°10.1 | 21°00.9 | -8.5 | 58.9 |
| **Ve 15** | 304°33.4 | 318°59.8 | 333°26.3 | 347°52.8 | 2°19.3 | 16°45.9 | 31°12.5 | 45°39.2 | 60°05.8 | 74°32.6 | 88°59.3 | +26.6 | 16.3 |
| | 18°27.2 | 18°15.9 | 18°04.4 | 17°52.9 | 17°41.2 | 17°29.4 | 17°17.4 | 17°05.4 | 16°53.2 | 16°40.9 | 16°28.5 | -11.9 | 59.8 |
| **Sa 16** | 305°44.5 | 320°11.7 | 334°39.1 | 349°06.4 | 3°33.7 | 18°01.1 | 32°28.6 | 46°56.0 | 61°23.5 | 75°51.0 | 90°18.5 | +27.4 | 16.5 |
| | 13°09.4 | 12°55.3 | 12°41.1 | 12°26.8 | 12°12.5 | 11°58.0 | 11°43.5 | 11°28.9 | 11°14.2 | 10°59.4 | 10°44.6 | -14.5 | 60.6 |
| **Di 17** | 307°14.4 | 321°42.3 | 336°10.2 | 350°38.1 | 5°06.0 | 19°33.9 | 34°01.9 | 48°29.9 | 62°57.9 | 77°25.8 | 91°53.8 | +27.9 | 16.7 |
| | 6°53.3 | 6°37.4 | 6°21.5 | 6°05.5 | 5°49.5 | 5°33.4 | 5°17.3 | 5°01.1 | 4°44.9 | 4°28.7 | 4°12.4 | -16.1 | 61.1 |
| ● **Lu 18** | 308°54.4 | 323°22.4 | 337°50.5 | 352°18.5 | 6°46.5 | 21°14.5 | 35°42.5 | 50°10.5 | 64°38.5 | 79°06.5 | 93°34.4 | +28.0 | 16.7 |
| | 0°05.7 | -0°10.8 | -0°27.4 | -0°43.9 | -1°00.4 | -1°17.0 | -1°33.5 | -1°50.0 | -2°06.5 | -2°23.0 | -2°39.5 | -16.5 | 61.3 |
| **Ma 19** | 310°31.7 | 324°59.4 | 339°27.0 | 353°54.6 | 8°22.2 | 22°49.7 | 37°17.2 | 51°44.7 | 66°12.2 | 80°39.6 | 95°07.0 | +27.5 | 16.7 |
| | -6°43.4 | -6°59.3 | -7°15.2 | -7°31.1 | -7°46.9 | -8°02.6 | -8°18.3 | -8°33.9 | -8°49.5 | -9°05.0 | -9°20.4 | -15.7 | 61.2 |
| **Me 20** | 311°53.7 | 326°20.6 | 340°47.3 | 355°14.1 | 9°40.8 | 24°07.5 | 38°34.1 | 53°00.7 | 67°27.2 | 81°53.7 | 96°20.2 | +26.6 | 16.5 |
| | -13°03.0 | -13°17.2 | -13°31.3 | -13°45.2 | -13°59.1 | -14°12.9 | -14°26.5 | -14°40.1 | -14°53.5 | -15°06.9 | -15°20.1 | -13.7 | 60.7 |
| **Je 21** | 312°52.4 | 327°18.2 | 341°44.0 | 356°09.8 | 10°35.5 | 25°01.2 | 39°26.9 | 53°52.5 | 68°18.1 | 82°43.6 | 97°09.2 | +25.7 | 16.3 |
| | -18°24.8 | -18°36.1 | -18°47.3 | -18°58.3 | -19°09.2 | -19°20.0 | -19°30.6 | -19°41.1 | -19°51.5 | -20°01.7 | -20°11.8 | -10.7 | 59.9 |
| **Ve 22** | 313°28.6 | 327°53.7 | 342°18.8 | 356°43.9 | 11°09.0 | 25°34.0 | 39°59.0 | 54°24.1 | 68°49.1 | 83°14.1 | 97°39.1 | +25.0 | 16.1 |
| | -22°25.6 | -22°33.3 | -22°40.8 | -22°48.2 | -22°55.5 | -23°02.6 | -23°09.5 | -23°16.3 | -23°22.9 | -23°29.4 | -23°35.7 | -7.0 | 59.0 |
| **Sa 23** | 313°54.1 | 328°19.2 | 342°44.2 | 357°09.4 | 11°34.5 | 25°59.6 | 40°24.8 | 54°50.0 | 69°15.2 | 83°40.4 | 98°05.7 | +25.2 | 15.8 |
| | -24°51.0 | -24°54.7 | -24°58.3 | -25°01.7 | -25°05.0 | -25°08.1 | -25°11.0 | -25°13.8 | -25°16.4 | -25°18.8 | -25°21.1 | -3.0 | 58.0 |
| **Di 24** | 314°29.1 | 328°55.0 | 343°20.9 | 357°47.0 | 12°13.0 | 26°39.2 | 41°05.3 | 55°31.6 | 69°57.9 | 84°24.2 | 98°50.7 | +26.2 | 15.5 |
| | -25°36.7 | -25°36.5 | -25°36.2 | -25°35.7 | -25°35.0 | -25°34.2 | -25°33.3 | -25°32.2 | -25°31.0 | -25°29.6 | -25°28.0 | +0.9 | 57.0 |
| ◐ **Lu 25** | 315°35.1 | 330°02.6 | 344°30.2 | 358°57.9 | 13°25.7 | 27°53.5 | 42°21.5 | 56°49.5 | 71°17.6 | 85°45.7 | 100°14.0 | +27.9 | 15.3 |
| | -24°48.3 | -24°44.5 | -24°40.7 | -24°36.7 | -24°32.5 | -24°28.3 | -24°23.9 | -24°19.4 | -24°14.8 | -24°10.0 | -24°05.2 | +4.3 | 56.1 |
| **Ma 26** | 317°27.6 | 331°57.2 | 346°26.9 | 0°56.6 | 15°26.4 | 29°56.4 | 44°26.4 | 58°56.4 | 73°26.6 | 87°56.9 | 102°27.2 | +30.0 | 15.1 |
| | -22°38.2 | -22°31.5 | -22°24.7 | -22°17.8 | -22°10.8 | -22°03.7 | -21°56.5 | -21°49.2 | -21°41.8 | -21°34.3 | -21°26.7 | +7.1 | 55.4 |
| **Me 27** | 320°12.2 | 334°43.8 | 349°15.6 | 3°47.4 | 18°19.2 | 32°51.2 | 47°23.2 | 61°55.3 | 76°27.5 | 90°59.8 | 105°32.1 | +32.0 | 14.9 |
| | -19°22.1 | -19°13.1 | -19°04.0 | -18°54.9 | -18°45.6 | -18°36.3 | -18°27.0 | -18°17.5 | -18°08.0 | -17°58.4 | -17°48.7 | +9.3 | 54.8 |
| **Je 28** | 323°45.4 | 338°18.9 | 352°52.3 | 7°25.9 | 21°59.5 | 36°33.2 | 51°06.9 | 65°40.7 | 80°14.5 | 94°48.4 | 109°22.4 | +33.7 | 14.8 |
| | -15°15.8 | -15°05.1 | -14°54.4 | -14°43.6 | -14°32.7 | -14°21.8 | -14°10.9 | -13°59.8 | -13°48.8 | -13°37.7 | -13°26.5 | +10.9 | 54.4 |
| **Ve 29** | 327°57.9 | 342°32.6 | 357°07.4 | 11°42.2 | 26°17.1 | 40°52.0 | 55°27.0 | 70°01.9 | 84°37.0 | 99°12.0 | 113°47.1 | +34.9 | 14.8 |
| | -10°33.7 | -10°21.9 | -10°10.0 | -9°58.1 | -9°46.1 | -9°34.1 | -9°22.1 | -9°10.1 | -8°58.0 | -8°45.9 | -8°33.8 | +12.0 | 54.1 |
| **Sa 30** | 332°37.1 | 347°12.6 | 1°48.2 | 16°23.8 | 30°59.4 | 45°35.0 | 60°10.6 | 74°46.3 | 89°21.9 | 103°57.6 | 118°33.3 | +35.6 | 14.7 |
| | -5°28.5 | -5°16.0 | -5°03.5 | -4°50.9 | -4°38.3 | -4°25.7 | -4°13.1 | -4°00.5 | -3°47.9 | -3°35.2 | -3°22.6 | +12.6 | 54.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 23h47 — DQ: 12 00h45 — NL: 18 18h23 — PQ: 25 13h10

# SOLEIL

## Octobre 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Di 1** | 272°36.5<br>-3°24.4 | 287°36.7<br>-3°25.4 | 302°36.9<br>-3°26.3 | 317°37.1<br>-3°27.3 | 332°37.3<br>-3°28.3 | 347°37.5<br>-3°29.2 | 2°37.7<br>-3°30.2 | 17°37.9<br>-3°31.2 | 32°38.1<br>-3°32.1 | 47°38.3<br>-3°33.1 | 62°38.5<br>-3°34.1 | 77°38.7<br>-3°35.0 | +0.2<br>-1.0 |
| **Lu 2** | 272°41.3<br>-3°47.6 | 287°41.5<br>-3°48.6 | 302°41.7<br>-3°49.6 | 317°41.9<br>-3°50.5 | 332°42.1<br>-3°51.5 | 347°42.3<br>-3°52.4 | 2°42.5<br>-3°53.4 | 17°42.7<br>-3°54.4 | 32°42.9<br>-3°55.3 | 47°43.1<br>-3°56.3 | 62°43.2<br>-3°57.3 | 77°43.4<br>-3°58.2 | +0.2<br>-1.0 |
| **Ma 3** | 272°46.0<br>-4°10.8 | 287°46.2<br>-4°11.8 | 302°46.4<br>-4°12.7 | 317°46.6<br>-4°13.7 | 332°46.8<br>-4°14.6 | 347°47.0<br>-4°15.6 | 2°47.2<br>-4°16.6 | 17°47.3<br>-4°17.5 | 32°47.5<br>-4°18.5 | 47°47.7<br>-4°19.5 | 62°47.9<br>-4°20.4 | 77°48.1<br>-4°21.4 | +0.2<br>-1.0 |
| **Me 4** | 272°50.6<br>-4°33.9 | 287°50.8<br>-4°34.9 | 302°51.0<br>-4°35.8 | 317°51.2<br>-4°36.8 | 332°51.4<br>-4°37.8 | 347°51.6<br>-4°38.7 | 2°51.8<br>-4°39.7 | 17°51.9<br>-4°40.6 | 32°52.1<br>-4°41.6 | 47°52.3<br>-4°42.6 | 62°52.5<br>-4°43.5 | 77°52.7<br>-4°44.5 | +0.2<br>-1.0 |
| **Je 5** | 272°55.2<br>-4°57.0 | 287°55.3<br>-4°57.9 | 302°55.5<br>-4°58.9 | 317°55.7<br>-4°59.9 | 332°55.9<br>-5°00.8 | 347°56.1<br>-5°01.8 | 2°56.3<br>-5°02.7 | 17°56.5<br>-5°03.7 | 32°56.6<br>-5°04.7 | 47°56.8<br>-5°05.6 | 62°57.0<br>-5°06.6 | 77°57.2<br>-5°07.5 | +0.2<br>-1.0 |
| **Ve 6** | 272°59.6<br>-5°20.0 | 287°59.8<br>-5°20.9 | 303°00.0<br>-5°21.9 | 318°00.1<br>-5°22.9 | 333°00.3<br>-5°23.8 | 348°00.5<br>-5°24.8 | 3°00.7<br>-5°25.7 | 18°00.9<br>-5°26.7 | 33°01.1<br>-5°27.6 | 48°01.2<br>-5°28.6 | 63°01.4<br>-5°29.6 | 78°01.6<br>-5°30.5 | +0.2<br>-1.0 |
| **Sa 7** | 273°03.9<br>-5°42.9 | 288°04.1<br>-5°43.9 | 303°04.3<br>-5°44.8 | 318°04.5<br>-5°45.8 | 333°04.7<br>-5°46.7 | 348°04.8<br>-5°47.7 | 3°05.0<br>-5°48.7 | 18°05.2<br>-5°49.6 | 33°05.4<br>-5°50.6 | 48°05.5<br>-5°51.5 | 63°05.7<br>-5°52.5 | 78°05.9<br>-5°53.4 | +0.2<br>-1.0 |
| **Di 8** | 273°08.2<br>-6°05.8 | 288°08.3<br>-6°06.7 | 303°08.5<br>-6°07.7 | 318°08.7<br>-6°08.7 | 333°08.9<br>-6°09.6 | 348°09.0<br>-6°10.6 | 3°09.2<br>-6°11.5 | 18°09.4<br>-6°12.5 | 33°09.6<br>-6°13.4 | 48°09.7<br>-6°14.4 | 63°09.9<br>-6°15.3 | 78°10.1<br>-6°16.3 | +0.2<br>-1.0 |
| **Lu 9** | 273°12.3<br>-6°28.6 | 288°12.5<br>-6°29.5 | 303°12.6<br>-6°30.5 | 318°12.8<br>-6°31.4 | 333°13.0<br>-6°32.4 | 348°13.1<br>-6°33.3 | 3°13.3<br>-6°34.3 | 18°13.5<br>-6°35.2 | 33°13.6<br>-6°36.2 | 48°13.8<br>-6°37.1 | 63°14.0<br>-6°38.1 | 78°14.1<br>-6°39.0 | +0.2<br>-0.9 |
| **Ma 10** | 273°16.3<br>-6°51.3 | 288°16.5<br>-6°52.2 | 303°16.6<br>-6°53.2 | 318°16.8<br>-6°54.1 | 333°17.0<br>-6°55.1 | 348°17.1<br>-6°56.0 | 3°17.3<br>-6°57.0 | 18°17.4<br>-6°57.9 | 33°17.6<br>-6°58.8 | 48°17.8<br>-6°59.8 | 63°17.9<br>-7°00.7 | 78°18.1<br>-7°01.7 | +0.2<br>-0.9 |
| **Me 11** | 273°20.2<br>-7°13.9 | 288°20.3<br>-7°14.9 | 303°20.5<br>-7°15.8 | 318°20.7<br>-7°16.7 | 333°20.8<br>-7°17.7 | 348°21.0<br>-7°18.6 | 3°21.1<br>-7°19.6 | 18°21.3<br>-7°20.5 | 33°21.4<br>-7°21.4 | 48°21.6<br>-7°22.4 | 63°21.8<br>-7°23.3 | 78°21.9<br>-7°24.3 | +0.2<br>-0.9 |
| **Je 12** | 273°23.9<br>-7°36.4 | 288°24.1<br>-7°37.4 | 303°24.2<br>-7°38.3 | 318°24.4<br>-7°39.2 | 333°24.5<br>-7°40.2 | 348°24.7<br>-7°41.1 | 3°24.8<br>-7°42.1 | 18°25.0<br>-7°43.0 | 33°25.1<br>-7°43.9 | 48°25.3<br>-7°44.9 | 63°25.5<br>-7°45.8 | 78°25.6<br>-7°46.7 | +0.2<br>-0.9 |
| **Ve 13** | 273°27.5<br>-7°58.9 | 288°27.7<br>-7°59.8 | 303°27.8<br>-8°00.7 | 318°28.0<br>-8°01.7 | 333°28.1<br>-8°02.6 | 348°28.3<br>-8°03.5 | 3°28.4<br>-8°04.4 | 18°28.6<br>-8°05.4 | 33°28.7<br>-8°06.3 | 48°28.9<br>-8°07.2 | 63°29.0<br>-8°08.2 | 78°29.2<br>-8°09.1 | +0.1<br>-0.9 |
| **Sa 14** | 273°31.0<br>-8°21.2 | 288°31.2<br>-8°22.1 | 303°31.3<br>-8°23.0 | 318°31.5<br>-8°23.9 | 333°31.6<br>-8°24.9 | 348°31.7<br>-8°25.8 | 3°31.9<br>-8°26.7 | 18°32.0<br>-8°27.7 | 33°32.2<br>-8°28.6 | 48°32.3<br>-8°29.5 | 63°32.4<br>-8°30.4 | 78°32.6<br>-8°31.4 | +0.1<br>-0.9 |
| **Di 15** | 273°34.4<br>-8°43.4 | 288°34.5<br>-8°44.3 | 303°34.6<br>-8°45.2 | 318°34.8<br>-8°46.1 | 333°34.9<br>-8°47.0 | 348°35.0<br>-8°48.0 | 3°35.2<br>-8°48.9 | 18°35.3<br>-8°49.8 | 33°35.4<br>-8°50.7 | 48°35.6<br>-8°51.6 | 63°35.7<br>-8°52.6 | 78°35.8<br>-8°53.5 | +0.1<br>-0.9 |
| **Lu 16** | 273°37.6<br>-9°05.4 | 288°37.7<br>-9°06.3 | 303°37.8<br>-9°07.3 | 318°37.9<br>-9°08.2 | 333°38.1<br>-9°09.1 | 348°38.2<br>-9°10.0 | 3°38.3<br>-9°10.9 | 18°38.5<br>-9°11.8 | 33°38.6<br>-9°12.8 | 48°38.7<br>-9°13.7 | 63°38.8<br>-9°14.6 | 78°39.0<br>-9°15.5 | +0.1<br>-0.9 |
| **Ma 17** | 273°40.6<br>-9°27.4 | 288°40.7<br>-9°28.3 | 303°40.8<br>-9°29.2 | 318°41.0<br>-9°30.1 | 333°41.1<br>-9°31.0 | 348°41.2<br>-9°31.9 | 3°41.3<br>-9°32.8 | 18°41.5<br>-9°33.7 | 33°41.6<br>-9°34.7 | 48°41.7<br>-9°35.6 | 63°41.8<br>-9°36.5 | 78°41.9<br>-9°37.4 | +0.1<br>-0.9 |
| **Me 18** | 273°43.5<br>-9°49.2 | 288°43.6<br>-9°50.1 | 303°43.7<br>-9°51.0 | 318°43.8<br>-9°51.9 | 333°44.0<br>-9°52.8 | 348°44.1<br>-9°53.7 | 3°44.2<br>-9°54.6 | 18°44.3<br>-9°55.5 | 33°44.4<br>-9°56.4 | 48°44.5<br>-9°57.3 | 63°44.7<br>-9°58.2 | 78°44.8<br>-9°59.1 | +0.1<br>-0.9 |
| **Je 19** | 273°46.2<br>-10°10.8 | 288°46.3<br>-10°11.7 | 303°46.4<br>-10°12.6 | 318°46.6<br>-10°13.5 | 333°46.7<br>-10°14.4 | 348°46.8<br>-10°15.3 | 3°46.9<br>-10°16.2 | 18°47.0<br>-10°17.1 | 33°47.1<br>-10°18.0 | 48°47.2<br>-10°18.9 | 63°47.3<br>-10°19.8 | 78°47.4<br>-10°20.7 | +0.1<br>-0.9 |
| **Ve 20** | 273°48.8<br>-10°32.3 | 288°48.9<br>-10°33.2 | 303°49.0<br>-10°34.1 | 318°49.1<br>-10°35.0 | 333°49.2<br>-10°35.9 | 348°49.3<br>-10°36.8 | 3°49.4<br>-10°37.7 | 18°49.5<br>-10°38.6 | 33°49.6<br>-10°39.5 | 48°49.7<br>-10°40.4 | 63°49.8<br>-10°41.3 | 78°49.9<br>-10°42.2 | +0.1<br>-0.9 |
| **Sa 21** | 273°51.2<br>-10°53.7 | 288°51.3<br>-10°54.6 | 303°51.4<br>-10°55.5 | 318°51.5<br>-10°56.4 | 333°51.6<br>-10°57.2 | 348°51.7<br>-10°58.1 | 3°51.8<br>-10°59.0 | 18°51.9<br>-10°59.9 | 33°52.0<br>-11°00.8 | 48°52.1<br>-11°01.7 | 63°52.2<br>-11°02.5 | 78°52.3<br>-11°03.4 | +0.1<br>-0.9 |
| **Di 22** | 273°53.5<br>-11°14.9 | 288°53.6<br>-11°15.8 | 303°53.7<br>-11°16.6 | 318°53.7<br>-11°17.5 | 333°53.8<br>-11°18.4 | 348°53.9<br>-11°19.3 | 3°54.0<br>-11°20.2 | 18°54.1<br>-11°21.0 | 33°54.2<br>-11°21.9 | 48°54.3<br>-11°22.8 | 63°54.4<br>-11°23.7 | 78°54.5<br>-11°24.5 | +0.1<br>-0.9 |
| **Lu 23** | 273°55.6<br>-11°35.9 | 288°55.6<br>-11°36.8 | 303°55.7<br>-11°37.7 | 318°55.8<br>-11°38.5 | 333°55.9<br>-11°39.4 | 348°56.0<br>-11°40.3 | 3°56.1<br>-11°41.1 | 18°56.1<br>-11°42.0 | 33°56.2<br>-11°42.9 | 48°56.3<br>-11°43.7 | 63°56.4<br>-11°44.6 | 78°56.5<br>-11°45.5 | +0.1<br>-0.9 |
| **Ma 24** | 273°57.5<br>-11°56.8 | 288°57.6<br>-11°57.6 | 303°57.6<br>-11°58.5 | 318°57.7<br>-11°59.3 | 333°57.8<br>-12°00.2 | 348°57.9<br>-12°01.1 | 3°57.9<br>-12°01.9 | 18°58.0<br>-12°02.8 | 33°58.1<br>-12°03.7 | 48°58.2<br>-12°04.5 | 63°58.2<br>-12°05.4 | 78°58.3<br>-12°06.2 | +0.1<br>-0.9 |
| **Me 25** | 273°59.2<br>-12°17.4 | 288°59.3<br>-12°18.3 | 303°59.4<br>-12°19.1 | 318°59.4<br>-12°20.0 | 333°59.5<br>-12°20.8 | 348°59.6<br>-12°21.7 | 3°59.6<br>-12°22.5 | 18°59.7<br>-12°23.4 | 33°59.8<br>-12°24.3 | 48°59.8<br>-12°25.1 | 63°59.9<br>-12°26.0 | 79°00.0<br>-12°26.8 | +0.1<br>-0.9 |
| **Je 26** | 274°00.8<br>-12°37.9 | 289°00.9<br>-12°38.7 | 304°00.9<br>-12°39.6 | 319°01.0<br>-12°40.4 | 334°01.0<br>-12°41.3 | 349°01.1<br>-12°42.1 | 4°01.2<br>-12°43.0 | 19°01.2<br>-12°43.8 | 34°01.3<br>-12°44.7 | 49°01.3<br>-12°45.5 | 64°01.4<br>-12°46.3 | 79°01.5<br>-12°47.2 | +0.1<br>-0.8 |
| **Ve 27** | 274°02.2<br>-12°58.1 | 289°02.2<br>-12°59.0 | 304°02.3<br>-12°59.8 | 319°02.3<br>-13°00.7 | 334°02.4<br>-13°01.5 | 349°02.4<br>-13°02.3 | 4°02.5<br>-13°03.2 | 19°02.5<br>-13°04.0 | 34°02.6<br>-13°04.9 | 49°02.7<br>-13°05.7 | 64°02.7<br>-13°06.5 | 79°02.8<br>-13°07.4 | +0.1<br>-0.8 |
| **Sa 28** | 274°03.4<br>-13°18.2 | 289°03.4<br>-13°19.0 | 304°03.5<br>-13°19.9 | 319°03.5<br>-13°20.7 | 334°03.6<br>-13°21.5 | 349°03.6<br>-13°22.4 | 4°03.7<br>-13°23.2 | 19°03.7<br>-13°24.0 | 34°03.7<br>-13°24.9 | 49°03.8<br>-13°25.7 | 64°03.8<br>-13°26.5 | 79°03.9<br>-13°27.3 | +0.0<br>-0.8 |
| **Di 29** | 274°04.4<br>-13°38.1 | 289°04.4<br>-13°38.9 | 304°04.5<br>-13°39.7 | 319°04.5<br>-13°40.5 | 334°04.6<br>-13°41.4 | 349°04.6<br>-13°42.2 | 4°04.6<br>-13°43.0 | 19°04.7<br>-13°43.8 | 34°04.7<br>-13°44.6 | 49°04.7<br>-13°45.5 | 64°04.8<br>-13°46.3 | 79°04.8<br>-13°47.1 | +0.0<br>-0.8 |
| **Lu 30** | 274°05.2<br>-13°57.7 | 289°05.3<br>-13°58.5 | 304°05.3<br>-13°59.3 | 319°05.3<br>-14°00.2 | 334°05.3<br>-14°01.0 | 349°05.4<br>-14°01.8 | 4°05.4<br>-14°02.6 | 19°05.4<br>-14°03.4 | 34°05.5<br>-14°04.2 | 49°05.5<br>-14°05.0 | 64°05.5<br>-14°05.8 | 79°05.5<br>-14°06.6 | +0.0<br>-0.8 |
| **Ma 31** | 274°05.9<br>-14°17.1 | 289°05.9<br>-14°17.9 | 304°05.9<br>-14°18.7 | 319°05.9<br>-14°19.6 | 334°05.9<br>-14°20.4 | 349°06.0<br>-14°21.2 | 4°06.0<br>-14°22.0 | 19°06.0<br>-14°22.8 | 34°06.0<br>-14°23.6 | 49°06.0<br>-14°24.4 | 64°06.1<br>-14°25.2 | 79°06.1<br>-14°26.0 | +0.0<br>-0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2028

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 249°54.9<br>-1°28.2 | 264°30.7<br>-1°15.5 | 279°06.4<br>-1°02.7 | 293°42.2<br>-0°50.0 | 308°18.0<br>-0°37.2 | 322°53.8<br>-0°24.5 | 337°29.6<br>-0°11.7 | 352°05.3<br>0°01.0 | 6°41.1<br>0°13.8 | 21°16.9<br>0°26.6 | 35°52.7<br>0°39.3 | +35.8<br>+12.8 | 14.7<br>53.9 |
| Lu 2 | 254°48.2<br>3°50.1 | 269°23.8<br>4°02.7 | 283°59.4<br>4°15.3 | 298°34.9<br>4°27.9 | 313°10.5<br>4°40.5 | 327°46.0<br>4°53.1 | 342°21.5<br>5°05.7 | 356°57.0<br>5°18.2 | 11°32.4<br>5°30.8 | 26°07.8<br>5°43.3 | 40°43.2<br>5°55.8 | +35.5<br>+12.6 | 14.7<br>54.0 |
| ○ Ma 3 | 259°30.7<br>9°00.4 | 274°05.6<br>9°12.5 | 288°40.5<br>9°24.5 | 303°15.3<br>9°36.5 | 317°50.1<br>9°48.5 | 332°24.8<br>10°00.5 | 346°59.5<br>10°12.4 | 1°34.2<br>10°24.3 | 16°08.8<br>10°36.1 | 30°43.4<br>10°47.9 | 45°17.9<br>10°59.7 | +34.7<br>+11.9 | 14.8<br>54.1 |
| Me 4 | 263°49.9<br>13°50.9 | 278°23.6<br>14°01.9 | 292°57.3<br>14°12.9 | 307°30.9<br>14°23.8 | 322°04.4<br>14°34.7 | 336°37.9<br>14°45.5 | 351°11.3<br>14°56.2 | 5°44.7<br>15°06.9 | 20°18.0<br>15°17.6 | 34°51.3<br>15°28.1 | 49°24.4<br>15°38.6 | +33.5<br>+10.8 | 14.8<br>54.3 |
| Je 5 | 267°34.7<br>18°08.5 | 282°06.8<br>18°17.9 | 296°38.9<br>18°27.3 | 311°10.9<br>18°36.6 | 325°42.9<br>18°45.7 | 340°14.7<br>18°54.9 | 354°46.5<br>19°03.9 | 9°18.3<br>19°12.8 | 23°49.9<br>19°21.7 | 38°21.5<br>19°30.5 | 52°53.1<br>19°39.2 | +31.8<br>+9.1 | 14.9<br>54.6 |
| Ve 6 | 270°37.4<br>21°39.1 | 285°07.8<br>21°46.3 | 299°38.1<br>21°53.5 | 314°08.3<br>22°00.5 | 328°38.5<br>22°07.4 | 343°08.6<br>22°14.3 | 357°38.6<br>22°21.0 | 12°08.6<br>22°27.6 | 26°38.5<br>22°34.2 | 41°08.3<br>22°40.6 | 55°38.0<br>22°46.9 | +30.1<br>+6.8 | 15.0<br>55.0 |
| Sa 7 | 272°56.1<br>24°08.0 | 287°24.7<br>24°12.5 | 301°53.4<br>24°16.8 | 316°21.9<br>24°21.1 | 330°50.4<br>24°25.2 | 345°18.8<br>24°29.2 | 359°47.2<br>24°33.0 | 14°15.5<br>24°36.7 | 28°43.8<br>24°40.3 | 43°12.0<br>24°43.8 | 57°40.1<br>24°47.2 | +28.4<br>+3.9 | 15.1<br>55.5 |
| Di 8 | 274°36.1<br>25°21.6 | 289°03.5<br>25°22.9 | 303°30.8<br>25°23.9 | 317°58.1<br>25°24.9 | 332°25.4<br>25°25.7 | 346°52.6<br>25°26.3 | 1°19.7<br>25°26.9 | 15°46.9<br>25°27.2 | 30°14.0<br>25°27.5 | 44°41.1<br>25°27.6 | 59°08.1<br>25°27.5 | +27.2<br>+0.6 | 15.3<br>56.1 |
| Lu 9 | 275°50.8<br>25°09.7 | 290°17.5<br>25°07.3 | 304°44.2<br>25°04.8 | 319°10.9<br>25°02.2 | 333°37.5<br>24°59.4 | 348°04.2<br>24°56.5 | 2°30.9<br>24°53.4 | 16°57.5<br>24°50.2 | 31°24.2<br>24°46.8 | 45°50.8<br>24°43.3 | 60°17.4<br>24°39.6 | +26.7<br>-3.0 | 15.5<br>56.8 |
| Ma 10 | 290°17.5<br>25°07.3 | 304°44.2<br>25°04.8 | 319°10.9<br>25°02.2 | 333°37.5<br>24°59.4 | 348°04.2<br>24°56.5 | 2°30.9<br>24°53.4 | 16°57.5<br>24°50.2 | 31°24.2<br>24°46.8 | 45°50.8<br>24°43.3 | 60°17.4<br>24°39.6 | 74°44.1<br>24°35.8 | +26.7<br>-3.1 | 15.5<br>56.9 |
| ◑ Me 11 | 291°24.3<br>23°21.4 | 305°51.1<br>23°15.3 | 320°17.9<br>23°09.1 | 334°44.7<br>23°02.7 | 349°11.5<br>22°56.1 | 3°38.3<br>22°49.5 | 18°05.2<br>22°42.7 | 32°32.1<br>22°35.7 | 46°59.0<br>22°28.6 | 61°25.9<br>22°21.4 | 75°52.8<br>22°14.0 | +26.8<br>-6.7 | 15.7<br>57.7 |
| Je 12 | 292°39.9<br>20°07.5 | 307°07.2<br>19°58.1 | 321°34.6<br>19°48.5 | 336°02.0<br>19°38.7 | 350°29.5<br>19°28.9 | 4°57.0<br>19°18.9 | 19°24.5<br>19°08.8 | 33°52.0<br>18°58.6 | 48°19.6<br>18°48.3 | 62°47.2<br>18°37.8 | 77°14.8<br>18°27.2 | +27.5<br>-10.0 | 15.9<br>58.5 |
| Ve 13 | 294°13.0<br>15°34.9 | 308°41.1<br>15°22.5 | 323°09.3<br>15°10.1 | 337°37.5<br>14°57.5 | 352°05.7<br>14°44.9 | 6°33.9<br>14°32.1 | 21°02.2<br>14°19.3 | 35°30.4<br>14°06.3 | 49°58.8<br>13°53.3 | 64°27.1<br>13°40.1 | 78°55.5<br>13°26.9 | +28.2<br>-12.8 | 16.2<br>59.3 |
| Sa 14 | 296°03.6<br>9°58.3 | 310°32.3<br>9°43.8 | 325°01.0<br>9°29.2 | 339°29.7<br>9°14.5 | 353°58.4<br>8°59.8 | 8°27.2<br>8°45.0 | 22°55.9<br>8°30.1 | 37°24.7<br>8°15.2 | 51°53.5<br>8°00.2 | 66°22.3<br>7°45.2 | 80°51.1<br>7°30.1 | +28.8<br>-14.8 | 16.4<br>60.1 |
| Di 15 | 298°03.4<br>3°37.7 | 312°32.2<br>3°21.8 | 327°01.0<br>3°06.0 | 341°29.8<br>2°50.1 | 355°58.6<br>2°34.2 | 10°27.4<br>2°18.3 | 24°56.2<br>2°02.3 | 39°24.9<br>1°46.4 | 53°53.7<br>1°30.4 | 68°22.4<br>1°14.4 | 82°51.1<br>0°58.3 | +28.8<br>-15.9 | 16.5<br>60.6 |
| Lu 16 | 299°59.4<br>-3°02.9 | 314°27.8<br>-3°19.0 | 328°56.1<br>-3°35.0 | 343°24.4<br>-3°51.1 | 357°52.6<br>-4°07.1 | 12°20.8<br>-4°23.1 | 26°49.0<br>-4°39.0 | 41°17.2<br>-4°55.0 | 55°45.3<br>-5°10.9 | 70°13.4<br>-5°26.8 | 84°41.4<br>-5°42.6 | +28.2<br>-16.0 | 16.6<br>61.0 |
| Ma 17 | 301°36.9<br>-9°35.6 | 316°04.3<br>-9°50.8 | 330°31.5<br>-10°05.8 | 344°58.8<br>-10°20.8 | 359°25.9<br>-10°35.7 | 13°53.1<br>-10°50.6 | 28°20.1<br>-11°05.4 | 42°47.2<br>-11°20.1 | 57°14.1<br>-11°34.8 | 71°41.0<br>-11°49.3 | 86°07.9<br>-12°03.8 | +27.1<br>-14.8 | 16.6<br>61.0 |
| ● Me 18 | 302°44.1<br>-15°30.5 | 317°10.1<br>-15°43.5 | 331°36.0<br>-15°56.4 | 346°01.8<br>-16°09.2 | 0°27.6<br>-16°21.8 | 14°53.4<br>-16°34.4 | 29°19.0<br>-16°46.8 | 43°44.7<br>-16°59.1 | 58°10.2<br>-17°11.3 | 72°35.7<br>-17°23.4 | 87°01.2<br>-17°35.3 | +25.7<br>-12.5 | 16.5<br>60.7 |
| Je 19 | 303°16.9<br>-20°18.8 | 317°41.5<br>-20°28.6 | 332°06.2<br>-20°38.2 | 346°30.7<br>-20°47.7 | 0°55.3<br>-20°57.0 | 15°19.8<br>-21°06.2 | 29°44.2<br>-21°15.3 | 44°08.6<br>-21°24.2 | 58°33.0<br>-21°32.9 | 72°57.4<br>-21°41.5 | 87°21.7<br>-21°49.9 | +24.5<br>-9.1 | 16.4<br>60.0 |
| Ve 20 | 303°23.3<br>-23°37.2 | 317°47.3<br>-23°43.1 | 332°11.3<br>-23°48.8 | 346°35.2<br>-23°54.3 | 0°59.2<br>-23°59.6 | 15°23.2<br>-24°04.8 | 29°47.1<br>-24°09.8 | 44°11.1<br>-24°14.6 | 58°35.0<br>-24°19.3 | 72°59.0<br>-24°23.8 | 87°22.9<br>-24°28.2 | +24.0<br>-5.1 | 16.1<br>59.2 |
| Sa 21 | 303°24.5<br>-25°13.0 | 317°48.8<br>-25°14.7 | 332°13.2<br>-25°16.1 | 346°37.6<br>-25°17.5 | 1°02.0<br>-25°18.6 | 15°26.5<br>-25°19.6 | 29°51.0<br>-25°20.4 | 44°15.6<br>-25°21.1 | 58°40.2<br>-25°21.6 | 73°04.9<br>-25°21.9 | 87°29.6<br>-25°22.1 | +24.5<br>-0.9 | 15.9<br>58.2 |
| Di 22 | 303°47.7<br>-25°06.0 | 318°13.5<br>-25°03.7 | 332°39.3<br>-25°01.2 | 347°05.2<br>-24°58.6 | 1°31.2<br>-24°55.9 | 15°57.3<br>-24°53.0 | 30°23.4<br>-24°50.0 | 44°49.6<br>-24°46.8 | 59°16.0<br>-24°43.5 | 73°42.3<br>-24°40.1 | 88°08.8<br>-24°36.5 | +26.1<br>+2.9 | 15.6<br>57.3 |
| Lu 23 | 304°56.6<br>-23°27.0 | 319°24.6<br>-23°21.3 | 333°52.6<br>-23°15.6 | 348°20.7<br>-23°09.7 | 2°48.9<br>-23°03.7 | 17°17.2<br>-22°57.6 | 31°45.6<br>-22°51.4 | 46°14.1<br>-22°45.0 | 60°42.7<br>-22°38.6 | 75°11.4<br>-22°32.0 | 89°40.2<br>-22°25.4 | +28.4<br>+6.2 | 15.4<br>56.3 |
| Ma 24 | 307°03.4<br>-20°33.1 | 321°33.7<br>-20°24.9 | 336°04.1<br>-20°16.6 | 350°34.6<br>-20°08.1 | 5°05.2<br>-19°59.6 | 19°35.8<br>-19°51.0 | 34°06.6<br>-19°42.3 | 48°37.4<br>-19°33.6 | 63°08.4<br>-19°24.7 | 77°39.4<br>-19°15.8 | 92°10.6<br>-19°06.8 | +30.7<br>+8.6 | 15.1<br>55.5 |
| ◐ Me 25 | 310°07.7<br>-16°42.8 | 324°40.2<br>-16°32.6 | 339°12.7<br>-16°22.4 | 353°45.4<br>-16°12.2 | 8°18.1<br>-16°01.8 | 22°50.8<br>-15°51.4 | 37°23.7<br>-15°41.0 | 51°56.6<br>-15°30.5 | 66°29.6<br>-15°19.9 | 81°02.7<br>-15°09.3 | 95°35.8<br>-14°58.6 | +32.8<br>+10.4 | 15.0<br>54.9 |
| Je 26 | 314°00.8<br>-12°12.4 | 328°34.9<br>-12°01.0 | 343°09.2<br>-11°49.5 | 357°43.4<br>-11°38.0 | 12°17.7<br>-11°26.4 | 26°52.1<br>-11°14.8 | 41°26.5<br>-11°03.1 | 56°01.0<br>-10°51.5 | 70°35.5<br>-10°39.7 | 85°10.1<br>-10°28.0 | 99°44.7<br>-10°16.2 | +34.4<br>+11.6 | 14.8<br>54.4 |
| Ve 27 | 318°29.1<br>-7°15.7 | 333°04.3<br>-7°03.5 | 347°39.6<br>-6°51.2 | 2°14.9<br>-6°38.9 | 16°50.3<br>-6°26.6 | 31°25.7<br>-6°14.3 | 46°01.1<br>-6°01.9 | 60°36.5<br>-5°49.6 | 75°11.9<br>-5°37.2 | 89°47.4<br>-5°24.8 | 104°22.9<br>-5°12.3 | +35.4<br>+12.3 | 14.8<br>54.1 |
| Sa 28 | 323°17.5<br>-2°04.3 | 337°53.3<br>-1°51.7 | 352°29.0<br>-1°39.1 | 7°04.8<br>-1°26.5 | 21°40.5<br>-1°13.8 | 36°16.3<br>-1°01.2 | 50°52.0<br>-0°48.6 | 65°27.8<br>-0°35.9 | 80°03.6<br>-0°23.3 | 94°39.3<br>-0°10.6 | 109°15.1<br>0°02.0 | +35.8<br>+12.6 | 14.7<br>54.0 |
| Di 29 | 328°10.8<br>3°11.4 | 342°46.4<br>3°24.0 | 357°22.0<br>3°36.6 | 11°57.6<br>3°49.1 | 26°33.1<br>4°01.6 | 41°08.7<br>4°14.2 | 55°44.2<br>4°26.7 | 70°19.7<br>4°39.2 | 84°55.2<br>4°51.7 | 99°30.6<br>5°04.2 | 114°06.1<br>5°16.6 | +35.5<br>+12.5 | 14.7<br>54.0 |
| Lu 30 | 332°54.0<br>8°21.1 | 347°28.9<br>8°33.2 | 2°03.8<br>8°45.3 | 16°38.7<br>8°57.3 | 31°13.5<br>9°09.3 | 45°48.2<br>9°21.3 | 60°22.9<br>9°33.3 | 74°57.6<br>9°45.2 | 89°32.3<br>9°57.1 | 104°06.8<br>10°08.9 | 118°41.4<br>10°20.7 | +34.7<br>+12.0 | 14.8<br>54.2 |
| Ma 31 | 337°13.5<br>13°13.3 | 351°47.2<br>13°24.4 | 6°20.8<br>13°35.5 | 20°54.4<br>13°46.5 | 35°27.9<br>13°57.5 | 50°01.4<br>14°08.5 | 64°34.8<br>14°19.4 | 79°08.2<br>14°30.2 | 93°41.4<br>14°41.0 | 108°14.7<br>14°51.7 | 122°47.8<br>15°02.4 | +33.4<br>+10.9 | 14.8<br>54.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 16h24 — DQ: 11 11h56 — NL: 18 02h56 — PQ: 25 04h53

# SOLEIL

## Novembre 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Me 1** | 274°06.3 | 289°06.3 | 304°06.3 | 319°06.3 | 334°06.4 | 349°06.4 | 4°06.4 | 19°06.4 | 34°06.4 | 49°06.4 | 64°06.4 | 79°06.4 | +0.0 |
| | -14°36.3 | -14°37.1 | -14°37.9 | -14°38.7 | -14°39.5 | -14°40.3 | -14°41.1 | -14°41.9 | -14°42.7 | -14°43.5 | -14°44.3 | -14°45.0 | -0.8 |
| **Je 2** | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°55.3 | -14°56.1 | -14°56.9 | -14°57.6 | -14°58.4 | -14°59.2 | -15°00.0 | -15°00.8 | -15°01.6 | -15°02.3 | -15°03.1 | -15°03.9 | -0.8 |
| **Ve 3** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.5 | 64°06.5 | 79°06.5 | -0.0 |
| | -15°14.0 | -15°14.8 | -15°15.5 | -15°16.3 | -15°17.1 | -15°17.9 | -15°18.6 | -15°19.4 | -15°20.2 | -15°21.0 | -15°21.7 | -15°22.5 | -0.8 |
| **Sa 4** | 274°06.4 | 289°06.4 | 304°06.4 | 319°06.4 | 334°06.4 | 349°06.3 | 4°06.3 | 19°06.3 | 34°06.3 | 49°06.3 | 64°06.3 | 79°06.3 | -0.0 |
| | -15°32.5 | -15°33.2 | -15°34.0 | -15°34.8 | -15°35.5 | -15°36.3 | -15°37.0 | -15°37.8 | -15°38.6 | -15°39.3 | -15°40.1 | -15°40.8 | -0.8 |
| **Di 5** | 274°06.0 | 289°06.0 | 304°06.0 | 319°06.0 | 334°05.9 | 349°05.9 | 4°05.9 | 19°05.9 | 34°05.9 | 49°05.8 | 64°05.8 | 79°05.8 | -0.0 |
| | -15°50.7 | -15°51.4 | -15°52.2 | -15°52.9 | -15°53.7 | -15°54.4 | -15°55.2 | -15°55.9 | -15°56.7 | -15°57.4 | -15°58.2 | -15°58.9 | -0.8 |
| **Lu 6** | 274°05.4 | 289°05.4 | 304°05.4 | 319°05.3 | 334°05.3 | 349°05.3 | 4°05.3 | 19°05.2 | 34°05.2 | 49°05.2 | 64°05.1 | 79°05.1 | -0.0 |
| | -16°08.6 | -16°09.4 | -16°10.1 | -16°10.9 | -16°11.6 | -16°12.3 | -16°13.1 | -16°13.8 | -16°14.5 | -16°15.3 | -16°16.0 | -16°16.8 | -0.7 |
| **Ma 7** | 274°04.6 | 289°04.6 | 304°04.6 | 319°04.5 | 334°04.5 | 349°04.4 | 4°04.4 | 19°04.4 | 34°04.3 | 49°04.3 | 64°04.2 | 79°04.2 | -0.0 |
| | -16°26.3 | -16°27.0 | -16°27.8 | -16°28.5 | -16°29.2 | -16°30.0 | -16°30.7 | -16°31.4 | -16°32.1 | -16°32.9 | -16°33.6 | -16°34.3 | -0.7 |
| **Me 8** | 274°03.6 | 289°03.6 | 304°03.5 | 319°03.5 | 334°03.4 | 349°03.4 | 4°03.3 | 19°03.3 | 34°03.2 | 49°03.2 | 64°03.1 | 79°03.1 | -0.0 |
| | -16°43.7 | -16°44.4 | -16°45.2 | -16°45.9 | -16°46.6 | -16°47.3 | -16°48.0 | -16°48.7 | -16°49.5 | -16°50.2 | -16°50.9 | -16°51.6 | -0.7 |
| **Je 9** | 274°02.4 | 289°02.3 | 304°02.3 | 319°02.2 | 334°02.2 | 349°02.1 | 4°02.0 | 19°02.0 | 34°01.9 | 49°01.9 | 64°01.8 | 79°01.8 | -0.1 |
| | -17°00.8 | -17°01.5 | -17°02.3 | -17°03.0 | -17°03.7 | -17°04.4 | -17°05.1 | -17°05.8 | -17°06.5 | -17°07.2 | -17°07.9 | -17°08.6 | -0.7 |
| **Ve 10** | 274°00.9 | 289°00.9 | 304°00.8 | 319°00.7 | 334°00.7 | 349°00.6 | 4°00.5 | 19°00.5 | 34°00.4 | 49°00.3 | 64°00.3 | 79°00.2 | -0.1 |
| | -17°17.7 | -17°18.4 | -17°19.1 | -17°19.8 | -17°20.5 | -17°21.1 | -17°21.8 | -17°22.5 | -17°23.2 | -17°23.9 | -17°24.6 | -17°25.3 | -0.7 |
| **Sa 11** | 273°59.3 | 288°59.2 | 303°59.1 | 318°59.1 | 333°59.0 | 348°58.9 | 3°58.8 | 18°58.7 | 33°58.7 | 48°58.6 | 63°58.5 | 78°58.4 | -0.1 |
| | -17°34.2 | -17°34.9 | -17°35.6 | -17°36.3 | -17°36.9 | -17°37.6 | -17°38.3 | -17°39.0 | -17°39.7 | -17°40.3 | -17°41.0 | -17°41.7 | -0.7 |
| **Di 12** | 273°57.4 | 288°57.3 | 303°57.2 | 318°57.1 | 333°57.1 | 348°57.0 | 3°56.9 | 18°56.8 | 33°56.7 | 48°56.6 | 63°56.5 | 78°56.5 | -0.1 |
| | -17°50.5 | -17°51.1 | -17°51.8 | -17°52.5 | -17°53.1 | -17°53.8 | -17°54.5 | -17°55.1 | -17°55.8 | -17°56.5 | -17°57.1 | -17°57.8 | -0.7 |
| **Lu 13** | 273°55.3 | 288°55.2 | 303°55.1 | 318°55.0 | 333°54.9 | 348°54.8 | 3°54.7 | 18°54.6 | 33°54.5 | 48°54.4 | 63°54.4 | 78°54.3 | -0.1 |
| | -18°06.4 | -18°07.0 | -18°07.7 | -18°08.4 | -18°09.0 | -18°09.7 | -18°10.3 | -18°11.0 | -18°11.6 | -18°12.3 | -18°12.9 | -18°13.6 | -0.7 |
| **Ma 14** | 273°53.0 | 288°52.9 | 303°52.8 | 318°52.7 | 333°52.6 | 348°52.5 | 3°52.4 | 18°52.3 | 33°52.2 | 48°52.0 | 63°51.9 | 78°51.8 | -0.1 |
| | -18°22.0 | -18°22.6 | -18°23.3 | -18°23.9 | -18°24.6 | -18°25.2 | -18°25.9 | -18°26.5 | -18°27.1 | -18°27.8 | -18°28.4 | -18°29.1 | -0.6 |
| **Me 15** | 273°50.4 | 288°50.3 | 303°50.2 | 318°50.1 | 333°50.0 | 348°49.9 | 3°49.8 | 18°49.7 | 33°49.6 | 48°49.4 | 63°49.3 | 78°49.2 | -0.1 |
| | -18°37.3 | -18°37.9 | -18°38.6 | -18°39.2 | -18°39.8 | -18°40.4 | -18°41.1 | -18°41.7 | -18°42.3 | -18°42.9 | -18°43.6 | -18°44.2 | -0.6 |
| **Je 16** | 273°47.7 | 288°47.6 | 303°47.5 | 318°47.3 | 333°47.2 | 348°47.1 | 3°47.0 | 18°46.9 | 33°46.7 | 48°46.6 | 63°46.5 | 78°46.4 | -0.1 |
| | -18°52.3 | -18°52.9 | -18°53.5 | -18°54.1 | -18°54.7 | -18°55.3 | -18°55.9 | -18°56.6 | -18°57.2 | -18°57.8 | -18°58.4 | -18°59.0 | -0.6 |
| **Ve 17** | 273°44.7 | 288°44.6 | 303°44.5 | 318°44.4 | 333°44.2 | 348°44.1 | 3°44.0 | 18°43.8 | 33°43.7 | 48°43.6 | 63°43.5 | 78°43.3 | -0.1 |
| | -19°06.9 | -19°07.5 | -19°08.1 | -19°08.7 | -19°09.3 | -19°09.9 | -19°10.5 | -19°11.1 | -19°11.7 | -19°12.3 | -19°12.9 | -19°13.5 | -0.6 |
| **Sa 18** | 273°41.6 | 288°41.4 | 303°41.3 | 318°41.2 | 333°41.0 | 348°40.9 | 3°40.8 | 18°40.6 | 33°40.5 | 48°40.3 | 63°40.2 | 78°40.1 | -0.1 |
| | -19°21.2 | -19°21.8 | -19°22.3 | -19°22.9 | -19°23.5 | -19°24.1 | -19°24.7 | -19°25.3 | -19°25.9 | -19°26.4 | -19°27.0 | -19°27.6 | -0.6 |
| **Di 19** | 273°38.2 | 288°38.1 | 303°37.9 | 318°37.8 | 333°37.6 | 348°37.5 | 3°37.3 | 18°37.2 | 33°37.1 | 48°36.9 | 63°36.8 | 78°36.6 | -0.1 |
| | -19°35.1 | -19°35.7 | -19°36.2 | -19°36.8 | -19°37.4 | -19°38.0 | -19°38.5 | -19°39.1 | -19°39.7 | -19°40.2 | -19°40.8 | -19°41.4 | -0.6 |
| **Lu 20** | 273°34.7 | 288°34.5 | 303°34.3 | 318°34.2 | 333°34.0 | 348°33.9 | 3°33.7 | 18°33.6 | 33°33.4 | 48°33.3 | 63°33.1 | 78°33.0 | -0.2 |
| | -19°48.7 | -19°49.2 | -19°49.8 | -19°50.4 | -19°50.9 | -19°51.5 | -19°52.0 | -19°52.6 | -19°53.1 | -19°53.7 | -19°54.2 | -19°54.8 | -0.6 |
| **Ma 21** | 273°30.9 | 288°30.7 | 303°30.6 | 318°30.4 | 333°30.2 | 348°30.1 | 3°29.9 | 18°29.8 | 33°29.6 | 48°29.4 | 63°29.3 | 78°29.1 | -0.2 |
| | -20°01.9 | -20°02.4 | -20°03.0 | -20°03.5 | -20°04.1 | -20°04.6 | -20°05.2 | -20°05.7 | -20°06.2 | -20°06.8 | -20°07.3 | -20°07.8 | -0.5 |
| **Me 22** | 273°26.9 | 288°26.8 | 303°26.6 | 318°26.4 | 333°26.2 | 348°26.1 | 3°25.9 | 18°25.7 | 33°25.6 | 48°25.4 | 63°25.2 | 78°25.0 | -0.2 |
| | -20°14.8 | -20°15.3 | -20°15.8 | -20°16.3 | -20°16.9 | -20°17.4 | -20°17.9 | -20°18.4 | -20°19.0 | -20°19.5 | -20°20.0 | -20°20.5 | -0.5 |
| **Je 23** | 273°22.8 | 288°22.6 | 303°22.4 | 318°22.2 | 333°22.1 | 348°21.9 | 3°21.7 | 18°21.5 | 33°21.3 | 48°21.2 | 63°21.0 | 78°20.8 | -0.2 |
| | -20°27.2 | -20°27.7 | -20°28.3 | -20°28.8 | -20°29.3 | -20°29.8 | -20°30.3 | -20°30.8 | -20°31.3 | -20°31.8 | -20°32.3 | -20°32.8 | -0.5 |
| **Ve 24** | 273°18.4 | 288°18.2 | 303°18.1 | 318°17.9 | 333°17.7 | 348°17.5 | 3°17.3 | 18°17.1 | 33°16.9 | 48°16.8 | 63°16.6 | 78°16.4 | -0.2 |
| | -20°39.3 | -20°39.8 | -20°40.3 | -20°40.8 | -20°41.3 | -20°41.8 | -20°42.3 | -20°42.8 | -20°43.3 | -20°43.8 | -20°44.3 | -20°44.8 | -0.5 |
| **Sa 25** | 273°13.9 | 288°13.7 | 303°13.5 | 318°13.3 | 333°13.1 | 348°12.9 | 3°12.7 | 18°12.6 | 33°12.4 | 48°12.2 | 63°12.0 | 78°11.8 | -0.2 |
| | -20°51.1 | -20°51.5 | -20°52.0 | -20°52.5 | -20°53.0 | -20°53.4 | -20°53.9 | -20°54.4 | -20°54.9 | -20°55.3 | -20°55.8 | -20°56.3 | -0.5 |
| **Di 26** | 273°09.2 | 288°09.0 | 303°08.8 | 318°08.6 | 333°08.4 | 348°08.2 | 3°08.0 | 18°07.8 | 33°07.6 | 48°07.4 | 63°07.2 | 78°07.0 | -0.2 |
| | -21°02.4 | -21°02.8 | -21°03.3 | -21°03.8 | -21°04.2 | -21°04.7 | -21°05.2 | -21°05.6 | -21°06.1 | -21°06.5 | -21°07.0 | -21°07.4 | -0.5 |
| **Lu 27** | 273°04.3 | 288°04.1 | 303°03.9 | 318°03.7 | 333°03.5 | 348°03.3 | 3°03.1 | 18°02.9 | 33°02.6 | 48°02.4 | 63°02.2 | 78°02.0 | -0.2 |
| | -21°13.3 | -21°13.8 | -21°14.2 | -21°14.7 | -21°15.1 | -21°15.5 | -21°16.0 | -21°16.4 | -21°16.9 | -21°17.3 | -21°17.8 | -21°18.2 | -0.4 |
| **Ma 28** | 272°59.3 | 287°59.0 | 302°58.8 | 317°58.6 | 332°58.4 | 347°58.2 | 2°58.0 | 17°57.7 | 32°57.5 | 47°57.3 | 62°57.1 | 77°56.9 | -0.2 |
| | -21°23.8 | -21°24.3 | -21°24.7 | -21°25.1 | -21°25.6 | -21°26.0 | -21°26.4 | -21°26.8 | -21°27.3 | -21°27.7 | -21°28.1 | -21°28.5 | -0.4 |
| **Me 29** | 272°54.0 | 287°53.8 | 302°53.6 | 317°53.4 | 332°53.1 | 347°52.9 | 2°52.7 | 17°52.5 | 32°52.2 | 47°52.0 | 62°51.8 | 77°51.6 | -0.2 |
| | -21°34.0 | -21°34.4 | -21°34.8 | -21°35.2 | -21°35.6 | -21°36.0 | -21°36.4 | -21°36.8 | -21°37.3 | -21°37.7 | -21°38.1 | -21°38.5 | -0.4 |
| **Je 30** | 272°48.6 | 287°48.4 | 302°48.2 | 317°47.9 | 332°47.7 | 347°47.5 | 2°47.2 | 17°47.0 | 32°46.8 | 47°46.6 | 62°46.3 | 77°46.1 | -0.2 |
| | -21°43.7 | -21°44.1 | -21°44.5 | -21°44.9 | -21°45.3 | -21°45.7 | -21°46.1 | -21°46.4 | -21°46.8 | -21°47.2 | -21°47.6 | -21°48.0 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2028

| J | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 253°43.3 | 268°15.8 | 282°48.3 | 297°20.6 | 311°52.9 | 326°25.1 | 340°57.3 | 355°29.4 | 10°01.4 | 24°33.3 | 39°05.2 | +32.2 | 14.9 |
| | 16°35.7 | 16°45.7 | 16°55.7 | 17°05.6 | 17°15.4 | 17°25.2 | 17°34.9 | 17°44.5 | 17°54.1 | 18°03.6 | 18°13.0 | +9.7 | 54.7 |
| ○ Je 2 | 256°54.4 | 271°25.1 | 285°55.7 | 300°26.3 | 314°56.7 | 329°27.1 | 343°57.4 | 358°27.7 | 12°57.9 | 27°28.0 | 41°58.0 | +30.4 | 15.0 |
| | 20°24.3 | 20°32.4 | 20°40.3 | 20°48.2 | 20°56.0 | 21°03.7 | 21°11.3 | 21°18.8 | 21°26.2 | 21°33.5 | 21°40.7 | +7.6 | 55.1 |
| Ve 3 | 259°19.8 | 273°48.7 | 288°17.6 | 302°46.4 | 317°15.1 | 331°43.7 | 346°12.3 | 0°40.8 | 15°09.3 | 29°37.6 | 44°06.0 | +28.6 | 15.1 |
| | 23°15.8 | 23°21.3 | 23°26.6 | 23°31.9 | 23°37.0 | 23°41.9 | 23°46.8 | 23°51.5 | 23°56.2 | 24°00.7 | 24°05.0 | +4.9 | 55.5 |
| Sa 4 | 261°04.4 | 275°31.9 | 289°59.3 | 304°26.7 | 318°54.1 | 333°21.4 | 347°48.7 | 2°16.0 | 16°43.2 | 31°10.4 | 45°37.5 | +27.3 | 15.3 |
| | 24°55.3 | 24°57.6 | 24°59.8 | 25°01.8 | 25°03.7 | 25°05.5 | 25°07.1 | 25°08.6 | 25°09.9 | 25°11.1 | 25°12.2 | +1.7 | 56.0 |
| Di 5 | 262°21.6 | 276°48.4 | 291°15.1 | 305°41.9 | 320°08.7 | 334°35.4 | 349°02.2 | 3°28.9 | 17°55.6 | 32°22.4 | 46°49.1 | +26.7 | 15.4 |
| | 25°11.2 | 25°10.0 | 25°08.6 | 25°07.2 | 25°05.5 | 25°03.7 | 25°01.8 | 24°59.7 | 24°57.5 | 24°55.2 | 24°52.7 | -1.9 | 56.5 |
| Lu 6 | 263°30.9 | 277°57.7 | 292°24.7 | 306°51.6 | 321°18.5 | 335°45.5 | 350°12.5 | 4°39.5 | 19°06.6 | 33°33.6 | 48°00.7 | +27.0 | 15.6 |
| | 23°58.0 | 23°53.2 | 23°48.3 | 23°43.2 | 23°38.0 | 23°32.7 | 23°27.2 | 23°21.6 | 23°15.8 | 23°09.9 | 23°03.9 | -5.4 | 57.1 |
| Ma 7 | 264°50.9 | 279°18.6 | 293°46.2 | 308°13.9 | 322°41.7 | 337°09.4 | 351°37.3 | 6°05.1 | 20°33.0 | 35°01.0 | 49°28.9 | +27.8 | 15.7 |
| | 21°17.6 | 21°09.5 | 21°01.3 | 20°52.9 | 20°44.4 | 20°35.8 | 20°27.0 | 20°18.2 | 20°09.2 | 20°00.1 | 19°50.9 | -8.7 | 57.7 |
| Me 8 | 266°33.6 | 281°02.2 | 295°30.9 | 309°59.6 | 324°28.3 | 338°57.1 | 353°26.0 | 7°54.8 | 22°23.7 | 36°52.7 | 51°21.7 | +28.8 | 15.9 |
| | 17°19.1 | 17°08.1 | 16°57.0 | 16°45.8 | 16°34.5 | 16°23.1 | 16°11.6 | 16°00.0 | 15°48.3 | 15°36.6 | 15°24.7 | -11.4 | 58.3 |
| ◑ Je 9 | 281°02.2 | 295°30.9 | 309°59.6 | 324°28.3 | 338°57.1 | 353°26.0 | 7°54.8 | 22°23.7 | 36°52.7 | 51°21.7 | 65°50.7 | +28.9 | 15.9 |
| | 17°08.1 | 16°57.0 | 16°45.8 | 16°34.5 | 16°23.1 | 16°11.6 | 16°00.0 | 15°48.3 | 15°36.6 | 15°24.7 | 15°12.7 | -11.5 | 58.3 |
| Ve 10 | 283°10.2 | 297°39.7 | 312°09.3 | 326°38.9 | 341°08.5 | 355°38.1 | 10°07.8 | 24°37.5 | 39°07.2 | 53°37.0 | 68°06.7 | +29.7 | 16.1 |
| | 12°02.8 | 11°49.5 | 11°36.2 | 11°22.7 | 11°09.2 | 10°55.6 | 10°41.9 | 10°28.2 | 10°14.4 | 10°00.6 | 9°46.6 | -13.6 | 58.9 |
| Sa 11 | 285°35.0 | 300°05.0 | 314°35.0 | 329°04.9 | 343°34.9 | 358°04.9 | 12°34.9 | 27°04.9 | 41°34.8 | 56°04.8 | 70°34.8 | +30.0 | 16.2 |
| | 6°10.9 | 5°56.1 | 5°41.3 | 5°26.5 | 5°11.6 | 4°56.6 | 4°41.6 | 4°26.6 | 4°11.6 | 3°56.5 | 3°41.4 | -15.0 | 59.4 |
| Di 12 | 288°03.3 | 302°33.0 | 317°02.8 | 331°32.5 | 346°02.2 | 0°31.9 | 15°01.5 | 29°31.2 | 44°00.8 | 58°30.3 | 72°59.9 | +29.7 | 16.3 |
| | -0°08.2 | -0°23.6 | -0°39.1 | -0°54.5 | -1°09.9 | -1°25.4 | -1°40.8 | -1°56.3 | -2°11.7 | -2°27.2 | -2°42.6 | -15.4 | 59.9 |
| Lu 13 | 290°18.5 | 304°47.4 | 319°16.2 | 333°45.0 | 348°13.8 | 2°42.5 | 17°11.1 | 31°39.7 | 46°08.3 | 60°36.8 | 75°05.2 | +28.7 | 16.4 |
| | -6°32.4 | -6°47.6 | -7°02.7 | -7°17.7 | -7°32.7 | -7°47.7 | -8°02.7 | -8°17.6 | -8°32.5 | -8°47.3 | -9°02.1 | -15.0 | 60.2 |
| Ma 14 | 292°04.6 | 306°32.1 | 320°59.5 | 335°26.8 | 349°54.1 | 4°21.3 | 18°48.4 | 33°15.4 | 47°42.4 | 62°09.3 | 76°36.2 | +27.2 | 16.4 |
| | -12°36.8 | -12°50.6 | -13°04.3 | -13°18.0 | -13°31.5 | -13°45.0 | -13°58.4 | -14°11.7 | -14°24.9 | -14°38.0 | -14°51.0 | -13.4 | 60.2 |
| Me 15 | 293°10.5 | 307°36.2 | 322°01.9 | 336°27.5 | 350°53.0 | 5°18.5 | 19°43.9 | 34°09.2 | 48°34.5 | 62°59.7 | 77°24.9 | +25.4 | 16.4 |
| | -17°54.4 | -18°05.7 | -18°16.9 | -18°28.0 | -18°39.0 | -18°49.9 | -19°00.6 | -19°11.2 | -19°21.7 | -19°32.0 | -19°42.2 | -10.8 | 60.1 |
| ● Je 16 | 293°35.0 | 307°59.2 | 322°23.4 | 336°47.6 | 351°11.7 | 5°35.8 | 19°59.9 | 34°23.9 | 48°47.8 | 63°11.8 | 77°35.7 | +24.1 | 16.3 |
| | -21°58.5 | -22°06.4 | -22°14.1 | -22°21.7 | -22°29.2 | -22°36.5 | -22°43.6 | -22°50.6 | -22°57.4 | -23°04.0 | -23°10.5 | -7.2 | 59.6 |
| Ve 17 | 293°31.5 | 307°55.1 | 322°18.7 | 336°42.3 | 351°06.0 | 5°29.6 | 19°53.2 | 34°16.9 | 48°40.6 | 63°04.3 | 77°27.9 | +23.6 | 16.1 |
| | -24°28.1 | -24°31.9 | -24°35.5 | -24°39.0 | -24°42.3 | -24°45.5 | -24°48.5 | -24°51.3 | -24°53.9 | -24°56.4 | -24°58.7 | -3.1 | 59.0 |
| Sa 18 | 293°26.8 | 307°51.0 | 322°15.3 | 336°39.7 | 351°04.1 | 5°28.5 | 19°53.0 | 34°17.6 | 48°42.2 | 63°06.9 | 77°31.7 | +24.5 | 15.9 |
| | -25°12.8 | -25°12.4 | -25°11.9 | -25°11.2 | -25°10.3 | -25°09.3 | -25°08.1 | -25°06.7 | -25°05.2 | -25°03.5 | -25°01.7 | +1.1 | 58.2 |
| Di 19 | 293°52.0 | 308°18.0 | 322°44.1 | 337°10.3 | 351°36.6 | 6°02.9 | 20°29.4 | 34°55.9 | 49°22.6 | 63°49.3 | 78°16.1 | +26.4 | 15.6 |
| | -24°16.1 | -24°11.9 | -24°07.5 | -24°03.0 | -23°58.4 | -23°53.7 | -23°48.8 | -23°43.8 | -23°38.6 | -23°33.3 | -23°27.9 | +4.8 | 57.3 |
| Lu 20 | 295°10.4 | 309°38.9 | 324°07.4 | 338°36.0 | 353°04.7 | 7°33.6 | 22°02.5 | 36°31.5 | 51°00.7 | 65°29.9 | 79°59.2 | +28.9 | 15.4 |
| | -21°52.2 | -21°44.9 | -21°37.5 | -21°30.0 | -21°22.4 | -21°14.7 | -21°06.8 | -20°58.9 | -20°50.9 | -20°42.8 | -20°34.6 | +7.8 | 56.5 |
| Ma 21 | 297°31.2 | 312°02.1 | 326°33.1 | 341°04.2 | 355°35.4 | 10°06.6 | 24°38.0 | 39°09.5 | 53°41.0 | 68°12.7 | 82°44.4 | +31.3 | 15.2 |
| | -18°20.9 | -18°11.3 | -18°01.7 | -17°51.9 | -17°42.2 | -17°32.3 | -17°22.4 | -17°12.4 | -17°02.3 | -16°52.2 | -16°42.0 | +9.9 | 55.7 |
| Me 22 | 300°50.4 | 315°23.4 | 329°56.5 | 344°29.7 | 359°03.0 | 13°36.3 | 28°09.7 | 42°43.2 | 57°16.7 | 71°50.3 | 86°24.0 | +33.4 | 15.0 |
| | -14°01.8 | -13°50.7 | -13°39.5 | -13°28.3 | -13°17.1 | -13°05.8 | -12°54.5 | -12°43.1 | -12°31.7 | -12°20.2 | -12°08.7 | +11.3 | 55.0 |
| Je 23 | 304°56.2 | 319°30.8 | 334°05.4 | 348°40.1 | 3°14.8 | 17°49.6 | 32°24.4 | 46°59.3 | 61°34.2 | 76°09.2 | 90°44.1 | +34.8 | 14.9 |
| | -9°11.7 | -8°59.7 | -8°47.6 | -8°35.5 | -8°23.4 | -8°11.2 | -7°59.0 | -7°46.8 | -7°34.6 | -7°22.4 | -7°10.1 | +12.2 | 54.5 |
| ◐ Ve 24 | 309°33.1 | 324°08.6 | 338°44.1 | 353°19.6 | 7°55.2 | 22°30.7 | 37°06.3 | 51°41.9 | 66°17.5 | 80°53.2 | 95°28.8 | +35.6 | 14.8 |
| | -4°04.0 | -3°51.5 | -3°38.9 | -3°26.4 | -3°13.9 | -3°01.3 | -2°48.7 | -2°36.2 | -2°23.6 | -2°11.0 | -1°58.4 | +12.6 | 54.2 |
| Sa 25 | 314°24.5 | 329°00.2 | 343°35.9 | 358°11.6 | 12°47.3 | 27°23.0 | 41°58.7 | 56°34.4 | 71°10.1 | 85°45.7 | 100°21.4 | +35.7 | 14.8 |
| | 1°10.5 | 1°23.1 | 1°35.7 | 1°48.2 | 2°00.8 | 2°13.4 | 2°25.9 | 2°38.5 | 2°51.0 | 3°03.5 | 3°16.0 | +12.6 | 54.1 |
| Di 26 | 319°13.9 | 333°49.2 | 348°24.5 | 2°59.8 | 17°35.0 | 32°10.2 | 46°45.3 | 61°20.4 | 75°55.5 | 90°30.6 | 105°05.6 | +35.2 | 14.8 |
| | 6°22.0 | 6°34.3 | 6°46.5 | 6°58.7 | 7°10.9 | 7°23.1 | 7°35.2 | 7°47.4 | 7°59.5 | 8°11.5 | 8°23.6 | +12.2 | 54.2 |
| Lu 27 | 323°45.7 | 338°19.9 | 352°54.2 | 7°28.4 | 22°02.5 | 36°36.6 | 51°10.6 | 65°44.6 | 80°18.5 | 94°52.3 | 109°26.1 | +34.0 | 14.8 |
| | 11°20.5 | 11°32.0 | 11°43.4 | 11°54.9 | 12°06.3 | 12°17.6 | 12°28.9 | 12°40.2 | 12°51.4 | 13°02.6 | 13°13.7 | +11.3 | 54.4 |
| Ma 28 | 327°45.3 | 342°18.0 | 356°50.7 | 11°23.3 | 25°55.8 | 40°28.3 | 55°00.6 | 69°32.9 | 84°05.2 | 98°37.3 | 113°09.4 | +32.4 | 14.9 |
| | 15°54.4 | 16°04.6 | 16°14.8 | 16°25.0 | 16°35.0 | 16°45.0 | 16°55.0 | 17°04.8 | 17°14.7 | 17°24.4 | 17°34.1 | +10.0 | 54.8 |
| Me 29 | 331°01.2 | 345°32.1 | 0°02.8 | 14°33.5 | 29°04.0 | 43°34.5 | 58°04.9 | 72°35.3 | 87°05.5 | 101°35.7 | 116°05.8 | +30.5 | 15.1 |
| | 19°50.0 | 19°58.4 | 20°06.7 | 20°15.0 | 20°23.1 | 20°31.2 | 20°39.1 | 20°47.0 | 20°54.8 | 21°02.5 | 21°10.0 | +8.0 | 55.2 |
| Je 30 | 333°27.5 | 347°56.3 | 2°25.1 | 16°53.7 | 31°22.3 | 45°50.9 | 60°19.3 | 74°47.7 | 89°16.0 | 103°44.2 | 118°12.4 | +28.5 | 15.2 |
| | 22°51.6 | 22°57.5 | 23°03.2 | 23°08.9 | 23°14.5 | 23°19.9 | 23°25.2 | 23°30.4 | 23°35.5 | 23°40.5 | 23°45.3 | +5.4 | 55.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 2 09h17 — DQ: 9 21h25 — NL: 16 13h18 — PQ: 24 00h14

# SOLEIL

## Décembre 2028

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 272°43.1 | 287°42.8 | 302°42.6 | 317°42.4 | 332°42.1 | 347°41.9 | 2°41.6 | 17°41.4 | 32°41.2 | 47°40.9 | 62°40.7 | 77°40.5 | -0.2 |
| | -21°53.0 | -21°53.4 | -21°53.8 | -21°54.1 | -21°54.5 | -21°54.9 | -21°55.3 | -21°55.6 | -21°56.0 | -21°56.4 | -21°56.7 | -21°57.1 | -0.4 |
| Sa 2 | 272°37.3 | 287°37.1 | 302°36.9 | 317°36.6 | 332°36.4 | 347°36.1 | 2°35.9 | 17°35.6 | 32°35.4 | 47°35.2 | 62°34.9 | 77°34.7 | -0.2 |
| | -22°01.9 | -22°02.2 | -22°02.6 | -22°03.0 | -22°03.3 | -22°03.7 | -22°04.0 | -22°04.4 | -22°04.7 | -22°05.1 | -22°05.5 | -22°05.8 | -0.4 |
| Di 3 | 272°31.5 | 287°31.2 | 302°31.0 | 317°30.7 | 332°30.5 | 347°30.2 | 2°30.0 | 17°29.7 | 32°29.5 | 47°29.2 | 62°29.0 | 77°28.7 | -0.2 |
| | -22°10.3 | -22°10.7 | -22°11.0 | -22°11.4 | -22°11.7 | -22°12.0 | -22°12.4 | -22°12.7 | -22°13.1 | -22°13.4 | -22°13.7 | -22°14.1 | -0.3 |
| Lu 4 | 272°25.5 | 287°25.2 | 302°24.9 | 317°24.7 | 332°24.4 | 347°24.2 | 2°23.9 | 17°23.7 | 32°23.4 | 47°23.2 | 62°22.9 | 77°22.7 | -0.3 |
| | -22°18.4 | -22°18.7 | -22°19.0 | -22°19.3 | -22°19.7 | -22°20.0 | -22°20.3 | -22°20.6 | -22°21.0 | -22°21.3 | -22°21.6 | -22°21.9 | -0.3 |
| Ma 5 | 272°19.3 | 287°19.0 | 302°18.8 | 317°18.5 | 332°18.3 | 347°18.0 | 2°17.7 | 17°17.5 | 32°17.2 | 47°16.9 | 62°16.7 | 77°16.4 | -0.3 |
| | -22°26.0 | -22°26.3 | -22°26.6 | -22°26.9 | -22°27.2 | -22°27.5 | -22°27.8 | -22°28.1 | -22°28.4 | -22°28.7 | -22°29.0 | -22°29.3 | -0.3 |
| Me 6 | 272°13.0 | 287°12.7 | 302°12.5 | 317°12.2 | 332°11.9 | 347°11.7 | 2°11.4 | 17°11.1 | 32°10.9 | 47°10.6 | 62°10.3 | 77°10.1 | -0.3 |
| | -22°33.1 | -22°33.4 | -22°33.7 | -22°34.0 | -22°34.3 | -22°34.6 | -22°34.9 | -22°35.2 | -22°35.4 | -22°35.7 | -22°36.0 | -22°36.3 | -0.3 |
| Je 7 | 272°06.6 | 287°06.3 | 302°06.0 | 317°05.7 | 332°05.5 | 347°05.2 | 2°04.9 | 17°04.7 | 32°04.4 | 47°04.1 | 62°03.8 | 77°03.6 | -0.3 |
| | -22°39.9 | -22°40.1 | -22°40.4 | -22°40.7 | -22°40.9 | -22°41.2 | -22°41.5 | -22°41.7 | -22°42.0 | -22°42.3 | -22°42.5 | -22°42.8 | -0.3 |
| Ve 8 | 272°00.0 | 286°59.7 | 301°59.5 | 316°59.2 | 331°58.9 | 346°58.6 | 1°58.3 | 16°58.1 | 31°57.8 | 46°57.5 | 61°57.2 | 76°57.0 | -0.3 |
| | -22°46.2 | -22°46.4 | -22°46.7 | -22°46.9 | -22°47.2 | -22°47.4 | -22°47.7 | -22°47.9 | -22°48.1 | -22°48.4 | -22°48.6 | -22°48.9 | -0.2 |
| Sa 9 | 271°53.3 | 286°53.0 | 301°52.8 | 316°52.5 | 331°52.2 | 346°51.9 | 1°51.6 | 16°51.4 | 31°51.1 | 46°50.8 | 61°50.5 | 76°50.2 | -0.3 |
| | -22°52.0 | -22°52.2 | -22°52.5 | -22°52.7 | -22°52.9 | -22°53.1 | -22°53.4 | -22°53.6 | -22°53.8 | -22°54.1 | -22°54.3 | -22°54.5 | -0.2 |
| Di 10 | 271°46.5 | 286°46.2 | 301°46.0 | 316°45.7 | 331°45.4 | 346°45.1 | 1°44.8 | 16°44.5 | 31°44.2 | 46°44.0 | 61°43.7 | 76°43.4 | -0.3 |
| | -22°57.4 | -22°57.6 | -22°57.8 | -22°58.0 | -22°58.2 | -22°58.4 | -22°58.6 | -22°58.9 | -22°59.1 | -22°59.3 | -22°59.5 | -22°59.7 | -0.2 |
| Lu 11 | 271°39.6 | 286°39.3 | 301°39.1 | 316°38.8 | 331°38.5 | 346°38.2 | 1°37.9 | 16°37.6 | 31°37.3 | 46°37.0 | 61°36.7 | 76°36.4 | -0.3 |
| | -23°02.3 | -23°02.5 | -23°02.7 | -23°02.9 | -23°03.1 | -23°03.3 | -23°03.5 | -23°03.7 | -23°03.8 | -23°04.0 | -23°04.2 | -23°04.4 | -0.2 |
| Ma 12 | 271°32.6 | 286°32.3 | 301°32.1 | 316°31.8 | 331°31.5 | 346°31.2 | 1°30.9 | 16°30.6 | 31°30.3 | 46°30.0 | 61°29.7 | 76°29.4 | -0.3 |
| | -23°06.8 | -23°07.0 | -23°07.1 | -23°07.3 | -23°07.5 | -23°07.6 | -23°07.8 | -23°08.0 | -23°08.2 | -23°08.3 | -23°08.5 | -23°08.7 | -0.2 |
| Me 13 | 271°25.6 | 286°25.3 | 301°25.0 | 316°24.7 | 331°24.4 | 346°24.1 | 1°23.8 | 16°23.5 | 31°23.2 | 46°22.9 | 61°22.6 | 76°22.3 | -0.3 |
| | -23°10.8 | -23°10.9 | -23°11.1 | -23°11.3 | -23°11.4 | -23°11.6 | -23°11.7 | -23°11.9 | -23°12.0 | -23°12.2 | -23°12.3 | -23°12.5 | -0.2 |
| Je 14 | 271°18.4 | 286°18.1 | 301°17.8 | 316°17.5 | 331°17.2 | 346°16.9 | 1°16.6 | 16°16.3 | 31°16.0 | 46°15.7 | 61°15.4 | 76°15.1 | -0.3 |
| | -23°14.3 | -23°14.5 | -23°14.6 | -23°14.8 | -23°14.9 | -23°15.0 | -23°15.2 | -23°15.3 | -23°15.4 | -23°15.6 | -23°15.7 | -23°15.8 | -0.1 |
| Ve 15 | 271°11.2 | 286°10.9 | 301°10.5 | 316°10.2 | 331°09.9 | 346°09.6 | 1°09.3 | 16°09.0 | 31°08.7 | 46°08.4 | 61°08.1 | 76°07.8 | -0.3 |
| | -23°17.4 | -23°17.5 | -23°17.7 | -23°17.8 | -23°17.9 | -23°18.0 | -23°18.1 | -23°18.2 | -23°18.4 | -23°18.5 | -23°18.6 | -23°18.7 | -0.1 |
| Sa 16 | 271°03.9 | 286°03.6 | 301°03.2 | 316°02.9 | 331°02.6 | 346°02.3 | 1°02.0 | 16°01.7 | 31°01.4 | 46°01.1 | 61°00.8 | 76°00.5 | -0.3 |
| | -23°20.1 | -23°20.2 | -23°20.3 | -23°20.3 | -23°20.4 | -23°20.5 | -23°20.6 | -23°20.7 | -23°20.8 | -23°20.9 | -23°21.0 | -23°21.1 | -0.1 |
| Di 17 | 270°56.5 | 285°56.2 | 300°55.9 | 315°55.6 | 330°55.3 | 345°55.0 | 0°54.7 | 15°54.4 | 30°54.0 | 45°53.7 | 60°53.4 | 75°53.1 | -0.3 |
| | -23°22.2 | -23°22.3 | -23°22.4 | -23°22.4 | -23°22.5 | -23°22.6 | -23°22.7 | -23°22.8 | -23°22.8 | -23°22.9 | -23°23.0 | -23°23.0 | -0.1 |
| Lu 18 | 270°49.1 | 285°48.8 | 300°48.5 | 315°48.2 | 330°47.9 | 345°47.6 | 0°47.3 | 15°47.0 | 30°46.6 | 45°46.3 | 60°46.0 | 75°45.7 | -0.3 |
| | -23°23.9 | -23°24.0 | -23°24.0 | -23°24.1 | -23°24.1 | -23°24.2 | -23°24.2 | -23°24.3 | -23°24.4 | -23°24.4 | -23°24.5 | -23°24.5 | -0.1 |
| Ma 19 | 270°41.7 | 285°41.4 | 300°41.1 | 315°40.8 | 330°40.5 | 345°40.1 | 0°39.8 | 15°39.5 | 30°39.2 | 45°38.9 | 60°38.6 | 75°38.3 | -0.3 |
| | -23°25.1 | -23°25.2 | -23°25.2 | -23°25.2 | -23°25.3 | -23°25.3 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.5 | -23°25.5 | -23°25.5 | -0.0 |
| Me 20 | 270°34.2 | 285°33.9 | 300°33.6 | 315°33.3 | 330°33.0 | 345°32.7 | 0°32.4 | 15°32.1 | 30°31.8 | 45°31.4 | 60°31.1 | 75°30.8 | -0.3 |
| | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.1 | -0.0 |
| Je 21 | 270°26.8 | 285°26.5 | 300°26.2 | 315°25.8 | 330°25.5 | 345°25.2 | 0°24.9 | 15°24.6 | 30°24.3 | 45°24.0 | 60°23.7 | 75°23.4 | -0.3 |
| | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.2 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | +0.0 |
| Ve 22 | 270°19.3 | 285°19.0 | 300°18.7 | 315°18.4 | 330°18.1 | 345°17.8 | 0°17.4 | 15°17.1 | 30°16.8 | 45°16.5 | 60°16.2 | 75°15.9 | -0.3 |
| | -23°26.0 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.7 | -23°25.7 | +0.0 |
| Sa 23 | 270°11.9 | 285°11.5 | 300°11.2 | 315°10.9 | 330°10.6 | 345°10.3 | 0°10.0 | 15°09.7 | 30°09.4 | 45°09.1 | 60°08.7 | 75°08.4 | -0.3 |
| | -23°25.3 | -23°25.3 | -23°25.2 | -23°25.2 | -23°25.1 | -23°25.1 | -23°25.1 | -23°25.0 | -23°25.0 | -23°24.9 | -23°24.9 | -23°24.8 | +0.0 |
| Di 24 | 270°04.4 | 285°04.1 | 300°03.8 | 315°03.5 | 330°03.2 | 345°02.9 | 0°02.5 | 15°02.2 | 30°01.9 | 45°01.6 | 60°01.3 | 75°01.0 | -0.3 |
| | -23°24.2 | -23°24.1 | -23°24.1 | -23°24.0 | -23°23.9 | -23°23.9 | -23°23.8 | -23°23.7 | -23°23.7 | -23°23.6 | -23°23.6 | -23°23.5 | +0.1 |
| Lu 25 | 269°57.0 | 284°56.7 | 299°56.4 | 314°56.0 | 329°55.7 | 344°55.4 | 359°55.1 | 14°54.8 | 29°54.5 | 44°54.2 | 59°53.9 | 74°53.6 | -0.3 |
| | -23°22.6 | -23°22.5 | -23°22.4 | -23°22.3 | -23°22.3 | -23°22.2 | -23°22.1 | -23°22.0 | -23°21.9 | -23°21.8 | -23°21.8 | -23°21.7 | +0.1 |
| Ma 26 | 269°49.6 | 284°49.3 | 299°49.0 | 314°48.6 | 329°48.3 | 344°48.0 | 359°47.7 | 14°47.4 | 29°47.1 | 44°46.8 | 59°46.5 | 74°46.2 | -0.3 |
| | -23°20.5 | -23°20.4 | -23°20.3 | -23°20.2 | -23°20.1 | -23°20.0 | -23°19.9 | -23°19.8 | -23°19.7 | -23°19.6 | -23°19.5 | -23°19.4 | +0.1 |
| Me 27 | 269°42.2 | 284°41.9 | 299°41.6 | 314°41.3 | 329°41.0 | 344°40.7 | 359°40.4 | 14°40.1 | 29°39.8 | 44°39.5 | 59°39.1 | 74°38.8 | -0.3 |
| | -23°18.0 | -23°17.8 | -23°17.7 | -23°17.6 | -23°17.5 | -23°17.4 | -23°17.2 | -23°17.1 | -23°17.0 | -23°16.9 | -23°16.8 | -23°16.6 | +0.1 |
| Je 28 | 269°34.9 | 284°34.6 | 299°34.3 | 314°34.0 | 329°33.7 | 344°33.4 | 359°33.1 | 14°32.8 | 29°32.5 | 44°32.2 | 59°31.9 | 74°31.5 | -0.3 |
| | -23°14.9 | -23°14.8 | -23°14.7 | -23°14.5 | -23°14.4 | -23°14.3 | -23°14.1 | -23°14.0 | -23°13.8 | -23°13.7 | -23°13.6 | -23°13.4 | +0.1 |
| Ve 29 | 269°27.6 | 284°27.3 | 299°27.0 | 314°26.7 | 329°26.4 | 344°26.1 | 359°25.8 | 14°25.5 | 29°25.2 | 44°24.9 | 59°24.6 | 74°24.3 | -0.3 |
| | -23°11.5 | -23°11.3 | -23°11.2 | -23°11.0 | -23°10.9 | -23°10.7 | -23°10.5 | -23°10.4 | -23°10.2 | -23°10.1 | -23°09.9 | -23°09.7 | +0.2 |
| Sa 30 | 269°20.4 | 284°20.1 | 299°19.8 | 314°19.5 | 329°19.2 | 344°18.9 | 359°18.6 | 14°18.3 | 29°18.0 | 44°17.7 | 59°17.4 | 74°17.1 | -0.3 |
| | -23°07.5 | -23°07.4 | -23°07.2 | -23°07.0 | -23°06.8 | -23°06.7 | -23°06.5 | -23°06.3 | -23°06.1 | -23°05.9 | -23°05.8 | -23°05.6 | +0.2 |
| Di 31 | 269°13.3 | 284°13.0 | 299°12.7 | 314°12.4 | 329°12.1 | 344°11.8 | 359°11.5 | 14°11.2 | 29°10.9 | 44°10.6 | 59°10.3 | 74°10.0 | -0.3 |
| | -23°03.1 | -23°03.0 | -23°02.8 | -23°02.6 | -23°02.4 | -23°02.2 | -23°02.0 | -23°01.8 | -23°01.6 | -23°01.4 | -23°01.2 | -23°01.0 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Décembre 2028

| J | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 248°22.7 | 262°50.2 | 277°17.7 | 291°45.0 | 306°12.3 | 320°39.6 | 335°06.8 | 349°34.0 | 4°01.1 | 18°28.1 | 32°55.1 | +27.2 | 15.3 |
| | 24°23.3 | 24°26.8 | 24°30.3 | 24°33.6 | 24°36.7 | 24°39.8 | 24°42.7 | 24°45.5 | 24°48.1 | 24°50.6 | 24°52.9 | +3.0 | 56.2 |
| ○ Sa 2 | 249°34.7 | 264°01.1 | 278°27.4 | 292°53.7 | 307°20.0 | 321°46.3 | 336°12.5 | 350°38.7 | 5°04.9 | 19°31.1 | 33°57.3 | +26.3 | 15.5 |
| | 25°11.4 | 25°11.5 | 25°11.4 | 25°11.2 | 25°10.8 | 25°10.3 | 25°09.6 | 25°08.8 | 25°07.9 | 25°06.8 | 25°05.5 | -0.6 | 56.7 |
| Di 3 | 250°29.2 | 264°55.4 | 279°21.5 | 293°47.7 | 308°13.9 | 322°40.1 | 337°06.3 | 351°32.6 | 5°58.8 | 20°25.1 | 34°51.4 | +26.2 | 15.6 |
| | 24°29.0 | 24°25.3 | 24°21.6 | 24°17.6 | 24°13.6 | 24°09.4 | 24°05.0 | 24°00.5 | 23°55.9 | 23°51.1 | 23°46.1 | -4.3 | 57.3 |
| Lu 4 | 251°29.5 | 265°56.3 | 280°23.2 | 294°50.1 | 309°17.0 | 323°44.0 | 338°11.1 | 352°38.1 | 7°05.3 | 21°32.4 | 35°59.6 | +27.0 | 15.7 |
| | 22°15.2 | 22°08.1 | 22°00.8 | 21°53.3 | 21°45.8 | 21°38.1 | 21°30.3 | 21°22.3 | 21°14.3 | 21°06.1 | 20°57.7 | -7.8 | 57.7 |
| Ma 5 | 252°53.8 | 267°21.8 | 281°49.9 | 296°18.0 | 310°46.2 | 325°14.5 | 339°42.7 | 354°11.1 | 8°39.5 | 23°07.9 | 37°36.4 | +28.3 | 15.9 |
| | 18°38.4 | 18°28.2 | 18°17.8 | 18°07.4 | 17°56.9 | 17°46.2 | 17°35.5 | 17°24.7 | 17°13.7 | 17°02.7 | 16°51.5 | -10.7 | 58.2 |
| Me 6 | 254°49.8 | 269°19.1 | 283°48.4 | 298°17.8 | 312°47.2 | 327°16.7 | 341°46.2 | 356°15.7 | 10°45.3 | 25°15.0 | 39°44.6 | +29.5 | 16.0 |
| | 13°53.2 | 13°40.7 | 13°28.0 | 13°15.3 | 13°02.5 | 12°49.6 | 12°36.6 | 12°23.6 | 12°10.5 | 11°57.4 | 11°44.1 | -12.9 | 58.5 |
| Je 7 | 257°14.1 | 271°44.3 | 286°14.6 | 300°44.8 | 315°15.1 | 329°45.4 | 344°15.8 | 358°46.1 | 13°16.5 | 27°46.9 | 42°17.3 | +30.3 | 16.0 |
| | 8°18.2 | 8°04.0 | 7°49.8 | 7°35.6 | 7°21.3 | 7°06.9 | 6°52.6 | 6°38.1 | 6°23.7 | 6°09.2 | 5°54.6 | -14.4 | 58.8 |
| Ve 8 | 259°55.1 | 274°25.7 | 288°56.2 | 303°26.8 | 317°57.4 | 332°27.9 | 346°58.5 | 1°29.0 | 15°59.6 | 30°30.1 | 45°00.7 | +30.6 | 16.1 |
| | 2°13.0 | 1°58.1 | 1°43.1 | 1°28.1 | 1°13.1 | 0°58.1 | 0°43.1 | 0°28.1 | 0°13.1 | -0°01.9 | -0°17.0 | -15.0 | 59.1 |
| ◑ Sa 9 | 274°25.7 | 288°56.2 | 303°26.8 | 317°57.4 | 332°27.9 | 346°58.5 | 1°29.0 | 15°59.6 | 30°30.1 | 45°00.7 | 59°31.2 | +30.6 | 16.1 |
| | 1°58.1 | 1°43.1 | 1°28.1 | 1°13.1 | 0°58.1 | 0°43.1 | 0°28.1 | 0°13.1 | -0°01.9 | -0°17.0 | -0°32.0 | -15.0 | 59.1 |
| Di 10 | 277°06.9 | 291°37.1 | 306°07.3 | 320°37.5 | 335°07.6 | 349°37.6 | 4°07.7 | 18°37.7 | 33°07.7 | 47°37.6 | 62°07.5 | +30.1 | 16.2 |
| | -4°17.0 | -4°31.9 | -4°46.7 | -5°01.6 | -5°16.4 | -5°31.2 | -5°46.0 | -6°00.8 | -6°15.5 | -6°30.2 | -6°44.8 | -14.8 | 59.3 |
| Lu 11 | 279°30.7 | 293°59.8 | 308°28.9 | 322°58.0 | 337°26.9 | 351°55.9 | 6°24.7 | 20°53.5 | 35°22.3 | 49°51.0 | 64°19.6 | +28.9 | 16.2 |
| | -10°19.9 | -10°33.9 | -10°47.8 | -11°01.6 | -11°15.4 | -11°29.1 | -11°42.8 | -11°56.4 | -12°09.9 | -12°23.3 | -12°36.7 | -13.7 | 59.4 |
| Ma 12 | 281°21.4 | 295°49.0 | 310°16.5 | 324°44.0 | 339°11.3 | 353°38.7 | 8°05.9 | 22°33.1 | 37°00.2 | 51°27.2 | 65°54.1 | +27.3 | 16.2 |
| | -15°48.3 | -16°00.4 | -16°12.4 | -16°24.3 | -16°36.0 | -16°47.7 | -16°59.3 | -17°10.8 | -17°22.2 | -17°33.5 | -17°44.7 | -11.6 | 59.3 |
| Me 13 | 282°30.2 | 296°56.1 | 311°21.9 | 325°47.6 | 340°13.3 | 354°38.9 | 9°04.4 | 23°29.9 | 37°55.3 | 52°20.7 | 66°46.0 | +25.6 | 16.1 |
| | -20°18.6 | -20°27.9 | -20°37.0 | -20°46.1 | -20°55.0 | -21°03.7 | -21°12.3 | -21°20.8 | -21°29.1 | -21°37.4 | -21°45.4 | -8.7 | 59.1 |
| Je 14 | 282°59.4 | 297°23.9 | 311°48.4 | 326°12.9 | 340°37.3 | 355°01.7 | 9°26.1 | 23°50.4 | 38°14.7 | 52°39.0 | 67°03.3 | +24.4 | 16.0 |
| | -23°28.9 | -23°34.5 | -23°40.1 | -23°45.4 | -23°50.7 | -23°55.7 | -24°00.6 | -24°05.3 | -24°09.9 | -24°14.3 | -24°18.6 | -5.0 | 58.8 |
| Ve 15 | 283°05.9 | 297°30.0 | 311°54.2 | 326°18.4 | 340°42.6 | 355°06.8 | 9°31.0 | 23°55.3 | 38°19.6 | 52°43.9 | 67°08.2 | +24.2 | 15.9 |
| | -25°02.8 | -25°04.4 | -25°05.9 | -25°07.2 | -25°08.3 | -25°09.3 | -25°10.1 | -25°10.7 | -25°11.2 | -25°11.5 | -25°11.7 | -0.9 | 58.3 |
| ● Sa 16 | 283°17.8 | 297°42.8 | 312°07.9 | 326°33.0 | 340°58.2 | 355°23.5 | 9°48.8 | 24°14.2 | 38°39.7 | 53°05.2 | 67°30.9 | +25.3 | 15.7 |
| | -24°54.7 | -24°52.3 | -24°49.7 | -24°47.0 | -24°44.2 | -24°41.2 | -24°38.0 | -24°34.7 | -24°31.3 | -24°27.7 | -24°23.9 | +3.1 | 57.7 |
| Di 17 | 284°04.3 | 298°31.2 | 312°58.2 | 327°25.3 | 341°52.5 | 356°19.8 | 10°47.1 | 25°14.6 | 39°42.1 | 54°09.8 | 68°37.5 | +27.3 | 15.5 |
| | -23°11.0 | -23°05.1 | -22°59.0 | -22°52.9 | -22°46.6 | -22°40.1 | -22°33.6 | -22°26.9 | -22°20.2 | -22°13.3 | -22°06.2 | +6.5 | 57.0 |
| Lu 18 | 285°45.1 | 300°14.4 | 314°43.7 | 329°13.2 | 343°42.8 | 358°12.5 | 12°42.2 | 27°12.1 | 41°42.1 | 56°12.1 | 70°42.3 | +29.7 | 15.4 |
| | -20°08.0 | -19°59.3 | -19°50.5 | -19°41.7 | -19°32.7 | -19°23.6 | -19°14.5 | -19°05.3 | -18°56.0 | -18°46.6 | -18°37.1 | +9.1 | 56.3 |
| Ma 19 | 288°25.6 | 302°57.2 | 317°28.9 | 332°00.7 | 346°32.6 | 1°04.5 | 15°36.6 | 30°08.7 | 44°40.9 | 59°13.2 | 73°45.6 | +32.0 | 15.2 |
| | -16°05.8 | -15°55.1 | -15°44.5 | -15°33.7 | -15°22.9 | -15°12.0 | -15°01.1 | -14°50.1 | -14°39.0 | -14°27.9 | -14°16.8 | +10.9 | 55.6 |
| Me 20 | 292°00.1 | 306°33.6 | 321°07.2 | 335°40.9 | 350°14.6 | 4°48.4 | 19°22.2 | 33°56.2 | 48°30.1 | 63°04.2 | 77°38.2 | +33.8 | 15.0 |
| | -11°23.9 | -11°12.0 | -11°00.1 | -10°48.2 | -10°36.2 | -10°24.2 | -10°12.2 | -10°00.2 | -9°48.1 | -9°35.9 | -9°23.8 | +12.0 | 55.0 |
| Je 21 | 296°15.8 | 310°50.6 | 325°25.5 | 340°00.5 | 354°35.5 | 9°10.5 | 23°45.5 | 38°20.6 | 52°55.8 | 67°30.9 | 82°06.1 | +35.0 | 14.9 |
| | -6°18.7 | -6°06.2 | -5°53.7 | -5°41.2 | -5°28.7 | -5°16.1 | -5°03.6 | -4°51.0 | -4°38.4 | -4°25.8 | -4°13.2 | +12.6 | 54.6 |
| Ve 22 | 300°57.0 | 315°32.6 | 330°08.1 | 344°43.7 | 359°19.3 | 13°54.9 | 28°30.5 | 43°06.1 | 57°41.8 | 72°17.4 | 86°53.0 | +35.6 | 14.8 |
| | -1°03.5 | -0°50.9 | -0°38.2 | -0°25.6 | -0°12.9 | -0°00.3 | 0°12.4 | 0°25.0 | 0°37.6 | 0°50.3 | 1°02.9 | +12.6 | 54.3 |
| ◐ Sa 23 | 305°47.4 | 320°23.0 | 334°58.6 | 349°34.1 | 4°09.6 | 18°45.1 | 33°20.6 | 47°56.1 | 62°31.6 | 77°07.0 | 91°42.4 | +35.5 | 14.8 |
| | 4°11.0 | 4°23.4 | 4°35.8 | 4°48.2 | 5°00.6 | 5°13.0 | 5°25.3 | 5°37.6 | 5°49.9 | 6°02.2 | 6°14.5 | +12.3 | 54.2 |
| Di 24 | 310°30.5 | 325°05.4 | 339°40.4 | 354°15.2 | 8°50.0 | 23°24.8 | 37°59.6 | 52°34.3 | 67°08.9 | 81°43.5 | 96°18.1 | +34.8 | 14.8 |
| | 9°15.2 | 9°27.0 | 9°38.8 | 9°50.6 | 10°02.3 | 10°14.0 | 10°25.6 | 10°37.2 | 10°48.8 | 11°00.4 | 11°11.9 | +11.7 | 54.2 |
| Lu 25 | 314°50.5 | 329°24.2 | 343°57.8 | 358°31.4 | 13°04.9 | 27°38.4 | 42°11.8 | 56°45.1 | 71°18.4 | 85°51.6 | 100°24.7 | +33.4 | 14.9 |
| | 13°59.2 | 14°10.0 | 14°20.7 | 14°31.4 | 14°42.0 | 14°52.6 | 15°03.1 | 15°13.6 | 15°24.0 | 15°34.3 | 15°44.6 | +10.5 | 54.5 |
| Ma 26 | 318°33.0 | 333°05.0 | 347°36.9 | 2°08.6 | 16°40.4 | 31°12.0 | 45°43.6 | 60°15.0 | 74°46.4 | 89°17.7 | 103°49.0 | +31.6 | 15.0 |
| | 18°11.4 | 18°20.6 | 18°29.8 | 18°38.8 | 18°47.9 | 18°56.8 | 19°05.6 | 19°14.4 | 19°23.1 | 19°31.7 | 19°40.3 | +8.9 | 54.9 |
| Me 27 | 321°27.4 | 335°57.2 | 350°27.0 | 4°56.7 | 19°26.4 | 33°55.9 | 48°25.4 | 62°54.7 | 77°24.0 | 91°53.2 | 106°22.3 | +29.5 | 15.1 |
| | 21°37.8 | 21°44.9 | 21°51.9 | 21°58.8 | 22°05.5 | 22°12.2 | 22°18.8 | 22°25.3 | 22°31.6 | 22°37.9 | 22°44.0 | +6.6 | 55.5 |
| Je 28 | 323°29.2 | 337°57.1 | 352°24.8 | 6°52.5 | 21°20.1 | 35°47.6 | 50°15.1 | 64°42.5 | 79°09.8 | 93°37.0 | 108°04.2 | +27.5 | 15.3 |
| | 24°02.6 | 24°06.8 | 24°11.0 | 24°15.0 | 24°18.9 | 24°22.7 | 24°26.3 | 24°29.8 | 24°33.2 | 24°36.4 | 24°39.5 | +3.7 | 56.2 |
| Ve 29 | 324°44.5 | 339°10.8 | 353°37.0 | 8°03.1 | 22°29.3 | 36°55.3 | 51°21.4 | 65°47.4 | 80°13.3 | 94°39.2 | 109°05.1 | +26.1 | 15.5 |
| | 25°09.5 | 25°10.4 | 25°11.1 | 25°11.7 | 25°12.1 | 25°12.4 | 25°12.5 | 25°12.5 | 25°12.3 | 25°12.0 | 25°11.5 | +0.2 | 56.9 |
| Sa 30 | 325°30.3 | 339°55.9 | 354°21.4 | 8°47.0 | 23°12.5 | 37°38.0 | 52°03.6 | 66°29.1 | 80°54.6 | 95°20.2 | 109°45.7 | +25.5 | 15.7 |
| | 24°46.1 | 24°43.2 | 24°40.2 | 24°36.9 | 24°33.6 | 24°30.0 | 24°26.4 | 24°22.5 | 24°18.5 | 24°14.4 | 24°10.1 | -3.6 | 57.6 |
| ○ Di 31 | 326°10.8 | 340°36.6 | 355°02.5 | 9°28.4 | 23°54.4 | 38°20.4 | 52°46.4 | 67°12.4 | 81°38.5 | 96°04.7 | 110°30.8 | +26.0 | 15.9 |
| | 22°47.7 | 22°41.0 | 22°34.2 | 22°27.2 | 22°20.1 | 22°12.8 | 22°05.5 | 21°57.9 | 21°50.3 | 21°42.5 | 21°34.5 | -7.3 | 58.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24

PL: 2 01h40 — DQ: 9 05h38 — NL: 16 02h06 — PQ: 23 21h44 — PL: 31 16h48

# SOLEIL

## Janvier 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 269°06.2 | 284°05.9 | 299°05.6 | 314°05.3 | 329°05.0 | 344°04.7 | 359°04.5 | 14°04.2 | 29°03.9 | 44°03.6 | 59°03.3 | 74°03.0 | -0.3 |
| | -22°58.3 | -22°58.1 | -22°57.9 | -22°57.7 | -22°57.4 | -22°57.2 | -22°57.0 | -22°56.8 | -22°56.6 | -22°56.4 | -22°56.1 | -22°55.9 | +0.2 |
| **Ma 2** | 268°59.2 | 283°58.9 | 298°58.6 | 313°58.4 | 328°58.1 | 343°57.8 | 358°57.5 | 13°57.2 | 28°56.9 | 43°56.6 | 58°56.3 | 73°56.1 | -0.3 |
| | -22°53.0 | -22°52.7 | -22°52.5 | -22°52.3 | -22°52.1 | -22°51.8 | -22°51.6 | -22°51.3 | -22°51.1 | -22°50.9 | -22°50.6 | -22°50.4 | +0.2 |
| **Me 3** | 268°52.3 | 283°52.0 | 298°51.8 | 313°51.5 | 328°51.2 | 343°50.9 | 358°50.6 | 13°50.3 | 28°50.0 | 43°49.8 | 58°49.5 | 73°49.2 | -0.3 |
| | -22°47.2 | -22°47.0 | -22°46.7 | -22°46.5 | -22°46.2 | -22°46.0 | -22°45.7 | -22°45.4 | -22°45.2 | -22°44.9 | -22°44.7 | -22°44.4 | +0.3 |
| **Je 4** | 268°45.5 | 283°45.2 | 298°45.0 | 313°44.7 | 328°44.4 | 343°44.1 | 358°43.8 | 13°43.6 | 28°43.3 | 43°43.0 | 58°42.7 | 73°42.4 | -0.3 |
| | -22°41.0 | -22°40.7 | -22°40.5 | -22°40.2 | -22°39.9 | -22°39.6 | -22°39.4 | -22°39.1 | -22°38.8 | -22°38.5 | -22°38.3 | -22°38.0 | +0.3 |
| **Ve 5** | 268°38.8 | 283°38.5 | 298°38.3 | 313°38.0 | 328°37.7 | 343°37.4 | 358°37.2 | 13°36.9 | 28°36.6 | 43°36.3 | 58°36.1 | 73°35.8 | -0.3 |
| | -22°34.3 | -22°34.0 | -22°33.7 | -22°33.5 | -22°33.2 | -22°32.9 | -22°32.6 | -22°32.3 | -22°32.0 | -22°31.7 | -22°31.4 | -22°31.1 | +0.3 |
| **Sa 6** | 268°32.2 | 283°32.0 | 298°31.7 | 313°31.4 | 328°31.1 | 343°30.9 | 358°30.6 | 13°30.3 | 28°30.1 | 43°29.8 | 58°29.5 | 73°29.2 | -0.3 |
| | -22°27.2 | -22°26.9 | -22°26.6 | -22°26.3 | -22°26.0 | -22°25.7 | -22°25.4 | -22°25.0 | -22°24.7 | -22°24.4 | -22°24.1 | -22°23.8 | +0.3 |
| **Di 7** | 268°25.7 | 283°25.5 | 298°25.2 | 313°24.9 | 328°24.7 | 343°24.4 | 358°24.1 | 13°23.9 | 28°23.6 | 43°23.3 | 58°23.1 | 73°22.8 | -0.3 |
| | -22°19.6 | -22°19.3 | -22°19.0 | -22°18.7 | -22°18.3 | -22°18.0 | -22°17.7 | -22°17.3 | -22°17.0 | -22°16.7 | -22°16.4 | -22°16.0 | +0.3 |
| **Lu 8** | 268°19.4 | 283°19.1 | 298°18.9 | 313°18.6 | 328°18.3 | 343°18.1 | 358°17.8 | 13°17.5 | 28°17.3 | 43°17.0 | 58°16.8 | 73°16.5 | -0.3 |
| | -22°11.6 | -22°11.3 | -22°10.9 | -22°10.6 | -22°10.3 | -22°09.9 | -22°09.6 | -22°09.2 | -22°08.9 | -22°08.5 | -22°08.2 | -22°07.8 | +0.3 |
| **Ma 9** | 268°13.1 | 283°12.9 | 298°12.6 | 313°12.4 | 328°12.1 | 343°11.9 | 358°11.6 | 13°11.3 | 28°11.1 | 43°10.8 | 58°10.6 | 73°10.3 | -0.3 |
| | -22°03.2 | -22°02.8 | -22°02.5 | -22°02.1 | -22°01.7 | -22°01.4 | -22°01.0 | -22°00.7 | -22°00.3 | -21°59.9 | -21°59.5 | -21°59.2 | +0.4 |
| **Me 10** | 268°07.0 | 283°06.8 | 298°06.5 | 313°06.3 | 328°06.0 | 343°05.8 | 358°05.5 | 13°05.3 | 28°05.0 | 43°04.8 | 58°04.5 | 73°04.3 | -0.3 |
| | -21°54.3 | -21°53.9 | -21°53.6 | -21°53.2 | -21°52.8 | -21°52.4 | -21°52.0 | -21°51.7 | -21°51.3 | -21°50.9 | -21°50.5 | -21°50.1 | +0.4 |
| **Je 11** | 268°01.1 | 283°00.8 | 298°00.6 | 313°00.3 | 328°00.1 | 342°59.8 | 357°59.6 | 12°59.3 | 27°59.1 | 42°58.9 | 57°58.6 | 72°58.4 | -0.2 |
| | -21°45.0 | -21°44.6 | -21°44.2 | -21°43.8 | -21°43.4 | -21°43.0 | -21°42.6 | -21°42.2 | -21°41.8 | -21°41.4 | -21°41.0 | -21°40.6 | +0.4 |
| **Ve 12** | 267°55.2 | 282°55.0 | 297°54.8 | 312°54.5 | 327°54.3 | 342°54.0 | 357°53.8 | 12°53.6 | 27°53.3 | 42°53.1 | 57°52.9 | 72°52.6 | -0.2 |
| | -21°35.3 | -21°34.9 | -21°34.5 | -21°34.1 | -21°33.6 | -21°33.2 | -21°32.8 | -21°32.4 | -21°32.0 | -21°31.5 | -21°31.1 | -21°30.7 | +0.4 |
| **Sa 13** | 267°49.6 | 282°49.3 | 297°49.1 | 312°48.9 | 327°48.6 | 342°48.4 | 357°48.2 | 12°47.9 | 27°47.7 | 42°47.5 | 57°47.2 | 72°47.0 | -0.2 |
| | -21°25.2 | -21°24.7 | -21°24.3 | -21°23.9 | -21°23.4 | -21°23.0 | -21°22.6 | -21°22.1 | -21°21.7 | -21°21.2 | -21°20.8 | -21°20.4 | +0.4 |
| **Di 14** | 267°44.0 | 282°43.8 | 297°43.6 | 312°43.4 | 327°43.1 | 342°42.9 | 357°42.7 | 12°42.5 | 27°42.2 | 42°42.0 | 57°41.8 | 72°41.6 | -0.2 |
| | -21°14.6 | -21°14.1 | -21°13.7 | -21°13.2 | -21°12.8 | -21°12.3 | -21°11.9 | -21°11.4 | -21°11.0 | -21°10.5 | -21°10.1 | -21°09.6 | +0.5 |
| **Lu 15** | 267°38.7 | 282°38.5 | 297°38.3 | 312°38.0 | 327°37.8 | 342°37.6 | 357°37.4 | 12°37.2 | 27°37.0 | 42°36.7 | 57°36.5 | 72°36.3 | -0.2 |
| | -21°03.6 | -21°03.2 | -21°02.7 | -21°02.2 | -21°01.8 | -21°01.3 | -21°00.8 | -21°00.4 | -20°59.9 | -20°59.4 | -20°58.9 | -20°58.5 | +0.5 |
| **Ma 16** | 267°33.5 | 282°33.3 | 297°33.1 | 312°32.9 | 327°32.7 | 342°32.5 | 357°32.2 | 12°32.0 | 27°31.8 | 42°31.6 | 57°31.4 | 72°31.2 | -0.2 |
| | -20°52.3 | -20°51.8 | -20°51.3 | -20°50.8 | -20°50.3 | -20°49.8 | -20°49.4 | -20°48.9 | -20°48.4 | -20°47.9 | -20°47.4 | -20°46.9 | +0.5 |
| **Me 17** | 267°28.5 | 282°28.3 | 297°28.1 | 312°27.9 | 327°27.7 | 342°27.5 | 357°27.3 | 12°27.1 | 27°26.9 | 42°26.7 | 57°26.5 | 72°26.3 | -0.2 |
| | -20°40.5 | -20°40.0 | -20°39.5 | -20°39.0 | -20°38.5 | -20°38.0 | -20°37.5 | -20°37.0 | -20°36.5 | -20°36.0 | -20°35.5 | -20°35.0 | +0.5 |
| **Je 18** | 267°23.7 | 282°23.5 | 297°23.3 | 312°23.1 | 327°22.9 | 342°22.7 | 357°22.5 | 12°22.3 | 27°22.1 | 42°21.9 | 57°21.7 | 72°21.5 | -0.2 |
| | -20°28.3 | -20°27.8 | -20°27.3 | -20°26.8 | -20°26.3 | -20°25.8 | -20°25.2 | -20°24.7 | -20°24.2 | -20°23.7 | -20°23.2 | -20°22.6 | +0.5 |
| **Ve 19** | 267°19.0 | 282°18.9 | 297°18.7 | 312°18.5 | 327°18.3 | 342°18.1 | 357°17.9 | 12°17.7 | 27°17.5 | 42°17.3 | 57°17.2 | 72°17.0 | -0.2 |
| | -20°15.8 | -20°15.3 | -20°14.7 | -20°14.2 | -20°13.7 | -20°13.1 | -20°12.6 | -20°12.1 | -20°11.5 | -20°11.0 | -20°10.5 | -20°09.9 | +0.5 |
| **Sa 20** | 267°14.6 | 282°14.4 | 297°14.2 | 312°14.0 | 327°13.9 | 342°13.7 | 357°13.5 | 12°13.3 | 27°13.1 | 42°13.0 | 57°12.8 | 72°12.6 | -0.2 |
| | -20°02.9 | -20°02.3 | -20°01.8 | -20°01.2 | -20°00.7 | -20°00.1 | -19°59.6 | -19°59.0 | -19°58.5 | -19°57.9 | -19°57.4 | -19°56.8 | +0.6 |
| **Di 21** | 267°10.3 | 282°10.2 | 297°10.0 | 312°09.8 | 327°09.6 | 342°09.5 | 357°09.3 | 12°09.1 | 27°08.9 | 42°08.8 | 57°08.6 | 72°08.4 | -0.2 |
| | -19°49.6 | -19°49.0 | -19°48.5 | -19°47.9 | -19°47.3 | -19°46.8 | -19°46.2 | -19°45.6 | -19°45.1 | -19°44.5 | -19°43.9 | -19°43.4 | +0.6 |
| **Lu 22** | 267°06.3 | 282°06.1 | 297°05.9 | 312°05.8 | 327°05.6 | 342°05.4 | 357°05.3 | 12°05.1 | 27°04.9 | 42°04.8 | 57°04.6 | 72°04.5 | -0.2 |
| | -19°35.9 | -19°35.3 | -19°34.8 | -19°34.2 | -19°33.6 | -19°33.0 | -19°32.4 | -19°31.9 | -19°31.3 | -19°30.7 | -19°30.1 | -19°29.5 | +0.6 |
| **Ma 23** | 267°02.4 | 282°02.2 | 297°02.1 | 312°01.9 | 327°01.8 | 342°01.6 | 357°01.4 | 12°01.3 | 27°01.1 | 42°01.0 | 57°00.8 | 72°00.7 | -0.2 |
| | -19°21.9 | -19°21.3 | -19°20.7 | -19°20.1 | -19°19.5 | -19°18.9 | -19°18.3 | -19°17.7 | -19°17.1 | -19°16.5 | -19°15.9 | -19°15.3 | +0.6 |
| **Me 24** | 266°58.7 | 281°58.6 | 296°58.4 | 311°58.3 | 326°58.1 | 341°58.0 | 356°57.8 | 11°57.7 | 26°57.5 | 41°57.4 | 56°57.2 | 71°57.1 | -0.1 |
| | -19°07.5 | -19°06.9 | -19°06.3 | -19°05.7 | -19°05.1 | -19°04.5 | -19°03.9 | -19°03.2 | -19°02.6 | -19°02.0 | -19°01.4 | -19°00.8 | +0.6 |
| **Je 25** | 266°55.2 | 281°55.1 | 296°55.0 | 311°54.8 | 326°54.7 | 341°54.5 | 356°54.4 | 11°54.3 | 26°54.1 | 41°54.0 | 56°53.9 | 71°53.7 | -0.1 |
| | -18°52.8 | -18°52.2 | -18°51.5 | -18°50.9 | -18°50.3 | -18°49.7 | -18°49.0 | -18°48.4 | -18°47.8 | -18°47.2 | -18°46.5 | -18°45.9 | +0.6 |
| **Ve 26** | 266°52.0 | 281°51.8 | 296°51.7 | 311°51.6 | 326°51.5 | 341°51.3 | 356°51.2 | 11°51.1 | 26°50.9 | 41°50.8 | 56°50.7 | 71°50.6 | -0.1 |
| | -18°37.7 | -18°37.1 | -18°36.4 | -18°35.8 | -18°35.2 | -18°34.5 | -18°33.9 | -18°33.2 | -18°32.6 | -18°32.0 | -18°31.3 | -18°30.7 | +0.6 |
| **Sa 27** | 266°48.9 | 281°48.8 | 296°48.7 | 311°48.6 | 326°48.4 | 341°48.3 | 356°48.2 | 11°48.1 | 26°47.9 | 41°47.8 | 56°47.7 | 71°47.6 | -0.1 |
| | -18°22.3 | -18°21.6 | -18°21.0 | -18°20.3 | -18°19.7 | -18°19.0 | -18°18.4 | -18°17.7 | -18°17.1 | -18°16.4 | -18°15.8 | -18°15.1 | +0.7 |
| **Di 28** | 266°46.1 | 281°45.9 | 296°45.8 | 311°45.7 | 326°45.6 | 341°45.5 | 356°45.4 | 11°45.3 | 26°45.2 | 41°45.0 | 56°44.9 | 71°44.8 | -0.1 |
| | -18°06.5 | -18°05.9 | -18°05.2 | -18°04.6 | -18°03.9 | -18°03.2 | -18°02.6 | -18°01.9 | -18°01.2 | -18°00.6 | -17°59.9 | -17°59.2 | +0.7 |
| **Lu 29** | 266°43.4 | 281°43.3 | 296°43.2 | 311°43.1 | 326°43.0 | 341°42.9 | 356°42.8 | 11°42.7 | 26°42.6 | 41°42.5 | 56°42.4 | 71°42.3 | -0.1 |
| | -17°50.5 | -17°49.8 | -17°49.1 | -17°48.4 | -17°47.8 | -17°47.1 | -17°46.4 | -17°45.7 | -17°45.0 | -17°44.4 | -17°43.7 | -17°43.0 | +0.7 |
| **Ma 30** | 266°41.0 | 281°40.9 | 296°40.8 | 311°40.7 | 326°40.6 | 341°40.5 | 356°40.4 | 11°40.3 | 26°40.2 | 41°40.1 | 56°40.0 | 71°39.9 | -0.1 |
| | -17°34.1 | -17°33.4 | -17°32.7 | -17°32.0 | -17°31.3 | -17°30.6 | -17°29.9 | -17°29.2 | -17°28.6 | -17°27.9 | -17°27.2 | -17°26.5 | +0.7 |
| **Me 31** | 266°38.7 | 281°38.6 | 296°38.5 | 311°38.5 | 326°38.4 | 341°38.3 | 356°38.2 | 11°38.1 | 26°38.0 | 41°37.9 | 56°37.8 | 71°37.8 | -0.1 |
| | -17°17.4 | -17°16.7 | -17°16.0 | -17°15.3 | -17°14.6 | -17°13.9 | -17°13.2 | -17°12.5 | -17°11.8 | -17°11.0 | -17°10.3 | -17°09.6 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2029

| J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 240°28.3<br>20°17.0 | 254°54.9<br>20°07.7 | 269°21.5<br>19°58.3 | 283°48.2<br>19°48.8 | 298°15.0<br>19°39.1 | 312°41.8<br>19°29.4 | 327°08.7<br>19°19.5 | 341°35.6<br>19°09.5 | 356°02.5<br>18°59.3 | 10°29.6<br>18°49.1 | 24°56.6<br>18°38.7 | +26.8<br>-9.8 | 16.0<br>58.7 |
| Ma 2 | 241°49.0<br>15°50.0 | 256°17.0<br>15°37.9 | 270°45.0<br>15°25.8 | 285°13.0<br>15°13.5 | 299°41.1<br>15°01.2 | 314°09.2<br>14°48.7 | 328°37.4<br>14°36.2 | 343°05.7<br>14°23.6 | 357°34.0<br>14°10.9 | 12°02.3<br>13°58.1 | 26°30.8<br>13°45.2 | +28.2<br>-12.5 | 16.1<br>59.0 |
| Me 3 | 243°42.9<br>10°23.2 | 258°12.0<br>10°09.2 | 272°41.3<br>9°55.1 | 287°10.5<br>9°41.0 | 301°39.8<br>9°26.8 | 316°09.2<br>9°12.6 | 330°38.6<br>8°58.3 | 345°08.0<br>8°44.0 | 359°37.4<br>8°29.6 | 14°06.9<br>8°15.2 | 28°36.5<br>8°00.7 | +29.4<br>-14.3 | 16.2<br>59.3 |
| Je 4 | 246°03.4<br>4°19.0 | 260°33.4<br>4°04.0 | 275°03.4<br>3°49.0 | 289°33.4<br>3°33.9 | 304°03.5<br>3°18.9 | 318°33.6<br>3°03.8 | 333°03.7<br>2°48.7 | 347°33.8<br>2°33.5 | 2°03.9<br>2°18.4 | 16°34.1<br>2°03.3 | 31°04.2<br>1°48.1 | +30.1<br>-15.1 | 16.2<br>59.4 |
| Ve 5 | 248°37.3<br>-1°59.4 | 263°07.5<br>-2°14.5 | 277°37.7<br>-2°29.6 | 292°07.9<br>-2°44.7 | 306°38.1<br>-2°59.8 | 321°08.3<br>-3°14.8 | 335°38.5<br>-3°29.9 | 350°08.6<br>-3°44.9 | 4°38.8<br>-3°59.9 | 19°08.9<br>-4°14.8 | 33°39.0<br>-4°29.8 | +30.2<br>-15.0 | 16.2<br>59.3 |
| Sa 6 | 251°08.4<br>-8°09.8 | 265°38.1<br>-8°24.2 | 280°07.8<br>-8°38.5 | 294°37.5<br>-8°52.7 | 309°07.2<br>-9°06.9 | 323°36.8<br>-9°21.0 | 338°06.4<br>-9°35.1 | 352°35.9<br>-9°49.2 | 7°05.4<br>-10°03.1 | 21°34.9<br>-10°17.0 | 36°04.3<br>-10°30.9 | +29.6<br>-14.1 | 16.1<br>59.2 |
| ◑ Di 7 | 253°20.5<br>-13°50.6 | 267°49.2<br>-14°03.4 | 282°17.9<br>-14°16.0 | 296°46.5<br>-14°28.5 | 311°15.0<br>-14°41.0 | 325°43.5<br>-14°53.4 | 340°11.9<br>-15°05.7 | 354°40.3<br>-15°17.9 | 9°08.7<br>-15°30.0 | 23°36.9<br>-15°42.0 | 38°05.2<br>-15°53.9 | +28.5<br>-12.3 | 16.1<br>59.0 |
| Lu 8 | 267°49.2<br>-14°03.4 | 282°17.9<br>-14°16.0 | 296°46.5<br>-14°28.5 | 311°15.0<br>-14°41.0 | 325°43.5<br>-14°53.4 | 340°11.9<br>-15°05.7 | 354°40.3<br>-15°17.9 | 9°08.7<br>-15°30.0 | 23°36.9<br>-15°42.0 | 38°05.2<br>-15°53.9 | 52°33.3<br>-16°05.8 | +28.4<br>-12.2 | 16.1<br>58.9 |
| Ma 9 | 269°28.9<br>-18°51.2 | 283°56.1<br>-19°01.3 | 298°23.3<br>-19°11.4 | 312°50.5<br>-19°21.3 | 327°17.5<br>-19°31.1 | 341°44.5<br>-19°40.8 | 356°11.5<br>-19°50.3 | 10°38.4<br>-19°59.8 | 25°05.2<br>-20°09.1 | 39°32.0<br>-20°18.3 | 53°58.7<br>-20°27.4 | +27.0<br>-9.6 | 16.0<br>58.7 |
| Me 10 | 270°33.2<br>-22°28.0 | 284°59.1<br>-22°34.9 | 299°24.9<br>-22°41.7 | 313°50.7<br>-22°48.4 | 328°16.5<br>-22°54.9 | 342°42.2<br>-23°01.3 | 357°07.9<br>-23°07.6 | 11°33.6<br>-23°13.6 | 25°59.2<br>-23°19.6 | 40°24.7<br>-23°25.4 | 54°50.3<br>-23°31.1 | +25.7<br>-6.3 | 15.9<br>58.3 |
| Je 11 | 271°09.7<br>-24°37.8 | 285°34.9<br>-24°41.0 | 300°00.0<br>-24°44.1 | 314°25.1<br>-24°47.0 | 328°50.2<br>-24°49.8 | 343°15.2<br>-24°52.4 | 357°40.3<br>-24°54.8 | 12°05.4<br>-24°57.1 | 26°30.5<br>-24°59.2 | 40°55.5<br>-25°01.2 | 55°20.6<br>-25°03.0 | +25.1<br>-2.5 | 15.8<br>57.9 |
| Ve 12 | 271°37.9<br>-25°11.5 | 286°03.2<br>-25°10.8 | 300°28.6<br>-25°10.0 | 314°53.9<br>-25°09.0 | 329°19.4<br>-25°07.8 | 343°44.8<br>-25°06.5 | 358°10.3<br>-25°05.1 | 12°35.8<br>-25°03.5 | 27°01.3<br>-25°01.7 | 41°26.9<br>-24°59.9 | 55°52.6<br>-24°57.8 | +25.5<br>+1.4 | 15.7<br>57.4 |
| Sa 13 | 272°23.2<br>-24°09.5 | 286°49.8<br>-24°05.2 | 301°16.3<br>-24°00.7 | 315°43.0<br>-23°56.1 | 330°09.7<br>-23°51.3 | 344°36.5<br>-23°46.4 | 359°03.3<br>-23°41.4 | 13°30.3<br>-23°36.2 | 27°57.3<br>-23°31.0 | 42°24.3<br>-23°25.5 | 56°51.5<br>-23°20.0 | +26.8<br>+5.0 | 15.5<br>56.9 |
| ● Di 14 | 273°48.0<br>-21°42.1 | 288°16.5<br>-21°34.7 | 302°45.0<br>-21°27.1 | 317°13.6<br>-21°19.4 | 331°42.2<br>-21°11.7 | 346°11.0<br>-21°03.8 | 0°39.9<br>-20°55.8 | 15°08.8<br>-20°47.7 | 29°37.8<br>-20°39.5 | 44°06.9<br>-20°31.2 | 58°36.1<br>-20°22.8 | +28.8<br>+7.9 | 15.4<br>56.4 |
| Lu 15 | 276°04.5<br>-18°05.9 | 290°35.1<br>-17°56.1 | 305°05.7<br>-17°46.2 | 319°36.5<br>-17°36.2 | 334°07.3<br>-17°26.2 | 348°38.2<br>-17°16.1 | 3°09.2<br>-17°05.9 | 17°40.3<br>-16°55.6 | 32°11.5<br>-16°45.3 | 46°42.7<br>-16°34.9 | 61°14.1<br>-16°24.4 | +31.0<br>+10.2 | 15.2<br>55.8 |
| Ma 16 | 279°13.4<br>-13°39.8 | 293°46.0<br>-13°28.4 | 308°18.6<br>-13°17.0 | 322°51.3<br>-13°05.4 | 337°24.1<br>-12°53.9 | 351°57.0<br>-12°42.3 | 6°29.9<br>-12°30.6 | 21°02.9<br>-12°18.9 | 35°35.9<br>-12°07.2 | 50°09.0<br>-11°55.4 | 64°42.2<br>-11°43.6 | +32.9<br>+11.6 | 15.1<br>55.3 |
| Me 17 | 283°07.2<br>-8°42.0 | 297°41.3<br>-8°29.6 | 312°15.5<br>-8°17.2 | 326°49.7<br>-8°04.9 | 341°24.0<br>-7°52.4 | 355°58.3<br>-7°40.0 | 10°32.7<br>-7°27.5 | 25°07.1<br>-7°15.0 | 39°41.5<br>-7°02.5 | 54°16.0<br>-6°50.0 | 68°50.6<br>-6°37.5 | +34.3<br>+12.5 | 14.9<br>54.8 |
| Je 18 | 287°33.4<br>-3°27.7 | 302°08.5<br>-3°15.0 | 316°43.7<br>-3°02.3 | 331°18.8<br>-2°49.6 | 345°54.0<br>-2°36.8 | 0°29.3<br>-2°24.1 | 15°04.5<br>-2°11.4 | 29°39.8<br>-1°58.6 | 44°15.1<br>-1°45.9 | 58°50.4<br>-1°33.2 | 73°25.7<br>-1°20.4 | +35.2<br>+12.7 | 14.8<br>54.4 |
| Ve 19 | 292°17.5<br>1°50.0 | 306°53.0<br>2°02.6 | 321°28.5<br>2°15.2 | 336°04.0<br>2°27.8 | 350°39.5<br>2°40.4 | 5°15.1<br>2°53.0 | 19°50.6<br>3°05.6 | 34°26.1<br>3°18.1 | 49°01.7<br>3°30.6 | 63°37.2<br>3°43.1 | 78°12.7<br>3°55.6 | +35.5<br>+12.6 | 14.8<br>54.2 |
| Sa 20 | 297°04.2<br>7°00.4 | 311°39.5<br>7°12.6 | 326°14.8<br>7°24.7 | 340°50.1<br>7°36.7 | 355°25.3<br>7°48.8 | 10°00.6<br>8°00.8 | 24°35.8<br>8°12.7 | 39°10.9<br>8°24.7 | 53°46.1<br>8°36.6 | 68°21.2<br>8°48.5 | 82°56.3<br>9°00.3 | +35.2<br>+12.0 | 14.8<br>54.1 |
| Di 21 | 301°38.6<br>11°53.6 | 316°13.1<br>12°04.8 | 330°47.6<br>12°16.0 | 345°22.0<br>12°27.1 | 359°56.4<br>12°38.2 | 14°30.7<br>12°49.2 | 29°05.0<br>13°00.2 | 43°39.2<br>13°11.1 | 58°13.4<br>13°22.0 | 72°47.6<br>13°32.9 | 87°21.6<br>13°43.7 | +34.3<br>+11.0 | 14.8<br>54.2 |
| ◐ Lu 22 | 305°46.3<br>16°19.1 | 320°19.4<br>16°29.0 | 334°52.5<br>16°38.8 | 349°25.5<br>16°48.5 | 3°58.5<br>16°58.2 | 18°31.4<br>17°07.9 | 33°04.2<br>17°17.4 | 47°37.0<br>17°26.9 | 62°09.7<br>17°36.4 | 76°42.3<br>17°45.7 | 91°14.9<br>17°55.0 | +32.9<br>+9.6 | 14.8<br>54.4 |
| Ma 23 | 309°14.6<br>20°05.4 | 323°45.9<br>20°13.4 | 338°17.2<br>20°21.4 | 352°48.4<br>20°29.3 | 7°19.6<br>20°37.1 | 21°50.6<br>20°44.8 | 36°21.6<br>20°52.4 | 50°52.5<br>20°59.9 | 65°23.3<br>21°07.4 | 79°54.1<br>21°14.7 | 94°24.7<br>21°22.0 | +31.0<br>+7.7 | 15.0<br>54.9 |
| Me 24 | 311°54.8<br>22°59.0 | 326°24.2<br>23°04.6 | 340°53.5<br>23°10.1 | 355°22.7<br>23°15.5 | 9°51.8<br>23°20.8 | 24°20.8<br>23°26.0 | 38°49.8<br>23°31.1 | 53°18.7<br>23°36.1 | 67°47.5<br>23°40.9 | 82°16.2<br>23°45.7 | 96°44.8<br>23°50.3 | +29.0<br>+5.1 | 15.1<br>55.5 |
| Je 25 | 313°45.4<br>24°44.9 | 328°12.9<br>24°47.5 | 342°40.3<br>24°50.0 | 357°07.6<br>24°52.3 | 11°34.9<br>24°54.5 | 26°02.1<br>24°56.6 | 40°29.2<br>24°58.6 | 54°56.3<br>25°00.4 | 69°23.3<br>25°02.0 | 83°50.3<br>25°03.6 | 98°17.2<br>25°05.0 | +27.2<br>+2.0 | 15.4<br>56.3 |
| Ve 26 | 314°54.2<br>25°08.7 | 329°20.3<br>25°07.8 | 343°46.4<br>25°06.8 | 358°12.4<br>25°05.5 | 12°38.4<br>25°04.2 | 27°04.3<br>25°02.7 | 41°30.3<br>25°01.0 | 55°56.2<br>24°59.2 | 70°22.0<br>24°57.2 | 84°47.9<br>24°55.1 | 99°13.7<br>24°52.8 | +25.9<br>-1.6 | 15.6<br>57.2 |
| Sa 27 | 315°38.6<br>24°00.3 | 330°04.2<br>23°55.6 | 344°29.8<br>23°50.7 | 358°55.4<br>23°45.7 | 13°21.0<br>23°40.5 | 27°46.5<br>23°35.2 | 42°12.1<br>23°29.7 | 56°37.7<br>23°24.1 | 71°03.3<br>23°18.3 | 85°28.9<br>23°12.4 | 99°54.6<br>23°06.3 | +25.6<br>-5.4 | 15.8<br>58.1 |
| Di 28 | 316°20.8<br>21°17.3 | 330°46.7<br>21°08.8 | 345°12.7<br>21°00.3 | 359°38.7<br>20°51.6 | 14°04.7<br>20°42.7 | 28°30.7<br>20°33.8 | 42°56.8<br>20°24.7 | 57°22.9<br>20°15.4 | 71°49.1<br>20°06.0 | 86°15.3<br>19°56.5 | 100°41.5<br>19°46.9 | +26.1<br>-9.0 | 16.1<br>58.9 |
| Lu 29 | 317°19.5<br>17°07.0 | 331°46.3<br>16°55.4 | 346°13.2<br>16°43.7 | 0°40.2<br>16°31.9 | 15°07.2<br>16°19.9 | 29°34.2<br>16°07.9 | 44°01.3<br>15°55.7 | 58°28.4<br>15°43.5 | 72°55.6<br>15°31.1 | 87°22.8<br>15°18.6 | 101°50.1<br>15°06.0 | +27.1<br>-12.1 | 16.2<br>59.6 |
| ○ Ma 30 | 318°44.1<br>11°46.4 | 333°12.1<br>11°32.4 | 347°40.1<br>11°18.4 | 2°08.1<br>11°04.2 | 16°36.1<br>10°50.0 | 31°04.2<br>10°35.8 | 45°32.4<br>10°21.4 | 60°00.6<br>10°07.0 | 74°28.8<br>9°52.6 | 88°57.0<br>9°38.0 | 103°25.3<br>9°23.4 | +28.1<br>-14.3 | 16.4<br>60.1 |
| Me 31 | 320°33.6<br>5°38.4 | 335°02.4<br>5°23.0 | 349°31.2<br>5°07.6 | 4°00.0<br>4°52.2 | 18°28.8<br>4°36.8 | 32°57.7<br>4°21.3 | 47°26.6<br>4°05.9 | 61°55.5<br>3°50.4 | 76°24.5<br>3°34.8 | 90°53.4<br>3°19.3 | 105°22.4<br>3°03.7 | +28.9<br>-15.5 | 16.4<br>60.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 7 13h26 — NL: 14 17h24 — PQ: 22 19h23 — PL: 30 06h03

# SOLEIL

## Février 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 266°36.7 | 281°36.6 | 296°36.5 | 311°36.4 | 326°36.4 | 341°36.3 | 356°36.2 | 11°36.1 | 26°36.0 | 41°36.0 | 56°35.9 | 71°35.8 | -0.1 |
| | -17°00.4 | -16°59.7 | -16°59.0 | -16°58.2 | -16°57.5 | -16°56.8 | -16°56.1 | -16°55.4 | -16°54.6 | -16°53.9 | -16°53.2 | -16°52.5 | +0.7 |
| Ve 2 | 266°34.8 | 281°34.8 | 296°34.7 | 311°34.6 | 326°34.6 | 341°34.5 | 356°34.4 | 11°34.3 | 26°34.3 | 41°34.2 | 56°34.1 | 71°34.1 | -0.1 |
| | -16°43.1 | -16°42.4 | -16°41.6 | -16°40.9 | -16°40.2 | -16°39.4 | -16°38.7 | -16°38.0 | -16°37.2 | -16°36.5 | -16°35.8 | -16°35.1 | +0.7 |
| Sa 3 | 266°33.2 | 281°33.1 | 296°33.1 | 311°33.0 | 326°33.0 | 341°32.9 | 356°32.8 | 11°32.8 | 26°32.7 | 41°32.6 | 56°32.6 | 71°32.5 | -0.1 |
| | -16°25.5 | -16°24.7 | -16°24.0 | -16°23.3 | -16°22.5 | -16°21.8 | -16°21.0 | -16°20.3 | -16°19.6 | -16°18.8 | -16°18.1 | -16°17.3 | +0.7 |
| Di 4 | 266°31.8 | 281°31.7 | 296°31.7 | 311°31.6 | 326°31.5 | 341°31.5 | 356°31.4 | 11°31.4 | 26°31.3 | 41°31.3 | 56°31.2 | 71°31.2 | -0.1 |
| | -16°07.6 | -16°06.8 | -16°06.1 | -16°05.3 | -16°04.6 | -16°03.8 | -16°03.1 | -16°02.3 | -16°01.6 | -16°00.8 | -16°00.1 | -15°59.3 | +0.8 |
| Lu 5 | 266°30.5 | 281°30.5 | 296°30.4 | 311°30.4 | 326°30.3 | 341°30.3 | 356°30.2 | 11°30.2 | 26°30.2 | 41°30.1 | 56°30.1 | 71°30.0 | -0.0 |
| | -15°49.4 | -15°48.7 | -15°47.9 | -15°47.1 | -15°46.4 | -15°45.6 | -15°44.8 | -15°44.1 | -15°43.3 | -15°42.5 | -15°41.8 | -15°41.0 | +0.8 |
| Ma 6 | 266°29.5 | 281°29.4 | 296°29.4 | 311°29.4 | 326°29.3 | 341°29.3 | 356°29.2 | 11°29.2 | 26°29.2 | 41°29.1 | 56°29.1 | 71°29.1 | -0.0 |
| | -15°31.0 | -15°30.2 | -15°29.4 | -15°28.7 | -15°27.9 | -15°27.1 | -15°26.3 | -15°25.6 | -15°24.8 | -15°24.0 | -15°23.2 | -15°22.5 | +0.8 |
| Me 7 | 266°28.6 | 281°28.6 | 296°28.6 | 311°28.5 | 326°28.5 | 341°28.5 | 356°28.4 | 11°28.4 | 26°28.4 | 41°28.4 | 56°28.3 | 71°28.3 | -0.0 |
| | -15°12.3 | -15°11.5 | -15°10.7 | -15°09.9 | -15°09.1 | -15°08.4 | -15°07.6 | -15°06.8 | -15°06.0 | -15°05.2 | -15°04.4 | -15°03.6 | +0.8 |
| Je 8 | 266°28.0 | 281°27.9 | 296°27.9 | 311°27.9 | 326°27.9 | 341°27.9 | 356°27.8 | 11°27.8 | 26°27.8 | 41°27.8 | 56°27.8 | 71°27.7 | -0.0 |
| | -14°53.3 | -14°52.5 | -14°51.7 | -14°50.9 | -14°50.1 | -14°49.3 | -14°48.5 | -14°47.7 | -14°46.9 | -14°46.1 | -14°45.3 | -14°44.5 | +0.8 |
| Ve 9 | 266°27.5 | 281°27.5 | 296°27.5 | 311°27.5 | 326°27.4 | 341°27.4 | 356°27.4 | 11°27.4 | 26°27.4 | 41°27.4 | 56°27.4 | 71°27.4 | -0.0 |
| | -14°34.1 | -14°33.3 | -14°32.5 | -14°31.7 | -14°30.9 | -14°30.1 | -14°29.3 | -14°28.4 | -14°27.6 | -14°26.8 | -14°26.0 | -14°25.2 | +0.8 |
| Sa 10 | 266°27.2 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.2 | 341°27.2 | 356°27.2 | 11°27.2 | 26°27.2 | 41°27.2 | 56°27.2 | 71°27.2 | -0.0 |
| | -14°14.6 | -14°13.8 | -14°13.0 | -14°12.2 | -14°11.4 | -14°10.6 | -14°09.7 | -14°08.9 | -14°08.1 | -14°07.3 | -14°06.5 | -14°05.6 | +0.8 |
| Di 11 | 266°27.1 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.2 | 341°27.2 | 356°27.2 | 11°27.2 | 26°27.2 | 41°27.2 | 56°27.2 | 71°27.2 | +0.0 |
| | -13°54.9 | -13°54.1 | -13°53.3 | -13°52.5 | -13°51.6 | -13°50.8 | -13°50.0 | -13°49.1 | -13°48.3 | -13°47.5 | -13°46.7 | -13°45.8 | +0.8 |
| Lu 12 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.3 | 26°27.3 | 41°27.3 | 56°27.4 | 71°27.4 | +0.0 |
| | -13°35.0 | -13°34.2 | -13°33.3 | -13°32.5 | -13°31.7 | -13°30.8 | -13°30.0 | -13°29.2 | -13°28.3 | -13°27.5 | -13°26.6 | -13°25.8 | +0.8 |
| Ma 13 | 266°27.5 | 281°27.6 | 296°27.6 | 311°27.6 | 326°27.6 | 341°27.6 | 356°27.7 | 11°27.7 | 26°27.7 | 41°27.7 | 56°27.7 | 71°27.7 | +0.0 |
| | -13°14.9 | -13°14.0 | -13°13.2 | -13°12.3 | -13°11.5 | -13°10.6 | -13°09.8 | -13°08.9 | -13°08.1 | -13°07.2 | -13°06.4 | -13°05.5 | +0.8 |
| Me 14 | 266°28.0 | 281°28.1 | 296°28.1 | 311°28.1 | 326°28.1 | 341°28.2 | 356°28.2 | 11°28.2 | 26°28.2 | 41°28.3 | 56°28.3 | 71°28.3 | +0.0 |
| | -12°54.5 | -12°53.6 | -12°52.8 | -12°51.9 | -12°51.1 | -12°50.2 | -12°49.4 | -12°48.5 | -12°47.6 | -12°46.8 | -12°45.9 | -12°45.1 | +0.9 |
| Je 15 | 266°28.7 | 281°28.7 | 296°28.8 | 311°28.8 | 326°28.8 | 341°28.9 | 356°28.9 | 11°28.9 | 26°29.0 | 41°29.0 | 56°29.0 | 71°29.1 | +0.0 |
| | -12°33.9 | -12°33.0 | -12°32.2 | -12°31.3 | -12°30.5 | -12°29.6 | -12°28.7 | -12°27.9 | -12°27.0 | -12°26.1 | -12°25.3 | -12°24.4 | +0.9 |
| Ve 16 | 266°29.5 | 281°29.6 | 296°29.6 | 311°29.7 | 326°29.7 | 341°29.7 | 356°29.8 | 11°29.8 | 26°29.9 | 41°29.9 | 56°29.9 | 71°30.0 | +0.0 |
| | -12°13.1 | -12°12.3 | -12°11.4 | -12°10.5 | -12°09.6 | -12°08.8 | -12°07.9 | -12°07.0 | -12°06.2 | -12°05.3 | -12°04.4 | -12°03.5 | +0.9 |
| Sa 17 | 266°30.6 | 281°30.6 | 296°30.6 | 311°30.7 | 326°30.7 | 341°30.8 | 356°30.8 | 11°30.9 | 26°30.9 | 41°31.0 | 56°31.0 | 71°31.1 | +0.0 |
| | -11°52.2 | -11°51.3 | -11°50.4 | -11°49.5 | -11°48.6 | -11°47.8 | -11°46.9 | -11°46.0 | -11°45.1 | -11°44.2 | -11°43.4 | -11°42.5 | +0.9 |
| Di 18 | 266°31.8 | 281°31.8 | 296°31.9 | 311°31.9 | 326°32.0 | 341°32.0 | 356°32.1 | 11°32.1 | 26°32.2 | 41°32.2 | 56°32.3 | 71°32.4 | +0.1 |
| | -11°31.0 | -11°30.1 | -11°29.2 | -11°28.3 | -11°27.4 | -11°26.6 | -11°25.7 | -11°24.8 | -11°23.9 | -11°23.0 | -11°22.1 | -11°21.2 | +0.9 |
| Lu 19 | 266°33.1 | 281°33.2 | 296°33.2 | 311°33.3 | 326°33.4 | 341°33.4 | 356°33.5 | 11°33.6 | 26°33.6 | 41°33.7 | 56°33.7 | 71°33.8 | +0.1 |
| | -11°09.6 | -11°08.8 | -11°07.9 | -11°07.0 | -11°06.1 | -11°05.2 | -11°04.3 | -11°03.4 | -11°02.5 | -11°01.6 | -11°00.7 | -10°59.8 | +0.9 |
| Ma 20 | 266°34.7 | 281°34.7 | 296°34.8 | 311°34.9 | 326°34.9 | 341°35.0 | 356°35.1 | 11°35.1 | 26°35.2 | 41°35.3 | 56°35.4 | 71°35.4 | +0.1 |
| | -10°48.1 | -10°47.2 | -10°46.3 | -10°45.4 | -10°44.5 | -10°43.6 | -10°42.7 | -10°41.8 | -10°40.9 | -10°40.0 | -10°39.1 | -10°38.2 | +0.9 |
| Me 21 | 266°36.4 | 281°36.5 | 296°36.5 | 311°36.6 | 326°36.7 | 341°36.8 | 356°36.8 | 11°36.9 | 26°37.0 | 41°37.1 | 56°37.1 | 71°37.2 | +0.1 |
| | -10°26.5 | -10°25.5 | -10°24.6 | -10°23.7 | -10°22.8 | -10°21.9 | -10°21.0 | -10°20.1 | -10°19.2 | -10°18.3 | -10°17.4 | -10°16.5 | +0.9 |
| Je 22 | 266°38.2 | 281°38.3 | 296°38.4 | 311°38.5 | 326°38.6 | 341°38.7 | 356°38.7 | 11°38.8 | 26°38.9 | 41°39.0 | 56°39.1 | 71°39.2 | +0.1 |
| | -10°04.6 | -10°03.7 | -10°02.8 | -10°01.9 | -10°01.0 | -10°00.0 | -9°59.1 | -9°58.2 | -9°57.3 | -9°56.4 | -9°55.5 | -9°54.6 | +0.9 |
| Ve 23 | 266°40.3 | 281°40.4 | 296°40.5 | 311°40.5 | 326°40.6 | 341°40.7 | 356°40.8 | 11°40.9 | 26°41.0 | 41°41.1 | 56°41.2 | 71°41.3 | +0.1 |
| | -9°42.6 | -9°41.7 | -9°40.8 | -9°39.9 | -9°38.9 | -9°38.0 | -9°37.1 | -9°36.2 | -9°35.3 | -9°34.3 | -9°33.4 | -9°32.5 | +0.9 |
| Sa 24 | 266°42.5 | 281°42.6 | 296°42.7 | 311°42.8 | 326°42.8 | 341°42.9 | 356°43.0 | 11°43.1 | 26°43.2 | 41°43.3 | 56°43.4 | 71°43.5 | +0.1 |
| | -9°20.5 | -9°19.6 | -9°18.6 | -9°17.7 | -9°16.8 | -9°15.9 | -9°14.9 | -9°14.0 | -9°13.1 | -9°12.1 | -9°11.2 | -9°10.3 | +0.9 |
| Di 25 | 266°44.8 | 281°44.9 | 296°45.0 | 311°45.1 | 326°45.2 | 341°45.3 | 356°45.4 | 11°45.5 | 26°45.6 | 41°45.7 | 56°45.8 | 71°45.9 | +0.1 |
| | -8°58.2 | -8°57.3 | -8°56.3 | -8°55.4 | -8°54.5 | -8°53.6 | -8°52.6 | -8°51.7 | -8°50.8 | -8°49.8 | -8°48.9 | -8°48.0 | +0.9 |
| Lu 26 | 266°47.3 | 281°47.4 | 296°47.5 | 311°47.6 | 326°47.7 | 341°47.8 | 356°47.9 | 11°48.0 | 26°48.1 | 41°48.3 | 56°48.4 | 71°48.5 | +0.1 |
| | -8°35.8 | -8°34.9 | -8°33.9 | -8°33.0 | -8°32.1 | -8°31.1 | -8°30.2 | -8°29.2 | -8°28.3 | -8°27.4 | -8°26.4 | -8°25.5 | +0.9 |
| Ma 27 | 266°49.9 | 281°50.0 | 296°50.1 | 311°50.3 | 326°50.4 | 341°50.5 | 356°50.6 | 11°50.7 | 26°50.8 | 41°50.9 | 56°51.0 | 71°51.2 | +0.1 |
| | -8°13.3 | -8°12.3 | -8°11.4 | -8°10.4 | -8°09.5 | -8°08.6 | -8°07.6 | -8°06.7 | -8°05.7 | -8°04.8 | -8°03.8 | -8°02.9 | +0.9 |
| Me 28 | 266°52.7 | 281°52.8 | 296°52.9 | 311°53.0 | 326°53.2 | 341°53.3 | 356°53.4 | 11°53.5 | 26°53.6 | 41°53.7 | 56°53.9 | 71°54.0 | +0.1 |
| | -7°50.6 | -7°49.7 | -7°48.7 | -7°47.8 | -7°46.8 | -7°45.9 | -7°44.9 | -7°44.0 | -7°43.0 | -7°42.1 | -7°41.1 | -7°40.2 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2029

| J | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 250°12.9 | 264°42.0 | 279°11.1 | 293°40.2 | 308°09.3 | 322°38.4 | 337°07.6 | 351°36.7 | 6°05.8 | 20°35.0 | 35°04.1 | +29.1 | 16.4 |
| | 0°27.3 | 0°11.7 | -0°04.0 | -0°19.6 | -0°35.3 | -0°50.9 | -1°06.6 | -1°22.2 | -1°37.8 | -1°53.4 | -2°09.0 | -15.6 | 60.3 |
| Ve 2 | 252°20.3 | 266°49.3 | 281°18.3 | 295°47.2 | 310°16.2 | 324°45.1 | 339°14.0 | 353°42.9 | 8°11.7 | 22°40.5 | 37°09.4 | +28.9 | 16.4 |
| | -5°59.9 | -6°15.0 | -6°30.1 | -6°45.1 | -7°00.1 | -7°15.1 | -7°30.0 | -7°44.8 | -7°59.6 | -8°14.4 | -8°29.0 | -14.9 | 60.0 |
| Sa 3 | 254°18.2 | 268°46.5 | 283°14.8 | 297°43.1 | 312°11.3 | 326°39.5 | 341°07.6 | 355°35.7 | 10°03.8 | 24°31.8 | 38°59.8 | +28.2 | 16.3 |
| | -12°01.7 | -12°15.3 | -12°28.8 | -12°42.3 | -12°55.7 | -13°08.9 | -13°22.1 | -13°35.2 | -13°48.3 | -14°01.2 | -14°14.0 | -13.2 | 59.6 |
| Di 4 | 255°54.8 | 270°22.1 | 284°49.3 | 299°16.6 | 313°43.8 | 328°10.9 | 342°38.0 | 357°05.0 | 11°32.0 | 25°59.0 | 40°25.9 | +27.1 | 16.1 |
| | -17°14.9 | -17°26.1 | -17°37.2 | -17°48.2 | -17°59.1 | -18°09.8 | -18°20.5 | -18°31.0 | -18°41.4 | -18°51.7 | -19°01.9 | -10.7 | 59.1 |
| ◑ Lu 5 | 257°04.7 | 271°31.0 | 285°57.2 | 300°23.4 | 314°49.6 | 329°15.7 | 343°41.8 | 358°07.8 | 12°33.8 | 26°59.8 | 41°25.8 | +26.1 | 16.0 |
| | -21°19.3 | -21°27.4 | -21°35.4 | -21°43.2 | -21°50.9 | -21°58.5 | -22°05.9 | -22°13.2 | -22°20.3 | -22°27.3 | -22°34.2 | -7.5 | 58.5 |
| Ma 6 | 271°31.0 | 285°57.2 | 300°23.4 | 314°49.6 | 329°15.7 | 343°41.8 | 358°07.8 | 12°33.8 | 26°59.8 | 41°25.8 | 55°51.7 | +26.1 | 15.9 |
| | -21°27.4 | -21°35.4 | -21°43.2 | -21°50.9 | -21°58.5 | -22°05.9 | -22°13.2 | -22°20.3 | -22°27.3 | -22°34.2 | -22°40.9 | -7.3 | 58.5 |
| Me 7 | 272°17.8 | 286°43.3 | 301°08.9 | 315°34.5 | 330°00.1 | 344°25.6 | 358°51.1 | 13°16.7 | 27°42.2 | 42°07.8 | 56°33.3 | +25.5 | 15.8 |
| | -24°04.0 | -24°08.4 | -24°12.6 | -24°16.6 | -24°20.5 | -24°24.2 | -24°27.8 | -24°31.3 | -24°34.6 | -24°37.7 | -24°40.7 | -3.7 | 57.9 |
| Je 8 | 272°57.1 | 287°22.8 | 301°48.5 | 316°14.3 | 330°40.0 | 345°05.8 | 359°31.7 | 13°57.5 | 28°23.4 | 42°49.4 | 57°15.3 | +25.8 | 15.6 |
| | -25°07.1 | -25°07.6 | -25°08.0 | -25°08.3 | -25°08.4 | -25°08.3 | -25°08.1 | -25°07.7 | -25°07.2 | -25°06.6 | -25°05.8 | +0.1 | 57.3 |
| Ve 9 | 273°49.7 | 288°16.4 | 302°43.1 | 317°09.9 | 331°36.8 | 346°03.7 | 0°30.7 | 14°57.7 | 29°24.8 | 43°51.9 | 58°19.1 | +26.9 | 15.5 |
| | -24°36.2 | -24°33.1 | -24°29.9 | -24°26.5 | -24°23.0 | -24°19.3 | -24°15.5 | -24°11.6 | -24°07.5 | -24°03.3 | -23°59.0 | +3.7 | 56.7 |
| Sa 10 | 275°15.5 | 289°43.8 | 304°12.2 | 318°40.7 | 333°09.3 | 347°37.9 | 2°06.6 | 16°35.4 | 31°04.2 | 45°33.2 | 60°02.2 | +28.7 | 15.3 |
| | -22°39.0 | -22°32.7 | -22°26.3 | -22°19.8 | -22°13.2 | -22°06.4 | -21°59.5 | -21°52.6 | -21°45.5 | -21°38.3 | -21°31.0 | +6.8 | 56.2 |
| Di 11 | 277°26.8 | 291°57.1 | 306°27.4 | 320°57.9 | 335°28.4 | 349°59.0 | 4°29.6 | 19°00.4 | 33°31.2 | 48°02.1 | 62°33.1 | +30.6 | 15.2 |
| | -19°29.4 | -19°20.5 | -19°11.6 | -19°02.5 | -18°53.4 | -18°44.2 | -18°34.9 | -18°25.5 | -18°16.1 | -18°06.5 | -17°56.9 | +9.2 | 55.7 |
| Lu 12 | 280°26.6 | 294°58.8 | 309°31.0 | 324°03.3 | 338°35.6 | 353°08.0 | 7°40.5 | 22°13.1 | 36°45.7 | 51°18.4 | 65°51.2 | +32.5 | 15.1 |
| | -15°23.9 | -15°13.2 | -15°02.4 | -14°51.6 | -14°40.6 | -14°29.7 | -14°18.6 | -14°07.6 | -13°56.4 | -13°45.2 | -13°34.0 | +11.0 | 55.2 |
| ● Ma 13 | 284°09.9 | 298°43.6 | 313°17.3 | 327°51.1 | 342°25.0 | 356°58.9 | 11°32.9 | 26°06.9 | 40°40.9 | 55°15.0 | 69°49.2 | +33.9 | 14.9 |
| | -10°39.7 | -10°27.8 | -10°15.8 | -10°03.8 | -9°51.7 | -9°39.6 | -9°27.5 | -9°15.4 | -9°03.2 | -8°51.0 | -8°38.7 | +12.1 | 54.8 |
| Me 14 | 288°26.6 | 303°01.3 | 317°36.2 | 332°11.0 | 346°45.9 | 1°20.8 | 15°55.8 | 30°30.8 | 45°05.8 | 59°40.8 | 74°15.9 | +34.9 | 14.9 |
| | -5°32.4 | -5°19.8 | -5°07.2 | -4°54.6 | -4°42.0 | -4°29.4 | -4°16.7 | -4°04.1 | -3°51.4 | -3°38.8 | -3°26.1 | +12.6 | 54.5 |
| Je 15 | 293°04.3 | 307°39.6 | 322°15.0 | 336°50.4 | 351°25.8 | 6°01.2 | 20°36.6 | 35°12.0 | 49°47.4 | 64°22.8 | 78°58.2 | +35.4 | 14.8 |
| | -0°15.7 | -0°03.0 | 0°09.7 | 0°22.3 | 0°35.0 | 0°47.7 | 1°00.3 | 1°13.0 | 1°25.6 | 1°38.2 | 1°50.8 | +12.7 | 54.2 |
| Ve 16 | 297°49.6 | 312°25.0 | 327°00.4 | 341°35.8 | 356°11.1 | 10°46.4 | 25°21.8 | 39°57.1 | 54°32.4 | 69°07.7 | 83°42.9 | +35.3 | 14.7 |
| | 4°58.1 | 5°10.5 | 5°22.8 | 5°35.1 | 5°47.4 | 5°59.6 | 6°11.8 | 6°24.0 | 6°36.2 | 6°48.3 | 7°00.4 | +12.2 | 54.0 |
| Sa 17 | 302°29.3 | 317°04.1 | 331°39.0 | 346°13.8 | 0°48.6 | 15°23.4 | 29°58.1 | 44°32.8 | 59°07.4 | 73°42.0 | 88°16.6 | +34.7 | 14.7 |
| | 9°58.1 | 10°09.7 | 10°21.2 | 10°32.7 | 10°44.1 | 10°55.5 | 11°06.9 | 11°18.2 | 11°29.5 | 11°40.7 | 11°51.9 | +11.4 | 54.0 |
| Di 18 | 306°50.3 | 321°24.2 | 335°58.0 | 350°31.8 | 5°05.5 | 19°39.2 | 34°12.8 | 48°46.4 | 63°19.9 | 77°53.4 | 92°26.8 | +33.7 | 14.7 |
| | 14°33.7 | 14°44.0 | 14°54.3 | 15°04.6 | 15°14.7 | 15°24.9 | 15°34.9 | 15°44.9 | 15°54.9 | 16°04.8 | 16°14.6 | +10.1 | 54.1 |
| Lu 19 | 310°41.1 | 325°13.5 | 339°45.9 | 354°18.3 | 8°50.5 | 23°22.7 | 37°54.9 | 52°26.9 | 66°59.0 | 81°30.9 | 96°02.8 | +32.2 | 14.8 |
| | 18°33.8 | 18°42.5 | 18°51.1 | 18°59.6 | 19°08.1 | 19°16.5 | 19°24.8 | 19°33.1 | 19°41.2 | 19°49.3 | 19°57.3 | +8.4 | 54.3 |
| Ma 20 | 313°52.7 | 328°23.4 | 342°54.1 | 357°24.8 | 11°55.3 | 26°25.8 | 40°56.2 | 55°26.6 | 69°56.8 | 84°27.0 | 98°57.2 | +30.4 | 14.9 |
| | 21°46.6 | 21°53.2 | 21°59.6 | 22°06.0 | 22°12.2 | 22°18.4 | 22°24.5 | 22°30.4 | 22°36.3 | 22°42.0 | 22°47.7 | +6.1 | 54.8 |
| ◐ Me 21 | 316°20.8 | 330°49.8 | 345°18.8 | 359°47.7 | 14°16.5 | 28°45.3 | 43°14.0 | 57°42.6 | 72°11.2 | 86°39.7 | 101°08.1 | +28.7 | 15.1 |
| | 23°59.5 | 24°03.4 | 24°07.1 | 24°10.8 | 24°14.3 | 24°17.7 | 24°21.0 | 24°24.2 | 24°27.2 | 24°30.1 | 24°32.9 | +3.3 | 55.4 |
| Je 22 | 318°07.9 | 332°35.4 | 347°02.9 | 1°30.4 | 15°57.8 | 30°25.2 | 44°52.5 | 59°19.8 | 73°47.0 | 88°14.2 | 102°41.3 | +27.3 | 15.3 |
| | 24°59.5 | 25°00.3 | 25°00.9 | 25°01.3 | 25°01.6 | 25°01.8 | 25°01.8 | 25°01.7 | 25°01.5 | 25°01.1 | 25°00.6 | +0.1 | 56.2 |
| Ve 23 | 319°24.2 | 333°50.8 | 348°17.4 | 2°44.0 | 17°10.6 | 31°37.1 | 46°03.6 | 60°30.2 | 74°56.6 | 89°23.1 | 103°49.6 | +26.5 | 15.6 |
| | 24°35.9 | 24°33.1 | 24°30.2 | 24°27.1 | 24°23.9 | 24°20.5 | 24°17.0 | 24°13.3 | 24°09.5 | 24°05.5 | 24°01.4 | -3.5 | 57.1 |
| Sa 24 | 320°25.6 | 334°52.0 | 349°18.4 | 3°44.8 | 18°11.2 | 32°37.6 | 47°04.0 | 61°30.4 | 75°56.8 | 90°23.3 | 104°49.8 | +26.4 | 15.8 |
| | 22°42.3 | 22°35.9 | 22°29.3 | 22°22.6 | 22°15.7 | 22°08.7 | 22°01.5 | 21°54.3 | 21°46.8 | 21°39.3 | 21°31.5 | -7.1 | 58.1 |
| Di 25 | 321°28.5 | 335°55.2 | 350°21.9 | 4°48.7 | 19°15.5 | 33°42.3 | 48°09.2 | 62°36.1 | 77°03.0 | 91°29.9 | 105°56.8 | +26.8 | 16.1 |
| | 19°19.5 | 19°09.6 | 18°59.6 | 18°49.5 | 18°39.2 | 18°28.8 | 18°18.3 | 18°07.7 | 17°56.9 | 17°46.1 | 17°35.1 | -10.4 | 59.1 |
| Lu 26 | 322°44.2 | 337°11.6 | 351°39.0 | 6°06.4 | 20°33.8 | 35°01.3 | 49°28.8 | 63°56.3 | 78°23.9 | 92°51.4 | 107°19.0 | +27.5 | 16.4 |
| | 14°36.4 | 14°23.7 | 14°10.8 | 13°57.8 | 13°44.7 | 13°31.6 | 13°18.3 | 13°04.9 | 12°51.5 | 12°38.0 | 12°24.3 | -13.2 | 60.0 |
| Ma 27 | 324°15.8 | 338°43.8 | 353°11.7 | 7°39.7 | 22°07.7 | 36°35.7 | 51°03.7 | 65°31.8 | 79°59.8 | 94°27.9 | 108°56.0 | +28.0 | 16.5 |
| | 8°50.2 | 8°35.3 | 8°20.4 | 8°05.4 | 7°50.4 | 7°35.3 | 7°20.2 | 7°05.0 | 6°49.7 | 6°34.4 | 6°19.0 | -15.1 | 60.6 |
| ○ Me 28 | 325°58.3 | 340°26.5 | 354°54.6 | 9°22.8 | 23°51.0 | 38°19.2 | 52°47.4 | 67°15.5 | 81°43.7 | 96°11.9 | 110°40.0 | +28.2 | 16.6 |
| | 2°24.1 | 2°08.2 | 1°52.3 | 1°36.4 | 1°20.4 | 1°04.5 | 0°48.5 | 0°32.6 | 0°16.6 | 0°00.6 | -0°15.4 | -16.0 | 61.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 21h52 — NL: 13 10h31 — PQ: 21 15h09 — PL: 28 17h10

# SOLEIL

## Mars 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 266°55.6<br>-7°27.8 | 281°55.7<br>-7°26.9 | 296°55.8<br>-7°25.9 | 311°55.9<br>-7°25.0 | 326°56.1<br>-7°24.0 | 341°56.2<br>-7°23.1 | 356°56.3<br>-7°22.1 | 11°56.4<br>-7°21.2 | 26°56.6<br>-7°20.2 | 41°56.7<br>-7°19.3 | 56°56.8<br>-7°18.3 | 71°56.9<br>-7°17.4 | +0.1<br>+1.0 |
| Ve 2 | 266°58.6<br>-7°05.0 | 281°58.7<br>-7°04.0 | 296°58.8<br>-7°03.1 | 311°59.0<br>-7°02.1 | 326°59.1<br>-7°01.1 | 341°59.2<br>-7°00.2 | 356°59.4<br>-6°59.2 | 11°59.5<br>-6°58.3 | 26°59.6<br>-6°57.3 | 41°59.7<br>-6°56.4 | 56°59.9<br>-6°55.4 | 72°00.0<br>-6°54.5 | +0.1<br>+1.0 |
| Sa 3 | 267°01.7<br>-6°42.0 | 282°01.9<br>-6°41.0 | 297°02.0<br>-6°40.1 | 312°02.1<br>-6°39.1 | 327°02.3<br>-6°38.2 | 342°02.4<br>-6°37.2 | 357°02.5<br>-6°36.2 | 12°02.7<br>-6°35.3 | 27°02.8<br>-6°34.3 | 42°02.9<br>-6°33.4 | 57°03.1<br>-6°32.4 | 72°03.2<br>-6°31.4 | +0.1<br>+1.0 |
| Di 4 | 267°05.0<br>-6°18.9 | 282°05.1<br>-6°18.0 | 297°05.2<br>-6°17.0 | 312°05.4<br>-6°16.0 | 327°05.5<br>-6°15.1 | 342°05.7<br>-6°14.1 | 357°05.8<br>-6°13.1 | 12°05.9<br>-6°12.2 | 27°06.1<br>-6°11.2 | 42°06.2<br>-6°10.2 | 57°06.4<br>-6°09.3 | 72°06.5<br>-6°08.3 | +0.1<br>+1.0 |
| Lu 5 | 267°08.3<br>-5°55.8 | 282°08.5<br>-5°54.8 | 297°08.6<br>-5°53.8 | 312°08.8<br>-5°52.9 | 327°08.9<br>-5°51.9 | 342°09.0<br>-5°50.9 | 357°09.2<br>-5°50.0 | 12°09.3<br>-5°49.0 | 27°09.5<br>-5°48.0 | 42°09.6<br>-5°47.1 | 57°09.8<br>-5°46.1 | 72°09.9<br>-5°45.1 | +0.1<br>+1.0 |
| Ma 6 | 267°11.8<br>-5°32.5 | 282°11.9<br>-5°31.5 | 297°12.1<br>-5°30.6 | 312°12.2<br>-5°29.6 | 327°12.4<br>-5°28.6 | 342°12.5<br>-5°27.7 | 357°12.7<br>-5°26.7 | 12°12.8<br>-5°25.7 | 27°13.0<br>-5°24.7 | 42°13.1<br>-5°23.8 | 57°13.3<br>-5°22.8 | 72°13.4<br>-5°21.8 | +0.1<br>+1.0 |
| Me 7 | 267°15.3<br>-5°09.2 | 282°15.5<br>-5°08.2 | 297°15.6<br>-5°07.2 | 312°15.8<br>-5°06.3 | 327°15.9<br>-5°05.3 | 342°16.1<br>-5°04.3 | 357°16.2<br>-5°03.3 | 12°16.4<br>-5°02.4 | 27°16.6<br>-5°01.4 | 42°16.7<br>-5°00.4 | 57°16.9<br>-4°59.4 | 72°17.0<br>-4°58.5 | +0.2<br>+1.0 |
| Je 8 | 267°19.0<br>-4°45.8 | 282°19.1<br>-4°44.8 | 297°19.3<br>-4°43.8 | 312°19.5<br>-4°42.9 | 327°19.6<br>-4°41.9 | 342°19.8<br>-4°40.9 | 357°19.9<br>-4°39.9 | 12°20.1<br>-4°39.0 | 27°20.2<br>-4°38.0 | 42°20.4<br>-4°37.0 | 57°20.5<br>-4°36.0 | 72°20.7<br>-4°35.1 | +0.2<br>+1.0 |
| Ve 9 | 267°22.7<br>-4°22.3 | 282°22.9<br>-4°21.4 | 297°23.0<br>-4°20.4 | 312°23.2<br>-4°19.4 | 327°23.4<br>-4°18.4 | 342°23.5<br>-4°17.4 | 357°23.7<br>-4°16.5 | 12°23.8<br>-4°15.5 | 27°24.0<br>-4°14.5 | 42°24.2<br>-4°13.5 | 57°24.3<br>-4°12.5 | 72°24.5<br>-4°11.6 | +0.2<br>+1.0 |
| Sa 10 | 267°26.5<br>-3°58.8 | 282°26.7<br>-3°57.8 | 297°26.9<br>-3°56.9 | 312°27.0<br>-3°55.9 | 327°27.2<br>-3°54.9 | 342°27.4<br>-3°53.9 | 357°27.5<br>-3°52.9 | 12°27.7<br>-3°52.0 | 27°27.8<br>-3°51.0 | 42°28.0<br>-3°50.0 | 57°28.2<br>-3°49.0 | 72°28.3<br>-3°48.0 | +0.2<br>+1.0 |
| Di 11 | 267°30.4<br>-3°35.3 | 282°30.6<br>-3°34.3 | 297°30.8<br>-3°33.3 | 312°30.9<br>-3°32.3 | 327°31.1<br>-3°31.3 | 342°31.3<br>-3°30.3 | 357°31.4<br>-3°29.4 | 12°31.6<br>-3°28.4 | 27°31.8<br>-3°27.4 | 42°31.9<br>-3°26.4 | 57°32.1<br>-3°25.4 | 72°32.3<br>-3°24.4 | +0.2<br>+1.0 |
| Lu 12 | 267°34.4<br>-3°11.6 | 282°34.6<br>-3°10.7 | 297°34.7<br>-3°09.7 | 312°34.9<br>-3°08.7 | 327°35.1<br>-3°07.7 | 342°35.3<br>-3°06.7 | 357°35.4<br>-3°05.7 | 12°35.6<br>-3°04.8 | 27°35.8<br>-3°03.8 | 42°35.9<br>-3°02.8 | 57°36.1<br>-3°01.8 | 72°36.3<br>-3°00.8 | +0.2<br>+1.0 |
| Ma 13 | 267°38.5<br>-2°48.0 | 282°38.6<br>-2°47.0 | 297°38.8<br>-2°46.0 | 312°39.0<br>-2°45.0 | 327°39.1<br>-2°44.1 | 342°39.3<br>-2°43.1 | 357°39.5<br>-2°42.1 | 12°39.6<br>-2°41.1 | 27°39.8<br>-2°40.1 | 42°40.0<br>-2°39.1 | 57°40.2<br>-2°38.1 | 72°40.3<br>-2°37.2 | +0.2<br>+1.0 |
| Me 14 | 267°42.6<br>-2°24.3 | 282°42.7<br>-2°23.3 | 297°42.9<br>-2°22.4 | 312°43.1<br>-2°21.4 | 327°43.3<br>-2°20.4 | 342°43.4<br>-2°19.4 | 357°43.6<br>-2°18.4 | 12°43.8<br>-2°17.4 | 27°43.9<br>-2°16.4 | 42°44.1<br>-2°15.4 | 57°44.3<br>-2°14.5 | 72°44.5<br>-2°13.5 | +0.2<br>+1.0 |
| Je 15 | 267°46.7<br>-2°00.6 | 282°46.9<br>-1°59.6 | 297°47.1<br>-1°58.7 | 312°47.3<br>-1°57.7 | 327°47.4<br>-1°56.7 | 342°47.6<br>-1°55.7 | 357°47.8<br>-1°54.7 | 12°48.0<br>-1°53.7 | 27°48.1<br>-1°52.7 | 42°48.3<br>-1°51.7 | 57°48.5<br>-1°50.7 | 72°48.7<br>-1°49.8 | +0.2<br>+1.0 |
| Ve 16 | 267°51.0<br>-1°36.9 | 282°51.1<br>-1°35.9 | 297°51.3<br>-1°34.9 | 312°51.5<br>-1°33.9 | 327°51.7<br>-1°33.0 | 342°51.8<br>-1°32.0 | 357°52.0<br>-1°31.0 | 12°52.2<br>-1°30.0 | 27°52.4<br>-1°29.0 | 42°52.6<br>-1°28.0 | 57°52.7<br>-1°27.0 | 72°52.9<br>-1°26.0 | +0.2<br>+1.0 |
| Sa 17 | 267°55.2<br>-1°13.2 | 282°55.4<br>-1°12.2 | 297°55.6<br>-1°11.2 | 312°55.8<br>-1°10.2 | 327°55.9<br>-1°09.2 | 342°56.1<br>-1°08.2 | 357°56.3<br>-1°07.3 | 12°56.5<br>-1°06.3 | 27°56.7<br>-1°05.3 | 42°56.8<br>-1°04.3 | 57°57.0<br>-1°03.3 | 72°57.2<br>-1°02.3 | +0.2<br>+1.0 |
| Di 18 | 267°59.6<br>-0°49.5 | 282°59.7<br>-0°48.5 | 297°59.9<br>-0°47.5 | 313°00.1<br>-0°46.5 | 328°00.3<br>-0°45.5 | 343°00.5<br>-0°44.5 | 358°00.6<br>-0°43.5 | 13°00.8<br>-0°42.5 | 28°01.0<br>-0°41.5 | 43°01.2<br>-0°40.6 | 58°01.4<br>-0°39.6 | 73°01.5<br>-0°38.6 | +0.2<br>+1.0 |
| Lu 19 | 268°03.9<br>-0°25.7 | 283°04.1<br>-0°24.7 | 298°04.3<br>-0°23.7 | 313°04.5<br>-0°22.8 | 328°04.7<br>-0°21.8 | 343°04.8<br>-0°20.8 | 358°05.0<br>-0°19.8 | 13°05.2<br>-0°18.8 | 28°05.4<br>-0°17.8 | 43°05.6<br>-0°16.8 | 58°05.7<br>-0°15.8 | 73°05.9<br>-0°14.8 | +0.2<br>+1.0 |
| Ma 20 | 268°08.3<br>-0°02.0 | 283°08.5<br>-0°01.0 | 298°08.7<br>-0°00.0 | 313°08.9<br>0°01.0 | 328°09.1<br>0°02.0 | 343°09.2<br>0°02.9 | 358°09.4<br>0°03.9 | 13°09.6<br>0°04.9 | 28°09.8<br>0°05.9 | 43°10.0<br>0°06.9 | 58°10.2<br>0°07.9 | 73°10.4<br>0°08.9 | +0.2<br>+1.0 |
| Me 21 | 268°12.8<br>0°21.7 | 283°12.9<br>0°22.7 | 298°13.1<br>0°23.7 | 313°13.3<br>0°24.7 | 328°13.5<br>0°25.7 | 343°13.7<br>0°26.6 | 358°13.9<br>0°27.6 | 13°14.1<br>0°28.6 | 28°14.3<br>0°29.6 | 43°14.4<br>0°30.6 | 58°14.6<br>0°31.6 | 73°14.8<br>0°32.6 | +0.2<br>+1.0 |
| Je 22 | 268°17.2<br>0°45.4 | 283°17.4<br>0°46.4 | 298°17.6<br>0°47.4 | 313°17.8<br>0°48.4 | 328°18.0<br>0°49.3 | 343°18.2<br>0°50.3 | 358°18.4<br>0°51.3 | 13°18.5<br>0°52.3 | 28°18.7<br>0°53.3 | 43°18.9<br>0°54.3 | 58°19.1<br>0°55.3 | 73°19.3<br>0°56.2 | +0.2<br>+1.0 |
| Ve 23 | 268°21.7<br>1°09.1 | 283°21.9<br>1°10.0 | 298°22.1<br>1°11.0 | 313°22.3<br>1°12.0 | 328°22.5<br>1°13.0 | 343°22.7<br>1°14.0 | 358°22.9<br>1°15.0 | 13°23.0<br>1°16.0 | 28°23.2<br>1°16.9 | 43°23.4<br>1°17.9 | 58°23.6<br>1°18.9 | 73°23.8<br>1°19.9 | +0.2<br>+1.0 |
| Sa 24 | 268°26.2<br>1°32.7 | 283°26.4<br>1°33.7 | 298°26.6<br>1°34.7 | 313°26.8<br>1°35.6 | 328°27.0<br>1°36.6 | 343°27.2<br>1°37.6 | 358°27.4<br>1°38.6 | 13°27.6<br>1°39.6 | 28°27.8<br>1°40.6 | 43°27.9<br>1°41.5 | 58°28.1<br>1°42.5 | 73°28.3<br>1°43.5 | +0.2<br>+1.0 |
| Di 25 | 268°30.8<br>1°56.3 | 283°31.0<br>1°57.3 | 298°31.2<br>1°58.2 | 313°31.3<br>1°59.2 | 328°31.5<br>2°00.2 | 343°31.7<br>2°01.2 | 358°31.9<br>2°02.2 | 13°32.1<br>2°03.1 | 28°32.3<br>2°04.1 | 43°32.5<br>2°05.1 | 58°32.7<br>2°06.1 | 73°32.9<br>2°07.1 | +0.2<br>+1.0 |
| Lu 26 | 268°35.3<br>2°19.8 | 283°35.5<br>2°20.8 | 298°35.7<br>2°21.8 | 313°35.9<br>2°22.8 | 328°36.1<br>2°23.7 | 343°36.3<br>2°24.7 | 358°36.5<br>2°25.7 | 13°36.6<br>2°26.7 | 28°36.8<br>2°27.7 | 43°37.0<br>2°28.6 | 58°37.2<br>2°29.6 | 73°37.4<br>2°30.6 | +0.2<br>+1.0 |
| Ma 27 | 268°39.9<br>2°43.3 | 283°40.0<br>2°44.3 | 298°40.2<br>2°45.3 | 313°40.4<br>2°46.2 | 328°40.6<br>2°47.2 | 343°40.8<br>2°48.2 | 358°41.0<br>2°49.2 | 13°41.2<br>2°50.2 | 28°41.4<br>2°51.1 | 43°41.6<br>2°52.1 | 58°41.8<br>2°53.1 | 73°41.9<br>2°54.1 | +0.2<br>+1.0 |
| Me 28 | 268°44.4<br>3°06.8 | 283°44.6<br>3°07.7 | 298°44.8<br>3°08.7 | 313°45.0<br>3°09.7 | 328°45.2<br>3°10.7 | 343°45.4<br>3°11.6 | 358°45.5<br>3°12.6 | 13°45.7<br>3°13.6 | 28°45.9<br>3°14.6 | 43°46.1<br>3°15.5 | 58°46.3<br>3°16.5 | 73°46.5<br>3°17.5 | +0.2<br>+1.0 |
| Je 29 | 268°48.9<br>3°30.1 | 283°49.1<br>3°31.1 | 298°49.3<br>3°32.1 | 313°49.5<br>3°33.0 | 328°49.7<br>3°34.0 | 343°49.9<br>3°35.0 | 358°50.1<br>3°36.0 | 13°50.3<br>3°36.9 | 28°50.5<br>3°37.9 | 43°50.6<br>3°38.9 | 58°50.8<br>3°39.9 | 73°51.0<br>3°40.8 | +0.2<br>+1.0 |
| Ve 30 | 268°53.3<br>3°53.4 | 283°53.7<br>3°54.4 | 298°53.8<br>3°55.4 | 313°54.0<br>3°56.4 | 328°54.2<br>3°57.3 | 343°54.4<br>3°58.3 | 358°54.6<br>3°59.3 | 13°54.8<br>4°00.2 | 28°55.0<br>4°01.2 | 43°55.2<br>4°02.2 | 58°55.3<br>4°03.1 | 73°55.5<br>4°04.1 | +0.2<br>+1.0 |
| Sa 31 | 268°58.0<br>4°16.7 | 283°58.2<br>4°17.6 | 298°58.3<br>4°18.6 | 313°58.5<br>4°19.6 | 328°58.7<br>4°20.5 | 343°58.9<br>4°21.5 | 358°59.1<br>4°22.5 | 13°59.3<br>4°23.4 | 28°59.5<br>4°24.4 | 43°59.7<br>4°25.4 | 58°59.8<br>4°26.3 | 74°00.0<br>4°27.3 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2029

| J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 240°53.0 | 255°21.1 | 269°49.1 | 284°17.1 | 298°45.1 | 313°13.1 | 327°41.1 | 342°09.0 | 356°36.9 | 11°04.8 | 25°32.7 | +28.0 | 16.7 |
| | -2°39.0 | -2°54.9 | -3°10.8 | -3°26.7 | -3°42.5 | -3°58.3 | -4°14.1 | -4°29.9 | -4°45.6 | -5°01.3 | -5°17.0 | -15.8 | 61.1 |
| Ve 2 | 242°27.8 | 256°55.2 | 271°22.6 | 285°50.0 | 300°17.3 | 314°44.6 | 329°11.9 | 343°39.1 | 358°06.3 | 12°33.5 | 27°00.6 | +27.3 | 16.6 |
| | -9°06.8 | -9°21.7 | -9°36.5 | -9°51.2 | -10°05.9 | -10°20.5 | -10°35.1 | -10°49.5 | -11°03.9 | -11°18.2 | -11°32.5 | -14.6 | 60.9 |
| Sa 3 | 243°42.6 | 258°09.1 | 272°35.6 | 287°02.0 | 301°28.3 | 315°54.6 | 330°20.9 | 344°47.1 | 359°13.3 | 13°39.4 | 28°05.5 | +26.3 | 16.5 |
| | -14°55.4 | -15°08.2 | -15°20.8 | -15°33.4 | -15°45.8 | -15°58.1 | -16°10.3 | -16°22.4 | -16°34.4 | -16°46.2 | -16°58.0 | -12.3 | 60.4 |
| Di 4 | 244°32.3 | 258°57.8 | 273°23.2 | 287°48.7 | 302°14.0 | 316°39.4 | 331°04.7 | 345°30.0 | 359°55.3 | 14°20.5 | 28°45.7 | +25.3 | 16.3 |
| | -19°39.2 | -19°48.9 | -19°58.4 | -20°07.9 | -20°17.1 | -20°26.3 | -20°35.3 | -20°44.1 | -20°52.9 | -21°01.4 | -21°09.8 | -9.1 | 59.7 |
| Lu 5 | 245°00.8 | 259°25.7 | 273°50.6 | 288°15.4 | 302°40.3 | 317°05.1 | 331°30.0 | 345°54.8 | 0°19.6 | 14°44.4 | 29°09.3 | +24.8 | 16.0 |
| | -22°58.3 | -23°04.3 | -23°10.2 | -23°15.9 | -23°21.4 | -23°26.8 | -23°32.0 | -23°37.1 | -23°42.0 | -23°46.8 | -23°51.4 | -5.3 | 58.8 |
| Ma 6 | 245°22.6 | 259°47.6 | 274°12.6 | 288°37.7 | 303°02.8 | 317°27.9 | 331°53.1 | 346°18.3 | 0°43.5 | 15°08.7 | 29°34.0 | +25.1 | 15.8 |
| | -24°41.4 | -24°43.4 | -24°45.4 | -24°47.1 | -24°48.7 | -24°50.1 | -24°51.4 | -24°52.6 | -24°53.5 | -24°54.4 | -24°55.0 | -1.4 | 58.0 |
| ◑ Me 7 | 245°58.5 | 260°24.6 | 274°50.7 | 289°16.8 | 303°43.0 | 318°09.3 | 332°35.6 | 347°02.0 | 1°28.5 | 15°55.0 | 30°21.6 | +26.3 | 15.6 |
| | -24°46.8 | -24°45.1 | -24°43.2 | -24°41.1 | -24°39.0 | -24°36.7 | -24°34.2 | -24°31.6 | -24°28.9 | -24°26.0 | -24°23.0 | +2.4 | 57.2 |
| Je 8 | 260°24.6 | 274°50.7 | 289°16.8 | 303°43.0 | 318°09.3 | 332°35.6 | 347°02.0 | 1°28.5 | 15°55.0 | 30°21.6 | 44°48.3 | +26.4 | 15.6 |
| | -24°45.1 | -24°43.2 | -24°41.1 | -24°39.0 | -24°36.7 | -24°34.2 | -24°31.6 | -24°28.9 | -24°26.0 | -24°23.0 | -24°19.9 | +2.5 | 57.1 |
| Ve 9 | 261°36.7 | 276°04.5 | 290°32.4 | 305°00.4 | 319°28.5 | 333°56.6 | 348°24.9 | 2°53.2 | 17°21.6 | 31°50.0 | 46°18.6 | +28.2 | 15.4 |
| | -23°16.9 | -23°11.7 | -23°06.3 | -23°00.9 | -22°55.3 | -22°49.6 | -22°43.8 | -22°37.9 | -22°31.8 | -22°25.7 | -22°19.4 | +5.7 | 56.4 |
| Sa 10 | 263°36.6 | 278°06.5 | 292°36.5 | 307°06.5 | 321°36.6 | 336°06.8 | 350°37.1 | 5°07.4 | 19°37.8 | 34°08.4 | 48°39.0 | +30.2 | 15.2 |
| | -20°32.7 | -20°24.8 | -20°16.8 | -20°08.7 | -20°00.5 | -19°52.2 | -19°43.8 | -19°35.4 | -19°26.8 | -19°18.2 | -19°09.4 | +8.3 | 55.7 |
| Di 11 | 266°27.3 | 280°59.1 | 295°31.0 | 310°03.0 | 324°35.0 | 339°07.1 | 353°39.3 | 8°11.6 | 22°43.9 | 37°16.3 | 51°48.7 | +32.2 | 15.1 |
| | -16°49.0 | -16°39.0 | -16°29.0 | -16°18.9 | -16°08.8 | -15°58.5 | -15°48.3 | -15°37.9 | -15°27.5 | -15°17.0 | -15°06.5 | +10.3 | 55.2 |
| Lu 12 | 270°03.4 | 284°36.9 | 299°10.4 | 313°44.0 | 328°17.6 | 342°51.3 | 357°25.0 | 11°58.8 | 26°32.6 | 41°06.5 | 55°40.5 | +33.7 | 14.9 |
| | -12°22.0 | -12°10.6 | -11°59.2 | -11°47.8 | -11°36.3 | -11°24.8 | -11°13.2 | -11°01.6 | -10°49.9 | -10°38.2 | -10°26.5 | +11.6 | 54.8 |
| Ma 13 | 274°15.1 | 288°49.7 | 303°24.4 | 317°59.1 | 332°33.8 | 347°08.6 | 1°43.4 | 16°18.3 | 30°53.1 | 45°28.0 | 60°03.0 | +34.8 | 14.8 |
| | -7°26.8 | -7°14.6 | -7°02.3 | -6°50.1 | -6°37.8 | -6°25.5 | -6°13.2 | -6°00.9 | -5°48.6 | -5°36.2 | -5°23.8 | +12.3 | 54.4 |
| Me 14 | 278°50.0 | 293°25.3 | 308°00.6 | 322°35.9 | 337°11.2 | 351°46.6 | 6°21.9 | 20°57.3 | 35°32.7 | 50°08.1 | 64°43.5 | +35.4 | 14.8 |
| | -2°16.7 | -2°04.2 | -1°51.6 | -1°39.1 | -1°26.6 | -1°14.0 | -1°01.5 | -0°48.9 | -0°36.4 | -0°23.8 | -0°11.3 | +12.5 | 54.1 |
| ● Je 15 | 283°35.1 | 298°10.5 | 312°45.9 | 327°21.4 | 341°56.8 | 356°32.2 | 11°07.6 | 25°43.0 | 40°18.4 | 54°53.7 | 69°29.1 | +35.4 | 14.7 |
| | 2°56.0 | 3°08.4 | 3°20.8 | 3°33.1 | 3°45.5 | 3°57.8 | 4°10.2 | 4°22.5 | 4°34.7 | 4°47.0 | 4°59.2 | +12.3 | 54.0 |
| Ve 16 | 288°17.7 | 302°52.7 | 317°27.8 | 332°02.8 | 346°37.8 | 1°12.8 | 15°47.8 | 30°22.7 | 44°57.6 | 59°32.4 | 74°07.3 | +35.0 | 14.7 |
| | 7°59.9 | 8°11.7 | 8°23.5 | 8°35.3 | 8°47.0 | 8°58.7 | 9°10.3 | 9°21.9 | 9°33.5 | 9°45.1 | 9°56.6 | +11.7 | 53.9 |
| Sa 17 | 292°45.8 | 307°20.0 | 321°54.3 | 336°28.4 | 351°02.6 | 5°36.7 | 20°10.7 | 34°44.7 | 49°18.7 | 63°52.6 | 78°26.5 | +34.1 | 14.7 |
| | 12°43.9 | 12°54.7 | 13°05.5 | 13°16.1 | 13°26.8 | 13°37.4 | 13°47.9 | 13°58.4 | 14°08.8 | 14°19.1 | 14°29.4 | +10.6 | 53.9 |
| Di 18 | 296°48.8 | 311°21.9 | 325°54.9 | 340°27.9 | 355°00.8 | 9°33.7 | 24°06.5 | 38°39.2 | 53°11.9 | 67°44.5 | 82°17.1 | +32.8 | 14.7 |
| | 16°56.7 | 17°06.0 | 17°15.2 | 17°24.4 | 17°33.4 | 17°42.5 | 17°51.4 | 18°00.3 | 18°09.1 | 18°17.8 | 18°26.4 | +9.0 | 54.0 |
| Lu 19 | 300°18.8 | 314°50.4 | 329°22.0 | 343°53.5 | 358°25.0 | 12°56.3 | 27°27.7 | 41°58.9 | 56°30.2 | 71°01.3 | 85°32.4 | +31.4 | 14.8 |
| | 20°26.4 | 20°33.8 | 20°41.0 | 20°48.2 | 20°55.2 | 21°02.2 | 21°09.1 | 21°15.8 | 21°22.5 | 21°29.1 | 21°35.6 | +6.9 | 54.3 |
| Ma 20 | 303°11.5 | 317°41.6 | 332°11.7 | 346°41.7 | 1°11.7 | 15°41.6 | 30°11.4 | 44°41.2 | 59°11.0 | 73°40.7 | 88°10.3 | +29.9 | 14.9 |
| | 23°01.2 | 23°06.1 | 23°10.9 | 23°15.6 | 23°20.1 | 23°24.6 | 23°28.9 | 23°33.1 | 23°37.3 | 23°41.3 | 23°45.2 | +4.4 | 54.7 |
| Me 21 | 305°28.4 | 319°57.2 | 334°26.0 | 348°54.7 | 3°23.4 | 17°52.0 | 32°20.6 | 46°49.2 | 61°17.7 | 75°46.1 | 90°14.6 | +28.6 | 15.1 |
| | 24°29.5 | 24°31.6 | 24°33.4 | 24°35.2 | 24°36.8 | 24°38.3 | 24°39.7 | 24°41.0 | 24°42.1 | 24°43.1 | 24°44.0 | +1.4 | 55.3 |
| Je 22 | 307°16.9 | 321°44.8 | 336°12.7 | 350°40.5 | 5°08.3 | 19°36.2 | 34°04.0 | 48°31.7 | 62°59.5 | 77°27.2 | 91°54.9 | +27.8 | 15.3 |
| | 24°41.5 | 24°40.3 | 24°39.0 | 24°37.5 | 24°35.9 | 24°34.1 | 24°32.3 | 24°30.3 | 24°28.1 | 24°25.8 | 24°23.4 | -1.8 | 56.0 |
| ◐ Ve 23 | 308°49.1 | 323°16.6 | 337°44.2 | 352°11.7 | 6°39.2 | 21°06.8 | 35°34.3 | 50°01.8 | 64°29.4 | 78°56.9 | 93°24.4 | +27.5 | 15.5 |
| | 23°30.8 | 23°26.2 | 23°21.5 | 23°16.7 | 23°11.7 | 23°06.5 | 23°01.3 | 22°55.9 | 22°50.3 | 22°44.7 | 22°38.9 | -5.2 | 56.8 |
| Sa 24 | 310°18.2 | 324°45.9 | 339°13.5 | 353°41.2 | 8°08.9 | 22°36.6 | 37°04.3 | 51°32.1 | 65°59.8 | 80°27.6 | 94°55.4 | +27.7 | 15.8 |
| | 20°55.9 | 20°48.0 | 20°40.0 | 20°31.8 | 20°23.5 | 20°15.1 | 20°06.6 | 19°57.9 | 19°49.1 | 19°40.2 | 19°31.2 | -8.5 | 57.8 |
| Di 25 | 311°54.0 | 326°22.0 | 340°50.1 | 355°18.2 | 9°46.3 | 24°14.4 | 38°42.5 | 53°10.6 | 67°38.8 | 82°07.0 | 96°35.2 | +28.1 | 16.0 |
| | 17°01.2 | 16°50.3 | 16°39.2 | 16°28.1 | 16°16.8 | 16°05.5 | 15°54.0 | 15°42.4 | 15°30.7 | 15°18.9 | 15°07.1 | -11.4 | 58.8 |
| Lu 26 | 313°39.7 | 328°08.1 | 342°36.5 | 357°04.9 | 11°33.4 | 26°01.8 | 40°30.2 | 54°58.7 | 69°27.2 | 83°55.6 | 98°24.1 | +28.4 | 16.3 |
| | 11°56.9 | 11°43.5 | 11°30.0 | 11°16.5 | 11°02.8 | 10°49.1 | 10°35.3 | 10°21.4 | 10°07.4 | 9°53.3 | 9°39.2 | -13.8 | 59.8 |
| Ma 27 | 315°31.4 | 329°59.9 | 344°28.3 | 358°56.8 | 13°25.2 | 27°53.7 | 42°22.1 | 56°50.5 | 71°18.9 | 85°47.3 | 100°15.7 | +28.4 | 16.5 |
| | 5°59.4 | 5°44.3 | 5°29.1 | 5°13.9 | 4°58.7 | 4°43.4 | 4°28.0 | 4°12.6 | 3°57.2 | 3°41.8 | 3°26.2 | -15.3 | 60.6 |
| Me 28 | 317°19.4 | 331°47.5 | 346°15.5 | 0°43.5 | 15°11.5 | 29°39.5 | 44°07.4 | 58°35.3 | 73°03.1 | 87°31.0 | 101°58.8 | +27.9 | 16.7 |
| | -0°29.4 | -0°45.2 | -1°01.1 | -1°16.9 | -1°32.8 | -1°48.6 | -2°04.5 | -2°20.3 | -2°36.1 | -2°52.0 | -3°07.8 | -15.8 | 61.2 |
| Je 29 | 318°51.1 | 333°18.3 | 347°45.4 | 2°12.5 | 16°39.5 | 31°06.4 | 45°33.4 | 60°00.2 | 74°27.0 | 88°53.8 | 103°20.5 | +26.9 | 16.7 |
| | -7°02.5 | -7°17.9 | -7°33.2 | -7°48.5 | -8°03.8 | -8°19.0 | -8°34.1 | -8°49.2 | -9°04.3 | -9°19.3 | -9°34.2 | -15.2 | 61.4 |
| ○ Ve 30 | 319°54.9 | 334°20.7 | 348°46.5 | 3°12.3 | 17°38.0 | 32°03.6 | 46°29.2 | 60°54.7 | 75°20.1 | 89°45.5 | 104°10.9 | +25.6 | 16.7 |
| | -13°09.5 | -13°23.2 | -13°36.8 | -13°50.3 | -14°03.7 | -14°17.0 | -14°30.2 | -14°43.3 | -14°56.3 | -15°09.2 | -15°22.0 | -13.3 | 61.3 |
| Sa 31 | 320°24.6 | 334°49.1 | 349°13.5 | 3°37.9 | 18°02.3 | 32°26.6 | 46°50.9 | 61°15.1 | 75°39.3 | 90°03.4 | 104°27.5 | +24.3 | 16.6 |
| | -18°19.7 | -18°30.5 | -18°41.2 | -18°51.7 | -19°02.2 | -19°12.4 | -19°22.6 | -19°32.6 | -19°42.4 | -19°52.1 | -20°01.7 | -10.2 | 60.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 7 07h51 — NL: 15 04h19 — PQ: 23 07h33 — PL: 30 02h26

# SOLEIL

## Avril 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°02.5<br>4°39.8 | 284°02.6<br>4°40.8 | 299°02.8<br>4°41.8 | 314°03.0<br>4°42.7 | 329°03.2<br>4°43.7 | 344°03.4<br>4°44.7 | 359°03.6<br>4°45.6 | 14°03.8<br>4°46.6 | 29°03.9<br>4°47.5 | 44°04.1<br>4°48.5 | 59°04.3<br>4°49.5 | 74°04.5<br>4°50.4 | +0.2<br>+1.0 |
| Lu 2 | 269°06.9<br>5°02.9 | 284°07.1<br>5°03.9 | 299°07.3<br>5°04.8 | 314°07.5<br>5°05.8 | 329°07.6<br>5°06.8 | 344°07.8<br>5°07.7 | 359°08.0<br>5°08.7 | 14°08.2<br>5°09.6 | 29°08.4<br>5°10.6 | 44°08.6<br>5°11.6 | 59°08.7<br>5°12.5 | 74°08.9<br>5°13.5 | +0.2<br>+1.0 |
| Ma 3 | 269°11.3<br>5°25.9 | 284°11.5<br>5°26.9 | 299°11.7<br>5°27.8 | 314°11.9<br>5°28.8 | 329°12.0<br>5°29.7 | 344°12.2<br>5°30.7 | 359°12.4<br>5°31.7 | 14°12.6<br>5°32.6 | 29°12.8<br>5°33.6 | 44°13.0<br>5°34.5 | 59°13.1<br>5°35.5 | 74°13.3<br>5°36.4 | +0.2<br>+1.0 |
| Me 4 | 269°15.7<br>5°48.8 | 284°15.9<br>5°49.8 | 299°16.0<br>5°50.7 | 314°16.2<br>5°51.7 | 329°16.4<br>5°52.6 | 344°16.6<br>5°53.6 | 359°16.8<br>5°54.5 | 14°17.0<br>5°55.5 | 29°17.1<br>5°56.4 | 44°17.3<br>5°57.4 | 59°17.5<br>5°58.3 | 74°17.7<br>5°59.3 | +0.2<br>+1.0 |
| Je 5 | 269°20.0<br>6°11.6 | 284°20.2<br>6°12.6 | 299°20.4<br>6°13.5 | 314°20.5<br>6°14.5 | 329°20.7<br>6°15.4 | 344°20.9<br>6°16.4 | 359°21.1<br>6°17.3 | 14°21.3<br>6°18.3 | 29°21.4<br>6°19.2 | 44°21.6<br>6°20.1 | 59°21.8<br>6°21.1 | 74°22.0<br>6°22.0 | +0.2<br>+0.9 |
| Ve 6 | 269°24.3<br>6°34.3 | 284°24.5<br>6°35.3 | 299°24.6<br>6°36.2 | 314°24.8<br>6°37.2 | 329°25.0<br>6°38.1 | 344°25.2<br>6°39.0 | 359°25.3<br>6°40.0 | 14°25.5<br>6°40.9 | 29°25.7<br>6°41.9 | 44°25.9<br>6°42.8 | 59°26.0<br>6°43.7 | 74°26.2<br>6°44.7 | +0.2<br>+0.9 |
| Sa 7 | 269°28.5<br>6°56.9 | 284°28.7<br>6°57.8 | 299°28.8<br>6°58.8 | 314°29.0<br>6°59.7 | 329°29.2<br>7°00.7 | 344°29.4<br>7°01.6 | 359°29.5<br>7°02.5 | 14°29.7<br>7°03.5 | 29°29.9<br>7°04.4 | 44°30.1<br>7°05.3 | 59°30.2<br>7°06.3 | 74°30.4<br>7°07.2 | +0.2<br>+0.9 |
| Di 8 | 269°32.7<br>7°19.4 | 284°32.8<br>7°20.3 | 299°33.0<br>7°21.2 | 314°33.2<br>7°22.2 | 329°33.3<br>7°23.1 | 344°33.5<br>7°24.0 | 359°33.7<br>7°25.0 | 14°33.9<br>7°25.9 | 29°34.0<br>7°26.8 | 44°34.2<br>7°27.8 | 59°34.4<br>7°28.7 | 74°34.5<br>7°29.6 | +0.2<br>+0.9 |
| Lu 9 | 269°36.7<br>7°41.7 | 284°36.9<br>7°42.6 | 299°37.1<br>7°43.6 | 314°37.2<br>7°44.5 | 329°37.4<br>7°45.4 | 344°37.6<br>7°46.4 | 359°37.8<br>7°47.3 | 14°37.9<br>7°48.2 | 29°38.1<br>7°49.1 | 44°38.3<br>7°50.1 | 59°38.4<br>7°51.0 | 74°38.6<br>7°51.9 | +0.2<br>+0.9 |
| Ma 10 | 269°40.8<br>8°03.9 | 284°40.9<br>8°04.9 | 299°41.1<br>8°05.8 | 314°41.3<br>8°06.7 | 329°41.4<br>8°07.6 | 344°41.6<br>8°08.5 | 359°41.8<br>8°09.5 | 14°41.9<br>8°10.4 | 29°42.1<br>8°11.3 | 44°42.3<br>8°12.2 | 59°42.4<br>8°13.2 | 74°42.6<br>8°14.1 | +0.2<br>+0.9 |
| Me 11 | 269°44.7<br>8°26.0 | 284°44.9<br>8°26.9 | 299°45.0<br>8°27.9 | 314°45.2<br>8°28.8 | 329°45.4<br>8°29.7 | 344°45.5<br>8°30.6 | 359°45.7<br>8°31.5 | 14°45.9<br>8°32.4 | 29°46.0<br>8°33.3 | 44°46.2<br>8°34.3 | 59°46.3<br>8°35.2 | 74°46.5<br>8°36.1 | +0.2<br>+0.9 |
| Je 12 | 269°48.6<br>8°48.0 | 284°48.7<br>8°48.9 | 299°48.9<br>8°49.8 | 314°49.1<br>8°50.7 | 329°49.2<br>8°51.6 | 344°49.4<br>8°52.5 | 359°49.5<br>8°53.4 | 14°49.7<br>8°54.3 | 29°49.9<br>8°55.2 | 44°50.0<br>8°56.1 | 59°50.2<br>8°57.1 | 74°50.3<br>8°58.0 | +0.2<br>+0.9 |
| Ve 13 | 269°52.4<br>9°09.8 | 284°52.5<br>9°10.7 | 299°52.7<br>9°11.6 | 314°52.9<br>9°12.5 | 329°53.0<br>9°13.4 | 344°53.2<br>9°14.3 | 359°53.3<br>9°15.2 | 14°53.5<br>9°16.1 | 29°53.6<br>9°17.0 | 44°53.8<br>9°17.9 | 59°53.9<br>9°18.8 | 74°54.1<br>9°19.7 | +0.2<br>+0.9 |
| Sa 14 | 269°56.1<br>9°31.4 | 284°56.2<br>9°32.3 | 299°56.4<br>9°33.2 | 314°56.6<br>9°34.1 | 329°56.7<br>9°35.0 | 344°56.9<br>9°35.9 | 359°57.0<br>9°36.8 | 14°57.2<br>9°37.7 | 29°57.3<br>9°38.6 | 44°57.5<br>9°39.5 | 59°57.6<br>9°40.4 | 74°57.8<br>9°41.3 | +0.2<br>+0.9 |
| Di 15 | 269°59.7<br>9°52.9 | 284°59.9<br>9°53.8 | 300°00.0<br>9°54.7 | 315°00.2<br>9°55.5 | 330°00.3<br>9°56.4 | 345°00.5<br>9°57.3 | 0°00.6<br>9°58.2 | 15°00.8<br>9°59.1 | 30°00.9<br>10°00.0 | 45°01.1<br>10°00.9 | 60°01.2<br>10°01.8 | 75°01.4<br>10°02.7 | +0.1<br>+0.9 |
| Lu 16 | 270°03.3<br>10°14.2 | 285°03.4<br>10°15.1 | 300°03.6<br>10°16.0 | 315°03.7<br>10°16.8 | 330°03.8<br>10°17.7 | 345°04.0<br>10°18.6 | 0°04.1<br>10°19.5 | 15°04.3<br>10°20.4 | 30°04.4<br>10°21.3 | 45°04.6<br>10°22.1 | 60°04.7<br>10°23.0 | 75°04.9<br>10°23.9 | +0.1<br>+0.9 |
| Ma 17 | 270°06.7<br>10°35.3 | 285°06.9<br>10°36.2 | 300°07.0<br>10°37.1 | 315°07.1<br>10°38.0 | 330°07.3<br>10°38.8 | 345°07.4<br>10°39.7 | 0°07.6<br>10°40.6 | 15°07.7<br>10°41.5 | 30°07.8<br>10°42.4 | 45°08.0<br>10°43.2 | 60°08.1<br>10°44.1 | 75°08.3<br>10°45.0 | +0.1<br>+0.9 |
| Me 18 | 270°10.1<br>10°56.3 | 285°10.2<br>10°57.2 | 300°10.3<br>10°58.1 | 315°10.5<br>10°58.9 | 330°10.6<br>10°59.8 | 345°10.7<br>11°00.7 | 0°10.9<br>11°01.5 | 15°11.0<br>11°02.4 | 30°11.2<br>11°03.3 | 45°11.3<br>11°04.1 | 60°11.4<br>11°05.0 | 75°11.6<br>11°05.9 | +0.1<br>+0.9 |
| Je 19 | 270°13.3<br>11°17.1 | 285°13.5<br>11°18.0 | 300°13.6<br>11°18.8 | 315°13.7<br>11°19.7 | 330°13.9<br>11°20.6 | 345°14.0<br>11°21.4 | 0°14.1<br>11°22.3 | 15°14.2<br>11°23.1 | 30°14.4<br>11°24.0 | 45°14.5<br>11°24.9 | 60°14.6<br>11°25.7 | 75°14.8<br>11°26.6 | +0.1<br>+0.9 |
| Ve 20 | 270°16.5<br>11°37.7 | 285°16.6<br>11°38.6 | 300°16.7<br>11°39.4 | 315°16.9<br>11°40.3 | 330°17.0<br>11°41.1 | 345°17.1<br>11°42.0 | 0°17.2<br>11°42.8 | 15°17.4<br>11°43.7 | 30°17.5<br>11°44.5 | 45°17.6<br>11°45.4 | 60°17.8<br>11°46.2 | 75°17.9<br>11°47.1 | +0.1<br>+0.9 |
| Sa 21 | 270°19.5<br>11°58.1 | 285°19.7<br>11°59.0 | 300°19.8<br>11°59.8 | 315°19.9<br>12°00.7 | 330°20.0<br>12°01.5 | 345°20.1<br>12°02.3 | 0°20.3<br>12°03.2 | 15°20.4<br>12°04.0 | 30°20.5<br>12°04.9 | 45°20.6<br>12°05.7 | 60°20.8<br>12°06.6 | 75°20.9<br>12°07.4 | +0.1<br>+0.8 |
| Di 22 | 270°22.5<br>12°18.3 | 285°22.6<br>12°19.2 | 300°22.7<br>12°20.0 | 315°22.8<br>12°20.8 | 330°23.0<br>12°21.7 | 345°23.1<br>12°22.5 | 0°23.2<br>12°23.3 | 15°23.3<br>12°24.2 | 30°23.4<br>12°25.0 | 45°23.6<br>12°25.9 | 60°23.7<br>12°26.7 | 75°23.8<br>12°27.5 | +0.1<br>+0.8 |
| Lu 23 | 270°25.3<br>12°38.3 | 285°25.4<br>12°39.2 | 300°25.5<br>12°40.0 | 315°25.7<br>12°40.8 | 330°25.8<br>12°41.7 | 345°25.9<br>12°42.5 | 0°26.0<br>12°43.3 | 15°26.1<br>12°44.1 | 30°26.2<br>12°45.0 | 45°26.4<br>12°45.8 | 60°26.5<br>12°46.6 | 75°26.6<br>12°47.4 | +0.1<br>+0.8 |
| Ma 24 | 270°28.0<br>12°58.1 | 285°28.2<br>12°59.0 | 300°28.3<br>12°59.8 | 315°28.4<br>13°00.6 | 330°28.5<br>13°01.4 | 345°28.6<br>13°02.2 | 0°28.7<br>13°03.0 | 15°28.8<br>13°03.9 | 30°28.9<br>13°04.7 | 45°29.0<br>13°05.5 | 60°29.1<br>13°06.3 | 75°29.3<br>13°07.1 | +0.1<br>+0.8 |
| Me 25 | 270°30.7<br>13°17.7 | 285°30.8<br>13°18.5 | 300°30.9<br>13°19.3 | 315°31.0<br>13°20.1 | 330°31.1<br>13°21.0 | 345°31.2<br>13°21.8 | 0°31.3<br>13°22.6 | 15°31.4<br>13°23.4 | 30°31.5<br>13°24.2 | 45°31.6<br>13°25.0 | 60°31.7<br>13°25.8 | 75°31.8<br>13°26.6 | +0.1<br>+0.8 |
| Je 26 | 270°33.2<br>13°37.1 | 285°33.3<br>13°37.9 | 300°33.4<br>13°38.7 | 315°33.5<br>13°39.5 | 330°33.6<br>13°40.3 | 345°33.7<br>13°41.1 | 0°33.8<br>13°41.9 | 15°33.9<br>13°42.7 | 30°34.0<br>13°43.5 | 45°34.1<br>13°44.3 | 60°34.2<br>13°45.1 | 75°34.3<br>13°45.9 | +0.1<br>+0.8 |
| Ve 27 | 270°35.5<br>13°56.2 | 285°35.6<br>13°57.0 | 300°35.7<br>13°57.8 | 315°35.8<br>13°58.6 | 330°35.9<br>13°59.4 | 345°36.0<br>14°00.2 | 0°36.1<br>14°01.0 | 15°36.2<br>14°01.8 | 30°36.3<br>14°02.5 | 45°36.4<br>14°03.3 | 60°36.5<br>14°04.1 | 75°36.6<br>14°04.9 | +0.1<br>+0.8 |
| Sa 28 | 270°37.8<br>14°15.1 | 285°37.9<br>14°15.9 | 300°38.0<br>14°16.7 | 315°38.1<br>14°17.5 | 330°38.1<br>14°18.3 | 345°38.2<br>14°19.0 | 0°38.3<br>14°19.8 | 15°38.4<br>14°20.6 | 30°38.5<br>14°21.4 | 45°38.6<br>14°22.2 | 60°38.7<br>14°22.9 | 75°38.8<br>14°23.7 | +0.1<br>+0.8 |
| Di 29 | 270°39.9<br>14°33.8 | 285°40.0<br>14°34.6 | 300°40.1<br>14°35.3 | 315°40.2<br>14°36.1 | 330°40.2<br>14°36.9 | 345°40.3<br>14°37.7 | 0°40.4<br>14°38.4 | 15°40.5<br>14°39.2 | 30°40.6<br>14°40.0 | 45°40.7<br>14°40.7 | 60°40.7<br>14°41.5 | 75°40.8<br>14°42.3 | +0.1<br>+0.8 |
| Lu 30 | 270°41.9<br>14°52.2 | 285°42.0<br>14°53.0 | 300°42.1<br>14°53.8 | 315°42.1<br>14°54.5 | 330°42.2<br>14°55.3 | 345°42.3<br>14°56.0 | 0°42.4<br>14°56.8 | 15°42.4<br>14°57.6 | 30°42.5<br>14°58.3 | 45°42.6<br>14°59.1 | 60°42.7<br>14°59.8 | 75°42.8<br>15°00.6 | +0.1<br>+0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2029

| J | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 234°02.7 | 248°26.5 | 262°50.2 | 277°13.9 | 291°37.5 | 306°01.2 | 320°24.8 | 334°48.4 | 349°12.0 | 3°35.5 | 17°59.1 | +23.6 | 16.4 |
| | -21°20.9 | -21°29.0 | -21°36.8 | -21°44.6 | -21°52.1 | -21°59.5 | -22°06.8 | -22°13.8 | -22°20.8 | -22°27.5 | -22°34.1 | -7.3 | 60.2 |
| Lu 2 | 233°51.5 | 248°15.0 | 262°38.5 | 277°02.1 | 291°25.7 | 305°49.2 | 320°12.9 | 334°36.5 | 349°00.1 | 3°23.8 | 17°47.5 | +23.6 | 16.2 |
| | -23°52.9 | -23°56.8 | -24°00.6 | -24°04.1 | -24°07.5 | -24°10.8 | -24°13.8 | -24°16.7 | -24°19.5 | -24°22.0 | -24°24.4 | -3.1 | 59.4 |
| Ma 3 | 233°47.7 | 248°12.1 | 262°36.5 | 277°01.0 | 291°25.6 | 305°50.2 | 320°14.9 | 334°39.7 | 349°04.5 | 3°29.4 | 17°54.3 | +24.7 | 15.9 |
| | -24°40.4 | -24°40.2 | -24°39.8 | -24°39.2 | -24°38.5 | -24°37.6 | -24°36.6 | -24°35.4 | -24°34.1 | -24°32.6 | -24°30.9 | +0.9 | 58.4 |
| Me 4 | 234°17.8 | 248°44.0 | 263°10.3 | 277°36.7 | 292°03.2 | 306°29.7 | 320°56.4 | 335°23.1 | 349°50.0 | 4°16.9 | 18°43.9 | +26.6 | 15.7 |
| | -23°48.6 | -23°40.5 | -23°30.3 | -23°20.0 | -23°08.7 | -23°27.5 | -23°22.9 | -23°18.1 | -23°13.2 | -23°08.2 | -23°03.1 | +4.6 | 57.4 |
| ◑ Je 5 | 235°40.5 | 250°09.0 | 264°37.6 | 279°06.4 | 293°35.2 | 308°04.1 | 322°33.1 | 337°02.2 | 351°31.4 | 6°00.7 | 20°30.1 | +29.0 | 15.4 |
| | -21°31.9 | -21°24.9 | -21°17.9 | -21°10.7 | -21°03.4 | -20°56.0 | -20°48.5 | -20°40.9 | -20°33.3 | -20°25.5 | -20°17.6 | +7.4 | 56.5 |
| Ve 6 | 238°02.0 | 252°32.9 | 267°03.8 | 281°34.9 | 296°06.0 | 310°37.2 | 325°08.5 | 339°39.8 | 354°11.3 | 8°42.8 | 23°14.4 | +31.2 | 15.2 |
| | -18°08.8 | -17°59.6 | -17°50.3 | -17°40.9 | -17°31.4 | -17°21.9 | -17°12.3 | -17°02.6 | -16°52.9 | -16°43.1 | -16°33.2 | +9.6 | 55.7 |
| Sa 7 | 252°32.9 | 267°03.8 | 281°34.9 | 296°06.0 | 310°37.2 | 325°08.5 | 339°39.8 | 354°11.3 | 8°42.8 | 23°14.4 | 37°46.1 | +31.3 | 15.2 |
| | -17°59.6 | -17°50.3 | -17°40.9 | -17°31.4 | -17°21.9 | -17°12.3 | -17°02.6 | -16°52.9 | -16°43.1 | -16°33.2 | -16°23.2 | +9.6 | 55.7 |
| Di 8 | 255°50.9 | 270°23.8 | 284°56.8 | 299°29.8 | 314°02.9 | 328°36.1 | 343°09.3 | 357°42.6 | 12°16.0 | 26°49.4 | 41°22.9 | +33.2 | 15.0 |
| | -13°46.8 | -13°35.9 | -13°25.0 | -13°14.1 | -13°03.1 | -12°52.0 | -12°40.9 | -12°29.7 | -12°18.6 | -12°07.3 | -11°56.0 | +11.1 | 55.0 |
| Lu 9 | 259°52.0 | 274°26.3 | 289°00.7 | 303°35.1 | 318°09.6 | 332°44.1 | 347°18.7 | 1°53.3 | 16°28.0 | 31°02.7 | 45°37.4 | +34.5 | 14.9 |
| | -9°02.4 | -8°50.6 | -8°38.7 | -8°26.9 | -8°14.9 | -8°03.0 | -7°51.0 | -7°39.0 | -7°27.0 | -7°15.0 | -7°02.9 | +12.0 | 54.6 |
| Ma 10 | 264°22.2 | 278°57.4 | 293°32.7 | 308°07.9 | 322°43.2 | 337°18.5 | 351°53.8 | 6°29.1 | 21°04.5 | 35°39.9 | 50°15.2 | +35.3 | 14.8 |
| | -4°00.0 | -3°47.6 | -3°35.3 | -3°23.0 | -3°10.7 | -2°58.3 | -2°46.0 | -2°33.6 | -2°21.3 | -2°08.9 | -1°56.5 | +12.3 | 54.2 |
| Me 11 | 269°07.2 | 283°42.8 | 298°18.3 | 312°53.8 | 327°29.3 | 342°04.8 | 356°40.3 | 11°15.8 | 25°51.3 | 40°26.8 | 55°02.3 | +35.5 | 14.7 |
| | 1°09.0 | 1°21.3 | 1°33.6 | 1°45.9 | 1°58.3 | 2°10.6 | 2°22.9 | 2°35.1 | 2°47.4 | 2°59.7 | 3°11.9 | +12.3 | 54.0 |
| Je 12 | 273°53.2 | 288°28.5 | 303°03.7 | 317°38.9 | 332°14.1 | 346°49.3 | 1°24.5 | 15°59.6 | 30°34.7 | 45°09.8 | 59°44.9 | +35.2 | 14.7 |
| | 6°13.5 | 6°25.4 | 6°37.3 | 6°49.2 | 7°01.1 | 7°12.9 | 7°24.7 | 7°36.5 | 7°48.2 | 8°00.0 | 8°11.6 | +11.8 | 53.9 |
| ● Ve 13 | 278°27.2 | 293°01.8 | 307°36.3 | 322°10.8 | 336°45.2 | 351°19.6 | 5°54.0 | 20°28.3 | 35°02.5 | 49°36.8 | 64°11.0 | +34.4 | 14.7 |
| | 11°02.8 | 11°13.9 | 11°25.0 | 11°36.0 | 11°46.9 | 11°57.9 | 12°08.7 | 12°19.6 | 12°30.4 | 12°41.1 | 12°51.8 | +10.9 | 53.9 |
| Sa 14 | 282°38.3 | 297°11.7 | 311°45.1 | 326°18.4 | 340°51.7 | 355°24.9 | 9°58.1 | 24°31.2 | 39°04.3 | 53°37.3 | 68°10.3 | +33.2 | 14.7 |
| | 15°25.6 | 15°35.4 | 15°45.2 | 15°54.8 | 16°04.4 | 16°14.0 | 16°23.5 | 16°32.9 | 16°42.2 | 16°51.5 | 17°00.7 | +9.5 | 54.0 |
| Di 15 | 286°17.9 | 300°50.0 | 315°22.0 | 329°53.9 | 344°25.8 | 358°57.6 | 13°29.4 | 28°01.1 | 42°32.7 | 57°04.3 | 71°35.8 | +31.8 | 14.8 |
| | 19°10.0 | 19°18.0 | 19°25.9 | 19°33.7 | 19°41.5 | 19°49.2 | 19°56.7 | 20°04.2 | 20°11.6 | 20°18.9 | 20°26.2 | +7.6 | 54.2 |
| Lu 16 | 289°21.9 | 303°52.5 | 318°23.0 | 332°53.5 | 347°24.0 | 1°54.4 | 16°24.7 | 30°55.0 | 45°25.2 | 59°55.4 | 74°25.5 | +30.4 | 14.8 |
| | 22°03.5 | 22°09.2 | 22°14.8 | 22°20.3 | 22°25.7 | 22°31.0 | 22°36.2 | 22°41.3 | 22°46.3 | 22°51.1 | 22°55.9 | +5.2 | 54.4 |
| Ma 17 | 291°51.5 | 306°20.8 | 320°50.1 | 335°19.4 | 349°48.6 | 4°17.8 | 18°47.0 | 33°16.1 | 47°45.2 | 62°14.2 | 76°43.2 | +29.2 | 14.9 |
| | 23°54.2 | 23°57.2 | 24°00.0 | 24°02.8 | 24°05.4 | 24°07.9 | 24°10.3 | 24°12.6 | 24°14.7 | 24°16.7 | 24°18.6 | +2.4 | 54.8 |
| Me 18 | 293°54.3 | 308°22.8 | 322°51.3 | 337°19.8 | 351°48.2 | 6°16.7 | 20°45.1 | 35°13.5 | 49°41.9 | 64°10.3 | 78°38.6 | +28.4 | 15.1 |
| | 24°32.3 | 24°32.2 | 24°32.0 | 24°31.7 | 24°31.2 | 24°30.6 | 24°29.9 | 24°29.0 | 24°28.1 | 24°26.9 | 24°25.7 | -0.7 | 55.3 |
| Je 19 | 295°42.7 | 310°10.9 | 324°39.2 | 339°07.4 | 353°35.6 | 8°03.9 | 22°32.1 | 37°00.4 | 51°28.6 | 65°56.9 | 80°25.1 | +28.2 | 15.3 |
| | 23°51.6 | 23°48.3 | 23°44.9 | 23°41.3 | 23°37.6 | 23°33.8 | 23°29.8 | 23°25.8 | 23°21.6 | 23°17.2 | 23°12.8 | -3.9 | 55.9 |
| Ve 20 | 297°30.2 | 311°58.6 | 326°27.1 | 340°55.6 | 355°24.1 | 9°52.6 | 24°21.1 | 38°49.6 | 53°18.2 | 67°46.8 | 82°15.4 | +28.5 | 15.5 |
| | 21°50.6 | 21°44.2 | 21°37.6 | 21°30.9 | 21°24.0 | 21°17.1 | 21°10.0 | 21°02.8 | 20°55.5 | 20°48.0 | 20°40.4 | -7.0 | 56.7 |
| ◐ Sa 21 | 299°26.9 | 313°55.8 | 328°24.7 | 342°53.7 | 357°22.7 | 11°51.7 | 26°20.8 | 40°49.8 | 55°18.9 | 69°48.0 | 84°17.2 | +29.0 | 15.7 |
| | 18°33.1 | 18°23.7 | 18°14.2 | 18°04.6 | 17°54.9 | 17°45.1 | 17°35.2 | 17°25.1 | 17°15.0 | 17°04.7 | 16°54.4 | -9.9 | 57.5 |
| Di 22 | 301°36.3 | 316°05.8 | 330°35.2 | 345°04.6 | 359°34.1 | 14°03.6 | 28°33.1 | 43°02.6 | 57°32.1 | 72°01.6 | 86°31.1 | +29.5 | 15.9 |
| | 14°07.3 | 13°55.4 | 13°43.5 | 13°31.4 | 13°19.2 | 13°07.0 | 12°54.7 | 12°42.2 | 12°29.7 | 12°17.2 | 12°04.5 | -12.3 | 58.4 |
| Lu 23 | 303°55.0 | 318°24.6 | 332°54.2 | 347°23.8 | 1°53.4 | 16°23.0 | 30°52.6 | 45°22.2 | 59°51.8 | 74°21.4 | 88°51.0 | +29.6 | 16.2 |
| | 8°45.5 | 8°31.7 | 8°17.8 | 8°03.9 | 7°49.9 | 7°35.8 | 7°21.7 | 7°07.5 | 6°53.2 | 6°39.0 | 6°24.6 | -14.1 | 59.3 |
| Ma 24 | 306°12.9 | 320°42.3 | 335°11.5 | 349°40.8 | 4°10.0 | 18°39.3 | 33°08.4 | 47°37.6 | 62°06.7 | 76°35.8 | 91°04.9 | +29.2 | 16.4 |
| | 2°43.9 | 2°28.9 | 2°13.8 | 1°58.7 | 1°43.6 | 1°28.5 | 1°13.3 | 0°58.1 | 0°42.9 | 0°27.7 | 0°12.5 | -15.1 | 60.1 |
| Me 25 | 308°16.3 | 322°44.7 | 337°13.1 | 351°41.4 | 6°09.7 | 20°37.9 | 35°06.1 | 49°34.2 | 64°02.2 | 78°30.2 | 92°58.2 | +28.2 | 16.6 |
| | -3°37.2 | -3°52.5 | -4°07.8 | -4°23.0 | -4°38.3 | -4°53.6 | -5°08.8 | -5°24.0 | -5°39.2 | -5°54.4 | -6°09.5 | -15.2 | 60.7 |
| Je 26 | 309°50.1 | 324°17.0 | 338°43.9 | 353°10.7 | 7°37.5 | 22°04.1 | 36°30.7 | 50°57.3 | 65°23.7 | 79°50.1 | 94°16.4 | +26.6 | 16.7 |
| | -9°52.4 | -10°06.9 | -10°21.3 | -10°35.7 | -10°50.0 | -11°04.2 | -11°18.4 | -11°32.5 | -11°46.5 | -12°00.5 | -12°14.4 | -14.2 | 61.1 |
| Ve 27 | 310°42.3 | 325°07.4 | 339°32.5 | 353°57.5 | 8°22.4 | 22°47.2 | 37°12.0 | 51°36.7 | 66°01.3 | 80°25.9 | 94°50.4 | +24.8 | 16.7 |
| | -15°32.5 | -15°45.0 | -15°57.3 | -16°09.5 | -16°21.7 | -16°33.6 | -16°45.5 | -16°57.3 | -17°09.0 | -17°20.5 | -17°31.9 | -11.9 | 61.2 |
| ○ Sa 28 | 310°49.6 | 325°13.1 | 339°36.5 | 353°59.9 | 8°23.2 | 22°46.4 | 37°09.6 | 51°32.8 | 65°55.9 | 80°18.9 | 94°41.9 | +23.2 | 16.6 |
| | -20°07.2 | -20°16.4 | -20°25.5 | -20°34.4 | -20°43.2 | -20°51.8 | -21°00.2 | -21°08.6 | -21°16.7 | -21°24.7 | -21°32.5 | -8.5 | 60.9 |
| Di 29 | 310°23.1 | 324°45.6 | 339°08.2 | 353°30.7 | 7°53.3 | 22°15.8 | 36°38.3 | 51°00.8 | 65°23.4 | 79°45.9 | 94°08.4 | +22.5 | 16.4 |
| | -23°10.2 | -23°15.3 | -23°20.3 | -23°25.1 | -23°29.8 | -23°34.2 | -23°38.5 | -23°42.6 | -23°46.5 | -23°50.3 | -23°53.9 | -4.4 | 60.3 |
| Lu 30 | 309°48.6 | 324°11.6 | 338°34.5 | 352°57.6 | 7°20.6 | 21°43.7 | 36°06.9 | 50°30.1 | 64°53.4 | 79°16.7 | 93°40.1 | +23.1 | 16.2 |
| | -24°26.5 | -24°27.2 | -24°27.9 | -24°28.3 | -24°28.6 | -24°28.6 | -24°28.6 | -24°28.3 | -24°27.9 | -24°27.3 | -24°26.6 | -0.0 | 59.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 19h51 — NL: 13 21h40 — PQ: 21 19h50 — PL: 28 10h36

# SOLEIL

## Mai 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 270° 43.7 | 285° 43.8 | 300° 43.9 | 315° 44.0 | 330° 44.0 | 345° 44.1 | 0° 44.2 | 15° 44.3 | 30° 44.3 | 45° 44.4 | 60° 44.5 | 75° 44.6 | +0.1 |
| | 15° 10.4 | 15° 11.2 | 15° 11.9 | 15° 12.7 | 15° 13.4 | 15° 14.2 | 15° 14.9 | 15° 15.7 | 15° 16.4 | 15° 17.2 | 15° 17.9 | 15° 18.7 | +0.8 |
| Me 2 | 270° 45.5 | 285° 45.5 | 300° 45.6 | 315° 45.7 | 330° 45.7 | 345° 45.8 | 0° 45.9 | 15° 45.9 | 30° 46.0 | 45° 46.1 | 60° 46.1 | 75° 46.2 | +0.1 |
| | 15° 28.4 | 15° 29.1 | 15° 29.9 | 15° 30.6 | 15° 31.3 | 15° 32.1 | 15° 32.8 | 15° 33.6 | 15° 34.3 | 15° 35.0 | 15° 35.8 | 15° 36.5 | +0.7 |
| Je 3 | 270° 47.0 | 285° 47.1 | 300° 47.2 | 315° 47.2 | 330° 47.3 | 345° 47.4 | 0° 47.4 | 15° 47.5 | 30° 47.5 | 45° 47.6 | 60° 47.7 | 75° 47.7 | +0.1 |
| | 15° 46.1 | 15° 46.8 | 15° 47.5 | 15° 48.3 | 15° 49.0 | 15° 49.7 | 15° 50.4 | 15° 51.2 | 15° 51.9 | 15° 52.6 | 15° 53.4 | 15° 54.1 | +0.7 |
| Ve 4 | 270° 48.5 | 285° 48.5 | 300° 48.6 | 315° 48.7 | 330° 48.7 | 345° 48.8 | 0° 48.8 | 15° 48.9 | 30° 48.9 | 45° 49.0 | 60° 49.0 | 75° 49.1 | +0.1 |
| | 16° 03.5 | 16° 04.2 | 16° 04.9 | 16° 05.6 | 16° 06.4 | 16° 07.1 | 16° 07.8 | 16° 08.5 | 16° 09.2 | 16° 10.0 | 16° 10.7 | 16° 11.4 | +0.7 |
| Sa 5 | 270° 49.8 | 285° 49.8 | 300° 49.9 | 315° 49.9 | 330° 50.0 | 345° 50.0 | 0° 50.1 | 15° 50.1 | 30° 50.2 | 45° 50.2 | 60° 50.3 | 75° 50.3 | +0.0 |
| | 16° 20.6 | 16° 21.4 | 16° 22.1 | 16° 22.8 | 16° 23.5 | 16° 24.2 | 16° 24.9 | 16° 25.6 | 16° 26.3 | 16° 27.0 | 16° 27.7 | 16° 28.4 | +0.7 |
| Di 6 | 270° 50.9 | 285° 51.0 | 300° 51.0 | 315° 51.1 | 330° 51.1 | 345° 51.1 | 0° 51.2 | 15° 51.2 | 30° 51.3 | 45° 51.3 | 60° 51.4 | 75° 51.4 | +0.0 |
| | 16° 37.5 | 16° 38.2 | 16° 38.9 | 16° 39.6 | 16° 40.3 | 16° 41.0 | 16° 41.7 | 16° 42.4 | 16° 43.1 | 16° 43.8 | 16° 44.5 | 16° 45.2 | +0.7 |
| Lu 7 | 270° 51.9 | 285° 52.0 | 300° 52.0 | 315° 52.0 | 330° 52.1 | 345° 52.1 | 0° 52.2 | 15° 52.2 | 30° 52.2 | 45° 52.3 | 60° 52.3 | 75° 52.3 | +0.0 |
| | 16° 54.2 | 16° 54.8 | 16° 55.5 | 16° 56.2 | 16° 56.9 | 16° 57.6 | 16° 58.3 | 16° 58.9 | 16° 59.6 | 17° 00.3 | 17° 01.0 | 17° 01.7 | +0.7 |
| Ma 8 | 270° 52.8 | 285° 52.8 | 300° 52.8 | 315° 52.9 | 330° 52.9 | 345° 52.9 | 0° 53.0 | 15° 53.0 | 30° 53.0 | 45° 53.1 | 60° 53.1 | 75° 53.1 | +0.0 |
| | 17° 10.5 | 17° 11.2 | 17° 11.8 | 17° 12.5 | 17° 13.2 | 17° 13.9 | 17° 14.5 | 17° 15.2 | 17° 15.9 | 17° 16.5 | 17° 17.2 | 17° 17.9 | +0.7 |
| Me 9 | 270° 53.5 | 285° 53.5 | 300° 53.5 | 315° 53.6 | 330° 53.6 | 345° 53.6 | 0° 53.6 | 15° 53.7 | 30° 53.7 | 45° 53.7 | 60° 53.7 | 75° 53.8 | +0.0 |
| | 17° 26.5 | 17° 27.2 | 17° 27.9 | 17° 28.5 | 17° 29.2 | 17° 29.8 | 17° 30.5 | 17° 31.2 | 17° 31.8 | 17° 32.5 | 17° 33.1 | 17° 33.8 | +0.7 |
| Je 10 | 270° 54.1 | 285° 54.1 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.2 | 15° 54.2 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.3 | +0.0 |
| | 17° 42.3 | 17° 42.9 | 17° 43.6 | 17° 44.2 | 17° 44.9 | 17° 45.5 | 17° 46.2 | 17° 46.8 | 17° 47.5 | 17° 48.1 | 17° 48.8 | 17° 49.4 | +0.6 |
| Ve 11 | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | +0.0 |
| | 17° 57.7 | 17° 58.4 | 17° 59.0 | 17° 59.7 | 18° 00.3 | 18° 00.9 | 18° 01.6 | 18° 02.2 | 18° 02.8 | 18° 03.5 | 18° 04.1 | 18° 04.7 | +0.6 |
| Sa 12 | 270° 54.7 | 285° 54.7 | 300° 54.8 | 315° 54.8 | 330° 54.8 | 345° 54.8 | 0° 54.8 | 15° 54.8 | 30° 54.8 | 45° 54.8 | 60° 54.8 | 75° 54.8 | +0.0 |
| | 18° 12.9 | 18° 13.5 | 18° 14.2 | 18° 14.8 | 18° 15.4 | 18° 16.0 | 18° 16.6 | 18° 17.3 | 18° 17.9 | 18° 18.5 | 18° 19.1 | 18° 19.7 | +0.6 |
| Di 13 | 270° 54.9 | 285° 54.9 | 300° 54.9 | 315° 54.9 | 330° 54.9 | 345° 54.9 | 0° 54.9 | 15° 54.9 | 30° 54.9 | 45° 54.9 | 60° 54.9 | 75° 54.9 | +0.0 |
| | 18° 27.8 | 18° 28.4 | 18° 29.0 | 18° 29.6 | 18° 30.2 | 18° 30.8 | 18° 31.4 | 18° 32.0 | 18° 32.6 | 18° 33.2 | 18° 33.8 | 18° 34.5 | +0.6 |
| Lu 14 | 270° 54.9 | 285° 54.8 | 300° 54.8 | 315° 54.8 | 330° 54.8 | 345° 54.8 | 0° 54.8 | 15° 54.8 | 30° 54.8 | 45° 54.8 | 60° 54.8 | 75° 54.8 | -0.0 |
| | 18° 42.3 | 18° 42.9 | 18° 43.5 | 18° 44.1 | 18° 44.7 | 18° 45.3 | 18° 45.9 | 18° 46.5 | 18° 47.1 | 18° 47.7 | 18° 48.3 | 18° 48.8 | +0.6 |
| Ma 15 | 270° 54.7 | 285° 54.7 | 300° 54.7 | 315° 54.7 | 330° 54.7 | 345° 54.6 | 0° 54.6 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | -0.0 |
| | 18° 56.5 | 18° 57.1 | 18° 57.7 | 18° 58.3 | 18° 58.8 | 18° 59.4 | 19° 00.0 | 19° 00.6 | 19° 01.2 | 19° 01.8 | 19° 02.3 | 19° 02.9 | +0.6 |
| Me 16 | 270° 54.4 | 285° 54.4 | 300° 54.4 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.3 | 15° 54.3 | 30° 54.3 | 45° 54.2 | 60° 54.2 | 75° 54.2 | -0.0 |
| | 19° 10.4 | 19° 11.0 | 19° 11.6 | 19° 12.1 | 19° 12.7 | 19° 13.3 | 19° 13.8 | 19° 14.4 | 19° 15.0 | 19° 15.5 | 19° 16.1 | 19° 16.7 | +0.6 |
| Je 17 | 270° 54.0 | 285° 53.9 | 300° 53.9 | 315° 53.9 | 330° 53.9 | 345° 53.9 | 0° 53.8 | 15° 53.8 | 30° 53.8 | 45° 53.8 | 60° 53.7 | 75° 53.7 | -0.0 |
| | 19° 24.0 | 19° 24.5 | 19° 25.1 | 19° 25.7 | 19° 26.2 | 19° 26.8 | 19° 27.3 | 19° 27.9 | 19° 28.4 | 19° 29.0 | 19° 29.5 | 19° 30.1 | +0.6 |
| Ve 18 | 270° 53.4 | 285° 53.4 | 300° 53.3 | 315° 53.3 | 330° 53.3 | 345° 53.3 | 0° 53.2 | 15° 53.2 | 30° 53.2 | 45° 53.1 | 60° 53.1 | 75° 53.1 | -0.0 |
| | 19° 37.2 | 19° 37.8 | 19° 38.3 | 19° 38.9 | 19° 39.4 | 19° 39.9 | 19° 40.5 | 19° 41.0 | 19° 41.6 | 19° 42.1 | 19° 42.7 | 19° 43.2 | +0.5 |
| Sa 19 | 270° 52.7 | 285° 52.7 | 300° 52.6 | 315° 52.6 | 330° 52.6 | 345° 52.5 | 0° 52.5 | 15° 52.5 | 30° 52.4 | 45° 52.4 | 60° 52.4 | 75° 52.3 | -0.0 |
| | 19° 50.1 | 19° 50.7 | 19° 51.2 | 19° 51.7 | 19° 52.3 | 19° 52.8 | 19° 53.3 | 19° 53.8 | 19° 54.4 | 19° 54.9 | 19° 55.4 | 19° 55.9 | +0.5 |
| Di 20 | 270° 51.8 | 285° 51.8 | 300° 51.8 | 315° 51.7 | 330° 51.7 | 345° 51.7 | 0° 51.6 | 15° 51.6 | 30° 51.5 | 45° 51.5 | 60° 51.5 | 75° 51.4 | -0.0 |
| | 20° 02.7 | 20° 03.2 | 20° 03.7 | 20° 04.3 | 20° 04.8 | 20° 05.3 | 20° 05.8 | 20° 06.3 | 20° 06.8 | 20° 07.3 | 20° 07.8 | 20° 08.4 | +0.5 |
| Lu 21 | 270° 50.9 | 285° 50.8 | 300° 50.8 | 315° 50.8 | 330° 50.7 | 345° 50.7 | 0° 50.6 | 15° 50.6 | 30° 50.5 | 45° 50.5 | 60° 50.4 | 75° 50.4 | -0.0 |
| | 20° 14.9 | 20° 15.4 | 20° 15.9 | 20° 16.4 | 20° 16.9 | 20° 17.4 | 20° 17.9 | 20° 18.4 | 20° 18.9 | 20° 19.4 | 20° 19.9 | 20° 20.4 | +0.5 |
| Ma 22 | 270° 49.8 | 285° 49.7 | 300° 49.7 | 315° 49.6 | 330° 49.6 | 345° 49.5 | 0° 49.5 | 15° 49.4 | 30° 49.4 | 45° 49.3 | 60° 49.3 | 75° 49.2 | -0.0 |
| | 20° 26.8 | 20° 27.3 | 20° 27.8 | 20° 28.3 | 20° 28.8 | 20° 29.2 | 20° 29.7 | 20° 30.2 | 20° 30.7 | 20° 31.2 | 20° 31.7 | 20° 32.1 | +0.5 |
| Me 23 | 270° 48.6 | 285° 48.5 | 300° 48.5 | 315° 48.4 | 330° 48.4 | 345° 48.3 | 0° 48.2 | 15° 48.2 | 30° 48.1 | 45° 48.1 | 60° 48.0 | 75° 48.0 | -0.1 |
| | 20° 38.3 | 20° 38.8 | 20° 39.3 | 20° 39.8 | 20° 40.2 | 20° 40.7 | 20° 41.2 | 20° 41.6 | 20° 42.1 | 20° 42.6 | 20° 43.0 | 20° 43.5 | +0.5 |
| Je 24 | 270° 47.2 | 285° 47.2 | 300° 47.1 | 315° 47.1 | 330° 47.0 | 345° 46.9 | 0° 46.9 | 15° 46.8 | 30° 46.8 | 45° 46.7 | 60° 46.6 | 75° 46.6 | -0.1 |
| | 20° 49.5 | 20° 50.0 | 20° 50.4 | 20° 50.9 | 20° 51.3 | 20° 51.8 | 20° 52.3 | 20° 52.7 | 20° 53.2 | 20° 53.6 | 20° 54.1 | 20° 54.5 | +0.5 |
| Ve 25 | 270° 45.8 | 285° 45.7 | 300° 45.6 | 315° 45.6 | 330° 45.5 | 345° 45.5 | 0° 45.4 | 15° 45.3 | 30° 45.3 | 45° 45.2 | 60° 45.1 | 75° 45.1 | -0.1 |
| | 21° 00.3 | 21° 00.8 | 21° 01.2 | 21° 01.7 | 21° 02.1 | 21° 02.5 | 21° 03.0 | 21° 03.4 | 21° 03.9 | 21° 04.3 | 21° 04.7 | 21° 05.2 | +0.4 |
| Sa 26 | 270° 44.2 | 285° 44.1 | 300° 44.1 | 315° 44.0 | 330° 43.9 | 345° 43.8 | 0° 43.8 | 15° 43.7 | 30° 43.6 | 45° 43.6 | 60° 43.5 | 75° 43.4 | -0.1 |
| | 21° 10.8 | 21° 11.2 | 21° 11.6 | 21° 12.1 | 21° 12.5 | 21° 12.9 | 21° 13.3 | 21° 13.8 | 21° 14.2 | 21° 14.6 | 21° 15.0 | 21° 15.5 | +0.4 |
| Di 27 | 270° 42.5 | 285° 42.4 | 300° 42.3 | 315° 42.3 | 330° 42.2 | 345° 42.1 | 0° 42.1 | 15° 42.0 | 30° 41.9 | 45° 41.8 | 60° 41.8 | 75° 41.7 | -0.1 |
| | 21° 20.9 | 21° 21.3 | 21° 21.7 | 21° 22.1 | 21° 22.5 | 21° 22.9 | 21° 23.3 | 21° 23.7 | 21° 24.2 | 21° 24.6 | 21° 25.0 | 21° 25.4 | +0.4 |
| Lu 28 | 270° 40.7 | 285° 40.6 | 300° 40.5 | 315° 40.4 | 330° 40.4 | 345° 40.3 | 0° 40.2 | 15° 40.1 | 30° 40.1 | 45° 40.0 | 60° 39.9 | 75° 39.8 | -0.1 |
| | 21° 30.6 | 21° 31.0 | 21° 31.4 | 21° 31.8 | 21° 32.2 | 21° 32.6 | 21° 33.0 | 21° 33.4 | 21° 33.7 | 21° 34.1 | 21° 34.5 | 21° 34.9 | +0.4 |
| Ma 29 | 270° 38.8 | 285° 38.7 | 300° 38.6 | 315° 38.5 | 330° 38.4 | 345° 38.3 | 0° 38.3 | 15° 38.2 | 30° 38.1 | 45° 38.0 | 60° 37.9 | 75° 37.8 | -0.1 |
| | 21° 39.9 | 21° 40.3 | 21° 40.7 | 21° 41.1 | 21° 41.5 | 21° 41.8 | 21° 42.2 | 21° 42.6 | 21° 43.0 | 21° 43.3 | 21° 43.7 | 21° 44.1 | +0.4 |
| Me 30 | 270° 36.7 | 285° 36.6 | 300° 36.5 | 315° 36.5 | 330° 36.4 | 345° 36.3 | 0° 36.2 | 15° 36.1 | 30° 36.0 | 45° 35.9 | 60° 35.8 | 75° 35.7 | -0.1 |
| | 21° 48.9 | 21° 49.3 | 21° 49.6 | 21° 50.0 | 21° 50.4 | 21° 50.7 | 21° 51.1 | 21° 51.5 | 21° 51.8 | 21° 52.2 | 21° 52.5 | 21° 52.9 | +0.4 |
| Je 31 | 270° 34.6 | 285° 34.5 | 300° 34.4 | 315° 34.3 | 330° 34.2 | 345° 34.1 | 0° 34.0 | 15° 33.9 | 30° 33.8 | 45° 33.7 | 60° 33.6 | 75° 33.6 | -0.1 |
| | 21° 57.5 | 21° 57.9 | 21° 58.2 | 21° 58.6 | 21° 58.9 | 21° 59.2 | 21° 59.6 | 21° 59.9 | 22° 00.3 | 22° 00.6 | 22° 01.0 | 22° 01.3 | +0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2029

| J | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ma 1** | 237°37.8 | 252°01.9 | 266°26.2 | 280°50.5 | 295°14.9 | 309°39.4 | 324°04.0 | 338°28.7 | 352°53.4 | 7°18.3 | 21°43.2 | +24.5 | 16.0 |
| | -24°10.1 | -24°07.5 | -24°04.9 | -24°02.0 | -23°59.0 | -23°55.9 | -23°52.6 | -23°49.2 | -23°45.6 | -23°41.8 | -23°38.0 | +3.2 | 58.7 |
| **Me 2** | 238°08.9 | 252°35.4 | 267°02.0 | 281°28.8 | 295°55.6 | 310°22.5 | 324°49.6 | 339°16.7 | 353°44.0 | 8°11.4 | 22°38.8 | +27.0 | 15.7 |
| | -22°23.1 | -22°17.1 | -22°10.9 | -22°04.6 | -21°58.2 | -21°51.7 | -21°45.1 | -21°38.3 | -21°31.4 | -21°24.5 | -21°17.4 | +6.6 | 57.7 |
| **Je 3** | 239°43.7 | 254°12.9 | 268°42.1 | 283°11.5 | 297°41.0 | 312°10.6 | 326°40.3 | 341°10.1 | 355°39.9 | 10°09.9 | 24°40.0 | +29.6 | 15.5 |
| | -19°18.6 | -19°09.9 | -19°01.2 | -18°52.3 | -18°43.4 | -18°34.3 | -18°25.2 | -18°16.0 | -18°06.8 | -17°57.4 | -17°48.0 | +9.1 | 56.7 |
| **Ve 4** | 242°22.9 | 256°54.5 | 271°26.2 | 285°57.9 | 300°29.8 | 315°01.7 | 329°33.8 | 344°05.9 | 358°38.1 | 13°10.3 | 27°42.7 | +32.0 | 15.2 |
| | -15°18.1 | -15°07.6 | -14°57.1 | -14°46.5 | -14°35.8 | -14°25.1 | -14°14.3 | -14°03.5 | -13°52.6 | -13°41.7 | -13°30.7 | +10.7 | 55.8 |
| ◑ **Sa 5** | 245°56.9 | 260°30.4 | 275°03.9 | 289°37.5 | 304°11.2 | 318°45.0 | 333°18.8 | 347°52.6 | 2°26.6 | 17°00.5 | 31°34.6 | +33.8 | 15.0 |
| | -10°40.9 | -10°29.2 | -10°17.6 | -10°05.9 | -9°54.2 | -9°42.4 | -9°30.6 | -9°18.8 | -9°07.0 | -8°55.1 | -8°43.2 | +11.8 | 55.1 |
| **Di 6** | 260°30.4 | 275°03.9 | 289°37.5 | 304°11.2 | 318°45.0 | 333°18.8 | 347°52.6 | 2°26.6 | 17°00.5 | 31°34.6 | 46°08.6 | +33.8 | 15.0 |
| | -10°29.2 | -10°17.6 | -10°05.9 | -9°54.2 | -9°42.4 | -9°30.6 | -9°18.8 | -9°07.0 | -8°55.1 | -8°43.2 | -8°31.3 | +11.8 | 55.1 |
| **Lu 7** | 264°45.7 | 279°20.5 | 293°55.3 | 308°30.2 | 323°05.1 | 337°40.0 | 352°15.0 | 6°50.0 | 21°25.1 | 36°00.1 | 50°35.2 | +35.0 | 14.9 |
| | -5°30.1 | -5°17.9 | -5°05.7 | -4°53.5 | -4°41.2 | -4°29.0 | -4°16.7 | -4°04.4 | -3°52.1 | -3°39.8 | -3°27.6 | +12.3 | 54.6 |
| **Ma 8** | 269°24.3 | 283°59.7 | 298°35.1 | 313°10.5 | 327°45.9 | 342°21.4 | 356°56.8 | 11°32.3 | 26°07.7 | 40°43.2 | 55°18.7 | +35.4 | 14.8 |
| | -0°22.7 | -0°10.4 | 0°01.9 | 0°14.2 | 0°26.5 | 0°38.8 | 0°51.1 | 1°03.4 | 1°15.7 | 1°27.9 | 1°40.2 | +12.3 | 54.2 |
| **Me 9** | 274°10.4 | 288°45.8 | 303°21.1 | 317°56.5 | 332°31.8 | 347°07.2 | 1°42.5 | 16°17.8 | 30°53.1 | 45°28.3 | 60°03.6 | +35.3 | 14.7 |
| | 4°42.5 | 4°54.5 | 5°06.5 | 5°18.5 | 5°30.5 | 5°42.4 | 5°54.3 | 6°06.2 | 6°18.1 | 6°29.9 | 6°41.8 | +11.9 | 54.0 |
| **Je 10** | 278°49.3 | 293°24.1 | 307°58.9 | 322°33.7 | 337°08.4 | 351°43.1 | 6°17.7 | 20°52.3 | 35°26.9 | 50°01.4 | 64°35.9 | +34.7 | 14.7 |
| | 9°35.5 | 9°46.9 | 9°58.2 | 10°09.4 | 10°20.6 | 10°31.8 | 10°42.9 | 10°54.0 | 11°05.1 | 11°16.1 | 11°27.0 | +11.2 | 53.9 |
| **Ve 11** | 283°08.1 | 297°41.9 | 312°15.6 | 326°49.3 | 341°22.9 | 355°56.5 | 10°30.0 | 25°03.4 | 39°36.8 | 54°10.2 | 68°43.5 | +33.5 | 14.7 |
| | 14°06.0 | 14°16.2 | 14°26.3 | 14°36.4 | 14°46.4 | 14°56.3 | 15°06.2 | 15°16.1 | 15°25.9 | 15°35.6 | 15°45.3 | +9.9 | 54.0 |
| **Sa 12** | 286°56.3 | 301°28.7 | 316°01.0 | 330°33.3 | 345°05.5 | 359°37.6 | 14°09.7 | 28°41.8 | 43°13.7 | 57°45.6 | 72°17.5 | +32.1 | 14.8 |
| | 18°02.3 | 18°10.8 | 18°19.3 | 18°27.8 | 18°36.1 | 18°44.4 | 18°52.5 | 19°00.6 | 19°08.7 | 19°16.6 | 19°24.5 | +8.2 | 54.2 |
| ● **Di 13** | 290°07.7 | 304°38.6 | 319°09.4 | 333°40.1 | 348°10.8 | 2°41.4 | 17°12.0 | 31°42.5 | 46°12.9 | 60°43.3 | 75°13.6 | +30.6 | 14.9 |
| | 21°12.0 | 21°18.4 | 21°24.7 | 21°31.0 | 21°37.1 | 21°43.2 | 21°49.1 | 21°55.0 | 22°00.7 | 22°06.3 | 22°11.9 | +6.0 | 54.5 |
| **Lu 14** | 292°42.0 | 307°11.4 | 321°40.9 | 336°10.2 | 350°39.6 | 5°08.8 | 19°38.1 | 34°07.3 | 48°36.4 | 63°05.5 | 77°34.6 | +29.3 | 14.9 |
| | 23°22.3 | 23°26.1 | 23°29.8 | 23°33.4 | 23°36.8 | 23°40.2 | 23°43.4 | 23°46.5 | 23°49.5 | 23°52.4 | 23°55.2 | +3.3 | 54.8 |
| **Ma 15** | 294°46.0 | 309°14.5 | 323°43.0 | 338°11.5 | 352°39.9 | 7°08.3 | 21°36.7 | 36°05.1 | 50°33.4 | 65°01.7 | 79°30.0 | +28.4 | 15.1 |
| | 24°22.0 | 24°22.8 | 24°23.5 | 24°24.0 | 24°24.5 | 24°24.8 | 24°24.9 | 24°25.0 | 24°24.9 | 24°24.6 | 24°24.3 | +0.2 | 55.2 |
| **Me 16** | 296°33.2 | 311°01.3 | 325°29.5 | 339°57.7 | 354°25.8 | 8°54.0 | 23°22.2 | 37°50.3 | 52°18.5 | 66°46.7 | 81°14.9 | +28.2 | 15.2 |
| | 24°03.7 | 24°01.2 | 23°58.7 | 23°56.0 | 23°53.2 | 23°50.3 | 23°47.3 | 23°44.1 | 23°40.8 | 23°37.3 | 23°33.8 | -3.0 | 55.7 |
| **Je 17** | 298°19.3 | 312°47.7 | 327°16.2 | 341°44.6 | 356°13.1 | 10°41.7 | 25°10.2 | 39°38.8 | 54°07.4 | 68°36.0 | 83°04.6 | +28.5 | 15.3 |
| | 22°25.0 | 22°19.5 | 22°13.8 | 22°07.9 | 22°02.0 | 21°55.9 | 21°49.7 | 21°43.4 | 21°37.0 | 21°30.5 | 21°23.8 | -6.1 | 56.2 |
| **Ve 18** | 300°17.7 | 314°46.8 | 329°15.9 | 343°45.1 | 358°14.3 | 12°43.5 | 27°12.8 | 41°42.1 | 56°11.4 | 70°40.8 | 85°10.2 | +29.3 | 15.5 |
| | 19°30.0 | 19°21.5 | 19°12.9 | 19°04.2 | 18°55.4 | 18°46.5 | 18°37.4 | 18°28.3 | 18°19.1 | 18°09.8 | 18°00.3 | -9.0 | 56.9 |
| **Sa 19** | 302°34.8 | 317°04.7 | 331°34.6 | 346°04.6 | 0°34.5 | 15°04.5 | 29°34.5 | 44°04.6 | 58°34.7 | 73°04.7 | 87°34.9 | +30.0 | 15.7 |
| | 15°27.1 | 15°16.2 | 15°05.1 | 14°54.0 | 14°42.8 | 14°31.5 | 14°20.1 | 14°08.6 | 13°57.0 | 13°45.4 | 13°33.7 | -11.3 | 57.5 |
| **Di 20** | 305°09.2 | 319°39.6 | 334°10.0 | 348°40.5 | 3°11.0 | 17°41.4 | 32°11.9 | 46°42.4 | 61°12.9 | 75°43.4 | 90°14.0 | +30.5 | 15.9 |
| | 10°28.8 | 10°15.9 | 10°03.0 | 9°50.0 | 9°36.9 | 9°23.7 | 9°10.5 | 8°57.3 | 8°44.0 | 8°30.6 | 8°17.2 | -13.2 | 58.2 |
| ◐ **Lu 21** | 307°51.9 | 322°22.4 | 336°52.9 | 351°23.4 | 5°53.9 | 20°24.3 | 34°54.8 | 49°25.2 | 63°55.6 | 78°26.0 | 92°56.4 | +30.5 | 16.1 |
| | 4°49.7 | 4°35.5 | 4°21.3 | 4°07.0 | 3°52.7 | 3°38.4 | 3°24.1 | 3°09.7 | 2°55.3 | 2°40.8 | 2°26.3 | -14.3 | 58.9 |
| **Ma 22** | 310°29.3 | 324°59.2 | 339°29.1 | 353°59.0 | 8°28.9 | 22°58.7 | 37°28.4 | 51°58.1 | 66°27.8 | 80°57.5 | 95°27.0 | +29.8 | 16.2 |
| | -1°13.2 | -1°27.9 | -1°42.7 | -1°57.4 | -2°12.2 | -2°26.9 | -2°41.7 | -2°56.4 | -3°11.2 | -3°25.9 | -3°40.6 | -14.8 | 59.5 |
| **Me 23** | 312°44.8 | 327°13.5 | 341°42.2 | 356°10.8 | 10°39.4 | 25°07.9 | 39°36.3 | 54°04.6 | 68°32.9 | 83°01.1 | 97°29.2 | +28.4 | 16.4 |
| | -7°19.8 | -7°34.3 | -7°48.7 | -8°03.0 | -8°17.3 | -8°31.6 | -8°45.8 | -9°00.0 | -9°14.2 | -9°28.3 | -9°42.4 | -14.3 | 60.1 |
| **Je 24** | 314°22.6 | 328°49.5 | 343°16.4 | 357°43.2 | 12°09.9 | 26°36.5 | 41°03.0 | 55°29.5 | 69°55.9 | 84°22.2 | 98°48.4 | +26.6 | 16.5 |
| | -13°06.5 | -13°19.6 | -13°32.6 | -13°45.6 | -13°58.4 | -14°11.2 | -14°23.8 | -14°36.4 | -14°48.9 | -15°01.3 | -15°13.7 | -12.7 | 60.5 |
| **Ve 25** | 315°11.6 | 329°36.5 | 344°01.3 | 358°26.0 | 12°50.7 | 27°15.3 | 41°39.8 | 56°04.2 | 70°28.6 | 84°52.8 | 99°17.0 | +24.5 | 16.5 |
| | -18°06.3 | -18°16.9 | -18°27.4 | -18°37.8 | -18°48.0 | -18°58.1 | -19°08.1 | -19°18.0 | -19°27.7 | -19°37.3 | -19°46.7 | -10.1 | 60.6 |
| **Sa 26** | 315°11.9 | 329°35.0 | 343°58.1 | 358°21.2 | 12°44.2 | 27°07.2 | 41°30.1 | 55°53.0 | 70°15.8 | 84°38.6 | 99°01.4 | +22.9 | 16.5 |
| | -21°51.4 | -21°58.5 | -22°05.4 | -22°12.2 | -22°18.8 | -22°25.3 | -22°31.6 | -22°37.7 | -22°43.7 | -22°49.5 | -22°55.1 | -6.4 | 60.4 |
| ○ **Di 27** | 314°39.6 | 329°02.1 | 343°24.5 | 357°47.0 | 12°09.4 | 26°31.9 | 40°54.3 | 55°16.8 | 69°39.3 | 84°01.8 | 98°24.3 | +22.5 | 16.4 |
| | -23°59.1 | -24°02.0 | -24°04.7 | -24°07.3 | -24°09.6 | -24°11.8 | -24°13.8 | -24°15.6 | -24°17.3 | -24°18.8 | -24°20.1 | -2.1 | 60.0 |
| **Lu 28** | 314°05.9 | 328°29.1 | 342°52.2 | 357°15.5 | 11°38.8 | 26°02.2 | 40°25.6 | 54°49.1 | 69°12.7 | 83°36.3 | 98°00.0 | +23.4 | 16.2 |
| | -24°18.7 | -24°17.2 | -24°15.6 | -24°13.8 | -24°11.9 | -24°09.8 | -24°07.5 | -24°05.0 | -24°02.4 | -23°59.6 | -23°56.7 | +2.2 | 59.3 |
| **Ma 29** | 314°05.5 | 328°30.6 | 342°55.7 | 357°21.0 | 11°46.4 | 26°11.9 | 40°37.4 | 55°03.1 | 69°28.9 | 83°54.8 | 98°20.7 | +25.5 | 15.9 |
| | -22°54.4 | -22°49.1 | -22°43.6 | -22°38.1 | -22°32.3 | -22°26.5 | -22°20.5 | -22°14.3 | -22°08.1 | -22°01.7 | -21°55.2 | +5.9 | 58.5 |
| **Me 30** | 328°30.6 | 342°55.7 | 357°21.0 | 11°46.4 | 26°11.9 | 40°37.4 | 55°03.1 | 69°28.9 | 83°54.8 | 98°20.7 | 112°46.8 | +25.6 | 15.9 |
| | -22°49.1 | -22°43.6 | -22°38.1 | -22°32.3 | -22°26.5 | -22°20.5 | -22°14.3 | -22°08.1 | -22°01.7 | -21°55.2 | -21°48.5 | +6.1 | 58.4 |
| **Je 31** | 329°30.9 | 343°58.7 | 358°26.6 | 12°54.6 | 27°22.7 | 41°51.0 | 56°19.3 | 70°47.8 | 85°16.3 | 99°45.0 | 114°13.8 | +28.3 | 15.7 |
| | -19°55.0 | -19°46.5 | -19°38.0 | -19°29.4 | -19°20.6 | -19°11.8 | -19°02.9 | -18°53.9 | -18°44.8 | -18°35.6 | -18°26.3 | +8.9 | 57.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 09h48 — NL: 13 13h42 — PQ: 21 04h16 — PL: 27 18h37

# SOLEIL

## Juin 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 270°32.3 | 285°32.2 | 300°32.1 | 315°32.0 | 330°31.9 | 345°31.8 | 0°31.7 | 15°31.6 | 30°31.5 | 45°31.4 | 60°31.4 | 75°31.3 | -0.1 |
| | 22°05.7 | 22°06.0 | 22°06.4 | 22°06.7 | 22°07.0 | 22°07.4 | 22°07.7 | 22°08.0 | 22°08.4 | 22°08.7 | 22°09.0 | 22°09.4 | +0.3 |
| Sa 2 | 270°30.0 | 285°29.9 | 300°29.8 | 315°29.7 | 330°29.6 | 345°29.5 | 0°29.4 | 15°29.3 | 30°29.2 | 45°29.1 | 60°29.0 | 75°28.9 | -0.1 |
| | 22°13.5 | 22°13.9 | 22°14.2 | 22°14.5 | 22°14.8 | 22°15.1 | 22°15.4 | 22°15.8 | 22°16.1 | 22°16.4 | 22°16.7 | 22°17.0 | +0.3 |
| Di 3 | 270°27.5 | 285°27.4 | 300°27.3 | 315°27.2 | 330°27.1 | 345°27.0 | 0°26.9 | 15°26.8 | 30°26.7 | 45°26.6 | 60°26.5 | 75°26.4 | -0.1 |
| | 22°21.0 | 22°21.3 | 22°21.6 | 22°21.9 | 22°22.2 | 22°22.5 | 22°22.8 | 22°23.1 | 22°23.4 | 22°23.7 | 22°24.0 | 22°24.3 | +0.3 |
| Lu 4 | 270°25.0 | 285°24.9 | 300°24.8 | 315°24.6 | 330°24.5 | 345°24.4 | 0°24.3 | 15°24.2 | 30°24.1 | 45°24.0 | 60°23.9 | 75°23.8 | -0.1 |
| | 22°28.0 | 22°28.3 | 22°28.6 | 22°28.9 | 22°29.2 | 22°29.4 | 22°29.7 | 22°30.0 | 22°30.3 | 22°30.6 | 22°30.8 | 22°31.1 | +0.3 |
| Ma 5 | 270°22.3 | 285°22.2 | 300°22.1 | 315°22.0 | 330°21.9 | 345°21.8 | 0°21.7 | 15°21.5 | 30°21.4 | 45°21.3 | 60°21.2 | 75°21.1 | -0.1 |
| | 22°34.7 | 22°35.0 | 22°35.2 | 22°35.5 | 22°35.8 | 22°36.0 | 22°36.3 | 22°36.5 | 22°36.8 | 22°37.1 | 22°37.3 | 22°37.6 | +0.3 |
| Me 6 | 270°19.6 | 285°19.5 | 300°19.4 | 315°19.3 | 330°19.2 | 345°19.0 | 0°18.9 | 15°18.8 | 30°18.7 | 45°18.6 | 60°18.5 | 75°18.3 | -0.1 |
| | 22°40.9 | 22°41.2 | 22°41.4 | 22°41.7 | 22°41.9 | 22°42.2 | 22°42.4 | 22°42.7 | 22°42.9 | 22°43.2 | 22°43.4 | 22°43.7 | +0.2 |
| Je 7 | 270°16.8 | 285°16.7 | 300°16.6 | 315°16.5 | 330°16.3 | 345°16.2 | 0°16.1 | 15°16.0 | 30°15.9 | 45°15.7 | 60°15.6 | 75°15.5 | -0.1 |
| | 22°46.8 | 22°47.0 | 22°47.3 | 22°47.5 | 22°47.7 | 22°48.0 | 22°48.2 | 22°48.4 | 22°48.7 | 22°48.9 | 22°49.1 | 22°49.4 | +0.2 |
| Ve 8 | 270°13.9 | 285°13.8 | 300°13.7 | 315°13.6 | 330°13.5 | 345°13.3 | 0°13.2 | 15°13.1 | 30°13.0 | 45°12.8 | 60°12.7 | 75°12.6 | -0.1 |
| | 22°52.3 | 22°52.5 | 22°52.7 | 22°52.9 | 22°53.1 | 22°53.3 | 22°53.6 | 22°53.8 | 22°54.0 | 22°54.2 | 22°54.4 | 22°54.6 | +0.2 |
| Sa 9 | 270°11.0 | 285°10.9 | 300°10.8 | 315°10.6 | 330°10.5 | 345°10.4 | 0°10.3 | 15°10.1 | 30°10.0 | 45°09.9 | 60°09.8 | 75°09.6 | -0.1 |
| | 22°57.3 | 22°57.5 | 22°57.7 | 22°57.9 | 22°58.1 | 22°58.3 | 22°58.5 | 22°58.7 | 22°58.9 | 22°59.1 | 22°59.3 | 22°59.5 | +0.2 |
| Di 10 | 270°08.0 | 285°07.9 | 300°07.7 | 315°07.6 | 330°07.5 | 345°07.4 | 0°07.2 | 15°07.1 | 30°07.0 | 45°06.9 | 60°06.7 | 75°06.6 | -0.1 |
| | 23°02.0 | 23°02.2 | 23°02.3 | 23°02.5 | 23°02.7 | 23°02.9 | 23°03.1 | 23°03.2 | 23°03.4 | 23°03.6 | 23°03.8 | 23°04.0 | +0.2 |
| Lu 11 | 270°04.9 | 285°04.8 | 300°04.7 | 315°04.5 | 330°04.4 | 345°04.3 | 0°04.2 | 15°04.0 | 30°03.9 | 45°03.8 | 60°03.6 | 75°03.5 | -0.1 |
| | 23°06.2 | 23°06.4 | 23°06.5 | 23°06.7 | 23°06.9 | 23°07.0 | 23°07.2 | 23°07.4 | 23°07.5 | 23°07.7 | 23°07.9 | 23°08.0 | +0.2 |
| Ma 12 | 270°01.8 | 285°01.7 | 300°01.6 | 315°01.4 | 330°01.3 | 345°01.2 | 0°01.0 | 15°00.9 | 30°00.8 | 45°00.6 | 60°00.5 | 75°00.4 | -0.1 |
| | 23°10.1 | 23°10.2 | 23°10.4 | 23°10.5 | 23°10.7 | 23°10.8 | 23°10.9 | 23°11.1 | 23°11.2 | 23°11.4 | 23°11.5 | 23°11.7 | +0.1 |
| Me 13 | 269°58.7 | 284°58.5 | 299°58.4 | 314°58.3 | 329°58.1 | 344°58.0 | 359°57.9 | 14°57.7 | 29°57.6 | 44°57.5 | 59°57.3 | 74°57.2 | -0.1 |
| | 23°13.5 | 23°13.6 | 23°13.8 | 23°13.9 | 23°14.0 | 23°14.1 | 23°14.3 | 23°14.4 | 23°14.5 | 23°14.7 | 23°14.8 | 23°14.9 | +0.1 |
| Je 14 | 269°55.5 | 284°55.4 | 299°55.2 | 314°55.1 | 329°55.0 | 344°54.8 | 359°54.7 | 14°54.5 | 29°54.4 | 44°54.3 | 59°54.1 | 74°54.0 | -0.1 |
| | 23°16.5 | 23°16.6 | 23°16.7 | 23°16.9 | 23°17.0 | 23°17.1 | 23°17.2 | 23°17.3 | 23°17.4 | 23°17.5 | 23°17.6 | 23°17.8 | +0.1 |
| Ve 15 | 269°52.3 | 284°52.1 | 299°52.0 | 314°51.9 | 329°51.7 | 344°51.6 | 359°51.5 | 14°51.3 | 29°51.2 | 44°51.1 | 59°50.9 | 74°50.8 | -0.1 |
| | 23°19.1 | 23°19.2 | 23°19.3 | 23°19.4 | 23°19.5 | 23°19.6 | 23°19.7 | 23°19.8 | 23°19.9 | 23°20.0 | 23°20.1 | 23°20.2 | +0.1 |
| Sa 16 | 269°49.0 | 284°48.9 | 299°48.8 | 314°48.6 | 329°48.5 | 344°48.3 | 359°48.2 | 14°48.1 | 29°47.9 | 44°47.8 | 59°47.7 | 74°47.5 | -0.1 |
| | 23°21.3 | 23°21.4 | 23°21.5 | 23°21.6 | 23°21.6 | 23°21.7 | 23°21.8 | 23°21.9 | 23°22.0 | 23°22.0 | 23°22.1 | 23°22.2 | +0.1 |
| Di 17 | 269°45.8 | 284°45.6 | 299°45.5 | 314°45.4 | 329°45.2 | 344°45.1 | 359°44.9 | 14°44.8 | 29°44.7 | 44°44.5 | 59°44.4 | 74°44.3 | -0.1 |
| | 23°23.1 | 23°23.2 | 23°23.2 | 23°23.3 | 23°23.4 | 23°23.4 | 23°23.5 | 23°23.5 | 23°23.6 | 23°23.7 | 23°23.7 | 23°23.8 | +0.1 |
| Lu 18 | 269°42.5 | 284°42.4 | 299°42.2 | 314°42.1 | 329°42.0 | 344°41.8 | 359°41.7 | 14°41.5 | 29°41.4 | 44°41.3 | 59°41.1 | 74°41.0 | -0.1 |
| | 23°24.5 | 23°24.5 | 23°24.6 | 23°24.6 | 23°24.7 | 23°24.7 | 23°24.8 | 23°24.8 | 23°24.8 | 23°24.9 | 23°24.9 | 23°25.0 | +0.0 |
| Ma 19 | 269°39.2 | 284°39.1 | 299°39.0 | 314°38.8 | 329°38.7 | 344°38.5 | 359°38.4 | 14°38.3 | 29°38.1 | 44°38.0 | 59°37.9 | 74°37.7 | -0.1 |
| | 23°25.4 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | +0.0 |
| Me 20 | 269°36.0 | 284°35.8 | 299°35.7 | 314°35.6 | 329°35.4 | 344°35.3 | 359°35.1 | 14°35.0 | 29°34.9 | 44°34.7 | 59°34.6 | 74°34.5 | -0.1 |
| | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | +0.0 |
| Je 21 | 269°32.7 | 284°32.6 | 299°32.4 | 314°32.3 | 329°32.2 | 344°32.0 | 359°31.9 | 14°31.8 | 29°31.6 | 44°31.5 | 59°31.3 | 74°31.2 | -0.1 |
| | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.0 | -0.0 |
| Ve 22 | 269°29.5 | 284°29.3 | 299°29.2 | 314°29.1 | 329°28.9 | 344°28.8 | 359°28.6 | 14°28.5 | 29°28.4 | 44°28.2 | 59°28.1 | 74°28.0 | -0.1 |
| | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.6 | 23°25.6 | 23°25.6 | -0.0 |
| Sa 23 | 269°26.2 | 284°26.1 | 299°26.0 | 314°25.8 | 329°25.7 | 344°25.6 | 359°25.4 | 14°25.3 | 29°25.2 | 44°25.0 | 59°24.9 | 74°24.8 | -0.1 |
| | 23°25.1 | 23°25.1 | 23°25.1 | 23°25.0 | 23°25.0 | 23°25.0 | 23°24.9 | 23°24.9 | 23°24.8 | 23°24.8 | 23°24.7 | 23°24.7 | -0.0 |
| Di 24 | 269°23.0 | 284°22.9 | 299°22.8 | 314°22.6 | 329°22.5 | 344°22.4 | 359°22.2 | 14°22.1 | 29°22.0 | 44°21.8 | 59°21.7 | 74°21.6 | -0.1 |
| | 23°24.0 | 23°24.0 | 23°23.9 | 23°23.9 | 23°23.8 | 23°23.8 | 23°23.7 | 23°23.6 | 23°23.6 | 23°23.5 | 23°23.5 | 23°23.4 | -0.1 |
| Lu 25 | 269°19.9 | 284°19.7 | 299°19.6 | 314°19.5 | 329°19.3 | 344°19.2 | 359°19.1 | 14°18.9 | 29°18.8 | 44°18.7 | 59°18.5 | 74°18.4 | -0.1 |
| | 23°22.5 | 23°22.5 | 23°22.4 | 23°22.3 | 23°22.2 | 23°22.2 | 23°22.1 | 23°22.0 | 23°21.9 | 23°21.9 | 23°21.8 | 23°21.7 | -0.1 |
| Ma 26 | 269°16.7 | 284°16.6 | 299°16.5 | 314°16.3 | 329°16.2 | 344°16.1 | 359°15.9 | 14°15.8 | 29°15.7 | 44°15.6 | 59°15.4 | 74°15.3 | -0.1 |
| | 23°20.6 | 23°20.5 | 23°20.4 | 23°20.3 | 23°20.2 | 23°20.2 | 23°20.1 | 23°20.0 | 23°19.9 | 23°19.8 | 23°19.7 | 23°19.6 | -0.1 |
| Me 27 | 269°13.6 | 284°13.5 | 299°13.4 | 314°13.2 | 329°13.1 | 344°13.0 | 359°12.9 | 14°12.7 | 29°12.6 | 44°12.5 | 59°12.3 | 74°12.2 | -0.1 |
| | 23°18.3 | 23°18.2 | 23°18.1 | 23°18.0 | 23°17.8 | 23°17.7 | 23°17.6 | 23°17.5 | 23°17.4 | 23°17.3 | 23°17.2 | 23°17.1 | -0.1 |
| Je 28 | 269°10.6 | 284°10.4 | 299°10.3 | 314°10.2 | 329°10.1 | 344°09.9 | 359°09.8 | 14°09.7 | 29°09.6 | 44°09.4 | 59°09.3 | 74°09.2 | -0.1 |
| | 23°15.5 | 23°15.4 | 23°15.3 | 23°15.2 | 23°15.0 | 23°14.9 | 23°14.8 | 23°14.7 | 23°14.5 | 23°14.4 | 23°14.3 | 23°14.1 | -0.1 |
| Ve 29 | 269°07.6 | 284°07.4 | 299°07.3 | 314°07.2 | 329°07.1 | 344°06.9 | 359°06.8 | 14°06.7 | 29°06.6 | 44°06.4 | 59°06.3 | 74°06.2 | -0.1 |
| | 23°12.4 | 23°12.2 | 23°12.1 | 23°12.0 | 23°11.8 | 23°11.7 | 23°11.5 | 23°11.4 | 23°11.2 | 23°11.1 | 23°10.9 | 23°10.8 | -0.1 |
| Sa 30 | 269°04.6 | 284°04.5 | 299°04.4 | 314°04.2 | 329°04.1 | 344°04.0 | 359°03.9 | 14°03.7 | 29°03.6 | 44°03.5 | 59°03.4 | 74°03.3 | -0.1 |
| | 23°08.8 | 23°08.7 | 23°08.5 | 23°08.3 | 23°08.2 | 23°08.0 | 23°07.9 | 23°07.7 | 23°07.5 | 23°07.4 | 23°07.2 | 23°07.1 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2029

| J | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 232°59.7 | 247°31.7 | 262°03.8 | 276°36.0 | 291°08.3 | 305°40.7 | 320°13.1 | 334°45.7 | 349°18.3 | 3°51.0 | 18°23.7 | +32.4 | 15.3 |
| | -12°39.9 | -12°28.5 | -12°17.0 | -12°05.4 | -11°53.9 | -11°42.2 | -11°30.6 | -11°18.9 | -11°07.2 | -10°55.4 | -10°43.6 | +11.6 | 56.0 |
| Sa 2 | 236°43.1 | 251°16.9 | 265°50.8 | 280°24.7 | 294°58.6 | 309°32.6 | 324°06.7 | 338°40.8 | 353°15.0 | 7°49.2 | 22°23.4 | +34.0 | 15.1 |
| | -7°43.1 | -7°30.9 | -7°18.6 | -7°06.4 | -6°54.1 | -6°41.8 | -6°29.5 | -6°17.2 | -6°04.9 | -5°52.5 | -5°40.2 | +12.3 | 55.3 |
| Di 3 | 241°02.2 | 255°37.1 | 270°12.0 | 284°46.9 | 299°21.8 | 313°56.8 | 328°31.8 | 343°06.8 | 357°41.8 | 12°16.9 | 26°52.0 | +35.0 | 14.9 |
| | -2°33.8 | -2°21.4 | -2°08.9 | -1°56.5 | -1°44.0 | -1°31.6 | -1°19.1 | -1°06.7 | -0°54.3 | -0°41.8 | -0°29.4 | +12.4 | 54.7 |
| ◑ Lu 4 | 245°40.0 | 260°15.3 | 274°50.5 | 289°25.8 | 304°01.1 | 318°36.3 | 333°11.6 | 347°46.9 | 2°22.2 | 16°57.4 | 31°32.7 | +35.3 | 14.8 |
| | 2°35.9 | 2°48.2 | 3°00.4 | 3°12.6 | 3°24.8 | 3°37.0 | 3°49.2 | 4°01.3 | 4°13.4 | 4°25.6 | 4°37.6 | +12.2 | 54.3 |
| Ma 5 | 260°15.3 | 274°50.5 | 289°25.8 | 304°01.1 | 318°36.3 | 333°11.6 | 347°46.9 | 2°22.2 | 16°57.4 | 31°32.7 | 46°07.9 | +35.3 | 14.8 |
| | 2°48.2 | 3°00.4 | 3°12.6 | 3°24.8 | 3°37.0 | 3°49.2 | 4°01.3 | 4°13.4 | 4°25.6 | 4°37.6 | 4°49.7 | +12.2 | 54.3 |
| Me 6 | 264°55.3 | 279°30.3 | 294°05.3 | 308°40.3 | 323°15.2 | 337°50.2 | 352°25.1 | 7°00.0 | 21°34.8 | 36°09.6 | 50°44.4 | +34.9 | 14.8 |
| | 7°47.7 | 7°59.3 | 8°10.9 | 8°22.5 | 8°34.0 | 8°45.6 | 8°57.0 | 9°08.5 | 9°19.9 | 9°31.2 | 9°42.6 | +11.5 | 54.1 |
| Je 7 | 269°22.2 | 283°56.4 | 298°30.6 | 313°04.7 | 327°38.8 | 342°12.9 | 356°46.9 | 11°20.8 | 25°54.7 | 40°28.6 | 55°02.4 | +34.0 | 14.7 |
| | 12°27.6 | 12°38.3 | 12°48.9 | 12°59.4 | 13°09.9 | 13°20.4 | 13°30.8 | 13°41.1 | 13°51.4 | 14°01.6 | 14°11.8 | +10.4 | 54.1 |
| Ve 8 | 273°23.2 | 287°56.1 | 302°29.0 | 317°01.8 | 331°34.6 | 346°07.3 | 0°40.0 | 15°12.6 | 29°45.1 | 44°17.6 | 58°50.0 | +32.7 | 14.8 |
| | 16°37.6 | 16°46.8 | 16°56.0 | 17°05.1 | 17°14.1 | 17°23.0 | 17°31.9 | 17°40.7 | 17°49.4 | 17°58.1 | 18°06.7 | +8.9 | 54.2 |
| Sa 9 | 276°48.5 | 291°19.9 | 305°51.2 | 320°22.5 | 334°53.7 | 349°24.8 | 3°55.9 | 18°26.9 | 32°57.8 | 47°28.7 | 61°59.5 | +31.1 | 14.9 |
| | 20°06.1 | 20°13.4 | 20°20.6 | 20°27.7 | 20°34.8 | 20°41.7 | 20°48.6 | 20°55.3 | 21°02.0 | 21°08.6 | 21°15.1 | +6.9 | 54.5 |
| Di 10 | 279°34.0 | 294°03.8 | 308°33.6 | 323°03.2 | 337°32.9 | 352°02.4 | 6°32.0 | 21°01.4 | 35°30.8 | 50°00.2 | 64°29.4 | +29.5 | 15.0 |
| | 22°40.4 | 22°45.3 | 22°50.0 | 22°54.7 | 22°59.2 | 23°03.6 | 23°08.0 | 23°12.2 | 23°16.3 | 23°20.2 | 23°24.1 | +4.4 | 54.9 |
| Lu 11 | 281°42.7 | 296°11.2 | 310°39.7 | 325°08.1 | 339°36.5 | 354°04.9 | 8°33.2 | 23°01.5 | 37°29.7 | 51°57.9 | 66°26.1 | +28.3 | 15.1 |
| | 24°08.0 | 24°09.9 | 24°11.8 | 24°13.5 | 24°15.1 | 24°16.5 | 24°17.8 | 24°19.1 | 24°20.1 | 24°21.1 | 24°21.9 | +1.4 | 55.3 |
| ● Ma 12 | 283°25.7 | 297°53.5 | 312°21.3 | 326°49.1 | 341°16.9 | 355°44.6 | 10°12.4 | 24°40.2 | 39°07.9 | 53°35.6 | 68°03.4 | +27.8 | 15.2 |
| | 24°18.7 | 24°17.4 | 24°16.0 | 24°14.5 | 24°12.9 | 24°11.1 | 24°09.1 | 24°07.1 | 24°04.9 | 24°02.6 | 24°00.1 | -1.9 | 55.8 |
| Me 13 | 284°59.8 | 299°27.6 | 313°55.5 | 328°23.3 | 342°51.2 | 357°19.1 | 11°47.0 | 26°15.0 | 40°42.9 | 55°10.9 | 69°38.9 | +27.9 | 15.4 |
| | 23°07.5 | 23°03.0 | 22°58.3 | 22°53.5 | 22°48.6 | 22°43.5 | 22°38.3 | 22°33.0 | 22°27.5 | 22°22.0 | 22°16.3 | -5.1 | 56.3 |
| Je 14 | 286°42.1 | 301°10.6 | 315°39.1 | 330°07.6 | 344°36.2 | 359°04.8 | 13°33.4 | 28°02.0 | 42°30.8 | 56°59.5 | 71°28.3 | +28.6 | 15.5 |
| | 20°36.1 | 20°28.4 | 20°20.7 | 20°12.8 | 20°04.9 | 19°56.8 | 19°48.6 | 19°40.2 | 19°31.8 | 19°23.3 | 19°14.6 | -8.1 | 56.8 |
| Ve 15 | 288°44.4 | 303°13.8 | 317°43.3 | 332°12.7 | 346°42.2 | 1°11.8 | 15°41.3 | 30°10.9 | 44°40.6 | 59°10.3 | 73°40.0 | +29.6 | 15.6 |
| | 16°52.4 | 16°42.2 | 16°31.8 | 16°21.3 | 16°10.8 | 16°00.1 | 15°49.4 | 15°38.6 | 15°27.6 | 15°16.6 | 15°05.5 | -10.7 | 57.4 |
| Sa 16 | 291°10.0 | 305°40.3 | 320°10.6 | 334°40.9 | 349°11.2 | 3°41.6 | 18°12.0 | 32°42.4 | 47°12.9 | 61°43.4 | 76°13.9 | +30.4 | 15.8 |
| | 12°09.5 | 11°57.2 | 11°44.8 | 11°32.3 | 11°19.8 | 11°07.2 | 10°54.5 | 10°41.8 | 10°29.0 | 10°16.1 | 10°03.2 | -12.6 | 57.9 |
| Di 17 | 293°53.7 | 308°24.5 | 322°55.3 | 337°26.1 | 351°56.9 | 6°27.7 | 20°58.5 | 35°29.3 | 50°00.1 | 64°31.0 | 79°01.8 | +30.8 | 15.9 |
| | 6°43.1 | 6°29.4 | 6°15.6 | 6°01.8 | 5°48.0 | 5°34.1 | 5°20.2 | 5°06.2 | 4°52.3 | 4°38.2 | 4°24.2 | -13.9 | 58.3 |
| Lu 18 | 296°43.9 | 311°14.7 | 325°45.4 | 340°16.1 | 354°46.8 | 9°17.4 | 23°48.1 | 38°18.7 | 52°49.3 | 67°19.9 | 81°50.5 | +30.7 | 16.0 |
| | 0°50.5 | 0°36.1 | 0°21.7 | 0°07.3 | -0°07.2 | -0°21.6 | -0°36.0 | -0°50.5 | -1°04.9 | -1°19.3 | -1°33.8 | -14.4 | 58.8 |
| ◐ Ma 19 | 299°25.3 | 313°55.4 | 328°25.4 | 342°55.3 | 357°25.2 | 11°55.1 | 26°24.9 | 40°54.7 | 55°24.4 | 69°54.1 | 84°23.7 | +29.8 | 16.1 |
| | -5°09.7 | -5°24.0 | -5°38.3 | -5°52.5 | -6°06.8 | -6°21.0 | -6°35.1 | -6°49.3 | -7°03.4 | -7°17.4 | -7°31.5 | -14.2 | 59.2 |
| Me 20 | 301°41.3 | 316°10.0 | 330°38.6 | 345°07.2 | 359°35.7 | 14°04.1 | 28°32.5 | 43°00.7 | 57°29.0 | 71°57.1 | 86°25.2 | +28.4 | 16.2 |
| | -10°57.2 | -11°10.6 | -11°23.8 | -11°37.0 | -11°50.2 | -12°03.3 | -12°16.3 | -12°29.2 | -12°42.1 | -12°54.9 | -13°07.7 | -13.1 | 59.5 |
| Je 21 | 303°17.3 | 317°44.2 | 332°11.0 | 346°37.7 | 1°04.3 | 15°30.9 | 29°57.3 | 44°23.7 | 58°50.0 | 73°16.3 | 87°42.4 | +26.5 | 16.3 |
| | -16°09.4 | -16°20.8 | -16°32.2 | -16°43.4 | -16°54.5 | -17°05.5 | -17°16.4 | -17°27.2 | -17°37.9 | -17°48.5 | -17°59.0 | -11.0 | 59.7 |
| Ve 22 | 304°05.5 | 318°30.4 | 332°55.3 | 347°20.1 | 1°44.8 | 16°09.5 | 30°34.1 | 44°58.6 | 59°23.1 | 73°47.5 | 88°11.8 | +24.6 | 16.3 |
| | -20°22.1 | -20°30.7 | -20°39.1 | -20°47.3 | -20°55.5 | -21°03.4 | -21°11.3 | -21°19.0 | -21°26.6 | -21°34.0 | -21°41.3 | -7.9 | 59.7 |
| Sa 23 | 304°10.2 | 318°33.7 | 332°57.2 | 347°20.6 | 1°44.0 | 16°07.4 | 30°30.8 | 44°54.1 | 59°17.4 | 73°40.6 | 88°03.9 | +23.4 | 16.3 |
| | -23°12.3 | -23°17.1 | -23°21.8 | -23°26.2 | -23°30.6 | -23°34.7 | -23°38.7 | -23°42.6 | -23°46.3 | -23°49.8 | -23°53.1 | -4.1 | 59.6 |
| Di 24 | 303°51.3 | 318°14.5 | 332°37.6 | 347°00.8 | 1°24.1 | 15°47.3 | 30°10.6 | 44°33.9 | 58°57.2 | 73°20.5 | 87°43.9 | +23.3 | 16.2 |
| | -24°23.0 | -24°23.7 | -24°24.1 | -24°24.4 | -24°24.6 | -24°24.5 | -24°24.3 | -24°24.0 | -24°23.4 | -24°22.7 | -24°21.8 | +0.1 | 59.3 |
| Lu 25 | 303°39.8 | 318°03.9 | 332°28.2 | 346°52.5 | 1°16.8 | 15°41.2 | 30°05.7 | 44°30.3 | 58°54.9 | 73°19.7 | 87°44.5 | +24.5 | 16.0 |
| | -23°49.2 | -23°45.7 | -23°42.1 | -23°38.3 | -23°34.4 | -23°30.3 | -23°26.1 | -23°21.8 | -23°17.3 | -23°12.6 | -23°07.8 | +4.1 | 58.7 |
| ○ Ma 26 | 304°06.4 | 318°32.6 | 332°58.9 | 347°25.3 | 1°51.7 | 16°18.3 | 30°45.0 | 45°11.7 | 59°38.6 | 74°05.5 | 88°32.6 | +26.6 | 15.8 |
| | -21°39.1 | -21°32.1 | -21°25.0 | -21°17.8 | -21°10.5 | -21°03.0 | -20°55.5 | -20°47.8 | -20°40.0 | -20°32.1 | -20°24.0 | +7.5 | 58.1 |
| Me 27 | 305°30.5 | 319°59.1 | 334°27.9 | 348°56.7 | 3°25.7 | 17°54.7 | 32°23.9 | 46°53.2 | 61°22.5 | 75°52.0 | 90°21.5 | +29.1 | 15.6 |
| | -18°11.3 | -18°01.7 | -17°52.0 | -17°42.2 | -17°32.3 | -17°22.4 | -17°12.4 | -17°02.3 | -16°52.1 | -16°41.8 | -16°31.5 | +10.0 | 57.3 |
| Je 28 | 307°56.1 | 322°27.1 | 336°58.2 | 351°29.4 | 6°00.7 | 20°32.1 | 35°03.5 | 49°35.1 | 64°06.7 | 78°38.4 | 93°10.2 | +31.4 | 15.4 |
| | -13°48.4 | -13°37.0 | -13°25.6 | -13°14.2 | -13°02.7 | -12°51.1 | -12°39.5 | -12°27.9 | -12°16.2 | -12°04.4 | -11°52.7 | +11.6 | 56.5 |
| Ve 29 | 322°27.1 | 336°58.2 | 351°29.4 | 6°00.7 | 20°32.1 | 35°03.5 | 49°35.1 | 64°06.7 | 78°38.4 | 93°10.2 | 107°42.1 | +31.5 | 15.4 |
| | -13°37.0 | -13°25.6 | -13°14.2 | -13°02.7 | -12°51.1 | -12°39.5 | -12°27.9 | -12°16.2 | -12°04.4 | -11°52.7 | -11°40.8 | +11.6 | 56.5 |
| Sa 30 | 325°49.0 | 340°22.0 | 354°55.0 | 9°28.2 | 24°01.4 | 38°34.6 | 53°08.0 | 67°41.3 | 82°14.8 | 96°48.3 | 111°21.8 | +33.3 | 15.2 |
| | -8°39.3 | -8°27.0 | -8°14.7 | -8°02.3 | -7°49.9 | -7°37.5 | -7°25.0 | -7°12.6 | -7°00.1 | -6°47.6 | -6°35.1 | +12.4 | 55.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 4 01h18 — NL: 12 03h50 — PQ: 19 09h54 — PL: 26 03h22

# SOLEIL

## Juillet 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°01.7 | 284°01.6 | 299°01.5 | 314°01.3 | 329°01.2 | 344°01.1 | 359°01.0 | 14°00.9 | 29°00.7 | 44°00.6 | 59°00.5 | 74°00.4 | -0.1 |
| | 23°04.9 | 23°04.7 | 23°04.5 | 23°04.3 | 23°04.2 | 23°04.0 | 23°03.8 | 23°03.6 | 23°03.4 | 23°03.3 | 23°03.1 | 23°02.9 | -0.2 |
| Lu 2 | 268°58.9 | 283°58.7 | 298°58.6 | 313°58.5 | 328°58.4 | 343°58.3 | 358°58.2 | 13°58.0 | 28°57.9 | 43°57.8 | 58°57.7 | 73°57.6 | -0.1 |
| | 23°00.5 | 23°00.3 | 23°00.1 | 22°59.9 | 22°59.7 | 22°59.5 | 22°59.3 | 22°59.1 | 22°58.9 | 22°58.7 | 22°58.6 | 22°58.4 | -0.2 |
| Ma 3 | 268°56.1 | 283°56.0 | 298°55.9 | 313°55.8 | 328°55.6 | 343°55.5 | 358°55.4 | 13°55.3 | 28°55.2 | 43°55.1 | 58°55.0 | 73°54.8 | -0.1 |
| | 22°55.7 | 22°55.5 | 22°55.3 | 22°55.1 | 22°54.9 | 22°54.7 | 22°54.5 | 22°54.3 | 22°54.0 | 22°53.8 | 22°53.6 | 22°53.4 | -0.2 |
| Me 4 | 268°53.4 | 283°53.3 | 298°53.2 | 313°53.1 | 328°53.0 | 343°52.8 | 358°52.7 | 13°52.6 | 28°52.5 | 43°52.4 | 58°52.3 | 73°52.2 | -0.1 |
| | 22°50.5 | 22°50.3 | 22°50.1 | 22°49.9 | 22°49.6 | 22°49.4 | 22°49.2 | 22°49.0 | 22°48.7 | 22°48.5 | 22°48.3 | 22°48.0 | -0.2 |
| Je 5 | 268°50.8 | 283°50.7 | 298°50.6 | 313°50.5 | 328°50.3 | 343°50.2 | 358°50.1 | 13°50.0 | 28°49.9 | 43°49.8 | 58°49.7 | 73°49.6 | -0.1 |
| | 22°45.0 | 22°44.7 | 22°44.5 | 22°44.3 | 22°44.0 | 22°43.8 | 22°43.5 | 22°43.3 | 22°43.0 | 22°42.8 | 22°42.5 | 22°42.3 | -0.2 |
| Ve 6 | 268°48.2 | 283°48.1 | 298°48.0 | 313°47.9 | 328°47.8 | 343°47.7 | 358°47.6 | 13°47.5 | 28°47.4 | 43°47.3 | 58°47.2 | 73°47.1 | -0.1 |
| | 22°39.0 | 22°38.8 | 22°38.5 | 22°38.2 | 22°38.0 | 22°37.7 | 22°37.5 | 22°37.2 | 22°36.9 | 22°36.7 | 22°36.4 | 22°36.1 | -0.3 |
| Sa 7 | 268°45.8 | 283°45.7 | 298°45.6 | 313°45.5 | 328°45.4 | 343°45.3 | 358°45.2 | 13°45.1 | 28°45.0 | 43°44.9 | 58°44.8 | 73°44.7 | -0.1 |
| | 22°32.7 | 22°32.4 | 22°32.1 | 22°31.8 | 22°31.6 | 22°31.3 | 22°31.0 | 22°30.7 | 22°30.4 | 22°30.2 | 22°29.9 | 22°29.6 | -0.3 |
| Di 8 | 268°43.4 | 283°43.3 | 298°43.2 | 313°43.1 | 328°43.0 | 343°42.9 | 358°42.8 | 13°42.8 | 28°42.7 | 43°42.6 | 58°42.5 | 73°42.4 | -0.1 |
| | 22°25.9 | 22°25.6 | 22°25.3 | 22°25.0 | 22°24.7 | 22°24.5 | 22°24.2 | 22°23.9 | 22°23.6 | 22°23.3 | 22°23.0 | 22°22.7 | -0.3 |
| Lu 9 | 268°41.2 | 283°41.1 | 298°41.0 | 313°40.9 | 328°40.8 | 343°40.7 | 358°40.6 | 13°40.5 | 28°40.4 | 43°40.3 | 58°40.2 | 73°40.2 | -0.1 |
| | 22°18.8 | 22°18.5 | 22°18.2 | 22°17.8 | 22°17.5 | 22°17.2 | 22°16.9 | 22°16.6 | 22°16.3 | 22°16.0 | 22°15.7 | 22°15.4 | -0.3 |
| Ma 10 | 268°39.0 | 283°38.9 | 298°38.8 | 313°38.7 | 328°38.7 | 343°38.6 | 358°38.5 | 13°38.4 | 28°38.3 | 43°38.2 | 58°38.1 | 73°38.0 | -0.1 |
| | 22°11.2 | 22°10.9 | 22°10.6 | 22°10.3 | 22°10.0 | 22°09.6 | 22°09.3 | 22°09.0 | 22°08.7 | 22°08.3 | 22°08.0 | 22°07.7 | -0.3 |
| Me 11 | 268°36.9 | 283°36.9 | 298°36.8 | 313°36.7 | 328°36.6 | 343°36.5 | 358°36.5 | 13°36.4 | 28°36.3 | 43°36.2 | 58°36.1 | 73°36.0 | -0.1 |
| | 22°03.3 | 22°03.0 | 22°02.7 | 22°02.3 | 22°02.0 | 22°01.6 | 22°01.3 | 22°01.0 | 22°00.6 | 22°00.3 | 21°59.9 | 21°59.6 | -0.3 |
| Je 12 | 268°35.0 | 283°34.9 | 298°34.9 | 313°34.8 | 328°34.7 | 343°34.6 | 358°34.5 | 13°34.5 | 28°34.4 | 43°34.3 | 58°34.2 | 73°34.2 | -0.1 |
| | 21°55.1 | 21°54.7 | 21°54.3 | 21°54.0 | 21°53.6 | 21°53.3 | 21°52.9 | 21°52.6 | 21°52.2 | 21°51.9 | 21°51.5 | 21°51.1 | -0.4 |
| Ve 13 | 268°33.2 | 283°33.1 | 298°33.0 | 313°33.0 | 328°32.9 | 343°32.8 | 358°32.8 | 13°32.7 | 28°32.6 | 43°32.5 | 58°32.5 | 73°32.4 | -0.1 |
| | 21°46.4 | 21°46.0 | 21°45.7 | 21°45.3 | 21°44.9 | 21°44.5 | 21°44.2 | 21°43.8 | 21°43.4 | 21°43.1 | 21°42.7 | 21°42.3 | -0.4 |
| Sa 14 | 268°31.5 | 283°31.4 | 298°31.4 | 313°31.3 | 328°31.2 | 343°31.2 | 358°31.1 | 13°31.0 | 28°30.9 | 43°30.9 | 58°30.8 | 73°30.8 | -0.1 |
| | 21°37.4 | 21°37.0 | 21°36.6 | 21°36.2 | 21°35.8 | 21°35.4 | 21°35.1 | 21°34.7 | 21°34.3 | 21°33.9 | 21°33.5 | 21°33.1 | -0.4 |
| Di 15 | 268°29.9 | 283°29.9 | 298°29.8 | 313°29.7 | 328°29.7 | 343°29.6 | 358°29.5 | 13°29.5 | 28°29.4 | 43°29.4 | 58°29.3 | 73°29.2 | -0.1 |
| | 21°28.0 | 21°27.6 | 21°27.2 | 21°26.8 | 21°26.4 | 21°26.0 | 21°25.6 | 21°25.2 | 21°24.8 | 21°24.4 | 21°23.9 | 21°23.5 | -0.4 |
| Lu 16 | 268°28.5 | 283°28.4 | 298°28.4 | 313°28.3 | 328°28.2 | 343°28.2 | 358°28.1 | 13°28.1 | 28°28.0 | 43°28.0 | 58°27.9 | 73°27.9 | -0.1 |
| | 21°18.2 | 21°17.8 | 21°17.4 | 21°17.0 | 21°16.5 | 21°16.1 | 21°15.7 | 21°15.3 | 21°14.9 | 21°14.5 | 21°14.0 | 21°13.6 | -0.4 |
| Ma 17 | 268°27.2 | 283°27.1 | 298°27.1 | 313°27.0 | 328°27.0 | 343°26.9 | 358°26.9 | 13°26.8 | 28°26.8 | 43°26.7 | 58°26.7 | 73°26.6 | -0.1 |
| | 21°08.1 | 21°07.7 | 21°07.2 | 21°06.8 | 21°06.4 | 21°05.9 | 21°05.5 | 21°05.1 | 21°04.6 | 21°04.2 | 21°03.8 | 21°03.3 | -0.4 |
| Me 18 | 268°26.0 | 283°26.0 | 298°25.9 | 313°25.9 | 328°25.8 | 343°25.8 | 358°25.7 | 13°25.7 | 28°25.6 | 43°25.6 | 58°25.6 | 73°25.5 | -0.0 |
| | 20°57.6 | 20°57.2 | 20°56.7 | 20°56.3 | 20°55.8 | 20°55.4 | 20°54.9 | 20°54.5 | 20°54.0 | 20°53.6 | 20°53.1 | 20°52.7 | -0.4 |
| Je 19 | 268°25.0 | 283°24.9 | 298°24.9 | 313°24.9 | 328°24.8 | 343°24.8 | 358°24.7 | 13°24.7 | 28°24.7 | 43°24.6 | 58°24.6 | 73°24.5 | -0.0 |
| | 20°46.8 | 20°46.3 | 20°45.9 | 20°45.4 | 20°44.9 | 20°44.5 | 20°44.0 | 20°43.5 | 20°43.1 | 20°42.6 | 20°42.2 | 20°41.7 | -0.5 |
| Ve 20 | 268°24.1 | 283°24.1 | 298°24.0 | 313°24.0 | 328°24.0 | 343°23.9 | 358°23.9 | 13°23.9 | 28°23.8 | 43°23.8 | 58°23.8 | 73°23.7 | -0.0 |
| | 20°35.6 | 20°35.1 | 20°34.6 | 20°34.2 | 20°33.7 | 20°33.2 | 20°32.7 | 20°32.3 | 20°31.8 | 20°31.3 | 20°30.8 | 20°30.4 | -0.5 |
| Sa 21 | 268°23.3 | 283°23.3 | 298°23.3 | 313°23.3 | 328°23.2 | 343°23.2 | 358°23.2 | 13°23.2 | 28°23.1 | 43°23.1 | 58°23.1 | 73°23.1 | -0.0 |
| | 20°24.1 | 20°23.6 | 20°23.1 | 20°22.6 | 20°22.1 | 20°21.6 | 20°21.1 | 20°20.6 | 20°20.1 | 20°19.7 | 20°19.2 | 20°18.7 | -0.5 |
| Di 22 | 268°22.8 | 283°22.7 | 298°22.7 | 313°22.7 | 328°22.7 | 343°22.6 | 358°22.6 | 13°22.6 | 28°22.6 | 43°22.6 | 58°22.6 | 73°22.5 | -0.0 |
| | 20°12.2 | 20°11.7 | 20°11.2 | 20°10.7 | 20°10.2 | 20°09.7 | 20°09.2 | 20°08.7 | 20°08.2 | 20°07.7 | 20°07.2 | 20°06.6 | -0.5 |
| Lu 23 | 268°22.3 | 283°22.3 | 298°22.3 | 313°22.3 | 328°22.2 | 343°22.2 | 358°22.2 | 13°22.2 | 28°22.2 | 43°22.2 | 58°22.2 | 73°22.2 | -0.0 |
| | 20°00.0 | 19°59.5 | 19°59.0 | 19°58.4 | 19°57.9 | 19°57.4 | 19°56.9 | 19°56.4 | 19°55.9 | 19°55.3 | 19°54.8 | 19°54.3 | -0.5 |
| Ma 24 | 268°22.0 | 283°22.0 | 298°22.0 | 313°22.0 | 328°22.0 | 343°22.0 | 358°22.0 | 13°22.0 | 28°21.9 | 43°21.9 | 58°21.9 | 73°21.9 | -0.0 |
| | 19°47.5 | 19°46.9 | 19°46.4 | 19°45.9 | 19°45.3 | 19°44.8 | 19°44.3 | 19°43.7 | 19°43.2 | 19°42.7 | 19°42.1 | 19°41.6 | -0.5 |
| Me 25 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.8 | 13°21.8 | 28°21.8 | 43°21.8 | 58°21.8 | 73°21.8 | -0.0 |
| | 19°34.6 | 19°34.1 | 19°33.5 | 19°33.0 | 19°32.4 | 19°31.9 | 19°31.3 | 19°30.8 | 19°30.2 | 19°29.7 | 19°29.1 | 19°28.6 | -0.5 |
| Je 26 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.9 | 13°21.9 | 28°21.9 | 43°21.9 | 58°21.9 | 73°21.9 | +0.0 |
| | 19°21.4 | 19°20.9 | 19°20.3 | 19°19.7 | 19°19.2 | 19°18.6 | 19°18.1 | 19°17.5 | 19°16.9 | 19°16.4 | 19°15.8 | 19°15.3 | -0.6 |
| Ve 27 | 268°22.0 | 283°22.0 | 298°22.0 | 313°22.0 | 328°22.1 | 343°22.1 | 358°22.1 | 13°22.1 | 28°22.1 | 43°22.1 | 58°22.1 | 73°22.1 | +0.0 |
| | 19°07.9 | 19°07.3 | 19°06.8 | 19°06.2 | 19°05.6 | 19°05.1 | 19°04.5 | 19°03.9 | 19°03.3 | 19°02.8 | 19°02.2 | 19°01.6 | -0.6 |
| Sa 28 | 268°22.3 | 283°22.3 | 298°22.3 | 313°22.4 | 328°22.4 | 343°22.4 | 358°22.4 | 13°22.4 | 28°22.4 | 43°22.5 | 58°22.5 | 73°22.5 | +0.0 |
| | 18°54.1 | 18°53.5 | 18°52.9 | 18°52.3 | 18°51.7 | 18°51.2 | 18°50.6 | 18°50.0 | 18°49.4 | 18°48.8 | 18°48.2 | 18°47.6 | -0.6 |
| Di 29 | 268°22.8 | 283°22.8 | 298°22.8 | 313°22.8 | 328°22.8 | 343°22.9 | 358°22.9 | 13°22.9 | 28°22.9 | 43°23.0 | 58°23.0 | 73°23.0 | +0.0 |
| | 18°39.9 | 18°39.3 | 18°38.8 | 18°38.2 | 18°37.6 | 18°37.0 | 18°36.4 | 18°35.8 | 18°35.2 | 18°34.6 | 18°34.0 | 18°33.4 | -0.6 |
| Lu 30 | 268°23.4 | 283°23.4 | 298°23.4 | 313°23.4 | 328°23.5 | 343°23.5 | 358°23.5 | 13°23.6 | 28°23.6 | 43°23.6 | 58°23.6 | 73°23.7 | +0.0 |
| | 18°25.5 | 18°24.9 | 18°24.3 | 18°23.7 | 18°23.1 | 18°22.5 | 18°21.8 | 18°21.2 | 18°20.6 | 18°20.0 | 18°19.4 | 18°18.8 | -0.6 |
| Ma 31 | 268°24.1 | 283°24.1 | 298°24.2 | 313°24.2 | 328°24.2 | 343°24.3 | 358°24.3 | 13°24.3 | 28°24.4 | 43°24.4 | 58°24.5 | 73°24.5 | +0.0 |
| | 18°10.8 | 18°10.1 | 18°09.5 | 18°08.9 | 18°08.3 | 18°07.6 | 18°07.0 | 18°06.4 | 18°05.8 | 18°05.1 | 18°04.5 | 18°03.9 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2029

| J | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 232°13.2 | 246°48.0 | 261°22.8 | 275°57.7 | 290°32.5 | 305°07.4 | 319°42.3 | 334°17.2 | 348°52.1 | 3°27.1 | 18°02.0 | +34.9 | 14.9 |
| | 0°20.7 | 0°33.3 | 0°45.8 | 0°58.3 | 1°10.8 | 1°23.3 | 1°35.8 | 1°48.3 | 2°00.7 | 2°13.1 | 2°25.6 | +12.5 | 54.8 |
| Lu 2 | 236°46.9 | 251°21.9 | 265°56.9 | 280°31.8 | 295°06.8 | 309°41.8 | 324°16.7 | 338°51.6 | 353°26.6 | 8°01.5 | 22°36.4 | +35.0 | 14.8 |
| | 5°29.3 | 5°41.4 | 5°53.4 | 6°05.4 | 6°17.4 | 6°29.3 | 6°41.2 | 6°53.1 | 7°05.0 | 7°16.8 | 7°28.6 | +11.9 | 54.4 |
| ◑ Ma 3 | 241°17.7 | 255°52.2 | 270°26.8 | 285°01.3 | 299°35.8 | 314°10.2 | 328°44.6 | 343°19.0 | 357°53.3 | 12°27.6 | 27°01.9 | +34.4 | 14.8 |
| | 10°21.1 | 10°32.3 | 10°43.4 | 10°54.5 | 11°05.6 | 11°16.6 | 11°27.6 | 11°38.5 | 11°49.4 | 12°00.2 | 12°11.0 | +11.0 | 54.2 |
| Me 4 | 245°31.3 | 260°04.9 | 274°38.4 | 289°11.9 | 303°45.4 | 318°18.8 | 332°52.2 | 347°25.5 | 1°58.7 | 16°31.9 | 31°05.1 | +33.4 | 14.8 |
| | 14°46.5 | 14°56.4 | 15°06.3 | 15°16.1 | 15°25.8 | 15°35.5 | 15°45.1 | 15°54.7 | 16°04.2 | 16°13.6 | 16°23.0 | +9.7 | 54.2 |
| Je 5 | 260°04.9 | 274°38.4 | 289°11.9 | 303°45.4 | 318°18.8 | 332°52.2 | 347°25.5 | 1°58.7 | 16°31.9 | 31°05.1 | 45°38.2 | +33.3 | 14.8 |
| | 14°56.4 | 15°06.3 | 15°16.1 | 15°25.8 | 15°35.5 | 15°45.1 | 15°54.7 | 16°04.2 | 16°13.6 | 16°23.0 | 16°32.3 | +9.6 | 54.2 |
| Ve 6 | 263°47.8 | 278°20.0 | 292°52.1 | 307°24.2 | 321°56.1 | 336°28.1 | 350°59.9 | 5°31.7 | 20°03.4 | 34°35.1 | 49°06.7 | +31.9 | 14.8 |
| | 18°43.4 | 18°51.6 | 18°59.7 | 19°07.7 | 19°15.6 | 19°23.4 | 19°31.2 | 19°38.8 | 19°46.4 | 19°53.9 | 20°01.3 | +7.8 | 54.4 |
| Sa 7 | 266°53.0 | 281°23.6 | 295°54.1 | 310°24.5 | 324°54.9 | 339°25.2 | 353°55.4 | 8°25.6 | 22°55.7 | 37°25.8 | 51°55.8 | +30.3 | 14.9 |
| | 21°41.9 | 21°47.8 | 21°53.7 | 21°59.4 | 22°05.1 | 22°10.6 | 22°16.1 | 22°21.4 | 22°26.7 | 22°31.8 | 22°36.9 | +5.5 | 54.7 |
| Di 8 | 269°18.3 | 283°47.3 | 298°16.3 | 312°45.2 | 327°14.1 | 341°42.9 | 356°11.7 | 10°40.4 | 25°09.1 | 39°37.7 | 54°06.2 | +28.8 | 15.1 |
| | 23°39.4 | 23°42.7 | 23°45.8 | 23°48.8 | 23°51.7 | 23°54.5 | 23°57.2 | 23°59.7 | 24°02.2 | 24°04.5 | 24°06.7 | +2.7 | 55.2 |
| Lu 9 | 271°09.4 | 285°37.3 | 300°05.1 | 314°33.0 | 329°00.8 | 343°28.5 | 357°56.3 | 12°24.0 | 26°51.7 | 41°19.4 | 55°47.0 | +27.8 | 15.2 |
| | 24°24.4 | 24°24.5 | 24°24.6 | 24°24.4 | 24°24.2 | 24°23.8 | 24°23.3 | 24°22.7 | 24°21.9 | 24°21.0 | 24°20.0 | -0.4 | 55.8 |
| Ma 10 | 272°39.6 | 287°07.0 | 301°34.4 | 316°01.8 | 330°29.2 | 344°56.6 | 359°24.0 | 13°51.5 | 28°18.9 | 42°46.3 | 57°13.7 | +27.4 | 15.4 |
| | 23°48.4 | 23°45.2 | 23°41.9 | 23°38.4 | 23°34.8 | 23°31.1 | 23°27.3 | 23°23.3 | 23°19.1 | 23°14.9 | 23°10.5 | -3.8 | 56.4 |
| ● Me 11 | 274°06.4 | 288°34.0 | 303°01.7 | 317°29.4 | 331°57.1 | 346°24.8 | 0°52.6 | 15°20.4 | 29°48.2 | 44°16.0 | 58°43.9 | +27.7 | 15.6 |
| | 21°48.8 | 21°42.3 | 21°35.7 | 21°29.0 | 21°22.1 | 21°15.1 | 21°08.0 | 21°00.8 | 20°53.4 | 20°45.9 | 20°38.3 | -7.0 | 57.0 |
| Je 12 | 275°45.7 | 290°14.0 | 304°42.5 | 319°10.9 | 333°39.4 | 348°08.0 | 2°36.5 | 17°05.1 | 31°33.8 | 46°02.5 | 60°31.2 | +28.6 | 15.7 |
| | 18°30.2 | 18°20.7 | 18°11.2 | 18°01.5 | 17°51.7 | 17°41.9 | 17°31.9 | 17°21.8 | 17°11.6 | 17°01.3 | 16°50.9 | -9.9 | 57.6 |
| Ve 13 | 277°46.4 | 292°15.7 | 306°45.1 | 321°14.5 | 335°43.9 | 350°13.3 | 4°42.8 | 19°12.3 | 33°41.9 | 48°11.5 | 62°41.1 | +29.5 | 15.9 |
| | 14°03.8 | 13°52.0 | 13°40.1 | 13°28.0 | 13°16.0 | 13°03.8 | 12°51.6 | 12°39.2 | 12°26.8 | 12°14.4 | 12°01.8 | -12.2 | 58.1 |
| Sa 14 | 280°09.0 | 294°39.1 | 309°09.2 | 323°39.3 | 338°09.4 | 352°39.6 | 7°09.8 | 21°40.0 | 36°10.2 | 50°40.4 | 65°10.7 | +30.2 | 16.0 |
| | 8°45.9 | 8°32.4 | 8°18.8 | 8°05.2 | 7°51.5 | 7°37.8 | 7°24.1 | 7°10.2 | 6°56.4 | 6°42.5 | 6°28.5 | -13.7 | 58.6 |
| Di 15 | 282°46.1 | 297°16.5 | 311°46.9 | 326°17.3 | 340°47.7 | 355°18.2 | 9°48.6 | 24°19.0 | 38°49.4 | 53°19.8 | 67°50.2 | +30.4 | 16.1 |
| | 2°55.5 | 2°41.1 | 2°26.6 | 2°12.2 | 1°57.7 | 1°43.3 | 1°28.8 | 1°14.3 | 0°59.8 | 0°45.2 | 0°30.7 | -14.5 | 58.9 |
| Lu 16 | 285°25.1 | 299°55.3 | 314°25.4 | 328°55.6 | 343°25.7 | 357°55.8 | 12°25.9 | 26°55.9 | 41°25.9 | 55°55.9 | 70°25.9 | +30.1 | 16.1 |
| | -3°07.3 | -3°21.7 | -3°36.2 | -3°50.6 | -4°05.0 | -4°19.4 | -4°33.8 | -4°48.2 | -5°02.5 | -5°16.8 | -5°31.1 | -14.4 | 59.1 |
| Ma 17 | 287°51.0 | 302°20.4 | 316°49.7 | 331°19.0 | 345°48.2 | 0°17.4 | 14°46.5 | 29°15.5 | 43°44.6 | 58°13.5 | 72°42.4 | +29.1 | 16.1 |
| | -9°01.3 | -9°15.0 | -9°28.6 | -9°42.2 | -9°55.7 | -10°09.2 | -10°22.6 | -10°36.0 | -10°49.3 | -11°02.5 | -11°15.7 | -13.4 | 59.2 |
| ◐ Me 18 | 289°49.5 | 304°17.5 | 318°45.4 | 333°13.3 | 347°41.1 | 2°08.8 | 16°36.5 | 31°04.1 | 45°31.7 | 59°59.2 | 74°26.6 | +27.7 | 16.2 |
| | -14°25.2 | -14°37.2 | -14°49.2 | -15°01.0 | -15°12.8 | -15°24.4 | -15°36.0 | -15°47.5 | -15°58.9 | -16°10.2 | -16°21.4 | -11.6 | 59.2 |
| Je 19 | 291°10.0 | 305°36.4 | 320°02.7 | 334°28.9 | 348°55.1 | 3°21.2 | 17°47.3 | 32°13.2 | 46°39.2 | 61°05.0 | 75°30.8 | +26.1 | 16.1 |
| | -18°57.1 | -19°06.6 | -19°15.9 | -19°25.2 | -19°34.3 | -19°43.3 | -19°52.2 | -20°01.0 | -20°09.6 | -20°18.1 | -20°26.5 | -8.9 | 59.2 |
| Ve 20 | 291°50.9 | 306°15.8 | 320°40.6 | 335°05.5 | 349°30.2 | 3°55.0 | 18°19.7 | 32°44.3 | 47°08.9 | 61°33.5 | 75°58.0 | +24.7 | 16.1 |
| | -22°16.0 | -22°22.2 | -22°28.3 | -22°34.1 | -22°39.9 | -22°45.5 | -22°50.9 | -22°56.2 | -23°01.4 | -23°06.4 | -23°11.2 | -5.5 | 59.0 |
| Sa 21 | 292°02.6 | 306°26.7 | 320°50.8 | 335°15.0 | 349°39.1 | 4°03.2 | 18°27.3 | 32°51.5 | 47°15.6 | 61°39.7 | 76°03.8 | +24.1 | 16.0 |
| | -24°05.2 | -24°07.5 | -24°09.7 | -24°11.7 | -24°13.5 | -24°15.2 | -24°16.8 | -24°18.1 | -24°19.4 | -24°20.4 | -24°21.3 | -1.6 | 58.8 |
| Di 22 | 292°07.5 | 306°31.9 | 320°56.4 | 335°20.9 | 349°45.5 | 4°10.1 | 18°34.7 | 32°59.4 | 47°24.2 | 61°48.9 | 76°13.8 | +24.6 | 15.9 |
| | -24°15.4 | -24°13.8 | -24°12.0 | -24°10.0 | -24°07.9 | -24°05.6 | -24°03.1 | -24°00.5 | -23°57.8 | -23°54.9 | -23°51.9 | +2.4 | 58.4 |
| Lu 23 | 292°33.0 | 306°58.8 | 321°24.7 | 335°50.6 | 350°16.6 | 4°42.7 | 19°08.9 | 33°35.1 | 48°01.4 | 62°27.8 | 76°54.3 | +26.1 | 15.8 |
| | -22°48.6 | -22°43.3 | -22°37.8 | -22°32.2 | -22°26.5 | -22°20.6 | -22°14.6 | -22°08.4 | -22°02.2 | -21°55.8 | -21°49.2 | +5.9 | 57.9 |
| Ma 24 | 293°41.4 | 308°09.2 | 322°37.1 | 337°05.1 | 351°33.2 | 6°01.4 | 20°29.7 | 34°58.0 | 49°26.5 | 63°55.0 | 78°23.6 | +28.2 | 15.6 |
| | -19°57.1 | -19°48.7 | -19°40.2 | -19°31.7 | -19°23.0 | -19°14.2 | -19°05.3 | -18°56.4 | -18°47.3 | -18°38.1 | -18°28.9 | +8.8 | 57.4 |
| ○ Me 25 | 295°43.5 | 310°13.5 | 324°43.6 | 339°13.8 | 353°44.1 | 8°14.5 | 22°44.9 | 37°15.4 | 51°46.1 | 66°16.7 | 80°47.5 | +30.4 | 15.5 |
| | -15°59.7 | -15°49.1 | -15°38.5 | -15°27.7 | -15°17.0 | -15°06.1 | -14°55.2 | -14°44.2 | -14°33.2 | -14°22.1 | -14°10.9 | +10.9 | 56.8 |
| Je 26 | 298°38.4 | 313°10.4 | 327°42.5 | 342°14.6 | 356°46.8 | 11°19.1 | 25°51.4 | 40°23.8 | 54°56.3 | 69°28.8 | 84°01.4 | +32.3 | 15.3 |
| | -11°17.2 | -11°05.3 | -10°53.3 | -10°41.2 | -10°29.2 | -10°17.1 | -10°04.9 | -9°52.7 | -9°40.5 | -9°28.3 | -9°16.0 | +12.1 | 56.1 |
| Ve 27 | 302°17.2 | 316°50.7 | 331°24.2 | 345°57.8 | 0°31.4 | 15°05.1 | 29°38.8 | 44°12.6 | 58°46.4 | 73°20.2 | 87°54.1 | +33.7 | 15.1 |
| | -6°09.1 | -5°56.5 | -5°43.8 | -5°31.2 | -5°18.5 | -5°05.9 | -4°53.2 | -4°40.5 | -4°27.8 | -4°15.1 | -4°02.4 | +12.7 | 55.5 |
| Sa 28 | 306°26.7 | 321°01.1 | 335°35.6 | 350°10.1 | 4°44.5 | 19°19.1 | 33°53.6 | 48°28.1 | 63°02.7 | 77°37.3 | 92°11.9 | +34.5 | 15.0 |
| | -0°51.7 | -0°39.0 | -0°26.4 | -0°13.7 | -0°01.0 | 0°11.6 | 0°24.3 | 0°36.9 | 0°49.5 | 1°02.1 | 1°14.7 | +12.6 | 55.0 |
| Di 29 | 321°01.1 | 335°35.6 | 350°10.1 | 4°44.5 | 19°19.1 | 33°53.6 | 48°28.1 | 63°02.7 | 77°37.3 | 92°11.9 | 106°46.5 | +34.5 | 15.0 |
| | -0°39.0 | -0°26.4 | -0°13.7 | -0°01.0 | 0°11.6 | 0°24.3 | 0°36.9 | 0°49.5 | 1°02.1 | 1°14.7 | 1°27.3 | +12.6 | 55.0 |
| Lu 30 | 325°27.3 | 340°02.1 | 354°36.8 | 9°11.6 | 23°46.4 | 38°21.1 | 52°55.9 | 67°30.7 | 82°05.4 | 96°40.2 | 111°14.9 | +34.8 | 14.9 |
| | 4°33.6 | 4°45.9 | 4°58.1 | 5°10.3 | 5°22.5 | 5°34.6 | 5°46.7 | 5°58.8 | 6°10.8 | 6°22.8 | 6°34.8 | +12.1 | 54.6 |
| Ma 31 | 329°54.8 | 344°29.3 | 359°03.8 | 13°38.3 | 28°12.8 | 42°47.2 | 57°21.6 | 71°56.0 | 86°30.4 | 101°04.7 | 115°39.1 | +34.4 | 14.8 |
| | 9°30.3 | 9°41.7 | 9°53.1 | 10°04.4 | 10°15.6 | 10°26.9 | 10°38.0 | 10°49.2 | 11°00.3 | 11°11.3 | 11°22.3 | +11.2 | 54.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 3 17h57 — NL: 11 15h51 — PQ: 18 14h14 — PL: 25 13h35

# SOLEIL

## Août 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 268°25.0<br>17°55.7 | 283°25.0<br>17°55.1 | 298°25.1<br>17°54.4 | 313°25.1<br>17°53.8 | 328°25.2<br>17°53.2 | 343°25.2<br>17°52.5 | 358°25.2<br>17°51.9 | 13°25.3<br>17°51.3 | 28°25.3<br>17°50.6 | 43°25.4<br>17°50.0 | 58°25.4<br>17°49.4 | 73°25.5<br>17°48.7 | +0.0<br>-0.6 |
| Je 2 | 268°26.0<br>17°40.4 | 283°26.1<br>17°39.7 | 298°26.1<br>17°39.1 | 313°26.2<br>17°38.4 | 328°26.2<br>17°37.8 | 343°26.3<br>17°37.1 | 358°26.3<br>17°36.5 | 13°26.4<br>17°35.8 | 28°26.4<br>17°35.2 | 43°26.5<br>17°34.5 | 58°26.5<br>17°33.9 | 73°26.6<br>17°33.2 | -0.6 |
| Ve 3 | 268°27.2<br>17°24.7 | 283°27.3<br>17°24.1 | 298°27.3<br>17°23.4 | 313°27.4<br>17°22.8 | 328°27.4<br>17°22.1 | 343°27.5<br>17°21.5 | 358°27.5<br>17°20.8 | 13°27.6<br>17°20.1 | 28°27.6<br>17°19.5 | 43°27.7<br>17°18.8 | 58°27.8<br>17°18.1 | 73°27.8<br>17°17.5 | +0.1<br>-0.7 |
| Sa 4 | 268°28.6<br>17°08.8 | 283°28.6<br>17°08.2 | 298°28.7<br>17°07.5 | 313°28.7<br>17°06.8 | 328°28.8<br>17°06.2 | 343°28.9<br>17°05.5 | 358°28.9<br>17°04.8 | 13°29.0<br>17°04.1 | 28°29.0<br>17°03.5 | 43°29.1<br>17°02.8 | 58°29.2<br>17°02.1 | 73°29.2<br>17°01.4 | +0.1<br>-0.7 |
| Di 5 | 268°30.0<br>16°52.6 | 283°30.1<br>16°52.0 | 298°30.2<br>16°51.3 | 313°30.2<br>16°50.6 | 328°30.3<br>16°49.9 | 343°30.4<br>16°49.2 | 358°30.4<br>16°48.6 | 13°30.5<br>16°47.9 | 28°30.6<br>16°47.2 | 43°30.6<br>16°46.5 | 58°30.7<br>16°45.8 | 73°30.8<br>16°45.1 | +0.1<br>-0.7 |
| Lu 6 | 268°31.7<br>16°36.2 | 283°31.7<br>16°35.5 | 298°31.8<br>16°34.8 | 313°31.9<br>16°34.1 | 328°31.9<br>16°33.4 | 343°32.0<br>16°32.7 | 358°32.1<br>16°32.0 | 13°32.2<br>16°31.3 | 28°32.2<br>16°30.6 | 43°32.3<br>16°29.9 | 58°32.4<br>16°29.2 | 73°32.5<br>16°28.5 | +0.1<br>-0.7 |
| Ma 7 | 268°33.4<br>16°19.4 | 283°33.5<br>16°18.7 | 298°33.6<br>16°18.0 | 313°33.7<br>16°17.3 | 328°33.7<br>16°16.6 | 343°33.8<br>16°15.9 | 358°33.9<br>16°15.2 | 13°34.0<br>16°14.5 | 28°34.1<br>16°13.8 | 43°34.1<br>16°13.1 | 58°34.2<br>16°12.4 | 73°34.3<br>16°11.7 | +0.1<br>-0.7 |
| Me 8 | 268°35.3<br>16°02.4 | 283°35.4<br>16°01.7 | 298°35.5<br>16°01.0 | 313°35.6<br>16°00.3 | 328°35.7<br>15°59.6 | 343°35.8<br>15°58.9 | 358°35.9<br>15°58.2 | 13°35.9<br>15°57.4 | 28°36.0<br>15°56.7 | 43°36.1<br>15°56.0 | 58°36.2<br>15°55.3 | 73°36.3<br>15°54.6 | +0.1<br>-0.7 |
| Je 9 | 268°37.4<br>15°45.2 | 283°37.5<br>15°44.5 | 298°37.6<br>15°43.7 | 313°37.7<br>15°43.0 | 328°37.8<br>15°42.3 | 343°37.9<br>15°41.6 | 358°37.9<br>15°40.8 | 13°38.0<br>15°40.1 | 28°38.1<br>15°39.4 | 43°38.2<br>15°38.7 | 58°38.3<br>15°37.9 | 73°38.4<br>15°37.2 | +0.1<br>-0.7 |
| Ve 10 | 268°39.6<br>15°27.7 | 283°39.7<br>15°27.0 | 298°39.8<br>15°26.2 | 313°39.9<br>15°25.5 | 328°40.0<br>15°24.7 | 343°40.1<br>15°24.0 | 358°40.2<br>15°23.3 | 13°40.3<br>15°22.5 | 28°40.4<br>15°21.8 | 43°40.5<br>15°21.1 | 58°40.6<br>15°20.3 | 73°40.7<br>15°19.6 | +0.1<br>-0.7 |
| Sa 11 | 268°42.0<br>15°09.9 | 283°42.1<br>15°09.2 | 298°42.2<br>15°08.4 | 313°42.3<br>15°07.7 | 328°42.4<br>15°07.0 | 343°42.5<br>15°06.2 | 358°42.6<br>15°05.5 | 13°42.7<br>15°04.7 | 28°42.8<br>15°04.0 | 43°42.9<br>15°03.2 | 58°43.0<br>15°02.5 | 73°43.1<br>15°01.7 | +0.1<br>-0.7 |
| Di 12 | 268°44.5<br>14°51.9 | 283°44.6<br>14°51.2 | 298°44.7<br>14°50.4 | 313°44.8<br>14°49.7 | 328°44.9<br>14°48.9 | 343°45.0<br>14°48.2 | 358°45.1<br>14°47.4 | 13°45.2<br>14°46.6 | 28°45.3<br>14°45.9 | 43°45.4<br>14°45.1 | 58°45.5<br>14°44.4 | 73°45.6<br>14°43.6 | +0.1<br>-0.8 |
| Lu 13 | 268°47.1<br>14°33.7 | 283°47.2<br>14°32.9 | 298°47.3<br>14°32.2 | 313°47.4<br>14°31.4 | 328°47.5<br>14°30.7 | 343°47.6<br>14°29.9 | 358°47.8<br>14°29.1 | 13°47.9<br>14°28.4 | 28°48.0<br>14°27.6 | 43°48.1<br>14°26.8 | 58°48.2<br>14°26.0 | 73°48.3<br>14°25.3 | +0.1<br>-0.8 |
| Ma 14 | 268°49.9<br>14°15.3 | 283°50.0<br>14°14.5 | 298°50.1<br>14°13.7 | 313°50.2<br>14°12.9 | 328°50.3<br>14°12.2 | 343°50.4<br>14°11.4 | 358°50.6<br>14°10.6 | 13°50.7<br>14°09.8 | 28°50.8<br>14°09.0 | 43°50.9<br>14°08.3 | 58°51.1<br>14°07.5 | 73°51.2<br>14°06.7 | +0.1<br>-0.8 |
| Me 15 | 268°52.8<br>13°56.6 | 283°52.9<br>13°55.8 | 298°53.0<br>13°55.0 | 313°53.1<br>13°54.2 | 328°53.3<br>13°53.4 | 343°53.4<br>13°52.6 | 358°53.5<br>13°51.9 | 13°53.6<br>13°51.1 | 28°53.8<br>13°50.3 | 43°53.9<br>13°49.5 | 58°54.0<br>13°48.7 | 73°54.1<br>13°47.9 | +0.1<br>-0.8 |
| Je 16 | 268°55.8<br>13°37.7 | 283°55.9<br>13°36.9 | 298°56.1<br>13°36.1 | 313°56.2<br>13°35.3 | 328°56.3<br>13°34.5 | 343°56.5<br>13°33.7 | 358°56.6<br>13°32.9 | 13°56.7<br>13°32.1 | 28°56.9<br>13°31.3 | 43°57.0<br>13°30.5 | 58°57.1<br>13°29.7 | 73°57.3<br>13°28.9 | +0.1<br>-0.8 |
| Ve 17 | 268°59.0<br>13°18.5 | 283°59.1<br>13°17.7 | 298°59.3<br>13°16.9 | 313°59.4<br>13°16.1 | 328°59.5<br>13°15.3 | 343°59.7<br>13°14.5 | 358°59.8<br>13°13.7 | 13°59.9<br>13°12.9 | 29°00.1<br>13°12.1 | 44°00.2<br>13°11.3 | 59°00.4<br>13°10.5 | 74°00.5<br>13°09.7 | +0.1<br>-0.8 |
| Sa 18 | 269°02.3<br>12°59.2 | 284°02.4<br>12°58.4 | 299°02.6<br>12°57.6 | 314°02.7<br>12°56.8 | 329°02.9<br>12°56.0 | 344°03.0<br>12°55.2 | 359°03.2<br>12°54.3 | 14°03.3<br>12°53.5 | 29°03.4<br>12°52.7 | 44°03.6<br>12°51.9 | 59°03.7<br>12°51.1 | 74°03.9<br>12°50.3 | +0.1<br>-0.8 |
| Di 19 | 269°05.8<br>12°39.7 | 284°05.9<br>12°38.9 | 299°06.0<br>12°38.0 | 314°06.2<br>12°37.2 | 329°06.3<br>12°36.4 | 344°06.5<br>12°35.6 | 359°06.6<br>12°34.8 | 14°06.8<br>12°33.9 | 29°06.9<br>12°33.1 | 44°07.1<br>12°32.3 | 59°07.2<br>12°31.5 | 74°07.4<br>12°30.7 | +0.1<br>-0.8 |
| Lu 20 | 269°09.3<br>12°20.0 | 284°09.5<br>12°19.1 | 299°09.6<br>12°18.3 | 314°09.8<br>12°17.5 | 329°09.9<br>12°16.6 | 344°10.1<br>12°15.8 | 359°10.2<br>12°15.0 | 14°10.4<br>12°14.2 | 29°10.5<br>12°13.3 | 44°10.7<br>12°12.5 | 59°10.8<br>12°11.7 | 74°11.0<br>12°10.8 | +0.2<br>-0.8 |
| Ma 21 | 269°13.0<br>12°00.0 | 284°13.2<br>11°59.2 | 299°13.3<br>11°58.4 | 314°13.5<br>11°57.5 | 329°13.6<br>11°56.7 | 344°13.8<br>11°55.9 | 359°13.9<br>11°55.0 | 14°14.1<br>11°54.2 | 29°14.3<br>11°53.3 | 44°14.4<br>11°52.5 | 59°14.6<br>11°51.7 | 74°14.7<br>11°50.8 | +0.2<br>-0.8 |
| Me 22 | 269°16.8<br>11°39.9 | 284°17.0<br>11°39.1 | 299°17.1<br>11°38.2 | 314°17.3<br>11°37.4 | 329°17.5<br>11°36.5 | 344°17.6<br>11°35.7 | 359°17.8<br>11°34.9 | 14°17.9<br>11°34.0 | 29°18.1<br>11°33.2 | 44°18.3<br>11°32.3 | 59°18.4<br>11°31.5 | 74°18.6<br>11°30.6 | +0.2<br>-0.8 |
| Je 23 | 269°20.7<br>11°19.6 | 284°20.9<br>11°18.8 | 299°21.1<br>11°17.9 | 314°21.2<br>11°17.1 | 329°21.4<br>11°16.2 | 344°21.6<br>11°15.4 | 359°21.7<br>11°14.5 | 14°21.9<br>11°13.7 | 29°22.1<br>11°12.8 | 44°22.2<br>11°12.0 | 59°22.4<br>11°11.1 | 74°22.6<br>11°10.3 | +0.2<br>-0.9 |
| Ve 24 | 269°24.8<br>10°59.1 | 284°24.9<br>10°58.3 | 299°25.1<br>10°57.4 | 314°25.3<br>10°56.6 | 329°25.4<br>10°55.7 | 344°25.6<br>10°54.9 | 359°25.8<br>10°54.0 | 14°26.0<br>10°53.1 | 29°26.1<br>10°52.3 | 44°26.3<br>10°51.4 | 59°26.5<br>10°50.6 | 74°26.6<br>10°49.7 | +0.2<br>-0.9 |
| Sa 25 | 269°28.9<br>10°38.5 | 284°29.1<br>10°37.6 | 299°29.2<br>10°36.8 | 314°29.4<br>10°35.9 | 329°29.6<br>10°35.0 | 344°29.8<br>10°34.2 | 359°29.9<br>10°33.3 | 14°30.1<br>10°32.4 | 29°30.3<br>10°31.6 | 44°30.5<br>10°30.7 | 59°30.6<br>10°29.8 | 74°30.8<br>10°29.0 | +0.2<br>-0.9 |
| Di 26 | 269°33.1<br>10°17.7 | 284°33.3<br>10°16.8 | 299°33.5<br>10°15.9 | 314°33.7<br>10°15.1 | 329°33.8<br>10°14.2 | 344°34.0<br>10°13.3 | 359°34.2<br>10°12.5 | 14°34.4<br>10°11.6 | 29°34.6<br>10°10.7 | 44°34.7<br>10°09.8 | 59°34.9<br>10°09.0 | 74°35.1<br>10°08.1 | +0.2<br>-0.9 |
| Lu 27 | 269°37.5<br>9°56.7 | 284°37.6<br>9°55.8 | 299°37.8<br>9°54.9 | 314°38.0<br>9°54.1 | 329°38.2<br>9°53.2 | 344°38.4<br>9°52.3 | 359°38.6<br>9°51.4 | 14°38.7<br>9°50.5 | 29°38.9<br>9°49.7 | 44°39.1<br>9°48.8 | 59°39.3<br>9°47.9 | 74°39.5<br>9°47.0 | +0.2<br>-0.9 |
| Ma 28 | 269°41.9<br>9°35.6 | 284°42.1<br>9°34.7 | 299°42.2<br>9°33.8 | 314°42.4<br>9°32.9 | 329°42.6<br>9°32.0 | 344°42.8<br>9°31.1 | 359°43.0<br>9°30.2 | 14°43.2<br>9°29.4 | 29°43.4<br>9°28.5 | 44°43.6<br>9°27.6 | 59°43.7<br>9°26.7 | 74°43.9<br>9°25.8 | +0.2<br>-0.9 |
| Me 29 | 269°46.4<br>9°14.3 | 284°46.6<br>9°13.4 | 299°46.8<br>9°12.5 | 314°47.0<br>9°11.6 | 329°47.1<br>9°10.7 | 344°47.3<br>9°09.8 | 359°47.5<br>9°08.9 | 14°47.7<br>9°08.0 | 29°47.9<br>9°07.1 | 44°48.1<br>9°06.2 | 59°48.3<br>9°05.3 | 74°48.5<br>9°04.5 | +0.2<br>-0.9 |
| Je 30 | 269°51.0<br>8°52.8 | 284°51.2<br>8°51.9 | 299°51.4<br>8°51.0 | 314°51.5<br>8°50.1 | 329°51.7<br>8°49.2 | 344°51.9<br>8°48.3 | 359°52.1<br>8°47.4 | 14°52.3<br>8°46.5 | 29°52.5<br>8°45.6 | 44°52.7<br>8°44.7 | 59°52.9<br>8°43.8 | 74°53.1<br>8°42.9 | +0.2<br>-0.9 |
| Ve 31 | 269°55.6<br>8°31.2 | 284°55.8<br>8°30.3 | 299°56.0<br>8°29.4 | 314°56.2<br>8°28.5 | 329°56.4<br>8°27.6 | 344°56.6<br>8°26.7 | 359°56.8<br>8°25.8 | 14°57.0<br>8°24.9 | 29°57.2<br>8°24.0 | 44°57.4<br>8°23.1 | 59°57.6<br>8°22.2 | 74°57.8<br>8°21.3 | +0.2<br>-0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2029

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 236°11.6 | 250°44.5 | 265°17.5 | 279°50.3 | 294°23.2 | 308°55.9 | 323°28.7 | 338°01.3 | 352°33.9 | 7°06.5 | 21°39.0 | +32.7 | 14.8 |
| | 16°54.2 | 17°03.2 | 17°12.1 | 17°21.0 | 17°29.7 | 17°38.5 | 17°47.1 | 17°55.7 | 18°04.2 | 18°12.6 | 18°20.9 | +8.7 | 54.2 |
| ◑ Je 2 | 239°39.8 | 254°11.4 | 268°42.9 | 283°14.4 | 297°45.8 | 312°17.2 | 326°48.5 | 341°19.7 | 355°50.8 | 10°22.0 | 24°53.0 | +31.3 | 14.8 |
| | 20°16.5 | 20°23.5 | 20°30.5 | 20°37.3 | 20°44.1 | 20°50.8 | 20°57.4 | 21°03.9 | 21°10.3 | 21°16.6 | 21°22.8 | +6.6 | 54.4 |
| Ve 3 | 242°31.5 | 257°01.6 | 271°31.6 | 286°01.6 | 300°31.5 | 315°01.3 | 329°31.1 | 344°00.9 | 358°30.5 | 13°00.2 | 27°29.7 | +29.8 | 14.9 |
| | 22°44.3 | 22°48.9 | 22°53.5 | 22°57.9 | 23°02.2 | 23°06.4 | 23°10.4 | 23°14.4 | 23°18.3 | 23°22.0 | 23°25.7 | +4.1 | 54.8 |
| Sa 4 | 257°01.6 | 271°31.6 | 286°01.6 | 300°31.5 | 315°01.3 | 329°31.1 | 344°00.9 | 358°30.5 | 13°00.2 | 27°29.7 | 41°59.2 | +29.8 | 15.0 |
| | 22°48.9 | 22°53.5 | 22°57.9 | 23°02.2 | 23°06.4 | 23°10.4 | 23°14.4 | 23°18.3 | 23°22.0 | 23°25.7 | 23°29.2 | +4.0 | 54.8 |
| Di 5 | 259°15.5 | 273°44.2 | 288°12.9 | 302°41.5 | 317°10.0 | 331°38.5 | 346°07.0 | 0°35.4 | 15°03.8 | 29°32.1 | 44°00.4 | +28.5 | 15.1 |
| | 24°08.3 | 24°09.9 | 24°11.5 | 24°12.9 | 24°14.2 | 24°15.3 | 24°16.3 | 24°17.3 | 24°18.0 | 24°18.7 | 24°19.2 | +1.1 | 55.4 |
| Lu 6 | 261°00.8 | 275°28.6 | 289°56.3 | 304°24.1 | 318°51.8 | 333°19.5 | 347°47.2 | 2°14.8 | 16°42.5 | 31°10.1 | 45°37.7 | +27.7 | 15.3 |
| | 24°11.7 | 24°10.2 | 24°08.5 | 24°06.7 | 24°04.7 | 24°02.7 | 24°00.5 | 23°58.1 | 23°55.6 | 23°53.0 | 23°50.3 | -2.1 | 56.1 |
| Ma 7 | 262°30.6 | 276°58.1 | 291°25.6 | 305°53.1 | 320°20.6 | 334°48.1 | 349°15.6 | 3°43.1 | 18°10.6 | 32°38.1 | 47°05.7 | +27.5 | 15.5 |
| | 22°53.1 | 22°48.2 | 22°43.2 | 22°38.0 | 22°32.8 | 22°27.4 | 22°21.8 | 22°16.1 | 22°10.3 | 22°04.4 | 21°58.3 | -5.5 | 56.8 |
| Me 8 | 264°00.2 | 278°28.0 | 292°55.7 | 307°23.5 | 321°51.4 | 336°19.2 | 350°47.1 | 5°15.0 | 19°42.9 | 34°10.9 | 48°38.8 | +27.9 | 15.7 |
| | 20°12.0 | 20°03.9 | 19°55.7 | 19°47.3 | 19°38.9 | 19°30.3 | 19°21.6 | 19°12.8 | 19°03.9 | 18°54.8 | 18°45.6 | -8.6 | 57.6 |
| Je 9 | 265°41.5 | 280°09.9 | 294°38.4 | 309°06.8 | 323°35.3 | 338°03.8 | 352°32.3 | 7°00.9 | 21°29.5 | 35°58.1 | 50°26.8 | +28.5 | 15.9 |
| | 16°14.9 | 16°04.0 | 15°53.0 | 15°41.9 | 15°30.7 | 15°19.4 | 15°08.0 | 14°56.5 | 14°44.9 | 14°33.2 | 14°21.5 | -11.3 | 58.4 |
| ● Ve 10 | 267°39.8 | 282°08.9 | 296°38.0 | 311°07.1 | 325°36.2 | 340°05.4 | 354°34.6 | 9°03.8 | 23°33.0 | 38°02.3 | 52°31.5 | +29.2 | 16.1 |
| | 11°14.8 | 11°01.7 | 10°48.6 | 10°35.4 | 10°22.1 | 10°08.8 | 9°55.3 | 9°41.9 | 9°28.3 | 9°14.7 | 9°01.1 | -13.4 | 59.0 |
| Sa 11 | 269°52.5 | 284°22.0 | 298°51.5 | 313°21.0 | 327°50.6 | 342°20.1 | 356°49.6 | 11°19.2 | 25°48.7 | 40°18.3 | 54°47.8 | +29.5 | 16.2 |
| | 5°30.0 | 5°15.5 | 5°01.1 | 4°46.6 | 4°32.1 | 4°17.5 | 4°02.9 | 3°48.3 | 3°33.6 | 3°19.0 | 3°04.3 | -14.6 | 59.4 |
| Di 12 | 272°11.0 | 286°40.5 | 301°10.0 | 315°39.4 | 330°08.9 | 344°38.3 | 359°07.7 | 13°37.2 | 28°06.6 | 42°35.9 | 57°05.3 | +29.4 | 16.3 |
| | -0°38.0 | -0°52.8 | -1°07.7 | -1°22.6 | -1°37.4 | -1°52.3 | -2°07.1 | -2°21.9 | -2°36.8 | -2°51.6 | -3°06.4 | -14.8 | 59.7 |
| Lu 13 | 274°23.0 | 288°51.9 | 303°20.9 | 317°49.7 | 332°18.6 | 346°47.4 | 1°16.2 | 15°45.0 | 30°13.7 | 44°42.4 | 59°11.0 | +28.8 | 16.3 |
| | -6°45.5 | -6°59.8 | -7°14.1 | -7°28.4 | -7°42.6 | -7°56.8 | -8°10.9 | -8°25.0 | -8°39.1 | -8°53.0 | -9°07.0 | -14.2 | 59.8 |
| Ma 14 | 276°15.6 | 290°43.6 | 305°11.5 | 319°39.3 | 334°07.1 | 348°34.9 | 3°02.6 | 17°30.2 | 31°57.8 | 46°25.4 | 60°52.9 | +27.7 | 16.3 |
| | -12°28.5 | -12°41.4 | -12°54.2 | -13°06.9 | -13°19.6 | -13°32.1 | -13°44.6 | -13°57.0 | -14°09.3 | -14°21.5 | -14°33.6 | -12.5 | 59.7 |
| Me 15 | 277°39.1 | 292°05.7 | 306°32.3 | 320°58.8 | 335°25.3 | 349°51.8 | 4°18.2 | 18°44.5 | 33°10.8 | 47°37.0 | 62°03.2 | +26.4 | 16.2 |
| | -17°23.8 | -17°34.3 | -17°44.7 | -17°55.0 | -18°05.1 | -18°15.2 | -18°25.1 | -18°34.9 | -18°44.6 | -18°54.2 | -19°03.6 | -10.0 | 59.4 |
| ◐ Je 16 | 278°30.0 | 292°55.4 | 307°20.8 | 321°46.2 | 336°11.5 | 350°36.7 | 5°02.0 | 19°27.2 | 33°52.3 | 48°17.4 | 62°42.5 | +25.2 | 16.1 |
| | -21°10.0 | -21°17.4 | -21°24.6 | -21°31.7 | -21°38.6 | -21°45.4 | -21°52.1 | -21°58.6 | -22°04.9 | -22°11.2 | -22°17.2 | -6.7 | 59.0 |
| Ve 17 | 278°55.5 | 293°20.2 | 307°44.9 | 322°09.6 | 336°34.3 | 350°58.9 | 5°23.6 | 19°48.2 | 34°12.9 | 48°37.5 | 63°02.2 | +24.7 | 16.0 |
| | -23°30.5 | -23°34.2 | -23°37.7 | -23°41.0 | -23°44.3 | -23°47.3 | -23°50.2 | -23°52.9 | -23°55.5 | -23°58.0 | -24°00.2 | -3.0 | 58.6 |
| Sa 18 | 279°12.9 | 293°37.7 | 308°02.6 | 322°27.5 | 336°52.4 | 351°17.4 | 5°42.4 | 20°07.4 | 34°32.4 | 48°57.5 | 63°22.7 | +25.0 | 15.9 |
| | -24°15.7 | -24°15.5 | -24°15.1 | -24°14.6 | -24°13.9 | -24°13.1 | -24°12.1 | -24°11.0 | -24°09.7 | -24°08.3 | -24°06.7 | +0.9 | 58.1 |
| Di 19 | 279°45.1 | 294°11.0 | 308°37.0 | 323°03.0 | 337°29.1 | 351°55.2 | 6°21.5 | 20°47.8 | 35°14.1 | 49°40.5 | 64°07.0 | +26.2 | 15.7 |
| | -23°25.4 | -23°21.5 | -23°17.4 | -23°13.2 | -23°08.9 | -23°04.5 | -22°59.9 | -22°55.2 | -22°50.3 | -22°45.4 | -22°40.2 | +4.5 | 57.6 |
| Lu 20 | 280°52.8 | 295°20.5 | 309°48.2 | 324°16.0 | 338°43.9 | 353°11.9 | 7°39.9 | 22°08.1 | 36°36.3 | 51°04.6 | 65°32.9 | +28.0 | 15.6 |
| | -21°08.5 | -21°01.4 | -20°54.2 | -20°47.0 | -20°39.5 | -20°32.0 | -20°24.4 | -20°16.7 | -20°08.8 | -20°00.9 | -19°52.9 | +7.6 | 57.1 |
| Ma 21 | 282°48.1 | 297°17.7 | 311°47.5 | 326°17.3 | 340°47.2 | 355°17.2 | 9°47.2 | 24°17.3 | 38°47.5 | 53°17.8 | 67°48.2 | +30.0 | 15.4 |
| | -17°40.6 | -17°31.1 | -17°21.5 | -17°11.8 | -17°02.0 | -16°52.1 | -16°42.2 | -16°32.2 | -16°22.1 | -16°11.9 | -16°01.7 | +9.9 | 56.6 |
| Me 22 | 285°32.6 | 300°04.1 | 314°35.7 | 329°07.4 | 343°39.1 | 358°10.9 | 12°42.8 | 27°14.8 | 41°46.8 | 56°18.8 | 70°51.0 | +31.8 | 15.3 |
| | -13°20.1 | -13°08.9 | -12°57.6 | -12°46.2 | -12°34.8 | -12°23.4 | -12°11.9 | -12°00.3 | -11°48.7 | -11°37.1 | -11°25.4 | +11.5 | 56.1 |
| Je 23 | 289°00.1 | 303°33.2 | 318°06.3 | 332°39.4 | 347°12.6 | 1°45.9 | 16°19.2 | 30°52.5 | 45°25.9 | 59°59.4 | 74°32.9 | +33.3 | 15.2 |
| | -8°25.5 | -8°13.3 | -8°01.0 | -7°48.7 | -7°36.3 | -7°24.0 | -7°11.6 | -6°59.2 | -6°46.8 | -6°34.4 | -6°21.9 | +12.4 | 55.6 |
| ○ Ve 24 | 292°59.9 | 307°34.0 | 322°08.1 | 336°42.2 | 351°16.4 | 5°50.6 | 20°24.8 | 34°59.1 | 49°33.4 | 64°07.7 | 78°42.0 | +34.2 | 15.0 |
| | -3°13.5 | -3°00.9 | -2°48.3 | -2°35.6 | -2°23.0 | -2°10.4 | -1°57.7 | -1°45.1 | -1°32.5 | -1°19.8 | -1°07.2 | +12.6 | 55.1 |
| Sa 25 | 297°19.2 | 311°53.8 | 326°28.4 | 341°03.0 | 355°37.7 | 10°12.3 | 24°46.9 | 39°21.6 | 53°56.2 | 68°30.8 | 83°05.5 | +34.6 | 14.9 |
| | 2°01.2 | 2°13.6 | 2°26.1 | 2°38.5 | 2°50.9 | 3°03.3 | 3°15.7 | 3°28.0 | 3°40.3 | 3°52.6 | 4°04.9 | +12.4 | 54.7 |
| Di 26 | 301°45.1 | 316°19.7 | 330°54.2 | 345°28.8 | 0°03.4 | 14°37.9 | 29°12.5 | 43°47.0 | 58°21.5 | 72°56.0 | 87°30.4 | +34.5 | 14.8 |
| | 7°05.9 | 7°17.7 | 7°29.5 | 7°41.2 | 7°52.9 | 8°04.6 | 8°16.2 | 8°27.8 | 8°39.4 | 8°50.9 | 9°02.4 | +11.7 | 54.4 |
| Lu 27 | 306°05.1 | 320°39.2 | 335°13.3 | 349°47.3 | 4°21.4 | 18°55.4 | 33°29.3 | 48°03.3 | 62°37.2 | 77°11.0 | 91°44.9 | +34.0 | 14.8 |
| | 11°49.3 | 12°00.0 | 12°10.7 | 12°21.4 | 12°32.0 | 12°42.5 | 12°53.0 | 13°03.4 | 13°13.8 | 13°24.1 | 13°34.3 | +10.5 | 54.2 |
| Ma 28 | 320°39.2 | 335°13.3 | 349°47.3 | 4°21.4 | 18°55.4 | 33°29.3 | 48°03.3 | 62°37.2 | 77°11.0 | 91°44.9 | 106°18.7 | +34.0 | 14.8 |
| | 12°00.0 | 12°10.7 | 12°21.4 | 12°32.0 | 12°42.5 | 12°53.0 | 13°03.4 | 13°13.8 | 13°24.1 | 13°34.3 | 13°44.5 | +10.5 | 54.1 |
| Me 29 | 324°41.4 | 339°14.5 | 353°47.7 | 8°20.8 | 22°53.9 | 37°26.9 | 51°59.9 | 66°32.8 | 81°05.7 | 95°38.5 | 110°11.3 | +33.0 | 14.7 |
| | 16°10.2 | 16°19.4 | 16°28.5 | 16°37.6 | 16°46.6 | 16°55.5 | 17°04.3 | 17°13.1 | 17°21.8 | 17°30.4 | 17°39.0 | +8.9 | 54.1 |
| Je 30 | 328°17.4 | 342°49.4 | 357°21.4 | 11°53.3 | 26°25.2 | 40°57.0 | 55°28.7 | 70°00.4 | 84°32.1 | 99°03.7 | 113°35.2 | +31.8 | 14.8 |
| | 19°38.0 | 19°45.2 | 19°52.4 | 19°59.5 | 20°06.6 | 20°13.5 | 20°20.4 | 20°27.1 | 20°33.8 | 20°40.4 | 20°46.9 | +6.9 | 54.2 |
| Ve 31 | 331°22.1 | 345°52.8 | 0°23.5 | 14°54.1 | 29°24.6 | 43°55.1 | 58°25.6 | 72°56.0 | 87°26.3 | 101°56.6 | 116°26.9 | +30.5 | 14.8 |
| | 22°13.0 | 22°18.0 | 22°22.9 | 22°27.6 | 22°32.3 | 22°36.9 | 22°41.3 | 22°45.7 | 22°49.9 | 22°54.0 | 22°58.1 | +4.5 | 54.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 2 11h15 — NL: 10 01h55 — PQ: 16 18h55 — PL: 24 01h51

# SOLEIL

## Septembre 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 270°00.4<br>8°09.5 | 285°00.6<br>8°08.6 | 300°00.8<br>8°07.7 | 315°01.0<br>8°06.8 | 330°01.2<br>8°05.9 | 345°01.4<br>8°05.0 | 0°01.6<br>8°04.1 | 15°01.8<br>8°03.1 | 30°02.0<br>8°02.2 | 45°02.2<br>8°01.3 | 60°02.4<br>8°00.4 | 75°02.6<br>7°59.5 | +0.2<br>-0.9 |
| Di 2 | 270°05.2<br>7°47.6 | 285°05.4<br>7°46.7 | 300°05.6<br>7°45.8 | 315°05.8<br>7°44.9 | 330°06.0<br>7°44.0 | 345°06.2<br>7°43.1 | 0°06.4<br>7°42.2 | 15°06.6<br>7°41.2 | 30°06.8<br>7°40.3 | 45°07.0<br>7°39.4 | 60°07.2<br>7°38.5 | 75°07.4<br>7°37.6 | +0.2<br>-0.9 |
| Lu 3 | 270°10.1<br>7°25.7 | 285°10.3<br>7°24.7 | 300°10.5<br>7°23.8 | 315°10.7<br>7°22.9 | 330°10.9<br>7°22.0 | 345°11.1<br>7°21.1 | 0°11.3<br>7°20.1 | 15°11.5<br>7°19.2 | 30°11.7<br>7°18.3 | 45°11.9<br>7°17.4 | 60°12.1<br>7°16.5 | 75°12.3<br>7°15.5 | +0.2<br>-0.9 |
| Ma 4 | 270°15.0<br>7°03.5 | 285°15.2<br>7°02.6 | 300°15.4<br>7°01.7 | 315°15.6<br>7°00.8 | 330°15.8<br>6°59.9 | 345°16.0<br>6°58.9 | 0°16.2<br>6°58.0 | 15°16.4<br>6°57.1 | 30°16.7<br>6°56.2 | 45°16.9<br>6°55.2 | 60°17.1<br>6°54.3 | 75°17.3<br>6°53.4 | +0.2<br>-0.9 |
| Me 5 | 270°20.0<br>6°41.3 | 285°20.2<br>6°40.4 | 300°20.4<br>6°39.5 | 315°20.6<br>6°38.5 | 330°20.8<br>6°37.6 | 345°21.0<br>6°36.7 | 0°21.2<br>6°35.8 | 15°21.5<br>6°34.8 | 30°21.7<br>6°33.9 | 45°21.9<br>6°33.0 | 60°22.1<br>6°32.0 | 75°22.3<br>6°31.1 | +0.2<br>-0.9 |
| Je 6 | 270°25.0<br>6°19.0 | 285°25.2<br>6°18.1 | 300°25.4<br>6°17.1 | 315°25.7<br>6°16.2 | 330°25.9<br>6°15.3 | 345°26.1<br>6°14.3 | 0°26.3<br>6°13.4 | 15°26.5<br>6°12.5 | 30°26.7<br>6°11.5 | 45°26.9<br>6°10.6 | 60°27.1<br>6°09.7 | 75°27.4<br>6°08.7 | +0.2<br>-0.9 |
| Ve 7 | 270°30.1<br>5°56.5 | 285°30.3<br>5°55.6 | 300°30.5<br>5°54.7 | 315°30.8<br>5°53.7 | 330°31.0<br>5°52.8 | 345°31.2<br>5°51.9 | 0°31.4<br>5°50.9 | 15°31.6<br>5°50.0 | 30°31.8<br>5°49.0 | 45°32.0<br>5°48.1 | 60°32.3<br>5°47.2 | 75°32.5<br>5°46.2 | +0.2<br>-0.9 |
| Sa 8 | 270°35.3<br>5°34.0 | 285°35.5<br>5°33.1 | 300°35.7<br>5°32.1 | 315°35.9<br>5°31.2 | 330°36.1<br>5°30.2 | 345°36.3<br>5°29.3 | 0°36.5<br>5°28.4 | 15°36.8<br>5°27.4 | 30°37.0<br>5°26.5 | 45°37.2<br>5°25.5 | 60°37.4<br>5°24.6 | 75°37.6<br>5°23.7 | +0.2<br>-0.9 |
| Di 9 | 270°40.4<br>5°11.4 | 285°40.7<br>5°10.4 | 300°40.9<br>5°09.5 | 315°41.1<br>5°08.5 | 330°41.3<br>5°07.6 | 345°41.5<br>5°06.7 | 0°41.7<br>5°05.7 | 15°42.0<br>5°04.8 | 30°42.2<br>5°03.8 | 45°42.4<br>5°02.9 | 60°42.6<br>5°01.9 | 75°42.8<br>5°01.0 | +0.2<br>-0.9 |
| Lu 10 | 270°45.6<br>4°48.7 | 285°45.9<br>4°47.7 | 300°46.1<br>4°46.8 | 315°46.3<br>4°45.8 | 330°46.5<br>4°44.9 | 345°46.7<br>4°43.9 | 0°47.0<br>4°43.0 | 15°47.2<br>4°42.0 | 30°47.4<br>4°41.1 | 45°47.6<br>4°40.1 | 60°47.8<br>4°39.2 | 75°48.1<br>4°38.2 | +0.2<br>-0.9 |
| Ma 11 | 270°50.9<br>4°25.9 | 285°51.1<br>4°24.9 | 300°51.3<br>4°24.0 | 315°51.6<br>4°23.0 | 330°51.8<br>4°22.1 | 345°52.0<br>4°21.1 | 0°52.2<br>4°20.2 | 15°52.4<br>4°19.2 | 30°52.7<br>4°18.2 | 45°52.9<br>4°17.3 | 60°53.1<br>4°16.3 | 75°53.3<br>4°15.4 | +0.2<br>-1.0 |
| Me 12 | 270°56.2<br>4°03.0 | 285°56.4<br>4°02.0 | 300°56.6<br>4°01.1 | 315°56.8<br>4°00.1 | 330°57.1<br>3°59.2 | 345°57.3<br>3°58.2 | 0°57.5<br>3°57.3 | 15°57.7<br>3°56.3 | 30°57.9<br>3°55.3 | 45°58.2<br>3°54.4 | 60°58.4<br>3°53.4 | 75°58.6<br>3°52.5 | +0.2<br>-1.0 |
| Je 13 | 271°01.5<br>3°40.0 | 286°01.7<br>3°39.1 | 301°01.9<br>3°38.1 | 316°02.2<br>3°37.2 | 331°02.4<br>3°36.2 | 346°02.6<br>3°35.3 | 1°02.8<br>3°34.3 | 16°03.0<br>3°33.3 | 31°03.3<br>3°32.4 | 46°03.5<br>3°31.4 | 61°03.7<br>3°30.5 | 76°03.9<br>3°29.5 | +0.2<br>-1.0 |
| Ve 14 | 271°06.8<br>3°17.0 | 286°07.0<br>3°16.1 | 301°07.3<br>3°15.1 | 316°07.5<br>3°14.2 | 331°07.7<br>3°13.2 | 346°07.9<br>3°12.2 | 1°08.2<br>3°11.3 | 16°08.4<br>3°10.3 | 31°08.6<br>3°09.4 | 46°08.8<br>3°08.4 | 61°09.0<br>3°07.4 | 76°09.3<br>3°06.5 | +0.2<br>-1.0 |
| Sa 15 | 271°12.2<br>2°54.0 | 286°12.4<br>2°53.0 | 301°12.6<br>2°52.0 | 316°12.8<br>2°51.1 | 331°13.1<br>2°50.1 | 346°13.3<br>2°49.2 | 1°13.5<br>2°48.2 | 16°13.7<br>2°47.2 | 31°13.9<br>2°46.3 | 46°14.2<br>2°45.3 | 61°14.4<br>2°44.3 | 76°14.6<br>2°43.4 | +0.2<br>-1.0 |
| Di 16 | 271°17.5<br>2°30.8 | 286°17.7<br>2°29.9 | 301°18.0<br>2°28.9 | 316°18.2<br>2°28.0 | 331°18.4<br>2°27.0 | 346°18.6<br>2°26.0 | 1°18.9<br>2°25.1 | 16°19.1<br>2°24.1 | 31°19.3<br>2°23.1 | 46°19.5<br>2°22.2 | 61°19.8<br>2°21.2 | 76°20.0<br>2°20.2 | +0.2<br>-1.0 |
| Lu 17 | 271°22.9<br>2°07.7 | 286°23.1<br>2°06.7 | 301°23.3<br>2°05.8 | 316°23.6<br>2°04.8 | 331°23.8<br>2°03.8 | 346°24.0<br>2°02.9 | 1°24.2<br>2°01.9 | 16°24.5<br>2°00.9 | 31°24.7<br>2°00.0 | 46°24.9<br>1°59.0 | 61°25.1<br>1°58.0 | 76°25.3<br>1°57.1 | +0.2<br>-1.0 |
| Ma 18 | 271°28.3<br>1°44.5 | 286°28.5<br>1°43.5 | 301°28.7<br>1°42.5 | 316°28.9<br>1°41.6 | 331°29.1<br>1°40.6 | 346°29.4<br>1°39.6 | 1°29.6<br>1°38.7 | 16°29.8<br>1°37.7 | 31°30.0<br>1°36.7 | 46°30.3<br>1°35.8 | 61°30.5<br>1°34.8 | 76°30.7<br>1°33.8 | +0.2<br>-1.0 |
| Me 19 | 271°33.6<br>1°21.2 | 286°33.8<br>1°20.3 | 301°34.1<br>1°19.3 | 316°34.3<br>1°18.3 | 331°34.5<br>1°17.4 | 346°34.7<br>1°16.4 | 1°35.0<br>1°15.4 | 16°35.2<br>1°14.4 | 31°35.4<br>1°13.5 | 46°35.6<br>1°12.5 | 61°35.9<br>1°11.5 | 76°36.1<br>1°10.6 | +0.2<br>-1.0 |
| Je 20 | 271°39.0<br>0°58.0 | 286°39.2<br>0°57.0 | 301°39.4<br>0°56.0 | 316°39.6<br>0°55.0 | 331°39.9<br>0°54.1 | 346°40.1<br>0°53.1 | 1°40.3<br>0°52.1 | 16°40.5<br>0°51.2 | 31°40.8<br>0°50.2 | 46°41.0<br>0°49.2 | 61°41.2<br>0°48.2 | 76°41.4<br>0°47.3 | +0.2<br>-1.0 |
| Ve 21 | 271°44.3<br>0°34.6 | 286°44.5<br>0°33.7 | 301°44.8<br>0°32.7 | 316°45.0<br>0°31.7 | 331°45.2<br>0°30.8 | 346°45.4<br>0°29.8 | 1°45.6<br>0°28.8 | 16°45.9<br>0°27.8 | 31°46.1<br>0°26.9 | 46°46.3<br>0°25.9 | 61°46.5<br>0°24.9 | 76°46.8<br>0°24.0 | +0.2<br>-1.0 |
| Sa 22 | 271°49.6<br>0°11.3 | 286°49.9<br>0°10.4 | 301°50.1<br>0°09.4 | 316°50.3<br>0°08.4 | 331°50.5<br>0°07.4 | 346°50.7<br>0°06.5 | 1°51.0<br>0°05.5 | 16°51.2<br>0°04.5 | 31°51.4<br>0°03.5 | 46°51.6<br>0°02.6 | 61°51.8<br>0°01.6 | 76°52.1<br>0°00.6 | +0.2<br>-1.0 |
| Di 23 | 271°54.9<br>-0°12.0 | 286°55.1<br>-0°13.0 | 301°55.4<br>-0°14.0 | 316°55.6<br>-0°14.9 | 331°55.8<br>-0°15.9 | 346°56.0<br>-0°16.9 | 1°56.2<br>-0°17.9 | 16°56.5<br>-0°18.8 | 31°56.7<br>-0°19.8 | 46°56.9<br>-0°20.8 | 61°57.1<br>-0°21.7 | 76°57.3<br>-0°22.7 | +0.2<br>-1.0 |
| Lu 24 | 272°00.2<br>-0°35.4 | 287°00.4<br>-0°36.3 | 302°00.6<br>-0°37.3 | 317°00.8<br>-0°38.3 | 332°01.1<br>-0°39.3 | 347°01.3<br>-0°40.2 | 2°01.5<br>-0°41.2 | 17°01.7<br>-0°42.2 | 32°01.9<br>-0°43.2 | 47°02.1<br>-0°44.1 | 62°02.4<br>-0°45.1 | 77°02.6<br>-0°46.1 | +0.2<br>-1.0 |
| Ma 25 | 272°05.4<br>-0°58.7 | 287°05.6<br>-0°59.7 | 302°05.8<br>-1°00.7 | 317°06.0<br>-1°01.6 | 332°06.3<br>-1°02.6 | 347°06.5<br>-1°03.6 | 2°06.7<br>-1°04.6 | 17°06.9<br>-1°05.5 | 32°07.1<br>-1°06.5 | 47°07.3<br>-1°07.5 | 62°07.6<br>-1°08.5 | 77°07.8<br>-1°09.4 | +0.2<br>-1.0 |
| Me 26 | 272°10.6<br>-1°22.1 | 287°10.8<br>-1°23.1 | 302°11.0<br>-1°24.0 | 317°11.2<br>-1°25.0 | 332°11.4<br>-1°26.0 | 347°11.6<br>-1°26.9 | 2°11.9<br>-1°27.9 | 17°12.1<br>-1°28.9 | 32°12.3<br>-1°29.9 | 47°12.5<br>-1°30.8 | 62°12.7<br>-1°31.8 | 77°12.9<br>-1°32.8 | +0.2<br>-1.0 |
| Je 27 | 272°15.7<br>-1°45.4 | 287°15.9<br>-1°46.4 | 302°16.1<br>-1°47.4 | 317°16.3<br>-1°48.3 | 332°16.5<br>-1°49.3 | 347°16.8<br>-1°50.3 | 2°17.0<br>-1°51.3 | 17°17.2<br>-1°52.2 | 32°17.4<br>-1°53.2 | 47°17.6<br>-1°54.2 | 62°17.8<br>-1°55.2 | 77°18.0<br>-1°56.1 | +0.2<br>-1.0 |
| Ve 28 | 272°20.8<br>-2°08.8 | 287°21.0<br>-2°09.7 | 302°21.2<br>-2°10.7 | 317°21.4<br>-2°11.7 | 332°21.6<br>-2°12.7 | 347°21.8<br>-2°13.6 | 2°22.0<br>-2°14.6 | 17°22.2<br>-2°15.6 | 32°22.4<br>-2°16.5 | 47°22.7<br>-2°17.5 | 62°22.9<br>-2°18.5 | 77°23.1<br>-2°19.5 | +0.2<br>-1.0 |
| Sa 29 | 272°25.8<br>-2°32.1 | 287°26.0<br>-2°33.1 | 302°26.2<br>-2°34.0 | 317°26.4<br>-2°35.0 | 332°26.6<br>-2°36.0 | 347°26.8<br>-2°37.0 | 2°27.0<br>-2°37.9 | 17°27.2<br>-2°38.9 | 32°27.4<br>-2°39.9 | 47°27.6<br>-2°40.8 | 62°27.8<br>-2°41.8 | 77°28.0<br>-2°42.8 | +0.2<br>-1.0 |
| Di 30 | 272°30.7<br>-2°55.4 | 287°30.9<br>-2°56.4 | 302°31.1<br>-2°57.3 | 317°31.3<br>-2°58.3 | 332°31.5<br>-2°59.3 | 347°31.7<br>-3°00.2 | 2°31.9<br>-3°01.2 | 17°32.1<br>-3°02.2 | 32°32.3<br>-3°03.2 | 47°32.5<br>-3°04.1 | 62°32.8<br>-3°05.1 | 77°33.0<br>-3°06.1 | +0.2<br>-1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2029

| | J | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◑ | Sa 1 | 234°39.6 | 249°08.4 | 263°37.1 | 278°05.9 | 292°34.6 | 307°03.3 | 321°31.9 | 336°00.5 | 350°29.1 | 4°57.7 | 19°26.2 | +28.7 | 15.1 |
| | | 24°08.2 | 24°08.3 | 24°08.3 | 24°08.2 | 24°07.9 | 24°07.6 | 24°07.1 | 24°06.4 | 24°05.7 | 24°04.8 | 24°03.8 | -0.4 | 55.3 |
| | Di 2 | 236°31.6 | 250°59.8 | 265°28.0 | 279°56.2 | 294°24.4 | 308°52.5 | 323°20.7 | 337°48.8 | 352°17.0 | 6°45.1 | 21°13.2 | +28.2 | 15.3 |
| | | 23°33.6 | 23°30.6 | 23°27.4 | 23°24.1 | 23°20.7 | 23°17.1 | 23°13.5 | 23°09.7 | 23°05.7 | 23°01.7 | 22°57.5 | -3.6 | 56.1 |
| | Lu 3 | 250°59.8 | 265°28.0 | 279°56.2 | 294°24.4 | 308°52.5 | 323°20.7 | 337°48.8 | 352°17.0 | 6°45.1 | 21°13.2 | 35°41.3 | +28.2 | 15.3 |
| | | 23°30.6 | 23°27.4 | 23°24.1 | 23°20.7 | 23°17.1 | 23°13.5 | 23°09.7 | 23°05.7 | 23°01.7 | 22°57.5 | 22°53.1 | -3.7 | 56.1 |
| | Ma 4 | 252°42.7 | 267°10.8 | 281°39.0 | 296°07.1 | 310°35.2 | 325°03.3 | 339°31.4 | 353°59.6 | 8°27.7 | 22°55.9 | 37°24.0 | +28.1 | 15.5 |
| | | 21°33.0 | 21°26.7 | 21°20.2 | 21°13.6 | 21°06.9 | 21°00.0 | 20°53.0 | 20°45.9 | 20°38.7 | 20°31.4 | 20°23.9 | -6.9 | 57.0 |
| | Me 5 | 254°27.8 | 268°56.2 | 283°24.5 | 297°52.9 | 312°21.3 | 326°49.7 | 341°18.2 | 355°46.6 | 10°15.1 | 24°43.6 | 39°12.0 | +28.4 | 15.8 |
| | | 18°17.5 | 18°08.2 | 17°58.7 | 17°49.1 | 17°39.5 | 17°29.7 | 17°19.7 | 17°09.7 | 16°59.6 | 16°49.4 | 16°39.0 | -9.9 | 57.9 |
| | Je 6 | 256°21.3 | 270°50.0 | 285°18.7 | 299°47.5 | 314°16.3 | 328°45.1 | 343°13.9 | 357°42.7 | 12°11.5 | 26°40.4 | 41°09.2 | +28.8 | 16.0 |
| | | 13°51.7 | 13°39.8 | 13°27.8 | 13°15.7 | 13°03.5 | 12°51.2 | 12°38.8 | 12°26.4 | 12°13.8 | 12°01.2 | 11°48.5 | -12.3 | 58.8 |
| | Ve 7 | 258°23.1 | 272°52.1 | 287°21.1 | 301°50.1 | 316°19.1 | 330°48.1 | 345°17.1 | 359°46.1 | 14°15.1 | 28°44.1 | 43°13.1 | +29.0 | 16.2 |
| | | 8°28.9 | 8°15.1 | 8°01.2 | 7°47.2 | 7°33.2 | 7°19.1 | 7°05.0 | 6°50.8 | 6°36.5 | 6°22.3 | 6°07.9 | -14.1 | 59.6 |
| ● | Sa 8 | 260°27.5 | 274°56.4 | 289°25.2 | 303°54.1 | 318°23.0 | 332°51.8 | 347°20.6 | 1°49.4 | 16°18.2 | 30°47.0 | 45°15.7 | +28.8 | 16.4 |
| | | 2°27.9 | 2°13.0 | 1°58.1 | 1°43.1 | 1°28.1 | 1°13.1 | 0°58.1 | 0°43.1 | 0°28.0 | 0°12.9 | -0°02.1 | -15.0 | 60.2 |
| | Di 9 | 262°24.2 | 276°52.6 | 291°20.9 | 305°49.2 | 320°17.4 | 334°45.6 | 349°13.8 | 3°42.0 | 18°10.1 | 32°38.1 | 47°06.2 | +28.2 | 16.5 |
| | | -3°48.1 | -4°03.1 | -4°18.1 | -4°33.0 | -4°48.0 | -5°02.9 | -5°17.7 | -5°32.6 | -5°47.4 | -6°02.2 | -6°16.9 | -14.9 | 60.5 |
| | Lu 10 | 264°01.8 | 278°29.2 | 292°56.5 | 307°23.7 | 321°50.9 | 336°18.1 | 350°45.2 | 5°12.3 | 19°39.3 | 34°06.3 | 48°33.2 | +27.1 | 16.5 |
| | | -9°52.9 | -10°06.8 | -10°20.7 | -10°34.6 | -10°48.3 | -11°02.0 | -11°15.7 | -11°29.2 | -11°42.7 | -11°56.1 | -12°09.4 | -13.7 | 60.6 |
| | Ma 11 | 265°10.7 | 279°36.8 | 294°02.9 | 308°28.9 | 322°54.8 | 337°20.7 | 351°46.5 | 6°12.3 | 20°38.0 | 35°03.7 | 49°29.3 | +25.9 | 16.5 |
| | | -15°18.9 | -15°30.7 | -15°42.5 | -15°54.1 | -16°05.7 | -16°17.1 | -16°28.4 | -16°39.6 | -16°50.7 | -17°01.7 | -17°12.6 | -11.4 | 60.4 |
| | Me 12 | 265°47.8 | 280°12.7 | 294°37.6 | 309°02.4 | 323°27.1 | 337°51.8 | 352°16.5 | 6°41.2 | 21°05.8 | 35°30.3 | 49°54.9 | +24.7 | 16.3 |
| | | -19°40.5 | -19°49.3 | -19°58.0 | -20°06.5 | -20°14.9 | -20°23.1 | -20°31.3 | -20°39.2 | -20°47.0 | -20°54.7 | -21°02.3 | -8.2 | 59.9 |
| | Je 13 | 265°59.8 | 280°24.0 | 294°48.1 | 309°12.3 | 323°36.4 | 338°00.6 | 352°24.7 | 6°48.8 | 21°12.9 | 35°37.1 | 50°01.2 | +24.1 | 16.2 |
| | | -22°37.2 | -22°42.3 | -22°47.3 | -22°52.1 | -22°56.7 | -23°01.2 | -23°05.5 | -23°09.6 | -23°13.6 | -23°17.5 | -23°21.2 | -4.4 | 59.3 |
| | Ve 14 | 266°04.0 | 280°28.4 | 294°52.7 | 309°17.1 | 323°41.5 | 338°06.0 | 352°30.5 | 6°55.0 | 21°19.6 | 35°44.1 | 50°08.8 | +24.5 | 16.0 |
| | | -23°57.2 | -23°58.4 | -23°59.3 | -24°00.2 | -24°00.8 | -24°01.3 | -24°01.7 | -24°01.9 | -24°01.9 | -24°01.8 | -24°01.5 | -0.4 | 58.6 |
| ◐ | Sa 15 | 266°23.9 | 280°49.3 | 295°14.8 | 309°40.4 | 324°06.0 | 338°31.7 | 352°57.5 | 7°23.3 | 21°49.2 | 36°15.2 | 50°41.2 | +25.7 | 15.8 |
| | | -23°39.2 | -23°36.5 | -23°33.7 | -23°30.7 | -23°27.6 | -23°24.4 | -23°21.0 | -23°17.5 | -23°13.8 | -23°10.0 | -23°06.1 | +3.3 | 57.9 |
| | Di 16 | 267°20.6 | 281°47.9 | 296°15.2 | 310°42.6 | 325°10.1 | 339°37.7 | 354°05.3 | 8°33.1 | 23°00.9 | 37°28.8 | 51°56.8 | +27.6 | 15.6 |
| | | -21°51.5 | -21°45.6 | -21°39.5 | -21°33.3 | -21°27.0 | -21°20.5 | -21°14.0 | -21°07.3 | -21°00.5 | -20°53.7 | -20°46.7 | +6.5 | 57.2 |
| | Lu 17 | 269°06.6 | 283°35.9 | 298°05.4 | 312°34.8 | 327°04.4 | 341°34.1 | 356°03.8 | 10°33.6 | 25°03.5 | 39°33.5 | 54°03.6 | +29.7 | 15.4 |
| | | -18°49.4 | -18°40.9 | -18°32.2 | -18°23.4 | -18°14.6 | -18°05.6 | -17°56.6 | -17°47.5 | -17°38.3 | -17°29.1 | -17°19.7 | +9.0 | 56.6 |
| | Ma 18 | 271°43.9 | 286°15.2 | 300°46.5 | 315°17.9 | 329°49.4 | 344°21.0 | 358°52.7 | 13°24.4 | 27°56.2 | 42°28.0 | 56°59.9 | +31.6 | 15.3 |
| | | -14°50.7 | -14°40.2 | -14°29.6 | -14°19.0 | -14°08.4 | -13°57.7 | -13°46.9 | -13°36.1 | -13°25.2 | -13°14.2 | -13°03.2 | +10.7 | 56.0 |
| | Me 19 | 275°06.2 | 289°39.1 | 304°12.0 | 318°45.0 | 333°18.0 | 347°51.1 | 2°24.3 | 16°57.5 | 31°30.7 | 46°04.0 | 60°37.4 | +33.1 | 15.1 |
| | | -10°12.8 | -10°01.1 | -9°49.3 | -9°37.6 | -9°25.8 | -9°13.9 | -9°02.1 | -8°50.2 | -8°38.2 | -8°26.3 | -8°14.3 | +11.8 | 55.5 |
| | Je 20 | 279°02.7 | 293°36.7 | 308°10.7 | 322°44.8 | 337°18.9 | 351°53.0 | 6°27.2 | 21°01.4 | 35°35.6 | 50°09.8 | 64°44.1 | +34.1 | 15.0 |
| | | -5°11.8 | -4°59.5 | -4°47.2 | -4°34.8 | -4°22.5 | -4°10.1 | -3°57.7 | -3°45.4 | -3°33.0 | -3°20.6 | -3°08.2 | +12.4 | 55.0 |
| | Ve 21 | 283°20.9 | 297°55.5 | 312°30.1 | 327°04.7 | 341°39.3 | 356°13.9 | 10°48.6 | 25°23.3 | 39°57.9 | 54°32.6 | 69°07.3 | +34.6 | 14.9 |
| | | -0°02.0 | 0°10.4 | 0°22.8 | 0°35.1 | 0°47.5 | 0°59.9 | 1°12.2 | 1°24.5 | 1°36.9 | 1°49.2 | 2°01.5 | +12.4 | 54.7 |
| ○ | Sa 22 | 287°47.8 | 302°22.5 | 316°57.2 | 331°31.8 | 346°06.5 | 0°41.2 | 15°15.8 | 29°50.4 | 44°25.1 | 58°59.7 | 73°34.3 | +34.7 | 14.8 |
| | | 5°03.8 | 5°15.8 | 5°27.7 | 5°39.7 | 5°51.6 | 6°03.4 | 6°15.3 | 6°27.1 | 6°38.9 | 6°50.6 | 7°02.3 | +11.9 | 54.3 |
| | Di 23 | 292°11.5 | 306°45.8 | 321°20.1 | 335°54.4 | 350°28.7 | 5°02.9 | 19°37.1 | 34°11.3 | 48°45.4 | 63°19.5 | 77°53.6 | +34.2 | 14.8 |
| | | 9°53.8 | 10°04.9 | 10°16.0 | 10°27.0 | 10°38.0 | 10°49.0 | 10°59.8 | 11°10.7 | 11°21.5 | 11°32.2 | 11°42.9 | +10.9 | 54.1 |
| | Lu 24 | 296°21.4 | 310°55.0 | 325°28.5 | 340°02.1 | 354°35.5 | 9°09.0 | 23°42.4 | 38°15.7 | 52°49.0 | 67°22.3 | 81°55.6 | +33.4 | 14.7 |
| | | 14°16.9 | 14°26.7 | 14°36.4 | 14°46.1 | 14°55.8 | 15°05.3 | 15°14.8 | 15°24.2 | 15°33.6 | 15°42.9 | 15°52.1 | +9.5 | 54.0 |
| | Ma 25 | 300°09.3 | 314°41.8 | 329°14.3 | 343°46.8 | 358°19.3 | 12°51.7 | 27°24.0 | 41°56.3 | 56°28.6 | 71°00.8 | 85°32.9 | +32.4 | 14.7 |
| | | 18°02.2 | 18°10.2 | 18°18.2 | 18°26.2 | 18°34.0 | 18°41.8 | 18°49.4 | 18°57.0 | 19°04.5 | 19°12.0 | 19°19.3 | +7.7 | 54.0 |
| | Me 26 | 303°29.9 | 318°01.3 | 332°32.7 | 347°04.1 | 1°35.4 | 16°06.6 | 30°37.8 | 45°09.0 | 59°40.1 | 74°11.2 | 88°42.2 | +31.2 | 14.7 |
| | | 20°59.2 | 21°05.1 | 21°10.9 | 21°16.7 | 21°22.3 | 21°27.9 | 21°33.4 | 21°38.7 | 21°44.0 | 21°49.2 | 21°54.2 | +5.5 | 54.1 |
| | Je 27 | 318°01.3 | 332°32.7 | 347°04.1 | 1°35.4 | 16°06.6 | 30°37.8 | 45°09.0 | 59°40.1 | 74°11.2 | 88°42.2 | 103°13.2 | +31.2 | 14.7 |
| | | 21°05.1 | 21°10.9 | 21°16.7 | 21°22.3 | 21°27.9 | 21°33.4 | 21°38.7 | 21°44.0 | 21°49.2 | 21°54.2 | 21°59.2 | +5.4 | 54.1 |
| | Ve 28 | 320°52.8 | 335°23.1 | 349°53.4 | 4°23.7 | 18°53.9 | 33°24.0 | 47°54.2 | 62°24.3 | 76°54.3 | 91°24.3 | 105°54.3 | +30.1 | 14.8 |
| | | 23°01.6 | 23°04.9 | 23°08.1 | 23°11.2 | 23°14.2 | 23°17.1 | 23°19.9 | 23°22.5 | 23°25.1 | 23°27.5 | 23°29.9 | +2.8 | 54.3 |
| | Sa 29 | 323°20.3 | 337°49.8 | 352°19.3 | 6°48.7 | 21°18.1 | 35°47.5 | 50°16.9 | 64°46.3 | 79°15.6 | 93°44.9 | 108°14.2 | +29.4 | 14.9 |
| | | 23°51.3 | 23°51.8 | 23°52.2 | 23°52.5 | 23°52.7 | 23°52.7 | 23°52.6 | 23°52.4 | 23°52.1 | 23°51.7 | 23°51.1 | -0.0 | 54.8 |
| ◑ | Di 30 | 325°31.6 | 340°00.7 | 354°29.7 | 8°58.8 | 23°27.8 | 37°56.8 | 52°25.8 | 66°54.9 | 81°23.9 | 95°52.9 | 110°21.9 | +29.0 | 15.1 |
| | | 23°28.5 | 23°26.0 | 23°23.4 | 23°20.7 | 23°17.9 | 23°14.9 | 23°11.8 | 23°08.6 | 23°05.3 | 23°01.9 | 22°58.3 | -3.0 | 55.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 1 04h33 — NL: 8 10h44 — PQ: 15 01h29 — PL: 22 16h29 — DQ: 30 20h56

# SOLEIL

## Octobre 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 272°35.6 | 287°35.8 | 302°36.0 | 317°36.2 | 332°36.4 | 347°36.6 | 2°36.8 | 17°37.0 | 32°37.2 | 47°37.4 | 62°37.6 | 77°37.8 | +0.2 |
| | -3°18.7 | -3°19.6 | -3°20.6 | -3°21.6 | -3°22.5 | -3°23.5 | -3°24.5 | -3°25.4 | -3°26.4 | -3°27.4 | -3°28.4 | -3°29.3 | -1.0 |
| **Ma 2** | 272°40.4 | 287°40.6 | 302°40.8 | 317°41.0 | 332°41.2 | 347°41.4 | 2°41.6 | 17°41.8 | 32°41.9 | 47°42.1 | 62°42.3 | 77°42.5 | +0.2 |
| | -3°41.9 | -3°42.9 | -3°43.8 | -3°44.8 | -3°45.8 | -3°46.7 | -3°47.7 | -3°48.7 | -3°49.6 | -3°50.6 | -3°51.6 | -3°52.5 | -1.0 |
| **Me 3** | 272°45.1 | 287°45.3 | 302°45.5 | 317°45.7 | 332°45.9 | 347°46.0 | 2°46.2 | 17°46.4 | 32°46.6 | 47°46.8 | 62°47.0 | 77°47.2 | +0.2 |
| | -4°05.1 | -4°06.1 | -4°07.0 | -4°08.0 | -4°09.0 | -4°09.9 | -4°10.9 | -4°11.9 | -4°12.8 | -4°13.8 | -4°14.8 | -4°15.7 | -1.0 |
| **Je 4** | 272°49.7 | 287°49.9 | 302°50.1 | 317°50.3 | 332°50.5 | 347°50.6 | 2°50.8 | 17°51.0 | 32°51.2 | 47°51.4 | 62°51.6 | 77°51.8 | +0.2 |
| | -4°28.3 | -4°29.2 | -4°30.2 | -4°31.1 | -4°32.1 | -4°33.1 | -4°34.0 | -4°35.0 | -4°36.0 | -4°36.9 | -4°37.9 | -4°38.8 | -1.0 |
| **Ve 5** | 272°54.2 | 287°54.4 | 302°54.6 | 317°54.8 | 332°55.0 | 347°55.2 | 2°55.3 | 17°55.5 | 32°55.7 | 47°55.9 | 62°56.1 | 77°56.3 | +0.2 |
| | -4°51.4 | -4°52.3 | -4°53.3 | -4°54.2 | -4°55.2 | -4°56.2 | -4°57.1 | -4°58.1 | -4°59.0 | -5°00.0 | -5°01.0 | -5°01.9 | -1.0 |
| **Sa 6** | 272°58.6 | 287°58.8 | 302°59.0 | 317°59.2 | 332°59.4 | 347°59.6 | 2°59.7 | 17°59.9 | 33°00.1 | 48°00.3 | 63°00.5 | 78°00.6 | +0.2 |
| | -5°14.4 | -5°15.3 | -5°16.3 | -5°17.3 | -5°18.2 | -5°19.2 | -5°20.1 | -5°21.1 | -5°22.1 | -5°23.0 | -5°24.0 | -5°24.9 | -1.0 |
| **Di 7** | 273°03.0 | 288°03.2 | 303°03.3 | 318°03.5 | 333°03.7 | 348°03.9 | 3°04.0 | 18°04.2 | 33°04.4 | 48°04.6 | 63°04.7 | 78°04.9 | +0.2 |
| | -5°37.4 | -5°38.3 | -5°39.3 | -5°40.2 | -5°41.2 | -5°42.1 | -5°43.1 | -5°44.0 | -5°45.0 | -5°46.0 | -5°46.9 | -5°47.9 | -1.0 |
| **Lu 8** | 273°07.2 | 288°07.4 | 303°07.5 | 318°07.7 | 333°07.9 | 348°08.1 | 3°08.2 | 18°08.4 | 33°08.6 | 48°08.8 | 63°08.9 | 78°09.1 | +0.2 |
| | -6°00.3 | -6°01.2 | -6°02.2 | -6°03.1 | -6°04.1 | -6°05.0 | -6°06.0 | -6°06.9 | -6°07.9 | -6°08.8 | -6°09.8 | -6°10.7 | -1.0 |
| **Ma 9** | 273°11.3 | 288°11.5 | 303°11.7 | 318°11.8 | 333°12.0 | 348°12.2 | 3°12.3 | 18°12.5 | 33°12.7 | 48°12.8 | 63°13.0 | 78°13.2 | +0.2 |
| | -6°23.1 | -6°24.0 | -6°25.0 | -6°25.9 | -6°26.9 | -6°27.8 | -6°28.8 | -6°29.7 | -6°30.7 | -6°31.6 | -6°32.6 | -6°33.5 | -0.9 |
| **Me 10** | 273°15.3 | 288°15.5 | 303°15.6 | 318°15.8 | 333°16.0 | 348°16.1 | 3°16.3 | 18°16.5 | 33°16.6 | 48°16.8 | 63°17.0 | 78°17.1 | +0.2 |
| | -6°45.8 | -6°46.8 | -6°47.7 | -6°48.6 | -6°49.6 | -6°50.5 | -6°51.5 | -6°52.4 | -6°53.4 | -6°54.3 | -6°55.3 | -6°56.2 | -0.9 |
| **Je 11** | 273°19.2 | 288°19.4 | 303°19.5 | 318°19.7 | 333°19.8 | 348°20.0 | 3°20.2 | 18°20.3 | 33°20.5 | 48°20.6 | 63°20.8 | 78°20.9 | +0.2 |
| | -7°08.5 | -7°09.4 | -7°10.3 | -7°11.3 | -7°12.2 | -7°13.2 | -7°14.1 | -7°15.0 | -7°16.0 | -7°16.9 | -7°17.9 | -7°18.8 | -0.9 |
| **Ve 12** | 273°23.0 | 288°23.1 | 303°23.3 | 318°23.4 | 333°23.6 | 348°23.7 | 3°23.9 | 18°24.0 | 33°24.2 | 48°24.4 | 63°24.5 | 78°24.7 | +0.2 |
| | -7°31.0 | -7°31.9 | -7°32.9 | -7°33.8 | -7°34.8 | -7°35.7 | -7°36.6 | -7°37.6 | -7°38.5 | -7°39.4 | -7°40.4 | -7°41.3 | -0.9 |
| **Sa 13** | 273°26.6 | 288°26.8 | 303°26.9 | 318°27.1 | 333°27.2 | 348°27.4 | 3°27.5 | 18°27.7 | 33°27.8 | 48°28.0 | 63°28.1 | 78°28.2 | +0.1 |
| | -7°53.4 | -7°54.4 | -7°55.3 | -7°56.2 | -7°57.2 | -7°58.1 | -7°59.0 | -8°00.0 | -8°00.9 | -8°01.8 | -8°02.8 | -8°03.7 | -0.9 |
| **Di 14** | 273°30.1 | 288°30.3 | 303°30.4 | 318°30.6 | 333°30.7 | 348°30.9 | 3°31.0 | 18°31.1 | 33°31.3 | 48°31.4 | 63°31.6 | 78°31.7 | +0.1 |
| | -8°15.8 | -8°16.7 | -8°17.6 | -8°18.6 | -8°19.5 | -8°20.4 | -8°21.3 | -8°22.3 | -8°23.2 | -8°24.1 | -8°25.0 | -8°26.0 | -0.9 |
| **Lu 15** | 273°33.5 | 288°33.7 | 303°33.8 | 318°33.9 | 333°34.1 | 348°34.2 | 3°34.4 | 18°34.5 | 33°34.6 | 48°34.8 | 63°34.9 | 78°35.0 | +0.1 |
| | -8°38.0 | -8°38.9 | -8°39.8 | -8°40.8 | -8°41.7 | -8°42.6 | -8°43.5 | -8°44.4 | -8°45.4 | -8°46.3 | -8°47.2 | -8°48.1 | -0.9 |
| **Ma 16** | 273°36.8 | 288°36.9 | 303°37.0 | 318°37.2 | 333°37.3 | 348°37.4 | 3°37.6 | 18°37.7 | 33°37.8 | 48°38.0 | 63°38.1 | 78°38.2 | +0.1 |
| | -9°00.1 | -9°01.0 | -9°01.9 | -9°02.8 | -9°03.7 | -9°04.7 | -9°05.6 | -9°06.5 | -9°07.4 | -9°08.3 | -9°09.2 | -9°10.2 | -0.9 |
| **Me 17** | 273°39.9 | 288°40.0 | 303°40.1 | 318°40.3 | 333°40.4 | 348°40.5 | 3°40.6 | 18°40.8 | 33°40.9 | 48°41.0 | 63°41.1 | 78°41.3 | +0.1 |
| | -9°22.0 | -9°22.9 | -9°23.9 | -9°24.8 | -9°25.7 | -9°26.6 | -9°27.5 | -9°28.4 | -9°29.3 | -9°30.2 | -9°31.1 | -9°32.1 | -0.9 |
| **Je 18** | 273°42.8 | 288°43.0 | 303°43.1 | 318°43.2 | 333°43.3 | 348°43.4 | 3°43.6 | 18°43.7 | 33°43.8 | 48°43.9 | 63°44.0 | 78°44.2 | +0.1 |
| | -9°43.9 | -9°44.8 | -9°45.7 | -9°46.6 | -9°47.5 | -9°48.4 | -9°49.3 | -9°50.2 | -9°51.1 | -9°52.0 | -9°52.9 | -9°53.8 | -0.9 |
| **Ve 19** | 273°45.7 | 288°45.8 | 303°45.9 | 318°46.0 | 333°46.1 | 348°46.2 | 3°46.3 | 18°46.5 | 33°46.6 | 48°46.7 | 63°46.8 | 78°46.9 | +0.1 |
| | -10°05.5 | -10°06.4 | -10°07.3 | -10°08.2 | -10°09.1 | -10°10.0 | -10°10.9 | -10°11.8 | -10°12.7 | -10°13.6 | -10°14.5 | -10°15.4 | -0.9 |
| **Sa 20** | 273°48.3 | 288°48.4 | 303°48.5 | 318°48.6 | 333°48.7 | 348°48.9 | 3°49.0 | 18°49.1 | 33°49.2 | 48°49.3 | 63°49.4 | 78°49.5 | +0.1 |
| | -10°27.1 | -10°28.0 | -10°28.9 | -10°29.7 | -10°30.6 | -10°31.5 | -10°32.4 | -10°33.3 | -10°34.2 | -10°35.1 | -10°36.0 | -10°36.9 | -0.9 |
| **Di 21** | 273°50.8 | 288°50.9 | 303°51.0 | 318°51.1 | 333°51.2 | 348°51.3 | 3°51.4 | 18°51.5 | 33°51.6 | 48°51.7 | 63°51.8 | 78°51.9 | +0.1 |
| | -10°48.4 | -10°49.3 | -10°50.2 | -10°51.1 | -10°52.0 | -10°52.9 | -10°53.8 | -10°54.6 | -10°55.5 | -10°56.4 | -10°57.3 | -10°58.2 | -0.9 |
| **Lu 22** | 273°53.1 | 288°53.2 | 303°53.3 | 318°53.4 | 333°53.5 | 348°53.6 | 3°53.7 | 18°53.8 | 33°53.9 | 48°54.0 | 63°54.1 | 78°54.2 | +0.1 |
| | -11°09.7 | -11°10.5 | -11°11.4 | -11°12.3 | -11°13.2 | -11°14.1 | -11°14.9 | -11°15.8 | -11°16.7 | -11°17.6 | -11°18.5 | -11°19.3 | -0.9 |
| **Ma 23** | 273°55.3 | 288°55.4 | 303°55.5 | 318°55.6 | 333°55.7 | 348°55.7 | 3°55.8 | 18°55.9 | 33°56.0 | 48°56.1 | 63°56.2 | 78°56.2 | +0.1 |
| | -11°30.7 | -11°31.6 | -11°32.5 | -11°33.3 | -11°34.2 | -11°35.1 | -11°35.9 | -11°36.8 | -11°37.7 | -11°38.6 | -11°39.4 | -11°40.3 | -0.9 |
| **Me 24** | 273°57.3 | 288°57.4 | 303°57.5 | 318°57.5 | 333°57.6 | 348°57.7 | 3°57.8 | 18°57.8 | 33°57.9 | 48°58.0 | 63°58.1 | 78°58.2 | +0.1 |
| | -11°51.6 | -11°52.5 | -11°53.3 | -11°54.2 | -11°55.1 | -11°55.9 | -11°56.8 | -11°57.6 | -11°58.5 | -11°59.4 | -12°00.2 | -12°01.1 | -0.9 |
| **Je 25** | 273°59.1 | 288°59.2 | 303°59.3 | 318°59.3 | 333°59.4 | 348°59.5 | 3°59.5 | 18°59.6 | 33°59.7 | 48°59.7 | 63°59.8 | 78°59.9 | +0.1 |
| | -12°12.3 | -12°13.1 | -12°14.0 | -12°14.9 | -12°15.7 | -12°16.6 | -12°17.4 | -12°18.3 | -12°19.1 | -12°20.0 | -12°20.9 | -12°21.7 | -0.9 |
| **Ve 26** | 274°00.7 | 289°00.8 | 304°00.9 | 319°00.9 | 334°01.0 | 349°01.1 | 4°01.1 | 19°01.2 | 34°01.2 | 49°01.3 | 64°01.4 | 79°01.4 | +0.1 |
| | -12°32.8 | -12°33.7 | -12°34.5 | -12°35.4 | -12°36.2 | -12°37.1 | -12°37.9 | -12°38.7 | -12°39.6 | -12°40.4 | -12°41.3 | -12°42.1 | -0.8 |
| **Sa 27** | 274°02.2 | 289°02.2 | 304°02.3 | 319°02.4 | 334°02.4 | 349°02.5 | 4°02.5 | 19°02.6 | 34°02.6 | 49°02.7 | 64°02.7 | 79°02.8 | +0.1 |
| | -12°53.1 | -12°54.0 | -12°54.8 | -12°55.6 | -12°56.5 | -12°57.3 | -12°58.2 | -12°59.0 | -12°59.9 | -13°00.7 | -13°01.5 | -13°02.4 | -0.8 |
| **Di 28** | 274°03.4 | 289°03.5 | 304°03.5 | 319°03.6 | 334°03.6 | 349°03.7 | 4°03.7 | 19°03.8 | 34°03.8 | 49°03.9 | 64°03.9 | 79°03.9 | +0.0 |
| | -13°13.2 | -13°14.1 | -13°14.9 | -13°15.7 | -13°16.6 | -13°17.4 | -13°18.2 | -13°19.1 | -13°19.9 | -13°20.7 | -13°21.6 | -13°22.4 | -0.8 |
| **Lu 29** | 274°04.5 | 289°04.5 | 304°04.6 | 319°04.6 | 334°04.7 | 349°04.7 | 4°04.7 | 19°04.8 | 34°04.8 | 49°04.8 | 64°04.9 | 79°04.9 | +0.0 |
| | -13°33.2 | -13°34.0 | -13°34.8 | -13°35.6 | -13°36.5 | -13°37.3 | -13°38.1 | -13°38.9 | -13°39.8 | -13°40.6 | -13°41.4 | -13°42.2 | -0.8 |
| **Ma 30** | 274°05.4 | 289°05.4 | 304°05.4 | 319°05.4 | 334°05.5 | 349°05.5 | 4°05.5 | 19°05.6 | 34°05.6 | 49°05.6 | 64°05.7 | 79°05.7 | +0.0 |
| | -13°52.9 | -13°53.7 | -13°54.5 | -13°55.3 | -13°56.1 | -13°56.9 | -13°57.8 | -13°58.6 | -13°59.4 | -14°00.2 | -14°01.0 | -14°01.8 | -0.8 |
| **Me 31** | 274°06.0 | 289°06.0 | 304°06.1 | 319°06.1 | 334°06.1 | 349°06.1 | 4°06.2 | 19°06.2 | 34°06.2 | 49°06.2 | 64°06.2 | 79°06.3 | +0.0 |
| | -14°12.3 | -14°13.2 | -14°14.0 | -14°14.8 | -14°15.6 | -14°16.4 | -14°17.2 | -14°18.0 | -14°18.8 | -14°19.6 | -14°20.4 | -14°21.2 | -0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2029

| J | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 228°19.3<br>19°53.8 | 242°48.5<br>19°46.3 | 257°17.6<br>19°38.6 | 271°46.7<br>19°30.8 | 286°15.9<br>19°22.9 | 300°45.0<br>19°14.8 | 315°14.2<br>19°06.7 | 329°43.4<br>18°58.5 | 344°12.5<br>18°50.1 | 358°41.7<br>18°41.7 | 13°10.9<br>18°33.1 | +29.2<br>-8.1 | 15.5<br>56.7 |
| Ma 2 | 230°30.3<br>16°11.8 | 244°59.7<br>16°01.5 | 259°29.0<br>15°51.2 | 273°58.4<br>15°40.7 | 288°27.8<br>15°30.2 | 302°57.2<br>15°19.6 | 317°26.6<br>15°08.8 | 331°56.1<br>14°58.0 | 346°25.5<br>14°47.1 | 0°54.9<br>14°36.1 | 15°24.4<br>14°25.0 | +29.4<br>-10.7 | 15.7<br>57.7 |
| Me 3 | 244°59.7<br>16°01.5 | 259°29.0<br>15°51.2 | 273°58.4<br>15°40.7 | 288°27.8<br>15°30.2 | 302°57.2<br>15°19.6 | 317°26.6<br>15°08.8 | 331°56.1<br>14°58.0 | 346°25.5<br>14°47.1 | 0°54.9<br>14°36.1 | 15°24.4<br>14°25.0 | 29°53.8<br>14°13.8 | +29.4<br>-10.8 | 15.7<br>57.8 |
| Je 4 | 247°16.2<br>11°15.2 | 261°45.7<br>11°02.6 | 276°15.2<br>10°50.0 | 290°44.7<br>10°37.3 | 305°14.2<br>10°24.5 | 319°43.7<br>10°11.6 | 334°13.3<br>9°58.7 | 348°42.8<br>9°45.7 | 3°12.2<br>9°32.6 | 17°41.7<br>9°19.4 | 32°11.2<br>9°06.2 | +29.5<br>-12.9 | 16.0<br>58.8 |
| Ve 5 | 249°32.4<br>5°40.4 | 264°01.8<br>5°26.2 | 278°31.1<br>5°12.0 | 293°00.3<br>4°57.7 | 307°29.6<br>4°43.4 | 321°58.8<br>4°29.1 | 336°28.0<br>4°14.7 | 350°57.2<br>4°00.3 | 5°26.4<br>3°45.8 | 19°55.6<br>3°31.3 | 34°24.7<br>3°16.7 | +29.2<br>-14.4 | 16.3<br>59.7 |
| Sa 6 | 251°38.3<br>-0°25.0 | 266°06.9<br>-0°39.9 | 280°35.5<br>-0°54.9 | 295°04.1<br>-1°09.8 | 309°32.6<br>-1°24.8 | 324°01.1<br>-1°39.8 | 338°29.6<br>-1°54.7 | 352°58.0<br>-2°09.7 | 7°26.3<br>-2°24.7 | 21°54.7<br>-2°39.7 | 36°22.9<br>-2°54.6 | +28.5<br>-15.0 | 16.5<br>60.5 |
| ● Di 7 | 253°21.3<br>-6°37.7 | 267°48.7<br>-6°52.4 | 282°16.1<br>-7°07.0 | 296°43.5<br>-7°21.6 | 311°10.8<br>-7°36.2 | 325°38.0<br>-7°50.7 | 340°05.2<br>-8°05.2 | 354°32.3<br>-8°19.6 | 8°59.4<br>-8°34.0 | 23°26.4<br>-8°48.4 | 37°53.3<br>-9°02.7 | +27.2<br>-14.5 | 16.6<br>61.0 |
| Lu 8 | 254°29.8<br>-12°29.9 | 268°55.7<br>-12°43.2 | 283°21.5<br>-12°56.3 | 297°47.3<br>-13°09.4 | 312°13.0<br>-13°22.4 | 326°38.6<br>-13°35.3 | 341°04.2<br>-13°48.1 | 355°29.7<br>-14°00.8 | 9°55.1<br>-14°13.4 | 24°20.5<br>-14°25.9 | 38°45.8<br>-14°38.4 | +25.6<br>-12.9 | 16.7<br>61.2 |
| Ma 9 | 254°57.5<br>-17°31.7 | 269°21.7<br>-17°42.3 | 283°46.0<br>-17°52.8 | 298°10.1<br>-18°03.2 | 312°34.2<br>-18°13.4 | 326°58.3<br>-18°23.5 | 341°22.2<br>-18°33.5 | 355°46.2<br>-18°43.3 | 10°10.0<br>-18°53.0 | 24°33.9<br>-19°02.5 | 38°57.6<br>-19°11.9 | +24.0<br>-10.0 | 16.7<br>61.1 |
| Me 10 | 254°48.7<br>-21°15.4 | 269°11.8<br>-21°22.4 | 283°34.8<br>-21°29.2 | 297°57.9<br>-21°35.9 | 312°20.9<br>-21°42.4 | 326°43.9<br>-21°48.8 | 341°06.8<br>-21°55.0 | 355°29.8<br>-22°01.0 | 9°52.7<br>-22°06.9 | 24°15.6<br>-22°12.6 | 38°38.5<br>-22°18.2 | +23.0<br>-6.3 | 16.5<br>60.6 |
| Je 11 | 254°21.1<br>-23°21.2 | 268°44.0<br>-23°24.1 | 283°06.9<br>-23°26.8 | 297°29.8<br>-23°29.3 | 311°52.8<br>-23°31.6 | 326°15.7<br>-23°33.8 | 340°38.7<br>-23°35.8 | 355°01.7<br>-23°37.7 | 9°24.8<br>-23°39.3 | 23°47.8<br>-23°40.8 | 38°10.9<br>-23°42.2 | +23.0<br>-2.1 | 16.3<br>59.9 |
| Ve 12 | 254°02.6<br>-23°42.4 | 268°26.5<br>-23°41.1 | 282°50.4<br>-23°39.7 | 297°14.4<br>-23°38.1 | 311°38.4<br>-23°36.3 | 326°02.6<br>-23°34.4 | 340°26.8<br>-23°32.3 | 354°51.0<br>-23°30.1 | 9°15.3<br>-23°27.8 | 23°39.8<br>-23°25.2 | 38°04.2<br>-23°22.6 | +24.2<br>+2.0 | 16.1<br>59.0 |
| Sa 13 | 254°21.0<br>-22°25.3 | 268°46.9<br>-22°20.4 | 283°12.8<br>-22°15.3 | 297°38.7<br>-22°10.1 | 312°04.8<br>-22°04.8 | 326°31.0<br>-21°59.4 | 340°57.3<br>-21°53.8 | 355°23.6<br>-21°48.1 | 9°50.1<br>-21°42.3 | 24°16.6<br>-21°36.4 | 38°43.3<br>-21°30.3 | +26.2<br>+5.5 | 15.8<br>58.1 |
| ◐ Di 14 | 255°34.6<br>-19°46.0 | 270°02.8<br>-19°38.2 | 284°31.1<br>-19°30.3 | 298°59.5<br>-19°22.3 | 313°27.9<br>-19°14.2 | 327°56.5<br>-19°06.0 | 342°25.2<br>-18°57.7 | 356°54.0<br>-18°49.4 | 11°22.8<br>-18°40.9 | 25°51.8<br>-18°32.3 | 40°20.9<br>-18°23.7 | +28.6<br>+8.2 | 15.6<br>57.2 |
| Lu 15 | 257°47.9<br>-16°04.3 | 272°18.4<br>-15°54.5 | 286°49.0<br>-15°44.5 | 301°19.7<br>-15°34.5 | 315°50.5<br>-15°24.4 | 330°21.3<br>-15°14.3 | 344°52.3<br>-15°04.1 | 359°23.3<br>-14°53.8 | 13°54.4<br>-14°43.4 | 28°25.6<br>-14°33.1 | 42°56.9<br>-14°22.6 | +30.9<br>+10.2 | 15.4<br>56.4 |
| Ma 16 | 260°55.0<br>-11°39.6 | 275°27.4<br>-11°28.3 | 289°59.9<br>-11°17.0 | 304°32.5<br>-11°05.7 | 319°05.1<br>-10°54.4 | 333°37.8<br>-10°43.0 | 348°10.6<br>-10°31.5 | 2°43.4<br>-10°20.0 | 17°16.3<br>-10°08.5 | 31°49.3<br>-9°57.0 | 46°22.3<br>-9°45.4 | +32.7<br>+11.4 | 15.2<br>55.7 |
| Me 17 | 264°43.8<br>-6°48.4 | 279°17.6<br>-6°36.4 | 293°51.5<br>-6°24.4 | 308°25.4<br>-6°12.3 | 322°59.3<br>-6°00.3 | 337°33.3<br>-5°48.2 | 352°07.3<br>-5°36.2 | 6°41.4<br>-5°24.1 | 21°15.5<br>-5°12.0 | 35°49.6<br>-4°59.9 | 50°23.8<br>-4°47.7 | +34.0<br>+12.1 | 15.0<br>55.1 |
| Je 18 | 269°00.0<br>-1°44.8 | 283°34.6<br>-1°32.6 | 298°09.2<br>-1°20.4 | 312°43.9<br>-1°08.2 | 327°18.6<br>-0°56.0 | 341°53.3<br>-0°43.7 | 356°28.0<br>-0°31.5 | 11°02.7<br>-0°19.3 | 25°37.4<br>-0°07.1 | 40°12.2<br>0°05.1 | 54°46.9<br>0°17.3 | +34.7<br>+12.2 | 14.9<br>54.7 |
| Ve 19 | 273°29.3<br>3°18.8 | 288°04.1<br>3°30.8 | 302°39.0<br>3°42.8 | 317°13.8<br>3°54.7 | 331°48.7<br>4°06.7 | 346°23.5<br>4°18.6 | 0°58.3<br>4°30.5 | 15°33.2<br>4°42.3 | 30°08.0<br>4°54.2 | 44°42.8<br>5°06.0 | 59°17.6<br>5°17.8 | +34.8<br>+11.9 | 14.8<br>54.3 |
| Sa 20 | 277°58.3<br>8°11.4 | 292°32.9<br>8°22.7 | 307°07.5<br>8°34.0 | 321°42.0<br>8°45.3 | 336°16.5<br>8°56.5 | 350°51.0<br>9°07.6 | 5°25.5<br>9°18.8 | 20°00.0<br>9°29.9 | 34°34.4<br>9°40.9 | 49°08.8<br>9°51.9 | 63°43.2<br>10°02.9 | +34.5<br>+11.2 | 14.8<br>54.1 |
| Di 21 | 282°15.5<br>12°42.0 | 296°49.4<br>12°52.2 | 311°23.3<br>13°02.4 | 325°57.1<br>13°12.5 | 340°30.9<br>13°22.5 | 355°04.6<br>13°32.5 | 9°38.4<br>13°42.4 | 24°12.0<br>13°52.3 | 38°45.7<br>14°02.1 | 53°19.3<br>14°11.9 | 67°52.9<br>14°21.6 | +33.7<br>+10.0 | 14.7<br>53.9 |
| ○ Lu 22 | 286°11.7<br>16°39.6 | 300°44.6<br>16°48.2 | 315°17.5<br>16°56.8 | 329°50.3<br>17°05.4 | 344°23.1<br>17°13.8 | 358°55.8<br>17°22.2 | 13°28.5<br>17°30.5 | 28°01.2<br>17°38.7 | 42°33.8<br>17°46.8 | 57°06.3<br>17°54.9 | 71°38.8<br>18°02.9 | +32.7<br>+8.3 | 14.7<br>53.9 |
| Ma 23 | 289°41.2<br>19°53.2 | 304°13.0<br>19°59.8 | 318°44.7<br>20°06.4 | 333°16.4<br>20°12.9 | 347°48.1<br>20°19.3 | 2°19.7<br>20°25.6 | 16°51.3<br>20°31.9 | 31°22.8<br>20°38.0 | 45°54.3<br>20°44.1 | 60°25.7<br>20°50.0 | 74°57.1<br>20°55.9 | +31.6<br>+6.3 | 14.7<br>53.9 |
| Me 24 | 292°42.9<br>22°12.2 | 307°13.6<br>22°16.5 | 321°44.3<br>22°20.7 | 336°15.0<br>22°24.8 | 350°45.6<br>22°28.8 | 5°16.1<br>22°32.7 | 19°46.7<br>22°36.5 | 34°17.2<br>22°40.1 | 48°47.7<br>22°43.7 | 63°18.1<br>22°47.2 | 77°48.5<br>22°50.5 | +30.6<br>+3.8 | 14.7<br>54.1 |
| Je 25 | 295°20.8<br>23°27.8 | 309°50.7<br>23°29.4 | 324°20.6<br>23°30.9 | 338°50.5<br>23°32.3 | 353°20.3<br>23°33.6 | 7°50.2<br>23°34.7 | 22°20.0<br>23°35.8 | 36°49.8<br>23°36.7 | 51°19.6<br>23°37.5 | 65°49.3<br>23°38.2 | 80°19.1<br>23°38.8 | +29.8<br>+1.1 | 14.8<br>54.3 |
| Ve 26 | 297°43.3<br>23°33.7 | 312°12.9<br>23°32.4 | 326°42.4<br>23°31.0 | 341°11.9<br>23°29.5 | 355°41.4<br>23°27.9 | 10°10.9<br>23°26.2 | 24°40.4<br>23°24.3 | 39°09.9<br>23°22.4 | 53°39.4<br>23°20.3 | 68°08.9<br>23°18.1 | 82°38.4<br>23°15.8 | +29.5<br>-1.8 | 14.9<br>54.7 |
| Sa 27 | 312°12.9<br>23°32.4 | 326°42.4<br>23°31.0 | 341°11.9<br>23°29.5 | 355°41.4<br>23°27.9 | 10°10.9<br>23°26.2 | 24°40.4<br>23°24.3 | 39°09.9<br>23°22.4 | 53°39.4<br>23°20.3 | 68°08.9<br>23°18.1 | 82°38.4<br>23°15.8 | 97°07.9<br>23°13.3 | +29.5<br>-1.9 | 14.9<br>54.7 |
| Di 28 | 314°30.7<br>22°22.9 | 329°00.3<br>22°18.6 | 343°29.9<br>22°14.2 | 357°59.4<br>22°09.7 | 12°29.0<br>22°05.1 | 26°58.6<br>22°00.4 | 41°28.3<br>21°55.5 | 55°57.9<br>21°50.6 | 70°27.5<br>21°45.5 | 84°57.2<br>21°40.3 | 99°26.9<br>21°35.0 | +29.6<br>-4.8 | 15.1<br>55.3 |
| Lu 29 | 316°53.6<br>20°02.3 | 331°23.5<br>19°55.3 | 345°53.4<br>19°48.2 | 0°23.3<br>19°40.9 | 14°53.3<br>19°33.5 | 29°23.3<br>19°26.1 | 43°53.3<br>19°18.5 | 58°23.3<br>19°10.8 | 72°53.3<br>19°03.1 | 87°23.4<br>18°55.2 | 101°53.4<br>18°47.2 | +30.0<br>-7.5 | 15.3<br>55.9 |
| ◑ Ma 30 | 319°26.4<br>16°35.6 | 333°56.7<br>16°26.1 | 348°27.0<br>16°16.5 | 2°57.4<br>16°06.7 | 17°27.8<br>15°56.9 | 31°58.2<br>15°47.0 | 46°28.6<br>15°37.0 | 60°59.0<br>15°26.9 | 75°29.4<br>15°16.7 | 89°59.8<br>15°06.5 | 104°30.3<br>14°56.1 | +30.4<br>-10.0 | 15.5<br>56.7 |
| Me 31 | 322°08.2<br>12°10.8 | 336°38.8<br>11°59.1 | 351°09.3<br>11°47.4 | 5°39.9<br>11°35.5 | 20°10.5<br>11°23.6 | 34°41.1<br>11°11.7 | 49°11.7<br>10°59.7 | 63°42.3<br>10°47.5 | 78°12.9<br>10°35.4 | 92°43.5<br>10°23.1 | 107°14.1<br>10°10.8 | +30.6<br>-12.0 | 15.7<br>57.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 7 19h14 — PQ: 14 11h08 — PL: 22 09h27 — DQ: 30 11h32

# SOLEIL

## Novembre 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°31.6 | -14°32.4 | -14°33.2 | -14°34.0 | -14°34.8 | -14°35.6 | -14°36.4 | -14°37.2 | -14°38.0 | -14°38.8 | -14°39.6 | -14°40.4 | -0.8 |
| **Ve 2** | 274°06.7 | 289°06.7 | 304°06.7 | 319°06.7 | 334°06.8 | 349°06.8 | 4°06.8 | 19°06.8 | 34°06.8 | 49°06.8 | 64°06.8 | 79°06.8 | +0.0 |
| | -14°50.6 | -14°51.4 | -14°52.2 | -14°53.0 | -14°53.8 | -14°54.6 | -14°55.4 | -14°56.1 | -14°56.9 | -14°57.7 | -14°58.5 | -14°59.3 | -0.8 |
| **Sa 3** | 274°06.8 | 289°06.8 | 304°06.8 | 319°06.8 | 334°06.8 | 349°06.8 | 4°06.8 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | -0.0 |
| | -15°09.4 | -15°10.2 | -15°11.0 | -15°11.7 | -15°12.5 | -15°13.3 | -15°14.1 | -15°14.8 | -15°15.6 | -15°16.4 | -15°17.2 | -15°17.9 | -0.8 |
| **Di 4** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.5 | 64°06.5 | 79°06.5 | -0.0 |
| | -15°28.0 | -15°28.7 | -15°29.5 | -15°30.3 | -15°31.0 | -15°31.8 | -15°32.5 | -15°33.3 | -15°34.1 | -15°34.8 | -15°35.6 | -15°36.4 | -0.8 |
| **Lu 5** | 274°06.2 | 289°06.2 | 304°06.2 | 319°06.2 | 334°06.2 | 349°06.1 | 4°06.1 | 19°06.1 | 34°06.1 | 49°06.0 | 64°06.0 | 79°06.0 | -0.0 |
| | -15°46.2 | -15°47.0 | -15°47.7 | -15°48.5 | -15°49.3 | -15°50.0 | -15°50.8 | -15°51.5 | -15°52.3 | -15°53.0 | -15°53.8 | -15°54.5 | -0.8 |
| **Ma 6** | 274°05.7 | 289°05.6 | 304°05.6 | 319°05.6 | 334°05.5 | 349°05.5 | 4°05.5 | 19°05.5 | 34°05.4 | 49°05.4 | 64°05.4 | 79°05.3 | -0.0 |
| | -16°04.3 | -16°05.0 | -16°05.7 | -16°06.5 | -16°07.2 | -16°08.0 | -16°08.7 | -16°09.5 | -16°10.2 | -16°10.9 | -16°11.7 | -16°12.4 | -0.7 |
| **Me 7** | 274°04.9 | 289°04.8 | 304°04.8 | 319°04.8 | 334°04.7 | 349°04.7 | 4°04.6 | 19°04.6 | 34°04.6 | 49°04.5 | 64°04.5 | 79°04.4 | -0.0 |
| | -16°22.0 | -16°22.7 | -16°23.5 | -16°24.2 | -16°24.9 | -16°25.7 | -16°26.4 | -16°27.1 | -16°27.9 | -16°28.6 | -16°29.3 | -16°30.1 | -0.7 |
| **Je 8** | 274°03.9 | 289°03.8 | 304°03.8 | 319°03.7 | 334°03.7 | 349°03.6 | 4°03.6 | 19°03.5 | 34°03.5 | 49°03.4 | 64°03.4 | 79°03.3 | -0.0 |
| | -16°39.5 | -16°40.2 | -16°40.9 | -16°41.7 | -16°42.4 | -16°43.1 | -16°43.8 | -16°44.5 | -16°45.3 | -16°46.0 | -16°46.7 | -16°47.4 | -0.7 |
| **Ve 9** | 274°02.7 | 289°02.6 | 304°02.6 | 319°02.5 | 334°02.4 | 349°02.4 | 4°02.3 | 19°02.3 | 34°02.2 | 49°02.2 | 64°02.1 | 79°02.0 | -0.1 |
| | -16°56.7 | -16°57.4 | -16°58.1 | -16°58.8 | -16°59.5 | -17°00.2 | -17°00.9 | -17°01.6 | -17°02.4 | -17°03.1 | -17°03.8 | -17°04.5 | -0.7 |
| **Sa 10** | 274°01.3 | 289°01.2 | 304°01.1 | 319°01.1 | 334°01.0 | 349°00.9 | 4°00.9 | 19°00.8 | 34°00.7 | 49°00.7 | 64°00.6 | 79°00.5 | -0.1 |
| | -17°13.6 | -17°14.3 | -17°15.0 | -17°15.7 | -17°16.4 | -17°17.1 | -17°17.8 | -17°18.5 | -17°19.2 | -17°19.9 | -17°20.6 | -17°21.2 | -0.7 |
| **Di 11** | 273°59.6 | 288°59.6 | 303°59.5 | 318°59.4 | 333°59.3 | 348°59.3 | 3°59.2 | 18°59.1 | 33°59.0 | 48°59.0 | 63°58.9 | 78°58.8 | -0.1 |
| | -17°30.2 | -17°30.9 | -17°31.6 | -17°32.3 | -17°32.9 | -17°33.6 | -17°34.3 | -17°35.0 | -17°35.7 | -17°36.4 | -17°37.0 | -17°37.7 | -0.7 |
| **Lu 12** | 273°57.8 | 288°57.7 | 303°57.6 | 318°57.6 | 333°57.5 | 348°57.4 | 3°57.3 | 18°57.2 | 33°57.1 | 48°57.1 | 63°57.0 | 78°56.9 | -0.1 |
| | -17°46.5 | -17°47.2 | -17°47.9 | -17°48.5 | -17°49.2 | -17°49.9 | -17°50.5 | -17°51.2 | -17°51.9 | -17°52.6 | -17°53.2 | -17°53.9 | -0.7 |
| **Ma 13** | 273°55.8 | 288°55.7 | 303°55.6 | 318°55.5 | 333°55.4 | 348°55.3 | 3°55.2 | 18°55.1 | 33°55.0 | 48°54.9 | 63°54.9 | 78°54.8 | -0.1 |
| | -18°02.5 | -18°03.2 | -18°03.8 | -18°04.5 | -18°05.2 | -18°05.8 | -18°06.5 | -18°07.1 | -18°07.8 | -18°08.4 | -18°09.1 | -18°09.7 | -0.7 |
| **Me 14** | 273°53.5 | 288°53.4 | 303°53.3 | 318°53.2 | 333°53.1 | 348°53.0 | 3°52.9 | 18°52.8 | 33°52.7 | 48°52.6 | 63°52.5 | 78°52.4 | -0.1 |
| | -18°18.2 | -18°18.8 | -18°19.5 | -18°20.1 | -18°20.8 | -18°21.4 | -18°22.1 | -18°22.7 | -18°23.4 | -18°24.0 | -18°24.6 | -18°25.3 | -0.6 |
| **Je 15** | 273°51.1 | 288°51.0 | 303°50.9 | 318°50.7 | 333°50.6 | 348°50.5 | 3°50.4 | 18°50.3 | 33°50.2 | 48°50.1 | 63°50.0 | 78°49.9 | -0.1 |
| | -18°33.6 | -18°34.2 | -18°34.8 | -18°35.5 | -18°36.1 | -18°36.7 | -18°37.4 | -18°38.0 | -18°38.6 | -18°39.2 | -18°39.9 | -18°40.5 | -0.6 |
| **Ve 16** | 273°48.4 | 288°48.3 | 303°48.2 | 318°48.1 | 333°47.9 | 348°47.8 | 3°47.7 | 18°47.6 | 33°47.5 | 48°47.4 | 63°47.2 | 78°47.1 | -0.1 |
| | -18°48.6 | -18°49.2 | -18°49.8 | -18°50.5 | -18°51.1 | -18°51.7 | -18°52.3 | -18°52.9 | -18°53.5 | -18°54.1 | -18°54.8 | -18°55.4 | -0.6 |
| **Sa 17** | 273°45.5 | 288°45.4 | 303°45.3 | 318°45.2 | 333°45.1 | 348°44.9 | 3°44.8 | 18°44.7 | 33°44.5 | 48°44.4 | 63°44.3 | 78°44.2 | -0.1 |
| | -19°03.3 | -19°03.9 | -19°04.5 | -19°05.1 | -19°05.7 | -19°06.3 | -19°06.9 | -19°07.5 | -19°08.1 | -19°08.7 | -19°09.3 | -19°09.9 | -0.6 |
| **Di 18** | 273°42.5 | 288°42.3 | 303°42.2 | 318°42.1 | 333°41.9 | 348°41.8 | 3°41.7 | 18°41.5 | 33°41.4 | 48°41.3 | 63°41.1 | 78°41.0 | -0.1 |
| | -19°17.7 | -19°18.2 | -19°18.8 | -19°19.4 | -19°20.0 | -19°20.6 | -19°21.2 | -19°21.8 | -19°22.4 | -19°23.0 | -19°23.5 | -19°24.1 | -0.6 |
| **Lu 19** | 273°39.2 | 288°39.1 | 303°38.9 | 318°38.8 | 333°38.6 | 348°38.5 | 3°38.4 | 18°38.2 | 33°38.1 | 48°37.9 | 63°37.8 | 78°37.6 | -0.1 |
| | -19°31.7 | -19°32.2 | -19°32.8 | -19°33.4 | -19°34.0 | -19°34.5 | -19°35.1 | -19°35.7 | -19°36.3 | -19°36.8 | -19°37.4 | -19°38.0 | -0.6 |
| **Ma 20** | 273°35.7 | 288°35.6 | 303°35.4 | 318°35.3 | 333°35.1 | 348°35.0 | 3°34.8 | 18°34.7 | 33°34.5 | 48°34.4 | 63°34.2 | 78°34.1 | -0.2 |
| | -19°45.3 | -19°45.9 | -19°46.5 | -19°47.0 | -19°47.6 | -19°48.1 | -19°48.7 | -19°49.2 | -19°49.8 | -19°50.4 | -19°50.9 | -19°51.5 | -0.6 |
| **Me 21** | 273°32.1 | 288°31.9 | 303°31.7 | 318°31.6 | 333°31.4 | 348°31.3 | 3°31.1 | 18°30.9 | 33°30.8 | 48°30.6 | 63°30.5 | 78°30.3 | -0.2 |
| | -19°58.6 | -19°59.2 | -19°59.7 | -20°00.3 | -20°00.8 | -20°01.4 | -20°01.9 | -20°02.4 | -20°03.0 | -20°03.5 | -20°04.1 | -20°04.6 | -0.5 |
| **Je 22** | 273°28.2 | 288°28.0 | 303°27.8 | 318°27.7 | 333°27.5 | 348°27.3 | 3°27.2 | 18°27.0 | 33°26.8 | 48°26.7 | 63°26.5 | 78°26.3 | -0.2 |
| | -20°11.6 | -20°12.1 | -20°12.6 | -20°13.2 | -20°13.7 | -20°14.2 | -20°14.8 | -20°15.3 | -20°15.9 | -20°16.3 | -20°16.9 | -20°17.4 | -0.5 |
| **Ve 23** | 273°24.1 | 288°23.9 | 303°23.8 | 318°23.6 | 333°23.4 | 348°23.2 | 3°23.1 | 18°22.9 | 33°22.7 | 48°22.5 | 63°22.3 | 78°22.2 | -0.2 |
| | -20°24.1 | -20°24.7 | -20°25.2 | -20°25.7 | -20°26.2 | -20°26.7 | -20°27.2 | -20°27.7 | -20°28.3 | -20°28.8 | -20°29.3 | -20°29.8 | -0.5 |
| **Sa 24** | 273°19.8 | 288°19.6 | 303°19.5 | 318°19.3 | 333°19.1 | 348°18.9 | 3°18.7 | 18°18.5 | 33°18.4 | 48°18.2 | 63°18.0 | 78°17.8 | -0.2 |
| | -20°36.3 | -20°36.8 | -20°37.3 | -20°37.8 | -20°38.3 | -20°38.8 | -20°39.3 | -20°39.8 | -20°40.3 | -20°40.8 | -20°41.3 | -20°41.8 | -0.5 |
| **Di 25** | 273°15.4 | 288°15.2 | 303°15.0 | 318°14.8 | 333°14.6 | 348°14.4 | 3°14.2 | 18°14.0 | 33°13.8 | 48°13.6 | 63°13.4 | 78°13.3 | -0.2 |
| | -20°48.2 | -20°48.6 | -20°49.1 | -20°49.6 | -20°50.1 | -20°50.6 | -20°51.0 | -20°51.5 | -20°52.0 | -20°52.5 | -20°53.0 | -20°53.4 | -0.5 |
| **Lu 26** | 273°10.7 | 288°10.5 | 303°10.3 | 318°10.1 | 333°09.9 | 348°09.7 | 3°09.5 | 18°09.3 | 33°09.1 | 48°08.9 | 63°08.7 | 78°08.5 | -0.2 |
| | -20°59.6 | -21°00.0 | -21°00.5 | -21°01.0 | -21°01.4 | -21°01.9 | -21°02.4 | -21°02.8 | -21°03.3 | -21°03.8 | -21°04.2 | -21°04.7 | -0.5 |
| **Ma 27** | 273°05.9 | 288°05.7 | 303°05.5 | 318°05.2 | 333°05.0 | 348°04.8 | 3°04.6 | 18°04.4 | 33°04.2 | 48°04.0 | 63°03.8 | 78°03.6 | -0.2 |
| | -21°10.6 | -21°11.1 | -21°11.5 | -21°12.0 | -21°12.4 | -21°12.9 | -21°13.3 | -21°13.8 | -21°14.2 | -21°14.6 | -21°15.1 | -21°15.5 | -0.4 |
| **Me 28** | 273°00.8 | 288°00.6 | 303°00.4 | 318°00.2 | 333°00.0 | 347°59.8 | 2°59.6 | 17°59.3 | 32°59.1 | 47°58.9 | 62°58.7 | 77°58.5 | -0.2 |
| | -21°21.2 | -21°21.7 | -21°22.1 | -21°22.5 | -21°23.0 | -21°23.4 | -21°23.8 | -21°24.3 | -21°24.7 | -21°25.1 | -21°25.6 | -21°26.0 | -0.4 |
| **Je 29** | 272°55.6 | 287°55.4 | 302°55.2 | 317°55.0 | 332°54.7 | 347°54.5 | 2°54.3 | 17°54.1 | 32°53.9 | 47°53.6 | 62°53.4 | 77°53.2 | -0.2 |
| | -21°31.5 | -21°31.9 | -21°32.3 | -21°32.7 | -21°33.1 | -21°33.6 | -21°34.0 | -21°34.4 | -21°34.8 | -21°35.2 | -21°35.6 | -21°36.0 | -0.4 |
| **Ve 30** | 272°50.2 | 287°50.0 | 302°49.8 | 317°49.6 | 332°49.3 | 347°49.1 | 2°48.9 | 17°48.6 | 32°48.4 | 47°48.2 | 62°48.0 | 77°47.7 | -0.2 |
| | -21°41.3 | -21°41.7 | -21°42.1 | -21°42.5 | -21°42.9 | -21°43.3 | -21°43.7 | -21°44.1 | -21°44.5 | -21°44.9 | -21°45.3 | -21°45.7 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2029

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 252°19.7 | 266°50.2 | 281°20.8 | 295°51.3 | 310°21.7 | 324°52.2 | 339°22.7 | 353°53.1 | 8°23.5 | 22°54.0 | 37°24.3 | +30.5 | 15.9 |
| | 8°04.1 | 7°51.0 | 7°38.0 | 7°24.8 | 7°11.6 | 6°58.4 | 6°45.1 | 6°31.8 | 6°18.4 | 6°04.9 | 5°51.4 | -13.3 | 58.4 |
| Ve 2 | 254°57.5 | 269°27.4 | 283°57.4 | 298°27.3 | 312°57.2 | 327°27.0 | 341°56.8 | 356°26.6 | 10°56.3 | 25°26.0 | 39°55.6 | +29.8 | 16.2 |
| | 2°23.6 | 2°09.4 | 1°55.2 | 1°41.0 | 1°26.8 | 1°12.5 | 0°58.2 | 0°43.9 | 0°29.5 | 0°15.2 | 0°00.8 | -14.3 | 59.4 |
| Sa 3 | 257°14.5 | 271°43.3 | 286°12.1 | 300°40.8 | 315°09.4 | 329°38.0 | 344°06.6 | 358°35.0 | 13°03.4 | 27°31.8 | 42°00.0 | +28.6 | 16.4 |
| | -3°36.4 | -3°50.9 | -4°05.4 | -4°19.9 | -4°34.4 | -4°48.8 | -5°03.3 | -5°17.8 | -5°32.2 | -5°46.6 | -6°01.0 | -14.5 | 60.3 |
| Di 4 | 258°55.6 | 273°22.7 | 287°49.8 | 302°16.7 | 316°43.6 | 331°10.4 | 345°37.1 | 0°03.7 | 14°30.2 | 28°56.7 | 43°23.1 | +26.7 | 16.6 |
| | -9°33.5 | -9°47.4 | -10°01.2 | -10°15.0 | -10°28.7 | -10°42.3 | -10°55.9 | -11°09.4 | -11°22.9 | -11°36.3 | -11°49.6 | -13.6 | 60.9 |
| Lu 5 | 259°48.5 | 274°13.6 | 288°38.5 | 303°03.3 | 317°28.1 | 331°52.8 | 346°17.3 | 0°41.8 | 15°06.3 | 29°30.6 | 43°54.9 | +24.6 | 16.7 |
| | -15°00.5 | -15°12.5 | -15°24.5 | -15°36.3 | -15°48.0 | -15°59.6 | -16°11.1 | -16°22.5 | -16°33.8 | -16°45.0 | -16°56.0 | -11.6 | 61.3 |
| ● Ma 6 | 259°49.2 | 274°12.3 | 288°35.2 | 302°58.1 | 317°21.0 | 331°43.7 | 346°06.4 | 0°29.1 | 14°51.7 | 29°14.2 | 43°36.7 | +22.7 | 16.7 |
| | -19°26.9 | -19°35.9 | -19°44.7 | -19°53.4 | -20°01.9 | -20°10.3 | -20°18.5 | -20°26.6 | -20°34.5 | -20°42.3 | -20°49.9 | -8.3 | 61.3 |
| Me 7 | 259°08.4 | 273°30.3 | 287°52.1 | 302°13.9 | 316°35.7 | 330°57.5 | 345°19.2 | 359°41.0 | 14°02.7 | 28°24.4 | 42°46.2 | +21.8 | 16.6 |
| | -22°24.7 | -22°29.6 | -22°34.4 | -22°39.0 | -22°43.5 | -22°47.8 | -22°51.9 | -22°55.8 | -22°59.5 | -23°03.1 | -23°06.5 | -4.2 | 61.0 |
| Je 8 | 258°13.4 | 272°35.4 | 286°57.5 | 301°19.6 | 315°41.7 | 330°03.9 | 344°26.1 | 358°48.4 | 13°10.7 | 27°33.1 | 41°55.5 | +22.2 | 16.5 |
| | -23°36.0 | -23°36.6 | -23°37.0 | -23°37.2 | -23°37.2 | -23°37.0 | -23°36.7 | -23°36.2 | -23°35.6 | -23°34.7 | -23°33.7 | +0.2 | 60.3 |
| Ve 9 | 257°40.1 | 272°03.7 | 286°27.3 | 300°51.1 | 315°14.9 | 329°38.9 | 344°02.9 | 358°27.1 | 12°51.3 | 27°15.6 | 41°40.0 | +24.0 | 16.2 |
| | -22°58.9 | -22°55.3 | -22°51.5 | -22°47.6 | -22°43.6 | -22°39.4 | -22°35.0 | -22°30.5 | -22°25.9 | -22°21.1 | -22°16.2 | +4.3 | 59.5 |
| Sa 10 | 257°58.5 | 272°24.6 | 286°50.8 | 301°17.1 | 315°43.5 | 330°10.1 | 344°36.7 | 359°03.4 | 13°30.3 | 27°57.2 | 42°24.3 | +26.6 | 15.9 |
| | -20°46.2 | -20°39.3 | -20°32.1 | -20°24.9 | -20°17.6 | -20°10.1 | -20°02.5 | -19°54.9 | -19°47.1 | -19°39.2 | -19°31.2 | +7.5 | 58.5 |
| Di 11 | 259°23.5 | 273°52.3 | 288°21.2 | 302°50.2 | 317°19.3 | 331°48.5 | 346°17.9 | 0°47.3 | 15°16.8 | 29°46.4 | 44°16.2 | +29.3 | 15.7 |
| | -17°19.8 | -17°10.4 | -17°00.8 | -16°51.2 | -16°41.5 | -16°31.8 | -16°21.9 | -16°12.0 | -16°02.0 | -15°52.0 | -15°41.9 | +9.8 | 57.5 |
| Lu 12 | 261°53.6 | 276°24.9 | 290°56.2 | 305°27.6 | 319°59.0 | 334°30.6 | 349°02.3 | 3°34.0 | 18°05.8 | 32°37.7 | 47°09.6 | +31.6 | 15.4 |
| | -13°02.7 | -12°51.7 | -12°40.6 | -12°29.5 | -12°18.3 | -12°07.1 | -11°55.8 | -11°44.5 | -11°33.1 | -11°21.8 | -11°10.3 | +11.2 | 56.5 |
| ◐ Ma 13 | 265°17.8 | 279°50.9 | 294°24.0 | 308°57.2 | 323°30.5 | 338°03.8 | 352°37.1 | 7°10.6 | 21°44.0 | 36°17.6 | 50°51.1 | +33.3 | 15.2 |
| | -8°15.0 | -8°03.1 | -7°51.2 | -7°39.2 | -7°27.3 | -7°15.3 | -7°03.3 | -6°51.3 | -6°39.2 | -6°27.2 | -6°15.1 | +12.0 | 55.7 |
| Me 14 | 269°20.4 | 283°54.6 | 298°28.9 | 313°03.3 | 327°37.6 | 342°12.0 | 356°46.4 | 11°20.9 | 25°55.4 | 40°29.9 | 55°04.4 | +34.4 | 15.0 |
| | -3°12.8 | -3°00.6 | -2°48.4 | -2°36.2 | -2°24.0 | -2°11.8 | -1°59.6 | -1°47.4 | -1°35.2 | -1°23.0 | -1°10.8 | +12.2 | 55.0 |
| Je 15 | 273°44.8 | 288°19.7 | 302°54.5 | 317°29.3 | 332°04.1 | 346°39.0 | 1°13.8 | 15°48.7 | 30°23.5 | 44°58.4 | 59°33.2 | +34.8 | 14.9 |
| | 1°51.2 | 2°03.3 | 2°15.3 | 2°27.3 | 2°39.3 | 2°51.3 | 3°03.3 | 3°15.2 | 3°27.1 | 3°39.0 | 3°50.9 | +12.0 | 54.5 |
| Ve 16 | 278°15.7 | 292°50.5 | 307°25.3 | 322°00.0 | 336°34.7 | 351°09.4 | 5°44.1 | 20°18.8 | 34°53.5 | 49°28.1 | 64°02.7 | +34.7 | 14.8 |
| | 6°46.3 | 6°57.8 | 7°09.2 | 7°20.6 | 7°32.0 | 7°43.4 | 7°54.7 | 8°06.0 | 8°17.2 | 8°28.4 | 8°39.6 | +11.3 | 54.2 |
| Sa 17 | 282°39.2 | 297°13.4 | 311°47.6 | 326°21.8 | 340°55.9 | 355°30.0 | 10°04.0 | 24°38.1 | 39°12.0 | 53°46.0 | 68°19.9 | +34.1 | 14.7 |
| | 11°22.4 | 11°32.9 | 11°43.3 | 11°53.7 | 12°04.1 | 12°14.4 | 12°24.7 | 12°34.9 | 12°45.0 | 12°55.2 | 13°05.2 | +10.3 | 54.0 |
| Di 18 | 286°44.0 | 301°17.2 | 315°50.5 | 330°23.6 | 344°56.8 | 359°29.9 | 14°02.9 | 28°35.9 | 43°08.9 | 57°41.8 | 72°14.7 | +33.1 | 14.7 |
| | 15°29.2 | 15°38.3 | 15°47.4 | 15°56.4 | 16°05.3 | 16°14.2 | 16°23.0 | 16°31.7 | 16°40.3 | 16°48.9 | 16°57.4 | +8.8 | 53.9 |
| Lu 19 | 290°22.0 | 304°54.1 | 319°26.1 | 333°58.1 | 348°30.1 | 3°02.0 | 17°33.8 | 32°05.6 | 46°37.4 | 61°09.1 | 75°40.8 | +31.9 | 14.7 |
| | 18°56.2 | 19°03.5 | 19°10.7 | 19°17.8 | 19°24.9 | 19°31.8 | 19°38.7 | 19°45.5 | 19°52.2 | 19°58.8 | 20°05.3 | +6.9 | 53.9 |
| Ma 20 | 293°30.0 | 308°01.0 | 322°31.8 | 337°02.7 | 351°33.4 | 6°04.2 | 20°34.9 | 35°05.5 | 49°36.2 | 64°06.7 | 78°37.3 | +30.7 | 14.7 |
| | 21°32.3 | 21°37.4 | 21°42.3 | 21°47.2 | 21°51.9 | 21°56.6 | 22°01.1 | 22°05.5 | 22°09.9 | 22°14.1 | 22°18.3 | +4.6 | 54.1 |
| ○ Me 21 | 296°10.8 | 310°40.8 | 325°10.7 | 339°40.6 | 354°10.5 | 8°40.3 | 23°10.2 | 37°39.9 | 52°09.7 | 66°39.5 | 81°09.2 | +29.8 | 14.8 |
| | 23°07.6 | 23°10.0 | 23°12.4 | 23°14.6 | 23°16.6 | 23°18.6 | 23°20.5 | 23°22.2 | 23°23.9 | 23°25.4 | 23°26.8 | +1.9 | 54.3 |
| Je 22 | 298°32.7 | 313°02.2 | 327°31.6 | 342°01.0 | 356°30.5 | 10°59.9 | 25°29.3 | 39°58.7 | 54°28.1 | 68°57.5 | 83°26.9 | +29.4 | 14.9 |
| | 23°34.3 | 23°33.9 | 23°33.3 | 23°32.7 | 23°31.9 | 23°31.0 | 23°30.0 | 23°28.9 | 23°27.6 | 23°26.2 | 23°24.8 | -1.0 | 54.6 |
| Ve 23 | 300°48.0 | 315°17.5 | 329°46.9 | 344°16.4 | 358°45.9 | 13°15.4 | 27°44.9 | 42°14.5 | 56°44.0 | 71°13.6 | 85°43.1 | +29.5 | 15.0 |
| | 22°48.6 | 22°45.2 | 22°41.8 | 22°38.2 | 22°34.5 | 22°30.7 | 22°26.8 | 22°22.8 | 22°18.7 | 22°14.4 | 22°10.0 | -3.9 | 55.0 |
| Sa 24 | 303°09.0 | 317°38.9 | 332°08.9 | 346°38.8 | 1°08.8 | 15°38.8 | 30°08.8 | 44°38.8 | 59°08.9 | 73°39.0 | 88°09.1 | +30.0 | 15.1 |
| | 20°51.3 | 20°45.1 | 20°38.9 | 20°32.6 | 20°26.2 | 20°19.6 | 20°13.0 | 20°06.2 | 19°59.4 | 19°52.4 | 19°45.3 | -6.6 | 55.4 |
| Di 25 | 317°38.9 | 332°08.9 | 346°38.8 | 1°08.8 | 15°38.8 | 30°08.8 | 44°38.8 | 59°08.9 | 73°39.0 | 88°09.1 | 102°39.3 | +30.0 | 15.1 |
| | 20°45.1 | 20°38.9 | 20°32.6 | 20°26.2 | 20°19.6 | 20°13.0 | 20°06.2 | 19°59.4 | 19°52.4 | 19°45.3 | 19°38.2 | -6.7 | 55.5 |
| Lu 26 | 320°14.8 | 334°45.4 | 349°16.0 | 3°46.6 | 18°17.3 | 32°47.9 | 47°18.7 | 61°49.4 | 76°20.2 | 90°51.0 | 105°21.8 | +30.7 | 15.3 |
| | 17°39.0 | 17°30.3 | 17°21.5 | 17°12.6 | 17°03.6 | 16°54.5 | 16°45.4 | 16°36.1 | 16°26.8 | 16°17.4 | 16°07.9 | -9.1 | 56.0 |
| Ma 27 | 323°06.8 | 337°38.0 | 352°09.2 | 6°40.4 | 21°11.6 | 35°42.9 | 50°14.1 | 64°45.4 | 79°16.7 | 93°48.0 | 108°19.3 | +31.3 | 15.5 |
| | 13°35.4 | 13°24.6 | 13°13.7 | 13°02.8 | 12°51.7 | 12°40.7 | 12°29.5 | 12°18.3 | 12°07.0 | 11°55.6 | 11°44.2 | -11.1 | 56.7 |
| ◑ Me 28 | 326°10.3 | 340°41.8 | 355°13.2 | 9°44.7 | 24°16.1 | 38°47.6 | 53°19.0 | 67°50.5 | 82°21.9 | 96°53.4 | 111°24.8 | +31.4 | 15.7 |
| | 8°45.1 | 8°32.7 | 8°20.2 | 8°07.7 | 7°55.1 | 7°42.5 | 7°29.8 | 7°17.1 | 7°04.3 | 6°51.5 | 6°38.6 | -12.6 | 57.4 |
| Je 29 | 329°14.9 | 343°46.2 | 358°17.3 | 12°48.5 | 27°19.7 | 41°50.8 | 56°21.9 | 70°52.9 | 85°24.0 | 99°55.0 | 114°26.0 | +31.1 | 15.9 |
| | 3°20.6 | 3°07.1 | 2°53.6 | 2°40.0 | 2°26.5 | 2°12.9 | 1°59.2 | 1°45.6 | 1°31.9 | 1°18.2 | 1°04.4 | -13.6 | 58.2 |
| Ve 30 | 332°06.3 | 346°36.6 | 1°06.9 | 15°37.2 | 30°07.3 | 44°37.5 | 59°07.6 | 73°37.6 | 88°07.6 | 102°37.5 | 117°07.4 | +30.1 | 16.1 |
| | -2°23.4 | -2°37.3 | -2°51.3 | -3°05.2 | -3°19.1 | -3°33.1 | -3°47.0 | -4°00.9 | -4°14.8 | -4°28.8 | -4°42.7 | -13.9 | 59.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 04h24 — PQ: 13 00h35 — PL: 21 04h02 — DQ: 28 23h47

# SOLEIL

## Décembre 2029

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 272°44.7 | 287°44.5 | 302°44.2 | 317°44.0 | 332°43.8 | 347°43.5 | 2°43.3 | 17°43.0 | 32°42.8 | 47°42.6 | 62°42.3 | 77°42.1 | -0.2 |
| | -21°50.7 | -21°51.1 | -21°51.5 | -21°51.9 | -21°52.2 | -21°52.6 | -21°53.0 | -21°53.4 | -21°53.8 | -21°54.1 | -21°54.5 | -21°54.9 | -0.4 |
| Di 2 | 272°39.0 | 287°38.7 | 302°38.5 | 317°38.2 | 332°38.0 | 347°37.8 | 2°37.5 | 17°37.3 | 32°37.0 | 47°36.8 | 62°36.5 | 77°36.3 | -0.2 |
| | -21°59.7 | -22°00.1 | -22°00.4 | -22°00.8 | -22°01.2 | -22°01.5 | -22°01.9 | -22°02.2 | -22°02.6 | -22°03.0 | -22°03.3 | -22°03.7 | -0.4 |
| Lu 3 | 272°33.1 | 287°32.8 | 302°32.6 | 317°32.3 | 332°32.1 | 347°31.9 | 2°31.6 | 17°31.4 | 32°31.1 | 47°30.9 | 62°30.6 | 77°30.3 | -0.2 |
| | -22°08.3 | -22°08.6 | -22°09.0 | -22°09.3 | -22°09.7 | -22°10.0 | -22°10.3 | -22°10.7 | -22°11.0 | -22°11.4 | -22°11.7 | -22°12.0 | -0.3 |
| Ma 4 | 272°27.1 | 287°26.8 | 302°26.6 | 317°26.3 | 332°26.0 | 347°25.8 | 2°25.5 | 17°25.3 | 32°25.0 | 47°24.8 | 62°24.5 | 77°24.3 | -0.3 |
| | -22°16.4 | -22°16.7 | -22°17.1 | -22°17.4 | -22°17.7 | -22°18.0 | -22°18.4 | -22°18.7 | -22°19.0 | -22°19.3 | -22°19.7 | -22°20.0 | -0.3 |
| Me 5 | 272°20.9 | 287°20.6 | 302°20.4 | 317°20.1 | 332°19.8 | 347°19.6 | 2°19.3 | 17°19.1 | 32°18.8 | 47°18.5 | 62°18.3 | 77°18.0 | -0.3 |
| | -22°24.1 | -22°24.4 | -22°24.7 | -22°25.0 | -22°25.4 | -22°25.7 | -22°26.0 | -22°26.3 | -22°26.6 | -22°26.9 | -22°27.2 | -22°27.5 | -0.3 |
| Je 6 | 272°14.6 | 287°14.3 | 302°14.0 | 317°13.8 | 332°13.5 | 347°13.2 | 2°13.0 | 17°12.7 | 32°12.4 | 47°12.2 | 62°11.9 | 77°11.6 | -0.3 |
| | -22°31.4 | -22°31.7 | -22°32.0 | -22°32.3 | -22°32.6 | -22°32.8 | -22°33.1 | -22°33.4 | -22°33.7 | -22°34.0 | -22°34.3 | -22°34.6 | -0.3 |
| Ve 7 | 272°08.1 | 287°07.9 | 302°07.6 | 317°07.3 | 332°07.0 | 347°06.8 | 2°06.5 | 17°06.2 | 32°06.0 | 47°05.7 | 62°05.4 | 77°05.1 | -0.3 |
| | -22°38.2 | -22°38.5 | -22°38.8 | -22°39.0 | -22°39.3 | -22°39.6 | -22°39.9 | -22°40.1 | -22°40.4 | -22°40.7 | -22°40.9 | -22°41.2 | -0.3 |
| Sa 8 | 272°01.6 | 287°01.3 | 302°01.0 | 317°00.7 | 332°00.5 | 347°00.2 | 1°59.9 | 16°59.6 | 31°59.4 | 46°59.1 | 61°58.8 | 76°58.5 | -0.3 |
| | -22°44.6 | -22°44.9 | -22°45.1 | -22°45.4 | -22°45.6 | -22°45.9 | -22°46.1 | -22°46.4 | -22°46.6 | -22°46.9 | -22°47.1 | -22°47.4 | -0.3 |
| Di 9 | 271°54.9 | 286°54.6 | 301°54.3 | 316°54.1 | 331°53.8 | 346°53.5 | 1°53.2 | 16°52.9 | 31°52.6 | 46°52.4 | 61°52.1 | 76°51.8 | -0.3 |
| | -22°50.5 | -22°50.8 | -22°51.0 | -22°51.3 | -22°51.5 | -22°51.7 | -22°52.0 | -22°52.2 | -22°52.4 | -22°52.7 | -22°52.9 | -22°53.1 | -0.2 |
| Lu 10 | 271°48.1 | 286°47.8 | 301°47.5 | 316°47.3 | 331°47.0 | 346°46.7 | 1°46.4 | 16°46.1 | 31°45.8 | 46°45.5 | 61°45.3 | 76°45.0 | -0.3 |
| | -22°56.0 | -22°56.3 | -22°56.5 | -22°56.7 | -22°56.9 | -22°57.1 | -22°57.3 | -22°57.6 | -22°57.8 | -22°58.0 | -22°58.2 | -22°58.4 | -0.2 |
| Ma 11 | 271°41.2 | 286°41.0 | 301°40.7 | 316°40.4 | 331°40.1 | 346°39.8 | 1°39.5 | 16°39.2 | 31°38.9 | 46°38.6 | 61°38.3 | 76°38.1 | -0.3 |
| | -23°01.1 | -23°01.3 | -23°01.5 | -23°01.7 | -23°01.9 | -23°02.1 | -23°02.3 | -23°02.5 | -23°02.7 | -23°02.9 | -23°03.0 | -23°03.2 | -0.2 |
| Me 12 | 271°34.3 | 286°34.0 | 301°33.7 | 316°33.4 | 331°33.1 | 346°32.8 | 1°32.5 | 16°32.2 | 31°31.9 | 46°31.6 | 61°31.3 | 76°31.1 | -0.3 |
| | -23°05.7 | -23°05.8 | -23°06.0 | -23°06.2 | -23°06.4 | -23°06.6 | -23°06.7 | -23°06.9 | -23°07.1 | -23°07.3 | -23°07.4 | -23°07.6 | -0.2 |
| Je 13 | 271°27.2 | 286°26.9 | 301°26.6 | 316°26.3 | 331°26.0 | 346°25.7 | 1°25.5 | 16°25.2 | 31°24.9 | 46°24.6 | 61°24.3 | 76°24.0 | -0.3 |
| | -23°09.8 | -23°10.0 | -23°10.1 | -23°10.3 | -23°10.4 | -23°10.6 | -23°10.7 | -23°10.9 | -23°11.1 | -23°11.2 | -23°11.4 | -23°11.5 | -0.2 |
| Ve 14 | 271°20.1 | 286°19.8 | 301°19.5 | 316°19.2 | 331°18.9 | 346°18.6 | 1°18.3 | 16°18.0 | 31°17.7 | 46°17.4 | 61°17.1 | 76°16.8 | -0.3 |
| | -23°13.5 | -23°13.6 | -23°13.7 | -23°13.9 | -23°14.0 | -23°14.2 | -23°14.3 | -23°14.4 | -23°14.6 | -23°14.7 | -23°14.8 | -23°15.0 | -0.1 |
| Sa 15 | 271°12.9 | 286°12.6 | 301°12.3 | 316°12.0 | 331°11.7 | 346°11.4 | 1°11.1 | 16°10.8 | 31°10.5 | 46°10.2 | 61°09.9 | 76°09.6 | -0.3 |
| | -23°16.7 | -23°16.8 | -23°16.9 | -23°17.0 | -23°17.1 | -23°17.3 | -23°17.4 | -23°17.5 | -23°17.6 | -23°17.7 | -23°17.9 | -23°18.0 | -0.1 |
| Di 16 | 271°05.7 | 286°05.4 | 301°05.1 | 316°04.8 | 331°04.5 | 346°04.2 | 1°03.9 | 16°03.6 | 31°03.2 | 46°02.9 | 61°02.6 | 76°02.3 | -0.3 |
| | -23°19.4 | -23°19.5 | -23°19.6 | -23°19.7 | -23°19.8 | -23°19.9 | -23°20.0 | -23°20.1 | -23°20.2 | -23°20.3 | -23°20.4 | -23°20.5 | -0.1 |
| Lu 17 | 270°58.4 | 285°58.1 | 300°57.8 | 315°57.5 | 330°57.2 | 345°56.9 | 0°56.5 | 15°56.2 | 30°55.9 | 45°55.6 | 60°55.3 | 75°55.0 | -0.3 |
| | -23°21.7 | -23°21.8 | -23°21.8 | -23°21.9 | -23°22.0 | -23°22.1 | -23°22.2 | -23°22.2 | -23°22.3 | -23°22.4 | -23°22.5 | -23°22.6 | -0.1 |
| Ma 18 | 270°51.0 | 285°50.7 | 300°50.4 | 315°50.1 | 330°49.8 | 345°49.5 | 0°49.2 | 15°48.9 | 30°48.6 | 45°48.3 | 60°48.0 | 75°47.7 | -0.3 |
| | -23°23.5 | -23°23.5 | -23°23.6 | -23°23.7 | -23°23.7 | -23°23.8 | -23°23.8 | -23°23.9 | -23°24.0 | -23°24.0 | -23°24.1 | -23°24.1 | -0.1 |
| Me 19 | 270°43.7 | 285°43.4 | 300°43.1 | 315°42.7 | 330°42.4 | 345°42.1 | 0°41.8 | 15°41.5 | 30°41.2 | 45°40.9 | 60°40.6 | 75°40.3 | -0.3 |
| | -23°24.8 | -23°24.9 | -23°24.9 | -23°24.9 | -23°25.0 | -23°25.0 | -23°25.1 | -23°25.1 | -23°25.1 | -23°25.2 | -23°25.2 | -23°25.3 | -0.0 |
| Je 20 | 270°36.3 | 285°36.0 | 300°35.7 | 315°35.3 | 330°35.0 | 345°34.7 | 0°34.4 | 15°34.1 | 30°33.8 | 45°33.5 | 60°33.2 | 75°32.9 | -0.3 |
| | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -0.0 |
| Ve 21 | 270°28.8 | 285°28.5 | 300°28.2 | 315°27.9 | 330°27.6 | 345°27.3 | 0°27.0 | 15°26.7 | 30°26.4 | 45°26.1 | 60°25.8 | 75°25.4 | -0.3 |
| | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -23°26.1 | -0.0 |
| Sa 22 | 270°21.4 | 285°21.1 | 300°20.8 | 315°20.5 | 330°20.2 | 345°19.9 | 0°19.6 | 15°19.2 | 30°18.9 | 45°18.6 | 60°18.3 | 75°18.0 | -0.3 |
| | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.8 | -23°25.8 | +0.0 |
| Di 23 | 270°14.0 | 285°13.7 | 300°13.4 | 315°13.1 | 330°12.7 | 345°12.4 | 0°12.1 | 15°11.8 | 30°11.5 | 45°11.2 | 60°10.9 | 75°10.6 | -0.3 |
| | -23°25.5 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.2 | -23°25.2 | -23°25.1 | -23°25.1 | -23°25.1 | +0.0 |
| Lu 24 | 270°06.5 | 285°06.2 | 300°05.9 | 315°05.6 | 330°05.3 | 345°05.0 | 0°04.7 | 15°04.4 | 30°04.1 | 45°03.8 | 60°03.5 | 75°03.1 | -0.3 |
| | -23°24.4 | -23°24.4 | -23°24.3 | -23°24.3 | -23°24.2 | -23°24.2 | -23°24.1 | -23°24.1 | -23°24.0 | -23°23.9 | -23°23.9 | -23°23.8 | +0.1 |
| Ma 25 | 269°59.1 | 284°58.8 | 299°58.5 | 314°58.2 | 329°57.9 | 344°57.6 | 359°57.3 | 14°57.0 | 29°56.7 | 44°56.3 | 59°56.0 | 74°55.7 | -0.3 |
| | -23°23.0 | -23°22.9 | -23°22.8 | -23°22.7 | -23°22.7 | -23°22.6 | -23°22.5 | -23°22.4 | -23°22.4 | -23°22.3 | -23°22.2 | -23°22.1 | +0.1 |
| Me 26 | 269°51.7 | 284°51.4 | 299°51.1 | 314°50.8 | 329°50.5 | 344°50.2 | 359°49.9 | 14°49.6 | 29°49.3 | 44°48.9 | 59°48.6 | 74°48.3 | -0.3 |
| | -23°21.0 | -23°20.9 | -23°20.8 | -23°20.7 | -23°20.6 | -23°20.5 | -23°20.5 | -23°20.4 | -23°20.3 | -23°20.2 | -23°20.1 | -23°20.0 | +0.1 |
| Je 27 | 269°44.3 | 284°44.0 | 299°43.7 | 314°43.4 | 329°43.1 | 344°42.8 | 359°42.5 | 14°42.2 | 29°41.9 | 44°41.6 | 59°41.3 | 74°41.0 | -0.3 |
| | -23°18.6 | -23°18.5 | -23°18.4 | -23°18.3 | -23°18.1 | -23°18.0 | -23°17.9 | -23°17.8 | -23°17.7 | -23°17.6 | -23°17.4 | -23°17.3 | +0.1 |
| Ve 28 | 269°37.0 | 284°36.7 | 299°36.4 | 314°36.1 | 329°35.8 | 344°35.5 | 359°35.2 | 14°34.9 | 29°34.6 | 44°34.3 | 59°33.9 | 74°33.6 | -0.3 |
| | -23°15.7 | -23°15.6 | -23°15.4 | -23°15.3 | -23°15.2 | -23°15.0 | -23°14.9 | -23°14.8 | -23°14.6 | -23°14.5 | -23°14.4 | -23°14.2 | +0.1 |
| Sa 29 | 269°29.7 | 284°29.4 | 299°29.1 | 314°28.8 | 329°28.5 | 344°28.2 | 359°27.9 | 14°27.6 | 29°27.3 | 44°27.0 | 59°26.7 | 74°26.4 | -0.3 |
| | -23°12.3 | -23°12.2 | -23°12.0 | -23°11.9 | -23°11.7 | -23°11.6 | -23°11.4 | -23°11.3 | -23°11.1 | -23°11.0 | -23°10.8 | -23°10.6 | +0.2 |
| Di 30 | 269°22.4 | 284°22.1 | 299°21.8 | 314°21.5 | 329°21.2 | 344°20.9 | 359°20.6 | 14°20.3 | 29°20.0 | 44°19.7 | 59°19.4 | 74°19.1 | -0.3 |
| | -23°08.5 | -23°08.3 | -23°08.2 | -23°08.0 | -23°07.8 | -23°07.7 | -23°07.5 | -23°07.3 | -23°07.1 | -23°07.0 | -23°06.8 | -23°06.6 | +0.2 |
| Lu 31 | 269°15.2 | 284°14.9 | 299°14.6 | 314°14.3 | 329°14.1 | 344°13.8 | 359°13.5 | 14°13.2 | 29°12.9 | 44°12.6 | 59°12.3 | 74°12.0 | -0.3 |
| | -23°04.2 | -23°04.0 | -23°03.8 | -23°03.7 | -23°03.5 | -23°03.3 | -23°03.1 | -23°02.9 | -23°02.7 | -23°02.5 | -23°02.3 | -23°02.1 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Décembre 2029

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 247°33.4 | 262°02.7 | 276°31.8 | 291°00.9 | 305°30.0 | 319°58.9 | 334°27.8 | 348°56.6 | 3°25.3 | 17°54.0 | 32°22.6 | +28.9 | 16.3 |
| | -6°47.2 | -7°00.9 | -7°14.6 | -7°28.3 | -7°42.0 | -7°55.6 | -8°09.2 | -8°22.8 | -8°36.4 | -8°49.9 | -9°03.3 | -13.6 | 59.6 |
| Di 2 | 249°21.5 | 263°48.7 | 278°15.9 | 292°43.0 | 307°09.9 | 321°36.8 | 336°03.6 | 350°30.3 | 4°56.9 | 19°23.4 | 33°49.9 | +26.8 | 16.4 |
| | -12°19.9 | -12°32.5 | -12°45.1 | -12°57.6 | -13°10.1 | -13°22.5 | -13°34.8 | -13°47.0 | -13°59.2 | -14°11.3 | -14°23.3 | -12.3 | 60.3 |
| Lu 3 | 250°14.9 | 264°39.8 | 279°04.6 | 293°29.4 | 307°54.0 | 322°18.5 | 336°43.0 | 351°07.3 | 5°31.6 | 19°55.8 | 34°19.9 | +24.5 | 16.6 |
| | -17°12.5 | -17°23.0 | -17°33.3 | -17°43.6 | -17°53.7 | -18°03.8 | -18°13.7 | -18°23.4 | -18°33.1 | -18°42.6 | -18°52.0 | -10.0 | 60.8 |
| Ma 4 | 250°11.2 | 264°34.0 | 278°56.7 | 293°19.4 | 307°42.0 | 322°04.5 | 336°27.0 | 350°49.4 | 5°11.7 | 19°34.0 | 33°56.3 | +22.5 | 16.6 |
| | -20°57.0 | -21°04.1 | -21°11.2 | -21°18.0 | -21°24.7 | -21°31.3 | -21°37.7 | -21°43.9 | -21°50.0 | -21°55.9 | -22°01.7 | -6.5 | 61.0 |
| ● Me 5 | 249°24.6 | 263°46.2 | 278°07.8 | 292°29.4 | 306°51.0 | 321°12.6 | 335°34.2 | 349°55.8 | 4°17.3 | 18°38.9 | 33°00.5 | +21.6 | 16.6 |
| | -23°07.7 | -23°10.8 | -23°13.6 | -23°16.3 | -23°18.8 | -23°21.1 | -23°23.2 | -23°25.2 | -23°26.9 | -23°28.5 | -23°30.0 | -2.2 | 60.8 |
| Je 6 | 248°26.2 | 262°48.2 | 277°10.2 | 291°32.3 | 305°54.4 | 320°16.6 | 334°38.8 | 349°01.1 | 3°23.4 | 17°45.8 | 32°08.3 | +22.2 | 16.5 |
| | -23°29.9 | -23°28.5 | -23°26.9 | -23°25.2 | -23°23.3 | -23°21.2 | -23°18.9 | -23°16.5 | -23°13.8 | -23°11.1 | -23°08.1 | +2.2 | 60.4 |
| Ve 7 | 247°54.4 | 262°18.1 | 276°41.9 | 291°05.9 | 305°29.9 | 319°54.0 | 334°18.3 | 348°42.6 | 3°07.0 | 17°31.6 | 31°56.2 | +24.2 | 16.3 |
| | -22°04.9 | -21°59.4 | -21°53.9 | -21°48.1 | -21°42.3 | -21°36.3 | -21°30.1 | -21°23.8 | -21°17.4 | -21°10.9 | -21°04.2 | +6.1 | 59.7 |
| Sa 8 | 248°18.5 | 262°44.9 | 277°11.4 | 291°37.9 | 306°04.6 | 320°31.4 | 334°58.4 | 349°25.4 | 3°52.6 | 18°19.8 | 32°47.2 | +26.9 | 16.0 |
| | -19°09.0 | -19°00.4 | -18°51.7 | -18°43.0 | -18°34.1 | -18°25.1 | -18°16.0 | -18°06.8 | -17°57.5 | -17°48.1 | -17°38.6 | +9.0 | 58.7 |
| Di 9 | 249°50.8 | 264°19.9 | 278°49.1 | 293°18.5 | 307°47.9 | 322°17.4 | 336°47.0 | 351°16.7 | 5°46.5 | 20°16.4 | 34°46.4 | +29.6 | 15.8 |
| | -15°06.7 | -14°56.0 | -14°45.2 | -14°34.3 | -14°23.4 | -14°12.5 | -14°01.4 | -13°50.3 | -13°39.2 | -13°28.0 | -13°16.8 | +11.0 | 57.8 |
| Lu 10 | 252°27.7 | 266°59.1 | 281°30.6 | 296°02.3 | 310°33.9 | 325°05.7 | 339°37.6 | 354°09.5 | 8°41.5 | 23°13.6 | 37°45.7 | +31.8 | 15.5 |
| | -10°22.5 | -10°10.6 | -9°58.6 | -9°46.6 | -9°34.6 | -9°22.6 | -9°10.5 | -8°58.4 | -8°46.3 | -8°34.1 | -8°21.9 | +12.1 | 56.8 |
| Ma 11 | 255°56.0 | 270°29.2 | 285°02.4 | 299°35.7 | 314°09.0 | 328°42.4 | 343°15.8 | 357°49.3 | 12°22.9 | 26°56.4 | 41°30.1 | +33.4 | 15.3 |
| | -5°17.2 | -5°04.8 | -4°52.4 | -4°40.0 | -4°27.6 | -4°15.1 | -4°02.7 | -3°50.3 | -3°37.8 | -3°25.4 | -3°13.0 | +12.4 | 55.9 |
| ◐ Me 12 | 259°59.2 | 274°33.4 | 289°07.7 | 303°42.0 | 318°16.3 | 332°50.6 | 347°24.9 | 1°59.3 | 16°33.7 | 31°08.1 | 45°42.5 | +34.3 | 15.1 |
| | -0°06.9 | 0°05.4 | 0°17.8 | 0°30.1 | 0°42.4 | 0°54.6 | 1°06.9 | 1°19.2 | 1°31.4 | 1°43.6 | 1°55.8 | +12.3 | 55.2 |
| Je 13 | 264°20.5 | 278°55.1 | 293°29.7 | 308°04.3 | 322°38.9 | 337°13.5 | 351°48.1 | 6°22.7 | 20°57.2 | 35°31.8 | 50°06.4 | +34.6 | 14.9 |
| | 4°56.2 | 5°08.0 | 5°19.8 | 5°31.6 | 5°43.3 | 5°55.0 | 6°06.7 | 6°18.4 | 6°30.0 | 6°41.6 | 6°53.1 | +11.7 | 54.6 |
| Ve 14 | 268°44.0 | 283°18.3 | 297°52.7 | 312°27.0 | 327°01.4 | 341°35.7 | 356°09.9 | 10°44.2 | 25°18.4 | 39°52.6 | 54°26.8 | +34.3 | 14.8 |
| | 9°42.0 | 9°52.9 | 10°03.8 | 10°14.6 | 10°25.5 | 10°36.2 | 10°46.9 | 10°57.6 | 11°08.2 | 11°18.8 | 11°29.3 | +10.7 | 54.3 |
| Sa 15 | 272°55.9 | 287°29.6 | 302°03.2 | 316°36.8 | 331°10.4 | 345°43.9 | 0°17.4 | 14°50.8 | 29°24.2 | 43°57.6 | 58°30.9 | +33.5 | 14.7 |
| | 14°01.0 | 14°10.7 | 14°20.3 | 14°29.9 | 14°39.4 | 14°48.8 | 14°58.2 | 15°07.5 | 15°16.7 | 15°25.9 | 15°35.1 | +9.4 | 54.1 |
| Di 16 | 276°45.4 | 291°18.0 | 305°50.6 | 320°23.1 | 334°55.5 | 349°27.9 | 4°00.3 | 18°32.6 | 33°04.8 | 47°37.0 | 62°09.2 | +32.4 | 14.7 |
| | 17°43.8 | 17°51.8 | 17°59.8 | 18°07.6 | 18°15.4 | 18°23.1 | 18°30.7 | 18°38.3 | 18°45.8 | 18°53.2 | 19°00.5 | +7.7 | 54.0 |
| Lu 17 | 280°05.5 | 294°36.9 | 309°08.2 | 323°39.4 | 338°10.6 | 352°41.8 | 7°12.9 | 21°44.0 | 36°15.0 | 50°45.9 | 65°16.8 | +31.1 | 14.8 |
| | 20°40.1 | 20°46.0 | 20°51.9 | 20°57.6 | 21°03.3 | 21°08.9 | 21°14.3 | 21°19.7 | 21°25.0 | 21°30.2 | 21°35.3 | +5.5 | 54.1 |
| Ma 18 | 282°54.9 | 297°25.1 | 311°55.2 | 326°25.3 | 340°55.4 | 355°25.4 | 9°55.4 | 24°25.4 | 38°55.3 | 53°25.1 | 67°55.0 | +30.0 | 14.8 |
| | 22°39.6 | 22°43.0 | 22°46.4 | 22°49.6 | 22°52.8 | 22°55.8 | 22°58.7 | 23°01.5 | 23°04.2 | 23°06.8 | 23°09.3 | +3.0 | 54.3 |
| Me 19 | 285°18.7 | 299°48.0 | 314°17.4 | 328°46.7 | 343°16.0 | 357°45.2 | 12°14.5 | 26°43.7 | 41°12.9 | 55°42.1 | 70°11.3 | +29.3 | 14.9 |
| | 23°33.0 | 23°33.7 | 23°34.2 | 23°34.7 | 23°35.0 | 23°35.2 | 23°35.3 | 23°35.2 | 23°35.1 | 23°34.8 | 23°34.4 | +0.1 | 54.7 |
| ○ Je 20 | 287°27.8 | 301°56.9 | 316°25.9 | 330°55.0 | 345°24.1 | 359°53.1 | 14°22.2 | 28°51.3 | 43°20.3 | 57°49.4 | 72°18.5 | +29.1 | 15.0 |
| | 23°14.2 | 23°11.9 | 23°09.5 | 23°07.0 | 23°04.3 | 23°01.5 | 22°58.6 | 22°55.6 | 22°52.5 | 22°49.3 | 22°45.9 | -2.8 | 55.0 |
| Ve 21 | 289°36.2 | 304°05.5 | 318°34.9 | 333°04.2 | 347°33.6 | 2°03.0 | 16°32.4 | 31°01.8 | 45°31.3 | 60°00.8 | 74°30.3 | +29.4 | 15.1 |
| | 21°41.5 | 21°36.3 | 21°30.9 | 21°25.5 | 21°20.0 | 21°14.3 | 21°08.5 | 21°02.7 | 20°56.7 | 20°50.6 | 20°44.4 | -5.7 | 55.5 |
| Sa 22 | 291°56.2 | 306°26.2 | 320°56.1 | 335°26.2 | 349°56.2 | 4°26.3 | 18°56.4 | 33°26.6 | 47°56.7 | 62°27.0 | 76°57.2 | +30.1 | 15.3 |
| | 18°58.5 | 18°50.7 | 18°42.7 | 18°34.6 | 18°26.5 | 18°18.2 | 18°09.8 | 18°01.4 | 17°52.8 | 17°44.2 | 17°35.4 | -8.3 | 55.9 |
| Di 23 | 294°34.6 | 309°05.4 | 323°36.2 | 338°07.0 | 352°37.8 | 7°08.7 | 21°39.6 | 36°10.5 | 50°41.4 | 65°12.4 | 79°43.4 | +30.9 | 15.4 |
| | 15°13.7 | 15°03.6 | 14°53.4 | 14°43.1 | 14°32.7 | 14°22.3 | 14°11.8 | 14°01.2 | 13°50.5 | 13°39.8 | 13°29.0 | -10.5 | 56.4 |
| Lu 24 | 297°31.5 | 312°02.9 | 326°34.3 | 341°05.8 | 355°37.2 | 10°08.7 | 24°40.1 | 39°11.6 | 53°43.1 | 68°14.6 | 82°46.2 | +31.5 | 15.5 |
| | 10°38.6 | 10°26.8 | 10°14.9 | 10°02.9 | 9°50.9 | 9°38.8 | 9°26.6 | 9°14.4 | 9°02.2 | 8°49.9 | 8°37.5 | -12.1 | 57.0 |
| Ma 25 | 312°02.9 | 326°34.3 | 341°05.8 | 355°37.2 | 10°08.7 | 24°40.1 | 39°11.6 | 53°43.1 | 68°14.6 | 82°46.2 | 97°17.7 | +31.5 | 15.5 |
| | 10°26.8 | 10°14.9 | 10°02.9 | 9°50.9 | 9°38.8 | 9°26.6 | 9°14.4 | 9°02.2 | 8°49.9 | 8°37.5 | 8°25.2 | -12.2 | 57.0 |
| Me 26 | 315°11.9 | 329°43.5 | 344°15.2 | 358°46.8 | 13°18.5 | 27°50.1 | 42°21.7 | 56°53.3 | 71°25.0 | 85°56.6 | 100°28.2 | +31.6 | 15.7 |
| | 5°13.9 | 5°00.8 | 4°47.7 | 4°34.6 | 4°21.4 | 4°08.2 | 3°55.0 | 3°41.8 | 3°28.5 | 3°15.2 | 3°01.9 | -13.2 | 57.5 |
| Je 27 | 318°20.5 | 332°51.8 | 347°23.1 | 1°54.4 | 16°25.7 | 30°56.9 | 45°28.1 | 59°59.2 | 74°30.4 | 89°01.5 | 103°32.5 | +31.2 | 15.8 |
| | -0°20.3 | -0°33.9 | -0°47.5 | -1°01.1 | -1°14.7 | -1°28.3 | -1°41.9 | -1°55.5 | -2°09.1 | -2°22.7 | -2°36.3 | -13.6 | 58.1 |
| ◑ Ve 28 | 321°13.7 | 335°44.1 | 350°14.4 | 4°44.7 | 19°14.9 | 33°45.1 | 48°15.2 | 62°45.3 | 77°15.2 | 91°45.2 | 106°15.1 | +30.1 | 16.0 |
| | -5°59.5 | -6°12.9 | -6°26.3 | -6°39.7 | -6°53.1 | -7°06.4 | -7°19.7 | -7°32.9 | -7°46.2 | -7°59.4 | -8°12.6 | -13.3 | 58.7 |
| Sa 29 | 323°35.5 | 338°04.3 | 352°33.0 | 7°01.6 | 21°30.2 | 35°58.7 | 50°27.1 | 64°55.5 | 79°23.7 | 93°51.9 | 108°20.0 | +28.5 | 16.1 |
| | -11°25.4 | -11°37.9 | -11°50.3 | -12°02.7 | -12°15.0 | -12°27.2 | -12°39.4 | -12°51.5 | -13°03.5 | -13°15.5 | -13°27.4 | -12.2 | 59.2 |
| Di 30 | 325°11.5 | 339°38.3 | 354°04.9 | 8°31.5 | 22°58.0 | 37°24.4 | 51°50.7 | 66°16.9 | 80°43.0 | 95°09.1 | 109°35.0 | +26.4 | 16.3 |
| | -16°16.9 | -16°27.5 | -16°38.0 | -16°48.5 | -16°58.8 | -17°09.0 | -17°19.1 | -17°29.2 | -17°39.1 | -17°48.9 | -17°58.6 | -10.2 | 59.7 |
| Lu 31 | 325°54.1 | 340°18.7 | 354°43.2 | 9°07.6 | 23°32.0 | 37°56.3 | 52°20.5 | 66°44.6 | 81°08.7 | 95°32.7 | 109°56.6 | +24.2 | 16.4 |
| | -20°10.4 | -20°18.1 | -20°25.8 | -20°33.3 | -20°40.7 | -20°48.0 | -20°55.1 | -21°02.1 | -21°08.9 | -21°15.6 | -21°22.1 | -7.2 | 60.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 5 14h52 — PQ: 12 17h49 — PL: 20 22h46 — DQ: 28 09h49

# SOLEIL

## Janvier 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 269°08.1 | 284°07.8 | 299°07.5 | 314°07.2 | 329°06.9 | 344°06.6 | 359°06.3 | 14°06.1 | 29°05.8 | 44°05.5 | 59°05.2 | 74°04.9 | -0.3 |
| | -22°59.5 | -22°59.3 | -22°59.1 | -22°58.8 | -22°58.6 | -22°58.4 | -22°58.2 | -22°58.0 | -22°57.8 | -22°57.6 | -22°57.4 | -22°57.1 | +0.2 |
| Me 2 | 269°01.1 | 284°00.8 | 299°00.5 | 314°00.2 | 328°59.9 | 343°59.6 | 358°59.3 | 13°59.0 | 28°58.7 | 43°58.4 | 58°58.2 | 73°57.9 | -0.3 |
| | -22°54.3 | -22°54.0 | -22°53.8 | -22°53.6 | -22°53.3 | -22°53.1 | -22°52.9 | -22°52.7 | -22°52.4 | -22°52.2 | -22°52.0 | -22°51.7 | +0.2 |
| Je 3 | 268°54.1 | 283°53.8 | 298°53.5 | 313°53.2 | 328°52.9 | 343°52.7 | 358°52.4 | 13°52.1 | 28°51.8 | 43°51.5 | 58°51.2 | 73°50.9 | -0.3 |
| | -22°48.6 | -22°48.3 | -22°48.1 | -22°47.9 | -22°47.6 | -22°47.4 | -22°47.1 | -22°46.9 | -22°46.6 | -22°46.4 | -22°46.1 | -22°45.8 | +0.3 |
| Ve 4 | 268°47.2 | 283°46.9 | 298°46.7 | 313°46.4 | 328°46.1 | 343°45.8 | 358°45.5 | 13°45.2 | 28°45.0 | 43°44.7 | 58°44.4 | 73°44.1 | -0.3 |
| | -22°42.5 | -22°42.2 | -22°41.9 | -22°41.7 | -22°41.4 | -22°41.1 | -22°40.9 | -22°40.6 | -22°40.3 | -22°40.1 | -22°39.8 | -22°39.5 | +0.3 |
| Sa 5 | 268°40.5 | 283°40.2 | 298°39.9 | 313°39.6 | 328°39.3 | 343°39.1 | 358°38.8 | 13°38.5 | 28°38.2 | 43°37.9 | 58°37.7 | 73°37.4 | -0.3 |
| | -22°35.9 | -22°35.6 | -22°35.3 | -22°35.1 | -22°34.8 | -22°34.5 | -22°34.2 | -22°33.9 | -22°33.6 | -22°33.3 | -22°33.0 | -22°32.7 | +0.3 |
| Di 6 | 268°33.8 | 283°33.5 | 298°33.2 | 313°33.0 | 328°32.7 | 343°32.4 | 358°32.1 | 13°31.9 | 28°31.6 | 43°31.3 | 58°31.1 | 73°30.8 | -0.3 |
| | -22°28.9 | -22°28.6 | -22°28.3 | -22°28.0 | -22°27.7 | -22°27.4 | -22°27.1 | -22°26.8 | -22°26.5 | -22°26.1 | -22°25.8 | -22°25.5 | +0.3 |
| Lu 7 | 268°27.3 | 283°27.0 | 298°26.7 | 313°26.4 | 328°26.2 | 343°25.9 | 358°25.6 | 13°25.4 | 28°25.1 | 43°24.8 | 58°24.6 | 73°24.3 | -0.3 |
| | -22°21.4 | -22°21.1 | -22°20.8 | -22°20.5 | -22°20.1 | -22°19.8 | -22°19.5 | -22°19.2 | -22°18.8 | -22°18.5 | -22°18.2 | -22°17.9 | +0.3 |
| Ma 8 | 268°20.8 | 283°20.6 | 298°20.3 | 313°20.0 | 328°19.8 | 343°19.5 | 358°19.3 | 13°19.0 | 28°18.7 | 43°18.5 | 58°18.2 | 73°17.9 | -0.3 |
| | -22°13.5 | -22°13.2 | -22°12.9 | -22°12.5 | -22°12.2 | -22°11.8 | -22°11.5 | -22°11.1 | -22°10.8 | -22°10.5 | -22°10.1 | -22°09.8 | +0.3 |
| Me 9 | 268°14.6 | 283°14.3 | 298°14.0 | 313°13.8 | 328°13.5 | 343°13.3 | 358°13.0 | 13°12.8 | 28°12.5 | 43°12.2 | 58°12.0 | 73°11.7 | -0.3 |
| | -22°05.2 | -22°04.8 | -22°04.5 | -22°04.1 | -22°03.8 | -22°03.4 | -22°03.0 | -22°02.7 | -22°02.3 | -22°02.0 | -22°01.6 | -22°01.2 | +0.4 |
| Je 10 | 268°08.4 | 283°08.2 | 298°07.9 | 313°07.7 | 328°07.4 | 343°07.2 | 358°06.9 | 13°06.7 | 28°06.4 | 43°06.2 | 58°05.9 | 73°05.7 | -0.3 |
| | -21°56.4 | -21°56.1 | -21°55.7 | -21°55.3 | -21°54.9 | -21°54.5 | -21°54.2 | -21°53.8 | -21°53.4 | -21°53.0 | -21°52.6 | -21°52.3 | +0.4 |
| Ve 11 | 268°02.4 | 283°02.2 | 298°01.9 | 313°01.7 | 328°01.4 | 343°01.2 | 358°01.0 | 13°00.7 | 28°00.5 | 43°00.2 | 58°00.0 | 72°59.7 | -0.2 |
| | -21°47.2 | -21°46.8 | -21°46.4 | -21°46.1 | -21°45.7 | -21°45.3 | -21°44.9 | -21°44.5 | -21°44.1 | -21°43.7 | -21°43.3 | -21°42.9 | +0.4 |
| Sa 12 | 267°56.6 | 282°56.3 | 297°56.1 | 312°55.9 | 327°55.6 | 342°55.4 | 357°55.1 | 12°54.9 | 27°54.7 | 42°54.4 | 57°54.2 | 72°54.0 | -0.2 |
| | -21°37.6 | -21°37.2 | -21°36.8 | -21°36.4 | -21°36.0 | -21°35.6 | -21°35.1 | -21°34.7 | -21°34.3 | -21°33.9 | -21°33.5 | -21°33.1 | +0.4 |
| Di 13 | 267°50.9 | 282°50.7 | 297°50.4 | 312°50.2 | 327°50.0 | 342°49.7 | 357°49.5 | 12°49.3 | 27°49.0 | 42°48.8 | 57°48.6 | 72°48.3 | -0.2 |
| | -21°27.6 | -21°27.2 | -21°26.7 | -21°26.3 | -21°25.9 | -21°25.4 | -21°25.0 | -21°24.6 | -21°24.1 | -21°23.7 | -21°23.3 | -21°22.8 | +0.4 |
| Lu 14 | 267°45.4 | 282°45.2 | 297°44.9 | 312°44.7 | 327°44.5 | 342°44.2 | 357°44.0 | 12°43.8 | 27°43.6 | 42°43.3 | 57°43.1 | 72°42.9 | -0.2 |
| | -21°17.1 | -21°16.7 | -21°16.2 | -21°15.8 | -21°15.4 | -21°14.9 | -21°14.5 | -21°14.0 | -21°13.6 | -21°13.1 | -21°12.7 | -21°12.2 | +0.4 |
| Ma 15 | 267°40.0 | 282°39.8 | 297°39.6 | 312°39.4 | 327°39.1 | 342°38.9 | 357°38.7 | 12°38.5 | 27°38.3 | 42°38.1 | 57°37.8 | 72°37.6 | -0.2 |
| | -21°06.3 | -21°05.8 | -21°05.4 | -21°04.9 | -21°04.4 | -21°04.0 | -21°03.5 | -21°03.0 | -21°02.6 | -21°02.1 | -21°01.6 | -21°01.2 | +0.5 |
| Me 16 | 267°34.8 | 282°34.6 | 297°34.4 | 312°34.2 | 327°34.0 | 342°33.8 | 357°33.6 | 12°33.4 | 27°33.1 | 42°32.9 | 57°32.7 | 72°32.5 | -0.2 |
| | -20°55.0 | -20°54.5 | -20°54.1 | -20°53.6 | -20°53.1 | -20°52.6 | -20°52.1 | -20°51.7 | -20°51.2 | -20°50.7 | -20°50.2 | -20°49.7 | +0.5 |
| Je 17 | 267°29.8 | 282°29.6 | 297°29.4 | 312°29.2 | 327°29.0 | 342°28.8 | 357°28.6 | 12°28.4 | 27°28.2 | 42°28.0 | 57°27.8 | 72°27.6 | -0.2 |
| | -20°43.4 | -20°42.9 | -20°42.4 | -20°41.9 | -20°41.4 | -20°40.9 | -20°40.4 | -20°39.9 | -20°39.4 | -20°38.9 | -20°38.4 | -20°37.9 | +0.5 |
| Ve 18 | 267°25.0 | 282°24.8 | 297°24.6 | 312°24.4 | 327°24.2 | 342°24.0 | 357°23.8 | 12°23.6 | 27°23.4 | 42°23.2 | 57°23.0 | 72°22.8 | -0.2 |
| | -20°31.3 | -20°30.8 | -20°30.3 | -20°29.8 | -20°29.3 | -20°28.8 | -20°28.2 | -20°27.7 | -20°27.2 | -20°26.7 | -20°26.2 | -20°25.7 | +0.5 |
| Sa 19 | 267°20.3 | 282°20.2 | 297°20.0 | 312°19.8 | 327°19.6 | 342°19.4 | 357°19.2 | 12°19.0 | 27°18.8 | 42°18.7 | 57°18.5 | 72°18.3 | -0.2 |
| | -20°18.9 | -20°18.3 | -20°17.8 | -20°17.3 | -20°16.8 | -20°16.2 | -20°15.7 | -20°15.2 | -20°14.6 | -20°14.1 | -20°13.6 | -20°13.0 | +0.5 |
| Di 20 | 267°15.9 | 282°15.7 | 297°15.5 | 312°15.3 | 327°15.2 | 342°15.0 | 357°14.8 | 12°14.6 | 27°14.4 | 42°14.3 | 57°14.1 | 72°13.9 | -0.2 |
| | -20°06.1 | -20°05.5 | -20°05.0 | -20°04.4 | -20°03.9 | -20°03.3 | -20°02.8 | -20°02.2 | -20°01.7 | -20°01.2 | -20°00.6 | -20°00.1 | +0.5 |
| Lu 21 | 267°11.6 | 282°11.4 | 297°11.3 | 312°11.1 | 327°10.9 | 342°10.7 | 357°10.6 | 12°10.4 | 27°10.2 | 42°10.0 | 57°09.9 | 72°09.7 | -0.2 |
| | -19°52.9 | -19°52.3 | -19°51.7 | -19°51.2 | -19°50.6 | -19°50.1 | -19°49.5 | -19°48.9 | -19°48.4 | -19°47.8 | -19°47.3 | -19°46.7 | +0.6 |
| Ma 22 | 267°07.5 | 282°07.3 | 297°07.2 | 312°07.0 | 327°06.8 | 342°06.7 | 357°06.5 | 12°06.4 | 27°06.2 | 42°06.0 | 57°05.9 | 72°05.7 | -0.2 |
| | -19°39.3 | -19°38.7 | -19°38.1 | -19°37.6 | -19°37.0 | -19°36.4 | -19°35.8 | -19°35.3 | -19°34.7 | -19°34.1 | -19°33.5 | -19°33.0 | +0.6 |
| Me 23 | 267°03.6 | 282°03.5 | 297°03.3 | 312°03.1 | 327°03.0 | 342°02.8 | 357°02.7 | 12°02.5 | 27°02.4 | 42°02.2 | 57°02.0 | 72°01.9 | -0.2 |
| | -19°25.4 | -19°24.8 | -19°24.2 | -19°23.6 | -19°23.0 | -19°22.4 | -19°21.8 | -19°21.2 | -19°20.6 | -19°20.0 | -19°19.4 | -19°18.9 | +0.6 |
| Je 24 | 266°59.9 | 281°59.7 | 296°59.6 | 311°59.4 | 326°59.3 | 341°59.2 | 356°59.0 | 11°58.9 | 26°58.7 | 41°58.6 | 56°58.4 | 71°58.3 | -0.1 |
| | -19°11.1 | -19°10.5 | -19°09.9 | -19°09.3 | -19°08.6 | -19°08.0 | -19°07.4 | -19°06.8 | -19°06.2 | -19°05.6 | -19°05.0 | -19°04.4 | +0.6 |
| Ve 25 | 266°56.4 | 281°56.2 | 296°56.1 | 311°56.0 | 326°55.8 | 341°55.7 | 356°55.5 | 11°55.4 | 26°55.3 | 41°55.1 | 56°55.0 | 71°54.8 | -0.1 |
| | -18°56.4 | -18°55.8 | -18°55.2 | -18°54.6 | -18°53.9 | -18°53.3 | -18°52.7 | -18°52.1 | -18°51.5 | -18°50.8 | -18°50.2 | -18°49.6 | +0.6 |
| Sa 26 | 266°53.1 | 281°52.9 | 296°52.8 | 311°52.7 | 326°52.5 | 341°52.4 | 356°52.3 | 11°52.1 | 26°52.0 | 41°51.9 | 56°51.7 | 71°51.6 | -0.1 |
| | -18°41.4 | -18°40.8 | -18°40.2 | -18°39.5 | -18°38.9 | -18°38.3 | -18°37.6 | -18°37.0 | -18°36.3 | -18°35.7 | -18°35.1 | -18°34.4 | +0.6 |
| Di 27 | 266°49.9 | 281°49.8 | 296°49.7 | 311°49.6 | 326°49.4 | 341°49.3 | 356°49.2 | 11°49.1 | 26°48.9 | 41°48.8 | 56°48.7 | 71°48.6 | -0.1 |
| | -18°26.1 | -18°25.4 | -18°24.8 | -18°24.1 | -18°23.5 | -18°22.8 | -18°22.2 | -18°21.5 | -18°20.9 | -18°20.2 | -18°19.6 | -18°18.9 | +0.6 |
| Lu 28 | 266°47.0 | 281°46.9 | 296°46.8 | 311°46.6 | 326°46.5 | 341°46.4 | 356°46.3 | 11°46.2 | 26°46.1 | 41°45.9 | 56°45.8 | 71°45.7 | -0.1 |
| | -18°10.4 | -18°09.7 | -18°09.1 | -18°08.4 | -18°07.8 | -18°07.1 | -18°06.4 | -18°05.8 | -18°05.1 | -18°04.4 | -18°03.8 | -18°03.1 | +0.7 |
| Ma 29 | 266°44.3 | 281°44.1 | 296°44.0 | 311°43.9 | 326°43.8 | 341°43.7 | 356°43.6 | 11°43.5 | 26°43.4 | 41°43.3 | 56°43.2 | 71°43.1 | -0.1 |
| | -17°54.4 | -17°53.7 | -17°53.1 | -17°52.4 | -17°51.7 | -17°51.0 | -17°50.4 | -17°49.7 | -17°49.0 | -17°48.3 | -17°47.6 | -17°47.0 | +0.7 |
| Me 30 | 266°41.7 | 281°41.6 | 296°41.5 | 311°41.4 | 326°41.3 | 341°41.2 | 356°41.1 | 11°41.0 | 26°40.9 | 41°40.8 | 56°40.7 | 71°40.6 | -0.1 |
| | -17°38.1 | -17°37.4 | -17°36.7 | -17°36.0 | -17°35.3 | -17°34.6 | -17°34.0 | -17°33.3 | -17°32.6 | -17°31.9 | -17°31.2 | -17°30.5 | +0.7 |
| Je 31 | 266°39.4 | 281°39.3 | 296°39.2 | 311°39.1 | 326°39.0 | 341°38.9 | 356°38.8 | 11°38.7 | 26°38.7 | 41°38.6 | 56°38.5 | 71°38.4 | -0.1 |
| | -17°21.4 | -17°20.7 | -17°20.0 | -17°19.3 | -17°18.6 | -17°17.9 | -17°17.2 | -17°16.5 | -17°15.8 | -17°15.1 | -17°14.4 | -17°13.7 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2030

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 253°52.1 | 268°15.4 | 282°38.5 | 297°01.6 | 311°24.7 | 325°47.7 | 340°10.7 | 354°33.6 | 8°56.5 | 23°19.3 | 37°42.1 | +23.0 | 16.4 |
| | -22°19.5 | -22°24.3 | -22°29.1 | -22°33.7 | -22°38.1 | -22°42.3 | -22°46.4 | -22°50.4 | -22°54.2 | -22°57.8 | -23°01.2 | -4.2 | 60.1 |
| Me 2 | 253°20.7 | 267°43.1 | 282°05.6 | 296°28.0 | 310°50.5 | 325°12.9 | 339°35.4 | 353°57.8 | 8°20.3 | 22°42.8 | 37°05.3 | +22.5 | 16.4 |
| | -23°32.9 | -23°33.7 | -23°34.3 | -23°34.7 | -23°34.9 | -23°35.0 | -23°34.9 | -23°34.6 | -23°34.2 | -23°33.6 | -23°32.8 | +0.0 | 60.1 |
| Je 3 | 252°46.3 | 267°09.4 | 281°32.5 | 295°55.6 | 310°18.8 | 324°42.1 | 339°05.5 | 353°28.9 | 7°52.3 | 22°15.8 | 36°39.4 | +23.3 | 16.3 |
| | -23°01.1 | -22°57.7 | -22°54.1 | -22°50.3 | -22°46.4 | -22°42.3 | -22°38.1 | -22°33.7 | -22°29.2 | -22°24.5 | -22°19.7 | +4.1 | 59.8 |
| ● Ve 4 | 252°42.4 | 267°07.3 | 281°32.2 | 295°57.3 | 310°22.4 | 324°47.6 | 339°12.9 | 353°38.3 | 8°03.8 | 22°29.4 | 36°55.1 | +25.3 | 16.2 |
| | -20°49.6 | -20°42.5 | -20°35.3 | -20°27.9 | -20°20.4 | -20°12.8 | -20°05.1 | -19°57.2 | -19°49.2 | -19°41.1 | -19°32.9 | +7.7 | 59.3 |
| Sa 5 | 253°32.4 | 267°59.6 | 282°27.0 | 296°54.5 | 311°22.1 | 325°49.8 | 340°17.5 | 354°45.4 | 9°13.4 | 23°41.5 | 38°09.7 | +27.7 | 16.0 |
| | -17°16.6 | -17°06.7 | -16°56.8 | -16°46.7 | -16°36.6 | -16°26.3 | -16°16.0 | -16°05.6 | -15°55.1 | -15°44.6 | -15°33.9 | +10.3 | 58.6 |
| Di 6 | 255°23.9 | 269°53.6 | 284°23.4 | 298°53.3 | 313°23.2 | 327°53.3 | 342°23.4 | 356°53.7 | 11°24.0 | 25°54.4 | 40°24.9 | +30.1 | 15.7 |
| | -12°46.2 | -12°34.6 | -12°22.9 | -12°11.1 | -11°59.3 | -11°47.4 | -11°35.5 | -11°23.6 | -11°11.6 | -10°59.5 | -10°47.5 | +11.9 | 57.7 |
| Lu 7 | 258°11.7 | 272°43.5 | 287°15.2 | 301°47.1 | 316°19.0 | 330°51.0 | 345°23.1 | 359°55.2 | 14°27.4 | 28°59.6 | 43°31.9 | +32.0 | 15.5 |
| | -7°42.4 | -7°29.9 | -7°17.3 | -7°04.7 | -6°52.1 | -6°39.5 | -6°26.9 | -6°14.3 | -6°01.6 | -5°48.9 | -5°36.3 | +12.6 | 56.9 |
| Ma 8 | 261°43.2 | 276°16.3 | 290°49.5 | 305°22.7 | 319°56.0 | 334°29.3 | 349°02.7 | 3°36.1 | 18°09.5 | 32°43.0 | 47°16.5 | +33.3 | 15.3 |
| | -2°25.5 | -2°12.8 | -2°00.1 | -1°47.4 | -1°34.8 | -1°22.1 | -1°09.4 | -0°56.8 | -0°44.1 | -0°31.5 | -0°18.8 | +12.7 | 56.0 |
| Me 9 | 265°42.7 | 280°16.7 | 294°50.6 | 309°24.6 | 323°58.6 | 338°32.6 | 353°06.7 | 7°40.7 | 22°14.8 | 36°48.8 | 51°22.9 | +34.0 | 15.1 |
| | 2°48.5 | 3°00.8 | 3°13.1 | 3°25.3 | 3°37.6 | 3°49.8 | 4°02.0 | 4°14.1 | 4°26.3 | 4°38.4 | 4°50.4 | +12.2 | 55.3 |
| Je 10 | 269°54.8 | 284°29.0 | 299°03.1 | 313°37.2 | 328°11.3 | 342°45.4 | 357°19.6 | 11°53.6 | 26°27.7 | 41°01.8 | 55°35.9 | +34.1 | 14.9 |
| | 7°47.3 | 7°58.8 | 8°10.2 | 8°21.6 | 8°33.0 | 8°44.3 | 8°55.6 | 9°06.8 | 9°18.0 | 9°29.2 | 9°40.3 | +11.3 | 54.8 |
| ◐ Ve 11 | 274°05.0 | 288°38.8 | 303°12.5 | 317°46.3 | 332°20.0 | 346°53.7 | 1°27.3 | 16°01.0 | 30°34.6 | 45°08.1 | 59°41.7 | +33.7 | 14.8 |
| | 12°20.8 | 12°31.1 | 12°41.3 | 12°51.5 | 13°01.6 | 13°11.7 | 13°21.7 | 13°31.6 | 13°41.5 | 13°51.3 | 14°01.1 | +10.0 | 54.4 |
| Sa 12 | 278°00.9 | 292°33.9 | 307°06.8 | 321°39.7 | 336°12.6 | 350°45.4 | 5°18.2 | 19°51.0 | 34°23.7 | 48°56.4 | 63°29.0 | +32.8 | 14.8 |
| | 16°19.9 | 16°28.6 | 16°37.3 | 16°45.9 | 16°54.4 | 17°02.8 | 17°11.2 | 17°19.5 | 17°27.7 | 17°35.8 | 17°43.9 | +8.4 | 54.2 |
| Di 13 | 281°33.1 | 296°05.0 | 310°36.8 | 325°08.6 | 339°40.4 | 354°12.1 | 8°43.8 | 23°15.4 | 37°47.0 | 52°18.5 | 66°50.0 | +31.7 | 14.8 |
| | 19°35.4 | 19°42.2 | 19°48.9 | 19°55.5 | 20°02.0 | 20°08.5 | 20°14.8 | 20°21.1 | 20°27.2 | 20°33.3 | 20°39.3 | +6.4 | 54.1 |
| Lu 14 | 284°36.5 | 299°07.2 | 313°37.9 | 328°08.5 | 342°39.1 | 357°09.6 | 11°40.1 | 26°10.6 | 40°41.0 | 55°11.4 | 69°41.7 | +30.5 | 14.8 |
| | 21°58.0 | 22°02.4 | 22°06.8 | 22°11.1 | 22°15.2 | 22°19.3 | 22°23.2 | 22°27.1 | 22°30.9 | 22°34.5 | 22°38.0 | +4.0 | 54.3 |
| Ma 15 | 287°11.7 | 301°41.4 | 316°11.1 | 330°40.7 | 345°10.3 | 359°39.9 | 14°09.4 | 28°38.9 | 43°08.4 | 57°37.8 | 72°07.2 | +29.5 | 14.9 |
| | 23°18.4 | 23°20.2 | 23°21.9 | 23°23.4 | 23°24.9 | 23°26.3 | 23°27.5 | 23°28.6 | 23°29.6 | 23°30.5 | 23°31.3 | +1.3 | 54.6 |
| Me 16 | 289°25.4 | 303°54.4 | 318°23.5 | 332°52.5 | 347°21.5 | 1°50.5 | 16°19.5 | 30°48.4 | 45°17.4 | 59°46.4 | 74°15.3 | +29.0 | 15.0 |
| | 23°29.0 | 23°27.9 | 23°26.7 | 23°25.3 | 23°23.9 | 23°22.3 | 23°20.6 | 23°18.8 | 23°16.8 | 23°14.8 | 23°12.6 | -1.6 | 55.0 |
| Je 17 | 291°28.9 | 305°57.8 | 320°26.7 | 334°55.7 | 349°24.6 | 3°53.5 | 18°22.5 | 32°51.4 | 47°20.4 | 61°49.4 | 76°18.4 | +28.9 | 15.1 |
| | 22°25.5 | 22°21.4 | 22°17.2 | 22°12.9 | 22°08.5 | 22°03.9 | 21°59.2 | 21°54.4 | 21°49.5 | 21°44.5 | 21°39.3 | -4.6 | 55.6 |
| Ve 18 | 293°35.0 | 308°04.2 | 322°33.5 | 337°02.8 | 351°32.1 | 6°01.5 | 20°30.9 | 35°00.2 | 49°29.7 | 63°59.1 | 78°28.6 | +29.4 | 15.3 |
| | 20°08.4 | 20°01.5 | 19°54.4 | 19°47.2 | 19°40.0 | 19°32.6 | 19°25.1 | 19°17.5 | 19°09.8 | 19°02.0 | 18°54.1 | -7.4 | 56.1 |
| ○ Sa 19 | 295°53.6 | 310°23.5 | 324°53.5 | 339°23.4 | 353°53.4 | 8°23.4 | 22°53.4 | 37°23.5 | 51°53.6 | 66°23.7 | 80°53.8 | +30.0 | 15.5 |
| | 16°43.4 | 16°33.9 | 16°24.3 | 16°14.7 | 16°04.9 | 15°55.1 | 15°45.2 | 15°35.1 | 15°25.0 | 15°14.9 | 15°04.6 | -9.9 | 56.7 |
| Di 20 | 298°29.2 | 312°59.7 | 327°30.3 | 342°00.9 | 356°31.6 | 11°02.2 | 25°32.9 | 40°03.6 | 54°34.3 | 69°05.1 | 83°35.8 | +30.7 | 15.6 |
| | 12°21.0 | 12°09.5 | 11°57.9 | 11°46.2 | 11°34.5 | 11°22.8 | 11°10.9 | 10°59.0 | 10°47.1 | 10°35.1 | 10°23.0 | -11.8 | 57.2 |
| Lu 21 | 301°19.4 | 315°50.4 | 330°21.4 | 344°52.4 | 359°23.5 | 13°54.5 | 28°25.6 | 42°56.7 | 57°27.7 | 71°58.8 | 86°29.9 | +31.1 | 15.7 |
| | 7°15.2 | 7°02.3 | 6°49.3 | 6°36.3 | 6°23.3 | 6°10.2 | 5°57.1 | 5°44.0 | 5°30.8 | 5°17.6 | 5°04.3 | -13.1 | 57.7 |
| Ma 22 | 304°16.3 | 318°47.4 | 333°18.4 | 347°49.5 | 2°20.5 | 16°51.5 | 31°22.5 | 45°53.5 | 60°24.5 | 74°55.5 | 89°26.4 | +31.0 | 15.9 |
| | 1°42.4 | 1°28.8 | 1°15.1 | 1°01.5 | 0°47.8 | 0°34.2 | 0°20.5 | 0°06.8 | -0°06.9 | -0°20.6 | -0°34.3 | -13.7 | 58.1 |
| Me 23 | 318°47.4 | 333°18.4 | 347°49.5 | 2°20.5 | 16°51.5 | 31°22.5 | 45°53.5 | 60°24.5 | 74°55.5 | 89°26.4 | 103°57.4 | +31.0 | 15.9 |
| | 1°28.8 | 1°15.1 | 1°01.5 | 0°47.8 | 0°34.2 | 0°20.5 | 0°06.8 | -0°06.9 | -0°20.6 | -0°34.3 | -0°48.0 | -13.7 | 58.2 |
| Je 24 | 321°38.8 | 336°09.3 | 350°39.9 | 5°10.3 | 19°40.8 | 34°11.2 | 48°41.6 | 63°11.9 | 77°42.2 | 92°12.5 | 106°42.7 | +30.4 | 16.0 |
| | -4°13.2 | -4°26.8 | -4°40.4 | -4°53.9 | -5°07.4 | -5°21.0 | -5°34.5 | -5°47.9 | -6°01.4 | -6°14.8 | -6°28.2 | -13.5 | 58.5 |
| Ve 25 | 324°10.8 | 338°40.3 | 353°09.8 | 7°39.1 | 22°08.4 | 36°37.7 | 51°06.9 | 65°36.1 | 80°05.2 | 94°34.2 | 109°03.2 | +29.2 | 16.0 |
| | -9°44.7 | -9°57.5 | -10°10.2 | -10°22.8 | -10°35.4 | -10°48.0 | -11°00.5 | -11°12.9 | -11°25.3 | -11°37.6 | -11°49.9 | -12.5 | 58.8 |
| ◑ Sa 26 | 326°10.3 | 340°38.3 | 355°06.2 | 9°34.0 | 24°01.7 | 38°29.4 | 52°57.0 | 67°24.5 | 81°52.0 | 96°19.4 | 110°46.7 | +27.6 | 16.1 |
| | -14°45.6 | -14°56.7 | -15°07.8 | -15°18.7 | -15°29.6 | -15°40.3 | -15°51.0 | -16°01.6 | -16°12.1 | -16°22.5 | -16°32.8 | -10.7 | 59.0 |
| Di 27 | 327°28.1 | 341°54.3 | 356°20.4 | 10°46.5 | 25°12.5 | 39°38.4 | 54°04.2 | 68°30.0 | 82°55.7 | 97°21.4 | 111°47.0 | +25.9 | 16.1 |
| | -18°55.1 | -19°03.7 | -19°12.2 | -19°20.6 | -19°28.9 | -19°37.0 | -19°45.0 | -19°52.9 | -20°00.7 | -20°08.4 | -20°15.9 | -8.1 | 59.2 |
| Lu 28 | 328°03.3 | 342°28.0 | 356°52.5 | 11°17.1 | 25°41.6 | 40°06.0 | 54°30.4 | 68°54.8 | 83°19.1 | 97°43.3 | 112°07.6 | +24.4 | 16.2 |
| | -21°52.8 | -21°58.1 | -22°03.3 | -22°08.4 | -22°13.3 | -22°18.1 | -22°22.7 | -22°27.2 | -22°31.5 | -22°35.7 | -22°39.7 | -4.7 | 59.3 |
| Ma 29 | 328°07.1 | 342°30.8 | 356°54.6 | 11°18.4 | 25°42.1 | 40°05.9 | 54°29.6 | 68°53.3 | 83°17.1 | 97°40.8 | 112°04.5 | +23.7 | 16.2 |
| | -23°21.7 | -23°23.2 | -23°24.6 | -23°25.8 | -23°26.9 | -23°27.8 | -23°28.5 | -23°29.1 | -23°29.6 | -23°29.8 | -23°30.0 | -0.8 | 59.2 |
| Me 30 | 328°01.8 | 342°25.8 | 356°49.8 | 11°13.8 | 25°37.9 | 40°02.0 | 54°26.2 | 68°50.4 | 83°14.6 | 97°38.9 | 112°03.2 | +24.1 | 16.1 |
| | -23°12.6 | -23°10.2 | -23°07.6 | -23°04.9 | -23°02.0 | -22°59.0 | -22°55.8 | -22°52.5 | -22°49.0 | -22°45.4 | -22°41.6 | +3.1 | 59.1 |
| Je 31 | 328°14.5 | 342°39.7 | 357°05.0 | 11°30.4 | 25°55.8 | 40°21.3 | 54°46.9 | 69°12.5 | 83°38.3 | 98°04.0 | 112°29.9 | +25.5 | 16.0 |
| | -21°27.4 | -21°21.3 | -21°15.1 | -21°08.8 | -21°02.3 | -20°55.7 | -20°49.0 | -20°42.2 | -20°35.2 | -20°28.1 | -20°20.9 | +6.7 | 58.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 02h49 — PQ: 11 14h06 — PL: 19 15h54 — DQ: 26 18h14

# SOLEIL

## Février 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 266°37.3 | 281°37.2 | 296°37.1 | 311°37.0 | 326°36.9 | 341°36.8 | 356°36.7 | 11°36.7 | 26°36.6 | 41°36.5 | 56°36.4 | 71°36.3 | -0.1 |
| | -17°04.5 | -17°03.8 | -17°03.1 | -17°02.4 | -17°01.6 | -17°00.9 | -17°00.2 | -16°59.5 | -16°58.8 | -16°58.1 | -16°57.3 | -16°56.6 | +0.7 |
| Sa 2 | 266°35.3 | 281°35.2 | 296°35.2 | 311°35.1 | 326°35.0 | 341°34.9 | 356°34.9 | 11°34.8 | 26°34.7 | 41°34.6 | 56°34.6 | 71°34.5 | -0.1 |
| | -16°47.2 | -16°46.5 | -16°45.8 | -16°45.1 | -16°44.3 | -16°43.6 | -16°42.9 | -16°42.2 | -16°41.4 | -16°40.7 | -16°40.0 | -16°39.2 | +0.7 |
| Di 3 | 266°33.6 | 281°33.5 | 296°33.5 | 311°33.4 | 326°33.3 | 341°33.3 | 356°33.2 | 11°33.1 | 26°33.1 | 41°33.0 | 56°32.9 | 71°32.9 | -0.1 |
| | -16°29.7 | -16°29.0 | -16°28.2 | -16°27.5 | -16°26.8 | -16°26.0 | -16°25.3 | -16°24.5 | -16°23.8 | -16°23.1 | -16°22.3 | -16°21.6 | +0.7 |
| Lu 4 | 266°32.1 | 281°32.0 | 296°31.9 | 311°31.9 | 326°31.8 | 341°31.8 | 356°31.7 | 11°31.7 | 26°31.6 | 41°31.5 | 56°31.5 | 71°31.4 | -0.1 |
| | -16°11.9 | -16°11.1 | -16°10.4 | -16°09.6 | -16°08.9 | -16°08.1 | -16°07.4 | -16°06.6 | -16°05.9 | -16°05.1 | -16°04.4 | -16°03.6 | +0.8 |
| Ma 5 | 266°30.7 | 281°30.7 | 296°30.6 | 311°30.6 | 326°30.5 | 341°30.5 | 356°30.4 | 11°30.4 | 26°30.3 | 41°30.3 | 56°30.3 | 71°30.2 | -0.0 |
| | -15°53.8 | -15°53.0 | -15°52.3 | -15°51.5 | -15°50.7 | -15°50.0 | -15°49.2 | -15°48.4 | -15°47.7 | -15°46.9 | -15°46.1 | -15°45.4 | +0.8 |
| Me 6 | 266°29.6 | 281°29.6 | 296°29.5 | 311°29.5 | 326°29.5 | 341°29.4 | 356°29.4 | 11°29.3 | 26°29.3 | 41°29.3 | 56°29.2 | 71°29.2 | -0.0 |
| | -15°35.4 | -15°34.6 | -15°33.9 | -15°33.1 | -15°32.3 | -15°31.5 | -15°30.8 | -15°30.0 | -15°29.2 | -15°28.4 | -15°27.7 | -15°26.9 | +0.8 |
| Je 7 | 266°28.7 | 281°28.7 | 296°28.6 | 311°28.6 | 326°28.6 | 341°28.5 | 356°28.5 | 11°28.5 | 26°28.5 | 41°28.4 | 56°28.4 | 71°28.4 | -0.0 |
| | -15°16.8 | -15°16.0 | -15°15.2 | -15°14.4 | -15°13.6 | -15°12.8 | -15°12.0 | -15°11.3 | -15°10.5 | -15°09.7 | -15°08.9 | -15°08.1 | +0.8 |
| Ve 8 | 266°28.0 | 281°28.0 | 296°28.0 | 311°27.9 | 326°27.9 | 341°27.9 | 356°27.9 | 11°27.8 | 26°27.8 | 41°27.8 | 56°27.8 | 71°27.7 | -0.0 |
| | -14°57.8 | -14°57.1 | -14°56.3 | -14°55.5 | -14°54.7 | -14°53.9 | -14°53.1 | -14°52.3 | -14°51.5 | -14°50.7 | -14°49.9 | -14°49.1 | +0.8 |
| Sa 9 | 266°27.5 | 281°27.5 | 296°27.5 | 311°27.4 | 326°27.4 | 341°27.4 | 356°27.4 | 11°27.4 | 26°27.4 | 41°27.4 | 56°27.3 | 71°27.3 | -0.0 |
| | -14°38.7 | -14°37.9 | -14°37.1 | -14°36.3 | -14°35.5 | -14°34.7 | -14°33.9 | -14°33.1 | -14°32.3 | -14°31.4 | -14°30.6 | -14°29.8 | +0.8 |
| Di 10 | 266°27.2 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.1 | 341°27.1 | 356°27.1 | 11°27.1 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | -0.0 |
| | -14°19.3 | -14°18.5 | -14°17.7 | -14°16.9 | -14°16.0 | -14°15.2 | -14°14.4 | -14°13.6 | -14°12.8 | -14°12.0 | -14°11.1 | -14°10.3 | +0.8 |
| Lu 11 | 266°27.1 | 281°27.1 | 296°27.1 | 311°27.1 | 326°27.1 | 341°27.1 | 356°27.1 | 11°27.1 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | +0.0 |
| | -13°59.7 | -13°58.8 | -13°58.0 | -13°57.2 | -13°56.4 | -13°55.5 | -13°54.7 | -13°53.9 | -13°53.1 | -13°52.2 | -13°51.4 | -13°50.6 | +0.8 |
| Ma 12 | 266°27.2 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.2 | 341°27.2 | 356°27.2 | 11°27.2 | 26°27.2 | 41°27.2 | 56°27.2 | 71°27.3 | +0.0 |
| | -13°39.8 | -13°39.0 | -13°38.1 | -13°37.3 | -13°36.5 | -13°35.6 | -13°34.8 | -13°34.0 | -13°33.1 | -13°32.3 | -13°31.5 | -13°30.6 | +0.8 |
| Me 13 | 266°27.4 | 281°27.4 | 296°27.5 | 311°27.5 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.6 | 41°27.6 | 56°27.6 | 71°27.6 | +0.0 |
| | -13°19.7 | -13°18.9 | -13°18.0 | -13°17.2 | -13°16.3 | -13°15.5 | -13°14.7 | -13°13.8 | -13°13.0 | -13°12.1 | -13°11.3 | -13°10.4 | +0.8 |
| Je 14 | 266°27.9 | 281°27.9 | 296°27.9 | 311°28.0 | 326°28.0 | 341°28.0 | 356°28.0 | 11°28.1 | 26°28.1 | 41°28.1 | 56°28.1 | 71°28.2 | +0.0 |
| | -12°59.4 | -12°58.6 | -12°57.7 | -12°56.9 | -12°56.0 | -12°55.2 | -12°54.3 | -12°53.4 | -12°52.6 | -12°51.7 | -12°50.9 | -12°50.0 | +0.9 |
| Ve 15 | 266°28.5 | 281°28.6 | 296°28.6 | 311°28.6 | 326°28.7 | 341°28.7 | 356°28.7 | 11°28.8 | 26°28.8 | 41°28.8 | 56°28.9 | 71°28.9 | +0.0 |
| | -12°38.9 | -12°38.0 | -12°37.2 | -12°36.3 | -12°35.5 | -12°34.6 | -12°33.7 | -12°32.9 | -12°32.0 | -12°31.1 | -12°30.3 | -12°29.4 | +0.9 |
| Sa 16 | 266°29.4 | 281°29.4 | 296°29.5 | 311°29.5 | 326°29.5 | 341°29.6 | 356°29.6 | 11°29.7 | 26°29.7 | 41°29.7 | 56°29.8 | 71°29.8 | +0.0 |
| | -12°18.2 | -12°17.3 | -12°16.4 | -12°15.6 | -12°14.7 | -12°13.8 | -12°13.0 | -12°12.1 | -12°11.2 | -12°10.4 | -12°09.5 | -12°08.6 | +0.9 |
| Di 17 | 266°30.4 | 281°30.4 | 296°30.5 | 311°30.5 | 326°30.6 | 341°30.6 | 356°30.7 | 11°30.7 | 26°30.8 | 41°30.8 | 56°30.9 | 71°30.9 | +0.0 |
| | -11°57.3 | -11°56.4 | -11°55.5 | -11°54.6 | -11°53.8 | -11°52.9 | -11°52.0 | -11°51.1 | -11°50.3 | -11°49.4 | -11°48.5 | -11°47.6 | +0.9 |
| Lu 18 | 266°31.6 | 281°31.6 | 296°31.7 | 311°31.7 | 326°31.8 | 341°31.8 | 356°31.9 | 11°32.0 | 26°32.0 | 41°32.1 | 56°32.1 | 71°32.2 | +0.1 |
| | -11°36.2 | -11°35.3 | -11°34.4 | -11°33.5 | -11°32.6 | -11°31.7 | -11°30.9 | -11°30.0 | -11°29.1 | -11°28.2 | -11°27.3 | -11°26.4 | +0.9 |
| Ma 19 | 266°32.9 | 281°33.0 | 296°33.1 | 311°33.1 | 326°33.2 | 341°33.2 | 356°33.3 | 11°33.4 | 26°33.4 | 41°33.5 | 56°33.6 | 71°33.6 | +0.1 |
| | -11°14.9 | -11°14.0 | -11°13.1 | -11°12.2 | -11°11.3 | -11°10.4 | -11°09.5 | -11°08.6 | -11°07.7 | -11°06.9 | -11°06.0 | -11°05.1 | +0.9 |
| Me 20 | 266°34.5 | 281°34.5 | 296°34.6 | 311°34.7 | 326°34.7 | 341°34.8 | 356°34.9 | 11°34.9 | 26°35.0 | 41°35.1 | 56°35.2 | 71°35.2 | +0.1 |
| | -10°53.4 | -10°52.5 | -10°51.6 | -10°50.7 | -10°49.8 | -10°48.9 | -10°48.0 | -10°47.1 | -10°46.2 | -10°45.3 | -10°44.4 | -10°43.5 | +0.9 |
| Je 21 | 266°36.2 | 281°36.2 | 296°36.3 | 311°36.4 | 326°36.5 | 341°36.5 | 356°36.6 | 11°36.7 | 26°36.8 | 41°36.8 | 56°36.9 | 71°37.0 | +0.1 |
| | -10°31.8 | -10°30.9 | -10°30.0 | -10°29.1 | -10°28.2 | -10°27.3 | -10°26.4 | -10°25.4 | -10°24.5 | -10°23.6 | -10°22.7 | -10°21.8 | +0.9 |
| Ve 22 | 266°38.0 | 281°38.1 | 296°38.2 | 311°38.2 | 326°38.3 | 341°38.4 | 356°38.5 | 11°38.6 | 26°38.7 | 41°38.7 | 56°38.8 | 71°38.9 | +0.1 |
| | -10°10.0 | -10°09.1 | -10°08.2 | -10°07.3 | -10°06.3 | -10°05.4 | -10°04.5 | -10°03.6 | -10°02.7 | -10°01.8 | -10°00.9 | -9°59.9 | +0.9 |
| Sa 23 | 266°40.0 | 281°40.1 | 296°40.2 | 311°40.3 | 326°40.3 | 341°40.4 | 356°40.5 | 11°40.6 | 26°40.7 | 41°40.8 | 56°40.9 | 71°41.0 | +0.1 |
| | -9°48.0 | -9°47.1 | -9°46.2 | -9°45.3 | -9°44.4 | -9°43.4 | -9°42.5 | -9°41.6 | -9°40.7 | -9°39.8 | -9°38.8 | -9°37.9 | +0.9 |
| Di 24 | 266°42.1 | 281°42.2 | 296°42.3 | 311°42.4 | 326°42.5 | 341°42.6 | 356°42.7 | 11°42.8 | 26°42.9 | 41°43.0 | 56°43.1 | 71°43.2 | +0.1 |
| | -9°25.9 | -9°25.0 | -9°24.1 | -9°23.2 | -9°22.2 | -9°21.3 | -9°20.4 | -9°19.5 | -9°18.5 | -9°17.6 | -9°16.7 | -9°15.7 | +0.9 |
| Lu 25 | 266°44.4 | 281°44.5 | 296°44.6 | 311°44.7 | 326°44.8 | 341°44.9 | 356°45.0 | 11°45.1 | 26°45.2 | 41°45.3 | 56°45.4 | 71°45.5 | +0.1 |
| | -9°03.7 | -9°02.7 | -9°01.8 | -9°00.9 | -9°00.0 | -8°59.0 | -8°58.1 | -8°57.2 | -8°56.2 | -8°55.3 | -8°54.4 | -8°53.4 | +0.9 |
| Ma 26 | 266°46.9 | 281°47.0 | 296°47.1 | 311°47.2 | 326°47.3 | 341°47.4 | 356°47.5 | 11°47.6 | 26°47.7 | 41°47.8 | 56°47.9 | 71°48.0 | +0.1 |
| | -8°41.3 | -8°40.4 | -8°39.4 | -8°38.5 | -8°37.5 | -8°36.6 | -8°35.7 | -8°34.7 | -8°33.8 | -8°32.9 | -8°31.9 | -8°31.0 | +0.9 |
| Me 27 | 266°49.4 | 281°49.5 | 296°49.6 | 311°49.8 | 326°49.9 | 341°50.0 | 356°50.1 | 11°50.2 | 26°50.3 | 41°50.4 | 56°50.5 | 71°50.6 | +0.1 |
| | -8°18.8 | -8°17.8 | -8°16.9 | -8°15.9 | -8°15.0 | -8°14.1 | -8°13.1 | -8°12.2 | -8°11.2 | -8°10.3 | -8°09.3 | -8°08.4 | +0.9 |
| Je 28 | 266°52.1 | 281°52.2 | 296°52.3 | 311°52.5 | 326°52.6 | 341°52.7 | 356°52.8 | 11°52.9 | 26°53.0 | 41°53.2 | 56°53.3 | 71°53.4 | +0.1 |
| | -7°56.1 | -7°55.2 | -7°54.2 | -7°53.3 | -7°52.3 | -7°51.4 | -7°50.4 | -7°49.5 | -7°48.6 | -7°47.6 | -7°46.7 | -7°45.7 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2030

| J | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 256°52.8 | 271°19.5 | 285°46.3 | 300°13.2 | 314°40.2 | 329°07.2 | 343°34.4 | 358°01.6 | 12°28.9 | 26°56.3 | 41°23.8 | +27.1 | 15.9 |
| | -19°02.1 | -18°53.6 | -18°44.9 | -18°36.2 | -18°27.4 | -18°18.5 | -18°09.4 | -18°00.3 | -17°51.1 | -17°41.7 | -17°32.3 | +9.0 | 58.4 |
| ● Sa 2 | 258°25.8 | 272°54.7 | 287°23.5 | 301°52.5 | 316°21.6 | 330°50.7 | 345°19.9 | 359°49.2 | 14°18.6 | 28°48.0 | 43°17.6 | +29.2 | 15.8 |
| | -15°00.2 | -14°49.4 | -14°38.6 | -14°27.6 | -14°16.6 | -14°05.6 | -13°54.4 | -13°43.2 | -13°32.0 | -13°20.6 | -13°09.3 | +11.1 | 57.9 |
| Di 3 | 260°49.8 | 275°20.5 | 289°51.3 | 304°22.2 | 318°53.1 | 333°24.1 | 347°55.2 | 2°26.3 | 16°57.5 | 31°28.8 | 46°00.1 | +31.0 | 15.6 |
| | -10°12.1 | -9°59.9 | -9°47.7 | -9°35.4 | -9°23.1 | -9°10.8 | -8°58.5 | -8°46.1 | -8°33.7 | -8°21.2 | -8°08.8 | +12.3 | 57.3 |
| Lu 4 | 263°57.2 | 278°29.4 | 293°01.7 | 307°34.0 | 322°06.4 | 336°38.9 | 351°11.3 | 5°43.9 | 20°16.4 | 34°49.1 | 49°21.7 | +32.5 | 15.4 |
| | -4°59.1 | -4°46.3 | -4°33.6 | -4°20.8 | -4°08.0 | -3°55.2 | -3°42.4 | -3°29.6 | -3°16.8 | -3°04.0 | -2°51.2 | +12.8 | 56.6 |
| Ma 5 | 267°36.2 | 282°09.4 | 296°42.6 | 311°15.9 | 325°49.2 | 340°22.6 | 354°55.9 | 9°29.3 | 24°02.7 | 38°36.1 | 53°09.6 | +33.3 | 15.2 |
| | 0°20.1 | 0°32.8 | 0°45.5 | 0°58.1 | 1°10.7 | 1°23.3 | 1°35.9 | 1°48.5 | 2°01.0 | 2°13.5 | 2°26.0 | +12.6 | 55.9 |
| Me 6 | 271°33.3 | 286°07.0 | 300°40.7 | 315°14.3 | 329°48.0 | 344°21.7 | 358°55.4 | 13°29.1 | 28°02.9 | 42°36.6 | 57°10.3 | +33.7 | 15.1 |
| | 5°30.3 | 5°42.3 | 5°54.3 | 6°06.3 | 6°18.2 | 6°30.1 | 6°41.9 | 6°53.7 | 7°05.5 | 7°17.2 | 7°28.9 | +11.9 | 55.3 |
| Je 7 | 275°35.5 | 290°09.1 | 304°42.7 | 319°16.3 | 333°49.8 | 348°23.4 | 2°57.0 | 17°30.5 | 32°04.0 | 46°37.5 | 61°11.0 | +33.6 | 14.9 |
| | 10°18.8 | 10°29.8 | 10°40.7 | 10°51.5 | 11°02.3 | 11°13.0 | 11°23.7 | 11°34.3 | 11°44.9 | 11°55.4 | 12°05.9 | +10.7 | 54.8 |
| Ve 8 | 279°30.8 | 294°03.9 | 308°37.0 | 323°10.1 | 337°43.1 | 352°16.1 | 6°49.1 | 21°22.1 | 35°55.0 | 50°27.9 | 65°00.8 | +33.0 | 14.8 |
| | 14°35.4 | 14°44.9 | 14°54.3 | 15°03.6 | 15°12.9 | 15°22.1 | 15°31.2 | 15°40.3 | 15°49.2 | 15°58.2 | 16°07.0 | +9.2 | 54.4 |
| Sa 9 | 283°09.7 | 297°42.0 | 312°14.3 | 326°46.6 | 341°18.8 | 355°50.9 | 10°23.0 | 24°55.1 | 39°27.2 | 53°59.2 | 68°31.2 | +32.1 | 14.8 |
| | 18°10.7 | 18°18.3 | 18°25.9 | 18°33.3 | 18°40.7 | 18°48.0 | 18°55.2 | 19°02.4 | 19°09.4 | 19°16.4 | 19°23.3 | +7.3 | 54.2 |
| ◐ Di 10 | 286°25.9 | 300°57.2 | 315°28.5 | 329°59.8 | 344°31.0 | 359°02.1 | 13°33.3 | 28°04.3 | 42°35.4 | 57°06.4 | 71°37.4 | +31.1 | 14.8 |
| | 20°55.9 | 21°01.3 | 21°06.7 | 21°12.0 | 21°17.1 | 21°22.2 | 21°27.2 | 21°32.0 | 21°36.8 | 21°41.5 | 21°46.1 | +5.0 | 54.2 |
| Lu 11 | 289°17.2 | 303°47.5 | 318°17.8 | 332°48.1 | 347°18.4 | 1°48.6 | 16°18.8 | 30°48.9 | 45°19.0 | 59°49.1 | 74°19.1 | +30.2 | 14.8 |
| | 22°42.7 | 22°45.7 | 22°48.5 | 22°51.2 | 22°53.9 | 22°56.4 | 22°58.8 | 23°01.1 | 23°03.3 | 23°05.4 | 23°07.4 | +2.5 | 54.4 |
| Ma 12 | 291°46.2 | 306°15.8 | 320°45.4 | 335°15.0 | 349°44.5 | 4°14.0 | 18°43.5 | 33°12.9 | 47°42.4 | 62°11.8 | 76°41.2 | +29.5 | 14.9 |
| | 23°23.8 | 23°24.0 | 23°24.1 | 23°24.0 | 23°23.9 | 23°23.6 | 23°23.2 | 23°22.7 | 23°22.1 | 23°21.4 | 23°20.5 | -0.3 | 54.7 |
| Me 13 | 294°00.4 | 308°29.6 | 322°58.7 | 337°27.9 | 351°57.1 | 6°26.2 | 20°55.4 | 35°24.5 | 49°53.7 | 64°22.8 | 78°52.0 | +29.2 | 15.1 |
| | 22°53.8 | 22°51.1 | 22°48.3 | 22°45.3 | 22°42.2 | 22°39.0 | 22°35.7 | 22°32.3 | 22°28.8 | 22°25.1 | 22°21.3 | -3.2 | 55.3 |
| Je 14 | 296°09.2 | 310°38.4 | 325°07.6 | 339°36.8 | 354°06.0 | 8°35.2 | 23°04.4 | 37°33.7 | 52°02.9 | 66°32.2 | 81°01.4 | +29.2 | 15.2 |
| | 21°10.7 | 21°05.1 | 20°59.3 | 20°53.5 | 20°47.5 | 20°41.4 | 20°35.2 | 20°28.9 | 20°22.5 | 20°16.0 | 20°09.3 | -6.1 | 55.9 |
| Ve 15 | 298°22.0 | 312°51.4 | 327°20.9 | 341°50.5 | 356°20.0 | 10°49.5 | 25°19.1 | 39°48.7 | 54°18.3 | 68°47.9 | 83°17.6 | +29.6 | 15.4 |
| | 18°16.7 | 18°08.3 | 17°59.9 | 17°51.3 | 17°42.6 | 17°33.9 | 17°25.0 | 17°16.0 | 17°07.0 | 16°57.8 | 16°48.6 | -8.8 | 56.6 |
| Sa 16 | 300°44.2 | 315°14.1 | 329°44.1 | 344°14.0 | 358°44.0 | 13°14.0 | 27°44.0 | 42°14.0 | 56°44.0 | 71°14.0 | 85°44.1 | +30.0 | 15.6 |
| | 14°18.6 | 14°07.9 | 13°57.1 | 13°46.2 | 13°35.2 | 13°24.2 | 13°13.1 | 13°01.9 | 12°50.6 | 12°39.2 | 12°27.8 | -11.1 | 57.4 |
| Di 17 | 303°16.5 | 317°46.8 | 332°17.0 | 346°47.3 | 1°17.6 | 15°47.8 | 30°18.1 | 44°48.4 | 59°18.7 | 73°49.0 | 88°19.3 | +30.3 | 15.8 |
| | 9°27.8 | 9°15.3 | 9°02.7 | 8°50.1 | 8°37.4 | 8°24.6 | 8°11.8 | 7°59.0 | 7°46.0 | 7°33.1 | 7°20.1 | -12.8 | 58.1 |
| ○ Lu 18 | 305°54.1 | 320°24.4 | 334°54.6 | 349°24.9 | 3°55.2 | 18°25.5 | 32°55.7 | 47°26.0 | 61°56.2 | 76°26.4 | 90°56.6 | +30.3 | 16.0 |
| | 3°59.7 | 3°46.1 | 3°32.4 | 3°18.7 | 3°04.9 | 2°51.2 | 2°37.4 | 2°23.6 | 2°09.8 | 1°55.9 | 1°42.1 | -13.8 | 58.6 |
| Ma 19 | 308°27.9 | 322°57.8 | 337°27.7 | 351°57.6 | 6°27.4 | 20°57.3 | 35°27.1 | 49°56.8 | 64°26.6 | 78°56.3 | 93°25.9 | +29.8 | 16.1 |
| | -1°47.2 | -2°01.1 | -2°15.1 | -2°29.1 | -2°43.0 | -2°57.0 | -3°10.9 | -3°24.8 | -3°38.8 | -3°52.7 | -4°06.5 | -13.9 | 59.1 |
| Me 20 | 310°46.8 | 325°15.9 | 339°45.0 | 354°13.9 | 8°42.9 | 23°11.8 | 37°40.7 | 52°09.5 | 66°38.3 | 81°07.0 | 95°35.6 | +28.9 | 16.2 |
| | -7°31.8 | -7°45.3 | -7°58.7 | -8°12.0 | -8°25.3 | -8°38.5 | -8°51.8 | -9°04.9 | -9°18.0 | -9°31.1 | -9°44.1 | -13.2 | 59.3 |
| Je 21 | 325°15.9 | 339°45.0 | 354°13.9 | 8°42.9 | 23°11.8 | 37°40.7 | 52°09.5 | 66°38.3 | 81°07.0 | 95°35.6 | 110°04.3 | +28.8 | 16.2 |
| | -7°45.3 | -7°58.7 | -8°12.0 | -8°25.3 | -8°38.5 | -8°51.8 | -9°04.9 | -9°18.0 | -9°31.1 | -9°44.1 | -9°57.0 | -13.2 | 59.4 |
| Ve 22 | 327°07.5 | 341°35.3 | 356°03.0 | 10°30.7 | 24°58.3 | 39°25.8 | 53°53.3 | 68°20.8 | 82°48.1 | 97°15.5 | 111°42.7 | +27.5 | 16.2 |
| | -13°03.9 | -13°15.7 | -13°27.6 | -13°39.3 | -13°50.9 | -14°02.5 | -14°14.0 | -14°25.4 | -14°36.7 | -14°47.9 | -14°59.1 | -11.5 | 59.5 |
| Sa 23 | 328°24.7 | 342°51.1 | 357°17.4 | 11°43.6 | 26°09.7 | 40°35.9 | 55°01.9 | 69°27.9 | 83°53.8 | 98°19.7 | 112°45.6 | +26.1 | 16.2 |
| | -17°34.3 | -17°43.8 | -17°53.2 | -18°02.5 | -18°11.7 | -18°20.7 | -18°29.7 | -18°38.5 | -18°47.2 | -18°55.8 | -19°04.2 | -9.0 | 59.4 |
| Di 24 | 329°07.0 | 343°32.0 | 357°57.0 | 12°22.0 | 26°46.9 | 41°11.8 | 55°36.7 | 70°01.5 | 84°26.3 | 98°51.0 | 113°15.8 | +24.9 | 16.2 |
| | -20°55.8 | -21°02.2 | -21°08.4 | -21°14.5 | -21°20.4 | -21°26.3 | -21°31.9 | -21°37.5 | -21°42.8 | -21°48.1 | -21°53.2 | -5.7 | 59.3 |
| ◑ Lu 25 | 329°23.3 | 343°47.7 | 358°12.0 | 12°36.4 | 27°00.7 | 41°25.0 | 55°49.3 | 70°13.7 | 84°38.0 | 99°02.3 | 113°26.6 | +24.3 | 16.1 |
| | -22°51.9 | -22°54.6 | -22°57.2 | -22°59.6 | -23°01.8 | -23°03.9 | -23°05.9 | -23°07.6 | -23°09.3 | -23°10.8 | -23°12.1 | -2.0 | 59.0 |
| Ma 26 | 329°32.5 | 343°57.0 | 358°21.6 | 12°46.2 | 27°10.8 | 41°35.5 | 56°00.2 | 70°24.9 | 84°49.6 | 99°14.4 | 113°39.3 | +24.7 | 16.0 |
| | -23°13.7 | -23°12.6 | -23°11.3 | -23°09.9 | -23°08.3 | -23°06.6 | -23°04.7 | -23°02.7 | -23°00.6 | -22°58.2 | -22°55.8 | +1.8 | 58.7 |
| Me 27 | 329°57.2 | 344°22.9 | 358°48.5 | 13°14.3 | 27°40.1 | 42°05.9 | 56°31.8 | 70°57.8 | 85°23.8 | 99°50.0 | 114°16.1 | +25.9 | 15.9 |
| | -22°01.8 | -21°57.0 | -21°52.2 | -21°47.2 | -21°42.1 | -21°36.9 | -21°31.5 | -21°26.0 | -21°20.3 | -21°14.6 | -21°08.7 | +5.3 | 58.3 |
| Je 28 | 330°56.9 | 345°24.2 | 359°51.6 | 14°19.0 | 28°46.6 | 43°14.1 | 57°41.8 | 72°09.6 | 86°37.4 | 101°05.3 | 115°33.2 | +27.6 | 15.8 |
| | -19°25.9 | -19°18.1 | -19°10.2 | -19°02.3 | -18°54.2 | -18°46.0 | -18°37.7 | -18°29.3 | -18°20.8 | -18°12.2 | -18°03.5 | +8.2 | 57.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 16h07 — PQ: 10 11h49 — PL: 18 06h19 — DQ: 25 01h57

# SOLEIL

## Mars 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 266°54.9 | 281°55.1 | 296°55.2 | 311°55.3 | 326°55.4 | 341°55.5 | 356°55.7 | 11°55.8 | 26°55.9 | 41°56.0 | 56°56.1 | 71°56.3 | +0.1 |
| | -7°33.4 | -7°32.4 | -7°31.5 | -7°30.5 | -7°29.6 | -7°28.6 | -7°27.7 | -7°26.7 | -7°25.8 | -7°24.8 | -7°23.8 | -7°22.9 | +1.0 |
| Sa 2 | 266°57.9 | 281°58.0 | 296°58.1 | 311°58.3 | 326°58.4 | 341°58.5 | 356°58.6 | 11°58.8 | 26°58.9 | 41°59.0 | 56°59.1 | 71°59.3 | +0.1 |
| | -7°10.5 | -7°09.5 | -7°08.6 | -7°07.6 | -7°06.7 | -7°05.7 | -7°04.8 | -7°03.8 | -7°02.9 | -7°01.9 | -7°00.9 | -7°00.0 | +1.0 |
| Di 3 | 267°00.9 | 282°01.1 | 297°01.2 | 312°01.3 | 327°01.5 | 342°01.6 | 357°01.7 | 12°01.9 | 27°02.0 | 42°02.1 | 57°02.3 | 72°02.4 | +0.1 |
| | -6°47.5 | -6°46.6 | -6°45.6 | -6°44.6 | -6°43.7 | -6°42.7 | -6°41.8 | -6°40.8 | -6°39.8 | -6°38.9 | -6°37.9 | -6°37.0 | +1.0 |
| Lu 4 | 267°04.1 | 282°04.3 | 297°04.4 | 312°04.5 | 327°04.7 | 342°04.8 | 357°04.9 | 12°05.1 | 27°05.2 | 42°05.3 | 57°05.5 | 72°05.6 | +0.1 |
| | -6°24.5 | -6°23.5 | -6°22.5 | -6°21.6 | -6°20.6 | -6°19.6 | -6°18.7 | -6°17.7 | -6°16.7 | -6°15.8 | -6°14.8 | -6°13.9 | +1.0 |
| Ma 5 | 267°07.4 | 282°07.6 | 297°07.7 | 312°07.8 | 327°08.0 | 342°08.1 | 357°08.3 | 12°08.4 | 27°08.5 | 42°08.7 | 57°08.8 | 72°09.0 | +0.1 |
| | -6°01.3 | -6°00.3 | -5°59.4 | -5°58.4 | -5°57.4 | -5°56.5 | -5°55.5 | -5°54.5 | -5°53.6 | -5°52.6 | -5°51.6 | -5°50.7 | +1.0 |
| Me 6 | 267°10.8 | 282°11.0 | 297°11.1 | 312°11.3 | 327°11.4 | 342°11.5 | 357°11.7 | 12°11.8 | 27°12.0 | 42°12.1 | 57°12.3 | 72°12.4 | +0.1 |
| | -5°38.1 | -5°37.1 | -5°36.1 | -5°35.2 | -5°34.2 | -5°33.2 | -5°32.2 | -5°31.3 | -5°30.3 | -5°29.3 | -5°28.4 | -5°27.4 | +1.0 |
| Je 7 | 267°14.3 | 282°14.5 | 297°14.6 | 312°14.8 | 327°14.9 | 342°15.1 | 357°15.2 | 12°15.4 | 27°15.5 | 42°15.7 | 57°15.8 | 72°16.0 | +0.1 |
| | -5°14.8 | -5°13.8 | -5°12.8 | -5°11.8 | -5°10.9 | -5°09.9 | -5°08.9 | -5°07.9 | -5°07.0 | -5°06.0 | -5°05.0 | -5°04.0 | +1.0 |
| Ve 8 | 267°17.9 | 282°18.1 | 297°18.2 | 312°18.4 | 327°18.5 | 342°18.7 | 357°18.8 | 12°19.0 | 27°19.2 | 42°19.3 | 57°19.5 | 72°19.6 | +0.2 |
| | -4°51.4 | -4°50.4 | -4°49.4 | -4°48.4 | -4°47.5 | -4°46.5 | -4°45.5 | -4°44.5 | -4°43.6 | -4°42.6 | -4°41.6 | -4°40.6 | +1.0 |
| Sa 9 | 267°21.6 | 282°21.8 | 297°21.9 | 312°22.1 | 327°22.3 | 342°22.4 | 357°22.6 | 12°22.7 | 27°22.9 | 42°23.0 | 57°23.2 | 72°23.4 | +0.2 |
| | -4°27.9 | -4°27.0 | -4°26.0 | -4°25.0 | -4°24.0 | -4°23.0 | -4°22.1 | -4°21.1 | -4°20.1 | -4°19.1 | -4°18.1 | -4°17.2 | +1.0 |
| Di 10 | 267°25.4 | 282°25.6 | 297°25.7 | 312°25.9 | 327°26.1 | 342°26.2 | 357°26.4 | 12°26.5 | 27°26.7 | 42°26.9 | 57°27.0 | 72°27.2 | +0.2 |
| | -4°04.4 | -4°03.4 | -4°02.5 | -4°01.5 | -4°00.5 | -3°59.5 | -3°58.5 | -3°57.6 | -3°56.6 | -3°55.6 | -3°54.6 | -3°53.6 | +1.0 |
| Lu 11 | 267°29.3 | 282°29.5 | 297°29.6 | 312°29.8 | 327°30.0 | 342°30.1 | 357°30.3 | 12°30.4 | 27°30.6 | 42°30.8 | 57°30.9 | 72°31.1 | +0.2 |
| | -3°40.9 | -3°39.9 | -3°38.9 | -3°37.9 | -3°37.0 | -3°36.0 | -3°35.0 | -3°34.0 | -3°33.0 | -3°32.0 | -3°31.1 | -3°30.1 | +1.0 |
| Ma 12 | 267°33.3 | 282°33.4 | 297°33.6 | 312°33.8 | 327°33.9 | 342°34.1 | 357°34.3 | 12°34.4 | 27°34.6 | 42°34.8 | 57°34.9 | 72°35.1 | +0.2 |
| | -3°17.3 | -3°16.3 | -3°15.3 | -3°14.3 | -3°13.4 | -3°12.4 | -3°11.4 | -3°10.4 | -3°09.4 | -3°08.4 | -3°07.5 | -3°06.5 | +1.0 |
| Me 13 | 267°37.3 | 282°37.5 | 297°37.6 | 312°37.8 | 327°38.0 | 342°38.2 | 357°38.3 | 12°38.5 | 27°38.7 | 42°38.8 | 57°39.0 | 72°39.2 | +0.2 |
| | -2°53.7 | -2°52.7 | -2°51.7 | -2°50.7 | -2°49.7 | -2°48.7 | -2°47.8 | -2°46.8 | -2°45.8 | -2°44.8 | -2°43.8 | -2°42.8 | +1.0 |
| Je 14 | 267°41.4 | 282°41.6 | 297°41.8 | 312°41.9 | 327°42.1 | 342°42.3 | 357°42.5 | 12°42.6 | 27°42.8 | 42°43.0 | 57°43.1 | 72°43.3 | +0.2 |
| | -2°30.0 | -2°29.0 | -2°28.0 | -2°27.0 | -2°26.1 | -2°25.1 | -2°24.1 | -2°23.1 | -2°22.1 | -2°21.1 | -2°20.1 | -2°19.2 | +1.0 |
| Ve 15 | 267°45.6 | 282°45.8 | 297°45.9 | 312°46.1 | 327°46.3 | 342°46.5 | 357°46.6 | 12°46.8 | 27°47.0 | 42°47.2 | 57°47.4 | 72°47.5 | +0.2 |
| | -2°06.3 | -2°05.3 | -2°04.4 | -2°03.4 | -2°02.4 | -2°01.4 | -2°00.4 | -1°59.4 | -1°58.4 | -1°57.4 | -1°56.5 | -1°55.5 | +1.0 |
| Sa 16 | 267°49.8 | 282°50.0 | 297°50.2 | 312°50.4 | 327°50.5 | 342°50.7 | 357°50.9 | 12°51.1 | 27°51.3 | 42°51.4 | 57°51.6 | 72°51.8 | +0.2 |
| | -1°42.6 | -1°41.6 | -1°40.7 | -1°39.7 | -1°38.7 | -1°37.7 | -1°36.7 | -1°35.7 | -1°34.7 | -1°33.7 | -1°32.8 | -1°31.8 | +1.0 |
| Di 17 | 267°54.1 | 282°54.3 | 297°54.5 | 312°54.7 | 327°54.8 | 342°55.0 | 357°55.2 | 12°55.4 | 27°55.6 | 42°55.8 | 57°55.9 | 72°56.1 | +0.2 |
| | -1°18.9 | -1°17.9 | -1°16.9 | -1°16.0 | -1°15.0 | -1°14.0 | -1°13.0 | -1°12.0 | -1°11.0 | -1°10.0 | -1°09.0 | -1°08.1 | +1.0 |
| Lu 18 | 267°58.5 | 282°58.7 | 297°58.8 | 312°59.0 | 327°59.2 | 342°59.4 | 357°59.6 | 12°59.7 | 27°59.9 | 43°00.1 | 58°00.3 | 73°00.5 | +0.2 |
| | -0°55.2 | -0°54.2 | -0°53.2 | -0°52.2 | -0°51.3 | -0°50.3 | -0°49.3 | -0°48.3 | -0°47.3 | -0°46.3 | -0°45.3 | -0°44.3 | +1.0 |
| Ma 19 | 268°02.9 | 283°03.0 | 298°03.2 | 313°03.4 | 328°03.6 | 343°03.8 | 358°04.0 | 13°04.2 | 28°04.3 | 43°04.5 | 58°04.7 | 73°04.9 | +0.2 |
| | -0°31.5 | -0°30.5 | -0°29.5 | -0°28.5 | -0°27.5 | -0°26.5 | -0°25.6 | -0°24.6 | -0°23.6 | -0°22.6 | -0°21.6 | -0°20.6 | +1.0 |
| Me 20 | 268°07.3 | 283°07.5 | 298°07.7 | 313°07.8 | 328°08.0 | 343°08.2 | 358°08.4 | 13°08.6 | 28°08.8 | 43°09.0 | 58°09.1 | 73°09.3 | +0.2 |
| | -0°07.8 | -0°06.8 | -0°05.8 | -0°04.8 | -0°03.8 | -0°02.8 | -0°01.8 | -0°00.9 | 0°00.1 | 0°01.1 | 0°02.1 | 0°03.1 | +1.0 |
| Je 21 | 268°11.8 | 283°11.9 | 298°12.1 | 313°12.3 | 328°12.5 | 343°12.7 | 358°12.9 | 13°13.1 | 28°13.2 | 43°13.4 | 58°13.6 | 73°13.8 | +0.2 |
| | 0°15.9 | 0°16.9 | 0°17.9 | 0°18.9 | 0°19.9 | 0°20.9 | 0°21.8 | 0°22.8 | 0°23.8 | 0°24.8 | 0°25.8 | 0°26.8 | +1.0 |
| Ve 22 | 268°16.2 | 283°16.4 | 298°16.6 | 313°16.8 | 328°17.0 | 343°17.2 | 358°17.4 | 13°17.6 | 28°17.7 | 43°17.9 | 58°18.1 | 73°18.3 | +0.2 |
| | 0°39.6 | 0°40.6 | 0°41.6 | 0°42.6 | 0°43.6 | 0°44.5 | 0°45.5 | 0°46.5 | 0°47.5 | 0°48.5 | 0°49.5 | 0°50.5 | +1.0 |
| Sa 23 | 268°20.7 | 283°20.9 | 298°21.1 | 313°21.3 | 328°21.5 | 343°21.7 | 358°21.9 | 13°22.1 | 28°22.2 | 43°22.4 | 58°22.6 | 73°22.8 | +0.2 |
| | 1°03.3 | 1°04.3 | 1°05.2 | 1°06.2 | 1°07.2 | 1°08.2 | 1°09.2 | 1°10.2 | 1°11.2 | 1°12.1 | 1°13.1 | 1°14.1 | +1.0 |
| Di 24 | 268°25.3 | 283°25.5 | 298°25.6 | 313°25.8 | 328°26.0 | 343°26.2 | 358°26.4 | 13°26.6 | 28°26.8 | 43°27.0 | 58°27.1 | 73°27.3 | +0.2 |
| | 1°26.9 | 1°27.9 | 1°28.9 | 1°29.9 | 1°30.8 | 1°31.8 | 1°32.8 | 1°33.8 | 1°34.8 | 1°35.8 | 1°36.7 | 1°37.7 | +1.0 |
| Lu 25 | 268°29.8 | 283°30.0 | 298°30.2 | 313°30.4 | 328°30.5 | 343°30.7 | 358°30.9 | 13°31.1 | 28°31.3 | 43°31.5 | 58°31.7 | 73°31.9 | +0.2 |
| | 1°50.5 | 1°51.5 | 1°52.5 | 1°53.5 | 1°54.4 | 1°55.4 | 1°56.4 | 1°57.4 | 1°58.4 | 1°59.4 | 2°00.3 | 2°01.3 | +1.0 |
| Ma 26 | 268°34.3 | 283°34.5 | 298°34.7 | 313°34.9 | 328°35.1 | 343°35.3 | 358°35.5 | 13°35.6 | 28°35.8 | 43°36.0 | 58°36.2 | 73°36.4 | +0.2 |
| | 2°14.1 | 2°15.1 | 2°16.0 | 2°17.0 | 2°18.0 | 2°19.0 | 2°20.0 | 2°20.9 | 2°21.9 | 2°22.9 | 2°23.9 | 2°24.9 | +1.0 |
| Me 27 | 268°38.8 | 283°39.0 | 298°39.2 | 313°39.4 | 328°39.6 | 343°39.8 | 358°40.0 | 13°40.2 | 28°40.4 | 43°40.5 | 58°40.7 | 73°40.9 | +0.2 |
| | 2°37.6 | 2°38.6 | 2°39.6 | 2°40.5 | 2°41.5 | 2°42.5 | 2°43.5 | 2°44.4 | 2°45.4 | 2°46.4 | 2°47.4 | 2°48.4 | +1.0 |
| Je 28 | 268°43.4 | 283°43.6 | 298°43.7 | 313°43.9 | 328°44.1 | 343°44.3 | 358°44.5 | 13°44.7 | 28°44.9 | 43°45.1 | 58°45.2 | 73°45.4 | +0.2 |
| | 3°01.1 | 3°02.0 | 3°03.0 | 3°04.0 | 3°05.0 | 3°05.9 | 3°06.9 | 3°07.9 | 3°08.9 | 3°09.8 | 3°10.8 | 3°11.8 | +1.0 |
| Ve 29 | 268°47.9 | 283°48.1 | 298°48.2 | 313°48.4 | 328°48.6 | 343°48.8 | 358°49.0 | 13°49.2 | 28°49.4 | 43°49.6 | 58°49.7 | 73°49.9 | +0.2 |
| | 3°24.5 | 3°25.4 | 3°26.4 | 3°27.4 | 3°28.4 | 3°29.3 | 3°30.3 | 3°31.3 | 3°32.3 | 3°33.2 | 3°34.2 | 3°35.2 | +1.0 |
| Sa 30 | 268°52.4 | 283°52.5 | 298°52.7 | 313°52.9 | 328°53.1 | 343°53.3 | 358°53.5 | 13°53.7 | 28°53.9 | 43°54.0 | 58°54.2 | 73°54.4 | +0.2 |
| | 3°47.8 | 3°48.8 | 3°49.8 | 3°50.7 | 3°51.7 | 3°52.7 | 3°53.6 | 3°54.6 | 3°55.6 | 3°56.6 | 3°57.5 | 3°58.5 | +1.0 |
| Di 31 | 268°56.8 | 283°57.0 | 298°57.2 | 313°57.4 | 328°57.6 | 343°57.8 | 358°57.9 | 13°58.1 | 28°58.3 | 43°58.5 | 58°58.7 | 73°58.9 | +0.2 |
| | 4°11.1 | 4°12.1 | 4°13.0 | 4°14.0 | 4°15.0 | 4°15.9 | 4°16.9 | 4°17.9 | 4°18.8 | 4°19.8 | 4°20.8 | 4°21.7 | +1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2030

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 245°48.3 | 260°17.1 | 274°45.9 | 289°14.7 | 303°43.7 | 318°12.7 | 332°41.8 | 347°11.0 | 1°40.2 | 16°09.5 | 30°38.9 | +29.1 | 15.7 |
| | -16°41.1 | -16°31.5 | -16°21.8 | -16°12.0 | -16°02.1 | -15°52.2 | -15°42.2 | -15°32.1 | -15°21.9 | -15°11.7 | -15°01.4 | +10.0 | 57.6 |
| Sa 2 | 248°08.3 | 262°38.8 | 277°09.4 | 291°40.0 | 306°10.7 | 320°41.5 | 335°12.3 | 349°43.2 | 4°14.1 | 18°45.1 | 33°16.2 | +30.8 | 15.6 |
| | -12°18.5 | -12°07.2 | -11°55.8 | -11°44.4 | -11°32.9 | -11°21.3 | -11°09.7 | -10°58.1 | -10°46.4 | -10°34.7 | -10°22.9 | +11.6 | 57.1 |
| Di 3 | 251°09.2 | 265°41.1 | 280°13.1 | 294°45.2 | 309°17.3 | 323°49.4 | 338°21.6 | 352°53.9 | 7°26.1 | 21°58.5 | 36°30.8 | +32.2 | 15.4 |
| | -7°21.9 | -7°09.6 | -6°57.2 | -6°44.9 | -6°32.5 | -6°20.1 | -6°07.6 | -5°55.2 | -5°42.7 | -5°30.3 | -5°17.8 | +12.4 | 56.5 |
| ● Lu 4 | 254°41.0 | 269°14.0 | 283°47.0 | 298°20.0 | 312°53.0 | 327°26.1 | 341°59.2 | 356°32.3 | 11°05.4 | 25°38.6 | 40°11.8 | +33.1 | 15.3 |
| | -2°09.2 | -1°56.6 | -1°44.0 | -1°31.4 | -1°18.8 | -1°06.2 | -0°53.6 | -0°41.1 | -0°28.5 | -0°15.9 | -0°03.4 | +12.6 | 56.0 |
| Ma 5 | 258°32.0 | 273°05.5 | 287°38.9 | 302°12.4 | 316°45.9 | 331°19.4 | 345°52.9 | 0°26.4 | 15°00.0 | 29°33.5 | 44°07.0 | +33.5 | 15.1 |
| | 3°03.3 | 3°15.6 | 3°27.8 | 3°40.1 | 3°52.3 | 4°04.5 | 4°16.6 | 4°28.8 | 4°40.9 | 4°52.9 | 5°05.0 | +12.2 | 55.5 |
| Me 6 | 262°30.2 | 277°03.7 | 291°37.2 | 306°10.7 | 320°44.2 | 335°17.7 | 349°51.2 | 4°24.7 | 18°58.1 | 33°31.6 | 48°05.0 | +33.5 | 15.0 |
| | 8°01.5 | 8°12.9 | 8°24.3 | 8°35.7 | 8°47.0 | 8°58.3 | 9°09.5 | 9°20.7 | 9°31.9 | 9°42.9 | 9°54.0 | +11.3 | 55.0 |
| Je 7 | 266°24.9 | 280°58.0 | 295°31.2 | 310°04.4 | 324°37.5 | 339°10.6 | 353°43.6 | 8°16.7 | 22°49.7 | 37°22.7 | 51°55.7 | +33.1 | 14.9 |
| | 12°33.2 | 12°43.3 | 12°53.4 | 13°03.5 | 13°13.5 | 13°23.4 | 13°33.2 | 13°43.0 | 13°52.7 | 14°02.4 | 14°12.0 | +9.9 | 54.6 |
| Ve 8 | 270°07.3 | 284°39.8 | 299°12.3 | 313°44.8 | 328°17.3 | 342°49.7 | 357°22.1 | 11°54.5 | 26°26.8 | 40°59.1 | 55°31.4 | +32.4 | 14.8 |
| | 16°27.6 | 16°36.1 | 16°44.5 | 16°52.8 | 17°01.0 | 17°09.2 | 17°17.3 | 17°25.3 | 17°33.2 | 17°41.0 | 17°48.8 | +8.1 | 54.3 |
| Sa 9 | 273°31.5 | 288°03.2 | 302°34.9 | 317°06.6 | 331°38.2 | 346°09.8 | 0°41.4 | 15°13.0 | 29°44.5 | 44°15.9 | 58°47.4 | +31.6 | 14.8 |
| | 19°35.3 | 19°41.7 | 19°48.0 | 19°54.3 | 20°00.4 | 20°06.4 | 20°12.4 | 20°18.3 | 20°24.1 | 20°29.7 | 20°35.3 | +6.0 | 54.1 |
| Di 10 | 276°35.0 | 291°05.9 | 305°36.8 | 320°07.7 | 334°38.5 | 349°09.3 | 3°40.1 | 18°10.8 | 32°41.6 | 47°12.2 | 61°42.9 | +30.8 | 14.8 |
| | 21°47.8 | 21°51.8 | 21°55.8 | 21°59.6 | 22°03.4 | 22°07.0 | 22°10.5 | 22°14.0 | 22°17.3 | 22°20.6 | 22°23.7 | +3.6 | 54.1 |
| Lu 11 | 279°19.5 | 293°49.7 | 308°20.0 | 322°50.2 | 337°20.3 | 351°50.5 | 6°20.6 | 20°50.8 | 35°20.9 | 49°50.9 | 64°21.0 | +30.1 | 14.8 |
| | 22°58.1 | 22°59.5 | 23°00.8 | 23°02.1 | 23°03.2 | 23°04.2 | 23°05.1 | 23°05.9 | 23°06.5 | 23°07.1 | 23°07.6 | +1.0 | 54.3 |
| ◐ Ma 12 | 281°50.0 | 296°19.9 | 310°49.7 | 325°19.5 | 339°49.3 | 354°19.1 | 8°48.9 | 23°18.7 | 37°48.4 | 52°18.2 | 66°47.9 | +29.8 | 14.9 |
| | 23°01.1 | 22°59.8 | 22°58.3 | 22°56.8 | 22°55.1 | 22°53.3 | 22°51.5 | 22°49.5 | 22°47.3 | 22°45.1 | 22°42.8 | -1.8 | 54.7 |
| Me 13 | 284°13.9 | 298°43.6 | 313°13.3 | 327°43.1 | 342°12.8 | 356°42.5 | 11°12.3 | 25°42.0 | 40°11.7 | 54°41.5 | 69°11.2 | +29.7 | 15.1 |
| | 21°54.2 | 21°50.1 | 21°45.8 | 21°41.5 | 21°37.0 | 21°32.4 | 21°27.8 | 21°23.0 | 21°18.0 | 21°13.0 | 21°07.9 | -4.6 | 55.3 |
| Je 14 | 286°38.2 | 301°08.1 | 315°37.9 | 330°07.8 | 344°37.7 | 359°07.6 | 13°37.5 | 28°07.4 | 42°37.3 | 57°07.3 | 71°37.2 | +29.9 | 15.3 |
| | 19°37.9 | 19°31.0 | 19°24.1 | 19°17.0 | 19°09.8 | 19°02.6 | 18°55.2 | 18°47.7 | 18°40.1 | 18°32.4 | 18°24.7 | -7.3 | 56.0 |
| Ve 15 | 289°07.5 | 303°37.6 | 318°07.7 | 332°37.8 | 347°07.9 | 1°38.1 | 16°08.2 | 30°38.4 | 45°08.5 | 59°38.7 | 74°08.9 | +30.1 | 15.5 |
| | 16°15.9 | 16°06.6 | 15°57.1 | 15°47.6 | 15°38.0 | 15°28.2 | 15°18.4 | 15°08.5 | 14°58.5 | 14°48.5 | 14°38.3 | -9.8 | 56.8 |
| Sa 16 | 291°42.2 | 306°12.5 | 320°42.7 | 335°13.0 | 349°43.3 | 4°13.5 | 18°43.8 | 33°14.1 | 47°44.3 | 62°14.6 | 76°44.8 | +30.3 | 15.7 |
| | 11°55.7 | 11°44.3 | 11°32.7 | 11°21.1 | 11°09.4 | 10°57.6 | 10°45.8 | 10°33.9 | 10°21.9 | 10°09.8 | 9°57.7 | -11.8 | 57.7 |
| Di 17 | 294°18.2 | 308°48.4 | 323°18.5 | 337°48.7 | 352°18.8 | 6°48.9 | 21°19.0 | 35°49.1 | 50°19.2 | 64°49.3 | 79°19.3 | +30.1 | 16.0 |
| | 6°48.5 | 6°35.4 | 6°22.3 | 6°09.2 | 5°55.9 | 5°42.7 | 5°29.4 | 5°16.0 | 5°02.6 | 4°49.2 | 4°35.7 | -13.3 | 58.6 |
| Lu 18 | 296°47.4 | 311°17.1 | 325°46.8 | 340°16.4 | 354°46.0 | 9°15.6 | 23°45.1 | 38°14.6 | 52°44.1 | 67°13.5 | 81°42.9 | +29.5 | 16.2 |
| | 1°09.6 | 0°55.6 | 0°41.6 | 0°27.6 | 0°13.6 | -0°00.4 | -0°14.4 | -0°28.5 | -0°42.5 | -0°56.6 | -1°10.7 | -14.0 | 59.3 |
| ○ Ma 19 | 298°59.2 | 313°27.9 | 327°56.6 | 342°25.3 | 356°53.9 | 11°22.5 | 25°51.0 | 40°19.4 | 54°47.8 | 69°16.2 | 83°44.5 | +28.5 | 16.3 |
| | -4°41.5 | -4°55.5 | -5°09.5 | -5°23.4 | -5°37.3 | -5°51.2 | -6°05.1 | -6°18.9 | -6°32.7 | -6°46.5 | -7°00.2 | -13.9 | 59.9 |
| Me 20 | 300°42.4 | 315°09.8 | 329°37.2 | 344°04.5 | 358°31.7 | 12°58.8 | 27°25.9 | 41°53.0 | 56°19.9 | 70°46.8 | 85°13.7 | +27.1 | 16.4 |
| | -10°21.4 | -10°34.4 | -10°47.3 | -11°00.2 | -11°13.0 | -11°25.7 | -11°38.4 | -11°51.0 | -12°03.5 | -12°16.0 | -12°28.4 | -12.7 | 60.3 |
| Je 21 | 301°48.9 | 316°14.7 | 330°40.5 | 345°06.2 | 359°31.9 | 13°57.5 | 28°23.0 | 42°48.5 | 57°13.9 | 71°39.2 | 86°04.5 | +25.6 | 16.5 |
| | -15°24.1 | -15°35.1 | -15°45.9 | -15°56.7 | -16°07.3 | -16°17.9 | -16°28.3 | -16°38.7 | -16°48.9 | -16°59.0 | -17°09.0 | -10.5 | 60.3 |
| Ve 22 | 302°17.2 | 316°41.6 | 331°06.0 | 345°30.3 | 359°54.6 | 14°18.9 | 28°43.1 | 43°07.2 | 57°31.3 | 71°55.4 | 86°19.5 | +24.2 | 16.4 |
| | -19°24.2 | -19°32.2 | -19°40.0 | -19°47.7 | -19°55.3 | -20°02.7 | -20°10.0 | -20°17.1 | -20°24.1 | -20°31.0 | -20°37.7 | -7.4 | 60.2 |
| Sa 23 | 316°41.6 | 331°06.0 | 345°30.3 | 359°54.6 | 14°18.9 | 28°43.1 | 43°07.2 | 57°31.3 | 71°55.4 | 86°19.5 | 100°43.5 | +24.2 | 16.4 |
| | -19°32.2 | -19°40.0 | -19°47.7 | -19°55.3 | -20°02.7 | -20°10.0 | -20°17.1 | -20°24.1 | -20°31.0 | -20°37.7 | -20°44.3 | -7.2 | 60.2 |
| Di 24 | 316°40.2 | 331°03.8 | 345°27.4 | 359°51.0 | 14°14.5 | 28°38.1 | 43°01.7 | 57°25.3 | 71°48.8 | 86°12.4 | 100°35.9 | +23.6 | 16.3 |
| | -22°04.8 | -22°09.0 | -22°13.0 | -22°16.8 | -22°20.5 | -22°24.0 | -22°27.3 | -22°30.5 | -22°33.6 | -22°36.5 | -22°39.2 | -3.4 | 59.8 |
| Lu 25 | 316°30.7 | 330°54.5 | 345°18.3 | 359°42.2 | 14°06.1 | 28°30.0 | 42°54.0 | 57°18.0 | 71°42.1 | 86°06.2 | 100°30.3 | +24.0 | 16.2 |
| | -23°01.1 | -23°01.3 | -23°01.3 | -23°01.2 | -23°00.9 | -23°00.5 | -22°59.9 | -22°59.2 | -22°58.3 | -22°57.2 | -22°56.0 | +0.5 | 59.3 |
| ◑ Ma 26 | 316°38.4 | 331°03.4 | 345°28.4 | 359°53.5 | 14°18.7 | 28°44.0 | 43°09.3 | 57°34.7 | 72°00.2 | 86°25.7 | 100°51.3 | +25.3 | 16.0 |
| | -22°20.2 | -22°16.6 | -22°12.9 | -22°09.1 | -22°05.1 | -22°01.0 | -21°56.8 | -21°52.4 | -21°47.9 | -21°43.3 | -21°38.5 | +4.2 | 58.6 |
| Me 27 | 317°24.6 | 331°51.4 | 346°18.4 | 0°45.4 | 15°12.5 | 29°39.6 | 44°06.9 | 58°34.2 | 73°01.6 | 87°29.2 | 101°56.7 | +27.2 | 15.8 |
| | -20°11.8 | -20°05.0 | -19°58.2 | -19°51.2 | -19°44.1 | -19°37.0 | -19°29.7 | -19°22.3 | -19°14.8 | -19°07.2 | -18°59.5 | +7.2 | 58.0 |
| Je 28 | 319°00.5 | 333°29.4 | 347°58.4 | 2°27.5 | 16°56.6 | 31°25.8 | 45°55.1 | 60°24.5 | 74°54.0 | 89°23.5 | 103°53.2 | +29.3 | 15.7 |
| | -16°52.2 | -16°43.0 | -16°33.8 | -16°24.4 | -16°15.0 | -16°05.4 | -15°55.9 | -15°46.2 | -15°36.4 | -15°26.6 | -15°16.7 | +9.6 | 57.4 |
| Ve 29 | 321°26.4 | 335°57.2 | 350°28.1 | 4°59.0 | 19°30.0 | 34°01.0 | 48°32.1 | 63°03.3 | 77°34.6 | 92°05.9 | 106°37.3 | +31.1 | 15.5 |
| | -12°40.3 | -12°29.4 | -12°18.5 | -12°07.5 | -11°56.4 | -11°45.3 | -11°34.1 | -11°22.9 | -11°11.7 | -11°00.4 | -10°49.0 | +11.1 | 56.8 |
| Sa 30 | 324°34.8 | 339°07.1 | 353°39.4 | 8°11.7 | 22°44.1 | 37°16.6 | 51°49.1 | 66°21.6 | 80°54.2 | 95°26.8 | 109°59.5 | +32.5 | 15.3 |
| | -7°54.3 | -7°42.4 | -7°30.5 | -7°18.5 | -7°06.5 | -6°54.5 | -6°42.5 | -6°30.4 | -6°18.4 | -6°06.3 | -5°54.1 | +12.0 | 56.3 |
| Di 31 | 328°14.1 | 342°47.3 | 357°20.6 | 11°53.8 | 26°27.2 | 41°00.5 | 55°33.9 | 70°07.3 | 84°40.7 | 99°14.1 | 113°47.6 | +33.4 | 15.2 |
| | -2°50.8 | -2°38.5 | -2°26.2 | -2°13.9 | -2°01.6 | -1°49.3 | -1°37.0 | -1°24.7 | -1°12.4 | -1°00.1 | -0°47.8 | +12.3 | 55.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 06h34 — PQ: 12 08h47 — PL: 19 17h56 — DQ: 26 09h51

# SOLEIL

## Avril 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 269°01.3<br>4°34.3 | 284°01.5<br>4°35.3 | 299°01.6<br>4°36.2 | 314°01.8<br>4°37.2 | 329°02.0<br>4°38.2 | 344°02.2<br>4°39.1 | 359°02.4<br>4°40.1 | 14°02.6<br>4°41.0 | 29°02.7<br>4°42.0 | 44°02.9<br>4°43.0 | 59°03.1<br>4°43.9 | 74°03.3<br>4°44.9 | +0.2<br>+1.0 |
| Ma 2 | 269°05.7<br>4°57.4 | 284°05.9<br>4°58.4 | 299°06.1<br>4°59.3 | 314°06.2<br>5°00.3 | 329°06.4<br>5°01.3 | 344°06.6<br>5°02.2 | 359°06.8<br>5°03.2 | 14°07.0<br>5°04.1 | 29°07.1<br>5°05.1 | 44°07.3<br>5°06.1 | 59°07.5<br>5°07.0 | 74°07.7<br>5°08.0 | +0.2<br>+1.0 |
| Me 3 | 269°10.1<br>5°20.4 | 284°10.2<br>5°21.4 | 299°10.4<br>5°22.4 | 314°10.6<br>5°23.3 | 329°10.8<br>5°24.3 | 344°11.0<br>5°25.2 | 359°11.2<br>5°26.2 | 14°11.3<br>5°27.1 | 29°11.5<br>5°28.1 | 44°11.7<br>5°29.0 | 59°11.9<br>5°30.0 | 74°12.1<br>5°31.0 | +0.2<br>+1.0 |
| Je 4 | 269°14.4<br>5°43.4 | 284°14.6<br>5°44.3 | 299°14.8<br>5°45.3 | 314°14.9<br>5°46.2 | 329°15.1<br>5°47.2 | 344°15.3<br>5°48.1 | 359°15.5<br>5°49.1 | 14°15.7<br>5°50.0 | 29°15.8<br>5°51.0 | 44°16.0<br>5°51.9 | 59°16.2<br>5°52.9 | 74°16.4<br>5°53.8 | +0.2<br>+1.0 |
| Ve 5 | 269°18.7<br>6°06.2 | 284°18.9<br>6°07.2 | 299°19.1<br>6°08.1 | 314°19.2<br>6°09.1 | 329°19.4<br>6°10.0 | 344°19.6<br>6°10.9 | 359°19.8<br>6°11.9 | 14°20.0<br>6°12.8 | 29°20.1<br>6°13.8 | 44°20.3<br>6°14.7 | 59°20.5<br>6°15.7 | 74°20.7<br>6°16.6 | +0.2<br>+0.9 |
| Sa 6 | 269°23.0<br>6°28.9 | 284°23.1<br>6°29.9 | 299°23.3<br>6°30.8 | 314°23.5<br>6°31.8 | 329°23.7<br>6°32.7 | 344°23.9<br>6°33.7 | 359°24.0<br>6°34.6 | 14°24.2<br>6°35.5 | 29°24.4<br>6°36.5 | 44°24.6<br>6°37.4 | 59°24.7<br>6°38.4 | 74°24.9<br>6°39.3 | +0.2<br>+0.9 |
| Di 7 | 269°27.2<br>6°51.5 | 284°27.4<br>6°52.5 | 299°27.5<br>6°53.4 | 314°27.7<br>6°54.4 | 329°27.9<br>6°55.3 | 344°28.1<br>6°56.2 | 359°28.2<br>6°57.2 | 14°28.4<br>6°58.1 | 29°28.6<br>6°59.1 | 44°28.7<br>7°00.0 | 59°28.9<br>7°00.9 | 74°29.1<br>7°01.9 | +0.2<br>+0.9 |
| Lu 8 | 269°31.3<br>7°14.0 | 284°31.5<br>7°15.0 | 299°31.7<br>7°15.9 | 314°31.9<br>7°16.8 | 329°32.0<br>7°17.8 | 344°32.2<br>7°18.7 | 359°32.4<br>7°19.6 | 14°32.5<br>7°20.6 | 29°32.7<br>7°21.5 | 44°32.9<br>7°22.4 | 59°33.1<br>7°23.4 | 74°33.2<br>7°24.3 | +0.2<br>+0.9 |
| Ma 9 | 269°35.4<br>7°36.4 | 284°35.6<br>7°37.3 | 299°35.8<br>7°38.3 | 314°35.9<br>7°39.2 | 329°36.1<br>7°40.1 | 344°36.3<br>7°41.1 | 359°36.5<br>7°42.0 | 14°36.6<br>7°42.9 | 29°36.8<br>7°43.8 | 44°37.0<br>7°44.8 | 59°37.1<br>7°45.7 | 74°37.3<br>7°46.6 | +0.2<br>+0.9 |
| Me 10 | 269°39.5<br>7°58.7 | 284°39.6<br>7°59.6 | 299°39.8<br>8°00.5 | 314°40.0<br>8°01.4 | 329°40.1<br>8°02.4 | 344°40.3<br>8°03.3 | 359°40.5<br>8°04.2 | 14°40.6<br>8°05.1 | 29°40.8<br>8°06.0 | 44°41.0<br>8°07.0 | 59°41.1<br>8°07.9 | 74°41.3<br>8°08.8 | +0.2<br>+0.9 |
| Je 11 | 269°43.5<br>8°20.8 | 284°43.6<br>8°21.7 | 299°43.8<br>8°22.6 | 314°43.9<br>8°23.5 | 329°44.1<br>8°24.4 | 344°44.3<br>8°25.4 | 359°44.4<br>8°26.3 | 14°44.6<br>8°27.2 | 29°44.8<br>8°28.1 | 44°44.9<br>8°29.0 | 59°45.1<br>8°29.9 | 74°45.3<br>8°30.8 | +0.2<br>+0.9 |
| Ve 12 | 269°47.4<br>8°42.7 | 284°47.5<br>8°43.6 | 299°47.7<br>8°44.6 | 314°47.8<br>8°45.5 | 329°48.0<br>8°46.4 | 344°48.2<br>8°47.3 | 359°48.3<br>8°48.2 | 14°48.5<br>8°49.1 | 29°48.7<br>8°50.0 | 44°48.8<br>8°50.9 | 59°49.0<br>8°51.8 | 74°49.1<br>8°52.7 | +0.2<br>+0.9 |
| Sa 13 | 269°51.2<br>9°04.5 | 284°51.4<br>9°05.5 | 299°51.5<br>9°06.4 | 314°51.7<br>9°07.3 | 329°51.8<br>9°08.2 | 344°52.0<br>9°09.1 | 359°52.2<br>9°10.0 | 14°52.3<br>9°10.9 | 29°52.5<br>9°11.8 | 44°52.6<br>9°12.7 | 59°52.8<br>9°13.6 | 74°52.9<br>9°14.5 | +0.2<br>+0.9 |
| Di 14 | 269°55.0<br>9°26.2 | 284°55.1<br>9°27.1 | 299°55.3<br>9°28.0 | 314°55.4<br>9°28.9 | 329°55.6<br>9°29.8 | 344°55.7<br>9°30.7 | 359°55.9<br>9°31.6 | 14°56.0<br>9°32.5 | 29°56.2<br>9°33.4 | 44°56.4<br>9°34.3 | 59°56.5<br>9°35.2 | 74°56.7<br>9°36.1 | +0.2<br>+0.9 |
| Lu 15 | 269°58.6<br>9°47.7 | 284°58.8<br>9°48.6 | 299°58.9<br>9°49.5 | 314°59.1<br>9°50.4 | 329°59.2<br>9°51.3 | 344°59.4<br>9°52.2 | 359°59.6<br>9°53.1 | 14°59.7<br>9°54.0 | 29°59.9<br>9°54.9 | 45°00.0<br>9°55.7 | 60°00.2<br>9°56.6 | 75°00.3<br>9°57.5 | +0.2<br>+0.9 |
| Ma 16 | 270°02.2<br>10°09.1 | 285°02.4<br>10°10.0 | 300°02.5<br>10°10.8 | 315°02.7<br>10°11.7 | 330°02.8<br>10°12.6 | 345°03.0<br>10°13.5 | 0°03.1<br>10°14.4 | 15°03.3<br>10°15.3 | 30°03.4<br>10°16.1 | 45°03.6<br>10°17.0 | 60°03.7<br>10°17.9 | 75°03.9<br>10°18.8 | +0.1<br>+0.9 |
| Me 17 | 270°05.7<br>10°30.2 | 285°05.9<br>10°31.1 | 300°06.0<br>10°32.0 | 315°06.2<br>10°32.9 | 330°06.3<br>10°33.8 | 345°06.5<br>10°34.6 | 0°06.6<br>10°35.5 | 15°06.7<br>10°36.4 | 30°06.9<br>10°37.3 | 45°07.0<br>10°38.1 | 60°07.2<br>10°39.0 | 75°07.3<br>10°39.9 | +0.1<br>+0.9 |
| Je 18 | 270°09.2<br>10°51.2 | 285°09.3<br>10°52.1 | 300°09.4<br>10°53.0 | 315°09.6<br>10°53.9 | 330°09.7<br>10°54.7 | 345°09.9<br>10°55.6 | 0°10.0<br>10°56.5 | 15°10.1<br>10°57.3 | 30°10.3<br>10°58.2 | 45°10.4<br>10°59.1 | 60°10.5<br>10°59.9 | 75°10.7<br>11°00.8 | +0.1<br>+0.9 |
| Ve 19 | 270°12.5<br>11°12.1 | 285°12.6<br>11°12.9 | 300°12.7<br>11°13.8 | 315°12.9<br>11°14.7 | 330°13.0<br>11°15.5 | 345°13.1<br>11°16.4 | 0°13.3<br>11°17.2 | 15°13.4<br>11°18.1 | 30°13.5<br>11°19.0 | 45°13.7<br>11°19.8 | 60°13.8<br>11°20.7 | 75°13.9<br>11°21.6 | +0.1<br>+0.9 |
| Sa 20 | 270°15.7<br>11°32.7 | 285°15.8<br>11°33.6 | 300°15.9<br>11°34.4 | 315°16.1<br>11°35.3 | 330°16.2<br>11°36.1 | 345°16.3<br>11°37.0 | 0°16.5<br>11°37.8 | 15°16.6<br>11°38.7 | 30°16.7<br>11°39.6 | 45°16.8<br>11°40.4 | 60°17.0<br>11°41.3 | 75°17.1<br>11°42.1 | +0.1<br>+0.9 |
| Di 21 | 270°18.8<br>11°53.2 | 285°18.9<br>11°54.0 | 300°19.0<br>11°54.9 | 315°19.2<br>11°55.7 | 330°19.3<br>11°56.6 | 345°19.4<br>11°57.4 | 0°19.5<br>11°58.3 | 15°19.7<br>11°59.1 | 30°19.8<br>11°59.9 | 45°19.9<br>12°00.8 | 60°20.0<br>12°01.6 | 75°20.2<br>12°02.5 | +0.1<br>+0.8 |
| Lu 22 | 270°21.8<br>12°13.4 | 285°21.9<br>12°14.3 | 300°22.0<br>12°15.1 | 315°22.1<br>12°15.9 | 330°22.2<br>12°16.8 | 345°22.4<br>12°17.6 | 0°22.5<br>12°18.5 | 15°22.6<br>12°19.3 | 30°22.7<br>12°20.1 | 45°22.8<br>12°21.0 | 60°23.0<br>12°21.8 | 75°23.1<br>12°22.6 | +0.1<br>+0.8 |
| Ma 23 | 270°24.6<br>12°33.5 | 285°24.7<br>12°34.3 | 300°24.9<br>12°35.1 | 315°25.0<br>12°36.0 | 330°25.1<br>12°36.8 | 345°25.2<br>12°37.6 | 0°25.3<br>12°38.5 | 15°25.4<br>12°39.3 | 30°25.6<br>12°40.1 | 45°25.7<br>12°41.0 | 60°25.8<br>12°41.8 | 75°25.9<br>12°42.6 | +0.1<br>+0.8 |
| Me 24 | 270°27.4<br>12°53.3 | 285°27.5<br>12°54.2 | 300°27.6<br>12°55.0 | 315°27.7<br>12°55.8 | 330°27.8<br>12°56.6 | 345°27.9<br>12°57.5 | 0°28.0<br>12°58.3 | 15°28.2<br>12°59.1 | 30°28.3<br>12°59.9 | 45°28.4<br>13°00.7 | 60°28.5<br>13°01.6 | 75°28.6<br>13°02.4 | +0.1<br>+0.8 |
| Je 25 | 270°30.0<br>13°13.0 | 285°30.1<br>13°13.8 | 300°30.2<br>13°14.6 | 315°30.3<br>13°15.4 | 330°30.4<br>13°16.2 | 345°30.5<br>13°17.1 | 0°30.6<br>13°17.9 | 15°30.7<br>13°18.7 | 30°30.8<br>13°19.5 | 45°31.0<br>13°20.3 | 60°31.1<br>13°21.1 | 75°31.2<br>13°21.9 | +0.1<br>+0.8 |
| Ve 26 | 270°32.5<br>13°32.4 | 285°32.6<br>13°33.2 | 300°32.7<br>13°34.0 | 315°32.8<br>13°34.8 | 330°32.9<br>13°35.6 | 345°33.0<br>13°36.4 | 0°33.1<br>13°37.2 | 15°33.2<br>13°38.0 | 30°33.3<br>13°38.8 | 45°33.4<br>13°39.6 | 60°33.5<br>13°40.4 | 75°33.6<br>13°41.2 | +0.1<br>+0.8 |
| Sa 27 | 270°34.9<br>13°51.6 | 285°35.0<br>13°52.4 | 300°35.1<br>13°53.2 | 315°35.2<br>13°54.0 | 330°35.3<br>13°54.8 | 345°35.4<br>13°55.6 | 0°35.4<br>13°56.4 | 15°35.5<br>13°57.2 | 30°35.6<br>13°58.0 | 45°35.7<br>13°58.8 | 60°35.8<br>13°59.6 | 75°35.9<br>14°00.3 | +0.1<br>+0.8 |
| Di 28 | 270°37.1<br>14°10.6 | 285°37.2<br>14°11.4 | 300°37.3<br>14°12.2 | 315°37.4<br>14°12.9 | 330°37.5<br>14°13.7 | 345°37.6<br>14°14.5 | 0°37.7<br>14°15.3 | 15°37.7<br>14°16.1 | 30°37.8<br>14°16.9 | 45°37.9<br>14°17.7 | 60°38.0<br>14°18.4 | 75°38.1<br>14°19.2 | +0.1<br>+0.8 |
| Lu 29 | 270°39.2<br>14°29.3 | 285°39.3<br>14°30.1 | 300°39.4<br>14°30.9 | 315°39.5<br>14°31.7 | 330°39.6<br>14°32.4 | 345°39.6<br>14°33.2 | 0°39.7<br>14°34.0 | 15°39.8<br>14°34.8 | 30°39.9<br>14°35.5 | 45°40.0<br>14°36.3 | 60°40.1<br>14°37.1 | 75°40.1<br>14°37.8 | +0.1<br>+0.8 |
| Ma 30 | 270°41.2<br>14°47.8 | 285°41.3<br>14°48.6 | 300°41.4<br>14°49.4 | 315°41.4<br>14°50.1 | 330°41.5<br>14°50.9 | 345°41.6<br>14°51.7 | 0°41.7<br>14°52.4 | 15°41.8<br>14°53.2 | 30°41.8<br>14°54.0 | 45°41.9<br>14°54.7 | 60°42.0<br>14°55.5 | 75°42.1<br>14°56.2 | +0.1<br>+0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2030

| J | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 244°49.5 | 259°23.1 | 273°56.8 | 288°30.4 | 303°04.1 | 317°37.7 | 332°11.4 | 346°45.1 | 1°18.8 | 15°52.5 | 30°26.2 | +33.7 | 15.1 |
| | 1°02.5 | 1°14.7 | 1°26.9 | 1°39.0 | 1°51.2 | 2°03.3 | 2°15.5 | 2°27.6 | 2°39.7 | 2°51.8 | 3°03.8 | +12.1 | 55.4 |
| ● Ma 2 | 248°52.3 | 263°26.0 | 277°59.8 | 292°33.5 | 307°07.2 | 321°40.9 | 336°14.6 | 350°48.3 | 5°22.0 | 19°55.6 | 34°29.3 | +33.7 | 15.0 |
| | 6°01.8 | 6°13.4 | 6°25.0 | 6°36.6 | 6°48.2 | 6°59.7 | 7°11.1 | 7°22.6 | 7°33.9 | 7°45.3 | 7°56.6 | +11.5 | 55.0 |
| Me 3 | 252°52.6 | 267°26.0 | 281°59.4 | 296°32.8 | 311°06.1 | 325°39.5 | 340°12.8 | 354°46.1 | 9°19.4 | 23°52.6 | 38°25.8 | +33.3 | 14.9 |
| | 10°41.2 | 10°51.8 | 11°02.3 | 11°12.8 | 11°23.2 | 11°33.6 | 11°43.9 | 11°54.2 | 12°04.4 | 12°14.6 | 12°24.7 | +10.4 | 54.6 |
| Je 4 | 256°41.2 | 271°14.0 | 285°46.8 | 300°19.6 | 314°52.3 | 329°25.0 | 343°57.7 | 358°30.3 | 13°02.9 | 27°35.5 | 42°08.0 | +32.7 | 14.8 |
| | 14°49.0 | 14°58.1 | 15°07.1 | 15°16.1 | 15°25.0 | 15°33.8 | 15°42.6 | 15°51.2 | 15°59.8 | 16°08.4 | 16°16.9 | +8.8 | 54.3 |
| Ve 5 | 260°12.3 | 274°44.3 | 289°16.3 | 303°48.3 | 318°20.2 | 332°52.1 | 347°24.0 | 1°55.8 | 16°27.7 | 30°59.4 | 45°31.2 | +31.9 | 14.7 |
| | 18°14.6 | 18°21.8 | 18°29.0 | 18°36.0 | 18°43.0 | 18°49.8 | 18°56.6 | 19°03.3 | 19°09.9 | 19°16.5 | 19°22.9 | +6.8 | 54.1 |
| Sa 6 | 263°23.5 | 277°54.8 | 292°26.0 | 306°57.2 | 321°28.3 | 335°59.5 | 350°30.6 | 5°01.6 | 19°32.7 | 34°03.7 | 48°34.7 | +31.1 | 14.7 |
| | 20°48.7 | 20°53.6 | 20°58.5 | 21°03.3 | 21°08.0 | 21°12.6 | 21°17.1 | 21°21.5 | 21°25.8 | 21°30.0 | 21°34.0 | +4.5 | 54.0 |
| Di 7 | 266°16.7 | 280°47.3 | 295°17.9 | 309°48.5 | 324°19.1 | 338°49.6 | 353°20.1 | 7°50.6 | 22°21.1 | 36°51.6 | 51°22.1 | +30.5 | 14.7 |
| | 22°23.4 | 22°25.9 | 22°28.2 | 22°30.5 | 22°32.7 | 22°34.7 | 22°36.6 | 22°38.5 | 22°40.2 | 22°41.8 | 22°43.4 | +2.0 | 54.0 |
| Lu 8 | 268°57.4 | 283°27.6 | 297°57.9 | 312°28.2 | 326°58.4 | 341°28.6 | 355°58.9 | 10°29.1 | 24°59.3 | 39°29.6 | 53°59.8 | +30.2 | 14.8 |
| | 22°53.4 | 22°53.2 | 22°52.9 | 22°52.4 | 22°51.9 | 22°51.3 | 22°50.6 | 22°49.7 | 22°48.8 | 22°47.7 | 22°46.5 | -0.7 | 54.2 |
| Ma 9 | 271°33.1 | 286°03.3 | 300°33.5 | 315°03.8 | 329°34.0 | 344°04.3 | 358°34.5 | 13°04.8 | 27°35.1 | 42°05.4 | 56°35.7 | +30.3 | 14.9 |
| | 22°15.9 | 22°13.0 | 22°10.0 | 22°06.9 | 22°03.7 | 22°00.3 | 21°56.9 | 21°53.3 | 21°49.7 | 21°45.9 | 21°42.0 | -3.4 | 54.6 |
| Me 10 | 274°11.1 | 288°41.5 | 303°12.0 | 317°42.4 | 332°12.9 | 346°43.4 | 1°13.9 | 15°44.4 | 30°15.0 | 44°45.5 | 59°16.1 | +30.5 | 15.0 |
| | 20°31.4 | 20°25.9 | 20°20.2 | 20°14.5 | 20°08.6 | 20°02.7 | 19°56.7 | 19°50.5 | 19°44.3 | 19°37.9 | 19°31.5 | -6.0 | 55.1 |
| ◐ Je 11 | 276°55.9 | 291°26.7 | 305°57.5 | 320°28.2 | 334°59.0 | 349°29.8 | 4°00.7 | 18°31.5 | 33°02.3 | 47°33.2 | 62°04.0 | +30.8 | 15.2 |
| | 17°43.0 | 17°35.0 | 17°26.9 | 17°18.8 | 17°10.5 | 17°02.1 | 16°53.7 | 16°45.1 | 16°36.5 | 16°27.8 | 16°18.9 | -8.4 | 55.8 |
| Ve 12 | 279°47.9 | 294°18.9 | 308°49.9 | 323°20.9 | 337°51.9 | 352°22.9 | 6°53.9 | 21°24.9 | 35°55.9 | 50°26.9 | 64°57.9 | +31.0 | 15.5 |
| | 13°56.4 | 13°46.2 | 13°36.0 | 13°25.6 | 13°15.2 | 13°04.7 | 12°54.2 | 12°43.5 | 12°32.8 | 12°22.0 | 12°11.2 | -10.5 | 56.7 |
| Sa 13 | 282°42.7 | 297°13.6 | 311°44.5 | 326°15.5 | 340°46.4 | 355°17.3 | 9°48.1 | 24°19.0 | 38°49.9 | 53°20.7 | 67°51.5 | +30.9 | 15.7 |
| | 9°19.7 | 9°07.7 | 8°55.7 | 8°43.6 | 8°31.4 | 8°19.2 | 8°06.9 | 7°54.6 | 7°42.2 | 7°29.8 | 7°17.3 | -12.2 | 57.6 |
| Di 14 | 285°31.5 | 300°02.0 | 314°32.4 | 329°02.8 | 343°33.2 | 358°03.6 | 12°33.9 | 27°04.2 | 41°34.4 | 56°04.6 | 70°34.8 | +30.3 | 16.0 |
| | 4°03.8 | 3°50.6 | 3°37.3 | 3°24.0 | 3°10.6 | 2°57.2 | 2°43.8 | 2°30.3 | 2°16.8 | 2°03.3 | 1°49.7 | -13.4 | 58.6 |
| Lu 15 | 288°02.6 | 302°32.1 | 317°01.6 | 331°31.0 | 346°00.3 | 0°29.6 | 14°58.8 | 29°28.0 | 43°57.1 | 58°26.2 | 72°55.2 | +29.3 | 16.2 |
| | -1°36.4 | -1°50.2 | -2°04.1 | -2°18.0 | -2°31.8 | -2°45.7 | -2°59.6 | -3°13.5 | -3°27.3 | -3°41.2 | -3°55.1 | -13.9 | 59.5 |
| Ma 16 | 290°02.8 | 304°30.8 | 318°58.7 | 333°26.5 | 347°54.3 | 2°22.0 | 16°49.6 | 31°17.1 | 45°44.6 | 60°12.0 | 74°39.3 | +27.7 | 16.5 |
| | -7°21.5 | -7°35.1 | -7°48.6 | -8°02.1 | -8°15.6 | -8°29.0 | -8°42.4 | -8°55.8 | -9°09.1 | -9°22.4 | -9°35.6 | -13.4 | 60.3 |
| Me 17 | 291°19.9 | 305°46.0 | 320°12.0 | 334°37.9 | 349°03.7 | 3°29.5 | 17°55.2 | 32°20.8 | 46°46.3 | 61°11.7 | 75°37.0 | +25.7 | 16.6 |
| | -12°47.1 | -12°59.4 | -13°11.5 | -13°23.6 | -13°35.6 | -13°47.5 | -13°59.3 | -14°11.0 | -14°22.7 | -14°34.2 | -14°45.7 | -11.9 | 60.9 |
| ○ Je 18 | 291°47.8 | 306°12.0 | 320°36.0 | 335°00.0 | 349°23.9 | 3°47.7 | 18°11.5 | 32°35.2 | 46°58.8 | 61°22.3 | 75°45.8 | +23.8 | 16.7 |
| | -17°25.2 | -17°34.9 | -17°44.5 | -17°54.0 | -18°03.4 | -18°12.6 | -18°21.7 | -18°30.7 | -18°39.5 | -18°48.2 | -18°56.8 | -9.2 | 61.1 |
| Ve 19 | 291°31.4 | 305°54.1 | 320°16.7 | 334°39.2 | 349°01.8 | 3°24.3 | 17°46.7 | 32°09.2 | 46°31.6 | 60°54.0 | 75°16.3 | +22.5 | 16.6 |
| | -20°48.1 | -20°54.3 | -21°00.4 | -21°06.3 | -21°12.0 | -21°17.6 | -21°23.1 | -21°28.3 | -21°33.4 | -21°38.4 | -21°43.2 | -5.5 | 60.9 |
| Sa 20 | 290°50.1 | 305°12.3 | 319°34.5 | 333°56.8 | 348°19.1 | 2°41.4 | 17°03.7 | 31°26.0 | 45°48.4 | 60°10.8 | 74°33.2 | +22.3 | 16.5 |
| | -22°35.0 | -22°37.1 | -22°39.0 | -22°40.8 | -22°42.4 | -22°43.8 | -22°45.1 | -22°46.2 | -22°47.1 | -22°47.9 | -22°48.5 | -1.4 | 60.5 |
| Di 21 | 290°14.1 | 304°37.2 | 319°00.4 | 333°23.6 | 347°47.0 | 2°10.3 | 16°33.8 | 30°57.3 | 45°20.9 | 59°44.5 | 74°08.3 | +23.4 | 16.3 |
| | -22°37.6 | -22°35.6 | -22°33.4 | -22°31.0 | -22°28.5 | -22°25.9 | -22°23.1 | -22°20.2 | -22°17.1 | -22°13.8 | -22°10.4 | +2.7 | 59.8 |
| Lu 22 | 304°37.2 | 319°00.4 | 333°23.6 | 347°47.0 | 2°10.3 | 16°33.8 | 30°57.3 | 45°20.9 | 59°44.5 | 74°08.3 | 88°32.1 | +23.5 | 16.3 |
| | -22°35.6 | -22°33.4 | -22°31.0 | -22°28.5 | -22°25.9 | -22°23.1 | -22°20.2 | -22°17.1 | -22°13.8 | -22°10.4 | -22°06.8 | +2.9 | 59.8 |
| Ma 23 | 304°38.9 | 319°04.1 | 333°29.3 | 347°54.7 | 2°20.1 | 16°45.6 | 31°11.3 | 45°37.0 | 60°02.8 | 74°28.7 | 88°54.7 | +25.6 | 16.1 |
| | -20°56.5 | -20°50.8 | -20°44.9 | -20°38.9 | -20°32.7 | -20°26.4 | -20°20.0 | -20°13.5 | -20°06.9 | -20°00.2 | -19°53.3 | +6.3 | 59.0 |
| ◑ Me 24 | 305°36.5 | 320°04.0 | 334°31.7 | 348°59.5 | 3°27.3 | 17°55.3 | 32°23.3 | 46°51.5 | 61°19.7 | 75°48.1 | 90°16.5 | +28.0 | 15.9 |
| | -17°57.3 | -17°48.7 | -17°40.1 | -17°31.4 | -17°22.6 | -17°13.7 | -17°04.7 | -16°55.6 | -16°46.4 | -16°37.2 | -16°27.9 | +8.9 | 58.2 |
| Je 25 | 307°34.1 | 322°04.0 | 336°34.0 | 351°04.1 | 5°34.2 | 20°04.4 | 34°34.7 | 49°05.1 | 63°35.6 | 78°06.2 | 92°36.8 | +30.3 | 15.6 |
| | -13°59.1 | -13°48.7 | -13°38.2 | -13°27.6 | -13°17.0 | -13°06.3 | -12°55.5 | -12°44.8 | -12°33.9 | -12°23.0 | -12°12.1 | +10.7 | 57.3 |
| Ve 26 | 310°25.1 | 324°56.9 | 339°28.7 | 354°00.6 | 8°32.6 | 23°04.6 | 37°36.7 | 52°08.9 | 66°41.1 | 81°13.3 | 95°45.7 | +32.1 | 15.4 |
| | -9°22.7 | -9°11.1 | -8°59.5 | -8°47.8 | -8°36.2 | -8°24.4 | -8°12.7 | -8°00.9 | -7°49.2 | -7°37.3 | -7°25.5 | +11.7 | 56.6 |
| Sa 27 | 313°56.5 | 328°29.6 | 343°02.7 | 357°35.9 | 12°09.1 | 26°42.4 | 41°15.6 | 55°48.9 | 70°22.3 | 84°55.7 | 99°29.1 | +33.3 | 15.2 |
| | -4°25.8 | -4°13.7 | -4°01.6 | -3°49.5 | -3°37.4 | -3°25.2 | -3°13.1 | -3°01.0 | -2°48.9 | -2°36.7 | -2°24.6 | +12.1 | 55.9 |
| Di 28 | 317°53.5 | 332°27.3 | 347°01.2 | 1°35.0 | 16°08.9 | 30°42.7 | 45°16.6 | 59°50.5 | 74°24.4 | 88°58.3 | 103°32.2 | +33.9 | 15.1 |
| | 0°37.0 | 0°49.0 | 1°01.1 | 1°13.1 | 1°25.1 | 1°37.1 | 1°49.1 | 2°01.0 | 2°13.0 | 2°24.9 | 2°36.8 | +12.0 | 55.3 |
| Lu 29 | 322°01.8 | 336°35.7 | 351°09.7 | 5°43.7 | 20°17.6 | 34°51.6 | 49°25.5 | 63°59.5 | 78°33.4 | 93°07.3 | 107°41.2 | +34.0 | 15.0 |
| | 5°32.9 | 5°44.4 | 5°55.9 | 6°07.3 | 6°18.8 | 6°30.2 | 6°41.6 | 6°52.9 | 7°04.2 | 7°15.5 | 7°26.7 | +11.4 | 54.8 |
| Ma 30 | 326°08.4 | 340°42.1 | 355°15.7 | 9°49.4 | 24°23.0 | 38°56.6 | 53°30.2 | 68°03.7 | 82°37.2 | 97°10.7 | 111°44.2 | +33.6 | 14.9 |
| | 10°10.4 | 10°21.0 | 10°31.5 | 10°42.0 | 10°52.4 | 11°02.8 | 11°13.1 | 11°23.4 | 11°33.6 | 11°43.8 | 11°53.9 | +10.3 | 54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 22h02 — PQ: 11 02h56 — PL: 18 03h20 — DQ: 24 18h39

# SOLEIL

## Mai 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Me 1** | 270° 43.0 | 285° 43.1 | 300° 43.2 | 315° 43.3 | 330° 43.3 | 345° 43.4 | 0° 43.5 | 15° 43.6 | 30° 43.6 | 45° 43.7 | 60° 43.8 | 75° 43.8 | +0.1 |
| | 15° 06.1 | 15° 06.9 | 15° 07.6 | 15° 08.4 | 15° 09.1 | 15° 09.9 | 15° 10.6 | 15° 11.4 | 15° 12.1 | 15° 12.9 | 15° 13.6 | 15° 14.4 | +0.8 |
| **Je 2** | 270° 44.7 | 285° 44.8 | 300° 44.9 | 315° 45.0 | 330° 45.0 | 345° 45.1 | 0° 45.2 | 15° 45.2 | 30° 45.3 | 45° 45.4 | 60° 45.4 | 75° 45.5 | +0.1 |
| | 15° 24.1 | 15° 24.9 | 15° 25.6 | 15° 26.3 | 15° 27.1 | 15° 27.8 | 15° 28.6 | 15° 29.3 | 15° 30.1 | 15° 30.8 | 15° 31.5 | 15° 32.3 | +0.7 |
| **Ve 3** | 270° 46.3 | 285° 46.4 | 300° 46.4 | 315° 46.5 | 330° 46.6 | 345° 46.6 | 0° 46.7 | 15° 46.8 | 30° 46.8 | 45° 46.9 | 60° 46.9 | 75° 47.0 | +0.1 |
| | 15° 41.9 | 15° 42.6 | 15° 43.3 | 15° 44.1 | 15° 44.8 | 15° 45.5 | 15° 46.3 | 15° 47.0 | 15° 47.7 | 15° 48.5 | 15° 49.2 | 15° 49.9 | +0.7 |
| **Sa 4** | 270° 47.8 | 285° 47.8 | 300° 47.9 | 315° 47.9 | 330° 48.0 | 345° 48.0 | 0° 48.1 | 15° 48.1 | 30° 48.2 | 45° 48.3 | 60° 48.3 | 75° 48.4 | +0.1 |
| | 15° 59.4 | 16° 00.1 | 16° 00.8 | 16° 01.5 | 16° 02.3 | 16° 03.0 | 16° 03.7 | 16° 04.4 | 16° 05.1 | 16° 05.9 | 16° 06.6 | 16° 07.3 | +0.7 |
| **Di 5** | 270° 49.0 | 285° 49.1 | 300° 49.1 | 315° 49.2 | 330° 49.2 | 345° 49.3 | 0° 49.3 | 15° 49.4 | 30° 49.4 | 45° 49.5 | 60° 49.5 | 75° 49.6 | +0.0 |
| | 16° 16.6 | 16° 17.3 | 16° 18.0 | 16° 18.7 | 16° 19.4 | 16° 20.1 | 16° 20.9 | 16° 21.6 | 16° 22.3 | 16° 23.0 | 16° 23.7 | 16° 24.4 | +0.7 |
| **Lu 6** | 270° 50.2 | 285° 50.2 | 300° 50.3 | 315° 50.3 | 330° 50.4 | 345° 50.4 | 0° 50.5 | 15° 50.5 | 30° 50.6 | 45° 50.6 | 60° 50.6 | 75° 50.7 | +0.0 |
| | 16° 33.5 | 16° 34.2 | 16° 34.9 | 16° 35.6 | 16° 36.3 | 16° 37.0 | 16° 37.7 | 16° 38.4 | 16° 39.1 | 16° 39.8 | 16° 40.5 | 16° 41.2 | +0.7 |
| **Ma 7** | 270° 51.2 | 285° 51.3 | 300° 51.3 | 315° 51.3 | 330° 51.4 | 345° 51.4 | 0° 51.5 | 15° 51.5 | 30° 51.5 | 45° 51.6 | 60° 51.6 | 75° 51.6 | +0.0 |
| | 16° 50.2 | 16° 50.9 | 16° 51.6 | 16° 52.3 | 16° 53.0 | 16° 53.7 | 16° 54.4 | 16° 55.0 | 16° 55.7 | 16° 56.4 | 16° 57.1 | 16° 57.8 | +0.7 |
| **Me 8** | 270° 52.1 | 285° 52.1 | 300° 52.2 | 315° 52.2 | 330° 52.2 | 345° 52.3 | 0° 52.3 | 15° 52.3 | 30° 52.4 | 45° 52.4 | 60° 52.4 | 75° 52.5 | +0.0 |
| | 17° 06.6 | 17° 07.3 | 17° 08.0 | 17° 08.7 | 17° 09.3 | 17° 10.0 | 17° 10.7 | 17° 11.4 | 17° 12.0 | 17° 12.7 | 17° 13.4 | 17° 14.0 | +0.7 |
| **Je 9** | 270° 52.8 | 285° 52.9 | 300° 52.9 | 315° 52.9 | 330° 53.0 | 345° 53.0 | 0° 53.0 | 15° 53.0 | 30° 53.1 | 45° 53.1 | 60° 53.1 | 75° 53.1 | +0.0 |
| | 17° 22.7 | 17° 23.4 | 17° 24.1 | 17° 24.7 | 17° 25.4 | 17° 26.1 | 17° 26.7 | 17° 27.4 | 17° 28.0 | 17° 28.7 | 17° 29.4 | 17° 30.0 | +0.7 |
| **Ve 10** | 270° 53.4 | 285° 53.5 | 300° 53.5 | 315° 53.5 | 330° 53.5 | 345° 53.6 | 0° 53.6 | 15° 53.6 | 30° 53.6 | 45° 53.6 | 60° 53.7 | 75° 53.7 | +0.0 |
| | 17° 38.6 | 17° 39.2 | 17° 39.9 | 17° 40.5 | 17° 41.2 | 17° 41.8 | 17° 42.5 | 17° 43.1 | 17° 43.8 | 17° 44.4 | 17° 45.1 | 17° 45.7 | +0.6 |
| **Sa 11** | 270° 53.9 | 285° 53.9 | 300° 53.9 | 315° 54.0 | 330° 54.0 | 345° 54.0 | 0° 54.0 | 15° 54.0 | 30° 54.0 | 45° 54.1 | 60° 54.1 | 75° 54.1 | +0.0 |
| | 17° 54.1 | 17° 54.7 | 17° 55.4 | 17° 56.0 | 17° 56.6 | 17° 57.3 | 17° 57.9 | 17° 58.6 | 17° 59.2 | 17° 59.8 | 18° 00.5 | 18° 01.1 | +0.6 |
| **Di 12** | 270° 54.2 | 285° 54.3 | 300° 54.3 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.3 | 15° 54.3 | 30° 54.3 | 45° 54.3 | 60° 54.3 | 75° 54.3 | +0.0 |
| | 18° 09.3 | 18° 09.9 | 18° 10.6 | 18° 11.2 | 18° 11.8 | 18° 12.4 | 18° 13.1 | 18° 13.7 | 18° 14.3 | 18° 14.9 | 18° 15.6 | 18° 16.2 | +0.6 |
| **Lu 13** | 270° 54.4 | 285° 54.4 | 300° 54.4 | 315° 54.4 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.5 | 60° 54.5 | 75° 54.5 | +0.0 |
| | 18° 24.2 | 18° 24.8 | 18° 25.5 | 18° 26.1 | 18° 26.7 | 18° 27.3 | 18° 27.9 | 18° 28.5 | 18° 29.1 | 18° 29.7 | 18° 30.3 | 18° 31.0 | +0.6 |
| **Ma 14** | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.5 | 60° 54.5 | 75° 54.5 | -0.0 |
| | 18° 38.8 | 18° 39.4 | 18° 40.0 | 18° 40.6 | 18° 41.2 | 18° 41.8 | 18° 42.4 | 18° 43.0 | 18° 43.6 | 18° 44.2 | 18° 44.8 | 18° 45.4 | +0.6 |
| **Me 15** | 270° 54.4 | 285° 54.4 | 300° 54.4 | 315° 54.4 | 330° 54.4 | 345° 54.4 | 0° 54.4 | 15° 54.3 | 30° 54.3 | 45° 54.3 | 60° 54.3 | 75° 54.3 | -0.0 |
| | 18° 53.1 | 18° 53.7 | 18° 54.3 | 18° 54.9 | 18° 55.5 | 18° 56.1 | 18° 56.6 | 18° 57.2 | 18° 57.8 | 18° 58.4 | 18° 59.0 | 18° 59.6 | +0.6 |
| **Je 16** | 270° 54.2 | 285° 54.2 | 300° 54.2 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.1 | 15° 54.1 | 30° 54.1 | 45° 54.1 | 60° 54.0 | 75° 54.0 | -0.0 |
| | 19° 07.1 | 19° 07.7 | 19° 08.2 | 19° 08.8 | 19° 09.4 | 19° 10.0 | 19° 10.5 | 19° 11.1 | 19° 11.7 | 19° 12.2 | 19° 12.8 | 19° 13.4 | +0.6 |
| **Ve 17** | 270° 53.8 | 285° 53.8 | 300° 53.8 | 315° 53.8 | 330° 53.7 | 345° 53.7 | 0° 53.7 | 15° 53.7 | 30° 53.7 | 45° 53.6 | 60° 53.6 | 75° 53.6 | -0.0 |
| | 19° 20.7 | 19° 21.3 | 19° 21.9 | 19° 22.4 | 19° 23.0 | 19° 23.5 | 19° 24.1 | 19° 24.7 | 19° 25.2 | 19° 25.8 | 19° 26.3 | 19° 26.9 | +0.6 |
| **Sa 18** | 270° 53.3 | 285° 53.3 | 300° 53.3 | 315° 53.2 | 330° 53.2 | 345° 53.2 | 0° 53.2 | 15° 53.1 | 30° 53.1 | 45° 53.1 | 60° 53.1 | 75° 53.0 | -0.0 |
| | 19° 34.1 | 19° 34.6 | 19° 35.1 | 19° 35.7 | 19° 36.2 | 19° 36.8 | 19° 37.3 | 19° 37.9 | 19° 38.4 | 19° 39.0 | 19° 39.5 | 19° 40.0 | +0.5 |
| **Di 19** | 270° 52.7 | 285° 52.6 | 300° 52.6 | 315° 52.6 | 330° 52.5 | 345° 52.5 | 0° 52.5 | 15° 52.5 | 30° 52.4 | 45° 52.4 | 60° 52.4 | 75° 52.3 | -0.0 |
| | 19° 47.0 | 19° 47.6 | 19° 48.1 | 19° 48.6 | 19° 49.2 | 19° 49.7 | 19° 50.2 | 19° 50.8 | 19° 51.3 | 19° 51.8 | 19° 52.4 | 19° 52.9 | +0.5 |
| **Lu 20** | 270° 51.9 | 285° 51.9 | 300° 51.8 | 315° 51.8 | 330° 51.7 | 345° 51.7 | 0° 51.7 | 15° 51.6 | 30° 51.6 | 45° 51.6 | 60° 51.5 | 75° 51.5 | -0.0 |
| | 19° 59.7 | 20° 00.2 | 20° 00.7 | 20° 01.2 | 20° 01.8 | 20° 02.3 | 20° 02.8 | 20° 03.3 | 20° 03.8 | 20° 04.3 | 20° 04.9 | 20° 05.4 | +0.5 |
| **Ma 21** | 270° 51.0 | 285° 50.9 | 300° 50.9 | 315° 50.8 | 330° 50.8 | 345° 50.8 | 0° 50.7 | 15° 50.7 | 30° 50.6 | 45° 50.6 | 60° 50.5 | 75° 50.5 | -0.0 |
| | 20° 12.0 | 20° 12.5 | 20° 13.0 | 20° 13.5 | 20° 14.0 | 20° 14.5 | 20° 15.0 | 20° 15.5 | 20° 16.0 | 20° 16.5 | 20° 17.0 | 20° 17.5 | +0.5 |
| **Me 22** | 270° 49.9 | 285° 49.9 | 300° 49.8 | 315° 49.8 | 330° 49.7 | 345° 49.7 | 0° 49.6 | 15° 49.6 | 30° 49.5 | 45° 49.5 | 60° 49.4 | 75° 49.4 | -0.0 |
| | 20° 24.0 | 20° 24.5 | 20° 24.9 | 20° 25.4 | 20° 25.9 | 20° 26.4 | 20° 26.9 | 20° 27.4 | 20° 27.9 | 20° 28.4 | 20° 28.8 | 20° 29.3 | +0.5 |
| **Je 23** | 270° 48.7 | 285° 48.7 | 300° 48.6 | 315° 48.6 | 330° 48.5 | 345° 48.5 | 0° 48.4 | 15° 48.4 | 30° 48.3 | 45° 48.2 | 60° 48.2 | 75° 48.1 | -0.1 |
| | 20° 35.6 | 20° 36.1 | 20° 36.5 | 20° 37.0 | 20° 37.5 | 20° 38.0 | 20° 38.4 | 20° 38.9 | 20° 39.4 | 20° 39.8 | 20° 40.3 | 20° 40.8 | +0.5 |
| **Ve 24** | 270° 47.4 | 285° 47.3 | 300° 47.3 | 315° 47.2 | 330° 47.2 | 345° 47.1 | 0° 47.1 | 15° 47.0 | 30° 46.9 | 45° 46.9 | 60° 46.8 | 75° 46.8 | -0.1 |
| | 20° 46.8 | 20° 47.3 | 20° 47.8 | 20° 48.2 | 20° 48.7 | 20° 49.1 | 20° 49.6 | 20° 50.1 | 20° 50.5 | 20° 51.0 | 20° 51.4 | 20° 51.9 | +0.5 |
| **Sa 25** | 270° 45.9 | 285° 45.9 | 300° 45.8 | 315° 45.8 | 330° 45.7 | 345° 45.6 | 0° 45.6 | 15° 45.5 | 30° 45.4 | 45° 45.4 | 60° 45.3 | 75° 45.2 | -0.1 |
| | 20° 57.7 | 20° 58.2 | 20° 58.6 | 20° 59.1 | 20° 59.5 | 21° 00.0 | 21° 00.4 | 21° 00.9 | 21° 01.3 | 21° 01.7 | 21° 02.2 | 21° 02.6 | +0.4 |
| **Di 26** | 270° 44.4 | 285° 44.3 | 300° 44.2 | 315° 44.2 | 330° 44.1 | 345° 44.0 | 0° 43.9 | 15° 43.9 | 30° 43.8 | 45° 43.7 | 60° 43.7 | 75° 43.6 | -0.1 |
| | 21° 08.3 | 21° 08.7 | 21° 09.2 | 21° 09.6 | 21° 10.0 | 21° 10.4 | 21° 10.9 | 21° 11.3 | 21° 11.7 | 21° 12.2 | 21° 12.6 | 21° 13.0 | +0.4 |
| **Lu 27** | 270° 42.7 | 285° 42.6 | 300° 42.5 | 315° 42.4 | 330° 42.4 | 345° 42.3 | 0° 42.2 | 15° 42.1 | 30° 42.1 | 45° 42.0 | 60° 41.9 | 75° 41.8 | -0.1 |
| | 21° 18.5 | 21° 18.9 | 21° 19.3 | 21° 19.7 | 21° 20.1 | 21° 20.5 | 21° 21.0 | 21° 21.4 | 21° 21.8 | 21° 22.2 | 21° 22.6 | 21° 23.0 | +0.4 |
| **Ma 28** | 270° 40.8 | 285° 40.7 | 300° 40.7 | 315° 40.6 | 330° 40.5 | 345° 40.4 | 0° 40.4 | 15° 40.3 | 30° 40.2 | 45° 40.1 | 60° 40.0 | 75° 39.9 | -0.1 |
| | 21° 28.3 | 21° 28.7 | 21° 29.1 | 21° 29.5 | 21° 29.9 | 21° 30.3 | 21° 30.7 | 21° 31.1 | 21° 31.5 | 21° 31.9 | 21° 32.3 | 21° 32.7 | +0.4 |
| **Me 29** | 270° 38.9 | 285° 38.8 | 300° 38.7 | 315° 38.6 | 330° 38.5 | 345° 38.5 | 0° 38.4 | 15° 38.3 | 30° 38.2 | 45° 38.1 | 60° 38.0 | 75° 37.9 | -0.1 |
| | 21° 37.7 | 21° 38.1 | 21° 38.5 | 21° 38.9 | 21° 39.3 | 21° 39.6 | 21° 40.0 | 21° 40.4 | 21° 40.8 | 21° 41.2 | 21° 41.5 | 21° 41.9 | +0.4 |
| **Je 30** | 270° 36.8 | 285° 36.7 | 300° 36.6 | 315° 36.6 | 330° 36.5 | 345° 36.4 | 0° 36.3 | 15° 36.2 | 30° 36.1 | 45° 36.0 | 60° 35.9 | 75° 35.8 | -0.1 |
| | 21° 46.8 | 21° 47.1 | 21° 47.5 | 21° 47.9 | 21° 48.3 | 21° 48.6 | 21° 49.0 | 21° 49.4 | 21° 49.7 | 21° 50.1 | 21° 50.4 | 21° 50.8 | +0.4 |
| **Ve 31** | 270° 34.7 | 285° 34.6 | 300° 34.5 | 315° 34.4 | 330° 34.3 | 345° 34.2 | 0° 34.1 | 15° 34.0 | 30° 33.9 | 45° 33.8 | 60° 33.7 | 75° 33.6 | -0.1 |
| | 21° 55.5 | 21° 55.8 | 21° 56.2 | 21° 56.5 | 21° 56.9 | 21° 57.2 | 21° 57.6 | 21° 57.9 | 21° 58.3 | 21° 58.6 | 21° 59.0 | 21° 59.3 | +0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2030

| J | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 242°44.4<br>13°22.4 | 257°17.6<br>13°32.0 | 271°50.7<br>13°41.5 | 286°23.9<br>13°50.9 | 300°57.0<br>14°00.3 | 315°30.1<br>14°09.6 | 330°03.2<br>14°18.8 | 344°36.2<br>14°28.0 | 359°09.2<br>14°37.1 | 13°42.2<br>14°46.2 | 28°15.1<br>14°55.2 | +33.1<br>+9.3 | 14.8<br>54.3 |
| ● Je 2 | 246°25.3<br>17°01.6 | 260°57.7<br>17°09.5 | 275°30.0<br>17°17.2 | 290°02.4<br>17°24.9 | 304°34.7<br>17°32.5 | 319°06.9<br>17°40.1 | 333°39.2<br>17°47.5 | 348°11.4<br>17°54.9 | 2°43.5<br>18°02.2 | 17°15.7<br>18°09.4 | 31°47.7<br>18°16.6 | +32.2<br>+7.5 | 14.7<br>54.0 |
| Ve 3 | 249°44.9<br>19°53.5 | 264°16.5<br>19°59.3 | 278°48.0<br>20°05.0 | 293°19.5<br>20°10.5 | 307°50.9<br>20°16.0 | 322°22.3<br>20°21.4 | 336°53.7<br>20°26.7 | 351°25.0<br>20°32.0 | 5°56.4<br>20°37.1 | 20°27.6<br>20°42.1 | 34°58.9<br>20°47.0 | +31.4<br>+5.4 | 14.7<br>53.9 |
| Sa 4 | 252°44.3<br>21°49.4 | 267°15.1<br>21°52.7 | 281°45.9<br>21°56.0 | 296°16.7<br>21°59.1 | 310°47.4<br>22°02.2 | 325°18.1<br>22°05.2 | 339°48.8<br>22°08.0 | 354°19.5<br>22°10.8 | 8°50.2<br>22°13.4 | 23°20.8<br>22°16.0 | 37°51.5<br>22°18.4 | +30.7<br>+2.9 | 14.7<br>53.9 |
| Di 5 | 255°28.9<br>22°42.4 | 269°59.3<br>22°43.2 | 284°29.7<br>22°43.8 | 299°00.1<br>22°44.4 | 313°30.4<br>22°44.8 | 328°00.8<br>22°45.1 | 342°31.2<br>22°45.3 | 357°01.5<br>22°45.5 | 11°31.9<br>22°45.5 | 26°02.2<br>22°45.4 | 40°32.5<br>22°45.2 | +30.4<br>+0.3 | 14.7<br>54.0 |
| Lu 6 | 258°07.5<br>22°29.2 | 272°37.9<br>22°27.2 | 287°08.2<br>22°25.2 | 301°38.6<br>22°23.1 | 316°09.0<br>22°20.8 | 330°39.4<br>22°18.5 | 345°09.7<br>22°16.0 | 359°40.1<br>22°13.5 | 14°10.6<br>22°10.8 | 28°41.0<br>22°08.0 | 43°11.4<br>22°05.1 | +30.4<br>-2.4 | 14.8<br>54.2 |
| Ma 7 | 260°49.4<br>21°09.5 | 275°20.0<br>21°04.9 | 289°50.7<br>21°00.3 | 304°21.4<br>20°55.6 | 318°52.1<br>20°50.7 | 333°22.8<br>20°45.8 | 347°53.5<br>20°40.8 | 2°24.3<br>20°35.6 | 16°55.1<br>20°30.4 | 31°25.9<br>20°25.1 | 45°56.7<br>20°19.6 | +30.7<br>-5.0 | 14.9<br>54.5 |
| Me 8 | 263°41.3<br>18°46.6 | 278°12.4<br>18°39.6 | 292°43.6<br>18°32.6 | 307°14.8<br>18°25.5 | 321°46.0<br>18°18.2 | 336°17.2<br>18°10.9 | 350°48.4<br>18°03.5 | 5°19.7<br>17°56.0 | 19°51.0<br>17°48.4 | 34°22.3<br>17°40.7 | 48°53.6<br>17°33.0 | +31.2<br>-7.4 | 15.0<br>55.0 |
| Je 9 | 266°45.6<br>15°26.3 | 281°17.2<br>15°17.2 | 295°48.8<br>15°08.0 | 310°20.5<br>14°58.8 | 324°52.1<br>14°49.4 | 339°23.8<br>14°40.0 | 353°55.5<br>14°30.5 | 8°27.2<br>14°21.0 | 22°58.9<br>14°11.3 | 37°30.6<br>14°01.6 | 52°02.3<br>13°51.8 | +31.7<br>-9.5 | 15.2<br>55.7 |
| ◐ Ve 10 | 269°59.3<br>11°16.3 | 284°31.1<br>11°05.4 | 299°03.0<br>10°54.4 | 313°34.8<br>10°43.4 | 328°06.7<br>10°32.3 | 342°38.5<br>10°21.1 | 357°10.4<br>10°09.9 | 11°42.2<br>9°58.6 | 26°14.1<br>9°47.3 | 40°45.9<br>9°35.9 | 55°17.7<br>9°24.4 | +31.8<br>-11.2 | 15.4<br>56.5 |
| Sa 11 | 273°14.4<br>6°25.9 | 287°46.1<br>6°13.5 | 302°17.7<br>6°01.2 | 316°49.4<br>5°48.8 | 331°21.0<br>5°36.3 | 345°52.6<br>5°23.9 | 0°24.2<br>5°11.3 | 14°55.7<br>4°58.7 | 29°27.3<br>4°46.1 | 43°58.8<br>4°33.5 | 58°30.3<br>4°20.8 | +31.6<br>-12.5 | 15.6<br>57.4 |
| Di 12 | 276°19.1<br>1°06.2 | 290°50.0<br>0°53.0 | 305°21.0<br>0°39.8 | 319°51.8<br>0°26.6 | 334°22.7<br>0°13.3 | 348°53.5<br>0°00.0 | 3°24.2<br>-0°13.3 | 17°54.9<br>-0°26.6 | 32°25.6<br>-0°40.0 | 46°56.2<br>-0°53.3 | 61°26.8<br>-1°06.7 | +30.8<br>-13.3 | 15.9<br>58.3 |
| Lu 13 | 278°58.6<br>-4°28.1 | 293°28.3<br>-4°41.6 | 307°57.8<br>-4°55.0 | 322°27.3<br>-5°08.4 | 336°56.8<br>-5°21.8 | 351°26.1<br>-5°35.2 | 5°55.4<br>-5°48.6 | 20°24.7<br>-6°02.0 | 34°53.8<br>-6°15.3 | 49°22.9<br>-6°28.6 | 63°51.9<br>-6°42.0 | +29.3<br>-13.4 | 16.2<br>59.3 |
| Ma 14 | 280°57.6<br>-9°58.3 | 295°25.3<br>-10°11.1 | 309°52.9<br>-10°23.9 | 324°20.5<br>-10°36.6 | 338°47.9<br>-10°49.3 | 353°15.3<br>-11°01.9 | 7°42.5<br>-11°14.4 | 22°09.7<br>-11°26.9 | 36°36.8<br>-11°39.3 | 51°03.8<br>-11°51.7 | 65°30.7<br>-12°04.0 | +27.3<br>-12.6 | 16.4<br>60.2 |
| Me 15 | 282°02.9<br>-15°00.3 | 296°28.3<br>-15°11.4 | 310°53.6<br>-15°22.4 | 325°18.8<br>-15°33.3 | 339°43.9<br>-15°44.1 | 354°08.9<br>-15°54.8 | 8°33.8<br>-16°05.4 | 22°58.6<br>-16°15.9 | 37°23.3<br>-16°26.4 | 51°48.0<br>-16°36.7 | 66°12.5<br>-16°46.9 | +25.0<br>-10.7 | 16.6<br>60.9 |
| Je 16 | 282°09.5<br>-19°05.7 | 296°32.6<br>-19°13.9 | 310°55.7<br>-19°22.0 | 325°18.6<br>-19°30.0 | 339°41.5<br>-19°37.8 | 354°04.3<br>-19°45.5 | 8°27.0<br>-19°53.0 | 22°49.7<br>-20°00.4 | 37°12.3<br>-20°07.6 | 51°34.8<br>-20°14.7 | 65°57.2<br>-20°21.7 | +22.8<br>-7.6 | 16.7<br>61.3 |
| ○ Ve 17 | 281°26.7<br>-21°47.0 | 295°48.3<br>-21°51.3 | 310°09.9<br>-21°55.5 | 324°31.4<br>-21°59.6 | 338°52.9<br>-22°03.4 | 353°14.3<br>-22°07.1 | 7°35.8<br>-22°10.7 | 21°57.2<br>-22°14.0 | 36°18.6<br>-22°17.2 | 50°39.9<br>-22°20.2 | 65°01.3<br>-22°23.1 | +21.4<br>-3.6 | 16.7<br>61.3 |
| Sa 18 | 280°21.3<br>-22°44.6 | 294°42.7<br>-22°44.6 | 309°04.1<br>-22°44.4 | 323°25.6<br>-22°44.1 | 337°47.1<br>-22°43.6 | 352°08.7<br>-22°43.0 | 6°30.2<br>-22°42.1 | 20°51.9<br>-22°41.1 | 35°13.5<br>-22°39.9 | 49°35.2<br>-22°38.6 | 63°57.0<br>-22°37.0 | +21.6<br>+0.8 | 16.6<br>61.0 |
| Di 19 | 279°30.1<br>-21°54.2 | 293°52.8<br>-21°50.1 | 308°15.7<br>-21°45.8 | 322°38.6<br>-21°41.4 | 337°01.6<br>-21°36.8 | 351°24.7<br>-21°32.0 | 5°47.9<br>-21°27.1 | 20°11.1<br>-21°22.1 | 34°34.5<br>-21°16.9 | 48°57.9<br>-21°11.6 | 63°21.4<br>-21°06.1 | +23.1<br>+4.8 | 16.5<br>60.4 |
| Lu 20 | 279°26.0<br>-19°27.9 | 293°51.1<br>-19°20.3 | 308°16.4<br>-19°12.6 | 322°41.7<br>-19°04.8 | 337°07.2<br>-18°56.9 | 351°32.7<br>-18°48.9 | 5°58.4<br>-18°40.8 | 20°24.1<br>-18°32.6 | 34°50.0<br>-18°24.2 | 49°16.0<br>-18°15.8 | 63°42.0<br>-18°07.2 | +25.6<br>+8.1 | 16.2<br>59.5 |
| Ma 21 | 280°26.3<br>-15°47.7 | 294°54.1<br>-15°37.7 | 309°22.0<br>-15°27.7 | 323°50.0<br>-15°17.5 | 338°18.1<br>-15°07.3 | 352°46.3<br>-14°57.0 | 7°14.6<br>-14°46.7 | 21°43.0<br>-14°36.2 | 36°11.6<br>-14°25.8 | 50°40.2<br>-14°15.2 | 65°08.9<br>-14°04.6 | +28.3<br>+10.3 | 16.0<br>58.6 |
| Me 22 | 294°54.1<br>-15°37.7 | 309°22.0<br>-15°27.7 | 323°50.0<br>-15°17.5 | 338°18.1<br>-15°07.3 | 352°46.3<br>-14°57.0 | 7°14.6<br>-14°46.7 | 21°43.0<br>-14°36.2 | 36°11.6<br>-14°25.8 | 50°40.2<br>-14°15.2 | 65°08.9<br>-14°04.6 | 79°37.7<br>-13°53.9 | +28.4<br>+10.4 | 16.0<br>58.5 |
| Je 23 | 297°01.5<br>-11°07.0 | 311°31.8<br>-10°55.5 | 326°02.2<br>-10°44.0 | 340°32.7<br>-10°32.4 | 355°03.2<br>-10°20.8 | 9°33.9<br>-10°09.1 | 24°04.6<br>-9°57.4 | 38°35.4<br>-9°45.7 | 53°06.3<br>-9°33.9 | 67°37.3<br>-9°22.1 | 82°08.3<br>-9°10.3 | +30.7<br>+11.7 | 15.7<br>57.5 |
| ◑ Ve 24 | 300°02.6<br>-6°10.1 | 314°34.7<br>-5°57.9 | 329°06.9<br>-5°45.8 | 343°39.2<br>-5°33.6 | 358°11.5<br>-5°21.4 | 12°43.9<br>-5°09.2 | 27°16.3<br>-4°57.0 | 41°48.8<br>-4°44.7 | 56°21.3<br>-4°32.5 | 70°53.9<br>-4°20.3 | 85°26.6<br>-4°08.0 | +32.4<br>+12.2 | 15.4<br>56.6 |
| Sa 25 | 303°41.7<br>-1°04.4 | 318°15.0<br>-0°52.2 | 332°48.4<br>-0°40.0 | 347°21.8<br>-0°27.8 | 1°55.2<br>-0°15.7 | 16°28.7<br>-0°03.5 | 31°02.2<br>0°08.6 | 45°35.7<br>0°20.8 | 60°09.2<br>0°32.9 | 74°42.8<br>0°45.0 | 89°16.4<br>0°57.1 | +33.5<br>+12.2 | 15.2<br>55.8 |
| Di 26 | 307°42.7<br>3°56.3 | 322°16.5<br>4°08.0 | 336°50.4<br>4°19.8 | 351°24.3<br>4°31.5 | 5°58.2<br>4°43.1 | 20°32.1<br>4°54.8 | 35°06.0<br>5°06.4 | 49°39.9<br>5°18.0 | 64°13.8<br>5°29.6 | 78°47.8<br>5°41.1 | 93°21.7<br>5°52.6 | +33.9<br>+11.6 | 15.0<br>55.2 |
| Lu 27 | 311°50.3<br>8°40.7 | 326°24.1<br>8°51.6 | 340°58.0<br>9°02.4 | 355°31.8<br>9°13.2 | 10°05.6<br>9°24.0 | 24°39.4<br>9°34.7 | 39°13.2<br>9°45.4 | 53°47.0<br>9°56.0 | 68°20.8<br>10°06.6 | 82°54.5<br>10°17.1 | 97°28.3<br>10°27.6 | +33.8<br>+10.7 | 14.9<br>54.7 |
| Ma 28 | 315°51.8<br>12°58.8 | 330°25.2<br>13°08.4 | 344°58.6<br>13°18.0 | 359°31.9<br>13°27.5 | 14°05.2<br>13°36.9 | 28°38.5<br>13°46.3 | 43°11.7<br>13°55.7 | 57°44.9<br>14°05.0 | 72°18.1<br>14°14.2 | 86°51.3<br>14°23.3 | 101°24.4<br>14°32.4 | +33.3<br>+9.4 | 14.8<br>54.3 |
| Me 29 | 319°37.5<br>16°40.7 | 334°10.1<br>16°48.7 | 348°42.7<br>16°56.6 | 3°15.2<br>17°04.5 | 17°47.7<br>17°12.2 | 32°20.2<br>17°19.9 | 46°52.6<br>17°27.5 | 61°25.0<br>17°35.1 | 75°57.4<br>17°42.5 | 90°29.7<br>17°49.9 | 105°02.0<br>17°57.2 | +32.4<br>+7.7 | 14.7<br>54.0 |
| Je 30 | 323°01.8<br>19°37.0 | 337°33.5<br>19°43.0 | 352°05.2<br>19°48.9 | 6°36.8<br>19°54.7 | 21°08.4<br>20°00.4 | 35°39.9<br>20°06.0 | 50°11.5<br>20°11.5 | 64°43.0<br>20°16.9 | 79°14.4<br>20°22.3 | 93°45.8<br>20°27.5 | 108°17.2<br>20°32.7 | +31.5<br>+5.6 | 14.7<br>53.9 |
| Ve 31 | 326°04.1<br>21°38.8 | 340°35.0<br>21°42.4 | 355°05.8<br>21°45.9 | 9°36.7<br>21°49.3 | 24°07.5<br>21°52.7 | 38°38.2<br>21°55.9 | 53°09.0<br>21°59.0 | 67°39.7<br>22°02.0 | 82°10.4<br>22°04.9 | 96°41.1<br>22°07.8 | 111°11.8<br>22°10.5 | +30.8<br>+3.2 | 14.7<br>53.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 14h12 — PQ: 10 17h11 — PL: 17 11h19 — DQ: 24 04h57

# SOLEIL

## Juin 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 270°32.4 | 285°32.3 | 300°32.2 | 315°32.1 | 330°32.0 | 345°31.9 | 0°31.8 | 15°31.7 | 30°31.6 | 45°31.5 | 60°31.4 | 75°31.3 | -0.1 |
| | 22°03.8 | 22°04.1 | 22°04.4 | 22°04.8 | 22°05.1 | 22°05.4 | 22°05.8 | 22°06.1 | 22°06.4 | 22°06.8 | 22°07.1 | 22°07.4 | +0.3 |
| Di 2 | 270°30.0 | 285°29.9 | 300°29.8 | 315°29.7 | 330°29.6 | 345°29.5 | 0°29.4 | 15°29.3 | 30°29.2 | 45°29.1 | 60°29.0 | 75°28.9 | -0.1 |
| | 22°11.7 | 22°12.0 | 22°12.3 | 22°12.6 | 22°13.0 | 22°13.3 | 22°13.6 | 22°13.9 | 22°14.2 | 22°14.5 | 22°14.9 | 22°15.2 | +0.3 |
| Lu 3 | 270°27.5 | 285°27.4 | 300°27.3 | 315°27.2 | 330°27.1 | 345°27.0 | 0°26.9 | 15°26.8 | 30°26.7 | 45°26.6 | 60°26.5 | 75°26.4 | -0.1 |
| | 22°19.2 | 22°19.5 | 22°19.8 | 22°20.1 | 22°20.4 | 22°20.7 | 22°21.0 | 22°21.3 | 22°21.6 | 22°21.9 | 22°22.2 | 22°22.5 | +0.3 |
| Ma 4 | 270°25.0 | 285°24.9 | 300°24.8 | 315°24.7 | 330°24.6 | 345°24.5 | 0°24.3 | 15°24.2 | 30°24.1 | 45°24.0 | 60°23.9 | 75°23.8 | -0.1 |
| | 22°26.3 | 22°26.6 | 22°26.9 | 22°27.2 | 22°27.5 | 22°27.8 | 22°28.1 | 22°28.4 | 22°28.6 | 22°28.9 | 22°29.2 | 22°29.5 | +0.3 |
| Me 5 | 270°22.4 | 285°22.3 | 300°22.1 | 315°22.0 | 330°21.9 | 345°21.8 | 0°21.7 | 15°21.6 | 30°21.5 | 45°21.4 | 60°21.2 | 75°21.1 | -0.1 |
| | 22°33.1 | 22°33.4 | 22°33.6 | 22°33.9 | 22°34.2 | 22°34.5 | 22°34.7 | 22°35.0 | 22°35.3 | 22°35.5 | 22°35.8 | 22°36.1 | +0.3 |
| Je 6 | 270°19.6 | 285°19.5 | 300°19.4 | 315°19.3 | 330°19.2 | 345°19.1 | 0°19.0 | 15°18.8 | 30°18.7 | 45°18.6 | 60°18.5 | 75°18.4 | -0.1 |
| | 22°39.4 | 22°39.7 | 22°40.0 | 22°40.2 | 22°40.5 | 22°40.7 | 22°41.0 | 22°41.2 | 22°41.5 | 22°41.7 | 22°42.0 | 22°42.2 | +0.3 |
| Ve 7 | 270°16.9 | 285°16.7 | 300°16.6 | 315°16.5 | 330°16.4 | 345°16.3 | 0°16.2 | 15°16.0 | 30°15.9 | 45°15.8 | 60°15.7 | 75°15.6 | -0.1 |
| | 22°45.4 | 22°45.6 | 22°45.9 | 22°46.1 | 22°46.4 | 22°46.6 | 22°46.8 | 22°47.1 | 22°47.3 | 22°47.5 | 22°47.8 | 22°48.0 | +0.2 |
| Sa 8 | 270°14.0 | 285°13.9 | 300°13.8 | 315°13.7 | 330°13.5 | 345°13.4 | 0°13.3 | 15°13.2 | 30°13.1 | 45°12.9 | 60°12.8 | 75°12.7 | -0.1 |
| | 22°51.0 | 22°51.2 | 22°51.4 | 22°51.6 | 22°51.8 | 22°52.1 | 22°52.3 | 22°52.5 | 22°52.7 | 22°52.9 | 22°53.1 | 22°53.4 | +0.2 |
| Di 9 | 270°11.1 | 285°11.0 | 300°10.9 | 315°10.7 | 330°10.6 | 345°10.5 | 0°10.4 | 15°10.2 | 30°10.1 | 45°10.0 | 60°09.9 | 75°09.8 | -0.1 |
| | 22°56.1 | 22°56.3 | 22°56.5 | 22°56.7 | 22°56.9 | 22°57.1 | 22°57.3 | 22°57.5 | 22°57.7 | 22°57.9 | 22°58.1 | 22°58.3 | +0.2 |
| Lu 10 | 270°08.1 | 285°08.0 | 300°07.9 | 315°07.8 | 330°07.6 | 345°07.5 | 0°07.4 | 15°07.3 | 30°07.1 | 45°07.0 | 60°06.9 | 75°06.8 | -0.1 |
| | 23°00.8 | 23°01.0 | 23°01.2 | 23°01.4 | 23°01.6 | 23°01.8 | 23°02.0 | 23°02.2 | 23°02.3 | 23°02.5 | 23°02.7 | 23°02.9 | +0.2 |
| Ma 11 | 270°05.1 | 285°05.0 | 300°04.9 | 315°04.7 | 330°04.6 | 345°04.5 | 0°04.4 | 15°04.2 | 30°04.1 | 45°04.0 | 60°03.9 | 75°03.7 | -0.1 |
| | 23°05.2 | 23°05.4 | 23°05.5 | 23°05.7 | 23°05.9 | 23°06.0 | 23°06.2 | 23°06.4 | 23°06.5 | 23°06.7 | 23°06.9 | 23°07.0 | +0.2 |
| Me 12 | 270°02.1 | 285°01.9 | 300°01.8 | 315°01.7 | 330°01.5 | 345°01.4 | 0°01.3 | 15°01.2 | 30°01.0 | 45°00.9 | 60°00.8 | 75°00.6 | -0.1 |
| | 23°09.1 | 23°09.3 | 23°09.4 | 23°09.6 | 23°09.7 | 23°09.9 | 23°10.0 | 23°10.2 | 23°10.3 | 23°10.5 | 23°10.6 | 23°10.8 | +0.2 |
| Je 13 | 269°59.0 | 284°58.8 | 299°58.7 | 314°58.6 | 329°58.4 | 344°58.3 | 359°58.2 | 14°58.0 | 29°57.9 | 44°57.8 | 59°57.7 | 74°57.5 | -0.1 |
| | 23°12.7 | 23°12.8 | 23°12.9 | 23°13.1 | 23°13.2 | 23°13.3 | 23°13.5 | 23°13.6 | 23°13.7 | 23°13.9 | 23°14.0 | 23°14.1 | +0.1 |
| Ve 14 | 269°55.8 | 284°55.7 | 299°55.6 | 314°55.4 | 329°55.3 | 344°55.2 | 359°55.0 | 14°54.9 | 29°54.8 | 44°54.6 | 59°54.5 | 74°54.4 | -0.1 |
| | 23°15.8 | 23°15.9 | 23°16.0 | 23°16.1 | 23°16.3 | 23°16.4 | 23°16.5 | 23°16.6 | 23°16.7 | 23°16.8 | 23°17.0 | 23°17.1 | +0.1 |
| Sa 15 | 269°52.7 | 284°52.5 | 299°52.4 | 314°52.3 | 329°52.1 | 344°52.0 | 359°51.9 | 14°51.7 | 29°51.6 | 44°51.5 | 59°51.3 | 74°51.2 | -0.1 |
| | 23°18.5 | 23°18.6 | 23°18.7 | 23°18.8 | 23°18.9 | 23°19.0 | 23°19.1 | 23°19.2 | 23°19.3 | 23°19.4 | 23°19.5 | 23°19.6 | +0.1 |
| Di 16 | 269°49.5 | 284°49.3 | 299°49.2 | 314°49.1 | 329°48.9 | 344°48.8 | 359°48.7 | 14°48.5 | 29°48.4 | 44°48.3 | 59°48.1 | 74°48.0 | -0.1 |
| | 23°20.8 | 23°20.9 | 23°21.0 | 23°21.0 | 23°21.1 | 23°21.2 | 23°21.3 | 23°21.4 | 23°21.5 | 23°21.5 | 23°21.6 | 23°21.7 | +0.1 |
| Lu 17 | 269°46.2 | 284°46.1 | 299°46.0 | 314°45.8 | 329°45.7 | 344°45.6 | 359°45.4 | 14°45.3 | 29°45.2 | 44°45.0 | 59°44.9 | 74°44.8 | -0.1 |
| | 23°22.7 | 23°22.7 | 23°22.8 | 23°22.9 | 23°22.9 | 23°23.0 | 23°23.1 | 23°23.1 | 23°23.2 | 23°23.3 | 23°23.3 | 23°23.4 | +0.1 |
| Ma 18 | 269°43.0 | 284°42.9 | 299°42.7 | 314°42.6 | 329°42.5 | 344°42.3 | 359°42.2 | 14°42.1 | 29°41.9 | 44°41.8 | 59°41.7 | 74°41.5 | -0.1 |
| | 23°24.1 | 23°24.2 | 23°24.2 | 23°24.3 | 23°24.3 | 23°24.4 | 23°24.4 | 23°24.5 | 23°24.5 | 23°24.6 | 23°24.6 | 23°24.7 | +0.0 |
| Me 19 | 269°39.8 | 284°39.6 | 299°39.5 | 314°39.3 | 329°39.2 | 344°39.1 | 359°38.9 | 14°38.8 | 29°38.7 | 44°38.5 | 59°38.4 | 74°38.3 | -0.1 |
| | 23°25.2 | 23°25.2 | 23°25.3 | 23°25.3 | 23°25.3 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.5 | +0.0 |
| Je 20 | 269°36.5 | 284°36.4 | 299°36.2 | 314°36.1 | 329°36.0 | 344°35.8 | 359°35.7 | 14°35.6 | 29°35.4 | 44°35.3 | 59°35.1 | 74°35.0 | -0.1 |
| | 23°25.8 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | +0.0 |
| Ve 21 | 269°33.2 | 284°33.1 | 299°33.0 | 314°32.8 | 329°32.7 | 344°32.6 | 359°32.4 | 14°32.3 | 29°32.2 | 44°32.0 | 59°31.9 | 74°31.7 | -0.1 |
| | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | 23°26.1 | -0.0 |
| Sa 22 | 269°30.0 | 284°29.9 | 299°29.7 | 314°29.6 | 329°29.4 | 344°29.3 | 359°29.2 | 14°29.0 | 29°28.9 | 44°28.8 | 59°28.6 | 74°28.5 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.7 | 23°25.7 | 23°25.7 | -0.0 |
| Di 23 | 269°26.7 | 284°26.6 | 299°26.5 | 314°26.3 | 329°26.2 | 344°26.1 | 359°25.9 | 14°25.8 | 29°25.7 | 44°25.5 | 59°25.4 | 74°25.3 | -0.1 |
| | 23°25.3 | 23°25.3 | 23°25.2 | 23°25.2 | 23°25.2 | 23°25.1 | 23°25.1 | 23°25.1 | 23°25.0 | 23°25.0 | 23°24.9 | 23°24.9 | -0.0 |
| Lu 24 | 269°23.5 | 284°23.4 | 299°23.2 | 314°23.1 | 329°23.0 | 344°22.8 | 359°22.7 | 14°22.6 | 29°22.4 | 44°22.3 | 59°22.2 | 74°22.0 | -0.1 |
| | 23°24.3 | 23°24.2 | 23°24.2 | 23°24.1 | 23°24.1 | 23°24.0 | 23°24.0 | 23°23.9 | 23°23.9 | 23°23.8 | 23°23.8 | 23°23.7 | -0.1 |
| Ma 25 | 269°20.3 | 284°20.2 | 299°20.0 | 314°19.9 | 329°19.8 | 344°19.6 | 359°19.5 | 14°19.4 | 29°19.2 | 44°19.1 | 59°19.0 | 74°18.8 | -0.1 |
| | 23°22.9 | 23°22.8 | 23°22.7 | 23°22.7 | 23°22.6 | 23°22.5 | 23°22.5 | 23°22.4 | 23°22.3 | 23°22.2 | 23°22.2 | 23°22.1 | -0.1 |
| Me 26 | 269°17.1 | 284°17.0 | 299°16.8 | 314°16.7 | 329°16.6 | 344°16.5 | 359°16.3 | 14°16.2 | 29°16.1 | 44°15.9 | 59°15.8 | 74°15.7 | -0.1 |
| | 23°21.0 | 23°21.0 | 23°20.9 | 23°20.8 | 23°20.7 | 23°20.6 | 23°20.5 | 23°20.4 | 23°20.3 | 23°20.3 | 23°20.2 | 23°20.1 | -0.1 |
| Je 27 | 269°14.0 | 284°13.8 | 299°13.7 | 314°13.6 | 329°13.4 | 344°13.3 | 359°13.2 | 14°13.1 | 29°12.9 | 44°12.8 | 59°12.7 | 74°12.5 | -0.1 |
| | 23°18.8 | 23°18.7 | 23°18.6 | 23°18.5 | 23°18.4 | 23°18.3 | 23°18.2 | 23°18.1 | 23°18.0 | 23°17.9 | 23°17.7 | 23°17.6 | -0.1 |
| Ve 28 | 269°10.9 | 284°10.7 | 299°10.6 | 314°10.5 | 329°10.3 | 344°10.2 | 359°10.1 | 14°10.0 | 29°09.8 | 44°09.7 | 59°09.6 | 74°09.4 | -0.1 |
| | 23°16.1 | 23°16.0 | 23°15.9 | 23°15.8 | 23°15.7 | 23°15.5 | 23°15.4 | 23°15.3 | 23°15.2 | 23°15.0 | 23°14.9 | 23°14.8 | -0.1 |
| Sa 29 | 269°07.8 | 284°07.7 | 299°07.5 | 314°07.4 | 329°07.3 | 344°07.2 | 359°07.0 | 14°06.9 | 29°06.8 | 44°06.7 | 59°06.5 | 74°06.4 | -0.1 |
| | 23°13.1 | 23°13.0 | 23°12.8 | 23°12.7 | 23°12.5 | 23°12.4 | 23°12.3 | 23°12.1 | 23°12.0 | 23°11.8 | 23°11.7 | 23°11.5 | -0.1 |
| Di 30 | 269°04.8 | 284°04.7 | 299°04.5 | 314°04.4 | 329°04.3 | 344°04.2 | 359°04.0 | 14°03.9 | 29°03.8 | 44°03.7 | 59°03.5 | 74°03.4 | -0.1 |
| | 23°09.6 | 23°09.5 | 23°09.3 | 23°09.2 | 23°09.0 | 23°08.8 | 23°08.7 | 23°08.5 | 23°08.4 | 23°08.2 | 23°08.1 | 23°07.9 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2030

| | J | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ● | Sa 1 | 241°46.7 | 256°17.1 | 270°47.5 | 285°18.0 | 299°48.4 | 314°18.8 | 328°49.1 | 343°19.5 | 357°49.8 | 12°20.2 | 26°50.5 | +30.4 | 14.7 |
| | | 22°30.3 | 22°31.9 | 22°33.5 | 22°35.0 | 22°36.3 | 22°37.6 | 22°38.7 | 22°39.8 | 22°40.7 | 22°41.5 | 22°42.2 | +1.2 | 53.9 |
| | Di 2 | 244°24.4 | 258°54.7 | 273°24.9 | 287°55.2 | 302°25.4 | 316°55.6 | 331°25.9 | 345°56.1 | 0°26.4 | 14°56.7 | 29°26.9 | +30.2 | 14.8 |
| | | 22°40.1 | 22°39.1 | 22°38.0 | 22°36.8 | 22°35.5 | 22°34.1 | 22°32.5 | 22°30.9 | 22°29.1 | 22°27.3 | 22°25.3 | -1.5 | 54.1 |
| | Lu 3 | 247°02.1 | 261°32.5 | 276°03.0 | 290°33.4 | 305°03.9 | 319°34.5 | 334°05.0 | 348°35.5 | 3°06.1 | 17°36.7 | 32°07.3 | +30.5 | 14.8 |
| | | 21°43.0 | 21°39.4 | 21°35.6 | 21°31.8 | 21°27.8 | 21°23.7 | 21°19.6 | 21°15.3 | 21°10.9 | 21°06.4 | 21°01.9 | -4.1 | 54.3 |
| | Ma 4 | 249°49.1 | 264°20.1 | 278°51.1 | 293°22.1 | 307°53.2 | 322°24.2 | 336°55.3 | 351°26.5 | 5°57.6 | 20°28.8 | 35°00.0 | +31.1 | 14.9 |
| | | 19°41.3 | 19°35.2 | 19°29.0 | 19°22.6 | 19°16.2 | 19°09.7 | 19°03.1 | 18°56.4 | 18°49.6 | 18°42.7 | 18°35.8 | -6.6 | 54.7 |
| | Me 5 | 252°51.3 | 267°22.9 | 281°54.6 | 296°26.3 | 310°58.0 | 325°29.7 | 340°01.4 | 354°33.2 | 9°05.0 | 23°36.8 | 38°08.7 | +31.7 | 15.0 |
| | | 16°40.8 | 16°32.4 | 16°24.0 | 16°15.5 | 16°07.0 | 15°58.3 | 15°49.6 | 15°40.7 | 15°31.9 | 15°22.9 | 15°13.9 | -8.7 | 55.1 |
| | Je 6 | 256°08.9 | 270°41.1 | 285°13.3 | 299°45.5 | 314°17.7 | 328°49.9 | 343°22.2 | 357°54.4 | 12°26.7 | 26°59.0 | 41°31.3 | +32.2 | 15.2 |
| | | 12°49.5 | 12°39.4 | 12°29.1 | 12°18.8 | 12°08.5 | 11°58.0 | 11°47.5 | 11°37.0 | 11°26.4 | 11°15.7 | 11°05.0 | -10.5 | 55.7 |
| | Ve 7 | 259°36.7 | 274°09.0 | 288°41.4 | 303°13.8 | 317°46.2 | 332°18.6 | 346°51.0 | 1°23.4 | 15°55.7 | 30°28.1 | 45°00.5 | +32.4 | 15.4 |
| | | 8°17.3 | 8°05.7 | 7°54.0 | 7°42.3 | 7°30.6 | 7°18.8 | 7°07.0 | 6°55.1 | 6°43.2 | 6°31.2 | 6°19.2 | -11.8 | 56.4 |
| | Sa 8 | 263°04.5 | 277°36.7 | 292°08.8 | 306°40.9 | 321°12.9 | 335°45.0 | 350°17.0 | 4°49.0 | 19°20.9 | 33°52.9 | 48°24.8 | +32.0 | 15.6 |
| | | 3°14.7 | 3°02.1 | 2°49.6 | 2°36.9 | 2°24.3 | 2°11.6 | 1°58.9 | 1°46.2 | 1°33.5 | 1°20.7 | 1°07.9 | -12.7 | 57.2 |
| ◐ | Di 9 | 266°19.0 | 280°50.2 | 295°21.5 | 309°52.6 | 324°23.8 | 338°54.9 | 353°25.9 | 7°56.9 | 22°27.8 | 36°58.7 | 51°29.5 | +31.1 | 15.8 |
| | | -2°05.8 | -2°18.8 | -2°31.8 | -2°44.8 | -2°57.8 | -3°10.8 | -3°23.8 | -3°36.8 | -3°49.8 | -4°02.8 | -4°15.8 | -13.0 | 58.0 |
| | Lu 10 | 269°04.2 | 283°33.9 | 298°03.6 | 312°33.3 | 327°02.8 | 341°32.3 | 356°01.7 | 10°31.0 | 25°00.2 | 39°29.4 | 53°58.4 | +29.4 | 16.1 |
| | | -7°29.5 | -7°42.2 | -7°55.0 | -8°07.7 | -8°20.4 | -8°33.0 | -8°45.6 | -8°58.2 | -9°10.8 | -9°23.3 | -9°35.8 | -12.6 | 58.9 |
| | Ma 11 | 271°04.2 | 285°31.9 | 299°59.4 | 314°26.9 | 328°54.3 | 343°21.6 | 357°48.7 | 12°15.8 | 26°42.8 | 41°09.7 | 55°36.5 | +27.2 | 16.3 |
| | | -12°37.6 | -12°49.3 | -13°01.0 | -13°12.5 | -13°24.0 | -13°35.5 | -13°46.8 | -13°58.1 | -14°09.3 | -14°20.5 | -14°31.5 | -11.4 | 59.7 |
| | Me 12 | 272°06.5 | 286°31.7 | 300°56.8 | 315°21.8 | 329°46.7 | 344°11.5 | 358°36.2 | 13°00.8 | 27°25.3 | 41°49.7 | 56°14.1 | +24.8 | 16.5 |
| | | -17°07.2 | -17°16.8 | -17°26.3 | -17°35.7 | -17°45.0 | -17°54.2 | -18°03.2 | -18°12.2 | -18°21.0 | -18°29.7 | -18°38.3 | -9.1 | 60.5 |
| | Je 13 | 272°07.9 | 286°30.8 | 300°53.6 | 315°16.3 | 329°39.0 | 344°01.6 | 358°24.1 | 12°46.6 | 27°09.0 | 41°31.3 | 55°53.6 | +22.6 | 16.6 |
| | | -20°31.7 | -20°38.2 | -20°44.5 | -20°50.7 | -20°56.7 | -21°02.5 | -21°08.2 | -21°13.8 | -21°19.2 | -21°24.4 | -21°29.5 | -5.8 | 61.0 |
| | Ve 14 | 271°20.9 | 285°42.4 | 300°03.8 | 314°25.3 | 328°46.7 | 343°08.1 | 357°29.5 | 11°50.8 | 26°12.1 | 40°33.5 | 54°54.8 | +21.4 | 16.7 |
| | | -22°26.2 | -22°28.7 | -22°30.9 | -22°33.0 | -22°35.0 | -22°36.7 | -22°38.3 | -22°39.7 | -22°40.9 | -22°41.9 | -22°42.8 | -1.7 | 61.1 |
| ○ | Sa 15 | 270°15.3 | 284°36.8 | 298°58.4 | 313°20.0 | 327°41.6 | 342°03.3 | 356°25.0 | 10°46.8 | 25°08.6 | 39°30.5 | 53°52.4 | +21.7 | 16.6 |
| | | -22°34.8 | -22°32.9 | -22°30.8 | -22°28.5 | -22°26.1 | -22°23.5 | -22°20.7 | -22°17.8 | -22°14.6 | -22°11.4 | -22°07.9 | +2.7 | 61.0 |
| | Di 16 | 269°29.0 | 283°52.0 | 298°15.1 | 312°38.3 | 327°01.6 | 341°25.0 | 355°48.5 | 10°12.0 | 24°35.7 | 38°59.4 | 53°23.3 | +23.4 | 16.5 |
| | | -20°57.1 | -20°51.2 | -20°45.1 | -20°38.8 | -20°32.5 | -20°25.9 | -20°19.3 | -20°12.5 | -20°05.6 | -19°58.5 | -19°51.3 | +6.6 | 60.5 |
| | Lu 17 | 269°32.8 | 283°58.2 | 298°23.8 | 312°49.5 | 327°15.2 | 341°41.1 | 356°07.1 | 10°33.2 | 24°59.4 | 39°25.7 | 53°52.1 | +25.9 | 16.3 |
| | | -17°48.5 | -17°39.4 | -17°30.2 | -17°20.9 | -17°11.5 | -17°02.0 | -16°52.4 | -16°42.7 | -16°32.9 | -16°23.1 | -16°13.1 | +9.6 | 59.8 |
| | Ma 18 | 270°40.8 | 285°08.9 | 299°37.1 | 314°05.4 | 328°33.7 | 343°02.2 | 357°30.8 | 11°59.4 | 26°28.2 | 40°57.1 | 55°26.0 | +28.5 | 16.0 |
| | | -13°33.9 | -13°22.7 | -13°11.4 | -13°00.1 | -12°48.7 | -12°37.3 | -12°25.8 | -12°14.3 | -12°02.7 | -11°51.1 | -11°39.4 | +11.4 | 58.9 |
| | Me 19 | 272°51.2 | 287°21.5 | 301°52.0 | 316°22.5 | 330°53.1 | 345°23.7 | 359°54.5 | 14°25.3 | 28°56.2 | 43°27.2 | 57°58.2 | +30.7 | 15.8 |
| | | -8°39.2 | -8°26.9 | -8°14.6 | -8°02.3 | -7°49.9 | -7°37.6 | -7°25.2 | -7°12.8 | -7°00.3 | -6°47.9 | -6°35.4 | +12.4 | 57.9 |
| | Je 20 | 275°51.9 | 290°23.9 | 304°56.0 | 319°28.2 | 334°00.4 | 348°32.7 | 3°05.0 | 17°37.4 | 32°09.8 | 46°42.3 | 61°14.8 | +32.3 | 15.5 |
| | | -3°27.3 | -3°14.7 | -3°02.1 | -2°49.5 | -2°37.0 | -2°24.4 | -2°11.9 | -1°59.3 | -1°46.8 | -1°34.3 | -1°21.7 | +12.6 | 56.9 |
| | Ve 21 | 290°23.9 | 304°56.0 | 319°28.2 | 334°00.4 | 348°32.7 | 3°05.0 | 17°37.4 | 32°09.8 | 46°42.3 | 61°14.8 | 75°47.3 | +32.3 | 15.5 |
| | | -3°14.7 | -3°02.1 | -2°49.5 | -2°37.0 | -2°24.4 | -2°11.9 | -1°59.3 | -1°46.8 | -1°34.3 | -1°21.7 | -1°09.2 | +12.5 | 56.9 |
| ◑ | Sa 22 | 294°00.3 | 308°33.5 | 323°06.6 | 337°39.8 | 352°13.0 | 6°46.2 | 21°19.5 | 35°52.8 | 50°26.1 | 64°59.4 | 79°32.8 | +33.2 | 15.3 |
| | | 1°56.6 | 2°08.8 | 2°21.0 | 2°33.2 | 2°45.3 | 2°57.5 | 3°09.6 | 3°21.6 | 3°33.7 | 3°45.7 | 3°57.7 | +12.1 | 56.0 |
| | Di 23 | 297°54.6 | 312°28.1 | 327°01.7 | 341°35.2 | 356°08.8 | 10°42.3 | 25°15.8 | 39°49.4 | 54°22.9 | 68°56.5 | 83°30.0 | +33.5 | 15.1 |
| | | 6°53.5 | 7°04.9 | 7°16.3 | 7°27.6 | 7°38.9 | 7°50.2 | 8°01.4 | 8°12.6 | 8°23.7 | 8°34.8 | 8°45.8 | +11.2 | 55.3 |
| | Lu 24 | 301°52.2 | 316°25.6 | 330°59.0 | 345°32.4 | 0°05.7 | 14°39.1 | 29°12.4 | 43°45.7 | 58°18.9 | 72°52.2 | 87°25.4 | +33.3 | 14.9 |
| | | 11°25.4 | 11°35.6 | 11°45.8 | 11°55.9 | 12°05.9 | 12°15.9 | 12°25.9 | 12°35.7 | 12°45.6 | 12°55.3 | 13°05.0 | +10.0 | 54.7 |
| | Ma 25 | 305°41.2 | 320°14.1 | 334°46.9 | 349°19.7 | 3°52.4 | 18°25.2 | 32°57.9 | 47°30.5 | 62°03.2 | 76°35.8 | 91°08.4 | +32.7 | 14.8 |
| | | 15°23.0 | 15°31.6 | 15°40.2 | 15°48.7 | 15°57.2 | 16°05.6 | 16°13.9 | 16°22.1 | 16°30.3 | 16°38.4 | 16°46.4 | +8.3 | 54.3 |
| | Me 26 | 309°13.1 | 323°45.1 | 338°17.1 | 352°49.1 | 7°21.0 | 21°52.9 | 36°24.8 | 50°56.7 | 65°28.5 | 80°00.2 | 94°31.9 | +31.9 | 14.7 |
| | | 18°37.4 | 18°44.2 | 18°50.9 | 18°57.5 | 19°04.0 | 19°10.4 | 19°16.7 | 19°23.0 | 19°29.1 | 19°35.2 | 19°41.2 | +6.4 | 54.1 |
| | Je 27 | 312°23.8 | 326°55.0 | 341°26.1 | 355°57.2 | 10°28.3 | 24°59.4 | 39°30.4 | 54°01.4 | 68°32.4 | 83°03.3 | 97°34.2 | +31.0 | 14.7 |
| | | 21°00.3 | 21°04.8 | 21°09.3 | 21°13.6 | 21°17.9 | 21°22.0 | 21°26.1 | 21°30.0 | 21°33.9 | 21°37.6 | 21°41.3 | +4.1 | 54.0 |
| | Ve 28 | 315°14.6 | 329°45.1 | 344°15.5 | 358°46.0 | 13°16.4 | 27°46.8 | 42°17.2 | 56°47.6 | 71°18.0 | 85°48.3 | 100°18.6 | +30.4 | 14.7 |
| | | 22°24.0 | 22°26.1 | 22°28.0 | 22°29.8 | 22°31.5 | 22°33.1 | 22°34.6 | 22°36.0 | 22°37.3 | 22°38.5 | 22°39.6 | +1.6 | 54.0 |
| | Sa 29 | 317°51.9 | 332°22.0 | 346°52.1 | 1°22.3 | 15°52.4 | 30°22.5 | 44°52.6 | 59°22.8 | 73°52.9 | 88°23.0 | 102°53.1 | +30.1 | 14.8 |
| | | 22°43.0 | 22°42.3 | 22°41.6 | 22°40.7 | 22°39.7 | 22°38.7 | 22°37.5 | 22°36.2 | 22°34.8 | 22°33.3 | 22°31.7 | -1.1 | 54.2 |
| ● | Di 30 | 320°25.4 | 334°55.6 | 349°25.9 | 3°56.1 | 18°26.4 | 32°56.6 | 47°26.9 | 61°57.2 | 76°27.5 | 90°57.8 | 105°28.2 | +30.3 | 14.8 |
| | | 21°54.5 | 21°51.2 | 21°47.8 | 21°44.2 | 21°40.6 | 21°36.8 | 21°33.0 | 21°29.0 | 21°24.9 | 21°20.8 | 21°16.5 | -3.8 | 54.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 1 06h21 — PQ: 9 03h35 — PL: 15 18h41 — DQ: 22 17h19 — NL: 30 21h34

# SOLEIL

## Juillet 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 269°01.8 | 284°01.7 | 299°01.6 | 314°01.5 | 329°01.3 | 344°01.2 | 359°01.1 | 14°01.0 | 29°00.9 | 44°00.7 | 59°00.6 | 74°00.5 | -0.1 |
| | 23°05.7 | 23°05.6 | 23°05.4 | 23°05.2 | 23°05.1 | 23°04.9 | 23°04.7 | 23°04.5 | 23°04.4 | 23°04.2 | 23°04.0 | 23°03.8 | -0.2 |
| Ma 2 | 268°58.9 | 283°58.8 | 298°58.7 | 313°58.6 | 328°58.5 | 343°58.3 | 358°58.2 | 13°58.1 | 28°58.0 | 43°57.9 | 58°57.8 | 73°57.6 | -0.1 |
| | 23°01.5 | 23°01.3 | 23°01.1 | 23°00.9 | 23°00.7 | 23°00.5 | 23°00.3 | 23°00.1 | 22°59.9 | 22°59.8 | 22°59.6 | 22°59.4 | -0.2 |
| Me 3 | 268°56.1 | 283°56.0 | 298°55.9 | 313°55.8 | 328°55.7 | 343°55.5 | 358°55.4 | 13°55.3 | 28°55.2 | 43°55.1 | 58°55.0 | 73°54.9 | -0.1 |
| | 22°56.8 | 22°56.6 | 22°56.4 | 22°56.2 | 22°56.0 | 22°55.8 | 22°55.6 | 22°55.3 | 22°55.1 | 22°54.9 | 22°54.7 | 22°54.5 | -0.2 |
| Je 4 | 268°53.4 | 283°53.3 | 298°53.2 | 313°53.1 | 328°52.9 | 343°52.8 | 358°52.7 | 13°52.6 | 28°52.5 | 43°52.4 | 58°52.3 | 73°52.2 | -0.1 |
| | 22°51.7 | 22°51.5 | 22°51.3 | 22°51.0 | 22°50.8 | 22°50.6 | 22°50.4 | 22°50.1 | 22°49.9 | 22°49.7 | 22°49.5 | 22°49.2 | -0.2 |
| Ve 5 | 268°50.7 | 283°50.6 | 298°50.5 | 313°50.4 | 328°50.3 | 343°50.2 | 358°50.1 | 13°50.0 | 28°49.9 | 43°49.8 | 58°49.7 | 73°49.5 | -0.1 |
| | 22°46.2 | 22°46.0 | 22°45.8 | 22°45.5 | 22°45.3 | 22°45.0 | 22°44.8 | 22°44.6 | 22°44.3 | 22°44.1 | 22°43.8 | 22°43.6 | -0.2 |
| Sa 6 | 268°48.2 | 283°48.1 | 298°48.0 | 313°47.9 | 328°47.8 | 343°47.7 | 358°47.5 | 13°47.4 | 28°47.3 | 43°47.2 | 58°47.1 | 73°47.0 | -0.1 |
| | 22°40.4 | 22°40.1 | 22°39.8 | 22°39.6 | 22°39.3 | 22°39.1 | 22°38.8 | 22°38.6 | 22°38.3 | 22°38.1 | 22°37.8 | 22°37.5 | -0.3 |
| Di 7 | 268°45.7 | 283°45.6 | 298°45.5 | 313°45.4 | 328°45.3 | 343°45.2 | 358°45.1 | 13°45.0 | 28°44.9 | 43°44.8 | 58°44.7 | 73°44.6 | -0.1 |
| | 22°34.1 | 22°33.8 | 22°33.6 | 22°33.3 | 22°33.0 | 22°32.7 | 22°32.5 | 22°32.2 | 22°31.9 | 22°31.6 | 22°31.4 | 22°31.1 | -0.3 |
| Lu 8 | 268°43.3 | 283°43.2 | 298°43.1 | 313°43.0 | 328°43.0 | 343°42.9 | 358°42.8 | 13°42.7 | 28°42.6 | 43°42.5 | 58°42.4 | 73°42.3 | -0.1 |
| | 22°27.4 | 22°27.2 | 22°26.9 | 22°26.6 | 22°26.3 | 22°26.0 | 22°25.7 | 22°25.4 | 22°25.1 | 22°24.8 | 22°24.5 | 22°24.3 | -0.3 |
| Ma 9 | 268°41.1 | 283°41.0 | 298°40.9 | 313°40.8 | 328°40.7 | 343°40.6 | 358°40.5 | 13°40.4 | 28°40.3 | 43°40.3 | 58°40.2 | 73°40.1 | -0.1 |
| | 22°20.4 | 22°20.1 | 22°19.8 | 22°19.5 | 22°19.2 | 22°18.9 | 22°18.6 | 22°18.3 | 22°18.0 | 22°17.7 | 22°17.3 | 22°17.0 | -0.3 |
| Me 10 | 268°38.9 | 283°38.8 | 298°38.7 | 313°38.7 | 328°38.6 | 343°38.5 | 358°38.4 | 13°38.3 | 28°38.2 | 43°38.1 | 58°38.1 | 73°38.0 | -0.1 |
| | 22°13.0 | 22°12.7 | 22°12.3 | 22°12.0 | 22°11.7 | 22°11.4 | 22°11.1 | 22°10.7 | 22°10.4 | 22°10.1 | 22°09.8 | 22°09.4 | -0.3 |
| Je 11 | 268°36.9 | 283°36.8 | 298°36.7 | 313°36.6 | 328°36.6 | 343°36.5 | 358°36.4 | 13°36.3 | 28°36.2 | 43°36.1 | 58°36.1 | 73°36.0 | -0.1 |
| | 22°05.2 | 22°04.8 | 22°04.5 | 22°04.2 | 22°03.8 | 22°03.5 | 22°03.1 | 22°02.8 | 22°02.5 | 22°02.1 | 22°01.8 | 22°01.5 | -0.3 |
| Ve 12 | 268°35.0 | 283°34.9 | 298°34.8 | 313°34.7 | 328°34.6 | 343°34.6 | 358°34.5 | 13°34.4 | 28°34.3 | 43°34.3 | 58°34.2 | 73°34.1 | -0.1 |
| | 21°57.0 | 21°56.6 | 21°56.3 | 21°55.9 | 21°55.6 | 21°55.2 | 21°54.9 | 21°54.5 | 21°54.2 | 21°53.8 | 21°53.5 | 21°53.1 | -0.4 |
| Sa 13 | 268°33.2 | 283°33.1 | 298°33.0 | 313°32.9 | 328°32.9 | 343°32.8 | 358°32.7 | 13°32.6 | 28°32.6 | 43°32.5 | 58°32.4 | 73°32.4 | -0.1 |
| | 21°48.4 | 21°48.0 | 21°47.7 | 21°47.3 | 21°47.0 | 21°46.6 | 21°46.2 | 21°45.8 | 21°45.5 | 21°45.1 | 21°44.7 | 21°44.4 | -0.4 |
| Di 14 | 268°31.5 | 283°31.4 | 298°31.3 | 313°31.3 | 328°31.2 | 343°31.1 | 358°31.1 | 13°31.0 | 28°30.9 | 43°30.9 | 58°30.8 | 73°30.7 | -0.1 |
| | 21°39.5 | 21°39.1 | 21°38.7 | 21°38.3 | 21°38.0 | 21°37.6 | 21°37.2 | 21°36.8 | 21°36.4 | 21°36.0 | 21°35.7 | 21°35.3 | -0.4 |
| Lu 15 | 268°29.9 | 283°29.9 | 298°29.8 | 313°29.7 | 328°29.7 | 343°29.6 | 358°29.5 | 13°29.5 | 28°29.4 | 43°29.4 | 58°29.3 | 73°29.2 | -0.1 |
| | 21°30.2 | 21°29.8 | 21°29.4 | 21°29.0 | 21°28.6 | 21°28.2 | 21°27.8 | 21°27.4 | 21°27.0 | 21°26.6 | 21°26.2 | 21°25.8 | -0.4 |
| Ma 16 | 268°28.5 | 283°28.4 | 298°28.4 | 313°28.3 | 328°28.3 | 343°28.2 | 358°28.1 | 13°28.1 | 28°28.0 | 43°28.0 | 58°27.9 | 73°27.9 | -0.1 |
| | 21°20.5 | 21°20.1 | 21°19.7 | 21°19.3 | 21°18.9 | 21°18.5 | 21°18.0 | 21°17.6 | 21°17.2 | 21°16.8 | 21°16.4 | 21°16.0 | -0.4 |
| Me 17 | 268°27.2 | 283°27.1 | 298°27.1 | 313°27.0 | 328°27.0 | 343°26.9 | 358°26.9 | 13°26.8 | 28°26.8 | 43°26.7 | 58°26.7 | 73°26.6 | -0.1 |
| | 21°10.5 | 21°10.1 | 21°09.6 | 21°09.2 | 21°08.8 | 21°08.3 | 21°07.9 | 21°07.5 | 21°07.1 | 21°06.6 | 21°06.2 | 21°05.8 | -0.4 |
| Je 18 | 268°26.0 | 283°26.0 | 298°25.9 | 313°25.9 | 328°25.8 | 343°25.8 | 358°25.7 | 13°25.7 | 28°25.6 | 43°25.6 | 58°25.6 | 73°25.5 | -0.0 |
| | 21°00.1 | 20°59.7 | 20°59.2 | 20°58.8 | 20°58.3 | 20°57.9 | 20°57.4 | 20°57.0 | 20°56.6 | 20°56.1 | 20°55.7 | 20°55.2 | -0.4 |
| Ve 19 | 268°25.0 | 283°24.9 | 298°24.9 | 313°24.8 | 328°24.8 | 343°24.8 | 358°24.7 | 13°24.7 | 28°24.6 | 43°24.6 | 58°24.6 | 73°24.5 | -0.0 |
| | 20°49.4 | 20°48.9 | 20°48.4 | 20°48.0 | 20°47.5 | 20°47.1 | 20°46.6 | 20°46.1 | 20°45.7 | 20°45.2 | 20°44.8 | 20°44.3 | -0.5 |
| Sa 20 | 268°24.1 | 283°24.0 | 298°24.0 | 313°23.9 | 328°23.9 | 343°23.9 | 358°23.8 | 13°23.8 | 28°23.8 | 43°23.7 | 58°23.7 | 73°23.7 | -0.0 |
| | 20°38.3 | 20°37.8 | 20°37.3 | 20°36.8 | 20°36.4 | 20°35.9 | 20°35.4 | 20°35.0 | 20°34.5 | 20°34.0 | 20°33.5 | 20°33.1 | -0.5 |
| Di 21 | 268°23.3 | 283°23.3 | 298°23.2 | 313°23.2 | 328°23.2 | 343°23.1 | 358°23.1 | 13°23.1 | 28°23.1 | 43°23.0 | 58°23.0 | 73°23.0 | -0.0 |
| | 20°26.8 | 20°26.3 | 20°25.8 | 20°25.4 | 20°24.9 | 20°24.4 | 20°23.9 | 20°23.4 | 20°22.9 | 20°22.4 | 20°21.9 | 20°21.4 | -0.5 |
| Lu 22 | 268°22.6 | 283°22.6 | 298°22.6 | 313°22.6 | 328°22.6 | 343°22.5 | 358°22.5 | 13°22.5 | 28°22.5 | 43°22.4 | 58°22.4 | 73°22.4 | -0.0 |
| | 20°15.0 | 20°14.5 | 20°14.0 | 20°13.5 | 20°13.0 | 20°12.5 | 20°12.0 | 20°11.5 | 20°11.0 | 20°10.5 | 20°10.0 | 20°09.5 | -0.5 |
| Ma 23 | 268°22.1 | 283°22.1 | 298°22.1 | 313°22.1 | 328°22.1 | 343°22.1 | 358°22.0 | 13°22.0 | 28°22.0 | 43°22.0 | 58°22.0 | 73°22.0 | -0.0 |
| | 20°02.9 | 20°02.4 | 20°01.9 | 20°01.4 | 20°00.8 | 20°00.3 | 19°59.8 | 19°59.3 | 19°58.8 | 19°58.3 | 19°57.7 | 19°57.2 | -0.5 |
| Me 24 | 268°21.8 | 283°21.8 | 298°21.8 | 313°21.8 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.7 | -0.0 |
| | 19°50.4 | 19°49.9 | 19°49.4 | 19°48.8 | 19°48.3 | 19°47.8 | 19°47.3 | 19°46.7 | 19°46.2 | 19°45.7 | 19°45.1 | 19°44.6 | -0.5 |
| Je 25 | 268°21.6 | 283°21.6 | 298°21.6 | 313°21.6 | 328°21.6 | 343°21.6 | 358°21.5 | 13°21.5 | 28°21.5 | 43°21.5 | 58°21.5 | 73°21.5 | -0.0 |
| | 19°37.6 | 19°37.1 | 19°36.5 | 19°36.0 | 19°35.5 | 19°34.9 | 19°34.4 | 19°33.8 | 19°33.3 | 19°32.7 | 19°32.2 | 19°31.7 | -0.5 |
| Ve 26 | 268°21.5 | 283°21.5 | 298°21.5 | 313°21.5 | 328°21.5 | 343°21.5 | 358°21.5 | 13°21.5 | 28°21.5 | 43°21.5 | 58°21.5 | 73°21.5 | +0.0 |
| | 19°24.5 | 19°24.0 | 19°23.4 | 19°22.8 | 19°22.3 | 19°21.7 | 19°21.2 | 19°20.6 | 19°20.1 | 19°19.5 | 19°18.9 | 19°18.4 | -0.6 |
| Sa 27 | 268°21.6 | 283°21.6 | 298°21.6 | 313°21.6 | 328°21.6 | 343°21.6 | 358°21.6 | 13°21.6 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.7 | +0.0 |
| | 19°11.1 | 19°10.5 | 19°09.9 | 19°09.4 | 19°08.8 | 19°08.2 | 19°07.7 | 19°07.1 | 19°06.5 | 19°05.9 | 19°05.4 | 19°04.8 | -0.6 |
| Di 28 | 268°21.8 | 283°21.8 | 298°21.8 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.9 | 13°21.9 | 28°21.9 | 43°21.9 | 58°22.0 | 73°22.0 | +0.0 |
| | 18°57.3 | 18°56.7 | 18°56.1 | 18°55.6 | 18°55.0 | 18°54.4 | 18°53.8 | 18°53.2 | 18°52.6 | 18°52.1 | 18°51.5 | 18°50.9 | -0.6 |
| Lu 29 | 268°22.2 | 283°22.2 | 298°22.2 | 313°22.3 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.4 | 43°22.4 | 58°22.4 | 73°22.4 | +0.0 |
| | 18°43.2 | 18°42.6 | 18°42.0 | 18°41.4 | 18°40.8 | 18°40.3 | 18°39.7 | 18°39.1 | 18°38.5 | 18°37.9 | 18°37.3 | 18°36.7 | -0.6 |
| Ma 30 | 268°22.7 | 283°22.7 | 298°22.8 | 313°22.8 | 328°22.8 | 343°22.8 | 358°22.9 | 13°22.9 | 28°22.9 | 43°23.0 | 58°23.0 | 73°23.0 | +0.0 |
| | 18°28.8 | 18°28.2 | 18°27.6 | 18°27.0 | 18°26.4 | 18°25.8 | 18°25.2 | 18°24.6 | 18°24.0 | 18°23.4 | 18°22.8 | 18°22.2 | -0.6 |
| Me 31 | 268°23.4 | 283°23.4 | 298°23.5 | 313°23.5 | 328°23.5 | 343°23.6 | 358°23.6 | 13°23.6 | 28°23.7 | 43°23.7 | 58°23.7 | 73°23.8 | +0.0 |
| | 18°14.2 | 18°13.5 | 18°12.9 | 18°12.3 | 18°11.7 | 18°11.1 | 18°10.4 | 18°09.8 | 18°09.2 | 18°08.6 | 18°08.0 | 18°07.3 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2030

| J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 250°32.6 | 265°03.2 | 279°33.7 | 294°04.3 | 308°34.9 | 323°05.6 | 337°36.2 | 352°06.9 | 6°37.7 | 21°08.4 | 35°39.1 | +30.7 | 14.9 |
| | 20°28.2 | 20°22.8 | 20°17.3 | 20°11.7 | 20°06.0 | 20°00.2 | 19°54.3 | 19°48.4 | 19°42.3 | 19°36.1 | 19°29.9 | -5.8 | 54.7 |
| Ma 2 | 253°23.7 | 267°54.9 | 282°26.1 | 296°57.3 | 311°28.6 | 325°59.9 | 340°31.2 | 355°02.5 | 9°33.9 | 24°05.3 | 38°36.7 | +31.3 | 15.0 |
| | 17°44.8 | 17°37.0 | 17°29.2 | 17°21.3 | 17°13.4 | 17°05.3 | 16°57.2 | 16°48.9 | 16°40.6 | 16°32.2 | 16°23.8 | -8.1 | 55.1 |
| Me 3 | 256°31.4 | 271°03.2 | 285°35.1 | 300°07.0 | 314°38.9 | 329°10.9 | 343°42.8 | 358°14.8 | 12°46.8 | 27°18.8 | 41°50.9 | +32.0 | 15.1 |
| | 14°07.3 | 13°57.7 | 13°47.9 | 13°38.1 | 13°28.2 | 13°18.2 | 13°08.2 | 12°58.1 | 12°48.0 | 12°37.8 | 12°27.5 | -10.0 | 55.5 |
| Je 4 | 259°53.9 | 274°26.2 | 288°58.5 | 303°30.9 | 318°03.2 | 332°35.6 | 347°08.0 | 1°40.4 | 16°12.8 | 30°45.2 | 45°17.6 | +32.4 | 15.3 |
| | 9°46.1 | 9°34.9 | 9°23.6 | 9°12.3 | 9°00.9 | 8°49.5 | 8°38.1 | 8°26.6 | 8°15.1 | 8°03.5 | 7°51.8 | -11.4 | 56.0 |
| Ve 5 | 263°24.2 | 277°56.6 | 292°29.0 | 307°01.4 | 321°33.9 | 336°06.3 | 350°38.6 | 5°11.0 | 19°43.4 | 34°15.8 | 48°48.1 | +32.4 | 15.4 |
| | 4°52.5 | 4°40.3 | 4°28.0 | 4°15.7 | 4°03.4 | 3°51.1 | 3°38.7 | 3°26.3 | 3°13.8 | 3°01.4 | 2°48.9 | -12.4 | 56.6 |
| Sa 6 | 266°51.2 | 281°23.3 | 295°55.3 | 310°27.2 | 324°59.2 | 339°31.1 | 354°03.0 | 8°34.8 | 23°06.6 | 37°38.4 | 52°10.1 | +31.9 | 15.6 |
| | -0°20.5 | -0°33.3 | -0°46.0 | -0°58.8 | -1°11.5 | -1°24.3 | -1°37.0 | -1°49.8 | -2°02.6 | -2°15.4 | -2°28.1 | -12.8 | 57.2 |
| Di 7 | 270°01.2 | 284°32.3 | 299°03.2 | 313°34.2 | 328°05.0 | 342°35.8 | 357°06.6 | 11°37.3 | 26°07.9 | 40°38.5 | 55°09.1 | +30.8 | 15.8 |
| | -5°39.1 | -5°51.7 | -6°04.3 | -6°16.9 | -6°29.5 | -6°42.1 | -6°54.6 | -7°07.1 | -7°19.6 | -7°32.1 | -7°44.5 | -12.5 | 57.9 |
| ◐ Lu 8 | 272°39.0 | 287°08.5 | 301°37.8 | 316°07.1 | 330°36.3 | 345°05.4 | 359°34.5 | 14°03.4 | 28°32.3 | 43°01.1 | 57°29.9 | +29.1 | 16.0 |
| | -10°47.0 | -10°58.9 | -11°10.7 | -11°22.4 | -11°34.1 | -11°45.7 | -11°57.3 | -12°08.8 | -12°20.3 | -12°31.7 | -12°43.1 | -11.6 | 58.6 |
| Ma 9 | 274°30.5 | 288°57.9 | 303°25.1 | 317°52.3 | 332°19.4 | 346°46.3 | 1°13.2 | 15°40.0 | 30°06.7 | 44°33.4 | 58°59.9 | +26.9 | 16.2 |
| | -15°25.4 | -15°35.6 | -15°45.7 | -15°55.8 | -16°05.7 | -16°15.6 | -16°25.4 | -16°35.1 | -16°44.7 | -16°54.2 | -17°03.6 | -9.8 | 59.3 |
| Me 10 | 275°26.8 | 289°51.8 | 304°16.8 | 318°41.7 | 333°06.5 | 347°31.2 | 1°55.9 | 16°20.4 | 30°44.9 | 45°09.3 | 59°33.6 | +24.7 | 16.3 |
| | -19°12.2 | -19°19.8 | -19°27.4 | -19°34.8 | -19°42.1 | -19°49.3 | -19°56.3 | -20°03.2 | -20°10.0 | -20°16.7 | -20°23.2 | -7.1 | 59.9 |
| Je 11 | 275°29.1 | 289°52.3 | 304°15.4 | 318°38.4 | 333°01.4 | 347°24.3 | 1°47.2 | 16°10.0 | 30°32.8 | 44°55.5 | 59°18.2 | +22.9 | 16.4 |
| | -21°44.4 | -21°48.6 | -21°52.7 | -21°56.6 | -22°00.4 | -22°04.0 | -22°07.5 | -22°10.8 | -22°13.9 | -22°16.9 | -22°19.8 | -3.5 | 60.3 |
| Ve 12 | 274°54.1 | 289°16.4 | 303°38.6 | 318°00.8 | 332°22.9 | 346°45.1 | 1°07.3 | 15°29.5 | 29°51.7 | 44°13.9 | 58°36.1 | +22.2 | 16.5 |
| | -22°42.6 | -22°42.8 | -22°42.8 | -22°42.7 | -22°42.4 | -22°41.9 | -22°41.2 | -22°40.4 | -22°39.4 | -22°38.3 | -22°37.0 | +0.6 | 60.5 |
| Sa 13 | 274°11.4 | 288°34.0 | 302°56.7 | 317°19.4 | 331°42.1 | 346°04.9 | 0°27.8 | 14°50.7 | 29°13.6 | 43°36.6 | 57°59.7 | +22.8 | 16.5 |
| | -21°57.4 | -21°53.4 | -21°49.3 | -21°45.1 | -21°40.6 | -21°36.1 | -21°31.3 | -21°26.5 | -21°21.4 | -21°16.2 | -21°10.9 | +4.6 | 60.5 |
| Di 14 | 273°53.7 | 288°17.9 | 302°42.2 | 317°06.6 | 331°31.0 | 345°55.5 | 0°20.1 | 14°44.8 | 29°09.6 | 43°34.5 | 57°59.5 | +24.6 | 16.4 |
| | -19°33.5 | -19°25.9 | -19°18.2 | -19°10.4 | -19°02.4 | -18°54.3 | -18°46.1 | -18°37.8 | -18°29.3 | -18°20.7 | -18°12.0 | +8.2 | 60.1 |
| ○ Lu 15 | 274°24.7 | 288°51.2 | 303°17.7 | 317°44.3 | 332°11.0 | 346°37.8 | 1°04.7 | 15°31.7 | 29°58.8 | 44°25.9 | 58°53.2 | +26.8 | 16.2 |
| | -15°48.8 | -15°38.5 | -15°28.0 | -15°17.5 | -15°07.0 | -14°56.3 | -14°45.5 | -14°34.7 | -14°23.8 | -14°12.8 | -14°01.7 | +10.7 | 59.6 |
| Ma 16 | 275°53.1 | 290°21.8 | 304°50.6 | 319°19.5 | 333°48.4 | 348°17.4 | 2°46.6 | 17°15.8 | 31°45.1 | 46°14.4 | 60°43.9 | +29.1 | 16.0 |
| | -11°08.0 | -10°55.9 | -10°43.9 | -10°31.7 | -10°19.6 | -10°07.3 | -9°55.1 | -9°42.8 | -9°30.5 | -9°18.1 | -9°05.7 | +12.2 | 58.8 |
| Me 17 | 278°14.6 | 292°45.2 | 307°15.9 | 321°46.6 | 336°17.4 | 350°48.3 | 5°19.2 | 19°50.2 | 34°21.3 | 48°52.4 | 63°23.6 | +30.9 | 15.8 |
| | -5°56.4 | -5°43.6 | -5°30.8 | -5°18.0 | -5°05.2 | -4°52.4 | -4°39.6 | -4°26.7 | -4°13.9 | -4°01.1 | -3°48.2 | +12.8 | 57.9 |
| Je 18 | 281°17.5 | 295°49.5 | 310°21.5 | 324°53.6 | 339°25.7 | 353°57.8 | 8°30.0 | 23°02.2 | 37°34.4 | 52°06.7 | 66°39.0 | +32.2 | 15.5 |
| | -0°36.1 | -0°23.3 | -0°10.6 | 0°02.1 | 0°14.8 | 0°27.5 | 0°40.1 | 0°52.7 | 1°05.3 | 1°17.9 | 1°30.5 | +12.7 | 57.0 |
| Ve 19 | 284°47.4 | 299°20.2 | 313°52.9 | 328°25.7 | 342°58.5 | 357°31.4 | 12°04.2 | 26°37.0 | 41°09.9 | 55°42.8 | 70°15.7 | +32.8 | 15.3 |
| | 4°35.6 | 4°47.7 | 4°59.8 | 5°11.8 | 5°23.7 | 5°35.7 | 5°47.6 | 5°59.4 | 6°11.2 | 6°23.0 | 6°34.8 | +11.9 | 56.1 |
| Sa 20 | 299°20.2 | 313°52.9 | 328°25.7 | 342°58.5 | 357°31.4 | 12°04.2 | 26°37.0 | 41°09.9 | 55°42.8 | 70°15.7 | 84°48.6 | +32.8 | 15.3 |
| | 4°47.7 | 4°59.8 | 5°11.8 | 5°23.7 | 5°35.7 | 5°47.6 | 5°59.4 | 6°11.2 | 6°23.0 | 6°34.8 | 6°46.4 | +11.9 | 56.1 |
| Di 21 | 303°03.0 | 317°36.0 | 332°08.9 | 346°41.9 | 1°14.9 | 15°47.9 | 30°20.8 | 44°53.8 | 59°26.7 | 73°59.7 | 88°32.6 | +33.0 | 15.1 |
| | 9°36.2 | 9°47.1 | 9°58.0 | 10°08.8 | 10°19.5 | 10°30.2 | 10°40.9 | 10°51.5 | 11°02.0 | 11°12.5 | 11°22.9 | +10.7 | 55.4 |
| ◑ Lu 22 | 306°45.3 | 321°18.1 | 335°50.8 | 350°23.5 | 4°56.2 | 19°28.8 | 34°01.5 | 48°34.1 | 63°06.7 | 77°39.3 | 92°11.8 | +32.7 | 14.9 |
| | 13°51.7 | 14°01.1 | 14°10.4 | 14°19.7 | 14°28.9 | 14°38.0 | 14°47.0 | 14°56.0 | 15°05.0 | 15°13.8 | 15°22.6 | +9.1 | 54.8 |
| Ma 23 | 310°17.4 | 324°49.5 | 339°21.7 | 353°53.8 | 8°25.9 | 22°57.9 | 37°29.9 | 52°01.9 | 66°33.9 | 81°05.8 | 95°37.7 | +32.0 | 14.8 |
| | 17°25.2 | 17°32.8 | 17°40.2 | 17°47.6 | 17°55.0 | 18°02.2 | 18°09.3 | 18°16.4 | 18°23.4 | 18°30.3 | 18°37.1 | +7.2 | 54.4 |
| Me 24 | 313°32.8 | 328°04.3 | 342°35.7 | 357°07.0 | 11°38.4 | 26°09.7 | 40°41.0 | 55°12.2 | 69°43.5 | 84°14.7 | 98°45.8 | +31.3 | 14.8 |
| | 20°08.9 | 20°14.3 | 20°19.6 | 20°24.8 | 20°29.9 | 20°35.0 | 20°39.9 | 20°44.8 | 20°49.5 | 20°54.2 | 20°58.7 | +5.0 | 54.2 |
| Je 25 | 316°50.0 | 331°00.8 | 345°31.5 | 0°02.1 | 14°32.8 | 29°03.4 | 43°34.1 | 58°04.7 | 72°35.2 | 87°05.8 | 101°36.3 | +30.6 | 14.8 |
| | 21°55.5 | 21°58.5 | 22°01.4 | 22°04.2 | 22°06.8 | 22°09.4 | 22°11.9 | 22°14.3 | 22°16.6 | 22°18.7 | 22°20.8 | +2.5 | 54.1 |
| Ve 26 | 319°11.9 | 333°42.2 | 348°12.4 | 2°42.6 | 17°12.9 | 31°43.1 | 46°13.2 | 60°43.4 | 75°13.6 | 89°43.8 | 104°13.9 | +30.2 | 14.8 |
| | 22°39.2 | 22°39.6 | 22°39.9 | 22°40.0 | 22°40.1 | 22°40.0 | 22°39.9 | 22°39.6 | 22°39.2 | 22°38.7 | 22°38.2 | -0.1 | 54.2 |
| Sa 27 | 321°45.6 | 336°15.7 | 350°45.8 | 5°15.9 | 19°46.0 | 34°16.2 | 48°46.3 | 63°16.4 | 77°46.5 | 92°16.7 | 106°46.8 | +30.1 | 14.9 |
| | 22°16.4 | 22°14.0 | 22°11.6 | 22°09.1 | 22°06.5 | 22°03.7 | 22°00.9 | 21°57.9 | 21°54.8 | 21°51.7 | 21°48.4 | -2.8 | 54.5 |
| Di 28 | 324°20.1 | 338°50.4 | 353°20.7 | 7°51.1 | 22°21.5 | 36°51.8 | 51°22.2 | 65°52.6 | 80°23.1 | 94°53.5 | 109°24.0 | +30.4 | 14.9 |
| | 20°46.5 | 20°41.6 | 20°36.5 | 20°31.4 | 20°26.1 | 20°20.7 | 20°15.3 | 20°09.7 | 20°04.1 | 19°58.3 | 19°52.4 | -5.4 | 54.8 |
| Lu 29 | 327°03.4 | 341°34.2 | 356°05.1 | 10°35.9 | 25°06.8 | 39°37.7 | 54°08.6 | 68°39.5 | 83°10.5 | 97°41.5 | 112°12.5 | +30.9 | 15.1 |
| | 18°13.0 | 18°05.6 | 17°58.1 | 17°50.5 | 17°42.9 | 17°35.1 | 17°27.3 | 17°19.4 | 17°11.4 | 17°03.3 | 16°55.1 | -7.8 | 55.2 |
| ● Ma 30 | 330°00.4 | 344°31.7 | 359°03.1 | 13°34.5 | 28°06.0 | 42°37.5 | 57°08.9 | 71°40.4 | 86°12.0 | 100°43.5 | 115°15.1 | +31.5 | 15.2 |
| | 14°42.5 | 14°33.0 | 14°23.5 | 14°13.8 | 14°04.2 | 13°54.4 | 13°44.5 | 13°34.6 | 13°24.7 | 13°14.6 | 13°04.5 | -9.8 | 55.7 |
| Me 31 | 333°10.8 | 347°42.7 | 2°14.5 | 16°46.4 | 31°18.3 | 45°50.2 | 60°22.1 | 74°54.0 | 89°26.0 | 103°57.9 | 118°29.9 | +31.9 | 15.3 |
| | 10°25.0 | 10°13.9 | 10°02.7 | 9°51.5 | 9°40.2 | 9°28.9 | 9°17.5 | 9°06.1 | 8°54.6 | 8°43.1 | 8°31.5 | -11.4 | 56.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 8 11h01 — PL: 15 02h12 — DQ: 22 08h07 — NL: 30 11h11

# SOLEIL

## Août 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 268° 24.2<br>17° 59.2 | 283° 24.3<br>17° 58.5 | 298° 24.3<br>17° 57.9 | 313° 24.3<br>17° 57.3 | 328° 24.4<br>17° 56.7 | 343° 24.4<br>17° 56.0 | 358° 24.5<br>17° 55.4 | 13° 24.5<br>17° 54.8 | 28° 24.5<br>17° 54.1 | 43° 24.6<br>17° 53.5 | 58° 24.6<br>17° 52.8 | 73° 24.7<br>17° 52.2 | +0.0<br>-0.6 |
| Ve 2 | 268° 25.2<br>17° 43.9 | 283° 25.3<br>17° 43.3 | 298° 25.3<br>17° 42.6 | 313° 25.4<br>17° 42.0 | 328° 25.4<br>17° 41.3 | 343° 25.4<br>17° 40.7 | 358° 25.5<br>17° 40.0 | 13° 25.5<br>17° 39.4 | 28° 25.6<br>17° 38.7 | 43° 25.6<br>17° 38.1 | 58° 25.7<br>17° 37.5 | 73° 25.7<br>17° 36.8 | +0.0<br>-0.6 |
| Sa 3 | 268° 26.4<br>17° 28.3 | 283° 26.4<br>17° 27.7 | 298° 26.5<br>17° 27.0 | 313° 26.5<br>17° 26.4 | 328° 26.6<br>17° 25.7 | 343° 26.6<br>17° 25.1 | 358° 26.7<br>17° 24.4 | 13° 26.7<br>17° 23.8 | 28° 26.8<br>17° 23.1 | 43° 26.8<br>17° 22.4 | 58° 26.9<br>17° 21.8 | 73° 26.9<br>17° 21.1 | +0.1<br>-0.7 |
| Di 4 | 268° 27.7<br>17° 12.5 | 283° 27.7<br>17° 11.8 | 298° 27.8<br>17° 11.2 | 313° 27.8<br>17° 10.5 | 328° 27.9<br>17° 09.8 | 343° 27.9<br>17° 09.2 | 358° 28.0<br>17° 08.5 | 13° 28.1<br>17° 07.8 | 28° 28.1<br>17° 07.2 | 43° 28.2<br>17° 06.5 | 58° 28.2<br>17° 05.8 | 73° 28.3<br>17° 05.1 | +0.1<br>-0.7 |
| Lu 5 | 268° 29.1<br>16° 56.4 | 283° 29.2<br>16° 55.7 | 298° 29.2<br>16° 55.0 | 313° 29.3<br>16° 54.3 | 328° 29.4<br>16° 53.7 | 343° 29.4<br>16° 53.0 | 358° 29.5<br>16° 52.3 | 13° 29.6<br>16° 51.6 | 28° 29.6<br>16° 50.9 | 43° 29.7<br>16° 50.3 | 58° 29.8<br>16° 49.6 | 73° 29.8<br>16° 48.9 | +0.1<br>-0.7 |
| Ma 6 | 268° 30.7<br>16° 40.0 | 283° 30.8<br>16° 39.3 | 298° 30.8<br>16° 38.6 | 313° 30.9<br>16° 37.9 | 328° 31.0<br>16° 37.2 | 343° 31.1<br>16° 36.5 | 358° 31.1<br>16° 35.8 | 13° 31.2<br>16° 35.2 | 28° 31.3<br>16° 34.5 | 43° 31.3<br>16° 33.8 | 58° 31.4<br>16° 33.1 | 73° 31.5<br>16° 32.4 | +0.1<br>-0.7 |
| Me 7 | 268° 32.5<br>16° 23.3 | 283° 32.5<br>16° 22.6 | 298° 32.6<br>16° 21.9 | 313° 32.7<br>16° 21.2 | 328° 32.8<br>16° 20.5 | 343° 32.8<br>16° 19.8 | 358° 32.9<br>16° 19.1 | 13° 33.0<br>16° 18.4 | 28° 33.1<br>16° 17.7 | 43° 33.2<br>16° 17.0 | 58° 33.2<br>16° 16.3 | 73° 33.3<br>16° 15.6 | +0.1<br>-0.7 |
| Je 8 | 268° 34.4<br>16° 06.4 | 283° 34.5<br>16° 05.7 | 298° 34.5<br>16° 05.0 | 313° 34.6<br>16° 04.3 | 328° 34.7<br>16° 03.6 | 343° 34.8<br>16° 02.8 | 358° 34.9<br>16° 02.1 | 13° 35.0<br>16° 01.4 | 28° 35.0<br>16° 00.7 | 43° 35.1<br>16° 00.0 | 58° 35.2<br>15° 59.3 | 73° 35.3<br>15° 58.6 | +0.1<br>-0.7 |
| Ve 9 | 268° 36.4<br>15° 49.2 | 283° 36.5<br>15° 48.5 | 298° 36.6<br>15° 47.8 | 313° 36.7<br>15° 47.1 | 328° 36.8<br>15° 46.3 | 343° 36.9<br>15° 45.6 | 358° 37.0<br>15° 44.9 | 13° 37.1<br>15° 44.2 | 28° 37.2<br>15° 43.4 | 43° 37.2<br>15° 42.7 | 58° 37.3<br>15° 42.0 | 73° 37.4<br>15° 41.3 | +0.1<br>-0.7 |
| Sa 10 | 268° 38.6<br>15° 31.8 | 283° 38.7<br>15° 31.1 | 298° 38.8<br>15° 30.3 | 313° 38.9<br>15° 29.6 | 328° 39.0<br>15° 28.9 | 343° 39.1<br>15° 28.1 | 358° 39.2<br>15° 27.4 | 13° 39.3<br>15° 26.7 | 28° 39.4<br>15° 25.9 | 43° 39.5<br>15° 25.2 | 58° 39.6<br>15° 24.5 | 73° 39.7<br>15° 23.7 | +0.1<br>-0.7 |
| Di 11 | 268° 41.0<br>15° 14.1 | 283° 41.1<br>15° 13.4 | 298° 41.2<br>15° 12.6 | 313° 41.3<br>15° 11.9 | 328° 41.4<br>15° 11.1 | 343° 41.5<br>15° 10.4 | 358° 41.6<br>15° 09.7 | 13° 41.7<br>15° 08.9 | 28° 41.8<br>15° 08.2 | 43° 41.9<br>15° 07.4 | 58° 42.0<br>15° 06.7 | 73° 42.1<br>15° 05.9 | +0.1<br>-0.7 |
| Lu 12 | 268° 43.5<br>14° 56.2 | 283° 43.6<br>14° 55.4 | 298° 43.7<br>14° 54.7 | 313° 43.8<br>14° 53.9 | 328° 43.9<br>14° 53.2 | 343° 44.0<br>14° 52.4 | 358° 44.2<br>14° 51.7 | 13° 44.3<br>14° 50.9 | 28° 44.4<br>14° 50.2 | 43° 44.5<br>14° 49.4 | 58° 44.6<br>14° 48.7 | 73° 44.7<br>14° 47.9 | +0.1<br>-0.8 |
| Ma 13 | 268° 46.2<br>14° 38.0 | 283° 46.3<br>14° 37.3 | 298° 46.4<br>14° 36.5 | 313° 46.5<br>14° 35.8 | 328° 46.6<br>14° 35.0 | 343° 46.7<br>14° 34.2 | 358° 46.8<br>14° 33.5 | 13° 46.9<br>14° 32.7 | 28° 47.1<br>14° 31.9 | 43° 47.2<br>14° 31.2 | 58° 47.3<br>14° 30.4 | 73° 47.4<br>14° 29.6 | +0.1<br>-0.8 |
| Me 14 | 268° 48.9<br>14° 19.6 | 283° 49.1<br>14° 18.9 | 298° 49.2<br>14° 18.1 | 313° 49.3<br>14° 17.3 | 328° 49.4<br>14° 16.6 | 343° 49.5<br>14° 15.8 | 358° 49.6<br>14° 15.0 | 13° 49.8<br>14° 14.2 | 28° 49.9<br>14° 13.5 | 43° 50.0<br>14° 12.7 | 58° 50.1<br>14° 11.9 | 73° 50.3<br>14° 11.1 | +0.1<br>-0.8 |
| Je 15 | 268° 51.8<br>14° 01.0 | 283° 52.0<br>14° 00.2 | 298° 52.1<br>13° 59.5 | 313° 52.2<br>13° 58.7 | 328° 52.3<br>13° 57.9 | 343° 52.5<br>13° 57.1 | 358° 52.6<br>13° 56.3 | 13° 52.7<br>13° 55.6 | 28° 52.8<br>13° 54.8 | 43° 53.0<br>13° 54.0 | 58° 53.1<br>13° 53.2 | 73° 53.2<br>13° 52.4 | +0.1<br>-0.8 |
| Ve 16 | 268° 54.9<br>13° 42.2 | 283° 55.0<br>13° 41.4 | 298° 55.2<br>13° 40.6 | 313° 55.3<br>13° 39.8 | 328° 55.4<br>13° 39.0 | 343° 55.5<br>13° 38.2 | 358° 55.7<br>13° 37.4 | 13° 55.8<br>13° 36.6 | 28° 55.9<br>13° 35.9 | 43° 56.1<br>13° 35.1 | 58° 56.2<br>13° 34.3 | 73° 56.3<br>13° 33.5 | +0.1<br>-0.8 |
| Sa 17 | 268° 58.1<br>13° 23.1 | 283° 58.2<br>13° 22.3 | 298° 58.3<br>13° 21.5 | 313° 58.5<br>13° 20.7 | 328° 58.6<br>13° 19.9 | 343° 58.7<br>13° 19.1 | 358° 58.9<br>13° 18.3 | 13° 59.0<br>13° 17.5 | 28° 59.2<br>13° 16.7 | 43° 59.3<br>13° 15.9 | 58° 59.4<br>13° 15.1 | 73° 59.6<br>13° 14.3 | +0.1<br>-0.8 |
| Di 18 | 269° 01.4<br>13° 03.9 | 284° 01.5<br>13° 03.0 | 299° 01.6<br>13° 02.2 | 314° 01.8<br>13° 01.4 | 329° 01.9<br>13° 00.6 | 344° 02.1<br>12° 59.8 | 359° 02.2<br>12° 59.0 | 14° 02.4<br>12° 58.2 | 29° 02.5<br>12° 57.4 | 44° 02.6<br>12° 56.6 | 59° 02.8<br>12° 55.8 | 74° 02.9<br>12° 54.9 | +0.1<br>-0.8 |
| Lu 19 | 269° 04.8<br>12° 44.4 | 284° 04.9<br>12° 43.6 | 299° 05.1<br>12° 42.7 | 314° 05.2<br>12° 41.9 | 329° 05.4<br>12° 41.1 | 344° 05.5<br>12° 40.3 | 359° 05.7<br>12° 39.5 | 14° 05.8<br>12° 38.6 | 29° 06.0<br>12° 37.8 | 44° 06.1<br>12° 37.0 | 59° 06.2<br>12° 36.2 | 74° 06.4<br>12° 35.4 | +0.1<br>-0.8 |
| Ma 20 | 269° 08.3<br>12° 24.7 | 284° 08.5<br>12° 23.9 | 299° 08.6<br>12° 23.0 | 314° 08.8<br>12° 22.2 | 329° 08.9<br>12° 21.4 | 344° 09.1<br>12° 20.6 | 359° 09.2<br>12° 19.7 | 14° 09.4<br>12° 18.9 | 29° 09.5<br>12° 18.1 | 44° 09.7<br>12° 17.3 | 59° 09.8<br>12° 16.4 | 74° 10.0<br>12° 15.6 | +0.2<br>-0.8 |
| Me 21 | 269° 12.0<br>12° 04.8 | 284° 12.1<br>12° 04.0 | 299° 12.3<br>12° 03.1 | 314° 12.4<br>12° 02.3 | 329° 12.6<br>12° 01.5 | 344° 12.8<br>12° 00.6 | 359° 12.9<br>11° 59.8 | 14° 13.1<br>11° 59.0 | 29° 13.2<br>11° 58.1 | 44° 13.4<br>11° 57.3 | 59° 13.5<br>11° 56.5 | 74° 13.7<br>11° 55.6 | +0.2<br>-0.8 |
| Je 22 | 269° 15.7<br>11° 44.7 | 284° 15.9<br>11° 43.9 | 299° 16.1<br>11° 43.0 | 314° 16.2<br>11° 42.2 | 329° 16.4<br>11° 41.4 | 344° 16.5<br>11° 40.5 | 359° 16.7<br>11° 39.7 | 14° 16.9<br>11° 38.8 | 29° 17.0<br>11° 38.0 | 44° 17.2<br>11° 37.1 | 59° 17.3<br>11° 36.3 | 74° 17.5<br>11° 35.5 | +0.2<br>-0.8 |
| Ve 23 | 269° 19.6<br>11° 24.5 | 284° 19.8<br>11° 23.6 | 299° 19.9<br>11° 22.8 | 314° 20.1<br>11° 21.9 | 329° 20.3<br>11° 21.1 | 344° 20.4<br>11° 20.2 | 359° 20.6<br>11° 19.4 | 14° 20.8<br>11° 18.5 | 29° 20.9<br>11° 17.7 | 44° 21.1<br>11° 16.8 | 59° 21.3<br>11° 16.0 | 74° 21.4<br>11° 15.1 | +0.2<br>-0.9 |
| Sa 24 | 269° 23.6<br>11° 04.0 | 284° 23.8<br>11° 03.2 | 299° 23.9<br>11° 02.3 | 314° 24.1<br>11° 01.4 | 329° 24.3<br>11° 00.6 | 344° 24.4<br>10° 59.7 | 359° 24.6<br>10° 58.9 | 14° 24.8<br>10° 58.0 | 29° 24.9<br>10° 57.2 | 44° 25.1<br>10° 56.3 | 59° 25.3<br>10° 55.4 | 74° 25.4<br>10° 54.6 | +0.2<br>-0.9 |
| Di 25 | 269° 27.7<br>10° 43.4 | 284° 27.8<br>10° 42.5 | 299° 28.0<br>10° 41.7 | 314° 28.2<br>10° 40.8 | 329° 28.4<br>10° 39.9 | 344° 28.5<br>10° 39.1 | 359° 28.7<br>10° 38.2 | 14° 28.9<br>10° 37.3 | 29° 29.1<br>10° 36.5 | 44° 29.2<br>10° 35.6 | 59° 29.4<br>10° 34.8 | 74° 29.6<br>10° 33.9 | +0.2<br>-0.9 |
| Lu 26 | 269° 31.8<br>10° 22.6 | 284° 32.0<br>10° 21.7 | 299° 32.2<br>10° 20.9 | 314° 32.4<br>10° 20.0 | 329° 32.6<br>10° 19.1 | 344° 32.7<br>10° 18.2 | 359° 32.9<br>10° 17.4 | 14° 33.1<br>10° 16.5 | 29° 33.3<br>10° 15.6 | 44° 33.4<br>10° 14.8 | 59° 33.6<br>10° 13.9 | 74° 33.8<br>10° 13.0 | +0.2<br>-0.9 |
| Ma 27 | 269° 36.1<br>10° 01.6 | 284° 36.3<br>10° 00.8 | 299° 36.5<br>9° 59.9 | 314° 36.7<br>9° 59.0 | 329° 36.8<br>9° 58.1 | 344° 37.0<br>9° 57.3 | 359° 37.2<br>9° 56.4 | 14° 37.4<br>9° 55.5 | 29° 37.6<br>9° 54.6 | 44° 37.8<br>9° 53.7 | 59° 37.9<br>9° 52.9 | 74° 38.1<br>9° 52.0 | +0.2<br>-0.9 |
| Me 28 | 269° 40.5<br>9° 40.5 | 284° 40.7<br>9° 39.6 | 299° 40.9<br>9° 38.8 | 314° 41.0<br>9° 37.9 | 329° 41.2<br>9° 37.0 | 344° 41.4<br>9° 36.1 | 359° 41.6<br>9° 35.2 | 14° 41.8<br>9° 34.3 | 29° 42.0<br>9° 33.5 | 44° 42.2<br>9° 32.6 | 59° 42.3<br>9° 31.7 | 74° 42.5<br>9° 30.8 | +0.2<br>-0.9 |
| Je 29 | 269° 44.9<br>9° 19.3 | 284° 45.1<br>9° 18.4 | 299° 45.3<br>9° 17.5 | 314° 45.5<br>9° 16.6 | 329° 45.7<br>9° 15.7 | 344° 45.9<br>9° 14.8 | 359° 46.1<br>9° 13.9 | 14° 46.3<br>9° 13.0 | 29° 46.5<br>9° 12.1 | 44° 46.6<br>9° 11.2 | 59° 46.8<br>9° 10.4 | 74° 47.0<br>9° 09.5 | +0.2<br>-0.9 |
| Ve 30 | 269° 49.5<br>8° 57.8 | 284° 49.7<br>8° 56.9 | 299° 49.9<br>8° 56.1 | 314° 50.1<br>8° 55.2 | 329° 50.3<br>8° 54.3 | 344° 50.4<br>8° 53.4 | 359° 50.6<br>8° 52.5 | 14° 50.8<br>8° 51.6 | 29° 51.0<br>8° 50.7 | 44° 51.2<br>8° 49.8 | 59° 51.4<br>8° 48.9 | 74° 51.6<br>8° 48.0 | +0.2<br>-0.9 |
| Sa 31 | 269° 54.1<br>8° 36.3 | 284° 54.3<br>8° 35.4 | 299° 54.5<br>8° 34.5 | 314° 54.7<br>8° 33.6 | 329° 54.9<br>8° 32.7 | 344° 55.1<br>8° 31.8 | 359° 55.3<br>8° 30.9 | 14° 55.5<br>8° 30.0 | 29° 55.7<br>8° 29.1 | 44° 55.9<br>8° 28.2 | 59° 56.1<br>8° 27.3 | 74° 56.3<br>8° 26.4 | +0.2<br>-0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2030

| J | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 249°17.8<br>6°45.3 | 263°49.9<br>6°33.2 | 278°21.9<br>6°21.2 | 292°53.9<br>6°09.1 | 307°26.0<br>5°57.0 | 321°58.0<br>5°44.8 | 336°30.0<br>5°32.6 | 351°02.1<br>5°20.4 | 5°34.1<br>5°08.1 | 20°06.1<br>4°55.8 | 34°38.2<br>4°43.5 | +32.0<br>-12.2 | 15.4<br>56.6 |
| Ve 2 | 252°37.9<br>1°35.5 | 267°09.8<br>1°22.9 | 281°41.7<br>1°10.2 | 296°13.6<br>0°57.4 | 310°45.5<br>0°44.7 | 325°17.3<br>0°32.0 | 339°49.1<br>0°19.2 | 354°20.9<br>0°06.4 | 8°52.7<br>-0°06.3 | 23°24.5<br>-0°19.1 | 37°56.2<br>-0°31.9 | +31.8<br>-12.7 | 15.6<br>57.2 |
| Sa 3 | 255°49.3<br>-3°43.7 | 270°20.6<br>-3°56.5 | 284°51.8<br>-4°09.2 | 299°23.1<br>-4°21.9 | 313°54.3<br>-4°34.6 | 328°25.4<br>-4°47.3 | 342°56.5<br>-5°00.0 | 357°27.6<br>-5°12.7 | 11°58.6<br>-5°25.3 | 26°29.6<br>-5°37.9 | 41°00.5<br>-5°50.5 | +31.1<br>-12.7 | 15.7<br>57.7 |
| Di 4 | 258°39.1<br>-8°56.2 | 273°09.3<br>-9°08.3 | 287°39.4<br>-9°20.4 | 302°09.4<br>-9°32.4 | 316°39.4<br>-9°44.4 | 331°09.3<br>-9°56.4 | 345°39.2<br>-10°08.3 | 0°09.0<br>-10°20.1 | 14°38.8<br>-10°31.9 | 29°08.5<br>-10°43.7 | 43°38.1<br>-10°55.4 | +29.9<br>-11.9 | 15.9<br>58.1 |
| Lu 5 | 260°54.7<br>-13°43.9 | 275°23.3<br>-13°54.6 | 289°51.8<br>-14°05.3 | 304°20.2<br>-14°15.9 | 318°48.5<br>-14°26.4 | 333°16.8<br>-14°36.8 | 347°45.0<br>-14°47.1 | 2°13.1<br>-14°57.4 | 16°41.2<br>-15°07.6 | 31°09.2<br>-15°17.7 | 45°37.1<br>-15°27.7 | +28.2<br>-10.4 | 16.0<br>58.6 |
| ◐ Ma 6 | 262°26.5<br>-17°47.2 | 276°53.2<br>-17°55.7 | 291°19.8<br>-18°04.1 | 305°46.3<br>-18°12.4 | 320°12.8<br>-18°20.6 | 334°39.2<br>-18°28.7 | 349°05.5<br>-18°36.7 | 3°31.7<br>-18°44.6 | 17°57.9<br>-18°52.4 | 32°24.0<br>-19°00.0 | 46°50.0<br>-19°07.5 | +26.3<br>-8.0 | 16.1<br>59.0 |
| Me 7 | 263°11.6<br>-20°45.9 | 277°36.5<br>-20°51.4 | 292°01.4<br>-20°56.8 | 306°26.1<br>-21°02.1 | 320°50.9<br>-21°07.2 | 335°15.5<br>-21°12.2 | 349°40.1<br>-21°17.1 | 4°04.7<br>-21°21.8 | 18°29.2<br>-21°26.4 | 32°53.6<br>-21°30.8 | 47°18.0<br>-21°35.1 | +24.6<br>-4.9 | 16.2<br>59.4 |
| Je 8 | 263°18.0<br>-22°21.9 | 277°41.7<br>-22°23.8 | 292°05.4<br>-22°25.6 | 306°29.1<br>-22°27.2 | 320°52.7<br>-22°28.7 | 335°16.3<br>-22°30.0 | 349°39.8<br>-22°31.1 | 4°03.4<br>-22°32.1 | 18°26.9<br>-22°33.0 | 32°50.4<br>-22°33.6 | 47°13.9<br>-22°34.2 | +23.6<br>-1.2 | 16.3<br>59.6 |
| Ve 9 | 263°05.4<br>-22°23.2 | 277°28.9<br>-22°21.3 | 291°52.4<br>-22°19.1 | 306°15.9<br>-22°16.8 | 320°39.4<br>-22°14.4 | 335°02.9<br>-22°11.8 | 349°26.5<br>-22°09.0 | 3°50.0<br>-22°06.1 | 18°13.6<br>-22°03.1 | 32°37.3<br>-21°59.8 | 47°00.9<br>-21°56.5 | +23.5<br>+2.7 | 16.3<br>59.7 |
| Sa 10 | 263°00.1<br>-20°48.2 | 277°24.4<br>-20°42.4 | 291°48.7<br>-20°36.6 | 306°13.1<br>-20°30.6 | 320°37.6<br>-20°24.5 | 335°02.1<br>-20°18.2 | 349°26.7<br>-20°11.8 | 3°51.3<br>-20°05.3 | 18°16.0<br>-19°58.7 | 32°40.7<br>-19°51.9 | 47°05.5<br>-19°44.9 | +24.5<br>+6.3 | 16.3<br>59.7 |
| Di 11 | 263°25.7<br>-17°46.3 | 277°51.6<br>-17°37.5 | 292°17.6<br>-17°28.5 | 306°43.7<br>-17°19.5 | 321°09.8<br>-17°10.3 | 335°36.0<br>-17°01.1 | 350°02.3<br>-16°51.7 | 4°28.7<br>-16°42.3 | 18°55.1<br>-16°32.7 | 33°21.6<br>-16°23.0 | 47°48.2<br>-16°13.3 | +26.2<br>+9.3 | 16.2<br>59.4 |
| Lu 12 | 264°36.3<br>-13°36.4 | 279°04.2<br>-13°25.3 | 293°32.1<br>-13°14.1 | 308°00.0<br>-13°02.9 | 322°28.1<br>-12°51.6 | 336°56.2<br>-12°40.2 | 351°24.4<br>-12°28.8 | 5°52.7<br>-12°17.3 | 20°21.1<br>-12°05.7 | 34°49.5<br>-11°54.1 | 49°18.0<br>-11°42.4 | +28.2<br>+11.4 | 16.1<br>59.0 |
| ○ Ma 13 | 266°34.1<br>-8°41.2 | 281°03.7<br>-8°28.8 | 295°33.4<br>-8°16.3 | 310°03.2<br>-8°03.8 | 324°33.0<br>-7°51.3 | 339°02.9<br>-7°38.8 | 353°32.8<br>-7°26.2 | 8°02.8<br>-7°13.6 | 22°32.9<br>-7°01.0 | 37°03.0<br>-6°48.3 | 51°33.2<br>-6°35.7 | +29.9<br>+12.6 | 15.9<br>58.3 |
| Me 14 | 269°12.6<br>-3°23.7 | 283°43.7<br>-3°10.8 | 298°14.8<br>-2°58.0 | 312°45.9<br>-2°45.1 | 327°17.1<br>-2°32.2 | 341°48.3<br>-2°19.4 | 356°19.6<br>-2°06.5 | 10°50.9<br>-1°53.6 | 25°22.2<br>-1°40.8 | 39°53.6<br>-1°27.9 | 54°25.1<br>-1°15.1 | +31.2<br>+12.9 | 15.7<br>57.6 |
| Je 15 | 272°20.9<br>1°55.9 | 286°52.9<br>2°08.4 | 301°24.9<br>2°21.0 | 315°56.9<br>2°33.5 | 330°28.9<br>2°46.0 | 345°01.0<br>2°58.5 | 359°33.1<br>3°10.9 | 14°05.2<br>3°23.3 | 28°37.4<br>3°35.7 | 43°09.6<br>3°48.1 | 57°41.7<br>4°00.4 | +32.1<br>+12.5 | 15.5<br>56.8 |
| Ve 16 | 275°46.5<br>7°00.7 | 290°18.9<br>7°12.4 | 304°51.3<br>7°24.0 | 319°23.8<br>7°35.6 | 333°56.2<br>7°47.1 | 348°28.7<br>7°58.6 | 3°01.1<br>8°10.1 | 17°33.6<br>8°21.5 | 32°06.0<br>8°32.8 | 46°38.5<br>8°44.1 | 61°10.9<br>8°55.4 | +32.4<br>+11.5 | 15.3<br>56.1 |
| Sa 17 | 279°17.8<br>11°37.3 | 293°50.2<br>11°47.6 | 308°22.6<br>11°57.9 | 322°55.0<br>12°08.1 | 337°27.4<br>12°18.2 | 351°59.8<br>12°28.3 | 6°32.2<br>12°38.3 | 21°04.6<br>12°48.2 | 35°36.9<br>12°58.1 | 50°09.3<br>13°07.9 | 64°41.6<br>13°17.6 | +32.4<br>+10.0 | 15.1<br>55.4 |
| Di 18 | 282°45.0<br>15°35.1 | 297°17.1<br>15°43.7 | 311°49.2<br>15°52.1 | 326°21.2<br>16°00.6 | 340°53.3<br>16°08.9 | 355°25.3<br>16°17.2 | 9°57.3<br>16°25.3 | 24°29.3<br>16°33.4 | 39°01.3<br>16°41.5 | 53°33.2<br>16°49.4 | 68°05.1<br>16°57.3 | +32.0<br>+8.2 | 15.0<br>54.9 |
| Lu 19 | 297°17.1<br>15°43.7 | 311°49.2<br>15°52.1 | 326°21.2<br>16°00.6 | 340°53.3<br>16°08.9 | 355°25.3<br>16°17.2 | 9°57.3<br>16°25.3 | 24°29.3<br>16°33.4 | 39°01.3<br>16°41.5 | 53°33.2<br>16°49.4 | 68°05.1<br>16°57.3 | 82°37.0<br>17°05.1 | +32.0<br>+8.1 | 15.0<br>54.8 |
| Ma 20 | 300°32.9<br>18°51.7 | 315°04.4<br>18°58.1 | 329°35.9<br>19°04.4 | 344°07.4<br>19°10.6 | 358°38.9<br>19°16.8 | 13°10.3<br>19°22.8 | 27°41.8<br>19°28.8 | 42°13.2<br>19°34.7 | 56°44.6<br>19°40.5 | 71°15.9<br>19°46.2 | 85°47.2<br>19°51.8 | +31.4<br>+6.0 | 14.8<br>54.4 |
| ◑ Me 21 | 303°34.4<br>21°04.5 | 318°05.4<br>21°08.5 | 332°36.3<br>21°12.5 | 347°07.2<br>21°16.4 | 1°38.1<br>21°20.2 | 16°09.0<br>21°23.9 | 30°39.9<br>21°27.4 | 45°10.7<br>21°30.9 | 59°41.5<br>21°34.3 | 74°12.3<br>21°37.6 | 88°43.1<br>21°40.8 | +30.9<br>+3.6 | 14.8<br>54.2 |
| Je 22 | 306°22.5<br>22°16.3 | 320°53.0<br>22°17.9 | 335°23.5<br>22°19.3 | 349°54.0<br>22°20.6 | 4°24.4<br>22°21.9 | 18°54.9<br>22°23.0 | 33°25.3<br>22°24.0 | 47°55.7<br>22°24.9 | 62°26.1<br>22°25.8 | 76°56.5<br>22°26.5 | 91°26.9<br>22°27.1 | +30.4<br>+1.1 | 14.8<br>54.2 |
| Ve 23 | 309°01.7<br>22°23.4 | 323°31.9<br>22°22.3 | 338°02.2<br>22°21.1 | 352°32.5<br>22°19.8 | 7°02.7<br>22°18.4 | 21°33.0<br>22°16.9 | 36°03.2<br>22°15.2 | 50°33.5<br>22°13.5 | 65°03.7<br>22°11.7 | 79°34.0<br>22°09.7 | 94°04.2<br>22°07.7 | +30.3<br>-1.6 | 14.8<br>54.4 |
| Sa 24 | 311°38.4<br>21°24.2 | 326°08.7<br>21°20.5 | 340°39.0<br>21°16.7 | 355°09.4<br>21°12.7 | 9°39.7<br>21°08.7 | 24°10.1<br>21°04.5 | 38°40.4<br>21°00.3 | 53°10.8<br>20°55.9 | 67°41.2<br>20°51.4 | 82°11.6<br>20°46.9 | 96°42.0<br>20°42.2 | +30.4<br>-4.2 | 14.9<br>54.7 |
| Di 25 | 314°19.4<br>19°20.2 | 328°50.0<br>19°14.0 | 343°20.7<br>19°07.6 | 357°51.3<br>19°01.1 | 12°21.9<br>18°54.6 | 26°52.6<br>18°48.0 | 41°23.3<br>18°41.2 | 55°54.0<br>18°34.4 | 70°24.7<br>18°27.5 | 84°55.4<br>18°20.5 | 99°26.2<br>18°13.3 | +30.7<br>-6.7 | 15.0<br>55.1 |
| Lu 26 | 317°09.4<br>16°15.8 | 331°40.4<br>16°07.3 | 346°11.4<br>15°58.7 | 0°42.4<br>15°50.0 | 15°13.5<br>15°41.2 | 29°44.6<br>15°32.3 | 44°15.7<br>15°23.4 | 58°46.8<br>15°14.4 | 73°17.9<br>15°05.3 | 87°49.0<br>14°56.1 | 102°20.2<br>14°46.8 | +31.1<br>-8.9 | 15.2<br>55.7 |
| Ma 27 | 320°09.2<br>12°18.7 | 334°40.6<br>12°08.3 | 349°12.0<br>11°57.8 | 3°43.4<br>11°47.2 | 18°14.8<br>11°36.5 | 32°46.2<br>11°25.8 | 47°17.6<br>11°15.0 | 61°49.0<br>11°04.2 | 76°20.5<br>10°53.3 | 90°51.9<br>10°42.4 | 105°23.4<br>10°31.3 | +31.4<br>-10.7 | 15.4<br>56.3 |
| ● Me 28 | 323°15.9<br>7°39.3 | 337°47.5<br>7°27.4 | 352°19.0<br>7°15.4 | 6°50.5<br>7°03.5 | 21°22.0<br>6°51.5 | 35°53.6<br>6°39.4 | 50°25.1<br>6°27.3 | 64°56.6<br>6°15.1 | 79°28.1<br>6°03.0 | 93°59.6<br>5°50.7 | 108°31.2<br>5°38.5 | +31.5<br>-12.1 | 15.5<br>57.0 |
| Je 29 | 326°22.8<br>2°30.6 | 340°54.1<br>2°17.8 | 355°25.5<br>2°05.1 | 9°56.8<br>1°52.3 | 24°28.1<br>1°39.5 | 38°59.4<br>1°26.7 | 53°30.6<br>1°13.9 | 68°01.9<br>1°01.0 | 82°33.1<br>0°48.1 | 97°04.3<br>0°35.3 | 111°35.5<br>0°22.4 | +31.3<br>-12.8 | 15.7<br>57.6 |
| Ve 30 | 329°20.2<br>-2°51.7 | 343°51.0<br>-3°04.6 | 358°21.7<br>-3°17.5 | 12°52.4<br>-3°30.4 | 27°23.0<br>-3°43.3 | 41°53.6<br>-3°56.2 | 56°24.2<br>-4°09.1 | 70°54.7<br>-4°21.9 | 85°25.2<br>-4°34.8 | 99°55.7<br>-4°47.6 | 114°26.1<br>-5°00.4 | +30.6<br>-12.9 | 15.8<br>58.1 |
| Sa 31 | 331°57.3<br>-8°09.7 | 346°27.0<br>-8°22.0 | 0°56.6<br>-8°34.3 | 15°26.2<br>-8°46.6 | 29°55.8<br>-8°58.8 | 44°25.3<br>-9°11.0 | 58°54.7<br>-9°23.2 | 73°24.1<br>-9°35.3 | 87°53.5<br>-9°47.3 | 102°22.7<br>-9°59.3 | 116°52.0<br>-10°11.3 | +29.5<br>-12.2 | 16.0<br>58.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 16h42 — PL: 13 10h44 — DQ: 21 01h15 — NL: 28 23h07

# SOLEIL

## Septembre 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°58.8 | 284°59.0 | 299°59.2 | 314°59.4 | 329°59.6 | 344°59.8 | 0°00.0 | 15°00.2 | 30°00.4 | 45°00.6 | 60°00.8 | 75°01.0 | +0.2 |
| | 8°14.6 | 8°13.7 | 8°12.8 | 8°11.9 | 8°11.0 | 8°10.1 | 8°09.1 | 8°08.2 | 8°07.3 | 8°06.4 | 8°05.5 | 8°04.6 | -0.9 |
| Lu 2 | 270°03.6 | 285°03.8 | 300°04.0 | 315°04.2 | 330°04.4 | 345°04.6 | 0°04.8 | 15°05.0 | 30°05.2 | 45°05.4 | 60°05.6 | 75°05.8 | +0.2 |
| | 7°52.8 | 7°51.9 | 7°50.9 | 7°50.0 | 7°49.1 | 7°48.2 | 7°47.3 | 7°46.4 | 7°45.5 | 7°44.5 | 7°43.6 | 7°42.7 | -0.9 |
| Ma 3 | 270°08.5 | 285°08.7 | 300°08.9 | 315°09.1 | 330°09.3 | 345°09.5 | 0°09.7 | 15°09.9 | 30°10.1 | 45°10.3 | 60°10.5 | 75°10.7 | +0.2 |
| | 7°30.8 | 7°29.9 | 7°29.0 | 7°28.1 | 7°27.1 | 7°26.2 | 7°25.3 | 7°24.4 | 7°23.5 | 7°22.5 | 7°21.6 | 7°20.7 | -0.9 |
| Me 4 | 270°13.4 | 285°13.6 | 300°13.8 | 315°14.0 | 330°14.2 | 345°14.4 | 0°14.6 | 15°14.9 | 30°15.1 | 45°15.3 | 60°15.5 | 75°15.7 | +0.2 |
| | 7°08.7 | 7°07.8 | 7°06.9 | 7°06.0 | 7°05.1 | 7°04.1 | 7°03.2 | 7°02.3 | 7°01.4 | 7°00.4 | 6°59.5 | 6°58.6 | -0.9 |
| Je 5 | 270°18.4 | 285°18.6 | 300°18.8 | 315°19.0 | 330°19.2 | 345°19.4 | 0°19.7 | 15°19.9 | 30°20.1 | 45°20.3 | 60°20.5 | 75°20.7 | +0.2 |
| | 6°46.6 | 6°45.6 | 6°44.7 | 6°43.8 | 6°42.8 | 6°41.9 | 6°41.0 | 6°40.1 | 6°39.1 | 6°38.2 | 6°37.3 | 6°36.4 | -0.9 |
| Ve 6 | 270°23.5 | 285°23.7 | 300°23.9 | 315°24.1 | 330°24.3 | 345°24.5 | 0°24.7 | 15°24.9 | 30°25.2 | 45°25.4 | 60°25.6 | 75°25.8 | +0.2 |
| | 6°24.3 | 6°23.3 | 6°22.4 | 6°21.5 | 6°20.5 | 6°19.6 | 6°18.7 | 6°17.7 | 6°16.8 | 6°15.9 | 6°14.9 | 6°14.0 | -0.9 |
| Sa 7 | 270°28.6 | 285°28.8 | 300°29.0 | 315°29.2 | 330°29.4 | 345°29.6 | 0°29.9 | 15°30.1 | 30°30.3 | 45°30.5 | 60°30.7 | 75°30.9 | +0.2 |
| | 6°01.9 | 6°00.9 | 6°00.0 | 5°59.1 | 5°58.1 | 5°57.2 | 5°56.2 | 5°55.3 | 5°54.4 | 5°53.4 | 5°52.5 | 5°51.6 | -0.9 |
| Di 8 | 270°33.7 | 285°33.9 | 300°34.2 | 315°34.4 | 330°34.6 | 345°34.8 | 0°35.0 | 15°35.2 | 30°35.5 | 45°35.7 | 60°35.9 | 75°36.1 | +0.2 |
| | 5°39.4 | 5°38.4 | 5°37.5 | 5°36.5 | 5°35.6 | 5°34.7 | 5°33.7 | 5°32.8 | 5°31.8 | 5°30.9 | 5°30.0 | 5°29.0 | -0.9 |
| Lu 9 | 270°38.9 | 285°39.2 | 300°39.4 | 315°39.6 | 330°39.8 | 345°40.0 | 0°40.3 | 15°40.5 | 30°40.7 | 45°40.9 | 60°41.1 | 75°41.3 | +0.2 |
| | 5°16.8 | 5°15.8 | 5°14.9 | 5°13.9 | 5°13.0 | 5°12.1 | 5°11.1 | 5°10.2 | 5°09.2 | 5°08.3 | 5°07.3 | 5°06.4 | -0.9 |
| Ma 10 | 270°44.2 | 285°44.4 | 300°44.6 | 315°44.9 | 330°45.1 | 345°45.3 | 0°45.5 | 15°45.7 | 30°46.0 | 45°46.2 | 60°46.4 | 75°46.6 | +0.2 |
| | 4°54.1 | 4°53.2 | 4°52.2 | 4°51.3 | 4°50.3 | 4°49.4 | 4°48.4 | 4°47.5 | 4°46.5 | 4°45.6 | 4°44.6 | 4°43.7 | -0.9 |
| Me 11 | 270°49.5 | 285°49.7 | 300°49.9 | 315°50.1 | 330°50.4 | 345°50.6 | 0°50.8 | 15°51.0 | 30°51.3 | 45°51.5 | 60°51.7 | 75°51.9 | +0.2 |
| | 4°31.3 | 4°30.4 | 4°29.4 | 4°28.5 | 4°27.5 | 4°26.6 | 4°25.6 | 4°24.7 | 4°23.7 | 4°22.8 | 4°21.8 | 4°20.9 | -1.0 |
| Je 12 | 270°54.8 | 285°55.0 | 300°55.2 | 315°55.5 | 330°55.7 | 345°55.9 | 0°56.1 | 15°56.4 | 30°56.6 | 45°56.8 | 60°57.0 | 75°57.2 | +0.2 |
| | 4°08.5 | 4°07.6 | 4°06.6 | 4°05.6 | 4°04.7 | 4°03.7 | 4°02.8 | 4°01.8 | 4°00.9 | 3°59.9 | 3°59.0 | 3°58.0 | -1.0 |
| Ve 13 | 271°00.1 | 286°00.4 | 301°00.6 | 316°00.8 | 331°01.0 | 346°01.3 | 1°01.5 | 16°01.7 | 31°01.9 | 46°02.2 | 61°02.4 | 76°02.6 | +0.2 |
| | 3°45.6 | 3°44.6 | 3°43.7 | 3°42.7 | 3°41.8 | 3°40.8 | 3°39.9 | 3°38.9 | 3°37.9 | 3°37.0 | 3°36.0 | 3°35.1 | -1.0 |
| Sa 14 | 271°05.5 | 286°05.7 | 301°05.9 | 316°06.2 | 331°06.4 | 346°06.6 | 1°06.8 | 16°07.1 | 31°07.3 | 46°07.5 | 61°07.7 | 76°08.0 | +0.2 |
| | 3°22.6 | 3°21.7 | 3°20.7 | 3°19.7 | 3°18.8 | 3°17.8 | 3°16.9 | 3°15.9 | 3°14.9 | 3°14.0 | 3°13.0 | 3°12.1 | -1.0 |
| Di 15 | 271°10.9 | 286°11.1 | 301°11.3 | 316°11.5 | 331°11.8 | 346°12.0 | 1°12.2 | 16°12.4 | 31°12.7 | 46°12.9 | 61°13.1 | 76°13.3 | +0.2 |
| | 2°59.6 | 2°58.6 | 2°57.6 | 2°56.7 | 2°55.7 | 2°54.8 | 2°53.8 | 2°52.8 | 2°51.9 | 2°50.9 | 2°50.0 | 2°49.0 | -1.0 |
| Lu 16 | 271°16.2 | 286°16.5 | 301°16.7 | 316°16.9 | 331°17.1 | 346°17.4 | 1°17.6 | 16°17.8 | 31°18.0 | 46°18.3 | 61°18.5 | 76°18.7 | +0.2 |
| | 2°36.5 | 2°35.5 | 2°34.5 | 2°33.6 | 2°32.6 | 2°31.7 | 2°30.7 | 2°29.7 | 2°28.8 | 2°27.8 | 2°26.8 | 2°25.9 | -1.0 |
| Ma 17 | 271°21.6 | 286°21.9 | 301°22.1 | 316°22.3 | 331°22.5 | 346°22.7 | 1°23.0 | 16°23.2 | 31°23.4 | 46°23.6 | 61°23.9 | 76°24.1 | +0.2 |
| | 2°13.3 | 2°12.4 | 2°11.4 | 2°10.4 | 2°09.5 | 2°08.5 | 2°07.5 | 2°06.6 | 2°05.6 | 2°04.6 | 2°03.7 | 2°02.7 | -1.0 |
| Me 18 | 271°27.0 | 286°27.2 | 301°27.4 | 316°27.7 | 331°27.9 | 346°28.1 | 1°28.3 | 16°28.6 | 31°28.8 | 46°29.0 | 61°29.2 | 76°29.5 | +0.2 |
| | 1°50.1 | 1°49.1 | 1°48.2 | 1°47.2 | 1°46.2 | 1°45.3 | 1°44.3 | 1°43.3 | 1°42.4 | 1°41.4 | 1°40.4 | 1°39.5 | -1.0 |
| Je 19 | 271°32.4 | 286°32.6 | 301°32.8 | 316°33.0 | 331°33.3 | 346°33.5 | 1°33.7 | 16°33.9 | 31°34.2 | 46°34.4 | 61°34.6 | 76°34.8 | +0.2 |
| | 1°26.9 | 1°25.9 | 1°24.9 | 1°24.0 | 1°23.0 | 1°22.0 | 1°21.1 | 1°20.1 | 1°19.1 | 1°18.2 | 1°17.2 | 1°16.2 | -1.0 |
| Ve 20 | 271°37.7 | 286°37.9 | 301°38.2 | 316°38.4 | 331°38.6 | 346°38.8 | 1°39.0 | 16°39.3 | 31°39.5 | 46°39.7 | 61°39.9 | 76°40.2 | +0.2 |
| | 1°03.6 | 1°02.6 | 1°01.7 | 1°00.7 | 0°59.7 | 0°58.7 | 0°57.8 | 0°56.8 | 0°55.8 | 0°54.9 | 0°53.9 | 0°52.9 | -1.0 |
| Sa 21 | 271°43.0 | 286°43.3 | 301°43.5 | 316°43.7 | 331°43.9 | 346°44.1 | 1°44.4 | 16°44.6 | 31°44.8 | 46°45.0 | 61°45.3 | 76°45.5 | +0.2 |
| | 0°40.3 | 0°39.3 | 0°38.3 | 0°37.4 | 0°36.4 | 0°35.4 | 0°34.5 | 0°33.5 | 0°32.5 | 0°31.5 | 0°30.6 | 0°29.6 | -1.0 |
| Di 22 | 271°48.3 | 286°48.6 | 301°48.8 | 316°49.0 | 331°49.2 | 346°49.4 | 1°49.7 | 16°49.9 | 31°50.1 | 46°50.3 | 61°50.5 | 76°50.8 | +0.2 |
| | 0°17.0 | 0°16.0 | 0°15.0 | 0°14.0 | 0°13.1 | 0°12.1 | 0°11.1 | 0°10.2 | 0°09.2 | 0°08.2 | 0°07.2 | 0°06.3 | -1.0 |
| Lu 23 | 271°53.6 | 286°53.8 | 301°54.1 | 316°54.3 | 331°54.5 | 346°54.7 | 1°54.9 | 16°55.2 | 31°55.4 | 46°55.6 | 61°55.8 | 76°56.0 | +0.2 |
| | -0°06.4 | -0°07.4 | -0°08.3 | -0°09.3 | -0°10.3 | -0°11.3 | -0°12.2 | -0°13.2 | -0°14.2 | -0°15.1 | -0°16.1 | -0°17.1 | -1.0 |
| Ma 24 | 271°58.9 | 286°59.1 | 301°59.3 | 316°59.5 | 331°59.7 | 346°59.9 | 2°00.2 | 17°00.4 | 32°00.6 | 47°00.8 | 62°01.0 | 77°01.2 | +0.2 |
| | -0°29.7 | -0°30.7 | -0°31.7 | -0°32.7 | -0°33.6 | -0°34.6 | -0°35.6 | -0°36.6 | -0°37.5 | -0°38.5 | -0°39.5 | -0°40.5 | -1.0 |
| Me 25 | 272°04.1 | 287°04.3 | 302°04.5 | 317°04.7 | 332°04.9 | 347°05.1 | 2°05.3 | 17°05.6 | 32°05.8 | 47°06.0 | 62°06.2 | 77°06.4 | +0.2 |
| | -0°53.1 | -0°54.1 | -0°55.1 | -0°56.0 | -0°57.0 | -0°58.0 | -0°59.0 | -0°59.9 | -1°00.9 | -1°01.9 | -1°02.9 | -1°03.8 | -1.0 |
| Je 26 | 272°09.2 | 287°09.4 | 302°09.6 | 317°09.9 | 332°10.1 | 347°10.3 | 2°10.5 | 17°10.7 | 32°10.9 | 47°11.1 | 62°11.3 | 77°11.6 | +0.2 |
| | -1°16.5 | -1°17.5 | -1°18.4 | -1°19.4 | -1°20.4 | -1°21.4 | -1°22.3 | -1°23.3 | -1°24.3 | -1°25.2 | -1°26.2 | -1°27.2 | -1.0 |
| Ve 27 | 272°14.3 | 287°14.5 | 302°14.7 | 317°15.0 | 332°15.2 | 347°15.4 | 2°15.6 | 17°15.8 | 32°16.0 | 47°16.2 | 62°16.4 | 77°16.6 | +0.2 |
| | -1°39.8 | -1°40.8 | -1°41.8 | -1°42.8 | -1°43.7 | -1°44.7 | -1°45.7 | -1°46.7 | -1°47.6 | -1°48.6 | -1°49.6 | -1°50.6 | -1.0 |
| Sa 28 | 272°19.4 | 287°19.6 | 302°19.8 | 317°20.0 | 332°20.2 | 347°20.4 | 2°20.6 | 17°20.8 | 32°21.0 | 47°21.3 | 62°21.5 | 77°21.7 | +0.2 |
| | -2°03.2 | -2°04.2 | -2°05.1 | -2°06.1 | -2°07.1 | -2°08.1 | -2°09.0 | -2°10.0 | -2°11.0 | -2°11.9 | -2°12.9 | -2°13.9 | -1.0 |
| Di 29 | 272°24.4 | 287°24.6 | 302°24.8 | 317°25.0 | 332°25.2 | 347°25.4 | 2°25.6 | 17°25.8 | 32°26.0 | 47°26.2 | 62°26.4 | 77°26.6 | +0.2 |
| | -2°26.5 | -2°27.5 | -2°28.5 | -2°29.4 | -2°30.4 | -2°31.4 | -2°32.4 | -2°33.3 | -2°34.3 | -2°35.3 | -2°36.2 | -2°37.2 | -1.0 |
| Lu 30 | 272°29.3 | 287°29.5 | 302°29.7 | 317°29.9 | 332°30.1 | 347°30.3 | 2°30.5 | 17°30.7 | 32°30.9 | 47°31.1 | 62°31.3 | 77°31.5 | +0.2 |
| | -2°49.8 | -2°50.8 | -2°51.8 | -2°52.8 | -2°53.7 | -2°54.7 | -2°55.7 | -2°56.6 | -2°57.6 | -2°58.6 | -2°59.5 | -3°00.5 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 247°12.5 | 261°41.1 | 276°09.7 | 290°38.2 | 305°06.7 | 319°35.1 | 334°03.4 | 348°31.7 | 2°59.9 | 17°28.1 | 31°56.2 | +28.4 | 16.0 |
| | -11°56.4 | -12°07.8 | -12°19.1 | -12°30.4 | -12°41.6 | -12°52.7 | -13°03.7 | -13°14.7 | -13°25.6 | -13°36.4 | -13°47.2 | -11.1 | 58.8 |
| Lu 2 | 248°49.9 | 263°17.0 | 277°44.0 | 292°10.9 | 306°37.8 | 321°04.6 | 335°31.4 | 349°58.0 | 4°24.7 | 18°51.2 | 33°17.7 | +26.8 | 16.1 |
| | -16°18.5 | -16°27.9 | -16°37.1 | -16°46.3 | -16°55.4 | -17°04.3 | -17°13.2 | -17°22.0 | -17°30.6 | -17°39.2 | -17°47.6 | -8.9 | 59.0 |
| Ma 3 | 249°47.8 | 264°13.3 | 278°38.8 | 293°04.2 | 307°29.6 | 321°54.9 | 336°20.2 | 350°45.4 | 5°10.6 | 19°35.7 | 34°00.8 | +25.3 | 16.1 |
| | -19°40.7 | -19°47.2 | -19°53.7 | -20°00.0 | -20°06.2 | -20°12.3 | -20°18.2 | -20°24.0 | -20°29.7 | -20°35.2 | -20°40.6 | -6.0 | 59.2 |
| ◐ Me 4 | 250°12.1 | 264°36.6 | 279°01.0 | 293°25.4 | 307°49.8 | 322°14.2 | 336°38.5 | 351°02.8 | 5°27.1 | 19°51.4 | 34°15.7 | +24.4 | 16.1 |
| | -21°45.2 | -21°48.4 | -21°51.4 | -21°54.3 | -21°57.0 | -21°59.6 | -22°02.0 | -22°04.3 | -22°06.5 | -22°08.5 | -22°10.3 | -2.5 | 59.2 |
| Je 5 | 250°18.7 | 264°42.9 | 279°07.1 | 293°31.3 | 307°55.5 | 322°19.8 | 336°44.0 | 351°08.3 | 5°32.6 | 19°56.9 | 34°21.2 | +24.2 | 16.1 |
| | -22°20.2 | -22°19.7 | -22°19.0 | -22°18.1 | -22°17.1 | -22°16.0 | -22°14.7 | -22°13.3 | -22°11.7 | -22°10.0 | -22°08.1 | +1.2 | 59.2 |
| Ve 6 | 250°29.4 | 264°54.3 | 279°19.1 | 293°44.0 | 308°09.0 | 322°34.0 | 336°59.1 | 351°24.2 | 5°49.3 | 20°14.5 | 34°39.8 | +25.0 | 16.1 |
| | -21°22.5 | -21°18.3 | -21°14.0 | -21°09.6 | -21°05.0 | -21°00.2 | -20°55.4 | -20°50.4 | -20°45.2 | -20°40.0 | -20°34.6 | +4.8 | 59.0 |
| Sa 7 | 251°05.2 | 265°31.3 | 279°57.6 | 294°23.9 | 308°50.2 | 323°16.6 | 337°43.1 | 352°09.7 | 6°36.3 | 21°03.0 | 35°29.8 | +26.5 | 16.0 |
| | -18°58.5 | -18°51.1 | -18°43.6 | -18°36.0 | -18°28.3 | -18°20.5 | -18°12.5 | -18°04.5 | -17°56.3 | -17°48.1 | -17°39.7 | +7.9 | 58.8 |
| Di 8 | 252°19.2 | 266°47.1 | 281°15.0 | 295°43.0 | 310°11.0 | 324°39.1 | 339°07.3 | 353°35.6 | 8°03.9 | 22°32.3 | 37°00.7 | +28.1 | 16.0 |
| | -15°22.5 | -15°12.6 | -15°02.6 | -14°52.6 | -14°42.4 | -14°32.2 | -14°22.0 | -14°11.6 | -14°01.2 | -13°50.6 | -13°40.1 | +10.2 | 58.5 |
| Lu 9 | 254°15.3 | 268°44.8 | 283°14.3 | 297°43.9 | 312°13.5 | 326°43.3 | 341°13.0 | 355°42.8 | 10°12.7 | 24°42.7 | 39°12.7 | +29.7 | 15.8 |
| | -10°53.4 | -10°41.8 | -10°30.2 | -10°18.5 | -10°06.8 | -9°55.0 | -9°43.2 | -9°31.3 | -9°19.4 | -9°07.5 | -8°55.5 | +11.8 | 58.1 |
| Ma 10 | 256°48.9 | 271°19.7 | 285°50.5 | 300°21.4 | 314°52.4 | 329°23.3 | 343°54.4 | 358°25.4 | 12°56.5 | 27°27.7 | 41°58.9 | +31.0 | 15.7 |
| | -5°51.7 | -5°39.2 | -5°26.7 | -5°14.2 | -5°01.7 | -4°49.1 | -4°36.6 | -4°24.0 | -4°11.5 | -3°58.9 | -3°46.3 | +12.5 | 57.6 |
| ○ Me 11 | 259°50.8 | 274°22.5 | 288°54.3 | 303°26.0 | 317°57.8 | 332°29.6 | 347°01.5 | 1°33.3 | 16°05.2 | 30°37.1 | 45°09.1 | +31.8 | 15.5 |
| | -0°36.9 | -0°24.3 | -0°11.7 | 0°00.9 | 0°13.4 | 0°26.0 | 0°38.5 | 0°51.1 | 1°03.6 | 1°16.1 | 1°28.6 | +12.6 | 57.0 |
| Je 12 | 263°10.1 | 277°42.3 | 292°14.5 | 306°46.7 | 321°18.9 | 335°51.1 | 350°23.3 | 4°55.5 | 19°27.8 | 34°00.0 | 48°32.2 | +32.2 | 15.4 |
| | 4°33.1 | 4°45.2 | 4°57.2 | 5°09.2 | 5°21.2 | 5°33.1 | 5°45.0 | 5°56.9 | 6°08.7 | 6°20.5 | 6°32.3 | +11.9 | 56.4 |
| Ve 13 | 266°36.0 | 281°08.3 | 295°40.5 | 310°12.7 | 324°45.0 | 339°17.2 | 353°49.4 | 8°21.6 | 22°53.8 | 37°26.0 | 51°58.2 | +32.2 | 15.2 |
| | 9°23.0 | 9°34.0 | 9°44.9 | 9°55.8 | 10°06.6 | 10°17.4 | 10°28.1 | 10°38.7 | 10°49.3 | 10°59.8 | 11°10.3 | +10.7 | 55.8 |
| Sa 14 | 269°59.6 | 284°31.6 | 299°03.6 | 313°35.5 | 328°07.5 | 342°39.4 | 357°11.3 | 11°43.2 | 26°15.1 | 40°47.0 | 55°18.8 | +31.9 | 15.1 |
| | 13°39.7 | 13°49.2 | 13°58.5 | 14°07.8 | 14°17.0 | 14°26.1 | 14°35.2 | 14°44.2 | 14°53.1 | 15°01.9 | 15°10.7 | +9.1 | 55.2 |
| Di 15 | 273°14.4 | 287°46.0 | 302°17.5 | 316°49.0 | 331°20.5 | 345°52.0 | 0°23.5 | 14°54.9 | 29°26.3 | 43°57.7 | 58°29.1 | +31.5 | 14.9 |
| | 17°12.6 | 17°20.1 | 17°27.5 | 17°34.8 | 17°42.0 | 17°49.1 | 17°56.2 | 18°03.1 | 18°10.0 | 18°16.8 | 18°23.5 | +7.1 | 54.8 |
| Lu 16 | 276°17.5 | 290°48.5 | 305°19.6 | 319°50.6 | 334°21.6 | 348°52.6 | 3°23.6 | 17°54.6 | 32°25.5 | 46°56.5 | 61°27.4 | +31.0 | 14.8 |
| | 19°53.0 | 19°58.2 | 20°03.3 | 20°08.4 | 20°13.3 | 20°18.1 | 20°22.9 | 20°27.5 | 20°32.1 | 20°36.5 | 20°40.9 | +4.8 | 54.4 |
| Ma 17 | 279°09.3 | 293°39.9 | 308°10.6 | 322°41.3 | 337°11.9 | 351°42.6 | 6°13.2 | 20°43.8 | 35°14.4 | 49°45.0 | 64°15.6 | +30.6 | 14.8 |
| | 21°34.4 | 21°37.2 | 21°39.8 | 21°42.4 | 21°44.8 | 21°47.2 | 21°49.5 | 21°51.6 | 21°53.7 | 21°55.6 | 21°57.4 | +2.3 | 54.2 |
| Me 18 | 293°39.9 | 308°10.6 | 322°41.3 | 337°11.9 | 351°42.6 | 6°13.2 | 20°43.8 | 35°14.4 | 49°45.0 | 64°15.6 | 78°46.2 | +30.6 | 14.8 |
| | 21°37.2 | 21°39.8 | 21°42.4 | 21°44.8 | 21°47.2 | 21°49.5 | 21°51.6 | 21°53.7 | 21°55.6 | 21°57.4 | 21°59.2 | +2.2 | 54.2 |
| ◑ Je 19 | 296°24.0 | 310°54.5 | 325°25.0 | 339°55.5 | 354°26.0 | 8°56.5 | 23°27.0 | 37°57.4 | 52°27.9 | 66°58.4 | 81°28.9 | +30.5 | 14.8 |
| | 22°12.9 | 22°13.0 | 22°12.9 | 22°12.8 | 22°12.6 | 22°12.3 | 22°11.8 | 22°11.3 | 22°10.6 | 22°09.9 | 22°09.0 | -0.4 | 54.2 |
| Ve 20 | 299°06.5 | 313°37.1 | 328°07.6 | 342°38.2 | 357°08.8 | 11°39.4 | 26°09.9 | 40°40.5 | 55°11.2 | 69°41.8 | 84°12.4 | +30.6 | 14.8 |
| | 21°43.7 | 21°41.2 | 21°38.6 | 21°35.9 | 21°33.1 | 21°30.1 | 21°27.1 | 21°24.0 | 21°20.8 | 21°17.4 | 21°14.0 | -3.0 | 54.4 |
| Sa 21 | 301°53.1 | 316°23.9 | 330°54.7 | 345°25.5 | 359°56.4 | 14°27.2 | 28°58.1 | 43°29.0 | 57°59.9 | 72°30.8 | 87°01.7 | +30.9 | 14.9 |
| | 20°10.5 | 20°05.5 | 20°00.4 | 19°55.2 | 19°49.9 | 19°44.5 | 19°39.0 | 19°33.4 | 19°27.7 | 19°21.9 | 19°16.0 | -5.5 | 54.8 |
| Di 22 | 304°47.4 | 319°18.5 | 333°49.7 | 348°20.9 | 2°52.1 | 17°23.3 | 31°54.5 | 46°25.7 | 60°57.0 | 75°28.2 | 89°59.5 | +31.2 | 15.1 |
| | 17°36.6 | 17°29.2 | 17°21.8 | 17°14.2 | 17°06.6 | 16°58.9 | 16°51.1 | 16°43.3 | 16°35.3 | 16°27.2 | 16°19.1 | -7.7 | 55.3 |
| Lu 23 | 307°50.0 | 322°21.4 | 336°52.9 | 351°24.3 | 5°55.8 | 20°27.3 | 34°58.8 | 49°30.3 | 64°01.8 | 78°33.3 | 93°04.8 | +31.5 | 15.3 |
| | 14°07.3 | 13°57.9 | 13°48.4 | 13°38.9 | 13°29.2 | 13°19.5 | 13°09.7 | 12°59.8 | 12°49.9 | 12°39.9 | 12°29.8 | -9.8 | 56.0 |
| Ma 24 | 310°57.7 | 325°29.3 | 340°00.8 | 354°32.3 | 9°03.8 | 23°35.4 | 38°06.9 | 52°38.4 | 67°09.9 | 81°41.4 | 96°12.9 | +31.5 | 15.5 |
| | 9°50.7 | 9°39.6 | 9°28.4 | 9°17.1 | 9°05.9 | 8°54.5 | 8°43.1 | 8°31.6 | 8°20.1 | 8°08.6 | 7°57.0 | -11.4 | 56.7 |
| Me 25 | 314°03.9 | 328°35.2 | 343°06.5 | 357°37.7 | 12°09.0 | 26°40.2 | 41°11.4 | 55°42.6 | 70°13.7 | 84°44.8 | 99°15.9 | +31.2 | 15.7 |
| | 4°57.0 | 4°44.6 | 4°32.2 | 4°19.8 | 4°07.4 | 3°54.9 | 3°42.4 | 3°29.8 | 3°17.2 | 3°04.6 | 2°52.0 | -12.5 | 57.5 |
| Je 26 | 316°59.2 | 331°29.8 | 346°00.4 | 0°31.0 | 15°01.5 | 29°32.0 | 44°02.5 | 58°32.9 | 73°03.2 | 87°33.6 | 102°03.9 | +30.5 | 15.9 |
| | -0°20.4 | -0°33.4 | -0°46.4 | -0°59.3 | -1°12.3 | -1°25.3 | -1°38.3 | -1°51.3 | -2°04.3 | -2°17.4 | -2°30.4 | -13.0 | 58.3 |
| ● Ve 27 | 319°32.7 | 334°02.2 | 348°31.7 | 3°01.1 | 17°30.5 | 31°59.8 | 46°29.1 | 60°58.3 | 75°27.4 | 89°56.5 | 104°25.6 | +29.3 | 16.1 |
| | -5°44.7 | -5°57.5 | -6°10.3 | -6°23.1 | -6°35.9 | -6°48.6 | -7°01.3 | -7°14.0 | -7°26.7 | -7°39.3 | -7°51.9 | -12.7 | 58.9 |
| Sa 28 | 321°33.8 | 336°01.8 | 350°29.8 | 4°57.7 | 19°25.5 | 33°53.3 | 48°21.0 | 62°48.7 | 77°16.2 | 91°43.8 | 106°11.2 | +27.7 | 16.2 |
| | -10°55.5 | -11°07.3 | -11°19.1 | -11°30.8 | -11°42.5 | -11°54.1 | -12°05.6 | -12°17.1 | -12°28.5 | -12°39.8 | -12°51.0 | -11.6 | 59.4 |
| Di 29 | 322°54.7 | 337°21.1 | 351°47.4 | 6°13.6 | 20°39.8 | 35°05.9 | 49°31.9 | 63°57.9 | 78°23.8 | 92°49.6 | 107°15.4 | +26.1 | 16.3 |
| | -15°30.2 | -15°40.1 | -15°49.9 | -15°59.6 | -16°09.2 | -16°18.7 | -16°28.1 | -16°37.4 | -16°46.6 | -16°55.7 | -17°04.6 | -9.5 | 59.7 |
| Lu 30 | 323°34.7 | 337°59.5 | 352°24.3 | 6°49.0 | 21°13.7 | 35°38.4 | 50°02.9 | 64°27.5 | 78°52.0 | 93°16.4 | 107°40.8 | +24.6 | 16.3 |
| | -19°05.5 | -19°12.6 | -19°19.5 | -19°26.3 | -19°33.0 | -19°39.6 | -19°46.0 | -19°52.3 | -19°58.4 | -20°04.5 | -20°10.4 | -6.5 | 59.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 4 21h55 — PL: 11 21h17 — DQ: 19 19h56 — NL: 27 09h54

# SOLEIL

## Octobre 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 272°34.2<br>-3°13.1 | 287°34.4<br>-3°14.1 | 302°34.6<br>-3°15.1 | 317°34.8<br>-3°16.0 | 332°35.0<br>-3°17.0 | 347°35.2<br>-3°18.0 | 2°35.4<br>-3°18.9 | 17°35.6<br>-3°19.9 | 32°35.8<br>-3°20.9 | 47°36.0<br>-3°21.8 | 62°36.2<br>-3°22.8 | 77°36.4<br>-3°23.8 | +0.2<br>-1.0 |
| Me 2 | 272°39.0<br>-3°36.4 | 287°39.2<br>-3°37.3 | 302°39.4<br>-3°38.3 | 317°39.6<br>-3°39.3 | 332°39.8<br>-3°40.2 | 347°40.0<br>-3°41.2 | 2°40.2<br>-3°42.2 | 17°40.4<br>-3°43.1 | 32°40.6<br>-3°44.1 | 47°40.8<br>-3°45.1 | 62°41.0<br>-3°46.0 | 77°41.2<br>-3°47.0 | +0.2<br>-1.0 |
| Je 3 | 272°43.7<br>-3°59.6 | 287°43.9<br>-4°00.5 | 302°44.1<br>-4°01.5 | 317°44.3<br>-4°02.5 | 332°44.5<br>-4°03.4 | 347°44.7<br>-4°04.4 | 2°44.9<br>-4°05.4 | 17°45.1<br>-4°06.3 | 32°45.3<br>-4°07.3 | 47°45.5<br>-4°08.2 | 62°45.7<br>-4°09.2 | 77°45.9<br>-4°10.2 | +0.2<br>-1.0 |
| Ve 4 | 272°48.4<br>-4°22.7 | 287°48.6<br>-4°23.7 | 302°48.8<br>-4°24.6 | 317°48.9<br>-4°25.6 | 332°49.1<br>-4°26.6 | 347°49.3<br>-4°27.5 | 2°49.5<br>-4°28.5 | 17°49.7<br>-4°29.5 | 32°49.9<br>-4°30.4 | 47°50.1<br>-4°31.4 | 62°50.3<br>-4°32.3 | 77°50.5<br>-4°33.3 | +0.2<br>-1.0 |
| Sa 5 | 272°52.9<br>-4°45.8 | 287°53.1<br>-4°46.8 | 302°53.3<br>-4°47.7 | 317°53.5<br>-4°48.7 | 332°53.7<br>-4°49.7 | 347°53.9<br>-4°50.6 | 2°54.1<br>-4°51.6 | 17°54.3<br>-4°52.5 | 32°54.4<br>-4°53.5 | 47°54.6<br>-4°54.5 | 62°54.8<br>-4°55.4 | 77°55.0<br>-4°56.4 | +0.2<br>-1.0 |
| Di 6 | 272°57.4<br>-5°08.8 | 287°57.6<br>-5°09.8 | 302°57.8<br>-5°10.8 | 317°58.0<br>-5°11.7 | 332°58.2<br>-5°12.7 | 347°58.3<br>-5°13.6 | 2°58.5<br>-5°14.6 | 17°58.7<br>-5°15.6 | 32°58.9<br>-5°16.5 | 47°59.1<br>-5°17.5 | 62°59.3<br>-5°18.4 | 77°59.4<br>-5°19.4 | +0.2<br>-1.0 |
| Lu 7 | 273°01.8<br>-5°31.8 | 288°02.0<br>-5°32.8 | 303°02.2<br>-5°33.7 | 318°02.4<br>-5°34.7 | 333°02.5<br>-5°35.6 | 348°02.7<br>-5°36.6 | 3°02.9<br>-5°37.5 | 18°03.1<br>-5°38.5 | 33°03.3<br>-5°39.5 | 48°03.4<br>-5°40.4 | 63°03.6<br>-5°41.4 | 78°03.8<br>-5°42.3 | +0.2<br>-1.0 |
| Ma 8 | 273°06.1<br>-5°54.7 | 288°06.3<br>-5°55.7 | 303°06.5<br>-5°56.6 | 318°06.6<br>-5°57.6 | 333°06.8<br>-5°58.5 | 348°07.0<br>-5°59.5 | 3°07.2<br>-6°00.4 | 18°07.3<br>-6°01.4 | 33°07.5<br>-6°02.3 | 48°07.7<br>-6°03.3 | 63°07.9<br>-6°04.2 | 78°08.0<br>-6°05.2 | +0.2<br>-1.0 |
| Me 9 | 273°10.3<br>-6°17.5 | 288°10.5<br>-6°18.5 | 303°10.6<br>-6°19.4 | 318°10.8<br>-6°20.4 | 333°11.0<br>-6°21.3 | 348°11.1<br>-6°22.3 | 3°11.3<br>-6°23.2 | 18°11.5<br>-6°24.2 | 33°11.7<br>-6°25.1 | 48°11.8<br>-6°26.1 | 63°12.0<br>-6°27.0 | 78°12.2<br>-6°28.0 | +0.2<br>-0.9 |
| Je 10 | 273°14.4<br>-6°40.3 | 288°14.5<br>-6°41.2 | 303°14.7<br>-6°42.2 | 318°14.9<br>-6°43.1 | 333°15.0<br>-6°44.1 | 348°15.2<br>-6°45.0 | 3°15.4<br>-6°45.9 | 18°15.5<br>-6°46.9 | 33°15.7<br>-6°47.8 | 48°15.9<br>-6°48.8 | 63°16.0<br>-6°49.7 | 78°16.2<br>-6°50.7 | +0.2<br>-0.9 |
| Ve 11 | 273°18.3<br>-7°02.9 | 288°18.5<br>-7°03.9 | 303°18.7<br>-7°04.8 | 318°18.8<br>-7°05.7 | 333°19.0<br>-7°06.7 | 348°19.1<br>-7°07.6 | 3°19.3<br>-7°08.6 | 18°19.5<br>-7°09.5 | 33°19.6<br>-7°10.5 | 48°19.8<br>-7°11.4 | 63°19.9<br>-7°12.3 | 78°20.1<br>-7°13.3 | +0.2<br>-0.9 |
| Sa 12 | 273°22.2<br>-7°25.5 | 288°22.3<br>-7°26.4 | 303°22.5<br>-7°27.4 | 318°22.6<br>-7°28.3 | 333°22.8<br>-7°29.2 | 348°23.0<br>-7°30.2 | 3°23.1<br>-7°31.1 | 18°23.3<br>-7°32.0 | 33°23.4<br>-7°33.0 | 48°23.6<br>-7°33.9 | 63°23.7<br>-7°34.8 | 78°23.9<br>-7°35.8 | +0.2<br>-0.9 |
| Di 13 | 273°25.9<br>-7°47.9 | 288°26.0<br>-7°48.9 | 303°26.2<br>-7°49.8 | 318°26.3<br>-7°50.7 | 333°26.5<br>-7°51.7 | 348°26.6<br>-7°52.6 | 3°26.8<br>-7°53.5 | 18°26.9<br>-7°54.5 | 33°27.1<br>-7°55.4 | 48°27.2<br>-7°56.3 | 63°27.4<br>-7°57.3 | 78°27.5<br>-7°58.2 | +0.2<br>-0.9 |
| Lu 14 | 273°29.5<br>-8°10.3 | 288°29.6<br>-8°11.2 | 303°29.8<br>-8°12.1 | 318°29.9<br>-8°13.1 | 333°30.1<br>-8°14.0 | 348°30.2<br>-8°14.9 | 3°30.3<br>-8°15.8 | 18°30.5<br>-8°16.8 | 33°30.6<br>-8°17.7 | 48°30.8<br>-8°18.6 | 63°30.9<br>-8°19.6 | 78°31.1<br>-8°20.5 | +0.1<br>-0.9 |
| Ma 15 | 273°32.9<br>-8°32.5 | 288°33.1<br>-8°33.4 | 303°33.2<br>-8°34.4 | 318°33.3<br>-8°35.3 | 333°33.5<br>-8°36.2 | 348°33.6<br>-8°37.1 | 3°33.7<br>-8°38.1 | 18°33.9<br>-8°39.0 | 33°34.0<br>-8°39.9 | 48°34.2<br>-8°40.8 | 63°34.3<br>-8°41.7 | 78°34.4<br>-8°42.7 | +0.1<br>-0.9 |
| Me 16 | 273°36.2<br>-8°54.6 | 288°36.3<br>-8°55.5 | 303°36.5<br>-8°56.5 | 318°36.6<br>-8°57.4 | 333°36.7<br>-8°58.3 | 348°36.9<br>-8°59.2 | 3°37.0<br>-9°00.1 | 18°37.1<br>-9°01.1 | 33°37.3<br>-9°02.0 | 48°37.4<br>-9°02.9 | 63°37.5<br>-9°03.8 | 78°37.7<br>-9°04.7 | +0.1<br>-0.9 |
| Je 17 | 273°39.4<br>-9°16.6 | 288°39.5<br>-9°17.5 | 303°39.6<br>-9°18.4 | 318°39.8<br>-9°19.4 | 333°39.9<br>-9°20.3 | 348°40.0<br>-9°21.2 | 3°40.1<br>-9°22.1 | 18°40.3<br>-9°23.0 | 33°40.4<br>-9°23.9 | 48°40.5<br>-9°24.8 | 63°40.6<br>-9°25.7 | 78°40.8<br>-9°26.7 | +0.1<br>-0.9 |
| Ve 18 | 273°42.4<br>-9°38.5 | 288°42.5<br>-9°39.4 | 303°42.6<br>-9°40.3 | 318°42.7<br>-9°41.2 | 333°42.9<br>-9°42.1 | 348°43.0<br>-9°43.0 | 3°43.1<br>-9°43.9 | 18°43.2<br>-9°44.8 | 33°43.3<br>-9°45.7 | 48°43.5<br>-9°46.6 | 63°43.6<br>-9°47.5 | 78°43.7<br>-9°48.4 | +0.1<br>-0.9 |
| Sa 19 | 273°45.2<br>-10°00.2 | 288°45.3<br>-10°01.1 | 303°45.4<br>-10°02.0 | 318°45.6<br>-10°02.9 | 333°45.7<br>-10°03.8 | 348°45.8<br>-10°04.7 | 3°45.9<br>-10°05.6 | 18°46.0<br>-10°06.5 | 33°46.1<br>-10°07.4 | 48°46.2<br>-10°08.3 | 63°46.4<br>-10°09.2 | 78°46.5<br>-10°10.1 | +0.1<br>-0.9 |
| Di 20 | 273°47.9<br>-10°21.8 | 288°48.0<br>-10°22.7 | 303°48.1<br>-10°23.6 | 318°48.2<br>-10°24.5 | 333°48.3<br>-10°25.4 | 348°48.4<br>-10°26.2 | 3°48.5<br>-10°27.1 | 18°48.6<br>-10°28.0 | 33°48.8<br>-10°28.9 | 48°48.9<br>-10°29.8 | 63°49.0<br>-10°30.7 | 78°49.1<br>-10°31.6 | +0.1<br>-0.9 |
| Lu 21 | 273°50.4<br>-10°43.2 | 288°50.5<br>-10°44.1 | 303°50.6<br>-10°45.0 | 318°50.7<br>-10°45.9 | 333°50.8<br>-10°46.8 | 348°50.9<br>-10°47.6 | 3°51.0<br>-10°48.5 | 18°51.1<br>-10°49.4 | 33°51.2<br>-10°50.3 | 48°51.3<br>-10°51.2 | 63°51.4<br>-10°52.1 | 78°51.5<br>-10°53.0 | +0.1<br>-0.9 |
| Ma 22 | 273°52.8<br>-11°04.5 | 288°52.9<br>-11°05.3 | 303°52.9<br>-11°06.2 | 318°53.0<br>-11°07.1 | 333°53.1<br>-11°08.0 | 348°53.2<br>-11°08.9 | 3°53.3<br>-11°09.8 | 18°53.4<br>-11°10.6 | 33°53.5<br>-11°11.5 | 48°53.6<br>-11°12.4 | 63°53.7<br>-11°13.3 | 78°53.8<br>-11°14.2 | +0.1<br>-0.9 |
| Me 23 | 273°54.9<br>-11°25.6 | 288°55.0<br>-11°26.4 | 303°55.1<br>-11°27.3 | 318°55.2<br>-11°28.2 | 333°55.3<br>-11°29.1 | 348°55.4<br>-11°29.9 | 3°55.5<br>-11°30.8 | 18°55.5<br>-11°31.7 | 33°55.6<br>-11°32.6 | 48°55.7<br>-11°33.4 | 63°55.8<br>-11°34.3 | 78°55.9<br>-11°35.2 | +0.1<br>-0.9 |
| Je 24 | 273°56.9<br>-11°46.5 | 288°57.0<br>-11°47.4 | 303°57.1<br>-11°48.2 | 318°57.2<br>-11°49.1 | 333°57.3<br>-11°50.0 | 348°57.3<br>-11°50.8 | 3°57.4<br>-11°51.7 | 18°57.5<br>-11°52.6 | 33°57.6<br>-11°53.4 | 48°57.6<br>-11°54.3 | 63°57.7<br>-11°55.2 | 78°57.8<br>-11°56.0 | +0.1<br>-0.9 |
| Ve 25 | 273°58.8<br>-12°07.2 | 288°58.8<br>-12°08.1 | 303°58.9<br>-12°09.0 | 318°59.0<br>-12°09.8 | 333°59.0<br>-12°10.7 | 348°59.1<br>-12°11.5 | 3°59.2<br>-12°12.4 | 18°59.3<br>-12°13.3 | 33°59.3<br>-12°14.1 | 48°59.4<br>-12°15.0 | 63°59.5<br>-12°15.8 | 78°59.5<br>-12°16.7 | +0.1<br>-0.9 |
| Sa 26 | 274°00.4<br>-12°27.8 | 289°00.5<br>-12°28.7 | 304°00.5<br>-12°29.5 | 319°00.6<br>-12°30.4 | 334°00.6<br>-12°31.2 | 349°00.7<br>-12°32.1 | 4°00.8<br>-12°32.9 | 19°00.8<br>-12°33.8 | 34°00.9<br>-12°34.6 | 49°01.0<br>-12°35.5 | 64°01.0<br>-12°36.3 | 79°01.1<br>-12°37.2 | +0.1<br>-0.9 |
| Di 27 | 274°01.8<br>-12°48.2 | 289°01.9<br>-12°49.0 | 304°02.0<br>-12°49.9 | 319°02.0<br>-12°50.7 | 334°02.1<br>-12°51.6 | 349°02.1<br>-12°52.4 | 4°02.2<br>-12°53.2 | 19°02.2<br>-12°54.1 | 34°02.3<br>-12°54.9 | 49°02.3<br>-12°55.8 | 64°02.4<br>-12°56.6 | 79°02.5<br>-12°57.5 | +0.1<br>-0.8 |
| Lu 28 | 274°03.1<br>-13°08.4 | 289°03.2<br>-13°09.2 | 304°03.2<br>-13°10.0 | 319°03.3<br>-13°10.9 | 334°03.3<br>-13°11.7 | 349°03.4<br>-13°12.5 | 4°03.4<br>-13°13.4 | 19°03.4<br>-13°14.2 | 34°03.5<br>-13°15.0 | 49°03.5<br>-13°15.9 | 64°03.6<br>-13°16.7 | 79°03.6<br>-13°17.5 | +0.0<br>-0.8 |
| Ma 29 | 274°04.2<br>-13°28.3 | 289°04.2<br>-13°29.2 | 304°04.3<br>-13°30.0 | 319°04.3<br>-13°30.8 | 334°04.4<br>-13°31.6 | 349°04.4<br>-13°32.5 | 4°04.4<br>-13°33.3 | 19°04.5<br>-13°34.1 | 34°04.5<br>-13°34.9 | 49°04.6<br>-13°35.8 | 64°04.6<br>-13°36.6 | 79°04.6<br>-13°37.4 | +0.0<br>-0.8 |
| Me 30 | 274°05.1<br>-13°48.1 | 289°05.1<br>-13°48.9 | 304°05.2<br>-13°49.7 | 319°05.2<br>-13°50.5 | 334°05.2<br>-13°51.4 | 349°05.2<br>-13°52.2 | 4°05.3<br>-13°53.0 | 19°05.3<br>-13°53.8 | 34°05.3<br>-13°54.6 | 49°05.4<br>-13°55.4 | 64°05.4<br>-13°56.3 | 79°05.4<br>-13°57.1 | +0.0<br>-0.8 |
| Je 31 | 274°05.8<br>-14°07.6 | 289°05.8<br>-14°08.4 | 304°05.8<br>-14°09.2 | 319°05.9<br>-14°10.1 | 334°05.9<br>-14°10.9 | 349°05.9<br>-14°11.7 | 4°05.9<br>-14°12.5 | 19°06.0<br>-14°13.3 | 34°06.0<br>-14°14.1 | 49°06.0<br>-14°14.9 | 64°06.0<br>-14°15.7 | 79°06.0<br>-14°16.5 | +0.0<br>-0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2030

| J | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 251°42.8<br>-21°01.5 | 266°06.8<br>-21°05.8 | 280°30.7<br>-21°10.0 | 294°54.7<br>-21°14.0 | 309°18.6<br>-21°17.9 | 323°42.5<br>-21°21.6 | 338°06.4<br>-21°25.2 | 352°30.3<br>-21°28.7 | 6°54.1<br>-21°32.0 | 21°18.0<br>-21°35.1 | 35°41.8<br>-21°38.1 | +23.9<br>-3.7 | 16.3<br>59.7 |
| Me 2 | 251°38.2<br>-22°04.9 | 266°02.0<br>-22°05.4 | 280°25.7<br>-22°05.9 | 294°49.6<br>-22°06.1 | 309°13.4<br>-22°06.2 | 323°37.2<br>-22°06.2 | 338°01.1<br>-22°06.0 | 352°24.9<br>-22°05.7 | 6°48.8<br>-22°05.2 | 21°12.7<br>-22°04.5 | 35°36.7<br>-22°03.7 | +23.8<br>+0.1 | 16.2<br>59.5 |
| Je 3 | 251°39.7<br>-21°34.1 | 266°04.2<br>-21°31.0 | 280°28.7<br>-21°27.7 | 294°53.4<br>-21°24.3 | 309°18.0<br>-21°20.7 | 323°42.8<br>-21°17.0 | 338°07.5<br>-21°13.2 | 352°32.4<br>-21°09.2 | 6°57.2<br>-21°05.1 | 21°22.2<br>-21°00.9 | 35°47.2<br>-20°56.5 | +24.7<br>+3.8 | 16.1<br>59.2 |
| ◐ Ve 4 | 252°09.4<br>-19°35.4 | 266°35.4<br>-19°29.0 | 281°01.5<br>-19°22.5 | 295°27.7<br>-19°15.8 | 309°53.9<br>-19°09.1 | 324°20.2<br>-19°02.2 | 338°46.6<br>-18°55.3 | 353°13.0<br>-18°48.2 | 7°39.5<br>-18°41.0 | 22°06.1<br>-18°33.7 | 36°32.7<br>-18°26.3 | +26.3<br>+6.9 | 16.0<br>58.7 |
| Sa 5 | 253°21.4<br>-16°22.8 | 267°49.2<br>-16°13.9 | 282°17.1<br>-16°04.8 | 296°45.1<br>-15°55.6 | 311°13.2<br>-15°46.4 | 325°41.3<br>-15°37.0 | 340°09.5<br>-15°27.6 | 354°37.8<br>-15°18.1 | 9°06.1<br>-15°08.6 | 23°34.5<br>-14°58.9 | 38°03.0<br>-14°49.2 | +28.2<br>+9.4 | 15.9<br>58.3 |
| Di 6 | 255°18.7<br>-12°14.7 | 269°48.3<br>-12°03.8 | 284°18.0<br>-11°53.0 | 298°47.7<br>-11°42.0 | 313°17.5<br>-11°31.1 | 327°47.3<br>-11°20.0 | 342°17.2<br>-11°08.9 | 356°47.2<br>-10°57.8 | 11°17.2<br>-10°46.6 | 25°47.3<br>-10°35.4 | 40°17.4<br>-10°24.1 | +29.9<br>+11.1 | 15.8<br>57.8 |
| Lu 7 | 257°56.2<br>-7°29.8 | 272°27.2<br>-7°17.9 | 286°58.3<br>-7°06.0 | 301°29.4<br>-6°54.0 | 316°00.5<br>-6°42.1 | 330°31.7<br>-6°30.1 | 345°02.9<br>-6°18.0 | 359°34.2<br>-6°06.0 | 14°05.5<br>-5°53.9 | 28°36.9<br>-5°41.8 | 43°08.3<br>-5°29.7 | +31.2<br>+12.0 | 15.6<br>57.3 |
| Ma 8 | 261°03.7<br>-2°26.3 | 275°35.7<br>-2°14.0 | 290°07.6<br>-2°01.7 | 304°39.7<br>-1°49.4 | 319°11.7<br>-1°37.1 | 333°43.8<br>-1°24.8 | 348°15.8<br>-1°12.5 | 2°48.0<br>-1°00.2 | 17°20.1<br>-0°48.0 | 31°52.3<br>-0°35.7 | 46°24.4<br>-0°23.4 | +32.1<br>+12.3 | 15.5<br>56.8 |
| Me 9 | 264°29.3<br>2°39.4 | 279°01.7<br>2°51.5 | 293°34.1<br>3°03.5 | 308°06.6<br>3°15.5 | 322°39.0<br>3°27.5 | 337°11.5<br>3°39.5 | 351°44.0<br>3°51.4 | 6°16.4<br>4°03.3 | 20°48.9<br>4°15.2 | 35°21.4<br>4°27.1 | 49°53.9<br>4°38.9 | +32.5<br>+12.0 | 15.3<br>56.3 |
| Je 10 | 268°01.3<br>7°32.4 | 282°33.8<br>7°43.7 | 297°06.3<br>7°54.9 | 311°38.7<br>8°06.0 | 326°11.2<br>8°17.2 | 340°43.6<br>8°28.3 | 355°16.1<br>8°39.3 | 9°48.5<br>8°50.3 | 24°20.9<br>9°01.2 | 38°53.3<br>9°12.1 | 53°25.7<br>9°23.0 | +32.4<br>+11.1 | 15.2<br>55.8 |
| ○ Ve 11 | 271°30.2<br>11°59.2 | 286°02.4<br>12°09.1 | 300°34.6<br>12°19.0 | 315°06.7<br>12°28.8 | 329°38.9<br>12°38.6 | 344°11.0<br>12°48.3 | 358°43.1<br>12°57.9 | 13°15.2<br>13°07.5 | 27°47.2<br>13°17.0 | 42°19.3<br>13°26.4 | 56°51.3<br>13°35.8 | +32.1<br>+9.7 | 15.1<br>55.3 |
| Sa 12 | 274°49.1<br>15°47.7 | 289°20.8<br>15°55.9 | 303°52.5<br>16°04.0 | 318°24.1<br>16°12.0 | 332°55.8<br>16°20.0 | 347°27.4<br>16°27.9 | 1°59.0<br>16°35.7 | 16°30.5<br>16°43.4 | 31°02.0<br>16°51.0 | 45°33.6<br>16°58.6 | 60°05.1<br>17°06.0 | +31.6<br>+7.8 | 15.0<br>54.9 |
| Di 13 | 277°54.9<br>18°47.7 | 292°26.0<br>18°53.8 | 306°57.2<br>18°59.8 | 321°28.3<br>19°05.7 | 335°59.4<br>19°11.5 | 350°30.4<br>19°17.2 | 5°01.5<br>19°22.8 | 19°32.5<br>19°28.3 | 34°03.6<br>19°33.8 | 48°34.6<br>19°39.1 | 63°05.5<br>19°44.3 | +31.1<br>+5.7 | 14.9<br>54.5 |
| Lu 14 | 280°48.3<br>20°51.3 | 295°19.0<br>20°55.0 | 309°49.8<br>20°58.6 | 324°20.5<br>21°02.1 | 338°51.2<br>21°05.5 | 353°21.9<br>21°08.8 | 7°52.5<br>21°12.0 | 22°23.2<br>21°15.0 | 36°53.9<br>21°18.0 | 51°24.5<br>21°20.9 | 65°55.2<br>21°23.7 | +30.7<br>+3.2 | 14.8<br>54.2 |
| Ma 15 | 283°34.0<br>21°53.2 | 298°04.5<br>21°54.3 | 312°35.1<br>21°55.4 | 327°05.6<br>21°56.3 | 341°36.2<br>21°57.1 | 356°06.8<br>21°57.9 | 10°37.3<br>21°58.5 | 25°07.9<br>21°59.0 | 39°38.4<br>21°59.4 | 54°09.0<br>21°59.8 | 68°39.6<br>22°00.0 | +30.6<br>+0.7 | 14.7<br>54.1 |
| Me 16 | 286°18.7<br>21°50.9 | 300°49.3<br>21°49.5 | 315°20.0<br>21°48.0 | 329°50.7<br>21°46.3 | 344°21.4<br>21°44.6 | 358°52.1<br>21°42.8 | 13°22.8<br>21°40.9 | 27°53.6<br>21°38.8 | 42°24.3<br>21°36.7 | 56°55.1<br>21°34.5 | 71°25.8<br>21°32.1 | +30.7<br>-1.9 | 14.8<br>54.1 |
| Je 17 | 300°49.3<br>21°49.5 | 315°20.0<br>21°48.0 | 329°50.7<br>21°46.3 | 344°21.4<br>21°44.6 | 358°52.1<br>21°42.8 | 13°22.8<br>21°40.9 | 27°53.6<br>21°38.8 | 42°24.3<br>21°36.7 | 56°55.1<br>21°34.5 | 71°25.8<br>21°32.1 | 85°56.6<br>21°29.7 | +30.7<br>-2.0 | 14.8<br>54.1 |
| Ve 18 | 303°40.2<br>20°41.3 | 318°11.2<br>20°37.3 | 332°42.3<br>20°33.2 | 347°13.3<br>20°29.0 | 1°44.4<br>20°24.7 | 16°15.5<br>20°20.4 | 30°46.7<br>20°15.9 | 45°17.8<br>20°11.3 | 59°49.0<br>20°06.6 | 74°20.2<br>20°01.9 | 88°51.4<br>19°57.0 | +31.1<br>-4.4 | 14.8<br>54.3 |
| ◑ Sa 19 | 306°41.6<br>18°33.1 | 321°13.2<br>18°26.8 | 335°44.7<br>18°20.4 | 350°16.2<br>18°13.9 | 4°47.8<br>18°07.4 | 19°19.4<br>18°00.7 | 33°51.0<br>17°54.0 | 48°22.6<br>17°47.1 | 62°54.2<br>17°40.2 | 77°25.9<br>17°33.2 | 91°57.5<br>17°26.1 | +31.6<br>-6.7 | 14.9<br>54.7 |
| Di 20 | 309°54.6<br>15°30.0 | 324°26.5<br>15°21.6 | 338°58.4<br>15°13.2 | 353°30.4<br>15°04.6 | 8°02.3<br>14°56.0 | 22°34.3<br>14°47.4 | 37°06.3<br>14°38.6 | 51°38.3<br>14°29.8 | 66°10.3<br>14°20.9 | 80°42.3<br>14°11.9 | 95°14.3<br>14°02.8 | +32.0<br>-8.7 | 15.1<br>55.2 |
| Lu 21 | 313°15.6<br>11°38.6 | 327°47.7<br>11°28.5 | 342°19.9<br>11°18.3 | 356°52.0<br>11°08.0 | 11°24.1<br>10°57.7 | 25°56.2<br>10°47.3 | 40°28.4<br>10°36.8 | 55°00.5<br>10°26.3 | 69°32.6<br>10°15.7 | 84°04.7<br>10°05.0 | 98°36.8<br>9°54.3 | +32.1<br>-10.4 | 15.3<br>56.0 |
| Ma 22 | 316°37.6<br>7°07.1 | 331°09.6<br>6°55.6 | 345°41.5<br>6°44.0 | 0°13.5<br>6°32.3 | 14°45.4<br>6°20.6 | 29°17.3<br>6°08.9 | 43°49.1<br>5°57.1 | 58°21.0<br>5°45.2 | 72°52.8<br>5°33.4 | 87°24.6<br>5°21.4 | 101°56.4<br>5°09.5 | +31.9<br>-11.8 | 15.5<br>56.8 |
| Me 23 | 319°50.2<br>2°05.7 | 334°21.5<br>1°53.1 | 348°52.8<br>1°40.6 | 3°24.1<br>1°28.1 | 17°55.3<br>1°15.5 | 32°26.5<br>1°02.9 | 46°57.7<br>0°50.2 | 61°28.8<br>0°37.6 | 75°59.8<br>0°24.9 | 90°30.9<br>0°12.2 | 105°01.9<br>-0°00.5 | +31.2<br>-12.6 | 15.7<br>57.7 |
| Je 24 | 322°40.9<br>-3°12.6 | 337°11.1<br>-3°25.5 | 351°41.2<br>-3°38.3 | 6°11.3<br>-3°51.1 | 20°41.3<br>-4°04.0 | 35°11.2<br>-4°16.8 | 49°41.1<br>-4°29.7 | 64°11.0<br>-4°42.5 | 78°40.7<br>-4°55.3 | 93°10.4<br>-5°08.1 | 107°40.1<br>-5°20.9 | +29.9<br>-12.8 | 16.0<br>58.7 |
| Ve 25 | 324°56.6<br>-8°30.4 | 339°25.1<br>-8°42.8 | 353°53.6<br>-8°55.1 | 8°21.9<br>-9°07.5 | 22°50.2<br>-9°19.8 | 37°18.5<br>-9°32.0 | 51°46.6<br>-9°44.2 | 66°14.7<br>-9°56.4 | 80°42.6<br>-10°08.5 | 95°10.6<br>-10°20.6 | 109°38.4<br>-10°32.6 | +28.2<br>-12.2 | 16.2<br>59.5 |
| ● Sa 26 | 326°26.0<br>-13°25.8 | 340°52.5<br>-13°36.8 | 355°19.0<br>-13°47.7 | 9°45.3<br>-13°58.6 | 24°11.6<br>-14°09.3 | 38°37.7<br>-14°20.0 | 53°03.8<br>-14°30.6 | 67°29.8<br>-14°41.1 | 81°55.8<br>-14°51.5 | 96°21.6<br>-15°01.9 | 110°47.4<br>-15°12.1 | +26.1<br>-10.6 | 16.4<br>60.1 |
| Di 27 | 327°04.0<br>-17°33.6 | 341°28.5<br>-17°42.1 | 355°52.9<br>-17°50.6 | 10°17.2<br>-17°58.9 | 24°41.5<br>-18°07.1 | 39°05.7<br>-18°15.2 | 53°29.8<br>-18°23.1 | 67°53.8<br>-18°30.9 | 82°17.8<br>-18°38.6 | 96°41.7<br>-18°46.2 | 111°05.6<br>-18°53.6 | +24.2<br>-8.0 | 16.5<br>60.5 |
| Lu 28 | 326°56.2<br>-20°28.5 | 341°19.2<br>-20°33.7 | 355°42.1<br>-20°38.7 | 10°05.0<br>-20°43.6 | 24°27.8<br>-20°48.4 | 38°50.6<br>-20°52.9 | 53°13.4<br>-20°57.3 | 67°36.1<br>-21°01.6 | 81°58.8<br>-21°05.7 | 96°21.5<br>-21°09.7 | 110°44.2<br>-21°13.5 | +22.8<br>-4.5 | 16.5<br>60.6 |
| Ma 29 | 326°22.0<br>-21°51.4 | 340°44.5<br>-21°52.6 | 355°07.0<br>-21°53.7 | 9°29.5<br>-21°54.6 | 23°52.0<br>-21°55.4 | 38°14.5<br>-21°56.0 | 52°37.0<br>-21°56.4 | 66°59.6<br>-21°56.7 | 81°22.1<br>-21°56.8 | 95°44.7<br>-21°56.8 | 110°07.3<br>-21°56.6 | +22.5<br>-0.5 | 16.5<br>60.5 |
| Me 30 | 325°50.6<br>-21°34.5 | 340°13.8<br>-21°31.8 | 354°37.1<br>-21°29.0 | 9°00.5<br>-21°26.0 | 23°23.9<br>-21°22.8 | 37°47.3<br>-21°19.5 | 52°10.9<br>-21°16.0 | 66°34.4<br>-21°12.4 | 80°58.1<br>-21°08.7 | 95°21.8<br>-21°04.8 | 109°45.6<br>-21°00.8 | +23.5<br>+3.4 | 16.4<br>60.0 |
| Je 31 | 325°50.9<br>-19°43.9 | 340°15.9<br>-19°37.7 | 354°41.0<br>-19°31.4 | 9°06.1<br>-19°25.0 | 23°31.3<br>-19°18.4 | 37°56.7<br>-19°11.8 | 52°22.1<br>-19°05.0 | 66°47.6<br>-18°58.1 | 81°13.1<br>-18°51.1 | 95°38.8<br>-18°44.0 | 110°04.5<br>-18°36.7 | +25.4<br>+6.7 | 16.2<br>59.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 4 03h56 — PL: 11 10h46 — DQ: 19 14h50 — NL: 26 20h17

# SOLEIL

## Novembre 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 274°06.3 | 289°06.3 | 304°06.3 | 319°06.3 | 334°06.4 | 349°06.4 | 4°06.4 | 19°06.4 | 34°06.4 | 49°06.4 | 64°06.4 | 79°06.5 | +0.0 |
| | -14°26.9 | -14°27.7 | -14°28.5 | -14°29.3 | -14°30.1 | -14°30.9 | -14°31.7 | -14°32.5 | -14°33.3 | -14°34.1 | -14°34.9 | -14°35.7 | -0.8 |
| **Sa 2** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.7 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | +0.0 |
| | -14°46.0 | -14°46.8 | -14°47.6 | -14°48.4 | -14°49.2 | -14°50.0 | -14°50.7 | -14°51.5 | -14°52.3 | -14°53.1 | -14°53.9 | -14°54.7 | -0.8 |
| **Di 3** | 274°06.7 | 289°06.7 | 304°06.7 | 319°06.7 | 334°06.7 | 349°06.7 | 4°06.7 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | -0.0 |
| | -15°04.8 | -15°05.6 | -15°06.4 | -15°07.2 | -15°08.0 | -15°08.7 | -15°09.5 | -15°10.3 | -15°11.1 | -15°11.8 | -15°12.6 | -15°13.4 | -0.8 |
| **Lu 4** | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.5 | 79°06.5 | -0.0 |
| | -15°23.4 | -15°24.2 | -15°25.0 | -15°25.7 | -15°26.5 | -15°27.3 | -15°28.0 | -15°28.8 | -15°29.6 | -15°30.3 | -15°31.1 | -15°31.9 | -0.8 |
| **Ma 5** | 274°06.4 | 289°06.3 | 304°06.3 | 319°06.3 | 334°06.3 | 349°06.3 | 4°06.3 | 19°06.2 | 34°06.2 | 49°06.2 | 64°06.2 | 79°06.2 | -0.0 |
| | -15°41.8 | -15°42.5 | -15°43.3 | -15°44.0 | -15°44.8 | -15°45.6 | -15°46.3 | -15°47.1 | -15°47.8 | -15°48.6 | -15°49.3 | -15°50.1 | -0.8 |
| **Me 6** | 274°05.9 | 289°05.8 | 304°05.8 | 319°05.8 | 334°05.8 | 349°05.7 | 4°05.7 | 19°05.7 | 34°05.7 | 49°05.6 | 64°05.6 | 79°05.6 | -0.0 |
| | -15°59.8 | -16°00.6 | -16°01.3 | -16°02.1 | -16°02.8 | -16°03.6 | -16°04.3 | -16°05.1 | -16°05.8 | -16°06.6 | -16°07.3 | -16°08.0 | -0.7 |
| **Je 7** | 274°05.2 | 289°05.1 | 304°05.1 | 319°05.1 | 334°05.0 | 349°05.0 | 4°05.0 | 19°04.9 | 34°04.9 | 49°04.9 | 64°04.8 | 79°04.8 | -0.0 |
| | -16°17.6 | -16°18.4 | -16°19.1 | -16°19.9 | -16°20.6 | -16°21.3 | -16°22.1 | -16°22.8 | -16°23.5 | -16°24.3 | -16°25.0 | -16°25.7 | -0.7 |
| **Ve 8** | 274°04.3 | 289°04.2 | 304°04.2 | 319°04.2 | 334°04.1 | 349°04.1 | 4°04.0 | 19°04.0 | 34°03.9 | 49°03.9 | 64°03.8 | 79°03.8 | -0.0 |
| | -16°35.2 | -16°35.9 | -16°36.6 | -16°37.4 | -16°38.1 | -16°38.8 | -16°39.5 | -16°40.2 | -16°41.0 | -16°41.7 | -16°42.4 | -16°43.1 | -0.7 |
| **Sa 9** | 274°03.2 | 289°03.1 | 304°03.1 | 319°03.0 | 334°03.0 | 349°02.9 | 4°02.9 | 19°02.8 | 34°02.8 | 49°02.7 | 64°02.6 | 79°02.6 | -0.1 |
| | -16°52.4 | -16°53.2 | -16°53.9 | -16°54.6 | -16°55.3 | -16°56.0 | -16°56.7 | -16°57.4 | -16°58.1 | -16°58.8 | -16°59.5 | -17°00.3 | -0.7 |
| **Di 10** | 274°01.9 | 289°01.8 | 304°01.7 | 319°01.7 | 334°01.6 | 349°01.6 | 4°01.5 | 19°01.4 | 34°01.4 | 49°01.3 | 64°01.2 | 79°01.2 | -0.1 |
| | -17°09.4 | -17°10.1 | -17°10.8 | -17°11.5 | -17°12.2 | -17°12.9 | -17°13.6 | -17°14.3 | -17°15.0 | -17°15.7 | -17°16.4 | -17°17.1 | -0.7 |
| **Lu 11** | 274°00.3 | 289°00.3 | 304°00.2 | 319°00.1 | 334°00.0 | 349°00.0 | 3°59.9 | 18°59.8 | 33°59.8 | 48°59.7 | 63°59.6 | 78°59.6 | -0.1 |
| | -17°26.1 | -17°26.8 | -17°27.5 | -17°28.1 | -17°28.8 | -17°29.5 | -17°30.2 | -17°30.9 | -17°31.6 | -17°32.3 | -17°32.9 | -17°33.6 | -0.7 |
| **Ma 12** | 273°58.6 | 288°58.5 | 303°58.4 | 318°58.3 | 333°58.3 | 348°58.2 | 3°58.1 | 18°58.0 | 33°57.9 | 48°57.9 | 63°57.8 | 78°57.7 | -0.1 |
| | -17°42.5 | -17°43.1 | -17°43.8 | -17°44.5 | -17°45.2 | -17°45.8 | -17°46.5 | -17°47.2 | -17°47.9 | -17°48.5 | -17°49.2 | -17°49.9 | -0.7 |
| **Me 13** | 273°56.6 | 288°56.5 | 303°56.4 | 318°56.4 | 333°56.3 | 348°56.2 | 3°56.1 | 18°56.0 | 33°55.9 | 48°55.8 | 63°55.7 | 78°55.7 | -0.1 |
| | -17°58.5 | -17°59.2 | -17°59.9 | -18°00.5 | -18°01.2 | -18°01.8 | -18°02.5 | -18°03.2 | -18°03.8 | -18°04.5 | -18°05.1 | -18°05.8 | -0.7 |
| **Je 14** | 273°54.4 | 288°54.4 | 303°54.3 | 318°54.2 | 333°54.1 | 348°54.0 | 3°53.9 | 18°53.8 | 33°53.7 | 48°53.6 | 63°53.5 | 78°53.4 | -0.1 |
| | -18°14.3 | -18°14.9 | -18°15.6 | -18°16.2 | -18°16.9 | -18°17.5 | -18°18.2 | -18°18.8 | -18°19.5 | -18°20.1 | -18°20.8 | -18°21.4 | -0.6 |
| **Ve 15** | 273°52.1 | 288°52.0 | 303°51.9 | 318°51.7 | 333°51.6 | 348°51.5 | 3°51.4 | 18°51.3 | 33°51.2 | 48°51.1 | 63°51.0 | 78°50.9 | -0.1 |
| | -18°29.7 | -18°30.4 | -18°31.0 | -18°31.6 | -18°32.3 | -18°32.9 | -18°33.6 | -18°34.2 | -18°34.8 | -18°35.4 | -18°36.1 | -18°36.7 | -0.6 |
| **Sa 16** | 273°49.5 | 288°49.3 | 303°49.2 | 318°49.1 | 333°49.0 | 348°48.9 | 3°48.8 | 18°48.7 | 33°48.5 | 48°48.4 | 63°48.3 | 78°48.2 | -0.1 |
| | -18°44.9 | -18°45.5 | -18°46.1 | -18°46.7 | -18°47.3 | -18°48.0 | -18°48.6 | -18°49.2 | -18°49.8 | -18°50.4 | -18°51.1 | -18°51.7 | -0.6 |
| **Di 17** | 273°46.6 | 288°46.5 | 303°46.4 | 318°46.3 | 333°46.2 | 348°46.0 | 3°45.9 | 18°45.8 | 33°45.7 | 48°45.5 | 63°45.4 | 78°45.3 | -0.1 |
| | -18°59.6 | -19°00.3 | -19°00.9 | -19°01.5 | -19°02.1 | -19°02.7 | -19°03.3 | -19°03.9 | -19°04.5 | -19°05.1 | -19°05.7 | -19°06.3 | -0.6 |
| **Lu 18** | 273°43.6 | 288°43.5 | 303°43.4 | 318°43.2 | 333°43.1 | 348°43.0 | 3°42.8 | 18°42.7 | 33°42.6 | 48°42.4 | 63°42.3 | 78°42.2 | -0.1 |
| | -19°14.1 | -19°14.7 | -19°15.3 | -19°15.9 | -19°16.5 | -19°17.1 | -19°17.7 | -19°18.2 | -19°18.8 | -19°19.4 | -19°20.0 | -19°20.6 | -0.6 |
| **Ma 19** | 273°40.4 | 288°40.2 | 303°40.1 | 318°40.0 | 333°39.8 | 348°39.7 | 3°39.5 | 18°39.4 | 33°39.2 | 48°39.1 | 63°39.0 | 78°38.8 | -0.1 |
| | -19°28.2 | -19°28.8 | -19°29.4 | -19°29.9 | -19°30.5 | -19°31.1 | -19°31.7 | -19°32.2 | -19°32.8 | -19°33.4 | -19°34.0 | -19°34.5 | -0.6 |
| **Me 20** | 273°36.9 | 288°36.8 | 303°36.6 | 318°36.5 | 333°36.3 | 348°36.2 | 3°36.0 | 18°35.9 | 33°35.7 | 48°35.6 | 63°35.4 | 78°35.3 | -0.2 |
| | -19°42.0 | -19°42.5 | -19°43.1 | -19°43.6 | -19°44.2 | -19°44.8 | -19°45.3 | -19°45.9 | -19°46.5 | -19°47.0 | -19°47.6 | -19°48.1 | -0.6 |
| **Je 21** | 273°33.3 | 288°33.1 | 303°32.9 | 318°32.8 | 333°32.6 | 348°32.5 | 3°32.3 | 18°32.2 | 33°32.0 | 48°31.8 | 63°31.7 | 78°31.5 | -0.2 |
| | -19°55.3 | -19°55.9 | -19°56.4 | -19°57.0 | -19°57.5 | -19°58.1 | -19°58.6 | -19°59.2 | -19°59.7 | -20°00.3 | -20°00.8 | -20°01.4 | -0.5 |
| **Ve 22** | 273°29.4 | 288°29.2 | 303°29.1 | 318°28.9 | 333°28.7 | 348°28.6 | 3°28.4 | 18°28.2 | 33°28.1 | 48°27.9 | 63°27.7 | 78°27.6 | -0.2 |
| | -20°08.4 | -20°08.9 | -20°09.4 | -20°10.0 | -20°10.5 | -20°11.0 | -20°11.6 | -20°12.1 | -20°12.6 | -20°13.2 | -20°13.7 | -20°14.2 | -0.5 |
| **Sa 23** | 273°25.3 | 288°25.1 | 303°25.0 | 318°24.8 | 333°24.6 | 348°24.4 | 3°24.3 | 18°24.1 | 33°23.9 | 48°23.7 | 63°23.6 | 78°23.4 | -0.2 |
| | -20°21.0 | -20°21.6 | -20°22.1 | -20°22.6 | -20°23.1 | -20°23.6 | -20°24.2 | -20°24.7 | -20°25.2 | -20°25.7 | -20°26.2 | -20°26.7 | -0.5 |
| **Di 24** | 273°21.1 | 288°20.9 | 303°20.7 | 318°20.5 | 333°20.3 | 348°20.1 | 3°20.0 | 18°19.8 | 33°19.6 | 48°19.4 | 63°19.2 | 78°19.0 | -0.2 |
| | -20°33.3 | -20°33.8 | -20°34.3 | -20°34.8 | -20°35.3 | -20°35.8 | -20°36.3 | -20°36.8 | -20°37.3 | -20°37.8 | -20°38.3 | -20°38.8 | -0.5 |
| **Lu 25** | 273°16.6 | 288°16.4 | 303°16.2 | 318°16.0 | 333°15.8 | 348°15.6 | 3°15.5 | 18°15.3 | 33°15.1 | 48°14.9 | 63°14.7 | 78°14.5 | -0.2 |
| | -20°45.2 | -20°45.7 | -20°46.2 | -20°46.7 | -20°47.2 | -20°47.7 | -20°48.2 | -20°48.6 | -20°49.1 | -20°49.6 | -20°50.1 | -20°50.6 | -0.5 |
| **Ma 26** | 273°11.9 | 288°11.7 | 303°11.6 | 318°11.4 | 333°11.2 | 348°11.0 | 3°10.8 | 18°10.6 | 33°10.4 | 48°10.2 | 63°10.0 | 78°09.8 | -0.2 |
| | -20°56.8 | -20°57.2 | -20°57.7 | -20°58.2 | -20°58.6 | -20°59.1 | -20°59.6 | -21°00.1 | -21°00.5 | -21°01.0 | -21°01.5 | -21°01.9 | -0.5 |
| **Me 27** | 273°07.1 | 288°06.9 | 303°06.7 | 318°06.5 | 333°06.3 | 348°06.1 | 3°05.9 | 18°05.7 | 33°05.5 | 48°05.3 | 63°05.0 | 78°04.8 | -0.2 |
| | -21°07.9 | -21°08.4 | -21°08.8 | -21°09.3 | -21°09.7 | -21°10.2 | -21°10.6 | -21°11.1 | -21°11.5 | -21°12.0 | -21°12.4 | -21°12.9 | -0.5 |
| **Je 28** | 273°02.1 | 288°01.9 | 303°01.7 | 318°01.5 | 333°01.3 | 348°01.0 | 3°00.8 | 18°00.6 | 33°00.4 | 48°00.2 | 63°00.0 | 77°59.7 | -0.2 |
| | -21°18.6 | -21°19.1 | -21°19.5 | -21°19.9 | -21°20.4 | -21°20.8 | -21°21.2 | -21°21.7 | -21°22.1 | -21°22.6 | -21°23.0 | -21°23.4 | -0.4 |
| **Ve 29** | 272°56.9 | 287°56.7 | 302°56.5 | 317°56.3 | 332°56.0 | 347°55.8 | 2°55.6 | 17°55.4 | 32°55.2 | 47°54.9 | 62°54.7 | 77°54.5 | -0.2 |
| | -21°29.0 | -21°29.4 | -21°29.8 | -21°30.2 | -21°30.6 | -21°31.1 | -21°31.5 | -21°31.9 | -21°32.3 | -21°32.7 | -21°33.1 | -21°33.6 | -0.4 |
| **Sa 30** | 272°51.6 | 287°51.3 | 302°51.1 | 317°50.9 | 332°50.7 | 347°50.4 | 2°50.2 | 17°50.0 | 32°49.8 | 47°49.5 | 62°49.3 | 77°49.1 | -0.2 |
| | -21°38.9 | -21°39.3 | -21°39.7 | -21°40.1 | -21°40.5 | -21°40.9 | -21°41.3 | -21°41.7 | -21°42.1 | -21°42.5 | -21°42.9 | -21°43.3 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2030

| J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 254°26.9<br>-17°18.5 | 268°53.6<br>-17°10.1 | 283°20.4<br>-17°01.6 | 297°47.3<br>-16°53.1 | 312°14.3<br>-16°44.4 | 326°41.4<br>-16°35.6 | 341°08.6<br>-16°26.8 | 355°35.8<br>-16°17.8 | 10°03.2<br>-16°08.8 | 24°30.6<br>-15°59.7 | 38°58.2<br>-15°50.5 | +27.1<br>+8.8 | 16.1<br>58.9 |
| ◐ Sa 2 | 256°01.5<br>-13°23.2 | 270°30.4<br>-13°12.8 | 284°59.3<br>-13°02.4 | 299°28.4<br>-12°51.9 | 313°57.5<br>-12°41.3 | 328°26.7<br>-12°30.7 | 342°56.0<br>-12°20.0 | 357°25.4<br>-12°09.3 | 11°54.8<br>-11°58.5 | 26°24.4<br>-11°47.7 | 40°54.0<br>-11°36.8 | +29.3<br>+10.6 | 15.9<br>58.2 |
| Di 3 | 258°26.5<br>-8°47.9 | 272°57.2<br>-8°36.3 | 287°28.0<br>-8°24.7 | 301°58.8<br>-8°13.1 | 316°29.7<br>-8°01.4 | 331°00.6<br>-7°49.7 | 345°31.6<br>-7°38.0 | 0°02.7<br>-7°26.2 | 14°33.8<br>-7°14.5 | 29°05.0<br>-7°02.7 | 43°36.2<br>-6°50.8 | +31.0<br>+11.7 | 15.7<br>57.4 |
| Lu 4 | 261°30.6<br>-3°51.3 | 276°02.6<br>-3°39.3 | 290°34.6<br>-3°27.2 | 305°06.7<br>-3°15.1 | 319°38.8<br>-3°03.0 | 334°10.9<br>-2°50.9 | 348°43.1<br>-2°38.9 | 3°15.3<br>-2°26.8 | 17°47.6<br>-2°14.7 | 32°19.8<br>-2°02.6 | 46°52.1<br>-1°50.5 | +32.2<br>+12.1 | 15.5<br>56.8 |
| Ma 5 | 264°59.9<br>1°10.3 | 279°32.6<br>1°22.3 | 294°05.3<br>1°34.2 | 308°38.1<br>1°46.2 | 323°10.8<br>1°58.1 | 337°43.6<br>2°10.0 | 352°16.3<br>2°21.9 | 6°49.1<br>2°33.7 | 21°21.9<br>2°45.6 | 35°54.7<br>2°57.4 | 50°27.6<br>3°09.2 | +32.8<br>+11.9 | 15.3<br>56.2 |
| Me 6 | 268°40.6<br>6°03.1 | 283°13.4<br>6°14.4 | 297°46.3<br>6°25.8 | 312°19.2<br>6°37.0 | 326°52.1<br>6°48.3 | 341°24.9<br>6°59.5 | 355°57.8<br>7°10.7 | 10°30.7<br>7°21.8 | 25°03.5<br>7°32.9 | 39°36.4<br>7°43.9 | 54°09.2<br>7°54.9 | +32.9<br>+11.2 | 15.2<br>55.6 |
| Je 7 | 272°20.5<br>10°34.6 | 286°53.1<br>10°44.8 | 301°25.7<br>10°55.0 | 315°58.4<br>11°05.2 | 330°30.9<br>11°15.3 | 345°03.5<br>11°25.3 | 359°36.1<br>11°35.3 | 14°08.6<br>11°45.2 | 28°41.1<br>11°55.0 | 43°13.6<br>12°04.9 | 57°46.1<br>12°14.6 | +32.6<br>+10.0 | 15.0<br>55.2 |
| Ve 8 | 275°50.6<br>14°33.2 | 290°22.7<br>14°41.9 | 304°54.8<br>14°50.6 | 319°26.8<br>14°59.1 | 333°58.9<br>15°07.6 | 348°30.9<br>15°16.0 | 3°02.9<br>15°24.4 | 17°34.8<br>15°32.7 | 32°06.7<br>15°40.9 | 46°38.6<br>15°49.0 | 61°10.5<br>15°57.0 | +32.0<br>+8.4 | 14.9<br>54.8 |
| Sa 9 | 279°05.6<br>17°48.4 | 293°37.0<br>17°55.1 | 308°08.5<br>18°01.8 | 322°39.9<br>18°08.4 | 337°11.3<br>18°14.9 | 351°42.6<br>18°21.3 | 6°14.0<br>18°27.7 | 20°45.3<br>18°33.9 | 35°16.6<br>18°40.1 | 49°47.8<br>18°46.2 | 64°19.1<br>18°52.1 | +31.3<br>+6.4 | 14.8<br>54.5 |
| ○ Di 10 | 282°04.9<br>20°10.9 | 296°35.8<br>20°15.4 | 311°06.7<br>20°19.8 | 325°37.5<br>20°24.1 | 340°08.3<br>20°28.3 | 354°39.2<br>20°32.4 | 9°10.0<br>20°36.4 | 23°40.7<br>20°40.4 | 38°11.5<br>20°44.2 | 52°42.3<br>20°47.9 | 67°13.0<br>20°51.5 | +30.8<br>+4.1 | 14.8<br>54.2 |
| Lu 11 | 284°52.6<br>21°33.9 | 299°23.1<br>21°35.9 | 313°53.7<br>21°37.8 | 328°24.3<br>21°39.6 | 342°54.8<br>21°41.3 | 357°25.3<br>21°42.9 | 11°55.9<br>21°44.4 | 26°26.4<br>21°45.8 | 40°57.0<br>21°47.1 | 55°27.5<br>21°48.3 | 69°58.0<br>21°49.4 | +30.5<br>+1.6 | 14.7<br>54.0 |
| Ma 12 | 287°36.3<br>21°53.5 | 302°06.9<br>21°53.0 | 316°37.5<br>21°52.3 | 331°08.1<br>21°51.6 | 345°38.7<br>21°50.7 | 0°09.3<br>21°49.7 | 14°39.9<br>21°48.7 | 29°10.6<br>21°47.5 | 43°41.3<br>21°46.3 | 58°11.9<br>21°44.9 | 72°42.6<br>21°43.4 | +30.6<br>-1.0 | 14.7<br>54.0 |
| Me 13 | 290°24.8<br>21°09.5 | 304°55.8<br>21°06.4 | 319°26.8<br>21°03.3 | 333°57.8<br>21°00.0 | 348°28.8<br>20°56.7 | 2°59.8<br>20°53.2 | 17°30.9<br>20°49.7 | 32°02.0<br>20°46.1 | 46°33.1<br>20°42.3 | 61°04.2<br>20°38.5 | 75°35.4<br>20°34.6 | +31.1<br>-3.5 | 14.7<br>54.0 |
| Je 14 | 293°25.6<br>19°24.7 | 307°57.2<br>19°19.3 | 322°28.8<br>19°13.9 | 337°00.4<br>19°08.3 | 351°32.0<br>19°02.7 | 6°03.7<br>18°56.9 | 20°35.3<br>18°51.1 | 35°07.1<br>18°45.2 | 49°38.8<br>18°39.2 | 64°10.5<br>18°33.1 | 78°42.3<br>18°27.0 | +31.7<br>-5.8 | 14.8<br>54.2 |
| Ve 15 | 307°57.2<br>19°19.3 | 322°28.8<br>19°13.9 | 337°00.4<br>19°08.3 | 351°32.0<br>19°02.7 | 6°03.7<br>18°56.9 | 20°35.3<br>18°51.1 | 35°07.1<br>18°45.2 | 49°38.8<br>18°39.2 | 64°10.5<br>18°33.1 | 78°42.3<br>18°27.0 | 93°14.1<br>18°20.7 | +31.7<br>-5.9 | 14.8<br>54.2 |
| Sa 16 | 311°14.4<br>16°37.2 | 325°46.6<br>16°29.7 | 340°18.9<br>16°22.1 | 354°51.1<br>16°14.4 | 9°23.4<br>16°06.6 | 23°55.7<br>15°58.8 | 38°28.0<br>15°50.9 | 53°00.4<br>15°42.9 | 67°32.8<br>15°34.8 | 82°05.2<br>15°26.7 | 96°37.6<br>15°18.5 | +32.3<br>-7.9 | 14.9<br>54.6 |
| Di 17 | 314°46.1<br>13°07.1 | 329°18.8<br>12°57.8 | 343°51.5<br>12°48.4 | 358°24.2<br>12°39.0 | 12°56.9<br>12°29.5 | 27°29.7<br>12°20.0 | 42°02.4<br>12°10.4 | 56°35.2<br>12°00.7 | 71°08.0<br>11°51.0 | 85°40.7<br>11°41.2 | 100°13.5<br>11°31.3 | +32.8<br>-9.6 | 15.0<br>55.1 |
| ◑ Lu 18 | 318°26.1<br>8°56.8 | 332°58.9<br>8°46.1 | 347°31.7<br>8°35.3 | 2°04.6<br>8°24.5 | 16°37.4<br>8°13.6 | 31°10.2<br>8°02.7 | 45°43.1<br>7°51.7 | 60°15.9<br>7°40.7 | 74°48.7<br>7°29.6 | 89°21.5<br>7°18.5 | 103°54.3<br>7°07.3 | +32.8<br>-10.9 | 15.2<br>55.8 |
| Ma 19 | 322°04.5<br>4°15.1 | 336°37.0<br>4°03.3 | 351°09.5<br>3°51.5 | 5°42.0<br>3°39.6 | 20°14.4<br>3°27.7 | 34°46.9<br>3°15.8 | 49°19.3<br>3°03.9 | 63°51.6<br>2°51.9 | 78°24.0<br>2°39.9 | 92°56.3<br>2°27.9 | 107°28.5<br>2°15.8 | +32.4<br>-11.9 | 15.4<br>56.6 |
| Me 20 | 325°28.3<br>-0°47.9 | 339°59.9<br>-1°00.2 | 354°31.5<br>-1°12.6 | 9°03.1<br>-1°25.1 | 23°34.6<br>-1°37.5 | 38°06.0<br>-1°49.9 | 52°37.4<br>-2°02.4 | 67°08.8<br>-2°14.8 | 81°40.0<br>-2°27.3 | 96°11.3<br>-2°39.7 | 110°42.4<br>-2°52.2 | +31.4<br>-12.4 | 15.7<br>57.6 |
| Je 21 | 328°22.7<br>-5°59.1 | 342°52.8<br>-6°11.5 | 357°22.9<br>-6°23.9 | 11°52.9<br>-6°36.2 | 26°22.8<br>-6°48.6 | 40°52.6<br>-7°00.9 | 55°22.4<br>-7°13.2 | 69°52.1<br>-7°25.5 | 84°21.7<br>-7°37.8 | 98°51.2<br>-7°50.0 | 113°20.7<br>-8°02.2 | +29.8<br>-12.3 | 16.0<br>58.6 |
| Ve 22 | 330°32.4<br>-11°01.6 | 345°00.4<br>-11°13.2 | 359°28.4<br>-11°24.8 | 13°56.3<br>-11°36.3 | 28°24.1<br>-11°47.7 | 42°51.8<br>-11°59.1 | 57°19.4<br>-12°10.5 | 71°46.9<br>-12°21.8 | 86°14.3<br>-12°33.0 | 100°41.6<br>-12°44.2 | 115°08.8<br>-12°55.3 | +27.6<br>-11.4 | 16.2<br>59.6 |
| Sa 23 | 331°45.2<br>-15°33.3 | 346°10.8<br>-15°43.1 | 0°36.3<br>-15°52.9 | 15°01.8<br>-16°02.6 | 29°27.1<br>-16°12.2 | 43°52.3<br>-16°21.7 | 58°17.5<br>-16°31.0 | 72°42.5<br>-16°40.3 | 87°07.4<br>-16°49.5 | 101°32.3<br>-16°58.6 | 115°57.0<br>-17°07.6 | +25.2<br>-9.4 | 16.5<br>60.4 |
| Di 24 | 331°57.0<br>-19°08.2 | 346°20.3<br>-19°15.2 | 0°43.5<br>-19°22.1 | 15°06.7<br>-19°28.9 | 29°29.7<br>-19°35.5 | 43°52.7<br>-19°42.0 | 58°15.6<br>-19°48.4 | 72°38.4<br>-19°54.6 | 87°01.2<br>-20°00.6 | 101°23.8<br>-20°06.6 | 115°46.4<br>-20°12.3 | +22.9<br>-6.4 | 16.6<br>61.0 |
| ● Lu 25 | 331°18.2<br>-21°20.6 | 345°40.0<br>-21°23.9 | 0°01.6<br>-21°27.0 | 14°23.3<br>-21°30.0 | 28°44.9<br>-21°32.8 | 43°06.5<br>-21°35.4 | 57°28.1<br>-21°37.9 | 71°49.6<br>-21°40.1 | 86°11.1<br>-21°42.3 | 100°32.6<br>-21°44.2 | 114°54.1<br>-21°46.0 | +21.6<br>-2.5 | 16.7<br>61.3 |
| Ma 26 | 330°15.5<br>-21°52.6 | 344°37.0<br>-21°51.6 | 358°58.6<br>-21°50.5 | 13°20.1<br>-21°49.3 | 27°41.7<br>-21°47.9 | 42°03.3<br>-21°46.3 | 56°24.9<br>-21°44.5 | 70°46.6<br>-21°42.6 | 85°08.3<br>-21°40.5 | 99°30.1<br>-21°38.3 | 113°51.9<br>-21°35.8 | +21.6<br>+1.7 | 16.7<br>61.2 |
| Me 27 | 329°25.1<br>-20°40.5 | 343°47.8<br>-20°35.6 | 358°10.6<br>-20°30.5 | 12°33.5<br>-20°25.3 | 26°56.4<br>-20°19.9 | 41°19.5<br>-20°14.4 | 55°42.6<br>-20°08.8 | 70°05.8<br>-20°03.0 | 84°29.0<br>-19°57.1 | 98°52.4<br>-19°51.0 | 113°15.8<br>-19°44.8 | +23.1<br>+5.6 | 16.6<br>60.7 |
| Je 28 | 329°18.3<br>-17°56.5 | 343°43.3<br>-17°48.4 | 358°08.3<br>-17°40.1 | 12°33.4<br>-17°31.7 | 26°58.6<br>-17°23.2 | 41°24.0<br>-17°14.6 | 55°49.4<br>-17°05.9 | 70°14.9<br>-16°57.1 | 84°40.5<br>-16°48.2 | 99°06.3<br>-16°39.2 | 113°32.1<br>-16°30.1 | +25.4<br>+8.7 | 16.4<br>60.0 |
| Ve 29 | 330°11.5<br>-14°03.0 | 344°38.9<br>-13°52.6 | 359°06.4<br>-13°42.1 | 13°34.0<br>-13°31.5 | 28°01.8<br>-13°20.8 | 42°29.6<br>-13°10.1 | 56°57.5<br>-12°59.4 | 71°25.5<br>-12°48.5 | 85°53.5<br>-12°37.7 | 100°21.7<br>-12°26.7 | 114°50.0<br>-12°15.7 | +27.9<br>+10.7 | 16.1<br>59.2 |
| Sa 30 | 332°04.8<br>-9°24.7 | 346°34.5<br>-9°13.0 | 1°04.2<br>-9°01.2 | 15°34.0<br>-8°49.4 | 30°03.9<br>-8°37.6 | 44°33.9<br>-8°25.7 | 59°03.9<br>-8°13.8 | 73°34.1<br>-8°01.9 | 88°04.2<br>-7°50.0 | 102°34.5<br>-7°38.0 | 117°04.9<br>-7°26.0 | +30.0<br>+11.9 | 15.9<br>58.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 2 11h56 — PL: 10 03h30 — DQ: 18 08h32 — NL: 25 06h46

# SOLEIL

## Décembre 2030

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 272°46.1 | 287°45.8 | 302°45.6 | 317°45.4 | 332°45.1 | 347°44.9 | 2°44.7 | 17°44.4 | 32°44.2 | 47°44.0 | 62°43.7 | 77°43.5 | -0.2 |
| | -21°48.4 | -21°48.8 | -21°49.2 | -21°49.6 | -21°49.9 | -21°50.3 | -21°50.7 | -21°51.1 | -21°51.5 | -21°51.8 | -21°52.2 | -21°52.6 | -0.4 |
| Lu 2 | 272°40.4 | 287°40.2 | 302°39.9 | 317°39.7 | 332°39.4 | 347°39.2 | 2°39.0 | 17°38.7 | 32°38.5 | 47°38.2 | 62°38.0 | 77°37.7 | -0.2 |
| | -21°57.5 | -21°57.9 | -21°58.2 | -21°58.6 | -21°59.0 | -21°59.3 | -21°59.7 | -22°00.1 | -22°00.4 | -22°00.8 | -22°01.1 | -22°01.5 | -0.4 |
| Ma 3 | 272°34.6 | 287°34.3 | 302°34.1 | 317°33.8 | 332°33.6 | 347°33.3 | 2°33.1 | 17°32.9 | 32°32.6 | 47°32.4 | 62°32.1 | 77°31.9 | -0.2 |
| | -22°06.2 | -22°06.5 | -22°06.9 | -22°07.2 | -22°07.6 | -22°07.9 | -22°08.3 | -22°08.6 | -22°08.9 | -22°09.3 | -22°09.6 | -22°10.0 | -0.3 |
| Me 4 | 272°28.6 | 287°28.4 | 302°28.1 | 317°27.9 | 332°27.6 | 347°27.4 | 2°27.1 | 17°26.9 | 32°26.6 | 47°26.3 | 62°26.1 | 77°25.8 | -0.3 |
| | -22°14.4 | -22°14.7 | -22°15.1 | -22°15.4 | -22°15.7 | -22°16.1 | -22°16.4 | -22°16.7 | -22°17.0 | -22°17.4 | -22°17.7 | -22°18.0 | -0.3 |
| Je 5 | 272°22.5 | 287°22.3 | 302°22.0 | 317°21.7 | 332°21.5 | 347°21.2 | 2°21.0 | 17°20.7 | 32°20.5 | 47°20.2 | 62°19.9 | 77°19.7 | -0.3 |
| | -22°22.2 | -22°22.5 | -22°22.8 | -22°23.2 | -22°23.5 | -22°23.8 | -22°24.1 | -22°24.4 | -22°24.7 | -22°25.0 | -22°25.3 | -22°25.6 | -0.3 |
| Ve 6 | 272°16.3 | 287°16.0 | 302°15.8 | 317°15.5 | 332°15.2 | 347°15.0 | 2°14.7 | 17°14.4 | 32°14.2 | 47°13.9 | 62°13.6 | 77°13.4 | -0.3 |
| | -22°29.6 | -22°29.9 | -22°30.2 | -22°30.5 | -22°30.8 | -22°31.1 | -22°31.4 | -22°31.7 | -22°31.9 | -22°32.2 | -22°32.5 | -22°32.8 | -0.3 |
| Sa 7 | 272°09.9 | 287°09.6 | 302°09.4 | 317°09.1 | 332°08.8 | 347°08.6 | 2°08.3 | 17°08.0 | 32°07.8 | 47°07.5 | 62°07.2 | 77°07.0 | -0.3 |
| | -22°36.5 | -22°36.8 | -22°37.1 | -22°37.4 | -22°37.6 | -22°37.9 | -22°38.2 | -22°38.5 | -22°38.7 | -22°39.0 | -22°39.3 | -22°39.6 | -0.3 |
| Di 8 | 272°03.4 | 287°03.2 | 302°02.9 | 317°02.6 | 332°02.3 | 347°02.1 | 2°01.8 | 17°01.5 | 32°01.2 | 47°01.0 | 62°00.7 | 77°00.4 | -0.3 |
| | -22°43.0 | -22°43.3 | -22°43.5 | -22°43.8 | -22°44.1 | -22°44.3 | -22°44.6 | -22°44.8 | -22°45.1 | -22°45.3 | -22°45.6 | -22°45.8 | -0.3 |
| Lu 9 | 271°56.8 | 286°56.5 | 301°56.3 | 316°56.0 | 331°55.7 | 346°55.4 | 1°55.2 | 16°54.9 | 31°54.6 | 46°54.3 | 61°54.0 | 76°53.8 | -0.3 |
| | -22°49.1 | -22°49.3 | -22°49.6 | -22°49.8 | -22°50.0 | -22°50.3 | -22°50.5 | -22°50.8 | -22°51.0 | -22°51.2 | -22°51.5 | -22°51.7 | -0.2 |
| Ma 10 | 271°50.1 | 286°49.8 | 301°49.5 | 316°49.3 | 331°49.0 | 346°48.7 | 1°48.4 | 16°48.1 | 31°47.8 | 46°47.6 | 61°47.3 | 76°47.0 | -0.3 |
| | -22°54.7 | -22°54.9 | -22°55.1 | -22°55.3 | -22°55.6 | -22°55.8 | -22°56.0 | -22°56.2 | -22°56.4 | -22°56.7 | -22°56.9 | -22°57.1 | -0.2 |
| Me 11 | 271°43.3 | 286°43.0 | 301°42.7 | 316°42.4 | 331°42.1 | 346°41.9 | 1°41.6 | 16°41.3 | 31°41.0 | 46°40.7 | 61°40.4 | 76°40.1 | -0.3 |
| | -22°59.8 | -23°00.0 | -23°00.2 | -23°00.4 | -23°00.6 | -23°00.8 | -23°01.0 | -23°01.2 | -23°01.4 | -23°01.6 | -23°01.8 | -23°02.0 | -0.2 |
| Je 12 | 271°36.4 | 286°36.1 | 301°35.8 | 316°35.5 | 331°35.2 | 346°34.9 | 1°34.6 | 16°34.3 | 31°34.0 | 46°33.8 | 61°33.5 | 76°33.2 | -0.3 |
| | -23°04.5 | -23°04.7 | -23°04.9 | -23°05.1 | -23°05.3 | -23°05.4 | -23°05.6 | -23°05.8 | -23°06.0 | -23°06.2 | -23°06.3 | -23°06.5 | -0.2 |
| Ve 13 | 271°29.4 | 286°29.1 | 301°28.8 | 316°28.5 | 331°28.2 | 346°27.9 | 1°27.6 | 16°27.3 | 31°27.0 | 46°26.7 | 61°26.4 | 76°26.1 | -0.3 |
| | -23°08.8 | -23°08.9 | -23°09.1 | -23°09.3 | -23°09.4 | -23°09.6 | -23°09.8 | -23°09.9 | -23°10.1 | -23°10.2 | -23°10.4 | -23°10.6 | -0.2 |
| Sa 14 | 271°22.3 | 286°22.0 | 301°21.7 | 316°21.4 | 331°21.1 | 346°20.8 | 1°20.5 | 16°20.2 | 31°19.9 | 46°19.6 | 61°19.3 | 76°19.0 | -0.3 |
| | -23°12.5 | -23°12.7 | -23°12.8 | -23°13.0 | -23°13.1 | -23°13.3 | -23°13.4 | -23°13.6 | -23°13.7 | -23°13.8 | -23°14.0 | -23°14.1 | -0.1 |
| Di 15 | 271°15.1 | 286°14.8 | 301°14.5 | 316°14.2 | 331°13.9 | 346°13.6 | 1°13.3 | 16°13.0 | 31°12.7 | 46°12.4 | 61°12.1 | 76°11.8 | -0.3 |
| | -23°15.9 | -23°16.0 | -23°16.1 | -23°16.2 | -23°16.4 | -23°16.5 | -23°16.6 | -23°16.7 | -23°16.9 | -23°17.0 | -23°17.1 | -23°17.2 | -0.1 |
| Lu 16 | 271°07.9 | 286°07.6 | 301°07.3 | 316°07.0 | 331°06.7 | 346°06.4 | 1°06.1 | 16°05.8 | 31°05.5 | 46°05.2 | 61°04.9 | 76°04.5 | -0.3 |
| | -23°18.7 | -23°18.8 | -23°18.9 | -23°19.0 | -23°19.1 | -23°19.3 | -23°19.4 | -23°19.5 | -23°19.6 | -23°19.7 | -23°19.8 | -23°19.9 | -0.1 |
| Ma 17 | 271°00.6 | 286°00.3 | 301°00.0 | 315°59.7 | 330°59.4 | 345°59.1 | 0°58.8 | 15°58.5 | 30°58.1 | 45°57.8 | 60°57.5 | 75°57.2 | -0.3 |
| | -23°21.1 | -23°21.2 | -23°21.3 | -23°21.4 | -23°21.5 | -23°21.5 | -23°21.6 | -23°21.7 | -23°21.8 | -23°21.9 | -23°22.0 | -23°22.0 | -0.1 |
| Me 18 | 270°53.2 | 285°52.9 | 300°52.6 | 315°52.3 | 330°52.0 | 345°51.7 | 0°51.4 | 15°51.1 | 30°50.8 | 45°50.5 | 60°50.2 | 75°49.9 | -0.3 |
| | -23°23.0 | -23°23.1 | -23°23.2 | -23°23.2 | -23°23.3 | -23°23.4 | -23°23.4 | -23°23.5 | -23°23.6 | -23°23.6 | -23°23.7 | -23°23.7 | -0.1 |
| Je 19 | 270°45.8 | 285°45.5 | 300°45.2 | 315°44.9 | 330°44.6 | 345°44.3 | 0°44.0 | 15°43.7 | 30°43.4 | 45°43.1 | 60°42.8 | 75°42.4 | -0.3 |
| | -23°24.5 | -23°24.5 | -23°24.6 | -23°24.6 | -23°24.7 | -23°24.7 | -23°24.8 | -23°24.8 | -23°24.9 | -23°24.9 | -23°24.9 | -23°25.0 | -0.0 |
| Ve 20 | 270°38.4 | 285°38.1 | 300°37.8 | 315°37.5 | 330°37.2 | 345°36.9 | 0°36.6 | 15°36.2 | 30°35.9 | 45°35.6 | 60°35.3 | 75°35.0 | -0.3 |
| | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.8 | -0.0 |
| Sa 21 | 270°31.0 | 285°30.6 | 300°30.3 | 315°30.0 | 330°29.7 | 345°29.4 | 0°29.1 | 15°28.8 | 30°28.5 | 45°28.2 | 60°27.8 | 75°27.5 | -0.3 |
| | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -0.0 |
| Di 22 | 270°23.5 | 285°23.2 | 300°22.9 | 315°22.5 | 330°22.2 | 345°21.9 | 0°21.6 | 15°21.3 | 30°21.0 | 45°20.7 | 60°20.4 | 75°20.1 | -0.3 |
| | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | +0.0 |
| Lu 23 | 270°16.0 | 285°15.7 | 300°15.4 | 315°15.1 | 330°14.8 | 345°14.4 | 0°14.1 | 15°13.8 | 30°13.5 | 45°13.2 | 60°12.9 | 75°12.6 | -0.3 |
| | -23°25.6 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.2 | +0.0 |
| Ma 24 | 270°08.5 | 285°08.2 | 300°07.9 | 315°07.6 | 330°07.3 | 345°07.0 | 0°06.6 | 15°06.3 | 30°06.0 | 45°05.7 | 60°05.4 | 75°05.1 | -0.3 |
| | -23°24.7 | -23°24.6 | -23°24.6 | -23°24.5 | -23°24.5 | -23°24.4 | -23°24.4 | -23°24.3 | -23°24.3 | -23°24.2 | -23°24.2 | -23°24.1 | +0.1 |
| Me 25 | 270°01.0 | 285°00.7 | 300°00.4 | 315°00.1 | 329°59.8 | 344°59.5 | 359°59.2 | 14°58.9 | 29°58.6 | 44°58.2 | 59°57.9 | 74°57.6 | -0.3 |
| | -23°23.3 | -23°23.2 | -23°23.2 | -23°23.1 | -23°23.0 | -23°23.0 | -23°22.9 | -23°22.8 | -23°22.7 | -23°22.7 | -23°22.6 | -23°22.5 | +0.1 |
| Je 26 | 269°53.6 | 284°53.3 | 299°53.0 | 314°52.7 | 329°52.3 | 344°52.0 | 359°51.7 | 14°51.4 | 29°51.1 | 44°50.8 | 59°50.5 | 74°50.2 | -0.3 |
| | -23°21.5 | -23°21.4 | -23°21.3 | -23°21.2 | -23°21.1 | -23°21.0 | -23°20.9 | -23°20.8 | -23°20.7 | -23°20.6 | -23°20.6 | -23°20.5 | +0.1 |
| Ve 27 | 269°46.2 | 284°45.9 | 299°45.6 | 314°45.2 | 329°44.9 | 344°44.6 | 359°44.3 | 14°44.0 | 29°43.7 | 44°43.4 | 59°43.1 | 74°42.8 | -0.3 |
| | -23°19.1 | -23°19.0 | -23°18.9 | -23°18.8 | -23°18.7 | -23°18.6 | -23°18.5 | -23°18.4 | -23°18.3 | -23°18.2 | -23°18.0 | -23°17.9 | +0.1 |
| Sa 28 | 269°38.8 | 284°38.5 | 299°38.2 | 314°37.9 | 329°37.6 | 344°37.3 | 359°36.9 | 14°36.6 | 29°36.3 | 44°36.0 | 59°35.7 | 74°35.4 | -0.3 |
| | -23°16.4 | -23°16.2 | -23°16.1 | -23°16.0 | -23°15.9 | -23°15.7 | -23°15.6 | -23°15.5 | -23°15.3 | -23°15.2 | -23°15.1 | -23°14.9 | +0.1 |
| Di 29 | 269°31.5 | 284°31.2 | 299°30.8 | 314°30.5 | 329°30.2 | 344°29.9 | 359°29.6 | 14°29.3 | 29°29.0 | 44°28.7 | 59°28.4 | 74°28.1 | -0.3 |
| | -23°13.1 | -23°13.0 | -23°12.8 | -23°12.7 | -23°12.5 | -23°12.4 | -23°12.2 | -23°12.1 | -23°11.9 | -23°11.8 | -23°11.6 | -23°11.5 | +0.1 |
| Lu 30 | 269°24.2 | 284°23.9 | 299°23.6 | 314°23.3 | 329°23.0 | 344°22.7 | 359°22.4 | 14°22.1 | 29°21.8 | 44°21.5 | 59°21.2 | 74°20.9 | -0.3 |
| | -23°09.4 | -23°09.2 | -23°09.1 | -23°08.9 | -23°08.7 | -23°08.6 | -23°08.4 | -23°08.2 | -23°08.1 | -23°07.9 | -23°07.7 | -23°07.6 | +0.2 |
| Ma 31 | 269°17.0 | 284°16.7 | 299°16.4 | 314°16.1 | 329°15.8 | 344°15.5 | 359°15.2 | 14°14.9 | 29°14.6 | 44°14.3 | 59°14.0 | 74°13.7 | -0.3 |
| | -23°05.2 | -23°05.1 | -23°04.9 | -23°04.7 | -23°04.5 | -23°04.3 | -23°04.1 | -23°03.9 | -23°03.7 | -23°03.6 | -23°03.4 | -23°03.2 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Décembre 2030

| | J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◐ | Di 1 | 247°41.0<br>-5°37.2 | 262°12.0<br>-5°25.0 | 276°43.1<br>-5°12.8 | 291°14.2<br>-5°00.7 | 305°45.4<br>-4°48.5 | 320°16.6<br>-4°36.2 | 334°47.9<br>-4°24.0 | 349°19.3<br>-4°11.8 | 3°50.7<br>-3°59.6 | 18°22.2<br>-3°47.3 | 32°53.7<br>-3°35.1 | +31.3<br>+12.2 | 15.7<br>57.6 |
| | Lu 2 | 250°52.1<br>-0°31.8 | 265°24.3<br>-0°19.7 | 279°56.6<br>-0°07.5 | 294°28.9<br>0°04.6 | 309°01.2<br>0°16.7 | 323°33.6<br>0°28.8 | 338°06.0<br>0°40.9 | 352°38.4<br>0°53.0 | 7°10.9<br>1°05.0 | 21°43.3<br>1°17.1 | 36°15.9<br>1°29.1 | +32.4<br>+12.1 | 15.5<br>56.7 |
| | Ma 3 | 254°26.2<br>4°26.6 | 268°59.0<br>4°38.2 | 283°31.9<br>4°49.8 | 298°04.7<br>5°01.3 | 312°37.6<br>5°12.8 | 327°10.5<br>5°24.3 | 341°43.3<br>5°35.8 | 356°16.2<br>5°47.2 | 10°49.1<br>5°58.6 | 25°22.0<br>6°09.9 | 39°54.9<br>6°21.2 | +32.9<br>+11.5 | 15.3<br>56.0 |
| | Me 4 | 258°08.7<br>9°05.8 | 272°41.6<br>9°16.4 | 287°14.5<br>9°27.0 | 301°47.4<br>9°37.5 | 316°20.2<br>9°47.9 | 330°53.1<br>9°58.4 | 345°25.9<br>10°08.7 | 359°58.8<br>10°19.0 | 14°31.6<br>10°29.3 | 29°04.4<br>10°39.5 | 43°37.2<br>10°49.7 | +32.9<br>+10.4 | 15.1<br>55.3 |
| | Je 5 | 261°47.5<br>13°15.1 | 276°20.0<br>13°24.3 | 290°52.5<br>13°33.5 | 305°25.0<br>13°42.5 | 319°57.5<br>13°51.6 | 334°30.0<br>14°00.5 | 349°02.4<br>14°09.4 | 3°34.8<br>14°18.2 | 18°07.2<br>14°27.0 | 32°39.6<br>14°35.6 | 47°11.9<br>14°44.3 | +32.4<br>+8.9 | 15.0<br>54.8 |
| | Ve 6 | 265°14.0<br>16°44.8 | 279°45.9<br>16°52.2 | 294°17.8<br>16°59.6 | 308°49.7<br>17°06.9 | 323°21.6<br>17°14.1 | 337°53.4<br>17°21.2 | 352°25.2<br>17°28.2 | 6°56.9<br>17°35.2 | 21°28.7<br>17°42.0 | 36°00.4<br>17°48.8 | 50°32.1<br>17°55.5 | +31.8<br>+7.1 | 14.8<br>54.4 |
| | Sa 7 | 268°24.2<br>19°25.9 | 282°55.4<br>19°31.2 | 297°26.7<br>19°36.5 | 311°57.9<br>19°41.6 | 326°29.1<br>19°46.6 | 341°00.2<br>19°51.6 | 355°31.4<br>19°56.5 | 10°02.5<br>20°01.2 | 24°33.6<br>20°05.9 | 39°04.6<br>20°10.5 | 53°35.7<br>20°15.0 | +31.2<br>+4.9 | 14.8<br>54.2 |
| | Di 8 | 271°19.0<br>21°10.8 | 285°49.7<br>21°13.7 | 300°20.4<br>21°16.6 | 314°51.1<br>21°19.3 | 329°21.8<br>21°21.9 | 343°52.5<br>21°24.5 | 358°23.2<br>21°26.9 | 12°53.9<br>21°29.3 | 27°24.5<br>21°31.5 | 41°55.1<br>21°33.6 | 56°25.8<br>21°35.7 | +30.7<br>+2.5 | 14.7<br>54.0 |
| ○ | Lu 9 | 274°04.3<br>21°54.0 | 288°34.8<br>21°54.4 | 303°05.3<br>21°54.7 | 317°35.9<br>21°54.9 | 332°06.4<br>21°55.0 | 346°36.9<br>21°55.0 | 1°07.5<br>21°54.9 | 15°38.0<br>21°54.7 | 30°08.6<br>21°54.4 | 44°39.1<br>21°54.0 | 59°09.7<br>21°53.5 | +30.5<br>-0.1 | 14.7<br>53.9 |
| | Ma 10 | 276°49.0<br>21°33.5 | 291°19.8<br>21°31.4 | 305°50.5<br>21°29.1 | 320°21.3<br>21°26.8 | 334°52.0<br>21°24.3 | 349°22.8<br>21°21.8 | 3°53.6<br>21°19.2 | 18°24.4<br>21°16.4 | 32°55.3<br>21°13.6 | 47°26.1<br>21°10.7 | 61°57.0<br>21°07.6 | +30.8<br>-2.6 | 14.7<br>53.9 |
| | Me 11 | 279°42.8<br>20°10.6 | 294°14.0<br>20°06.1 | 308°45.3<br>20°01.4 | 323°16.6<br>19°56.7 | 337°47.9<br>19°51.9 | 352°19.3<br>19°47.0 | 6°50.6<br>19°42.0 | 21°22.0<br>19°36.9 | 35°53.5<br>19°31.7 | 50°24.9<br>19°26.4 | 64°56.4<br>19°21.0 | +31.4<br>-5.0 | 14.7<br>54.0 |
| | Je 12 | 282°52.3<br>17°50.3 | 297°24.3<br>17°43.6 | 311°56.3<br>17°36.8 | 326°28.3<br>17°29.9 | 341°00.3<br>17°22.9 | 355°32.4<br>17°15.9 | 10°04.5<br>17°08.8 | 24°36.7<br>17°01.6 | 39°08.9<br>16°54.3 | 53°41.1<br>16°47.0 | 68°13.3<br>16°39.6 | +32.1<br>-7.1 | 14.8<br>54.2 |
| | Ve 13 | 286°20.1<br>14°39.6 | 300°52.8<br>14°31.0 | 315°25.5<br>14°22.4 | 329°58.2<br>14°13.7 | 344°31.0<br>14°05.0 | 359°03.8<br>13°56.1 | 13°36.6<br>13°47.3 | 28°09.4<br>13°38.3 | 42°42.2<br>13°29.3 | 57°15.1<br>13°20.2 | 71°48.0<br>13°11.1 | +32.8<br>-8.8 | 14.9<br>54.5 |
| | Sa 14 | 290°03.6<br>10°47.1 | 304°36.8<br>10°37.1 | 319°10.0<br>10°27.0 | 333°43.2<br>10°16.9 | 348°16.4<br>10°06.7 | 2°49.7<br>9°56.5 | 17°22.9<br>9°46.2 | 31°56.1<br>9°35.8 | 46°29.4<br>9°25.4 | 61°02.7<br>9°15.0 | 75°35.9<br>9°04.5 | +33.2<br>-10.3 | 15.0<br>55.0 |
| | Di 15 | 304°36.8<br>10°37.1 | 319°10.0<br>10°27.0 | 333°43.2<br>10°16.9 | 348°16.4<br>10°06.7 | 2°49.7<br>9°56.5 | 17°22.9<br>9°46.2 | 31°56.1<br>9°35.8 | 46°29.4<br>9°25.4 | 61°02.7<br>9°15.0 | 75°35.9<br>9°04.5 | 90°09.2<br>8°54.0 | +33.2<br>-10.3 | 15.0<br>55.0 |
| | Lu 16 | 308°28.9<br>6°11.0 | 323°02.2<br>5°59.9 | 337°35.5<br>5°48.6 | 352°08.8<br>5°37.4 | 6°42.1<br>5°26.1 | 21°15.4<br>5°14.8 | 35°48.6<br>5°03.5 | 50°21.9<br>4°52.1 | 64°55.2<br>4°40.7 | 79°28.4<br>4°29.2 | 94°01.6<br>4°17.8 | +33.3<br>-11.3 | 15.2<br>55.6 |
| | Ma 17 | 312°18.0<br>1°22.6 | 326°50.9<br>1°10.7 | 341°23.8<br>0°58.8 | 355°56.7<br>0°46.9 | 10°29.5<br>0°35.0 | 25°02.3<br>0°23.1 | 39°35.0<br>0°11.2 | 54°07.8<br>-0°00.8 | 68°40.5<br>-0°12.7 | 83°13.1<br>-0°24.7 | 97°45.8<br>-0°36.7 | +32.8<br>-11.9 | 15.4<br>56.3 |
| ◑ | Me 18 | 315°50.3<br>-3°37.4 | 330°22.2<br>-3°49.5 | 344°54.1<br>-4°01.5 | 359°25.9<br>-4°13.6 | 13°57.7<br>-4°25.7 | 28°29.4<br>-4°37.7 | 43°01.0<br>-4°49.7 | 57°32.6<br>-5°01.8 | 72°04.1<br>-5°13.8 | 86°35.6<br>-5°25.8 | 101°07.0<br>-5°37.8 | +31.7<br>-12.0 | 15.6<br>57.2 |
| | Je 19 | 318°50.2<br>-8°35.9 | 333°20.5<br>-8°47.5 | 347°50.7<br>-8°59.2 | 2°20.9<br>-9°10.8 | 16°50.9<br>-9°22.4 | 31°20.9<br>-9°34.0 | 45°50.8<br>-9°45.5 | 60°20.6<br>-9°57.0 | 74°50.4<br>-10°08.5 | 89°20.0<br>-10°19.9 | 103°49.6<br>-10°31.2 | +29.9<br>-11.5 | 15.9<br>58.1 |
| | Ve 20 | 321°02.3<br>-13°16.2 | 335°30.4<br>-13°26.8 | 349°58.4<br>-13°37.3 | 4°26.3<br>-13°47.7 | 18°54.1<br>-13°58.1 | 33°21.8<br>-14°08.3 | 47°49.4<br>-14°18.6 | 62°16.9<br>-14°28.7 | 76°44.3<br>-14°38.8 | 91°11.6<br>-14°48.8 | 105°38.8<br>-14°58.7 | +27.7<br>-10.3 | 16.1<br>59.1 |
| | Sa 21 | 322°14.5<br>-17°17.5 | 336°40.0<br>-17°26.1 | 351°05.5<br>-17°34.5 | 5°30.8<br>-17°42.7 | 19°56.1<br>-17°50.9 | 34°21.2<br>-17°59.0 | 48°46.3<br>-18°07.0 | 63°11.2<br>-18°14.9 | 77°36.0<br>-18°22.6 | 92°00.8<br>-18°30.2 | 106°25.4<br>-18°37.8 | +25.1<br>-8.0 | 16.4<br>60.0 |
| | Di 22 | 322°23.6<br>-20°15.5 | 336°46.7<br>-20°21.0 | 351°09.8<br>-20°26.3 | 5°32.8<br>-20°31.5 | 19°55.7<br>-20°36.5 | 34°18.5<br>-20°41.4 | 48°41.3<br>-20°46.1 | 63°04.0<br>-20°50.7 | 77°26.6<br>-20°55.1 | 91°49.1<br>-20°59.4 | 106°11.6<br>-21°03.5 | +22.8<br>-4.8 | 16.6<br>60.8 |
| | Lu 23 | 321°41.4<br>-21°46.6 | 336°03.0<br>-21°48.2 | 350°24.6<br>-21°49.6 | 4°46.1<br>-21°50.8 | 19°07.7<br>-21°51.9 | 33°29.1<br>-21°52.8 | 47°50.6<br>-21°53.5 | 62°12.0<br>-21°54.1 | 76°33.4<br>-21°54.5 | 90°54.8<br>-21°54.7 | 105°16.2<br>-21°54.7 | +21.5<br>-0.8 | 16.7<br>61.2 |
| ● | Ma 24 | 320°36.4<br>-21°35.2 | 334°57.9<br>-21°32.5 | 349°19.3<br>-21°29.7 | 3°40.8<br>-21°26.7 | 18°02.4<br>-21°23.5 | 32°23.9<br>-21°20.2 | 46°45.5<br>-21°16.7 | 61°07.1<br>-21°13.1 | 75°28.8<br>-21°09.3 | 89°50.5<br>-21°05.3 | 104°12.3<br>-21°01.1 | +21.6<br>+3.4 | 16.7<br>61.4 |
| | Me 25 | 319°45.1<br>-19°40.5 | 334°07.8<br>-19°33.9 | 348°30.6<br>-19°27.2 | 2°53.5<br>-19°20.3 | 17°16.4<br>-19°13.4 | 31°39.4<br>-19°06.2 | 46°02.5<br>-18°59.0 | 60°25.7<br>-18°51.6 | 74°49.0<br>-18°44.1 | 89°12.3<br>-18°36.4 | 103°35.8<br>-18°28.6 | +23.1<br>+7.2 | 16.7<br>61.1 |
| | Je 26 | 319°38.0<br>-16°17.5 | 334°02.9<br>-16°07.9 | 348°27.9<br>-15°58.2 | 2°53.0<br>-15°48.4 | 17°18.2<br>-15°38.4 | 31°43.5<br>-15°28.4 | 46°08.9<br>-15°18.3 | 60°34.4<br>-15°08.1 | 75°00.0<br>-14°57.9 | 89°25.7<br>-14°47.5 | 103°51.5<br>-14°37.0 | +25.3<br>+10.1 | 16.5<br>60.5 |
| | Ve 27 | 320°29.9<br>-11°51.2 | 334°57.2<br>-11°39.6 | 349°24.6<br>-11°28.0 | 3°52.2<br>-11°16.3 | 18°19.8<br>-11°04.5 | 32°47.5<br>-10°52.8 | 47°15.3<br>-10°40.9 | 61°43.1<br>-10°29.0 | 76°11.1<br>-10°17.1 | 90°39.2<br>-10°05.1 | 105°07.3<br>-9°53.1 | +27.7<br>+11.8 | 16.3<br>59.7 |
| | Sa 28 | 322°19.7<br>-6°48.6 | 336°49.2<br>-6°36.1 | 351°18.7<br>-6°23.6 | 5°48.4<br>-6°11.0 | 20°18.1<br>-5°58.5 | 34°47.8<br>-5°45.9 | 49°17.6<br>-5°33.3 | 63°47.6<br>-5°20.7 | 78°17.5<br>-5°08.1 | 92°47.6<br>-4°55.5 | 107°17.7<br>-4°42.9 | +29.8<br>+12.6 | 16.0<br>58.7 |
| | Di 29 | 324°56.8<br>-1°33.5 | 339°27.9<br>-1°20.9 | 353°59.0<br>-1°08.3 | 8°30.2<br>-0°55.8 | 23°01.4<br>-0°43.2 | 37°32.6<br>-0°30.7 | 52°03.9<br>-0°18.2 | 66°35.3<br>-0°05.7 | 81°06.7<br>0°06.8 | 95°38.1<br>0°19.3 | 110°09.6<br>0°31.7 | +31.3<br>+12.5 | 15.7<br>57.7 |
| | Lu 30 | 328°06.4<br>3°35.4 | 342°38.4<br>3°47.4 | 357°10.5<br>3°59.4 | 11°42.6<br>4°11.3 | 26°14.7<br>4°23.2 | 40°46.8<br>4°35.1 | 55°19.0<br>4°46.9 | 69°51.2<br>4°58.7 | 84°23.4<br>5°10.5 | 98°55.6<br>5°22.2 | 113°27.9<br>5°33.9 | +32.2<br>+11.9 | 15.5<br>56.7 |
| ◐ | Ma 31 | 331°33.4<br>8°23.8 | 346°05.8<br>8°34.8 | 0°38.3<br>8°45.7 | 15°10.7<br>8°56.5 | 29°43.2<br>9°07.3 | 44°15.7<br>9°18.1 | 58°48.1<br>9°28.7 | 73°20.6<br>9°39.4 | 87°53.1<br>9°50.0 | 102°25.5<br>10°00.5 | 116°58.0<br>10°10.9 | +32.5<br>+10.7 | 15.2<br>55.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 1 22h56 — PL: 9 22h40 — DQ: 18 00h01 — NL: 24 17h32 — PQ: 31 13h36

# SOLEIL

## Janvier 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 269°09.8 | 284°09.6 | 299°09.3 | 314°09.0 | 329°08.7 | 344°08.4 | 359°08.1 | 14°07.8 | 29°07.5 | 44°07.2 | 59°06.9 | 74°06.6 | -0.3 |
| | -23°00.6 | -23°00.4 | -23°00.2 | -23°00.0 | -22°59.8 | -22°59.6 | -22°59.4 | -22°59.2 | -22°59.0 | -22°58.7 | -22°58.5 | -22°58.3 | +0.2 |
| Je 2 | 269°02.8 | 284°02.5 | 299°02.2 | 314°01.9 | 329°01.6 | 344°01.3 | 359°01.1 | 14°00.8 | 29°00.5 | 44°00.2 | 58°59.9 | 73°59.6 | -0.3 |
| | -22°55.5 | -22°55.3 | -22°55.1 | -22°54.8 | -22°54.6 | -22°54.4 | -22°54.2 | -22°53.9 | -22°53.7 | -22°53.5 | -22°53.3 | -22°53.0 | +0.2 |
| Ve 3 | 268°55.8 | 283°55.6 | 298°55.3 | 313°55.0 | 328°54.7 | 343°54.4 | 358°54.1 | 13°53.8 | 28°53.5 | 43°53.3 | 58°53.0 | 73°52.7 | -0.3 |
| | -22°50.0 | -22°49.7 | -22°49.5 | -22°49.2 | -22°49.0 | -22°48.7 | -22°48.5 | -22°48.3 | -22°48.0 | -22°47.8 | -22°47.5 | -22°47.3 | +0.2 |
| Sa 4 | 268°49.0 | 283°48.7 | 298°48.4 | 313°48.1 | 328°47.8 | 343°47.6 | 358°47.3 | 13°47.0 | 28°46.7 | 43°46.4 | 58°46.2 | 73°45.9 | -0.3 |
| | -22°44.0 | -22°43.7 | -22°43.4 | -22°43.2 | -22°42.9 | -22°42.7 | -22°42.4 | -22°42.1 | -22°41.9 | -22°41.6 | -22°41.3 | -22°41.1 | +0.3 |
| Di 5 | 268°42.2 | 283°41.9 | 298°41.7 | 313°41.4 | 328°41.1 | 343°40.8 | 358°40.6 | 13°40.3 | 28°40.0 | 43°39.7 | 58°39.4 | 73°39.2 | -0.3 |
| | -22°37.5 | -22°37.2 | -22°36.9 | -22°36.7 | -22°36.4 | -22°36.1 | -22°35.8 | -22°35.5 | -22°35.3 | -22°35.0 | -22°34.7 | -22°34.4 | +0.3 |
| Lu 6 | 268°35.6 | 283°35.3 | 298°35.0 | 313°34.8 | 328°34.5 | 343°34.2 | 358°33.9 | 13°33.7 | 28°33.4 | 43°33.1 | 58°32.8 | 73°32.6 | -0.3 |
| | -22°30.6 | -22°30.3 | -22°30.0 | -22°29.7 | -22°29.4 | -22°29.1 | -22°28.8 | -22°28.5 | -22°28.2 | -22°27.9 | -22°27.6 | -22°27.3 | +0.3 |
| Ma 7 | 268°29.0 | 283°28.8 | 298°28.5 | 313°28.2 | 328°28.0 | 343°27.7 | 358°27.4 | 13°27.2 | 28°26.9 | 43°26.6 | 58°26.4 | 73°26.1 | -0.3 |
| | -22°23.3 | -22°22.9 | -22°22.6 | -22°22.3 | -22°22.0 | -22°21.7 | -22°21.4 | -22°21.0 | -22°20.7 | -22°20.4 | -22°20.1 | -22°19.7 | +0.3 |
| Me 8 | 268°22.6 | 283°22.4 | 298°22.1 | 313°21.8 | 328°21.6 | 343°21.3 | 358°21.1 | 13°20.8 | 28°20.5 | 43°20.3 | 58°20.0 | 73°19.7 | -0.3 |
| | -22°15.5 | -22°15.1 | -22°14.8 | -22°14.5 | -22°14.1 | -22°13.8 | -22°13.5 | -22°13.1 | -22°12.8 | -22°12.4 | -22°12.1 | -22°11.8 | +0.3 |
| Je 9 | 268°16.4 | 283°16.1 | 298°15.8 | 313°15.6 | 328°15.3 | 343°15.1 | 358°14.8 | 13°14.6 | 28°14.3 | 43°14.0 | 58°13.8 | 73°13.5 | -0.3 |
| | -22°07.3 | -22°06.9 | -22°06.5 | -22°06.2 | -22°05.8 | -22°05.5 | -22°05.1 | -22°04.8 | -22°04.4 | -22°04.1 | -22°03.7 | -22°03.3 | +0.4 |
| Ve 10 | 268°10.2 | 283°10.0 | 298°09.7 | 313°09.5 | 328°09.2 | 343°09.0 | 358°08.7 | 13°08.4 | 28°08.2 | 43°07.9 | 58°07.7 | 73°07.4 | -0.3 |
| | -21°58.6 | -21°58.2 | -21°57.9 | -21°57.5 | -21°57.1 | -21°56.7 | -21°56.4 | -21°56.0 | -21°55.6 | -21°55.2 | -21°54.9 | -21°54.5 | +0.4 |
| Sa 11 | 268°04.2 | 283°04.0 | 298°03.7 | 313°03.5 | 328°03.2 | 343°03.0 | 358°02.7 | 13°02.5 | 28°02.2 | 43°02.0 | 58°01.7 | 73°01.5 | -0.2 |
| | -21°49.5 | -21°49.1 | -21°48.7 | -21°48.4 | -21°48.0 | -21°47.6 | -21°47.2 | -21°46.8 | -21°46.4 | -21°46.0 | -21°45.6 | -21°45.2 | +0.4 |
| Di 12 | 267°58.3 | 282°58.1 | 297°57.9 | 312°57.6 | 327°57.4 | 342°57.1 | 357°56.9 | 12°56.7 | 27°56.4 | 42°56.2 | 57°55.9 | 72°55.7 | -0.2 |
| | -21°40.0 | -21°39.6 | -21°39.2 | -21°38.8 | -21°38.4 | -21°38.0 | -21°37.6 | -21°37.2 | -21°36.7 | -21°36.3 | -21°35.9 | -21°35.5 | +0.4 |
| Lu 13 | 267°52.6 | 282°52.4 | 297°52.2 | 312°51.9 | 327°51.7 | 342°51.5 | 357°51.2 | 12°51.0 | 27°50.8 | 42°50.5 | 57°50.3 | 72°50.1 | -0.2 |
| | -21°30.1 | -21°29.7 | -21°29.2 | -21°28.8 | -21°28.4 | -21°28.0 | -21°27.5 | -21°27.1 | -21°26.7 | -21°26.2 | -21°25.8 | -21°25.4 | +0.4 |
| Ma 14 | 267°47.1 | 282°46.8 | 297°46.6 | 312°46.4 | 327°46.2 | 342°45.9 | 357°45.7 | 12°45.5 | 27°45.3 | 42°45.0 | 57°44.8 | 72°44.6 | -0.2 |
| | -21°19.7 | -21°19.3 | -21°18.9 | -21°18.4 | -21°18.0 | -21°17.5 | -21°17.1 | -21°16.6 | -21°16.2 | -21°15.7 | -21°15.3 | -21°14.9 | +0.4 |
| Me 15 | 267°41.7 | 282°41.4 | 297°41.2 | 312°41.0 | 327°40.8 | 342°40.6 | 357°40.3 | 12°40.1 | 27°39.9 | 42°39.7 | 57°39.5 | 72°39.2 | -0.2 |
| | -21°09.0 | -21°08.5 | -21°08.1 | -21°07.6 | -21°07.1 | -21°06.7 | -21°06.2 | -21°05.8 | -21°05.3 | -21°04.8 | -21°04.4 | -21°03.9 | +0.5 |
| Je 16 | 267°36.4 | 282°36.2 | 297°36.0 | 312°35.8 | 327°35.6 | 342°35.4 | 357°35.1 | 12°34.9 | 27°34.7 | 42°34.5 | 57°34.3 | 72°34.1 | -0.2 |
| | -20°57.8 | -20°57.3 | -20°56.9 | -20°56.4 | -20°55.9 | -20°55.4 | -20°55.0 | -20°54.5 | -20°54.0 | -20°53.5 | -20°53.0 | -20°52.6 | +0.5 |
| Ve 17 | 267°31.3 | 282°31.1 | 297°30.9 | 312°30.7 | 327°30.5 | 342°30.3 | 357°30.1 | 12°29.9 | 27°29.7 | 42°29.5 | 57°29.3 | 72°29.1 | -0.2 |
| | -20°46.2 | -20°45.7 | -20°45.3 | -20°44.8 | -20°44.3 | -20°43.8 | -20°43.3 | -20°42.8 | -20°42.3 | -20°41.8 | -20°41.3 | -20°40.8 | +0.5 |
| Sa 18 | 267°26.4 | 282°26.2 | 297°26.0 | 312°25.8 | 327°25.6 | 342°25.4 | 357°25.2 | 12°25.0 | 27°24.8 | 42°24.6 | 57°24.4 | 72°24.2 | -0.2 |
| | -20°34.3 | -20°33.8 | -20°33.3 | -20°32.8 | -20°32.2 | -20°31.7 | -20°31.2 | -20°30.7 | -20°30.2 | -20°29.7 | -20°29.2 | -20°28.7 | +0.5 |
| Di 19 | 267°21.7 | 282°21.5 | 297°21.3 | 312°21.1 | 327°20.9 | 342°20.7 | 357°20.5 | 12°20.4 | 27°20.2 | 42°20.0 | 57°19.8 | 72°19.6 | -0.2 |
| | -20°21.9 | -20°21.4 | -20°20.9 | -20°20.4 | -20°19.8 | -20°19.3 | -20°18.8 | -20°18.2 | -20°17.7 | -20°17.2 | -20°16.7 | -20°16.1 | +0.5 |
| Lu 20 | 267°17.1 | 282°17.0 | 297°16.8 | 312°16.6 | 327°16.4 | 342°16.2 | 357°16.0 | 12°15.9 | 27°15.7 | 42°15.5 | 57°15.3 | 72°15.1 | -0.2 |
| | -20°09.2 | -20°08.6 | -20°08.1 | -20°07.6 | -20°07.0 | -20°06.5 | -20°05.9 | -20°05.4 | -20°04.9 | -20°04.3 | -20°03.8 | -20°03.2 | +0.5 |
| Ma 21 | 267°12.8 | 282°12.6 | 297°12.4 | 312°12.2 | 327°12.1 | 342°11.9 | 357°11.7 | 12°11.5 | 27°11.4 | 42°11.2 | 57°11.0 | 72°10.8 | -0.2 |
| | -19°56.1 | -19°55.5 | -19°55.0 | -19°54.4 | -19°53.8 | -19°53.3 | -19°52.7 | -19°52.2 | -19°51.6 | -19°51.0 | -19°50.5 | -19°49.9 | +0.6 |
| Me 22 | 267°08.6 | 282°08.4 | 297°08.2 | 312°08.1 | 327°07.9 | 342°07.7 | 357°07.6 | 12°07.4 | 27°07.2 | 42°07.1 | 57°06.9 | 72°06.7 | -0.2 |
| | -19°42.6 | -19°42.0 | -19°41.4 | -19°40.9 | -19°40.3 | -19°39.7 | -19°39.1 | -19°38.6 | -19°38.0 | -19°37.4 | -19°36.8 | -19°36.3 | +0.6 |
| Je 23 | 267°04.6 | 282°04.4 | 297°04.3 | 312°04.1 | 327°03.9 | 342°03.8 | 357°03.6 | 12°03.5 | 27°03.3 | 42°03.1 | 57°03.0 | 72°02.8 | -0.2 |
| | -19°28.7 | -19°28.1 | -19°27.5 | -19°27.0 | -19°26.4 | -19°25.8 | -19°25.2 | -19°24.6 | -19°24.0 | -19°23.4 | -19°22.8 | -19°22.2 | +0.6 |
| Ve 24 | 267°00.8 | 282°00.6 | 297°00.5 | 312°00.3 | 327°00.2 | 342°00.0 | 356°59.9 | 11°59.7 | 26°59.6 | 41°59.4 | 56°59.3 | 71°59.1 | -0.2 |
| | -19°14.5 | -19°13.9 | -19°13.3 | -19°12.7 | -19°12.1 | -19°11.5 | -19°10.9 | -19°10.3 | -19°09.7 | -19°09.1 | -19°08.5 | -19°07.9 | +0.6 |
| Sa 25 | 266°57.2 | 281°57.0 | 296°56.9 | 311°56.8 | 326°56.6 | 341°56.5 | 356°56.3 | 11°56.2 | 26°56.0 | 41°55.9 | 56°55.7 | 71°55.6 | -0.1 |
| | -18°59.9 | -18°59.3 | -18°58.7 | -18°58.1 | -18°57.5 | -18°56.8 | -18°56.2 | -18°55.6 | -18°55.0 | -18°54.4 | -18°53.8 | -18°53.1 | +0.6 |
| Di 26 | 266°53.8 | 281°53.6 | 296°53.5 | 311°53.4 | 326°53.2 | 341°53.1 | 356°53.0 | 11°52.8 | 26°52.7 | 41°52.6 | 56°52.4 | 71°52.3 | -0.1 |
| | -18°45.0 | -18°44.4 | -18°43.8 | -18°43.1 | -18°42.5 | -18°41.9 | -18°41.2 | -18°40.6 | -18°40.0 | -18°39.3 | -18°38.7 | -18°38.1 | +0.6 |
| Lu 27 | 266°50.6 | 281°50.5 | 296°50.3 | 311°50.2 | 326°50.1 | 341°49.9 | 356°49.8 | 11°49.7 | 26°49.6 | 41°49.4 | 56°49.3 | 71°49.2 | -0.1 |
| | -18°29.8 | -18°29.1 | -18°28.5 | -18°27.8 | -18°27.2 | -18°26.5 | -18°25.9 | -18°25.2 | -18°24.6 | -18°23.9 | -18°23.3 | -18°22.6 | +0.6 |
| Ma 28 | 266°47.6 | 281°47.5 | 296°47.4 | 311°47.2 | 326°47.1 | 341°47.0 | 356°46.9 | 11°46.8 | 26°46.6 | 41°46.5 | 56°46.4 | 71°46.3 | -0.1 |
| | -18°14.2 | -18°13.5 | -18°12.8 | -18°12.2 | -18°11.5 | -18°10.9 | -18°10.2 | -18°09.5 | -18°08.9 | -18°08.2 | -18°07.6 | -18°06.9 | +0.7 |
| Me 29 | 266°44.8 | 281°44.7 | 296°44.6 | 311°44.5 | 326°44.4 | 341°44.2 | 356°44.1 | 11°44.0 | 26°43.9 | 41°43.8 | 56°43.7 | 71°43.6 | -0.1 |
| | -17°58.2 | -17°57.6 | -17°56.9 | -17°56.2 | -17°55.6 | -17°54.9 | -17°54.2 | -17°53.5 | -17°52.9 | -17°52.2 | -17°51.5 | -17°50.8 | +0.7 |
| Je 30 | 266°42.2 | 281°42.1 | 296°42.0 | 311°41.9 | 326°41.8 | 341°41.7 | 356°41.6 | 11°41.5 | 26°41.4 | 41°41.3 | 56°41.2 | 71°41.1 | -0.1 |
| | -17°42.0 | -17°41.3 | -17°40.6 | -17°39.9 | -17°39.3 | -17°38.6 | -17°37.9 | -17°37.2 | -17°36.5 | -17°35.8 | -17°35.1 | -17°34.4 | +0.7 |
| Ve 31 | 266°39.9 | 281°39.8 | 296°39.7 | 311°39.6 | 326°39.5 | 341°39.4 | 356°39.3 | 11°39.2 | 26°39.1 | 41°39.0 | 56°38.9 | 71°38.8 | -0.1 |
| | -17°25.4 | -17°24.7 | -17°24.0 | -17°23.4 | -17°22.7 | -17°22.0 | -17°21.3 | -17°20.6 | -17°19.9 | -17°19.2 | -17°18.5 | -17°17.8 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2031

| J | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 247°50.1 | 262°22.6 | 276°55.0 | 291°27.4 | 305°59.8 | 320°32.2 | 335°04.6 | 349°37.0 | 4°09.4 | 18°41.7 | 33°14.1 | +32.4 | 15.1 |
| | 11°42.5 | 11°52.4 | 12°02.2 | 12°12.0 | 12°21.7 | 12°31.3 | 12°40.8 | 12°50.3 | 12°59.8 | 13°09.1 | 13°18.4 | +9.6 | 55.3 |
| Je 2 | 251°17.6 | 265°49.7 | 280°21.8 | 294°53.8 | 309°25.9 | 323°57.9 | 338°29.9 | 353°01.9 | 7°33.9 | 22°05.8 | 36°37.7 | +32.0 | 14.9 |
| | 15°29.5 | 15°37.7 | 15°45.7 | 15°53.8 | 16°01.7 | 16°09.5 | 16°17.3 | 16°25.0 | 16°32.6 | 16°40.2 | 16°47.7 | +7.8 | 54.8 |
| Ve 3 | 254°33.9 | 269°05.5 | 283°37.0 | 298°08.6 | 312°40.1 | 327°11.5 | 341°43.0 | 356°14.4 | 10°45.8 | 25°17.2 | 39°48.6 | +31.5 | 14.8 |
| | 18°29.8 | 18°36.0 | 18°42.0 | 18°48.0 | 18°53.9 | 18°59.7 | 19°05.4 | 19°11.0 | 19°16.5 | 19°21.9 | 19°27.3 | +5.7 | 54.3 |
| Sa 4 | 257°36.5 | 272°07.5 | 286°38.5 | 301°09.5 | 315°40.5 | 330°11.4 | 344°42.4 | 359°13.3 | 13°44.2 | 28°15.1 | 42°45.9 | +30.9 | 14.7 |
| | 20°36.4 | 20°40.3 | 20°44.0 | 20°47.7 | 20°51.3 | 20°54.7 | 20°58.1 | 21°01.4 | 21°04.6 | 21°07.7 | 21°10.7 | +3.4 | 54.1 |
| Di 5 | 260°27.3 | 274°58.0 | 289°28.7 | 303°59.3 | 318°29.9 | 333°00.6 | 347°31.2 | 2°01.8 | 16°32.5 | 31°03.1 | 45°33.7 | +30.6 | 14.7 |
| | 21°43.6 | 21°45.0 | 21°46.3 | 21°47.4 | 21°48.5 | 21°49.5 | 21°50.4 | 21°51.2 | 21°51.9 | 21°52.5 | 21°52.9 | +0.9 | 53.9 |
| Lu 6 | 263°12.7 | 277°43.4 | 292°14.0 | 306°44.6 | 321°15.3 | 335°45.9 | 350°16.6 | 4°47.2 | 19°17.9 | 33°48.6 | 48°19.3 | +30.7 | 14.7 |
| | 21°47.9 | 21°46.8 | 21°45.5 | 21°44.2 | 21°42.7 | 21°41.2 | 21°39.5 | 21°37.8 | 21°35.9 | 21°33.9 | 21°31.9 | -1.6 | 53.9 |
| Ma 7 | 266°01.2 | 280°32.2 | 295°03.1 | 309°34.1 | 324°05.1 | 338°36.1 | 353°07.1 | 7°38.1 | 22°09.2 | 36°40.3 | 51°11.4 | +31.0 | 14.7 |
| | 20°49.1 | 20°45.5 | 20°41.7 | 20°37.9 | 20°34.0 | 20°30.0 | 20°25.9 | 20°21.7 | 20°17.4 | 20°13.0 | 20°08.5 | -4.1 | 54.0 |
| ○ Me 8 | 269°00.9 | 283°32.4 | 298°03.9 | 312°35.5 | 327°07.1 | 341°38.7 | 356°10.3 | 10°42.0 | 25°13.7 | 39°45.4 | 54°17.2 | +31.6 | 14.8 |
| | 18°50.2 | 18°44.2 | 18°38.2 | 18°32.1 | 18°25.9 | 18°19.7 | 18°13.3 | 18°06.9 | 18°00.3 | 17°53.7 | 17°47.0 | -6.3 | 54.2 |
| Je 9 | 272°16.9 | 286°49.1 | 301°21.3 | 315°53.6 | 330°25.9 | 344°58.2 | 359°30.5 | 14°02.9 | 28°35.3 | 43°07.7 | 57°40.2 | +32.3 | 14.9 |
| | 15°57.2 | 15°49.3 | 15°41.3 | 15°33.2 | 15°25.1 | 15°16.8 | 15°08.5 | 15°00.2 | 14°51.8 | 14°43.3 | 14°34.7 | -8.3 | 54.5 |
| Ve 10 | 275°50.0 | 290°22.8 | 304°55.7 | 319°28.6 | 334°01.5 | 348°34.4 | 3°07.3 | 17°40.3 | 32°13.3 | 46°46.3 | 61°19.3 | +32.9 | 14.9 |
| | 12°18.6 | 12°09.1 | 11°59.5 | 11°49.8 | 11°40.1 | 11°30.3 | 11°20.5 | 11°10.6 | 11°00.6 | 10°50.6 | 10°40.6 | -9.8 | 54.8 |
| Sa 11 | 279°36.4 | 294°09.7 | 308°42.9 | 323°16.2 | 337°49.4 | 352°22.7 | 6°56.0 | 21°29.3 | 36°02.6 | 50°35.8 | 65°09.1 | +33.3 | 15.1 |
| | 8°04.3 | 7°53.5 | 7°42.7 | 7°31.8 | 7°21.0 | 7°10.0 | 6°59.1 | 6°48.1 | 6°37.0 | 6°26.0 | 6°14.9 | -10.9 | 55.2 |
| Di 12 | 283°28.5 | 298°01.8 | 312°35.0 | 327°08.3 | 341°41.5 | 356°14.7 | 10°47.9 | 25°21.1 | 39°54.3 | 54°27.4 | 69°00.6 | +33.2 | 15.2 |
| | 3°24.8 | 3°13.2 | 3°01.7 | 2°50.1 | 2°38.5 | 2°26.8 | 2°15.2 | 2°03.5 | 1°51.8 | 1°40.1 | 1°28.4 | -11.6 | 55.7 |
| Lu 13 | 287°15.3 | 301°48.1 | 316°20.9 | 330°53.6 | 345°26.3 | 359°58.9 | 14°31.6 | 29°04.1 | 43°36.7 | 58°09.2 | 72°41.7 | +32.6 | 15.4 |
| | -1°28.6 | -1°40.5 | -1°52.3 | -2°04.2 | -2°16.0 | -2°27.9 | -2°39.7 | -2°51.6 | -3°03.4 | -3°15.3 | -3°27.1 | -11.9 | 56.3 |
| Ma 14 | 301°48.1 | 316°20.9 | 330°53.6 | 345°26.3 | 359°58.9 | 14°31.6 | 29°04.1 | 43°36.7 | 58°09.2 | 72°41.7 | 87°14.1 | +32.6 | 15.4 |
| | -1°40.5 | -1°52.3 | -2°04.2 | -2°16.0 | -2°27.9 | -2°39.7 | -2°51.6 | -3°03.4 | -3°15.3 | -3°27.1 | -3°39.0 | -11.9 | 56.4 |
| Me 15 | 305°15.5 | 319°47.2 | 334°18.8 | 348°50.4 | 3°22.0 | 17°53.4 | 32°24.9 | 46°56.2 | 61°27.5 | 75°58.8 | 90°30.0 | +31.4 | 15.6 |
| | -6°35.2 | -6°46.8 | -6°58.4 | -7°10.0 | -7°21.6 | -7°33.1 | -7°44.6 | -7°56.1 | -8°07.5 | -8°19.0 | -8°30.4 | -11.5 | 57.0 |
| ◑ Je 16 | 308°09.7 | 322°39.8 | 337°09.8 | 351°39.7 | 6°09.6 | 20°39.4 | 35°09.1 | 49°38.7 | 64°08.2 | 78°37.7 | 93°07.1 | +29.7 | 15.8 |
| | -11°17.0 | -11°27.8 | -11°38.5 | -11°49.2 | -11°59.8 | -12°10.4 | -12°20.9 | -12°31.4 | -12°41.8 | -12°52.1 | -13°02.4 | -10.5 | 57.8 |
| Ve 17 | 310°17.5 | 324°45.5 | 339°13.4 | 353°41.3 | 8°09.0 | 22°36.6 | 37°04.2 | 51°31.6 | 65°59.0 | 80°26.2 | 94°53.4 | +27.6 | 16.0 |
| | -15°29.2 | -15°38.4 | -15°47.5 | -15°56.5 | -16°05.5 | -16°14.4 | -16°23.2 | -16°31.9 | -16°40.5 | -16°49.0 | -16°57.4 | -8.8 | 58.6 |
| Sa 18 | 311°30.0 | 325°55.7 | 340°21.3 | 354°46.8 | 9°12.3 | 23°37.6 | 38°02.9 | 52°28.0 | 66°53.1 | 81°18.1 | 95°43.1 | +25.3 | 16.2 |
| | -18°52.2 | -18°59.0 | -19°05.7 | -19°12.3 | -19°18.8 | -19°25.1 | -19°31.3 | -19°37.4 | -19°43.4 | -19°49.3 | -19°55.0 | -6.3 | 59.4 |
| Di 19 | 311°47.2 | 326°10.9 | 340°34.5 | 354°58.0 | 9°21.5 | 23°44.9 | 38°08.3 | 52°31.6 | 66°54.8 | 81°18.0 | 95°41.1 | +23.4 | 16.4 |
| | -21°05.3 | -21°08.8 | -21°12.3 | -21°15.6 | -21°18.7 | -21°21.7 | -21°24.6 | -21°27.3 | -21°29.8 | -21°32.2 | -21°34.5 | -2.9 | 60.1 |
| Lu 20 | 311°22.6 | 325°45.1 | 340°07.6 | 354°30.0 | 8°52.4 | 23°14.8 | 37°37.2 | 51°59.6 | 66°21.9 | 80°44.3 | 95°06.6 | +22.4 | 16.5 |
| | -21°49.7 | -21°49.4 | -21°49.0 | -21°48.4 | -21°47.7 | -21°46.8 | -21°45.7 | -21°44.5 | -21°43.1 | -21°41.6 | -21°39.9 | +1.0 | 60.6 |
| Ma 21 | 310°42.3 | 325°04.8 | 339°27.4 | 353°49.9 | 8°12.5 | 22°35.1 | 36°57.8 | 51°20.5 | 65°43.2 | 80°06.0 | 94°28.8 | +22.6 | 16.6 |
| | -20°55.1 | -20°50.8 | -20°46.4 | -20°41.9 | -20°37.2 | -20°32.3 | -20°27.3 | -20°22.1 | -20°16.8 | -20°11.3 | -20°05.7 | +4.9 | 60.9 |
| Me 22 | 310°17.0 | 324°40.7 | 339°04.4 | 353°28.2 | 7°52.1 | 22°16.0 | 36°40.0 | 51°04.1 | 65°28.3 | 79°52.5 | 94°16.8 | +24.0 | 16.6 |
| | -18°24.2 | -18°16.4 | -18°08.4 | -18°00.3 | -17°52.1 | -17°43.7 | -17°35.2 | -17°26.6 | -17°17.9 | -17°09.1 | -17°00.1 | +8.4 | 60.8 |
| ● Je 23 | 310°30.5 | 324°56.1 | 339°21.7 | 353°47.4 | 8°13.2 | 22°39.1 | 37°05.0 | 51°31.1 | 65°57.2 | 80°23.4 | 94°49.7 | +25.9 | 16.5 |
| | -14°33.0 | -14°22.4 | -14°11.7 | -14°01.0 | -13°50.1 | -13°39.2 | -13°28.2 | -13°17.1 | -13°05.9 | -12°54.7 | -12°43.3 | +11.0 | 60.5 |
| Ve 24 | 311°33.7 | 326°01.3 | 340°28.9 | 354°56.6 | 9°24.4 | 23°52.3 | 38°20.3 | 52°48.3 | 67°16.4 | 81°44.5 | 96°12.8 | +27.9 | 16.3 |
| | -9°45.8 | -9°33.5 | -9°21.2 | -9°08.8 | -8°56.4 | -8°44.0 | -8°31.5 | -8°19.0 | -8°06.5 | -7°53.9 | -7°41.2 | +12.5 | 59.8 |
| Sa 25 | 313°24.8 | 327°54.1 | 342°23.5 | 356°53.0 | 11°22.5 | 25°52.0 | 40°21.7 | 54°51.3 | 69°21.1 | 83°50.9 | 98°20.7 | +29.6 | 16.1 |
| | -4°29.2 | -4°16.3 | -4°03.3 | -3°50.4 | -3°37.5 | -3°24.5 | -3°11.6 | -2°58.6 | -2°45.7 | -2°32.7 | -2°19.8 | +12.9 | 59.0 |
| Di 26 | 315°54.4 | 330°25.1 | 344°55.7 | 359°26.4 | 13°57.1 | 28°27.9 | 42°58.7 | 57°29.6 | 72°00.4 | 86°31.3 | 101°02.3 | +30.8 | 15.8 |
| | 0°52.9 | 1°05.6 | 1°18.3 | 1°30.9 | 1°43.5 | 1°56.1 | 2°08.7 | 2°21.3 | 2°33.8 | 2°46.3 | 2°58.7 | +12.6 | 58.0 |
| Lu 27 | 318°50.1 | 333°21.5 | 347°52.9 | 2°24.3 | 16°55.7 | 31°27.2 | 45°58.7 | 60°30.2 | 75°01.7 | 89°33.2 | 104°04.8 | +31.5 | 15.6 |
| | 6°01.0 | 6°12.8 | 6°24.6 | 6°36.3 | 6°48.0 | 6°59.6 | 7°11.2 | 7°22.7 | 7°34.2 | 7°45.6 | 7°56.9 | +11.6 | 57.1 |
| Ma 28 | 321°59.2 | 336°30.9 | 351°02.6 | 5°34.3 | 20°06.0 | 34°37.7 | 49°09.4 | 63°41.1 | 78°12.8 | 92°44.5 | 107°16.2 | +31.7 | 15.3 |
| | 10°40.5 | 10°50.9 | 11°01.3 | 11°11.6 | 11°21.8 | 11°32.0 | 11°42.1 | 11°52.1 | 12°02.0 | 12°11.9 | 12°21.7 | +10.1 | 56.2 |
| Me 29 | 325°11.3 | 339°43.0 | 354°14.6 | 8°46.2 | 23°17.8 | 37°49.4 | 52°21.0 | 66°52.5 | 81°24.1 | 95°55.7 | 110°27.2 | +31.6 | 15.1 |
| | 14°40.4 | 14°49.0 | 14°57.6 | 15°06.1 | 15°14.5 | 15°22.8 | 15°31.1 | 15°39.3 | 15°47.4 | 15°55.4 | 16°03.3 | +8.3 | 55.4 |
| ◐ Je 30 | 328°18.9 | 342°50.2 | 357°21.5 | 11°52.9 | 26°24.2 | 40°55.4 | 55°26.7 | 69°58.0 | 84°29.2 | 99°00.4 | 113°31.7 | +31.3 | 14.9 |
| | 17°52.2 | 17°58.8 | 18°05.3 | 18°11.7 | 18°18.0 | 18°24.2 | 18°30.4 | 18°36.4 | 18°42.4 | 18°48.2 | 18°54.0 | +6.2 | 54.8 |
| Ve 31 | 331°18.1 | 345°49.1 | 0°20.1 | 14°51.1 | 29°22.0 | 43°52.9 | 58°23.9 | 72°54.8 | 87°25.7 | 101°56.6 | 116°27.4 | +30.9 | 14.8 |
| | 20°09.5 | 20°13.8 | 20°18.0 | 20°22.1 | 20°26.1 | 20°30.0 | 20°33.8 | 20°37.5 | 20°41.1 | 20°44.6 | 20°48.0 | +3.9 | 54.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 8 18h25 — DQ: 16 12h47 — NL: 23 04h31 — PQ: 30 07h43

# SOLEIL

## Février 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 266°37.7 | 281°37.6 | 296°37.5 | 311°37.4 | 326°37.4 | 341°37.3 | 356°37.2 | 11°37.1 | 26°37.0 | 41°36.9 | 56°36.9 | 71°36.8 | -0.1 |
| | -17°08.6 | -17°07.9 | -17°07.2 | -17°06.5 | -17°05.7 | -17°05.0 | -17°04.3 | -17°03.6 | -17°02.9 | -17°02.2 | -17°01.5 | -17°00.8 | +0.7 |
| Di 2 | 266°35.7 | 281°35.7 | 296°35.6 | 311°35.5 | 326°35.4 | 341°35.4 | 356°35.3 | 11°35.2 | 26°35.1 | 41°35.1 | 56°35.0 | 71°34.9 | -0.1 |
| | -16°51.4 | -16°50.7 | -16°50.0 | -16°49.3 | -16°48.5 | -16°47.8 | -16°47.1 | -16°46.4 | -16°45.6 | -16°44.9 | -16°44.2 | -16°43.5 | +0.7 |
| Lu 3 | 266°34.0 | 281°33.9 | 296°33.9 | 311°33.8 | 326°33.7 | 341°33.7 | 356°33.6 | 11°33.5 | 26°33.5 | 41°33.4 | 56°33.3 | 71°33.3 | -0.1 |
| | -16°34.0 | -16°33.2 | -16°32.5 | -16°31.8 | -16°31.0 | -16°30.3 | -16°29.5 | -16°28.8 | -16°28.1 | -16°27.3 | -16°26.6 | -16°25.9 | +0.7 |
| Ma 4 | 266°32.5 | 281°32.4 | 296°32.3 | 311°32.3 | 326°32.2 | 341°32.2 | 356°32.1 | 11°32.0 | 26°32.0 | 41°31.9 | 56°31.9 | 71°31.8 | -0.1 |
| | -16°16.2 | -16°15.5 | -16°14.7 | -16°14.0 | -16°13.2 | -16°12.5 | -16°11.7 | -16°11.0 | -16°10.2 | -16°09.5 | -16°08.7 | -16°08.0 | +0.7 |
| Me 5 | 266°31.1 | 281°31.1 | 296°31.0 | 311°31.0 | 326°30.9 | 341°30.9 | 356°30.8 | 11°30.8 | 26°30.7 | 41°30.7 | 56°30.6 | 71°30.6 | -0.0 |
| | -15°58.2 | -15°57.4 | -15°56.7 | -15°55.9 | -15°55.2 | -15°54.4 | -15°53.6 | -15°52.9 | -15°52.1 | -15°51.4 | -15°50.6 | -15°49.8 | +0.8 |
| Je 6 | 266°30.0 | 281°29.9 | 296°29.9 | 311°29.9 | 326°29.8 | 341°29.8 | 356°29.7 | 11°29.7 | 26°29.7 | 41°29.6 | 56°29.6 | 71°29.5 | -0.0 |
| | -15°39.9 | -15°39.1 | -15°38.3 | -15°37.6 | -15°36.8 | -15°36.0 | -15°35.3 | -15°34.5 | -15°33.7 | -15°33.0 | -15°32.2 | -15°31.4 | +0.8 |
| Ve 7 | 266°29.1 | 281°29.0 | 296°29.0 | 311°29.0 | 326°28.9 | 341°28.9 | 356°28.9 | 11°28.8 | 26°28.8 | 41°28.8 | 56°28.7 | 71°28.7 | -0.0 |
| | -15°21.3 | -15°20.5 | -15°19.8 | -15°19.0 | -15°18.2 | -15°17.4 | -15°16.6 | -15°15.9 | -15°15.1 | -15°14.3 | -15°13.5 | -15°12.7 | +0.8 |
| Sa 8 | 266°28.3 | 281°28.3 | 296°28.3 | 311°28.2 | 326°28.2 | 341°28.2 | 356°28.2 | 11°28.1 | 26°28.1 | 41°28.1 | 56°28.1 | 71°28.1 | -0.0 |
| | -15°02.5 | -15°01.7 | -15°00.9 | -15°00.1 | -14°59.3 | -14°58.5 | -14°57.7 | -14°57.0 | -14°56.2 | -14°55.4 | -14°54.6 | -14°53.8 | +0.8 |
| Di 9 | 266°27.8 | 281°27.8 | 296°27.8 | 311°27.7 | 326°27.7 | 341°27.7 | 356°27.7 | 11°27.7 | 26°27.7 | 41°27.6 | 56°27.6 | 71°27.6 | -0.0 |
| | -14°43.4 | -14°42.6 | -14°41.8 | -14°41.0 | -14°40.2 | -14°39.4 | -14°38.6 | -14°37.8 | -14°37.0 | -14°36.2 | -14°35.4 | -14°34.6 | +0.8 |
| Lu 10 | 266°27.5 | 281°27.4 | 296°27.4 | 311°27.4 | 326°27.4 | 341°27.4 | 356°27.4 | 11°27.4 | 26°27.4 | 41°27.4 | 56°27.4 | 71°27.4 | -0.0 |
| | -14°24.1 | -14°23.3 | -14°22.5 | -14°21.6 | -14°20.8 | -14°20.0 | -14°19.2 | -14°18.4 | -14°17.6 | -14°16.8 | -14°15.9 | -14°15.1 | +0.8 |
| Ma 11 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.3 | 26°27.3 | 41°27.3 | 56°27.3 | 71°27.3 | -0.0 |
| | -14°04.5 | -14°03.7 | -14°02.9 | -14°02.0 | -14°01.2 | -14°00.4 | -13°59.6 | -13°58.7 | -13°57.9 | -13°57.1 | -13°56.3 | -13°55.5 | +0.8 |
| Me 12 | 266°27.3 | 281°27.4 | 296°27.4 | 311°27.4 | 326°27.4 | 341°27.4 | 356°27.4 | 11°27.4 | 26°27.4 | 41°27.4 | 56°27.4 | 71°27.4 | +0.0 |
| | -13°44.7 | -13°43.9 | -13°43.0 | -13°42.2 | -13°41.4 | -13°40.5 | -13°39.7 | -13°38.9 | -13°38.0 | -13°37.2 | -13°36.4 | -13°35.5 | +0.8 |
| Je 13 | 266°27.6 | 281°27.6 | 296°27.6 | 311°27.6 | 326°27.6 | 341°27.6 | 356°27.7 | 11°27.7 | 26°27.7 | 41°27.7 | 56°27.7 | 71°27.7 | +0.0 |
| | -13°24.7 | -13°23.8 | -13°23.0 | -13°22.1 | -13°21.3 | -13°20.5 | -13°19.6 | -13°18.8 | -13°17.9 | -13°17.1 | -13°16.2 | -13°15.4 | +0.8 |
| Ve 14 | 266°28.0 | 281°28.0 | 296°28.0 | 311°28.0 | 326°28.1 | 341°28.1 | 356°28.1 | 11°28.1 | 26°28.2 | 41°28.2 | 56°28.2 | 71°28.2 | +0.0 |
| | -13°04.4 | -13°03.6 | -13°02.7 | -13°01.9 | -13°01.0 | -13°00.2 | -12°59.3 | -12°58.5 | -12°57.6 | -12°56.7 | -12°55.9 | -12°55.0 | +0.9 |
| Sa 15 | 266°28.6 | 281°28.6 | 296°28.6 | 311°28.7 | 326°28.7 | 341°28.7 | 356°28.7 | 11°28.8 | 26°28.8 | 41°28.8 | 56°28.9 | 71°28.9 | +0.0 |
| | -12°43.9 | -12°43.1 | -12°42.2 | -12°41.4 | -12°40.5 | -12°39.6 | -12°38.8 | -12°37.9 | -12°37.1 | -12°36.2 | -12°35.3 | -12°34.5 | +0.9 |
| Di 16 | 266°29.3 | 281°29.4 | 296°29.4 | 311°29.4 | 326°29.5 | 341°29.5 | 356°29.6 | 11°29.6 | 26°29.6 | 41°29.7 | 56°29.7 | 71°29.7 | +0.0 |
| | -12°23.2 | -12°22.4 | -12°21.5 | -12°20.6 | -12°19.8 | -12°18.9 | -12°18.0 | -12°17.2 | -12°16.3 | -12°15.4 | -12°14.6 | -12°13.7 | +0.9 |
| Lu 17 | 266°30.3 | 281°30.3 | 296°30.4 | 311°30.4 | 326°30.4 | 341°30.5 | 356°30.5 | 11°30.6 | 26°30.6 | 41°30.7 | 56°30.7 | 71°30.8 | +0.0 |
| | -12°02.4 | -12°01.5 | -12°00.6 | -11°59.7 | -11°58.9 | -11°58.0 | -11°57.1 | -11°56.2 | -11°55.4 | -11°54.5 | -11°53.6 | -11°52.7 | +0.9 |
| Ma 18 | 266°31.4 | 281°31.4 | 296°31.5 | 311°31.5 | 326°31.6 | 341°31.6 | 356°31.7 | 11°31.7 | 26°31.8 | 41°31.8 | 56°31.9 | 71°31.9 | +0.1 |
| | -11°41.3 | -11°40.4 | -11°39.5 | -11°38.6 | -11°37.8 | -11°36.9 | -11°36.0 | -11°35.1 | -11°34.2 | -11°33.3 | -11°32.5 | -11°31.6 | +0.9 |
| Me 19 | 266°32.7 | 281°32.7 | 296°32.8 | 311°32.8 | 326°32.9 | 341°32.9 | 356°33.0 | 11°33.1 | 26°33.1 | 41°33.2 | 56°33.2 | 71°33.3 | +0.1 |
| | -11°20.0 | -11°19.1 | -11°18.3 | -11°17.4 | -11°16.5 | -11°15.6 | -11°14.7 | -11°13.8 | -11°12.9 | -11°12.0 | -11°11.1 | -11°10.2 | +0.9 |
| Je 20 | 266°34.1 | 281°34.2 | 296°34.2 | 311°34.3 | 326°34.4 | 341°34.4 | 356°34.5 | 11°34.6 | 26°34.6 | 41°34.7 | 56°34.8 | 71°34.8 | +0.1 |
| | -10°58.6 | -10°57.7 | -10°56.8 | -10°55.9 | -10°55.0 | -10°54.1 | -10°53.2 | -10°52.3 | -10°51.4 | -10°50.5 | -10°49.6 | -10°48.7 | +0.9 |
| Ve 21 | 266°35.7 | 281°35.8 | 296°35.8 | 311°35.9 | 326°36.0 | 341°36.1 | 356°36.1 | 11°36.2 | 26°36.3 | 41°36.4 | 56°36.4 | 71°36.5 | +0.1 |
| | -10°37.0 | -10°36.1 | -10°35.2 | -10°34.3 | -10°33.4 | -10°32.5 | -10°31.6 | -10°30.7 | -10°29.7 | -10°28.8 | -10°27.9 | -10°27.0 | +0.9 |
| Sa 22 | 266°37.5 | 281°37.5 | 296°37.6 | 311°37.7 | 326°37.8 | 341°37.9 | 356°37.9 | 11°38.0 | 26°38.1 | 41°38.2 | 56°38.3 | 71°38.3 | +0.1 |
| | -10°15.2 | -10°14.3 | -10°13.4 | -10°12.5 | -10°11.6 | -10°10.7 | -10°09.7 | -10°08.8 | -10°07.9 | -10°07.0 | -10°06.1 | -10°05.2 | +0.9 |
| Di 23 | 266°39.4 | 281°39.5 | 296°39.6 | 311°39.6 | 326°39.7 | 341°39.8 | 356°39.9 | 11°40.0 | 26°40.1 | 41°40.2 | 56°40.2 | 71°40.3 | +0.1 |
| | -9°53.3 | -9°52.4 | -9°51.5 | -9°50.5 | -9°49.6 | -9°48.7 | -9°47.8 | -9°46.9 | -9°45.9 | -9°45.0 | -9°44.1 | -9°43.2 | +0.9 |
| Lu 24 | 266°41.5 | 281°41.6 | 296°41.7 | 311°41.7 | 326°41.8 | 341°41.9 | 356°42.0 | 11°42.1 | 26°42.2 | 41°42.3 | 56°42.4 | 71°42.5 | +0.1 |
| | -9°31.2 | -9°30.3 | -9°29.4 | -9°28.4 | -9°27.5 | -9°26.6 | -9°25.7 | -9°24.7 | -9°23.8 | -9°22.9 | -9°22.0 | -9°21.0 | +0.9 |
| Ma 25 | 266°43.7 | 281°43.8 | 296°43.9 | 311°44.0 | 326°44.1 | 341°44.2 | 356°44.3 | 11°44.4 | 26°44.5 | 41°44.6 | 56°44.7 | 71°44.8 | +0.1 |
| | -9°09.0 | -9°08.1 | -9°07.1 | -9°06.2 | -9°05.3 | -9°04.3 | -9°03.4 | -9°02.5 | -9°01.6 | -9°00.6 | -8°59.7 | -8°58.8 | +0.9 |
| Me 26 | 266°46.1 | 281°46.2 | 296°46.3 | 311°46.4 | 326°46.5 | 341°46.6 | 356°46.7 | 11°46.8 | 26°46.9 | 41°47.0 | 56°47.1 | 71°47.2 | +0.1 |
| | -8°46.6 | -8°45.7 | -8°44.8 | -8°43.8 | -8°42.9 | -8°42.0 | -8°41.0 | -8°40.1 | -8°39.1 | -8°38.2 | -8°37.3 | -8°36.3 | +0.9 |
| Je 27 | 266°48.6 | 281°48.7 | 296°48.8 | 311°48.9 | 326°49.0 | 341°49.1 | 356°49.3 | 11°49.4 | 26°49.5 | 41°49.6 | 56°49.7 | 71°49.8 | +0.1 |
| | -8°24.1 | -8°23.2 | -8°22.3 | -8°21.3 | -8°20.4 | -8°19.4 | -8°18.5 | -8°17.6 | -8°16.6 | -8°15.7 | -8°14.7 | -8°13.8 | +0.9 |
| Ve 28 | 266°51.3 | 281°51.4 | 296°51.5 | 311°51.6 | 326°51.7 | 341°51.8 | 356°52.0 | 11°52.1 | 26°52.2 | 41°52.3 | 56°52.4 | 71°52.5 | +0.1 |
| | -8°01.5 | -8°00.6 | -7°59.6 | -7°58.7 | -7°57.8 | -7°56.8 | -7°55.9 | -7°54.9 | -7°54.0 | -7°53.0 | -7°52.1 | -7°51.1 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2031

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 247°04.8 | 261°35.6 | 276°06.4 | 290°37.1 | 305°07.9 | 319°38.6 | 334°09.4 | 348°40.1 | 3°10.8 | 17°41.5 | 32°12.2 | +30.7 | 14.8 |
| | 21°14.3 | 21°16.7 | 21°19.1 | 21°21.3 | 21°23.4 | 21°25.5 | 21°27.4 | 21°29.2 | 21°31.0 | 21°32.6 | 21°34.1 | +2.0 | 54.1 |
| Di 2 | 249°52.5 | 264°23.1 | 278°53.8 | 293°24.5 | 307°55.1 | 322°25.8 | 336°56.5 | 351°27.2 | 5°57.9 | 20°28.6 | 34°59.2 | +30.7 | 14.7 |
| | 21°45.1 | 21°45.0 | 21°44.8 | 21°44.5 | 21°44.1 | 21°43.6 | 21°43.1 | 21°42.4 | 21°41.6 | 21°40.7 | 21°39.7 | -0.5 | 54.0 |
| Lu 3 | 252°40.5 | 267°11.3 | 281°42.2 | 296°13.0 | 310°43.9 | 325°14.7 | 339°45.6 | 354°16.5 | 8°47.4 | 23°18.4 | 37°49.3 | +30.9 | 14.7 |
| | 21°12.9 | 21°10.3 | 21°07.7 | 21°04.9 | 21°02.0 | 20°59.0 | 20°56.0 | 20°52.8 | 20°49.5 | 20°46.2 | 20°42.7 | -3.0 | 54.1 |
| Ma 4 | 255°35.4 | 270°06.7 | 284°37.9 | 299°09.2 | 313°40.5 | 328°11.8 | 342°43.1 | 357°14.4 | 11°45.8 | 26°17.2 | 40°48.6 | +31.3 | 14.8 |
| | 19°39.5 | 19°34.5 | 19°29.5 | 19°24.3 | 19°19.1 | 19°13.8 | 19°08.3 | 19°02.8 | 18°57.2 | 18°51.6 | 18°45.8 | -5.4 | 54.2 |
| Me 5 | 258°42.4 | 273°14.2 | 287°46.0 | 302°17.8 | 316°49.6 | 331°21.5 | 345°53.4 | 0°25.3 | 14°57.2 | 29°29.2 | 44°01.2 | +31.9 | 14.9 |
| | 17°09.0 | 17°01.9 | 16°54.7 | 16°47.4 | 16°40.1 | 16°32.7 | 16°25.1 | 16°17.6 | 16°09.9 | 16°02.2 | 15°54.3 | -7.5 | 54.5 |
| Je 6 | 262°03.5 | 276°35.8 | 291°08.2 | 305°40.5 | 320°12.9 | 334°45.3 | 349°17.8 | 3°50.2 | 18°22.7 | 32°55.2 | 47°27.7 | +32.4 | 15.0 |
| | 13°48.4 | 13°39.5 | 13°30.5 | 13°21.4 | 13°12.3 | 13°03.1 | 12°53.8 | 12°44.5 | 12°35.1 | 12°25.6 | 12°16.1 | -9.2 | 54.9 |
| ○ Ve 7 | 265°37.1 | 280°09.9 | 294°42.6 | 309°15.4 | 323°48.2 | 338°20.9 | 352°53.7 | 7°26.5 | 21°59.4 | 36°32.2 | 51°05.0 | +32.8 | 15.1 |
| | 9°46.7 | 9°36.3 | 9°25.9 | 9°15.4 | 9°04.9 | 8°54.3 | 8°43.7 | 8°33.0 | 8°22.3 | 8°11.6 | 8°00.8 | -10.6 | 55.3 |
| Sa 8 | 269°18.1 | 283°51.0 | 298°23.8 | 312°56.7 | 327°29.6 | 342°02.5 | 356°35.3 | 11°08.2 | 25°41.1 | 40°13.9 | 54°46.8 | +32.9 | 15.2 |
| | 5°14.4 | 5°03.0 | 4°51.6 | 4°40.2 | 4°28.8 | 4°17.3 | 4°05.8 | 3°54.3 | 3°42.7 | 3°31.1 | 3°19.5 | -11.5 | 55.8 |
| Di 9 | 272°58.2 | 287°30.8 | 302°03.5 | 316°36.1 | 331°08.7 | 345°41.2 | 0°13.8 | 14°46.3 | 29°18.8 | 43°51.3 | 58°23.7 | +32.6 | 15.3 |
| | 0°23.5 | 0°11.6 | -0°00.2 | -0°12.1 | -0°24.0 | -0°35.8 | -0°47.7 | -0°59.6 | -1°11.5 | -1°23.3 | -1°35.2 | -11.9 | 56.3 |
| Lu 10 | 276°27.1 | 290°59.0 | 305°30.9 | 320°02.8 | 334°34.7 | 349°06.5 | 3°38.2 | 18°10.0 | 32°41.6 | 47°13.3 | 61°44.9 | +31.8 | 15.5 |
| | -4°33.0 | -4°44.7 | -4°56.5 | -5°08.2 | -5°19.9 | -5°31.6 | -5°43.3 | -5°55.0 | -6°06.6 | -6°18.3 | -6°29.9 | -11.7 | 56.8 |
| Ma 11 | 279°33.1 | 294°03.9 | 308°34.7 | 323°05.3 | 337°36.0 | 352°06.6 | 6°37.1 | 21°07.5 | 35°37.9 | 50°08.3 | 64°38.6 | +30.5 | 15.6 |
| | -9°20.4 | -9°31.5 | -9°42.6 | -9°53.6 | -10°04.6 | -10°15.5 | -10°26.4 | -10°37.2 | -10°48.0 | -10°58.7 | -11°09.4 | -10.9 | 57.3 |
| Me 12 | 282°05.1 | 296°34.3 | 311°03.5 | 325°32.6 | 340°01.6 | 354°30.5 | 8°59.4 | 23°28.2 | 37°57.0 | 52°25.6 | 66°54.2 | +28.9 | 15.8 |
| | -13°43.1 | -13°52.9 | -14°02.6 | -14°12.2 | -14°21.7 | -14°31.2 | -14°40.6 | -14°49.9 | -14°59.2 | -15°08.3 | -15°17.4 | -9.4 | 57.8 |
| Je 13 | 296°34.3 | 311°03.5 | 325°32.6 | 340°01.6 | 354°30.5 | 8°59.4 | 23°28.2 | 37°57.0 | 52°25.6 | 66°54.2 | 81°22.7 | +28.8 | 15.8 |
| | -13°52.9 | -14°02.6 | -14°12.2 | -14°21.7 | -14°31.2 | -14°40.6 | -14°49.9 | -14°59.2 | -15°08.3 | -15°17.4 | -15°26.4 | -9.4 | 57.9 |
| ◑ Ve 14 | 298°21.7 | 312°49.0 | 327°16.3 | 341°43.5 | 356°10.6 | 10°37.6 | 25°04.6 | 39°31.5 | 53°58.3 | 68°25.0 | 82°51.7 | +27.0 | 15.9 |
| | -17°31.4 | -17°39.0 | -17°46.5 | -17°53.9 | -18°01.2 | -18°08.4 | -18°15.5 | -18°22.4 | -18°29.3 | -18°36.1 | -18°42.8 | -7.1 | 58.4 |
| Sa 15 | 299°23.3 | 313°48.9 | 328°14.4 | 342°39.8 | 357°05.2 | 11°30.5 | 25°55.8 | 40°21.0 | 54°46.1 | 69°11.2 | 83°36.2 | +25.3 | 16.1 |
| | -20°09.1 | -20°13.9 | -20°18.6 | -20°23.1 | -20°27.5 | -20°31.8 | -20°36.0 | -20°40.0 | -20°43.9 | -20°47.7 | -20°51.3 | -4.2 | 58.9 |
| Di 16 | 299°45.6 | 314°09.9 | 328°34.1 | 342°58.3 | 357°22.5 | 11°46.6 | 26°10.7 | 40°34.8 | 54°58.9 | 69°22.9 | 83°46.9 | +24.1 | 16.2 |
| | -21°29.5 | -21°30.9 | -21°32.1 | -21°33.3 | -21°34.3 | -21°35.1 | -21°35.8 | -21°36.3 | -21°36.7 | -21°37.0 | -21°37.1 | -0.8 | 59.4 |
| Lu 17 | 299°44.8 | 314°08.6 | 328°32.4 | 342°56.2 | 357°20.0 | 11°43.9 | 26°07.7 | 40°31.5 | 54°55.3 | 69°19.2 | 83°43.1 | +23.8 | 16.3 |
| | -21°20.9 | -21°18.7 | -21°16.3 | -21°13.7 | -21°11.0 | -21°08.1 | -21°05.1 | -21°02.0 | -20°58.7 | -20°55.2 | -20°51.7 | +2.9 | 59.8 |
| Ma 18 | 299°43.5 | 314°07.8 | 328°32.1 | 342°56.4 | 357°20.8 | 11°45.2 | 26°09.6 | 40°34.1 | 54°58.7 | 69°23.2 | 83°47.9 | +24.4 | 16.4 |
| | -19°40.6 | -19°34.8 | -19°28.8 | -19°22.7 | -19°16.4 | -19°10.0 | -19°03.5 | -18°56.9 | -18°50.1 | -18°43.2 | -18°36.2 | +6.5 | 60.0 |
| Me 19 | 300°03.1 | 314°28.6 | 328°54.1 | 343°19.6 | 357°45.3 | 12°10.9 | 26°36.7 | 41°02.5 | 55°28.3 | 69°54.2 | 84°20.2 | +25.7 | 16.4 |
| | -16°36.0 | -16°27.1 | -16°18.1 | -16°08.9 | -15°59.7 | -15°50.3 | -15°40.9 | -15°31.3 | -15°21.7 | -15°11.9 | -15°02.1 | +9.4 | 60.0 |
| Je 20 | 300°57.3 | 315°24.3 | 329°51.3 | 344°18.4 | 358°45.6 | 13°12.8 | 27°40.1 | 42°07.4 | 56°34.9 | 71°02.3 | 85°29.9 | +27.3 | 16.3 |
| | -12°23.8 | -12°12.6 | -12°01.4 | -11°50.0 | -11°38.6 | -11°27.2 | -11°15.6 | -11°04.0 | -10°52.4 | -10°40.7 | -10°28.9 | +11.5 | 59.8 |
| ● Ve 21 | 302°29.9 | 316°58.4 | 331°26.9 | 345°55.5 | 0°24.1 | 14°52.8 | 29°21.5 | 43°50.3 | 58°19.1 | 72°48.0 | 87°16.9 | +28.7 | 16.2 |
| | -7°26.2 | -7°13.7 | -7°01.2 | -6°48.6 | -6°36.0 | -6°23.4 | -6°10.7 | -5°58.0 | -5°45.3 | -5°32.6 | -5°19.9 | +12.6 | 59.4 |
| Sa 22 | 304°36.6 | 319°06.3 | 333°36.0 | 348°05.8 | 2°35.5 | 17°05.4 | 31°35.2 | 46°05.1 | 60°35.0 | 75°05.0 | 89°35.0 | +29.8 | 16.0 |
| | -2°07.1 | -1°54.2 | -1°41.3 | -1°28.4 | -1°15.5 | -1°02.6 | -0°49.8 | -0°36.9 | -0°24.1 | -0°11.2 | 0°01.6 | +12.9 | 58.7 |
| Di 23 | 307°08.8 | 321°39.2 | 336°09.7 | 350°40.3 | 5°10.8 | 19°41.4 | 34°11.9 | 48°42.6 | 63°13.2 | 77°43.8 | 92°14.5 | +30.6 | 15.8 |
| | 3°11.5 | 3°24.0 | 3°36.4 | 3°48.8 | 4°01.2 | 4°13.5 | 4°25.7 | 4°38.0 | 4°50.2 | 5°02.3 | 5°14.5 | +12.3 | 57.9 |
| Lu 24 | 309°56.3 | 324°27.2 | 338°58.1 | 353°29.0 | 7°59.9 | 22°30.8 | 37°01.7 | 51°32.7 | 66°03.6 | 80°34.5 | 95°05.5 | +30.9 | 15.6 |
| | 8°10.7 | 8°22.1 | 8°33.3 | 8°44.6 | 8°55.7 | 9°06.8 | 9°17.9 | 9°28.9 | 9°39.8 | 9°50.7 | 10°01.5 | +11.1 | 57.1 |
| Ma 25 | 312°50.1 | 327°21.1 | 341°52.0 | 356°23.0 | 10°54.0 | 25°25.0 | 39°55.9 | 54°26.9 | 68°57.8 | 83°28.8 | 97°59.8 | +31.0 | 15.3 |
| | 12°35.5 | 12°45.2 | 12°54.8 | 13°04.3 | 13°13.8 | 13°23.2 | 13°32.5 | 13°41.8 | 13°51.0 | 14°00.1 | 14°09.1 | +9.4 | 56.3 |
| Me 26 | 315°43.5 | 330°14.3 | 344°45.2 | 359°16.0 | 13°46.9 | 28°17.7 | 42°48.5 | 57°19.4 | 71°50.2 | 86°21.0 | 100°51.8 | +30.8 | 15.1 |
| | 16°14.4 | 16°22.1 | 16°29.7 | 16°37.2 | 16°44.6 | 16°52.0 | 16°59.2 | 17°06.4 | 17°13.4 | 17°20.4 | 17°27.3 | +7.3 | 55.5 |
| Je 27 | 318°32.9 | 333°03.5 | 347°34.2 | 2°04.9 | 16°35.5 | 31°06.2 | 45°36.8 | 60°07.5 | 74°38.1 | 89°08.7 | 103°39.4 | +30.7 | 15.0 |
| | 18°59.5 | 19°04.9 | 19°10.2 | 19°15.4 | 19°20.5 | 19°25.5 | 19°30.4 | 19°35.2 | 19°39.9 | 19°44.6 | 19°49.1 | +5.0 | 54.9 |
| Ve 28 | 321°18.2 | 335°48.7 | 350°19.3 | 4°49.9 | 19°20.4 | 33°51.0 | 48°21.5 | 62°52.1 | 77°22.6 | 91°53.2 | 106°23.7 | +30.6 | 14.9 |
| | 20°45.2 | 20°48.1 | 20°50.9 | 20°53.7 | 20°56.3 | 20°58.9 | 21°01.3 | 21°03.7 | 21°05.9 | 21°08.0 | 21°10.1 | +2.5 | 54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 7 12h46 — DQ: 14 22h49 — NL: 21 15h48

# SOLEIL

## Mars 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 266°54.1<br>-7°38.8 | 281°54.2<br>-7°37.9 | 296°54.3<br>-7°36.9 | 311°54.4<br>-7°36.0 | 326°54.5<br>-7°35.0 | 341°54.7<br>-7°34.1 | 356°54.8<br>-7°33.1 | 11°54.9<br>-7°32.2 | 26°55.0<br>-7°31.2 | 41°55.1<br>-7°30.3 | 56°55.3<br>-7°29.3 | 71°55.4<br>-7°28.4 | +0.1<br>+1.0 |
| Di 2 | 266°57.0<br>-7°16.0 | 281°57.1<br>-7°15.0 | 296°57.2<br>-7°14.1 | 311°57.4<br>-7°13.1 | 326°57.5<br>-7°12.2 | 341°57.6<br>-7°11.2 | 356°57.7<br>-7°10.3 | 11°57.9<br>-7°09.3 | 26°58.0<br>-7°08.3 | 41°58.1<br>-7°07.4 | 56°58.3<br>-7°06.4 | 71°58.4<br>-7°05.5 | +0.1<br>+1.0 |
| Lu 3 | 267°00.1<br>-6°53.0 | 282°00.2<br>-6°52.1 | 297°00.3<br>-6°51.1 | 312°00.4<br>-6°50.2 | 327°00.6<br>-6°49.2 | 342°00.7<br>-6°48.3 | 357°00.8<br>-6°47.3 | 12°01.0<br>-6°46.3 | 27°01.1<br>-6°45.4 | 42°01.2<br>-6°44.4 | 57°01.4<br>-6°43.5 | 72°01.5<br>-6°42.5 | +0.1<br>+1.0 |
| Ma 4 | 267°03.2<br>-6°30.0 | 282°03.4<br>-6°29.1 | 297°03.5<br>-6°28.1 | 312°03.6<br>-6°27.1 | 327°03.8<br>-6°26.2 | 342°03.9<br>-6°25.2 | 357°04.0<br>-6°24.2 | 12°04.2<br>-6°23.3 | 27°04.3<br>-6°22.3 | 42°04.5<br>-6°21.4 | 57°04.6<br>-6°20.4 | 72°04.7<br>-6°19.4 | +0.1<br>+1.0 |
| Me 5 | 267°06.5<br>-6°06.9 | 282°06.7<br>-6°05.9 | 297°06.8<br>-6°05.0 | 312°06.9<br>-6°04.0 | 327°07.1<br>-6°03.0 | 342°07.2<br>-6°02.1 | 357°07.4<br>-6°01.1 | 12°07.5<br>-6°00.1 | 27°07.7<br>-5°59.2 | 42°07.8<br>-5°58.2 | 57°07.9<br>-5°57.2 | 72°08.1<br>-5°56.3 | +0.1<br>+1.0 |
| Je 6 | 267°09.9<br>-5°43.7 | 282°10.1<br>-5°42.7 | 297°10.2<br>-5°41.8 | 312°10.4<br>-5°40.8 | 327°10.5<br>-5°39.8 | 342°10.7<br>-5°38.8 | 357°10.8<br>-5°37.9 | 12°11.0<br>-5°36.9 | 27°11.1<br>-5°35.9 | 42°11.2<br>-5°35.0 | 57°11.4<br>-5°34.0 | 72°11.5<br>-5°33.0 | +0.1<br>+1.0 |
| Ve 7 | 267°13.5<br>-5°20.4 | 282°13.6<br>-5°19.4 | 297°13.8<br>-5°18.5 | 312°13.9<br>-5°17.5 | 327°14.0<br>-5°16.5 | 342°14.2<br>-5°15.6 | 357°14.3<br>-5°14.6 | 12°14.5<br>-5°13.6 | 27°14.6<br>-5°12.6 | 42°14.8<br>-5°11.7 | 57°14.9<br>-5°10.7 | 72°15.1<br>-5°09.7 | +0.1<br>+1.0 |
| Sa 8 | 267°17.1<br>-4°57.1 | 282°17.2<br>-4°56.1 | 297°17.4<br>-4°55.1 | 312°17.5<br>-4°54.1 | 327°17.7<br>-4°53.2 | 342°17.8<br>-4°52.2 | 357°18.0<br>-4°51.2 | 12°18.1<br>-4°50.2 | 27°18.3<br>-4°49.3 | 42°18.5<br>-4°48.3 | 57°18.6<br>-4°47.3 | 72°18.8<br>-4°46.3 | +0.2<br>+1.0 |
| Di 9 | 267°20.8<br>-4°33.6 | 282°20.9<br>-4°32.7 | 297°21.1<br>-4°31.7 | 312°21.3<br>-4°30.7 | 327°21.4<br>-4°29.7 | 342°21.6<br>-4°28.8 | 357°21.7<br>-4°27.8 | 12°21.9<br>-4°26.8 | 27°22.0<br>-4°25.8 | 42°22.2<br>-4°24.9 | 57°22.4<br>-4°23.9 | 72°22.5<br>-4°22.9 | +0.2<br>+1.0 |
| Lu 10 | 267°24.6<br>-4°10.2 | 282°24.7<br>-4°09.2 | 297°24.9<br>-4°08.2 | 312°25.1<br>-4°07.2 | 327°25.2<br>-4°06.3 | 342°25.4<br>-4°05.3 | 357°25.5<br>-4°04.3 | 12°25.7<br>-4°03.3 | 27°25.9<br>-4°02.3 | 42°26.0<br>-4°01.4 | 57°26.2<br>-4°00.4 | 72°26.4<br>-3°59.4 | +0.2<br>+1.0 |
| Ma 11 | 267°28.5<br>-3°46.6 | 282°28.6<br>-3°45.7 | 297°28.8<br>-3°44.7 | 312°29.0<br>-3°43.7 | 327°29.1<br>-3°42.7 | 342°29.3<br>-3°41.7 | 357°29.5<br>-3°40.8 | 12°29.6<br>-3°39.8 | 27°29.8<br>-3°38.8 | 42°29.9<br>-3°37.8 | 57°30.1<br>-3°36.8 | 72°30.3<br>-3°35.8 | +0.2<br>+1.0 |
| Me 12 | 267°32.4<br>-3°23.1 | 282°32.6<br>-3°22.1 | 297°32.8<br>-3°21.1 | 312°32.9<br>-3°20.1 | 327°33.1<br>-3°19.1 | 342°33.3<br>-3°18.2 | 357°33.4<br>-3°17.2 | 12°33.6<br>-3°16.2 | 27°33.8<br>-3°15.2 | 42°33.9<br>-3°14.2 | 57°34.1<br>-3°13.2 | 72°34.3<br>-3°12.3 | +0.2<br>+1.0 |
| Je 13 | 267°36.5<br>-2°59.5 | 282°36.6<br>-2°58.5 | 297°36.8<br>-2°57.5 | 312°37.0<br>-2°56.5 | 327°37.1<br>-2°55.5 | 342°37.3<br>-2°54.5 | 357°37.5<br>-2°53.5 | 12°37.7<br>-2°52.6 | 27°37.8<br>-2°51.6 | 42°38.0<br>-2°50.6 | 57°38.2<br>-2°49.6 | 72°38.3<br>-2°48.6 | +0.2<br>+1.0 |
| Ve 14 | 267°40.6<br>-2°35.8 | 282°40.7<br>-2°34.8 | 297°40.9<br>-2°33.8 | 312°41.1<br>-2°32.8 | 327°41.3<br>-2°31.9 | 342°41.4<br>-2°30.9 | 357°41.6<br>-2°29.9 | 12°41.8<br>-2°28.9 | 27°41.9<br>-2°27.9 | 42°42.1<br>-2°26.9 | 57°42.3<br>-2°25.9 | 72°42.5<br>-2°25.0 | +0.2<br>+1.0 |
| Sa 15 | 267°44.7<br>-2°12.1 | 282°44.9<br>-2°11.1 | 297°45.1<br>-2°10.2 | 312°45.2<br>-2°09.2 | 327°45.4<br>-2°08.2 | 342°45.6<br>-2°07.2 | 357°45.8<br>-2°06.2 | 12°45.9<br>-2°05.2 | 27°46.1<br>-2°04.2 | 42°46.3<br>-2°03.2 | 57°46.5<br>-2°02.3 | 72°46.6<br>-2°01.3 | +0.2<br>+1.0 |
| Di 16 | 267°48.9<br>-1°48.4 | 282°49.1<br>-1°47.4 | 297°49.3<br>-1°46.4 | 312°49.5<br>-1°45.5 | 327°49.6<br>-1°44.5 | 342°49.8<br>-1°43.5 | 357°50.0<br>-1°42.5 | 12°50.2<br>-1°41.5 | 27°50.4<br>-1°40.5 | 42°50.5<br>-1°39.5 | 57°50.7<br>-1°38.5 | 72°50.9<br>-1°37.6 | +0.2<br>+1.0 |
| Lu 17 | 267°53.2<br>-1°24.7 | 282°53.4<br>-1°23.7 | 297°53.6<br>-1°22.7 | 312°53.7<br>-1°21.7 | 327°53.9<br>-1°20.7 | 342°54.1<br>-1°19.8 | 357°54.3<br>-1°18.8 | 12°54.4<br>-1°17.8 | 27°54.6<br>-1°16.8 | 42°54.8<br>-1°15.8 | 57°55.0<br>-1°14.8 | 72°55.2<br>-1°13.8 | +0.2<br>+1.0 |
| Ma 18 | 267°57.5<br>-1°01.0 | 282°57.7<br>-1°00.0 | 297°57.9<br>-0°59.0 | 312°58.0<br>-0°58.0 | 327°58.2<br>-0°57.0 | 342°58.4<br>-0°56.0 | 357°58.6<br>-0°55.0 | 12°58.8<br>-0°54.1 | 27°58.9<br>-0°53.1 | 42°59.1<br>-0°52.1 | 57°59.3<br>-0°51.1 | 72°59.5<br>-0°50.1 | +0.2<br>+1.0 |
| Me 19 | 268°01.9<br>-0°37.2 | 283°02.0<br>-0°36.3 | 298°02.2<br>-0°35.3 | 313°02.4<br>-0°34.3 | 328°02.6<br>-0°33.3 | 343°02.8<br>-0°32.3 | 358°02.9<br>-0°31.3 | 13°03.1<br>-0°30.3 | 28°03.3<br>-0°29.3 | 43°03.5<br>-0°28.3 | 58°03.7<br>-0°27.4 | 73°03.9<br>-0°26.4 | +0.2<br>+1.0 |
| Je 20 | 268°06.2<br>-0°13.5 | 283°06.4<br>-0°12.5 | 298°06.6<br>-0°11.5 | 313°06.8<br>-0°10.5 | 328°07.0<br>-0°09.6 | 343°07.1<br>-0°08.6 | 358°07.3<br>-0°07.6 | 13°07.5<br>-0°06.6 | 28°07.7<br>-0°05.6 | 43°07.9<br>-0°04.6 | 58°08.1<br>-0°03.6 | 73°08.3<br>-0°02.6 | +0.2<br>+1.0 |
| Ve 21 | 268°10.6<br>0°10.2 | 283°10.8<br>0°11.2 | 298°11.0<br>0°12.2 | 313°11.2<br>0°13.2 | 328°11.4<br>0°14.2 | 343°11.6<br>0°15.2 | 358°11.8<br>0°16.1 | 13°11.9<br>0°17.1 | 28°12.1<br>0°18.1 | 43°12.3<br>0°19.1 | 58°12.5<br>0°20.1 | 73°12.7<br>0°21.1 | +0.2<br>+1.0 |
| Sa 22 | 268°15.1<br>0°33.9 | 283°15.3<br>0°34.9 | 298°15.5<br>0°35.9 | 313°15.6<br>0°36.9 | 328°15.8<br>0°37.9 | 343°16.0<br>0°38.9 | 358°16.2<br>0°39.8 | 13°16.4<br>0°40.8 | 28°16.6<br>0°41.8 | 43°16.8<br>0°42.8 | 58°16.9<br>0°43.8 | 73°17.1<br>0°44.8 | +0.2<br>+1.0 |
| Di 23 | 268°19.5<br>0°57.6 | 283°19.7<br>0°58.6 | 298°19.9<br>0°59.6 | 313°20.1<br>1°00.6 | 328°20.3<br>1°01.5 | 343°20.5<br>1°02.5 | 358°20.7<br>1°03.5 | 13°20.8<br>1°04.5 | 28°21.0<br>1°05.5 | 43°21.2<br>1°06.5 | 58°21.4<br>1°07.5 | 73°21.6<br>1°08.4 | +0.2<br>+1.0 |
| Lu 24 | 268°24.0<br>1°21.3 | 283°24.2<br>1°22.2 | 298°24.4<br>1°23.2 | 313°24.6<br>1°24.2 | 328°24.8<br>1°25.2 | 343°25.0<br>1°26.2 | 358°25.1<br>1°27.2 | 13°25.3<br>1°28.1 | 28°25.5<br>1°29.1 | 43°25.7<br>1°30.1 | 58°25.9<br>1°31.1 | 73°26.1<br>1°32.1 | +0.2<br>+1.0 |
| Ma 25 | 268°28.5<br>1°44.9 | 283°28.7<br>1°45.9 | 298°28.9<br>1°46.8 | 313°29.1<br>1°47.8 | 328°29.3<br>1°48.8 | 343°29.4<br>1°49.8 | 358°29.6<br>1°50.8 | 13°29.8<br>1°51.8 | 28°30.0<br>1°52.7 | 43°30.2<br>1°53.7 | 58°30.4<br>1°54.7 | 73°30.6<br>1°55.7 | +0.2<br>+1.0 |
| Me 26 | 268°33.0<br>2°08.5 | 283°33.2<br>2°09.4 | 298°33.4<br>2°10.4 | 313°33.6<br>2°11.4 | 328°33.8<br>2°12.4 | 343°34.0<br>2°13.4 | 358°34.1<br>2°14.3 | 13°34.3<br>2°15.3 | 28°34.5<br>2°16.3 | 43°34.7<br>2°17.3 | 58°34.9<br>2°18.3 | 73°35.1<br>2°19.2 | +0.2<br>+1.0 |
| Je 27 | 268°37.5<br>2°32.0 | 283°37.7<br>2°33.0 | 298°37.9<br>2°33.9 | 313°38.1<br>2°34.9 | 328°38.3<br>2°35.9 | 343°38.5<br>2°36.9 | 358°38.7<br>2°37.9 | 13°38.8<br>2°38.8 | 28°39.0<br>2°39.8 | 43°39.2<br>2°40.8 | 58°39.4<br>2°41.8 | 73°39.6<br>2°42.8 | +0.2<br>+1.0 |
| Ve 28 | 268°42.0<br>2°55.5 | 283°42.2<br>2°56.4 | 298°42.4<br>2°57.4 | 313°42.6<br>2°58.4 | 328°42.8<br>2°59.4 | 343°43.0<br>3°00.3 | 358°43.2<br>3°01.3 | 13°43.3<br>3°02.3 | 28°43.5<br>3°03.3 | 43°43.7<br>3°04.3 | 58°43.9<br>3°05.2 | 73°44.1<br>3°06.2 | +0.2<br>+1.0 |
| Sa 29 | 268°46.5<br>3°18.9 | 283°46.7<br>3°19.9 | 298°46.9<br>3°20.8 | 313°47.1<br>3°21.8 | 328°47.3<br>3°22.8 | 343°47.5<br>3°23.8 | 358°47.7<br>3°24.7 | 13°47.9<br>3°25.7 | 28°48.0<br>3°26.7 | 43°48.2<br>3°27.6 | 58°48.4<br>3°28.6 | 73°48.6<br>3°29.6 | +0.2<br>+1.0 |
| Di 30 | 268°51.0<br>3°42.2 | 283°51.2<br>3°43.2 | 298°51.4<br>3°44.2 | 313°51.6<br>3°45.2 | 328°51.8<br>3°46.1 | 343°52.0<br>3°47.1 | 358°52.2<br>3°48.1 | 13°52.3<br>3°49.0 | 28°52.5<br>3°50.0 | 43°52.7<br>3°51.0 | 58°52.9<br>3°51.9 | 73°53.1<br>3°52.9 | +0.2<br>+1.0 |
| Lu 31 | 268°55.5<br>4°05.5 | 283°55.7<br>4°06.5 | 298°55.9<br>4°07.5 | 313°56.1<br>4°08.4 | 328°56.3<br>4°09.4 | 343°56.5<br>4°10.4 | 358°56.6<br>4°11.3 | 13°56.8<br>4°12.3 | 28°57.0<br>4°13.3 | 43°57.2<br>4°14.2 | 58°57.4<br>4°15.2 | 73°57.6<br>4°16.2 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2031

| | J | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◐ | Sa 1 | 251°29.3 | 265°59.9 | 280°30.5 | 295°01.1 | 309°31.7 | 324°02.3 | 338°32.9 | 353°03.5 | 7°34.1 | 22°04.7 | 36°35.3 | +30.6 | 14.8 |
| | | 21°24.9 | 21°25.9 | 21°26.7 | 21°27.4 | 21°28.1 | 21°28.6 | 21°29.0 | 21°29.3 | 21°29.6 | 21°29.7 | 21°29.7 | +0.5 | 54.2 |
| | Di 2 | 254°15.8 | 268°46.5 | 283°17.3 | 297°48.1 | 312°19.0 | 326°49.8 | 341°20.6 | 355°51.5 | 10°22.4 | 24°53.2 | 39°24.1 | +30.8 | 14.8 |
| | | 21°18.1 | 21°16.5 | 21°14.9 | 21°13.1 | 21°11.2 | 21°09.3 | 21°07.2 | 21°05.0 | 21°02.8 | 21°00.4 | 20°58.0 | -2.0 | 54.1 |
| | Lu 3 | 257°09.5 | 271°40.7 | 286°11.9 | 300°43.1 | 315°14.3 | 329°45.5 | 344°16.8 | 358°48.1 | 13°19.4 | 27°50.7 | 42°22.0 | +31.2 | 14.8 |
| | | 20°09.7 | 20°05.8 | 20°01.7 | 19°57.6 | 19°53.3 | 19°49.0 | 19°44.5 | 19°40.0 | 19°35.4 | 19°30.7 | 19°25.9 | -4.4 | 54.2 |
| | Ma 4 | 260°14.4 | 274°46.0 | 289°17.7 | 303°49.4 | 318°21.1 | 332°52.9 | 347°24.6 | 1°56.4 | 16°28.2 | 31°00.0 | 45°31.8 | +31.7 | 14.8 |
| | | 18°03.4 | 17°57.2 | 17°50.9 | 17°44.6 | 17°38.1 | 17°31.6 | 17°25.0 | 17°18.3 | 17°11.5 | 17°04.7 | 16°57.8 | -6.6 | 54.5 |
| | Me 5 | 263°31.6 | 278°03.7 | 292°35.9 | 307°08.0 | 321°40.2 | 336°12.4 | 350°44.6 | 5°16.9 | 19°49.1 | 34°21.4 | 48°53.6 | +32.2 | 15.0 |
| | | 15°04.5 | 14°56.3 | 14°48.1 | 14°39.8 | 14°31.4 | 14°23.0 | 14°14.5 | 14°05.9 | 13°57.3 | 13°48.6 | 13°39.8 | -8.5 | 54.8 |
| | Je 6 | 266°59.3 | 281°31.8 | 296°04.3 | 310°36.8 | 325°09.3 | 339°41.8 | 354°14.3 | 8°46.8 | 23°19.3 | 37°51.9 | 52°24.4 | +32.5 | 15.1 |
| | | 11°20.4 | 11°10.6 | 11°00.7 | 10°50.8 | 10°40.9 | 10°30.9 | 10°20.8 | 10°10.7 | 10°00.5 | 9°50.3 | 9°40.0 | -10.0 | 55.3 |
| | Ve 7 | 270°32.8 | 285°05.3 | 299°37.9 | 314°10.4 | 328°43.0 | 343°15.5 | 357°48.1 | 12°20.6 | 26°53.1 | 41°25.6 | 55°58.2 | +32.5 | 15.2 |
| | | 7°00.1 | 6°49.1 | 6°38.0 | 6°26.9 | 6°15.8 | 6°04.6 | 5°53.4 | 5°42.2 | 5°30.9 | 5°19.6 | 5°08.3 | -11.2 | 55.9 |
| | Sa 8 | 274°04.5 | 288°36.8 | 303°09.1 | 317°41.3 | 332°13.6 | 346°45.8 | 1°18.0 | 15°50.2 | 30°22.4 | 44°54.5 | 59°26.6 | +32.2 | 15.4 |
| | | 2°14.6 | 2°02.9 | 1°51.1 | 1°39.3 | 1°27.5 | 1°15.6 | 1°03.8 | 0°51.9 | 0°40.0 | 0°28.1 | 0°16.2 | -11.8 | 56.5 |
| ○ | Di 9 | 277°25.2 | 291°56.8 | 306°28.4 | 321°00.0 | 335°31.6 | 350°03.1 | 4°34.6 | 19°06.0 | 33°37.4 | 48°08.7 | 62°40.1 | +31.5 | 15.6 |
| | | -2°43.0 | -2°55.0 | -3°06.9 | -3°18.9 | -3°30.8 | -3°42.8 | -3°54.7 | -4°06.6 | -4°18.5 | -4°30.4 | -4°42.2 | -11.9 | 57.0 |
| | Lu 10 | 280°24.6 | 294°55.2 | 309°25.7 | 323°56.2 | 338°26.7 | 352°57.1 | 7°27.4 | 21°57.7 | 36°27.9 | 50°58.1 | 65°28.2 | +30.4 | 15.7 |
| | | -7°37.9 | -7°49.4 | -8°00.8 | -8°12.3 | -8°23.7 | -8°35.0 | -8°46.4 | -8°57.7 | -9°08.9 | -9°20.1 | -9°31.3 | -11.3 | 57.6 |
| | Ma 11 | 282°53.1 | 297°22.3 | 311°51.5 | 326°20.5 | 340°49.5 | 355°18.4 | 9°47.3 | 24°16.1 | 38°44.9 | 53°13.6 | 67°42.2 | +28.9 | 15.8 |
| | | -12°12.8 | -12°23.2 | -12°33.4 | -12°43.6 | -12°53.8 | -13°03.8 | -13°13.9 | -13°23.8 | -13°33.7 | -13°43.4 | -13°53.2 | -10.0 | 58.0 |
| | Me 12 | 284°43.7 | 299°11.3 | 313°38.8 | 328°06.2 | 342°33.6 | 357°00.9 | 11°28.2 | 25°55.4 | 40°22.5 | 54°49.6 | 69°16.6 | +27.3 | 15.9 |
| | | -16°09.5 | -16°17.9 | -16°26.2 | -16°34.5 | -16°42.6 | -16°50.6 | -16°58.6 | -17°06.4 | -17°14.1 | -17°21.8 | -17°29.3 | -8.0 | 58.4 |
| | Je 13 | 285°54.4 | 300°20.5 | 314°46.5 | 329°12.5 | 343°38.4 | 358°04.2 | 12°30.0 | 26°55.7 | 41°21.4 | 55°47.1 | 70°12.7 | +25.8 | 16.0 |
| | | -19°09.4 | -19°15.2 | -19°20.9 | -19°26.4 | -19°31.8 | -19°37.1 | -19°42.3 | -19°47.3 | -19°52.3 | -19°57.1 | -20°01.7 | -5.2 | 58.7 |
| | Ve 14 | 300°20.5 | 314°46.5 | 329°12.5 | 343°38.4 | 358°04.2 | 12°30.0 | 26°55.7 | 41°21.4 | 55°47.1 | 70°12.7 | 84°38.2 | +25.8 | 16.0 |
| | | -19°15.2 | -19°20.9 | -19°26.4 | -19°31.8 | -19°37.1 | -19°42.3 | -19°47.3 | -19°52.3 | -19°57.1 | -20°01.7 | -20°06.3 | -5.1 | 58.8 |
| | Sa 15 | 300°56.5 | 315°21.4 | 329°46.3 | 344°11.2 | 358°36.0 | 13°00.8 | 27°25.6 | 41°50.4 | 56°15.1 | 70°39.9 | 85°04.6 | +24.8 | 16.1 |
| | | -20°58.9 | -21°01.3 | -21°03.6 | -21°05.8 | -21°07.8 | -21°09.7 | -21°11.4 | -21°13.0 | -21°14.5 | -21°15.8 | -21°17.0 | -1.8 | 59.0 |
| ◑ | Di 16 | 301°13.7 | 315°38.3 | 330°02.9 | 344°27.5 | 358°52.1 | 13°16.6 | 27°41.2 | 42°05.9 | 56°30.5 | 70°55.1 | 85°19.7 | +24.6 | 16.1 |
| | | -21°17.9 | -21°16.9 | -21°15.7 | -21°14.3 | -21°12.8 | -21°11.2 | -21°09.4 | -21°07.5 | -21°05.4 | -21°03.2 | -21°00.9 | +1.7 | 59.2 |
| | Lu 17 | 301°31.8 | 315°56.8 | 330°21.9 | 344°47.0 | 359°12.1 | 13°37.2 | 28°02.4 | 42°27.6 | 56°52.9 | 71°18.2 | 85°43.5 | +25.2 | 16.2 |
| | | -20°09.3 | -20°04.8 | -20°00.1 | -19°55.4 | -19°50.4 | -19°45.4 | -19°40.2 | -19°34.9 | -19°29.5 | -19°23.9 | -19°18.3 | +5.1 | 59.3 |
| | Ma 18 | 302°09.0 | 316°35.0 | 331°01.2 | 345°27.3 | 359°53.6 | 14°19.9 | 28°46.2 | 43°12.6 | 57°39.0 | 72°05.5 | 86°32.1 | +26.3 | 16.2 |
| | | -17°38.5 | -17°30.9 | -17°23.2 | -17°15.4 | -17°07.5 | -16°59.5 | -16°51.4 | -16°43.2 | -16°34.9 | -16°26.4 | -16°17.9 | +8.1 | 59.2 |
| | Me 19 | 303°16.9 | 317°44.3 | 332°11.8 | 346°39.3 | 1°06.9 | 15°34.5 | 30°02.2 | 44°30.0 | 58°57.8 | 73°25.7 | 87°53.6 | +27.7 | 16.1 |
| | | -13°58.6 | -13°48.6 | -13°38.5 | -13°28.4 | -13°18.1 | -13°07.8 | -12°57.4 | -12°47.0 | -12°36.4 | -12°25.8 | -12°15.2 | +10.3 | 59.1 |
| | Je 20 | 304°58.7 | 319°27.4 | 333°56.2 | 348°25.0 | 2°53.9 | 17°22.8 | 31°51.8 | 46°20.8 | 60°49.9 | 75°19.0 | 89°48.2 | +29.0 | 16.1 |
| | | -9°27.4 | -9°15.8 | -9°04.1 | -8°52.4 | -8°40.6 | -8°28.8 | -8°17.0 | -8°05.1 | -7°53.1 | -7°41.1 | -7°29.1 | +11.8 | 58.9 |
| | Ve 21 | 307°10.4 | 321°40.2 | 336°10.0 | 350°39.9 | 5°09.8 | 19°39.7 | 34°09.6 | 48°39.6 | 63°09.6 | 77°39.7 | 92°09.8 | +29.9 | 16.0 |
| | | -4°25.2 | -4°12.8 | -4°00.3 | -3°47.8 | -3°35.3 | -3°22.8 | -3°10.3 | -2°57.8 | -2°45.3 | -2°32.7 | -2°20.2 | +12.5 | 58.5 |
| | Sa 22 | 309°44.0 | 324°14.4 | 338°44.9 | 353°15.4 | 7°45.9 | 22°16.5 | 36°47.0 | 51°17.6 | 65°48.2 | 80°18.8 | 94°49.4 | +30.5 | 15.8 |
| | | 0°47.8 | 1°00.3 | 1°12.7 | 1°25.2 | 1°37.6 | 1°50.0 | 2°02.4 | 2°14.7 | 2°27.1 | 2°39.4 | 2°51.7 | +12.4 | 58.0 |
| ● | Di 23 | 312°29.9 | 327°00.7 | 341°31.4 | 356°02.2 | 10°33.0 | 25°03.8 | 39°34.5 | 54°05.3 | 68°36.1 | 83°06.9 | 97°37.7 | +30.8 | 15.6 |
| | | 5°52.6 | 6°04.4 | 6°16.1 | 6°27.8 | 6°39.4 | 6°51.0 | 7°02.6 | 7°14.1 | 7°25.5 | 7°37.0 | 7°48.3 | +11.6 | 57.4 |
| | Lu 24 | 315°19.5 | 329°50.2 | 344°21.0 | 358°51.7 | 13°22.5 | 27°53.2 | 42°23.9 | 56°54.7 | 71°25.4 | 85°56.1 | 100°26.8 | +30.7 | 15.5 |
| | | 10°32.2 | 10°42.7 | 10°53.1 | 11°03.4 | 11°13.6 | 11°23.8 | 11°34.0 | 11°44.0 | 11°54.0 | 12°03.9 | 12°13.8 | +10.2 | 56.7 |
| | Ma 25 | 318°06.4 | 332°37.0 | 347°07.6 | 1°38.1 | 16°08.7 | 30°39.2 | 45°09.7 | 59°40.2 | 74°10.7 | 88°41.2 | 103°11.7 | +30.5 | 15.3 |
| | | 14°32.5 | 14°41.2 | 14°49.7 | 14°58.2 | 15°06.6 | 15°14.9 | 15°23.1 | 15°31.2 | 15°39.2 | 15°47.2 | 15°55.1 | +8.3 | 56.0 |
| | Me 26 | 320°47.9 | 335°18.3 | 349°48.6 | 4°18.9 | 18°49.3 | 33°19.6 | 47°49.9 | 62°20.2 | 76°50.5 | 91°20.8 | 105°51.1 | +30.3 | 15.1 |
| | | 17°42.5 | 17°48.9 | 17°55.3 | 18°01.5 | 18°07.6 | 18°13.7 | 18°19.6 | 18°25.5 | 18°31.3 | 18°36.9 | 18°42.5 | +6.0 | 55.4 |
| | Je 27 | 323°24.8 | 337°55.0 | 352°25.2 | 6°55.4 | 21°25.7 | 35°55.9 | 50°26.1 | 64°56.3 | 79°26.6 | 93°56.8 | 108°27.0 | +30.2 | 15.0 |
| | | 19°54.3 | 19°58.3 | 20°02.2 | 20°06.0 | 20°09.7 | 20°13.3 | 20°16.8 | 20°20.2 | 20°23.4 | 20°26.6 | 20°29.7 | +3.5 | 54.9 |
| | Ve 28 | 326°00.9 | 340°31.2 | 355°01.5 | 9°31.9 | 24°02.2 | 38°32.6 | 53°02.9 | 67°33.3 | 82°03.7 | 96°34.1 | 111°04.5 | +30.4 | 14.9 |
| | | 21°03.7 | 21°05.2 | 21°06.5 | 21°07.8 | 21°08.9 | 21°10.0 | 21°10.9 | 21°11.8 | 21°12.5 | 21°13.2 | 21°13.7 | +1.0 | 54.5 |
| | Sa 29 | 328°42.1 | 343°12.8 | 357°43.4 | 12°14.1 | 26°44.8 | 41°15.5 | 55°46.2 | 70°17.0 | 84°47.7 | 99°18.5 | 113°49.3 | +30.7 | 14.8 |
| | | 21°09.7 | 21°08.6 | 21°07.5 | 21°06.2 | 21°04.8 | 21°03.4 | 21°01.8 | 21°00.2 | 20°58.4 | 20°56.6 | 20°54.6 | -1.5 | 54.2 |
| | Di 30 | 331°33.9 | 346°05.1 | 0°36.3 | 15°07.5 | 29°38.7 | 44°10.0 | 58°41.2 | 73°12.5 | 87°43.8 | 102°15.2 | 116°46.5 | +31.3 | 14.8 |
| | | 20°13.9 | 20°10.5 | 20°06.9 | 20°03.3 | 19°59.5 | 19°55.7 | 19°51.8 | 19°47.7 | 19°43.6 | 19°39.4 | 19°35.2 | -3.9 | 54.2 |
| ◐ | Lu 31 | 334°40.0 | 349°11.7 | 3°43.5 | 18°15.3 | 32°47.1 | 47°19.0 | 61°50.8 | 76°22.7 | 90°54.6 | 105°26.6 | 119°58.5 | +31.9 | 14.8 |
| | | 18°20.4 | 18°14.7 | 18°09.0 | 18°03.2 | 17°57.2 | 17°51.2 | 17°45.2 | 17°39.0 | 17°32.8 | 17°26.4 | 17°20.0 | -6.0 | 54.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 1 04h02 — PL: 9 04h29 — DQ: 16 06h35 — NL: 23 03h49 — PQ: 31 00h32

# SOLEIL

## Avril 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 269°00.0 | 284°00.2 | 299°00.4 | 314°00.5 | 329°00.7 | 344°00.9 | 359°01.1 | 14°01.3 | 29°01.5 | 44°01.7 | 59°01.8 | 74°02.0 | +0.2 |
| | 4°28.7 | 4°29.7 | 4°30.7 | 4°31.6 | 4°32.6 | 4°33.6 | 4°34.5 | 4°35.5 | 4°36.4 | 4°37.4 | 4°38.4 | 4°39.3 | +1.0 |
| Me 2 | 269°04.4 | 284°04.6 | 299°04.8 | 314°05.0 | 329°05.2 | 344°05.4 | 359°05.5 | 14°05.7 | 29°05.9 | 44°06.1 | 59°06.3 | 74°06.5 | +0.2 |
| | 4°51.9 | 4°52.8 | 4°53.8 | 4°54.7 | 4°55.7 | 4°56.7 | 4°57.6 | 4°58.6 | 4°59.5 | 5°00.5 | 5°01.5 | 5°02.4 | +1.0 |
| Je 3 | 269°08.9 | 284°09.0 | 299°09.2 | 314°09.4 | 329°09.6 | 344°09.8 | 359°10.0 | 14°10.1 | 29°10.3 | 44°10.5 | 59°10.7 | 74°10.9 | +0.2 |
| | 5°14.9 | 5°15.8 | 5°16.8 | 5°17.8 | 5°18.7 | 5°19.7 | 5°20.6 | 5°21.6 | 5°22.6 | 5°23.5 | 5°24.5 | 5°25.4 | +1.0 |
| Ve 4 | 269°13.2 | 284°13.4 | 299°13.6 | 314°13.8 | 329°14.0 | 344°14.2 | 359°14.3 | 14°14.5 | 29°14.7 | 44°14.9 | 59°15.1 | 74°15.2 | +0.2 |
| | 5°37.8 | 5°38.8 | 5°39.7 | 5°40.7 | 5°41.6 | 5°42.6 | 5°43.6 | 5°44.5 | 5°45.5 | 5°46.4 | 5°47.4 | 5°48.3 | +1.0 |
| Sa 5 | 269°17.6 | 284°17.8 | 299°18.0 | 314°18.1 | 329°18.3 | 344°18.5 | 359°18.7 | 14°18.9 | 29°19.0 | 44°19.2 | 59°19.4 | 74°19.6 | +0.2 |
| | 6°00.7 | 6°01.6 | 6°02.6 | 6°03.5 | 6°04.5 | 6°05.4 | 6°06.4 | 6°07.3 | 6°08.3 | 6°09.2 | 6°10.2 | 6°11.1 | +0.9 |
| Di 6 | 269°21.9 | 284°22.1 | 299°22.3 | 314°22.4 | 329°22.6 | 344°22.8 | 359°23.0 | 14°23.2 | 29°23.3 | 44°23.5 | 59°23.7 | 74°23.9 | +0.2 |
| | 6°23.4 | 6°24.4 | 6°25.3 | 6°26.3 | 6°27.2 | 6°28.1 | 6°29.1 | 6°30.0 | 6°31.0 | 6°31.9 | 6°32.9 | 6°33.8 | +0.9 |
| Lu 7 | 269°26.2 | 284°26.3 | 299°26.5 | 314°26.7 | 329°26.9 | 344°27.0 | 359°27.2 | 14°27.4 | 29°27.6 | 44°27.7 | 59°27.9 | 74°28.1 | +0.2 |
| | 6°46.0 | 6°47.0 | 6°47.9 | 6°48.9 | 6°49.8 | 6°50.7 | 6°51.7 | 6°52.6 | 6°53.6 | 6°54.5 | 6°55.4 | 6°56.4 | +0.9 |
| Ma 8 | 269°30.4 | 284°30.5 | 299°30.7 | 314°30.9 | 329°31.1 | 344°31.2 | 359°31.4 | 14°31.6 | 29°31.8 | 44°31.9 | 59°32.1 | 74°32.3 | +0.2 |
| | 7°08.6 | 7°09.5 | 7°10.4 | 7°11.4 | 7°12.3 | 7°13.2 | 7°14.2 | 7°15.1 | 7°16.0 | 7°17.0 | 7°17.9 | 7°18.8 | +0.9 |
| Me 9 | 269°34.5 | 284°34.7 | 299°34.9 | 314°35.0 | 329°35.2 | 344°35.4 | 359°35.5 | 14°35.7 | 29°35.9 | 44°36.1 | 59°36.2 | 74°36.4 | +0.2 |
| | 7°31.0 | 7°31.9 | 7°32.8 | 7°33.7 | 7°34.7 | 7°35.6 | 7°36.5 | 7°37.5 | 7°38.4 | 7°39.3 | 7°40.2 | 7°41.2 | +0.9 |
| Je 10 | 269°38.6 | 284°38.8 | 299°38.9 | 314°39.1 | 329°39.3 | 344°39.4 | 359°39.6 | 14°39.8 | 29°39.9 | 44°40.1 | 59°40.3 | 74°40.4 | +0.2 |
| | 7°53.2 | 7°54.1 | 7°55.1 | 7°56.0 | 7°56.9 | 7°57.8 | 7°58.8 | 7°59.7 | 8°00.6 | 8°01.5 | 8°02.5 | 8°03.4 | +0.9 |
| Ve 11 | 269°42.6 | 284°42.8 | 299°42.9 | 314°43.1 | 329°43.3 | 344°43.4 | 359°43.6 | 14°43.8 | 29°43.9 | 44°44.1 | 59°44.3 | 74°44.4 | +0.2 |
| | 8°15.4 | 8°16.3 | 8°17.2 | 8°18.1 | 8°19.0 | 8°20.0 | 8°20.9 | 8°21.8 | 8°22.7 | 8°23.6 | 8°24.5 | 8°25.5 | +0.9 |
| Sa 12 | 269°46.5 | 284°46.7 | 299°46.9 | 314°47.0 | 329°47.2 | 344°47.4 | 359°47.5 | 14°47.7 | 29°47.8 | 44°48.0 | 59°48.2 | 74°48.3 | +0.2 |
| | 8°37.4 | 8°38.3 | 8°39.2 | 8°40.1 | 8°41.0 | 8°41.9 | 8°42.8 | 8°43.7 | 8°44.7 | 8°45.6 | 8°46.5 | 8°47.4 | +0.9 |
| Di 13 | 269°50.4 | 284°50.6 | 299°50.7 | 314°50.9 | 329°51.0 | 344°51.2 | 359°51.4 | 14°51.5 | 29°51.7 | 44°51.8 | 59°52.0 | 74°52.1 | +0.2 |
| | 8°59.2 | 9°00.1 | 9°01.0 | 9°01.9 | 9°02.8 | 9°03.7 | 9°04.7 | 9°05.6 | 9°06.5 | 9°07.4 | 9°08.3 | 9°09.2 | +0.9 |
| Lu 14 | 269°54.2 | 284°54.3 | 299°54.5 | 314°54.6 | 329°54.8 | 344°55.0 | 359°55.1 | 14°55.3 | 29°55.4 | 44°55.6 | 59°55.7 | 74°55.9 | +0.2 |
| | 9°20.9 | 9°21.8 | 9°22.7 | 9°23.6 | 9°24.5 | 9°25.4 | 9°26.3 | 9°27.2 | 9°28.1 | 9°29.0 | 9°29.9 | 9°30.8 | +0.9 |
| Ma 15 | 269°57.9 | 284°58.0 | 299°58.2 | 314°58.3 | 329°58.5 | 344°58.6 | 359°58.8 | 14°58.9 | 29°59.1 | 44°59.2 | 59°59.4 | 74°59.5 | +0.2 |
| | 9°42.5 | 9°43.4 | 9°44.3 | 9°45.2 | 9°46.1 | 9°46.9 | 9°47.8 | 9°48.7 | 9°49.6 | 9°50.5 | 9°51.4 | 9°52.3 | +0.9 |
| Me 16 | 270°01.5 | 285°01.6 | 300°01.7 | 315°01.9 | 330°02.0 | 345°02.2 | 0°02.3 | 15°02.5 | 30°02.6 | 45°02.8 | 60°02.9 | 75°03.1 | +0.1 |
| | 10°03.9 | 10°04.8 | 10°05.6 | 10°06.5 | 10°07.4 | 10°08.3 | 10°09.2 | 10°10.1 | 10°11.0 | 10°11.9 | 10°12.7 | 10°13.6 | +0.9 |
| Je 17 | 270°05.0 | 285°05.1 | 300°05.2 | 315°05.4 | 330°05.5 | 345°05.7 | 0°05.8 | 15°06.0 | 30°06.1 | 45°06.2 | 60°06.4 | 75°06.5 | +0.1 |
| | 10°25.1 | 10°26.0 | 10°26.9 | 10°27.7 | 10°28.6 | 10°29.5 | 10°30.4 | 10°31.3 | 10°32.1 | 10°33.0 | 10°33.9 | 10°34.8 | +0.9 |
| Ve 18 | 270°08.3 | 285°08.5 | 300°08.6 | 315°08.8 | 330°08.9 | 345°09.0 | 0°09.2 | 15°09.3 | 30°09.5 | 45°09.6 | 60°09.7 | 75°09.9 | +0.1 |
| | 10°46.2 | 10°47.0 | 10°47.9 | 10°48.8 | 10°49.7 | 10°50.5 | 10°51.4 | 10°52.3 | 10°53.1 | 10°54.0 | 10°54.9 | 10°55.8 | +0.9 |
| Sa 19 | 270°11.6 | 285°11.8 | 300°11.9 | 315°12.0 | 330°12.2 | 345°12.3 | 0°12.4 | 15°12.6 | 30°12.7 | 45°12.9 | 60°13.0 | 75°13.1 | +0.1 |
| | 11°07.0 | 11°07.9 | 11°08.8 | 11°09.6 | 11°10.5 | 11°11.4 | 11°12.2 | 11°13.1 | 11°14.0 | 11°14.8 | 11°15.7 | 11°16.5 | +0.9 |
| Di 20 | 270°14.8 | 285°15.0 | 300°15.1 | 315°15.2 | 330°15.4 | 345°15.5 | 0°15.6 | 15°15.7 | 30°15.9 | 45°16.0 | 60°16.1 | 75°16.3 | +0.1 |
| | 11°27.7 | 11°28.6 | 11°29.5 | 11°30.3 | 11°31.2 | 11°32.0 | 11°32.9 | 11°33.7 | 11°34.6 | 11°35.5 | 11°36.3 | 11°37.2 | +0.9 |
| Lu 21 | 270°17.9 | 285°18.0 | 300°18.2 | 315°18.3 | 330°18.4 | 345°18.5 | 0°18.7 | 15°18.8 | 30°18.9 | 45°19.0 | 60°19.2 | 75°19.3 | +0.1 |
| | 11°48.2 | 11°49.1 | 11°49.9 | 11°50.8 | 11°51.6 | 11°52.5 | 11°53.3 | 11°54.2 | 11°55.0 | 11°55.9 | 11°56.7 | 11°57.6 | +0.8 |
| Ma 22 | 270°20.9 | 285°21.0 | 300°21.1 | 315°21.3 | 330°21.4 | 345°21.5 | 0°21.6 | 15°21.7 | 30°21.9 | 45°22.0 | 60°22.1 | 75°22.2 | +0.1 |
| | 12°08.6 | 12°09.4 | 12°10.2 | 12°11.1 | 12°11.9 | 12°12.8 | 12°13.6 | 12°14.4 | 12°15.3 | 12°16.1 | 12°17.0 | 12°17.8 | +0.8 |
| Me 23 | 270°23.8 | 285°23.9 | 300°24.0 | 315°24.1 | 330°24.2 | 345°24.3 | 0°24.5 | 15°24.6 | 30°24.7 | 45°24.8 | 60°24.9 | 75°25.0 | +0.1 |
| | 12°28.7 | 12°29.5 | 12°30.3 | 12°31.2 | 12°32.0 | 12°32.8 | 12°33.7 | 12°34.5 | 12°35.3 | 12°36.2 | 12°37.0 | 12°37.8 | +0.8 |
| Je 24 | 270°26.5 | 285°26.6 | 300°26.7 | 315°26.8 | 330°26.9 | 345°27.1 | 0°27.2 | 15°27.3 | 30°27.4 | 45°27.5 | 60°27.6 | 75°27.7 | +0.1 |
| | 12°48.6 | 12°49.4 | 12°50.2 | 12°51.1 | 12°51.9 | 12°52.7 | 12°53.5 | 12°54.3 | 12°55.2 | 12°56.0 | 12°56.8 | 12°57.6 | +0.8 |
| Ve 25 | 270°29.1 | 285°29.2 | 300°29.4 | 315°29.5 | 330°29.6 | 345°29.7 | 0°29.8 | 15°29.9 | 30°30.0 | 45°30.1 | 60°30.2 | 75°30.3 | +0.1 |
| | 13°08.3 | 13°09.1 | 13°09.9 | 13°10.7 | 13°11.5 | 13°12.4 | 13°13.2 | 13°14.0 | 13°14.8 | 13°15.6 | 13°16.4 | 13°17.2 | +0.8 |
| Sa 26 | 270°31.7 | 285°31.8 | 300°31.9 | 315°32.0 | 330°32.1 | 345°32.2 | 0°32.3 | 15°32.4 | 30°32.5 | 45°32.6 | 60°32.7 | 75°32.8 | +0.1 |
| | 13°27.8 | 13°28.6 | 13°29.4 | 13°30.2 | 13°31.0 | 13°31.8 | 13°32.6 | 13°33.4 | 13°34.2 | 13°35.0 | 13°35.8 | 13°36.6 | +0.8 |
| Di 27 | 270°34.0 | 285°34.1 | 300°34.2 | 315°34.3 | 330°34.4 | 345°34.5 | 0°34.6 | 15°34.7 | 30°34.8 | 45°34.9 | 60°35.0 | 75°35.1 | +0.1 |
| | 13°47.0 | 13°47.8 | 13°48.6 | 13°49.4 | 13°50.2 | 13°51.0 | 13°51.8 | 13°52.6 | 13°53.4 | 13°54.2 | 13°55.0 | 13°55.8 | +0.8 |
| Lu 28 | 270°36.3 | 285°36.4 | 300°36.5 | 315°36.6 | 330°36.7 | 345°36.8 | 0°36.9 | 15°37.0 | 30°37.1 | 45°37.1 | 60°37.2 | 75°37.3 | +0.1 |
| | 14°06.0 | 14°06.8 | 14°07.6 | 14°08.4 | 14°09.2 | 14°10.0 | 14°10.8 | 14°11.6 | 14°12.3 | 14°13.1 | 14°13.9 | 14°14.7 | +0.8 |
| Ma 29 | 270°38.5 | 285°38.6 | 300°38.7 | 315°38.7 | 330°38.8 | 345°38.9 | 0°39.0 | 15°39.1 | 30°39.2 | 45°39.3 | 60°39.3 | 75°39.4 | +0.1 |
| | 14°24.8 | 14°25.6 | 14°26.4 | 14°27.2 | 14°27.9 | 14°28.7 | 14°29.5 | 14°30.3 | 14°31.1 | 14°31.8 | 14°32.6 | 14°33.4 | +0.8 |
| Me 30 | 270°40.5 | 285°40.6 | 300°40.7 | 315°40.7 | 330°40.8 | 345°40.9 | 0°41.0 | 15°41.1 | 30°41.2 | 45°41.2 | 60°41.3 | 75°41.4 | +0.1 |
| | 14°43.4 | 14°44.2 | 14°44.9 | 14°45.7 | 14°46.5 | 14°47.2 | 14°48.0 | 14°48.8 | 14°49.5 | 14°50.3 | 14°51.1 | 14°51.8 | +0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2031

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 250°47.2<br>16°18.9 | 265°19.4<br>16°11.7 | 279°51.6<br>16°04.4 | 294°23.8<br>15°57.1 | 308°56.0<br>15°49.7 | 323°28.3<br>15°42.2 | 338°00.6<br>15°34.7 | 352°32.9<br>15°27.0 | 7°05.2<br>15°19.4 | 21°37.5<br>15°11.6 | 36°09.9<br>15°03.7 | +32.3<br>-7.5 | 14.9<br>54.5 |
| Me 2 | 254°17.0<br>12°57.9 | 268°49.6<br>12°49.0 | 283°22.2<br>12°40.0 | 297°54.9<br>12°30.9 | 312°27.5<br>12°21.8 | 327°00.1<br>12°12.6 | 341°32.7<br>12°03.4 | 356°05.4<br>11°54.1 | 10°38.1<br>11°44.8 | 25°10.7<br>11°35.4 | 39°43.4<br>11°25.9 | +32.6<br>-9.2 | 15.0<br>55.0 |
| Je 3 | 257°54.1<br>8°57.2 | 272°26.8<br>8°46.8 | 286°59.5<br>8°36.5 | 301°32.2<br>8°26.0 | 316°04.9<br>8°15.6 | 330°37.6<br>8°05.0 | 345°10.4<br>7°54.5 | 359°43.1<br>7°43.8 | 14°15.7<br>7°33.2 | 28°48.4<br>7°22.5 | 43°21.1<br>7°11.7 | +32.7<br>-10.5 | 15.2<br>55.6 |
| Ve 4 | 261°30.1<br>4°25.7 | 276°02.6<br>4°14.3 | 290°35.0<br>4°02.9 | 305°07.5<br>3°51.5 | 319°39.9<br>3°40.1 | 334°12.3<br>3°28.6 | 348°44.7<br>3°17.1 | 3°17.0<br>3°05.6 | 17°49.4<br>2°54.0 | 32°21.7<br>2°42.4 | 46°54.0<br>2°30.8 | +32.4<br>-11.5 | 15.3<br>56.3 |
| Sa 5 | 264°55.0<br>-0°25.8 | 279°26.8<br>-0°37.7 | 293°58.5<br>-0°49.6 | 308°30.3<br>-1°01.5 | 323°02.0<br>-1°13.4 | 337°33.6<br>-1°25.3 | 352°05.3<br>-1°37.3 | 6°36.8<br>-1°49.2 | 21°08.4<br>-2°01.1 | 35°39.9<br>-2°13.1 | 50°11.3<br>-2°25.0 | +31.6<br>-11.9 | 15.5<br>57.0 |
| Di 6 | 267°57.6<br>-5°23.8 | 282°28.3<br>-5°35.6 | 296°58.9<br>-5°47.4 | 311°29.5<br>-5°59.2 | 326°00.0<br>-6°11.0 | 340°30.5<br>-6°22.7 | 355°00.9<br>-6°34.5 | 9°31.2<br>-6°46.2 | 24°01.5<br>-6°57.9 | 38°31.8<br>-7°09.5 | 53°01.9<br>-7°21.2 | +30.4<br>-11.7 | 15.7<br>57.7 |
| ○ Lu 7 | 270°27.2<br>-10°11.7 | 284°56.3<br>-10°22.7 | 299°25.4<br>-10°33.7 | 313°54.4<br>-10°44.7 | 328°23.4<br>-10°55.6 | 342°52.3<br>-11°06.4 | 357°21.1<br>-11°17.2 | 11°49.9<br>-11°27.9 | 26°18.5<br>-11°38.6 | 40°47.2<br>-11°49.2 | 55°15.7<br>-11°59.8 | +28.9<br>-10.8 | 15.9<br>58.4 |
| Ma 8 | 272°15.3<br>-14°30.2 | 286°42.7<br>-14°39.6 | 301°10.1<br>-14°48.9 | 315°37.3<br>-14°58.2 | 330°04.5<br>-15°07.4 | 344°31.6<br>-15°16.5 | 358°58.7<br>-15°25.5 | 13°25.6<br>-15°34.4 | 27°52.5<br>-15°43.2 | 42°19.4<br>-15°51.9 | 56°46.1<br>-16°00.6 | +27.1<br>-9.0 | 16.1<br>58.9 |
| Me 9 | 273°19.4<br>-17°58.1 | 287°45.1<br>-18°05.1 | 302°10.8<br>-18°12.0 | 316°36.3<br>-18°18.7 | 331°01.9<br>-18°25.4 | 345°27.3<br>-18°31.9 | 359°52.7<br>-18°38.3 | 14°18.1<br>-18°44.6 | 28°43.3<br>-18°50.7 | 43°08.6<br>-18°56.8 | 57°33.7<br>-19°02.7 | +25.4<br>-6.5 | 16.2<br>59.3 |
| Je 10 | 273°45.5<br>-20°16.0 | 288°10.0<br>-20°19.8 | 302°34.4<br>-20°23.5 | 316°58.8<br>-20°27.1 | 331°23.1<br>-20°30.5 | 345°47.4<br>-20°33.8 | 0°11.7<br>-20°36.9 | 14°36.0<br>-20°39.9 | 29°00.2<br>-20°42.8 | 43°24.4<br>-20°45.5 | 57°48.6<br>-20°48.1 | +24.3<br>-3.2 | 16.2<br>59.5 |
| Ve 11 | 273°49.5<br>-21°09.5 | 288°13.5<br>-21°09.8 | 302°37.6<br>-21°09.9 | 317°01.6<br>-21°09.9 | 331°25.6<br>-21°09.7 | 345°49.6<br>-21°09.4 | 0°13.6<br>-21°09.0 | 14°37.7<br>-21°08.4 | 29°01.7<br>-21°07.6 | 43°25.8<br>-21°06.8 | 57°49.9<br>-21°05.7 | +24.0<br>+0.4 | 16.2<br>59.5 |
| Sa 12 | 273°53.8<br>-20°33.3 | 288°18.3<br>-20°30.0 | 302°42.8<br>-20°26.6 | 317°07.4<br>-20°23.0 | 331°32.0<br>-20°19.3 | 345°56.7<br>-20°15.5 | 0°21.4<br>-20°11.5 | 14°46.1<br>-20°07.4 | 29°10.9<br>-20°03.2 | 43°35.7<br>-19°58.8 | 58°00.6<br>-19°54.4 | +24.7<br>+3.9 | 16.2<br>59.4 |
| Di 13 | 288°18.3<br>-20°30.0 | 302°42.8<br>-20°26.6 | 317°07.4<br>-20°23.0 | 331°32.0<br>-20°19.3 | 345°56.7<br>-20°15.5 | 0°21.4<br>-20°11.5 | 14°46.1<br>-20°07.4 | 29°10.9<br>-20°03.2 | 43°35.7<br>-19°58.8 | 58°00.6<br>-19°54.4 | 72°25.5<br>-19°49.7 | +24.7<br>+4.0 | 16.2<br>59.4 |
| ◑ Lu 14 | 288°45.6<br>-18°25.4 | 303°11.4<br>-18°18.9 | 317°37.2<br>-18°12.2 | 332°03.1<br>-18°05.4 | 346°29.1<br>-17°58.4 | 0°55.1<br>-17°51.4 | 15°21.2<br>-17°44.3 | 29°47.4<br>-17°37.0 | 44°13.6<br>-17°29.7 | 58°39.9<br>-17°22.2 | 73°06.2<br>-17°14.6 | +26.1<br>+7.1 | 16.1<br>59.2 |
| Ma 15 | 289°49.2<br>-15°09.3 | 304°16.5<br>-15°00.2 | 318°44.0<br>-14°51.0 | 333°11.5<br>-14°41.7 | 347°39.1<br>-14°32.4 | 2°06.7<br>-14°22.9 | 16°34.4<br>-14°13.4 | 31°02.2<br>-14°03.8 | 45°30.0<br>-13°54.2 | 59°57.9<br>-13°44.4 | 74°25.8<br>-13°34.6 | +27.7<br>+9.5 | 16.1<br>58.9 |
| Me 16 | 291°32.5<br>-10°59.0 | 306°01.5<br>-10°48.1 | 320°30.4<br>-10°37.2 | 334°59.5<br>-10°26.3 | 349°28.6<br>-10°15.2 | 3°57.7<br>-10°04.1 | 18°26.9<br>-9°53.0 | 32°56.1<br>-9°41.8 | 47°25.4<br>-9°30.6 | 61°54.8<br>-9°19.3 | 76°24.2<br>-9°08.0 | +29.2<br>+11.1 | 16.0<br>58.5 |
| Je 17 | 293°51.0<br>-6°13.6 | 308°21.1<br>-6°01.7 | 322°51.3<br>-5°49.8 | 337°21.5<br>-5°37.9 | 351°51.8<br>-5°25.9 | 6°22.1<br>-5°13.9 | 20°52.4<br>-5°01.9 | 35°22.8<br>-4°49.9 | 49°53.2<br>-4°37.9 | 64°23.7<br>-4°25.8 | 78°54.1<br>-4°13.8 | +30.3<br>+12.0 | 15.8<br>58.1 |
| Ve 18 | 296°34.9<br>-1°11.5 | 311°05.8<br>-0°59.3 | 325°36.8<br>-0°47.1 | 340°07.7<br>-0°34.9 | 354°38.7<br>-0°22.7 | 9°09.7<br>-0°10.6 | 23°40.8<br>0°01.6 | 38°11.8<br>0°13.8 | 52°42.9<br>0°25.9 | 67°13.9<br>0°38.0 | 81°45.0<br>0°50.2 | +31.0<br>+12.2 | 15.7<br>57.6 |
| Sa 19 | 299°32.9<br>3°50.1 | 314°04.2<br>4°02.0 | 328°35.4<br>4°13.7 | 343°06.7<br>4°25.5 | 357°38.0<br>4°37.2 | 12°09.2<br>4°49.0 | 26°40.5<br>5°00.6 | 41°11.8<br>5°12.3 | 55°43.1<br>5°23.9 | 70°14.3<br>5°35.5 | 84°45.6<br>5°47.0 | +31.3<br>+11.7 | 15.6<br>57.2 |
| Di 20 | 302°34.4<br>8°35.2 | 317°05.6<br>8°46.1 | 331°36.8<br>8°56.9 | 346°08.0<br>9°07.6 | 0°39.2<br>9°18.3 | 15°10.3<br>9°29.0 | 29°41.5<br>9°39.5 | 44°12.6<br>9°50.1 | 58°43.8<br>10°00.6 | 73°14.9<br>10°11.0 | 87°46.0<br>10°21.3 | +31.2<br>+10.6 | 15.4<br>56.6 |
| ● Lu 21 | 305°31.2<br>12°49.4 | 320°02.0<br>12°58.7 | 334°32.9<br>13°08.0 | 349°03.8<br>13°17.2 | 3°34.6<br>13°26.3 | 18°05.5<br>13°35.3 | 32°36.3<br>13°44.3 | 47°07.1<br>13°53.2 | 61°37.8<br>14°02.0 | 76°08.6<br>14°10.8 | 90°39.4<br>14°19.5 | +30.8<br>+9.0 | 15.3<br>56.1 |
| Ma 22 | 308°18.6<br>16°20.0 | 322°49.1<br>16°27.4 | 337°19.5<br>16°34.7 | 351°50.0<br>16°41.8 | 6°20.4<br>16°49.0 | 20°50.8<br>16°56.0 | 35°21.2<br>17°02.9 | 49°51.6<br>17°09.7 | 64°22.0<br>17°16.5 | 78°52.4<br>17°23.1 | 93°22.7<br>17°29.7 | +30.4<br>+7.0 | 15.2<br>55.6 |
| Me 23 | 310°56.5<br>18°57.1 | 325°26.7<br>19°02.1 | 339°56.8<br>19°07.1 | 354°27.0<br>19°11.9 | 8°57.1<br>19°16.7 | 23°27.2<br>19°21.4 | 37°57.4<br>19°25.9 | 52°27.5<br>19°30.4 | 66°57.6<br>19°34.8 | 81°27.7<br>19°39.1 | 95°57.8<br>19°43.2 | +30.1<br>+4.6 | 15.0<br>55.1 |
| Je 24 | 313°29.0<br>20°33.7 | 327°59.1<br>20°36.2 | 342°29.2<br>20°38.7 | 356°59.3<br>20°41.0 | 11°29.4<br>20°43.3 | 25°59.5<br>20°45.4 | 40°29.6<br>20°47.5 | 54°59.7<br>20°49.4 | 69°29.9<br>20°51.2 | 84°00.0<br>20°53.0 | 98°30.1<br>20°54.6 | +30.1<br>+2.1 | 14.9<br>54.7 |
| Ve 25 | 316°03.4<br>21°06.8 | 330°33.7<br>21°06.8 | 345°04.1<br>21°06.7 | 359°34.4<br>21°06.5 | 14°04.8<br>21°06.2 | 28°35.2<br>21°05.8 | 43°05.6<br>21°05.3 | 57°36.0<br>21°04.7 | 72°06.5<br>21°04.0 | 86°37.0<br>21°03.2 | 101°07.5<br>21°02.3 | +30.4<br>-0.5 | 14.8<br>54.3 |
| Sa 26 | 318°47.5<br>20°36.9 | 333°18.3<br>20°34.5 | 347°49.2<br>20°31.9 | 2°20.2<br>20°29.3 | 16°51.1<br>20°26.5 | 31°22.1<br>20°23.7 | 45°53.1<br>20°20.7 | 60°24.1<br>20°17.7 | 74°55.1<br>20°14.6 | 89°26.2<br>20°11.4 | 103°57.3<br>20°08.1 | +31.0<br>-2.9 | 14.8<br>54.1 |
| Di 27 | 321°47.5<br>19°07.7 | 336°19.0<br>19°03.0 | 350°50.6<br>18°58.2 | 5°22.3<br>18°53.3 | 19°54.0<br>18°48.3 | 34°25.7<br>18°43.3 | 48°57.4<br>18°38.1 | 63°29.1<br>18°32.9 | 78°00.9<br>18°27.6 | 92°32.8<br>18°22.2 | 107°04.6<br>18°16.7 | +31.7<br>-5.1 | 14.8<br>54.1 |
| Lu 28 | 325°05.9<br>16°44.9 | 339°38.2<br>16°38.2 | 354°10.5<br>16°31.4 | 8°42.9<br>16°24.5 | 23°15.3<br>16°17.6 | 37°47.7<br>16°10.5 | 52°20.2<br>16°03.4 | 66°52.6<br>15°56.3 | 81°25.1<br>15°49.0 | 95°57.6<br>15°41.7 | 110°30.2<br>15°34.3 | +32.4<br>-7.1 | 14.8<br>54.3 |
| ◐ Ma 29 | 328°41.1<br>13°35.4 | 343°14.0<br>13°26.9 | 357°46.9<br>13°18.4 | 12°19.8<br>13°09.9 | 26°52.8<br>13°01.2 | 41°25.7<br>12°52.5 | 55°58.7<br>12°43.8 | 70°31.7<br>12°34.9 | 85°04.7<br>12°26.1 | 99°37.7<br>12°17.1 | 114°10.8<br>12°08.1 | +33.0<br>-8.7 | 14.9<br>54.6 |
| Me 30 | 332°27.5<br>9°46.6 | 347°00.6<br>9°36.7 | 1°33.8<br>9°26.8 | 16°07.0<br>9°16.8 | 30°40.2<br>9°06.8 | 45°13.3<br>8°56.8 | 59°46.5<br>8°46.7 | 74°19.7<br>8°36.5 | 88°52.9<br>8°26.3 | 103°26.0<br>8°16.1 | 117°59.2<br>8°05.8 | +33.2<br>-10.1 | 15.0<br>55.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 7 17h21 — DQ: 14 12h57 — NL: 21 16h57 — PQ: 29 19h19

# SOLEIL

## Mai 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 270° 42.4 | 285° 42.5 | 300° 42.6 | 315° 42.6 | 330° 42.7 | 345° 42.8 | 0° 42.9 | 15° 42.9 | 30° 43.0 | 45° 43.1 | 60° 43.2 | 75° 43.2 | +0.1 |
| | 15° 01.7 | 15° 02.5 | 15° 03.2 | 15° 04.0 | 15° 04.7 | 15° 05.5 | 15° 06.2 | 15° 07.0 | 15° 07.8 | 15° 08.5 | 15° 09.3 | 15° 10.0 | +0.8 |
| **Ve 2** | 270° 44.2 | 285° 44.2 | 300° 44.3 | 315° 44.4 | 330° 44.5 | 345° 44.5 | 0° 44.6 | 15° 44.7 | 30° 44.7 | 45° 44.8 | 60° 44.9 | 75° 44.9 | +0.1 |
| | 15° 19.8 | 15° 20.5 | 15° 21.3 | 15° 22.0 | 15° 22.8 | 15° 23.5 | 15° 24.2 | 15° 25.0 | 15° 25.7 | 15° 26.5 | 15° 27.2 | 15° 28.0 | +0.7 |
| **Sa 3** | 270° 45.8 | 285° 45.9 | 300° 45.9 | 315° 46.0 | 330° 46.1 | 345° 46.1 | 0° 46.2 | 15° 46.3 | 30° 46.3 | 45° 46.4 | 60° 46.5 | 75° 46.5 | +0.1 |
| | 15° 37.6 | 15° 38.3 | 15° 39.1 | 15° 39.8 | 15° 40.5 | 15° 41.3 | 15° 42.0 | 15° 42.7 | 15° 43.5 | 15° 44.2 | 15° 44.9 | 15° 45.7 | +0.7 |
| **Di 4** | 270° 47.3 | 285° 47.4 | 300° 47.4 | 315° 47.5 | 330° 47.6 | 345° 47.6 | 0° 47.7 | 15° 47.7 | 30° 47.8 | 45° 47.8 | 60° 47.9 | 75° 48.0 | +0.1 |
| | 15° 55.1 | 15° 55.9 | 15° 56.6 | 15° 57.3 | 15° 58.0 | 15° 58.7 | 15° 59.5 | 16° 00.2 | 16° 00.9 | 16° 01.6 | 16° 02.4 | 16° 03.1 | +0.7 |
| **Lu 5** | 270° 48.7 | 285° 48.7 | 300° 48.8 | 315° 48.8 | 330° 48.9 | 345° 49.0 | 0° 49.0 | 15° 49.1 | 30° 49.1 | 45° 49.2 | 60° 49.2 | 75° 49.3 | +0.1 |
| | 16° 12.4 | 16° 13.1 | 16° 13.8 | 16° 14.6 | 16° 15.3 | 16° 16.0 | 16° 16.7 | 16° 17.4 | 16° 18.1 | 16° 18.8 | 16° 19.5 | 16° 20.2 | +0.7 |
| **Ma 6** | 270° 49.9 | 285° 50.0 | 300° 50.0 | 315° 50.1 | 330° 50.1 | 345° 50.2 | 0° 50.2 | 15° 50.3 | 30° 50.3 | 45° 50.3 | 60° 50.4 | 75° 50.4 | +0.0 |
| | 16° 29.4 | 16° 30.1 | 16° 30.8 | 16° 31.5 | 16° 32.2 | 16° 32.9 | 16° 33.6 | 16° 34.3 | 16° 35.0 | 16° 35.7 | 16° 36.4 | 16° 37.1 | +0.7 |
| **Me 7** | 270° 51.0 | 285° 51.1 | 300° 51.1 | 315° 51.1 | 330° 51.2 | 345° 51.2 | 0° 51.3 | 15° 51.3 | 30° 51.3 | 45° 51.4 | 60° 51.4 | 75° 51.5 | +0.0 |
| | 16° 46.2 | 16° 46.9 | 16° 47.5 | 16° 48.2 | 16° 48.9 | 16° 49.6 | 16° 50.3 | 16° 51.0 | 16° 51.7 | 16° 52.4 | 16° 53.1 | 16° 53.7 | +0.7 |
| **Je 8** | 270° 52.0 | 285° 52.0 | 300° 52.0 | 315° 52.1 | 330° 52.1 | 345° 52.1 | 0° 52.2 | 15° 52.2 | 30° 52.3 | 45° 52.3 | 60° 52.3 | 75° 52.4 | +0.0 |
| | 17° 02.6 | 17° 03.3 | 17° 04.0 | 17° 04.7 | 17° 05.3 | 17° 06.0 | 17° 06.7 | 17° 07.4 | 17° 08.0 | 17° 08.7 | 17° 09.4 | 17° 10.1 | +0.7 |
| **Ve 9** | 270° 52.8 | 285° 52.8 | 300° 52.8 | 315° 52.9 | 330° 52.9 | 345° 52.9 | 0° 53.0 | 15° 53.0 | 30° 53.0 | 45° 53.0 | 60° 53.1 | 75° 53.1 | +0.0 |
| | 17° 18.8 | 17° 19.5 | 17° 20.1 | 17° 20.8 | 17° 21.5 | 17° 22.1 | 17° 22.8 | 17° 23.5 | 17° 24.1 | 17° 24.8 | 17° 25.5 | 17° 26.1 | +0.7 |
| **Sa 10** | 270° 53.4 | 285° 53.5 | 300° 53.5 | 315° 53.5 | 330° 53.5 | 345° 53.6 | 0° 53.6 | 15° 53.6 | 30° 53.6 | 45° 53.6 | 60° 53.7 | 75° 53.7 | +0.0 |
| | 17° 34.7 | 17° 35.3 | 17° 36.0 | 17° 36.7 | 17° 37.3 | 17° 38.0 | 17° 38.6 | 17° 39.3 | 17° 39.9 | 17° 40.6 | 17° 41.2 | 17° 41.9 | +0.7 |
| **Di 11** | 270° 54.0 | 285° 54.0 | 300° 54.0 | 315° 54.0 | 330° 54.0 | 345° 54.0 | 0° 54.1 | 15° 54.1 | 30° 54.1 | 45° 54.1 | 60° 54.1 | 75° 54.1 | +0.0 |
| | 17° 50.3 | 17° 50.9 | 17° 51.6 | 17° 52.2 | 17° 52.9 | 17° 53.5 | 17° 54.1 | 17° 54.8 | 17° 55.4 | 17° 56.1 | 17° 56.7 | 17° 57.3 | +0.6 |
| **Lu 12** | 270° 54.3 | 285° 54.3 | 300° 54.3 | 315° 54.4 | 330° 54.4 | 345° 54.4 | 0° 54.4 | 15° 54.4 | 30° 54.4 | 45° 54.4 | 60° 54.4 | 75° 54.4 | +0.0 |
| | 18° 05.6 | 18° 06.2 | 18° 06.8 | 18° 07.5 | 18° 08.1 | 18° 08.7 | 18° 09.4 | 18° 10.0 | 18° 10.6 | 18° 11.2 | 18° 11.9 | 18° 12.5 | +0.6 |
| **Ma 13** | 270° 54.5 | 285° 54.5 | 300° 54.6 | 315° 54.6 | 330° 54.6 | 345° 54.6 | 0° 54.6 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | +0.0 |
| | 18° 20.6 | 18° 21.2 | 18° 21.8 | 18° 22.4 | 18° 23.0 | 18° 23.7 | 18° 24.3 | 18° 24.9 | 18° 25.5 | 18° 26.1 | 18° 26.7 | 18° 27.3 | +0.6 |
| **Me 14** | 270° 54.6 | 285° 54.6 | 300° 54.6 | 315° 54.6 | 330° 54.6 | 345° 54.6 | 0° 54.6 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | -0.0 |
| | 18° 35.3 | 18° 35.9 | 18° 36.5 | 18° 37.1 | 18° 37.7 | 18° 38.3 | 18° 38.9 | 18° 39.5 | 18° 40.1 | 18° 40.7 | 18° 41.3 | 18° 41.9 | +0.6 |
| **Je 15** | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.5 | 60° 54.5 | 75° 54.5 | -0.0 |
| | 18° 49.6 | 18° 50.2 | 18° 50.8 | 18° 51.4 | 18° 52.0 | 18° 52.6 | 18° 53.2 | 18° 53.8 | 18° 54.4 | 18° 54.9 | 18° 55.5 | 18° 56.1 | +0.6 |
| **Ve 16** | 270° 54.3 | 285° 54.3 | 300° 54.3 | 315° 54.3 | 330° 54.3 | 345° 54.3 | 0° 54.2 | 15° 54.2 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.2 | -0.0 |
| | 19° 03.7 | 19° 04.3 | 19° 04.8 | 19° 05.4 | 19° 06.0 | 19° 06.6 | 19° 07.1 | 19° 07.7 | 19° 08.3 | 19° 08.9 | 19° 09.4 | 19° 10.0 | +0.6 |
| **Sa 17** | 270° 54.0 | 285° 53.9 | 300° 53.9 | 315° 53.9 | 330° 53.9 | 345° 53.9 | 0° 53.8 | 15° 53.8 | 30° 53.8 | 45° 53.8 | 60° 53.8 | 75° 53.7 | -0.0 |
| | 19° 17.4 | 19° 18.0 | 19° 18.5 | 19° 19.1 | 19° 19.7 | 19° 20.2 | 19° 20.8 | 19° 21.4 | 19° 21.9 | 19° 22.5 | 19° 23.0 | 19° 23.6 | +0.6 |
| **Di 18** | 270° 53.4 | 285° 53.4 | 300° 53.4 | 315° 53.4 | 330° 53.3 | 345° 53.3 | 0° 53.3 | 15° 53.3 | 30° 53.2 | 45° 53.2 | 60° 53.2 | 75° 53.2 | -0.0 |
| | 19° 30.8 | 19° 31.4 | 19° 31.9 | 19° 32.5 | 19° 33.0 | 19° 33.6 | 19° 34.1 | 19° 34.7 | 19° 35.2 | 19° 35.8 | 19° 36.3 | 19° 36.9 | +0.5 |
| **Lu 19** | 270° 52.8 | 285° 52.8 | 300° 52.7 | 315° 52.7 | 330° 52.7 | 345° 52.6 | 0° 52.6 | 15° 52.6 | 30° 52.5 | 45° 52.5 | 60° 52.5 | 75° 52.4 | -0.0 |
| | 19° 43.9 | 19° 44.4 | 19° 45.0 | 19° 45.5 | 19° 46.0 | 19° 46.6 | 19° 47.1 | 19° 47.6 | 19° 48.2 | 19° 48.7 | 19° 49.2 | 19° 49.8 | +0.5 |
| **Ma 20** | 270° 52.0 | 285° 52.0 | 300° 51.9 | 315° 51.9 | 330° 51.9 | 345° 51.8 | 0° 51.8 | 15° 51.7 | 30° 51.7 | 45° 51.7 | 60° 51.6 | 75° 51.6 | -0.0 |
| | 19° 56.6 | 19° 57.1 | 19° 57.7 | 19° 58.2 | 19° 58.7 | 19° 59.2 | 19° 59.8 | 20° 00.3 | 20° 00.8 | 20° 01.3 | 20° 01.8 | 20° 02.3 | +0.5 |
| **Me 21** | 270° 51.1 | 285° 51.0 | 300° 51.0 | 315° 51.0 | 330° 50.9 | 345° 50.9 | 0° 50.8 | 15° 50.8 | 30° 50.7 | 45° 50.7 | 60° 50.7 | 75° 50.6 | -0.0 |
| | 20° 09.0 | 20° 09.5 | 20° 10.0 | 20° 10.5 | 20° 11.1 | 20° 11.6 | 20° 12.1 | 20° 12.6 | 20° 13.1 | 20° 13.6 | 20° 14.1 | 20° 14.6 | +0.5 |
| **Je 22** | 270° 50.0 | 285° 50.0 | 300° 49.9 | 315° 49.9 | 330° 49.8 | 345° 49.8 | 0° 49.7 | 15° 49.7 | 30° 49.6 | 45° 49.6 | 60° 49.5 | 75° 49.5 | -0.0 |
| | 20° 21.1 | 20° 21.6 | 20° 22.1 | 20° 22.6 | 20° 23.0 | 20° 23.5 | 20° 24.0 | 20° 24.5 | 20° 25.0 | 20° 25.5 | 20° 26.0 | 20° 26.5 | +0.5 |
| **Ve 23** | 270° 48.8 | 285° 48.8 | 300° 48.7 | 315° 48.7 | 330° 48.6 | 345° 48.6 | 0° 48.5 | 15° 48.5 | 30° 48.4 | 45° 48.3 | 60° 48.3 | 75° 48.2 | -0.1 |
| | 20° 32.8 | 20° 33.3 | 20° 33.7 | 20° 34.2 | 20° 34.7 | 20° 35.2 | 20° 35.6 | 20° 36.1 | 20° 36.6 | 20° 37.1 | 20° 37.5 | 20° 38.0 | +0.5 |
| **Sa 24** | 270° 47.5 | 285° 47.5 | 300° 47.4 | 315° 47.3 | 330° 47.3 | 345° 47.2 | 0° 47.2 | 15° 47.1 | 30° 47.0 | 45° 47.0 | 60° 46.9 | 75° 46.9 | -0.1 |
| | 20° 44.1 | 20° 44.6 | 20° 45.0 | 20° 45.5 | 20° 46.0 | 20° 46.4 | 20° 46.9 | 20° 47.4 | 20° 47.8 | 20° 48.3 | 20° 48.7 | 20° 49.2 | +0.5 |
| **Di 25** | 270° 46.1 | 285° 46.0 | 300° 45.9 | 315° 45.9 | 330° 45.8 | 345° 45.8 | 0° 45.7 | 15° 45.6 | 30° 45.6 | 45° 45.5 | 60° 45.4 | 75° 45.4 | -0.1 |
| | 20° 55.1 | 20° 55.6 | 20° 56.0 | 20° 56.5 | 20° 56.9 | 20° 57.4 | 20° 57.8 | 20° 58.2 | 20° 58.7 | 20° 59.1 | 20° 59.6 | 21° 00.0 | +0.4 |
| **Lu 26** | 270° 44.5 | 285° 44.4 | 300° 44.4 | 315° 44.3 | 330° 44.2 | 345° 44.2 | 0° 44.1 | 15° 44.0 | 30° 44.0 | 45° 43.9 | 60° 43.8 | 75° 43.8 | -0.1 |
| | 21° 05.7 | 21° 06.2 | 21° 06.6 | 21° 07.0 | 21° 07.5 | 21° 07.9 | 21° 08.3 | 21° 08.8 | 21° 09.2 | 21° 09.6 | 21° 10.1 | 21° 10.5 | +0.4 |
| **Ma 27** | 270° 42.8 | 285° 42.8 | 300° 42.7 | 315° 42.6 | 330° 42.5 | 345° 42.5 | 0° 42.4 | 15° 42.3 | 30° 42.2 | 45° 42.2 | 60° 42.1 | 75° 42.0 | -0.1 |
| | 21° 16.0 | 21° 16.4 | 21° 16.8 | 21° 17.3 | 21° 17.7 | 21° 18.1 | 21° 18.5 | 21° 18.9 | 21° 19.3 | 21° 19.8 | 21° 20.2 | 21° 20.6 | +0.4 |
| **Me 28** | 270° 41.0 | 285° 41.0 | 300° 40.9 | 315° 40.8 | 330° 40.7 | 345° 40.6 | 0° 40.6 | 15° 40.5 | 30° 40.4 | 45° 40.3 | 60° 40.3 | 75° 40.2 | -0.1 |
| | 21° 25.9 | 21° 26.3 | 21° 26.7 | 21° 27.1 | 21° 27.5 | 21° 27.9 | 21° 28.3 | 21° 28.7 | 21° 29.1 | 21° 29.5 | 21° 29.9 | 21° 30.3 | +0.4 |
| **Je 29** | 270° 39.1 | 285° 39.1 | 300° 39.0 | 315° 38.9 | 330° 38.8 | 345° 38.7 | 0° 38.6 | 15° 38.6 | 30° 38.5 | 45° 38.4 | 60° 38.3 | 75° 38.2 | -0.1 |
| | 21° 35.4 | 21° 35.8 | 21° 36.2 | 21° 36.6 | 21° 37.0 | 21° 37.4 | 21° 37.8 | 21° 38.1 | 21° 38.5 | 21° 38.9 | 21° 39.3 | 21° 39.7 | +0.4 |
| **Ve 30** | 270° 37.1 | 285° 37.0 | 300° 37.0 | 315° 36.9 | 330° 36.8 | 345° 36.7 | 0° 36.6 | 15° 36.5 | 30° 36.4 | 45° 36.3 | 60° 36.3 | 75° 36.2 | -0.1 |
| | 21° 44.6 | 21° 45.0 | 21° 45.3 | 21° 45.7 | 21° 46.1 | 21° 46.4 | 21° 46.8 | 21° 47.2 | 21° 47.6 | 21° 47.9 | 21° 48.3 | 21° 48.7 | +0.4 |
| **Sa 31** | 270° 35.0 | 285° 34.9 | 300° 34.8 | 315° 34.7 | 330° 34.7 | 345° 34.6 | 0° 34.5 | 15° 34.4 | 30° 34.3 | 45° 34.2 | 60° 34.1 | 75° 34.0 | -0.1 |
| | 21° 53.4 | 21° 53.7 | 21° 54.1 | 21° 54.4 | 21° 54.8 | 21° 55.1 | 21° 55.5 | 21° 55.8 | 21° 56.2 | 21° 56.6 | 21° 56.9 | 21° 57.3 | +0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2031

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 248°57.5<br>6°31.3 | 263°30.6<br>6°20.6 | 278°03.7<br>6°09.8 | 292°36.8<br>5°59.1 | 307°09.9<br>5°48.2 | 321°43.0<br>5°37.4 | 336°16.0<br>5°26.5 | 350°49.1<br>5°15.5 | 5°22.1<br>5°04.6 | 19°55.1<br>4°53.6 | 34°28.1<br>4°42.5 | +33.1<br>-10.9 | 15.2<br>55.6 |
| Ve 2 | 252°40.3<br>1°53.5 | 267°12.9<br>1°42.0 | 281°45.4<br>1°30.5 | 296°18.0<br>1°19.0 | 310°50.5<br>1°07.4 | 325°23.0<br>0°55.8 | 339°55.4<br>0°44.3 | 354°27.8<br>0°32.7 | 9°00.2<br>0°21.1 | 23°32.5<br>0°09.4 | 38°04.8<br>-0°02.2 | +32.5<br>-11.6 | 15.4<br>56.4 |
| Sa 3 | 256°04.1<br>-2°58.2 | 270°35.7<br>-3°10.0 | 285°07.2<br>-3°21.8 | 299°38.7<br>-3°33.6 | 314°10.1<br>-3°45.3 | 328°41.4<br>-3°57.1 | 343°12.8<br>-4°08.9 | 357°44.0<br>-4°20.6 | 12°15.2<br>-4°32.4 | 26°46.3<br>-4°44.1 | 41°17.4<br>-4°55.9 | +31.3<br>-11.8 | 15.6<br>57.3 |
| Di 4 | 258°55.8<br>-7°50.3 | 273°25.8<br>-8°01.7 | 287°55.7<br>-8°13.1 | 302°25.6<br>-8°24.5 | 316°55.4<br>-8°35.9 | 331°25.1<br>-8°47.2 | 345°54.8<br>-8°58.6 | 0°24.4<br>-9°09.8 | 14°53.9<br>-9°21.1 | 29°23.3<br>-9°32.3 | 43°52.6<br>-9°43.4 | +29.7<br>-11.3 | 15.9<br>58.2 |
| Lu 5 | 261°03.1<br>-12°25.3 | 275°31.2<br>-12°35.7 | 289°59.1<br>-12°46.0 | 304°27.0<br>-12°56.2 | 318°54.8<br>-13°06.4 | 333°22.5<br>-13°16.5 | 347°50.1<br>-13°26.5 | 2°17.6<br>-13°36.5 | 16°45.0<br>-13°46.4 | 31°12.4<br>-13°56.2 | 45°39.6<br>-14°05.9 | +27.7<br>-10.1 | 16.1<br>59.0 |
| Ma 6 | 262°18.3<br>-16°22.3 | 276°44.2<br>-16°30.7 | 291°10.0<br>-16°38.9 | 305°35.7<br>-16°47.1 | 320°01.3<br>-16°55.2 | 334°26.9<br>-17°03.1 | 348°52.4<br>-17°11.0 | 3°17.8<br>-17°18.7 | 17°43.1<br>-17°26.3 | 32°08.3<br>-17°33.9 | 46°33.5<br>-17°41.3 | +25.5<br>-7.9 | 16.3<br>59.7 |
| ○ Me 7 | 262°42.0<br>-19°18.3 | 277°06.0<br>-19°23.8 | 291°30.0<br>-19°29.1 | 305°53.9<br>-19°34.3 | 320°17.7<br>-19°39.4 | 334°41.5<br>-19°44.3 | 349°05.2<br>-19°49.1 | 3°28.9<br>-19°53.8 | 17°52.5<br>-19°58.3 | 32°16.1<br>-20°02.7 | 46°39.6<br>-20°06.9 | +23.8<br>-4.9 | 16.4<br>60.1 |
| Je 8 | 262°27.5<br>-20°53.1 | 276°50.4<br>-20°55.0 | 291°13.3<br>-20°56.7 | 305°36.2<br>-20°58.3 | 319°59.1<br>-20°59.8 | 334°22.0<br>-21°01.0 | 348°44.9<br>-21°02.2 | 3°07.7<br>-21°03.1 | 17°30.6<br>-21°04.0 | 31°53.4<br>-21°04.6 | 46°16.2<br>-21°05.2 | +22.9<br>-1.2 | 16.5<br>60.4 |
| Ve 9 | 261°59.4<br>-20°54.5 | 276°22.4<br>-20°52.6 | 290°45.4<br>-20°50.5 | 305°08.5<br>-20°48.3 | 319°31.6<br>-20°45.9 | 333°54.7<br>-20°43.4 | 348°17.9<br>-20°40.7 | 2°41.1<br>-20°37.9 | 17°04.3<br>-20°34.9 | 31°27.6<br>-20°31.8 | 45°50.9<br>-20°28.6 | +23.1<br>+2.6 | 16.4<br>60.3 |
| Sa 10 | 261°46.6<br>-19°22.8 | 276°10.8<br>-19°17.3 | 290°35.0<br>-19°11.7 | 304°59.3<br>-19°06.0 | 319°23.7<br>-19°00.2 | 333°48.1<br>-18°54.2 | 348°12.6<br>-18°48.1 | 2°37.2<br>-18°41.8 | 17°01.8<br>-18°35.5 | 31°26.5<br>-18°29.0 | 45°51.3<br>-18°22.4 | +24.5<br>+6.0 | 16.4<br>60.0 |
| Di 11 | 262°11.8<br>-16°29.8 | 276°37.8<br>-16°21.5 | 291°03.9<br>-16°13.0 | 305°30.0<br>-16°04.5 | 319°56.3<br>-15°55.9 | 334°22.6<br>-15°47.1 | 348°49.0<br>-15°38.3 | 3°15.4<br>-15°29.4 | 17°42.0<br>-15°20.4 | 32°08.6<br>-15°11.3 | 46°35.3<br>-15°02.1 | +26.3<br>+8.8 | 16.2<br>59.6 |
| Lu 12 | 263°25.3<br>-12°34.8 | 277°53.2<br>-12°24.4 | 292°21.3<br>-12°13.9 | 306°49.4<br>-12°03.4 | 321°17.5<br>-11°52.9 | 335°45.8<br>-11°42.2 | 350°14.1<br>-11°31.5 | 4°42.5<br>-11°20.8 | 19°11.0<br>-11°09.9 | 33°39.5<br>-10°59.1 | 48°08.1<br>-10°48.2 | +28.3<br>+10.7 | 16.1<br>59.0 |
| ◑ Ma 13 | 277°53.2<br>-12°24.4 | 292°21.3<br>-12°13.9 | 306°49.4<br>-12°03.4 | 321°17.5<br>-11°52.9 | 335°45.8<br>-11°42.2 | 350°14.1<br>-11°31.5 | 4°42.5<br>-11°20.8 | 19°11.0<br>-11°09.9 | 33°39.5<br>-10°59.1 | 48°08.1<br>-10°48.2 | 62°36.8<br>-10°37.2 | +28.4<br>+10.7 | 16.1<br>59.0 |
| Me 14 | 279°54.8<br>-7°47.3 | 294°24.5<br>-7°35.6 | 308°54.3<br>-7°24.0 | 323°24.1<br>-7°12.3 | 337°54.0<br>-7°00.6 | 352°23.9<br>-6°48.8 | 6°53.9<br>-6°37.1 | 21°23.9<br>-6°25.3 | 35°54.0<br>-6°13.4 | 50°24.2<br>-6°01.6 | 64°54.4<br>-5°49.7 | +30.0<br>+11.8 | 15.9<br>58.3 |
| Je 15 | 282°32.8<br>-2°50.0 | 297°03.7<br>-2°37.9 | 311°34.6<br>-2°25.8 | 326°05.6<br>-2°13.8 | 340°36.6<br>-2°01.7 | 355°07.7<br>-1°49.6 | 9°38.7<br>-1°37.6 | 24°09.8<br>-1°25.5 | 38°41.0<br>-1°13.5 | 53°12.1<br>-1°01.4 | 67°43.3<br>-0°49.3 | +31.1<br>+12.1 | 15.7<br>57.7 |
| Ve 16 | 285°34.2<br>2°10.2 | 300°05.7<br>2°22.0 | 314°37.3<br>2°33.9 | 329°08.9<br>2°45.7 | 343°40.5<br>2°57.4 | 358°12.1<br>3°09.2 | 12°43.7<br>3°20.9 | 27°15.3<br>3°32.6 | 41°47.0<br>3°44.3 | 56°18.6<br>3°56.0 | 70°50.3<br>4°07.6 | +31.6<br>+11.7 | 15.6<br>57.1 |
| Sa 17 | 288°45.8<br>6°58.1 | 303°17.5<br>7°09.2 | 317°49.3<br>7°20.2 | 332°21.0<br>7°31.2 | 346°52.7<br>7°42.1 | 1°24.4<br>7°53.0 | 15°56.0<br>8°03.8 | 30°27.7<br>8°14.6 | 44°59.4<br>8°25.4 | 59°31.1<br>8°36.1 | 74°02.8<br>8°46.8 | +31.7<br>+10.9 | 15.4<br>56.5 |
| Di 18 | 291°56.5<br>11°20.4 | 306°28.0<br>11°30.1 | 320°59.5<br>11°39.9 | 335°30.9<br>11°49.5 | 350°02.4<br>11°59.1 | 4°33.8<br>12°08.7 | 19°05.2<br>12°18.1 | 33°36.6<br>12°27.5 | 48°08.0<br>12°36.9 | 62°39.3<br>12°46.1 | 77°10.7<br>12°55.4 | +31.4<br>+9.5 | 15.3<br>56.0 |
| Lu 19 | 294°58.5<br>15°05.0 | 309°29.5<br>15°13.1 | 324°00.5<br>15°21.0 | 338°31.5<br>15°28.9 | 353°02.4<br>15°36.7 | 7°33.4<br>15°44.5 | 22°04.3<br>15°52.1 | 36°35.2<br>15°59.7 | 51°06.1<br>16°07.2 | 65°37.0<br>16°14.6 | 80°07.8<br>16°21.9 | +30.9<br>+7.7 | 15.1<br>55.5 |
| Ma 20 | 297°48.2<br>18°01.5 | 312°18.7<br>18°07.5 | 326°49.3<br>18°13.3 | 341°19.8<br>18°19.1 | 355°50.3<br>18°24.7 | 10°20.7<br>18°30.3 | 24°51.2<br>18°35.8 | 39°21.6<br>18°41.2 | 53°52.1<br>18°46.4 | 68°22.5<br>18°51.6 | 82°52.9<br>18°56.7 | +30.5<br>+5.5 | 15.0<br>55.0 |
| ● Me 21 | 300°27.4<br>20°01.7 | 314°57.6<br>20°05.2 | 329°27.8<br>20°08.7 | 343°58.0<br>20°12.0 | 358°28.2<br>20°15.3 | 12°58.4<br>20°18.4 | 27°28.6<br>20°21.5 | 41°58.8<br>20°24.4 | 56°29.0<br>20°27.3 | 70°59.2<br>20°30.0 | 85°29.4<br>20°32.7 | +30.2<br>+3.1 | 14.9<br>54.6 |
| Je 22 | 303°02.2<br>21°00.2 | 317°32.4<br>21°01.2 | 332°02.6<br>21°02.1 | 346°32.9<br>21°02.9 | 1°03.1<br>21°03.6 | 15°33.4<br>21°04.3 | 30°03.6<br>21°04.8 | 44°33.9<br>21°05.2 | 59°04.2<br>21°05.5 | 73°34.5<br>21°05.7 | 88°04.8<br>21°05.8 | +30.3<br>+0.6 | 14.8<br>54.3 |
| Ve 23 | 305°41.4<br>20°55.4 | 320°12.0<br>20°53.9 | 334°42.6<br>20°52.3 | 349°13.2<br>20°50.7 | 3°43.9<br>20°48.9 | 18°14.5<br>20°47.0 | 32°45.3<br>20°45.0 | 47°16.0<br>20°43.0 | 61°46.7<br>20°40.8 | 76°17.5<br>20°38.5 | 90°48.3<br>20°36.2 | +30.7<br>-1.9 | 14.8<br>54.1 |
| Sa 24 | 308°33.7<br>19°49.6 | 323°04.9<br>19°45.7 | 337°36.2<br>19°41.8 | 352°07.6<br>19°37.8 | 6°38.9<br>19°33.7 | 21°10.3<br>19°29.5 | 35°41.7<br>19°25.2 | 50°13.2<br>19°20.9 | 64°44.7<br>19°16.4 | 79°16.2<br>19°11.9 | 93°47.7<br>19°07.2 | +31.4<br>-4.2 | 14.7<br>54.0 |
| Di 25 | 311°45.0<br>17°47.9 | 326°17.1<br>17°42.0 | 340°49.2<br>17°35.9 | 355°21.4<br>17°29.9 | 9°53.6<br>17°23.7 | 24°25.8<br>17°17.4 | 38°58.0<br>17°11.1 | 53°30.3<br>17°04.7 | 68°02.7<br>16°58.3 | 82°35.0<br>16°51.7 | 97°07.4<br>16°45.1 | +32.2<br>-6.3 | 14.7<br>54.0 |
| Lu 26 | 315°16.9<br>14°57.4 | 329°49.8<br>14°49.7 | 344°22.7<br>14°41.9 | 358°55.6<br>14°34.0 | 13°28.6<br>14°26.1 | 28°01.6<br>14°18.2 | 42°34.6<br>14°10.1 | 57°07.6<br>14°02.0 | 71°40.7<br>13°53.8 | 86°13.8<br>13°45.6 | 100°46.9<br>13°37.3 | +33.0<br>-8.0 | 14.8<br>54.2 |
| Ma 27 | 319°06.3<br>11°26.1 | 333°39.7<br>11°16.9 | 348°13.2<br>11°07.7 | 2°46.7<br>10°58.4 | 17°20.2<br>10°49.1 | 31°53.7<br>10°39.7 | 46°27.2<br>10°30.2 | 61°00.7<br>10°20.7 | 75°34.3<br>10°11.2 | 90°07.8<br>10°01.6 | 104°41.4<br>9°52.0 | +33.5<br>-9.4 | 14.9<br>54.5 |
| Me 28 | 323°05.8<br>7°22.2 | 337°39.4<br>7°11.9 | 352°13.1<br>7°01.5 | 6°46.7<br>6°51.1 | 21°20.4<br>6°40.7 | 35°54.0<br>6°30.2 | 50°27.7<br>6°19.7 | 65°01.3<br>6°09.2 | 79°34.9<br>5°58.6 | 94°08.6<br>5°48.0 | 108°42.2<br>5°37.4 | +33.6<br>-10.5 | 15.0<br>55.0 |
| ◐ Je 29 | 327°05.0<br>2°54.1 | 341°38.4<br>2°43.0 | 356°11.8<br>2°31.9 | 10°45.1<br>2°20.8 | 25°18.4<br>2°09.6 | 39°51.7<br>1°58.4 | 54°25.0<br>1°47.2 | 68°58.2<br>1°36.0 | 83°31.4<br>1°24.7 | 98°04.6<br>1°13.5 | 112°37.8<br>1°02.2 | +33.3<br>-11.2 | 15.2<br>55.7 |
| Ve 30 | 330°51.0<br>-1°48.8 | 345°23.6<br>-2°00.3 | 359°56.1<br>-2°11.7 | 14°28.6<br>-2°23.2 | 29°01.0<br>-2°34.7 | 43°33.4<br>-2°46.2 | 58°05.8<br>-2°57.7 | 72°38.0<br>-3°09.2 | 87°10.3<br>-3°20.7 | 101°42.4<br>-3°32.2 | 116°14.6<br>-3°43.7 | +32.4<br>-11.5 | 15.4<br>56.5 |
| Sa 31 | 334°09.5<br>-6°35.4 | 348°40.7<br>-6°46.7 | 3°11.8<br>-6°58.1 | 17°42.8<br>-7°09.4 | 32°13.7<br>-7°20.7 | 46°44.6<br>-7°31.9 | 61°15.4<br>-7°43.2 | 75°46.1<br>-7°54.4 | 90°16.8<br>-8°05.6 | 104°47.4<br>-8°16.8 | 119°17.9<br>-8°28.0 | +30.8<br>-11.3 | 15.7<br>57.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 7 03h39 — DQ: 13 19h06 — NL: 21 07h17 — PQ: 29 11h19

# SOLEIL

## Juin 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 270°32.8<br>22°01.8 | 285°32.7<br>22°02.1 | 300°32.6<br>22°02.4 | 315°32.5<br>22°02.8 | 330°32.4<br>22°03.1 | 345°32.3<br>22°03.5 | 0°32.2<br>22°03.8 | 15°32.1<br>22°04.1 | 30°32.0<br>22°04.5 | 45°31.9<br>22°04.8 | 60°31.9<br>22°05.1 | 75°31.8<br>22°05.5 | -0.1<br>+0.3 |
| Lu 2 | 270°30.5<br>22°09.8 | 285°30.4<br>22°10.1 | 300°30.3<br>22°10.4 | 315°30.2<br>22°10.7 | 330°30.1<br>22°11.1 | 345°30.0<br>22°11.4 | 0°29.9<br>22°11.7 | 15°29.8<br>22°12.0 | 30°29.7<br>22°12.3 | 45°29.6<br>22°12.7 | 60°29.5<br>22°13.0 | 75°29.4<br>22°13.3 | -0.1<br>+0.3 |
| Ma 3 | 270°28.1<br>22°17.4 | 285°28.0<br>22°17.7 | 300°27.9<br>22°18.0 | 315°27.8<br>22°18.3 | 330°27.7<br>22°18.6 | 345°27.6<br>22°18.9 | 0°27.5<br>22°19.2 | 15°27.4<br>22°19.5 | 30°27.3<br>22°19.8 | 45°27.2<br>22°20.1 | 60°27.1<br>22°20.4 | 75°27.0<br>22°20.7 | -0.1<br>+0.3 |
| Me 4 | 270°25.6<br>22°24.6 | 285°25.5<br>22°24.9 | 300°25.4<br>22°25.2 | 315°25.3<br>22°25.5 | 330°25.2<br>22°25.8 | 345°25.1<br>22°26.1 | 0°25.0<br>22°26.4 | 15°24.9<br>22°26.6 | 30°24.8<br>22°26.9 | 45°24.7<br>22°27.2 | 60°24.6<br>22°27.5 | 75°24.4<br>22°27.8 | -0.1<br>+0.3 |
| Je 5 | 270°23.0<br>22°31.4 | 285°22.9<br>22°31.7 | 300°22.8<br>22°32.0 | 315°22.7<br>22°32.3 | 330°22.6<br>22°32.6 | 345°22.5<br>22°32.8 | 0°22.4<br>22°33.1 | 15°22.3<br>22°33.4 | 30°22.2<br>22°33.6 | 45°22.1<br>22°33.9 | 60°21.9<br>22°34.2 | 75°21.8<br>22°34.5 | -0.1<br>+0.3 |
| Ve 6 | 270°20.4<br>22°37.9 | 285°20.3<br>22°38.2 | 300°20.2<br>22°38.4 | 315°20.1<br>22°38.7 | 330°19.9<br>22°38.9 | 345°19.8<br>22°39.2 | 0°19.7<br>22°39.4 | 15°19.6<br>22°39.7 | 30°19.5<br>22°40.0 | 45°19.4<br>22°40.2 | 60°19.3<br>22°40.5 | 75°19.2<br>22°40.7 | -0.1<br>+0.3 |
| Sa 7 | 270°17.7<br>22°43.9 | 285°17.5<br>22°44.2 | 300°17.4<br>22°44.4 | 315°17.3<br>22°44.7 | 330°17.2<br>22°44.9 | 345°17.1<br>22°45.2 | 0°17.0<br>22°45.4 | 15°16.9<br>22°45.6 | 30°16.7<br>22°45.9 | 45°16.6<br>22°46.1 | 60°16.5<br>22°46.3 | 75°16.4<br>22°46.6 | -0.1<br>+0.2 |
| Di 8 | 270°14.9<br>22°49.6 | 285°14.7<br>22°49.8 | 300°14.6<br>22°50.0 | 315°14.5<br>22°50.3 | 330°14.4<br>22°50.5 | 345°14.3<br>22°50.7 | 0°14.1<br>22°50.9 | 15°14.0<br>22°51.2 | 30°13.9<br>22°51.4 | 45°13.8<br>22°51.6 | 60°13.7<br>22°51.8 | 75°13.5<br>22°52.1 | -0.1<br>+0.2 |
| Lu 9 | 270°12.0<br>22°54.8 | 285°11.9<br>22°55.1 | 300°11.7<br>22°55.3 | 315°11.6<br>22°55.5 | 330°11.5<br>22°55.7 | 345°11.4<br>22°55.9 | 0°11.3<br>22°56.1 | 15°11.1<br>22°56.3 | 30°11.0<br>22°56.5 | 45°10.9<br>22°56.7 | 60°10.8<br>22°56.9 | 75°10.6<br>22°57.1 | -0.1<br>+0.2 |
| Ma 10 | 270°09.0<br>22°59.7 | 285°08.9<br>22°59.9 | 300°08.8<br>23°00.1 | 315°08.7<br>23°00.3 | 330°08.5<br>23°00.5 | 345°08.4<br>23°00.6 | 0°08.3<br>23°00.8 | 15°08.2<br>23°01.0 | 30°08.0<br>23°01.2 | 45°07.9<br>23°01.4 | 60°07.8<br>23°01.6 | 75°07.7<br>23°01.8 | -0.1<br>+0.2 |
| Me 11 | 270°06.0<br>23°04.1 | 285°05.9<br>23°04.3 | 300°05.8<br>23°04.5 | 315°05.7<br>23°04.7 | 330°05.5<br>23°04.8 | 345°05.4<br>23°05.0 | 0°05.3<br>23°05.2 | 15°05.2<br>23°05.4 | 30°05.0<br>23°05.5 | 45°04.9<br>23°05.7 | 60°04.8<br>23°05.9 | 75°04.6<br>23°06.0 | -0.1<br>+0.2 |
| Je 12 | 270°03.0<br>23°08.2 | 285°02.8<br>23°08.3 | 300°02.7<br>23°08.5 | 315°02.6<br>23°08.6 | 330°02.5<br>23°08.8 | 345°02.3<br>23°09.0 | 0°02.2<br>23°09.1 | 15°02.1<br>23°09.3 | 30°01.9<br>23°09.4 | 45°01.8<br>23°09.6 | 60°01.7<br>23°09.7 | 75°01.6<br>23°09.9 | -0.1<br>+0.2 |
| Ve 13 | 269°59.9<br>23°11.8 | 284°59.7<br>23°11.9 | 299°59.6<br>23°12.1 | 314°59.5<br>23°12.2 | 329°59.3<br>23°12.4 | 344°59.2<br>23°12.5 | 359°59.1<br>23°12.6 | 14°58.9<br>23°12.8 | 29°58.8<br>23°12.9 | 44°58.7<br>23°13.0 | 59°58.6<br>23°13.2 | 74°58.4<br>23°13.3 | -0.1<br>+0.1 |
| Sa 14 | 269°56.7<br>23°15.0 | 284°56.6<br>23°15.1 | 299°56.4<br>23°15.3 | 314°56.3<br>23°15.4 | 329°56.2<br>23°15.5 | 344°56.0<br>23°15.6 | 359°55.9<br>23°15.7 | 14°55.8<br>23°15.9 | 29°55.6<br>23°16.0 | 44°55.5<br>23°16.1 | 59°55.4<br>23°16.2 | 74°55.2<br>23°16.3 | -0.1<br>+0.1 |
| Di 15 | 269°53.5<br>23°17.8 | 284°53.4<br>23°17.9 | 299°53.2<br>23°18.0 | 314°53.1<br>23°18.1 | 329°53.0<br>23°18.2 | 344°52.8<br>23°18.3 | 359°52.7<br>23°18.5 | 14°52.6<br>23°18.6 | 29°52.4<br>23°18.7 | 44°52.3<br>23°18.8 | 59°52.2<br>23°18.9 | 74°52.0<br>23°19.0 | -0.1<br>+0.1 |
| Lu 16 | 269°50.3<br>23°20.2 | 284°50.1<br>23°20.3 | 299°50.0<br>23°20.4 | 314°49.9<br>23°20.5 | 329°49.7<br>23°20.6 | 344°49.6<br>23°20.7 | 359°49.5<br>23°20.7 | 14°49.3<br>23°20.8 | 29°49.2<br>23°20.9 | 44°49.1<br>23°21.0 | 59°48.9<br>23°21.1 | 74°48.8<br>23°21.2 | -0.1<br>+0.1 |
| Ma 17 | 269°47.0<br>23°22.2 | 284°46.9<br>23°22.3 | 299°46.8<br>23°22.3 | 314°46.6<br>23°22.4 | 329°46.5<br>23°22.5 | 344°46.3<br>23°22.6 | 359°46.2<br>23°22.6 | 14°46.1<br>23°22.7 | 29°45.9<br>23°22.8 | 44°45.8<br>23°22.8 | 59°45.7<br>23°22.9 | 74°45.5<br>23°23.0 | -0.1<br>+0.1 |
| Me 18 | 269°43.8<br>23°23.8 | 284°43.6<br>23°23.8 | 299°43.5<br>23°23.9 | 314°43.3<br>23°23.9 | 329°43.2<br>23°24.0 | 344°43.1<br>23°24.0 | 359°42.9<br>23°24.1 | 14°42.8<br>23°24.1 | 29°42.7<br>23°24.2 | 44°42.5<br>23°24.2 | 59°42.4<br>23°24.3 | 74°42.2<br>23°24.3 | -0.1<br>+0.1 |
| Je 19 | 269°40.5<br>23°24.9 | 284°40.3<br>23°25.0 | 299°40.2<br>23°25.0 | 314°40.1<br>23°25.0 | 329°39.9<br>23°25.1 | 344°39.8<br>23°25.1 | 359°39.6<br>23°25.1 | 14°39.5<br>23°25.2 | 29°39.4<br>23°25.2 | 44°39.2<br>23°25.2 | 59°39.1<br>23°25.3 | 74°39.0<br>23°25.3 | -0.1<br>+0.0 |
| Ve 20 | 269°37.2<br>23°25.7 | 284°37.0<br>23°25.7 | 299°36.9<br>23°25.7 | 314°36.8<br>23°25.7 | 329°36.6<br>23°25.7 | 344°36.5<br>23°25.8 | 359°36.3<br>23°25.8 | 14°36.2<br>23°25.8 | 29°36.1<br>23°25.8 | 44°35.9<br>23°25.8 | 59°35.8<br>23°25.9 | 74°35.7<br>23°25.9 | -0.1<br>+0.0 |
| Sa 21 | 269°33.9<br>23°26.0 | 284°33.7<br>23°26.0 | 299°33.6<br>23°26.0 | 314°33.5<br>23°26.0 | 329°33.3<br>23°26.0 | 344°33.2<br>23°26.0 | 359°33.1<br>23°26.0 | 14°32.9<br>23°26.0 | 29°32.8<br>23°26.0 | 44°32.6<br>23°26.0 | 59°32.5<br>23°26.0 | 74°32.4<br>23°26.0 | -0.1<br>+0.0 |
| Di 22 | 269°30.6<br>23°25.9 | 284°30.5<br>23°25.9 | 299°30.3<br>23°25.9 | 314°30.2<br>23°25.9 | 329°30.0<br>23°25.9 | 344°29.9<br>23°25.8 | 359°29.8<br>23°25.8 | 14°29.6<br>23°25.8 | 29°29.5<br>23°25.8 | 44°29.4<br>23°25.8 | 59°29.2<br>23°25.8 | 74°29.1<br>23°25.7 | -0.1<br>-0.0 |
| Lu 23 | 269°27.3<br>23°25.4 | 284°27.2<br>23°25.4 | 299°27.1<br>23°25.4 | 314°26.9<br>23°25.3 | 329°26.8<br>23°25.3 | 344°26.6<br>23°25.3 | 359°26.5<br>23°25.2 | 14°26.4<br>23°25.2 | 29°26.2<br>23°25.2 | 44°26.1<br>23°25.1 | 59°26.0<br>23°25.1 | 74°25.8<br>23°25.1 | -0.1<br>-0.0 |
| Ma 24 | 269°24.1<br>23°24.5 | 284°23.9<br>23°24.5 | 299°23.8<br>23°24.4 | 314°23.7<br>23°24.4 | 329°23.5<br>23°24.3 | 344°23.4<br>23°24.3 | 359°23.3<br>23°24.2 | 14°23.1<br>23°24.2 | 29°23.0<br>23°24.1 | 44°22.9<br>23°24.1 | 59°22.7<br>23°24.0 | 74°22.6<br>23°24.0 | -0.1<br>-0.1 |
| Me 25 | 269°20.9<br>23°23.2 | 284°20.7<br>23°23.1 | 299°20.6<br>23°23.1 | 314°20.4<br>23°23.0 | 329°20.3<br>23°22.9 | 344°20.2<br>23°22.9 | 359°20.0<br>23°22.8 | 14°19.9<br>23°22.7 | 29°19.8<br>23°22.7 | 44°19.7<br>23°22.6 | 59°19.5<br>23°22.5 | 74°19.4<br>23°22.4 | -0.1<br>-0.1 |
| Je 26 | 269°17.7<br>23°21.5 | 284°17.5<br>23°21.4 | 299°17.4<br>23°21.3 | 314°17.3<br>23°21.2 | 329°17.1<br>23°21.1 | 344°17.0<br>23°21.0 | 359°16.9<br>23°21.0 | 14°16.7<br>23°20.9 | 29°16.6<br>23°20.8 | 44°16.5<br>23°20.7 | 59°16.3<br>23°20.6 | 74°16.2<br>23°20.5 | -0.1<br>-0.1 |
| Ve 27 | 269°14.5<br>23°19.3 | 284°14.4<br>23°19.2 | 299°14.3<br>23°19.1 | 314°14.1<br>23°19.0 | 329°14.0<br>23°18.9 | 344°13.9<br>23°18.8 | 359°13.7<br>23°18.7 | 14°13.6<br>23°18.6 | 29°13.5<br>23°18.5 | 44°13.3<br>23°18.4 | 59°13.2<br>23°18.3 | 74°13.1<br>23°18.2 | -0.1<br>-0.1 |
| Sa 28 | 269°11.4<br>23°16.8 | 284°11.3<br>23°16.7 | 299°11.2<br>23°16.5 | 314°11.0<br>23°16.4 | 329°10.9<br>23°16.3 | 344°10.8<br>23°16.2 | 359°10.6<br>23°16.1 | 14°10.5<br>23°15.9 | 29°10.4<br>23°15.8 | 44°10.3<br>23°15.7 | 59°10.1<br>23°15.6 | 74°10.0<br>23°15.5 | -0.1<br>-0.1 |
| Di 29 | 269°08.4<br>23°13.8 | 284°08.2<br>23°13.7 | 299°08.1<br>23°13.5 | 314°08.0<br>23°13.4 | 329°07.9<br>23°13.3 | 344°07.7<br>23°13.1 | 359°07.6<br>23°13.0 | 14°07.5<br>23°12.9 | 29°07.4<br>23°12.7 | 44°07.2<br>23°12.6 | 59°07.1<br>23°12.5 | 74°07.0<br>23°12.3 | -0.1<br>-0.1 |
| Lu 30 | 269°05.4<br>23°10.4 | 284°05.3<br>23°10.3 | 299°05.1<br>23°10.1 | 314°05.0<br>23°10.0 | 329°04.9<br>23°09.8 | 344°04.8<br>23°09.7 | 359°04.6<br>23°09.5 | 14°04.5<br>23°09.4 | 29°04.4<br>23°09.2 | 44°04.3<br>23°09.1 | 59°04.1<br>23°08.9 | 74°04.0<br>23°08.8 | -0.1<br>-0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2031

| J | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 249°48.9 | 264°18.6 | 278°48.2 | 293°17.7 | 307°47.2 | 322°16.5 | 336°45.8 | 351°15.0 | 5°44.1 | 20°13.1 | 34°42.0 | +29.3 | 15.9 |
| | -10°07.0 | -10°17.8 | -10°28.6 | -10°39.3 | -10°50.1 | -11°00.7 | -11°11.3 | -11°21.9 | -11°32.4 | -11°42.9 | -11°53.3 | -10.6 | 58.2 |
| Lu 2 | 251°44.7 | 266°12.1 | 280°39.4 | 295°06.6 | 309°33.7 | 324°00.8 | 338°27.7 | 352°54.5 | 7°21.3 | 21°47.9 | 36°14.4 | +27.0 | 16.1 |
| | -14°22.8 | -14°32.2 | -14°41.5 | -14°50.8 | -15°00.0 | -15°09.2 | -15°18.2 | -15°27.2 | -15°36.1 | -15°44.9 | -15°53.6 | -9.1 | 59.1 |
| Ma 3 | 252°40.8 | 267°05.8 | 281°30.7 | 295°55.6 | 310°20.3 | 324°44.9 | 339°09.5 | 353°33.9 | 7°58.3 | 22°22.6 | 36°46.8 | +24.6 | 16.4 |
| | -17°52.8 | -17°59.9 | -18°06.9 | -18°13.8 | -18°20.6 | -18°27.3 | -18°33.8 | -18°40.3 | -18°46.6 | -18°52.7 | -18°58.8 | -6.6 | 60.0 |
| Me 4 | 252°40.3 | 267°03.3 | 281°26.3 | 295°49.1 | 310°11.9 | 324°34.7 | 338°57.4 | 353°20.1 | 7°42.7 | 22°05.2 | 36°27.7 | +22.7 | 16.5 |
| | -20°13.9 | -20°17.8 | -20°21.6 | -20°25.2 | -20°28.7 | -20°32.0 | -20°35.1 | -20°38.2 | -20°41.0 | -20°43.7 | -20°46.3 | -3.2 | 60.6 |
| ○ Je 5 | 252°00.8 | 266°22.8 | 280°44.8 | 295°06.8 | 309°28.8 | 323°50.7 | 338°12.7 | 352°34.7 | 6°56.6 | 21°18.6 | 35°40.6 | +22.0 | 16.6 |
| | -21°06.2 | -21°06.2 | -21°06.1 | -21°05.9 | -21°05.4 | -21°04.9 | -21°04.1 | -21°03.2 | -21°02.2 | -21°00.9 | -20°59.6 | +0.7 | 61.0 |
| Ve 6 | 251°12.3 | 265°34.6 | 279°57.0 | 294°19.5 | 308°41.9 | 323°04.4 | 337°27.0 | 351°49.6 | 6°12.3 | 20°35.0 | 34°57.8 | +22.5 | 16.6 |
| | -20°19.9 | -20°16.0 | -20°12.0 | -20°07.8 | -20°03.4 | -19°59.0 | -19°54.3 | -19°49.5 | -19°44.6 | -19°39.6 | -19°34.3 | +4.6 | 61.0 |
| Sa 7 | 250°47.0 | 265°10.8 | 279°34.8 | 293°58.7 | 308°22.8 | 322°47.0 | 337°11.2 | 351°35.5 | 5°59.9 | 20°24.4 | 34°48.9 | +24.2 | 16.6 |
| | -17°59.7 | -17°52.4 | -17°44.9 | -17°37.3 | -17°29.6 | -17°21.8 | -17°13.8 | -17°05.8 | -16°57.6 | -16°49.3 | -16°40.9 | +7.9 | 60.7 |
| Di 8 | 251°07.4 | 265°33.4 | 279°59.4 | 294°25.5 | 308°51.7 | 323°18.0 | 337°44.3 | 352°10.8 | 6°37.3 | 21°03.9 | 35°30.6 | +26.3 | 16.4 |
| | -14°22.9 | -14°13.0 | -14°02.9 | -13°52.8 | -13°42.7 | -13°32.4 | -13°22.1 | -13°11.7 | -13°01.2 | -12°50.6 | -12°40.0 | +10.3 | 60.2 |
| Lu 9 | 252°21.3 | 266°49.3 | 281°17.4 | 295°45.6 | 310°13.8 | 324°42.2 | 339°10.6 | 353°39.1 | 8°07.6 | 22°36.3 | 37°05.0 | +28.4 | 16.2 |
| | -9°53.2 | -9°41.7 | -9°30.1 | -9°18.5 | -9°06.8 | -8°55.1 | -8°43.4 | -8°31.6 | -8°19.8 | -8°07.9 | -7°56.0 | +11.7 | 59.4 |
| Ma 10 | 254°23.7 | 268°53.4 | 283°23.2 | 297°53.1 | 312°23.0 | 326°53.0 | 341°23.0 | 355°53.1 | 10°23.3 | 24°53.5 | 39°23.7 | +30.0 | 16.0 |
| | -4°54.8 | -4°42.5 | -4°30.3 | -4°18.0 | -4°05.8 | -3°53.5 | -3°41.3 | -3°29.0 | -3°16.7 | -3°04.4 | -2°52.1 | +12.3 | 58.6 |
| Me 11 | 257°02.8 | 271°33.7 | 286°04.7 | 300°35.7 | 315°06.8 | 329°37.8 | 344°08.9 | 358°40.0 | 13°11.2 | 27°42.4 | 42°13.6 | +31.1 | 15.7 |
| | 0°11.5 | 0°23.7 | 0°35.8 | 0°48.0 | 1°00.1 | 1°12.2 | 1°24.2 | 1°36.3 | 1°48.3 | 2°00.3 | 2°12.3 | +12.1 | 57.7 |
| ◑ Je 12 | 271°33.7 | 286°04.7 | 300°35.7 | 315°06.8 | 329°37.8 | 344°08.9 | 358°40.0 | 13°11.2 | 27°42.4 | 42°13.6 | 56°44.9 | +31.1 | 15.7 |
| | 0°23.7 | 0°35.8 | 0°48.0 | 1°00.1 | 1°12.2 | 1°24.2 | 1°36.3 | 1°48.3 | 2°00.3 | 2°12.3 | 2°24.3 | +12.1 | 57.7 |
| Ve 13 | 274°36.2 | 289°07.7 | 303°39.3 | 318°10.9 | 332°42.5 | 347°14.1 | 1°45.7 | 16°17.3 | 30°49.0 | 45°20.6 | 59°52.3 | +31.6 | 15.5 |
| | 5°20.1 | 5°31.5 | 5°42.9 | 5°54.3 | 6°05.6 | 6°16.9 | 6°28.2 | 6°39.4 | 6°50.6 | 7°01.7 | 7°12.7 | +11.3 | 56.9 |
| Sa 14 | 277°47.4 | 292°19.0 | 306°50.7 | 321°22.3 | 335°54.0 | 350°25.6 | 4°57.3 | 19°28.9 | 34°00.5 | 48°32.2 | 63°03.8 | +31.6 | 15.3 |
| | 9°53.0 | 10°03.2 | 10°13.4 | 10°23.6 | 10°33.7 | 10°43.7 | 10°53.7 | 11°03.6 | 11°13.4 | 11°23.2 | 11°32.9 | +10.0 | 56.2 |
| Di 15 | 280°56.6 | 295°28.0 | 309°59.4 | 324°30.8 | 339°02.2 | 353°33.6 | 8°04.9 | 22°36.2 | 37°07.5 | 51°38.8 | 66°10.1 | +31.3 | 15.2 |
| | 13°50.9 | 13°59.6 | 14°08.2 | 14°16.7 | 14°25.1 | 14°33.5 | 14°41.7 | 14°49.9 | 14°58.1 | 15°06.1 | 15°14.1 | +8.3 | 55.6 |
| Lu 16 | 283°57.1 | 298°28.1 | 312°59.1 | 327°30.0 | 342°01.0 | 356°31.9 | 11°02.8 | 25°33.7 | 40°04.5 | 54°35.4 | 69°06.2 | +30.9 | 15.0 |
| | 17°04.2 | 17°10.9 | 17°17.5 | 17°24.0 | 17°30.4 | 17°36.7 | 17°43.0 | 17°49.2 | 17°55.2 | 18°01.2 | 18°07.1 | +6.3 | 55.0 |
| Ma 17 | 286°46.7 | 301°17.3 | 315°47.9 | 330°18.4 | 344°49.0 | 359°19.5 | 13°50.1 | 28°20.6 | 42°51.1 | 57°21.6 | 71°52.0 | +30.5 | 14.9 |
| | 19°24.6 | 19°29.0 | 19°33.4 | 19°37.6 | 19°41.7 | 19°45.8 | 19°49.7 | 19°53.6 | 19°57.3 | 20°01.0 | 20°04.5 | +4.0 | 54.6 |
| Me 18 | 289°28.4 | 303°58.8 | 318°29.1 | 332°59.5 | 347°29.9 | 2°00.3 | 16°30.7 | 31°01.1 | 45°31.4 | 60°01.8 | 74°32.2 | +30.4 | 14.8 |
| | 20°46.1 | 20°48.1 | 20°49.9 | 20°51.7 | 20°53.4 | 20°55.0 | 20°56.5 | 20°57.8 | 20°59.1 | 21°00.3 | 21°01.4 | +1.5 | 54.3 |
| ● Je 19 | 292°08.9 | 306°39.4 | 321°09.9 | 335°40.5 | 350°11.0 | 4°41.6 | 19°12.2 | 33°42.8 | 48°13.4 | 62°44.1 | 77°14.7 | +30.6 | 14.7 |
| | 21°05.5 | 21°05.0 | 21°04.3 | 21°03.6 | 21°02.8 | 21°01.9 | 21°00.9 | 20°59.7 | 20°58.5 | 20°57.2 | 20°55.8 | -1.0 | 54.1 |
| Ve 20 | 294°57.0 | 309°28.0 | 323°59.0 | 338°30.1 | 353°01.2 | 7°32.3 | 22°03.4 | 36°34.6 | 51°05.8 | 65°37.0 | 80°08.2 | +31.1 | 14.7 |
| | 20°23.1 | 20°20.2 | 20°17.1 | 20°14.0 | 20°10.8 | 20°07.5 | 20°04.1 | 20°00.6 | 19°57.0 | 19°53.3 | 19°49.6 | -3.4 | 53.9 |
| Sa 21 | 298°00.6 | 312°32.4 | 327°04.1 | 341°36.0 | 356°07.8 | 10°39.7 | 25°11.6 | 39°43.5 | 54°15.5 | 68°47.5 | 83°19.6 | +31.9 | 14.7 |
| | 18°42.6 | 18°37.5 | 18°32.2 | 18°26.9 | 18°21.5 | 18°16.1 | 18°10.5 | 18°04.9 | 17°59.2 | 17°53.4 | 17°47.5 | -5.5 | 53.9 |
| Di 22 | 301°24.3 | 315°56.9 | 330°29.5 | 345°02.1 | 359°34.8 | 14°07.5 | 28°40.3 | 43°13.0 | 57°45.9 | 72°18.7 | 86°51.6 | +32.7 | 14.7 |
| | 16°10.4 | 16°03.3 | 15°56.2 | 15°49.0 | 15°41.8 | 15°34.4 | 15°27.0 | 15°19.6 | 15°12.1 | 15°04.5 | 14°56.8 | -7.4 | 54.0 |
| Lu 23 | 305°08.2 | 319°41.5 | 334°14.9 | 348°48.3 | 3°21.7 | 17°55.1 | 32°28.5 | 47°02.0 | 61°35.5 | 76°09.0 | 90°42.6 | +33.4 | 14.8 |
| | 12°54.6 | 12°45.9 | 12°37.3 | 12°28.5 | 12°19.8 | 12°10.9 | 12°02.0 | 11°53.1 | 11°44.1 | 11°35.1 | 11°26.0 | -8.9 | 54.1 |
| Ma 24 | 309°08.1 | 323°41.9 | 338°15.7 | 352°49.6 | 7°23.4 | 21°57.3 | 36°31.2 | 51°05.1 | 65°39.0 | 80°12.9 | 94°46.8 | +33.9 | 14.9 |
| | 9°03.9 | 8°54.0 | 8°44.2 | 8°34.3 | 8°24.3 | 8°14.3 | 8°04.3 | 7°54.3 | 7°44.2 | 7°34.0 | 7°23.8 | -10.0 | 54.5 |
| Me 25 | 313°15.9 | 327°49.8 | 342°23.7 | 356°57.6 | 11°31.6 | 26°05.5 | 40°39.4 | 55°13.2 | 69°47.1 | 84°21.0 | 98°54.8 | +33.9 | 15.0 |
| | 4°47.3 | 4°36.6 | 4°26.0 | 4°15.2 | 4°04.5 | 3°53.7 | 3°42.9 | 3°32.1 | 3°21.2 | 3°10.4 | 2°59.5 | -10.8 | 54.9 |
| Je 26 | 317°20.7 | 331°54.2 | 346°27.7 | 1°01.2 | 15°34.7 | 30°08.1 | 44°41.5 | 59°14.9 | 73°48.2 | 88°21.6 | 102°54.8 | +33.4 | 15.1 |
| | 0°14.1 | 0°02.9 | -0°08.2 | -0°19.4 | -0°30.5 | -0°41.7 | -0°52.9 | -1°04.1 | -1°15.3 | -1°26.5 | -1°37.7 | -11.2 | 55.5 |
| Ve 27 | 321°09.3 | 335°41.9 | 350°14.4 | 4°47.0 | 19°19.4 | 33°51.8 | 48°24.2 | 62°56.4 | 77°28.7 | 92°00.9 | 106°33.0 | +32.4 | 15.4 |
| | -4°26.0 | -4°37.1 | -4°48.3 | -4°59.5 | -5°10.7 | -5°21.8 | -5°32.9 | -5°44.1 | -5°55.2 | -6°06.3 | -6°17.4 | -11.1 | 56.3 |
| ◐ Sa 28 | 324°27.3 | 338°58.4 | 353°29.4 | 8°00.3 | 22°31.2 | 37°01.9 | 51°32.6 | 66°03.3 | 80°33.8 | 95°04.3 | 109°34.7 | +30.7 | 15.6 |
| | -9°01.2 | -9°11.9 | -9°22.6 | -9°33.3 | -9°43.9 | -9°54.5 | -10°05.1 | -10°15.6 | -10°26.1 | -10°36.5 | -10°46.9 | -10.6 | 57.2 |
| Di 29 | 327°00.3 | 341°29.3 | 355°58.3 | 10°27.1 | 24°55.8 | 39°24.4 | 53°53.0 | 68°21.4 | 82°49.8 | 97°18.0 | 111°46.2 | +28.6 | 15.9 |
| | -13°17.4 | -13°27.0 | -13°36.5 | -13°46.0 | -13°55.4 | -14°04.8 | -14°14.1 | -14°23.3 | -14°32.4 | -14°41.5 | -14°50.5 | -9.3 | 58.2 |
| Lu 30 | 328°36.9 | 343°03.5 | 357°29.9 | 11°56.3 | 26°22.6 | 40°48.8 | 55°14.9 | 69°40.9 | 84°06.8 | 98°32.6 | 112°58.3 | +26.1 | 16.1 |
| | -16°56.4 | -17°04.0 | -17°11.6 | -17°19.2 | -17°26.6 | -17°33.9 | -17°41.1 | -17°48.2 | -17°55.2 | -18°02.1 | -18°08.9 | -7.3 | 59.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 5 11h58 — DQ: 12 02h20 — NL: 19 22h24 — PQ: 28 00h19

# SOLEIL

## Juillet 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 269°02.5 | 284°02.3 | 299°02.2 | 314°02.1 | 329°02.0 | 344°01.8 | 359°01.7 | 14°01.6 | 29°01.5 | 44°01.4 | 59°01.3 | 74°01.1 | -0.1 |
| | 23°06.7 | 23°06.5 | 23°06.3 | 23°06.2 | 23°06.0 | 23°05.8 | 23°05.7 | 23°05.5 | 23°05.3 | 23°05.2 | 23°05.0 | 23°04.8 | -0.2 |
| Me 2 | 268°59.6 | 283°59.5 | 298°59.4 | 313°59.2 | 328°59.1 | 343°59.0 | 358°58.9 | 13°58.8 | 28°58.7 | 43°58.5 | 58°58.4 | 73°58.3 | -0.1 |
| | 23°02.5 | 23°02.3 | 23°02.1 | 23°01.9 | 23°01.8 | 23°01.6 | 23°01.4 | 23°01.2 | 23°01.0 | 23°00.8 | 23°00.6 | 23°00.4 | -0.2 |
| Je 3 | 268°56.8 | 283°56.7 | 298°56.6 | 313°56.5 | 328°56.3 | 343°56.2 | 358°56.1 | 13°56.0 | 28°55.9 | 43°55.8 | 58°55.7 | 73°55.6 | -0.1 |
| | 22°57.9 | 22°57.7 | 22°57.5 | 22°57.3 | 22°57.1 | 22°56.9 | 22°56.7 | 22°56.5 | 22°56.3 | 22°56.1 | 22°55.9 | 22°55.7 | -0.2 |
| Ve 4 | 268°54.1 | 283°54.0 | 298°53.9 | 313°53.8 | 328°53.7 | 343°53.5 | 358°53.4 | 13°53.3 | 28°53.2 | 43°53.1 | 58°53.0 | 73°52.9 | -0.1 |
| | 22°52.9 | 22°52.7 | 22°52.5 | 22°52.3 | 22°52.1 | 22°51.9 | 22°51.6 | 22°51.4 | 22°51.2 | 22°51.0 | 22°50.8 | 22°50.5 | -0.2 |
| Sa 5 | 268°51.5 | 283°51.4 | 298°51.3 | 313°51.1 | 328°51.0 | 343°50.9 | 358°50.8 | 13°50.7 | 28°50.6 | 43°50.5 | 58°50.4 | 73°50.3 | -0.1 |
| | 22°47.6 | 22°47.3 | 22°47.1 | 22°46.9 | 22°46.6 | 22°46.4 | 22°46.2 | 22°45.9 | 22°45.7 | 22°45.5 | 22°45.2 | 22°45.0 | -0.2 |
| Di 6 | 268°48.9 | 283°48.8 | 298°48.7 | 313°48.6 | 328°48.5 | 343°48.4 | 358°48.3 | 13°48.2 | 28°48.1 | 43°48.0 | 58°47.9 | 73°47.8 | -0.1 |
| | 22°41.8 | 22°41.5 | 22°41.3 | 22°41.0 | 22°40.8 | 22°40.5 | 22°40.3 | 22°40.0 | 22°39.8 | 22°39.5 | 22°39.3 | 22°39.0 | -0.3 |
| Lu 7 | 268°46.5 | 283°46.4 | 298°46.3 | 313°46.2 | 328°46.1 | 343°46.0 | 358°45.9 | 13°45.8 | 28°45.7 | 43°45.6 | 58°45.5 | 73°45.4 | -0.1 |
| | 22°35.6 | 22°35.4 | 22°35.1 | 22°34.8 | 22°34.6 | 22°34.3 | 22°34.0 | 22°33.8 | 22°33.5 | 22°33.2 | 22°32.9 | 22°32.7 | -0.3 |
| Ma 8 | 268°44.1 | 283°44.0 | 298°43.9 | 313°43.8 | 328°43.7 | 343°43.6 | 358°43.5 | 13°43.4 | 28°43.3 | 43°43.2 | 58°43.1 | 73°43.0 | -0.1 |
| | 22°29.1 | 22°28.8 | 22°28.5 | 22°28.2 | 22°27.9 | 22°27.7 | 22°27.4 | 22°27.1 | 22°26.8 | 22°26.5 | 22°26.2 | 22°25.9 | -0.3 |
| Me 9 | 268°41.8 | 283°41.7 | 298°41.6 | 313°41.5 | 328°41.5 | 343°41.4 | 358°41.3 | 13°41.2 | 28°41.1 | 43°41.0 | 58°40.9 | 73°40.8 | -0.1 |
| | 22°22.1 | 22°21.8 | 22°21.5 | 22°21.2 | 22°20.9 | 22°20.6 | 22°20.3 | 22°20.0 | 22°19.7 | 22°19.4 | 22°19.1 | 22°18.8 | -0.3 |
| Je 10 | 268°39.6 | 283°39.6 | 298°39.5 | 313°39.4 | 328°39.3 | 343°39.2 | 358°39.1 | 13°39.0 | 28°38.9 | 43°38.9 | 58°38.8 | 73°38.7 | -0.1 |
| | 22°14.8 | 22°14.5 | 22°14.2 | 22°13.9 | 22°13.5 | 22°13.2 | 22°12.9 | 22°12.6 | 22°12.3 | 22°11.9 | 22°11.6 | 22°11.3 | -0.3 |
| Ve 11 | 268°37.6 | 283°37.5 | 298°37.4 | 313°37.3 | 328°37.2 | 343°37.2 | 358°37.1 | 13°37.0 | 28°36.9 | 43°36.8 | 58°36.7 | 73°36.7 | -0.1 |
| | 22°07.1 | 22°06.8 | 22°06.4 | 22°06.1 | 22°05.8 | 22°05.4 | 22°05.1 | 22°04.8 | 22°04.4 | 22°04.1 | 22°03.8 | 22°03.4 | -0.3 |
| Sa 12 | 268°35.6 | 283°35.5 | 298°35.4 | 313°35.4 | 328°35.3 | 343°35.2 | 358°35.1 | 13°35.1 | 28°35.0 | 43°34.9 | 58°34.8 | 73°34.7 | -0.1 |
| | 21°59.0 | 21°58.6 | 21°58.3 | 21°57.9 | 21°57.6 | 21°57.2 | 21°56.9 | 21°56.6 | 21°56.2 | 21°55.8 | 21°55.5 | 21°55.1 | -0.3 |
| Di 13 | 268°33.8 | 283°33.7 | 298°33.6 | 313°33.5 | 328°33.5 | 343°33.4 | 358°33.3 | 13°33.2 | 28°33.2 | 43°33.1 | 58°33.0 | 73°32.9 | -0.1 |
| | 21°50.5 | 21°50.1 | 21°49.8 | 21°49.4 | 21°49.1 | 21°48.7 | 21°48.3 | 21°48.0 | 21°47.6 | 21°47.2 | 21°46.9 | 21°46.5 | -0.4 |
| Lu 14 | 268°32.0 | 283°31.9 | 298°31.9 | 313°31.8 | 328°31.7 | 343°31.7 | 358°31.6 | 13°31.5 | 28°31.5 | 43°31.4 | 58°31.3 | 73°31.2 | -0.1 |
| | 21°41.7 | 21°41.3 | 21°40.9 | 21°40.5 | 21°40.1 | 21°39.8 | 21°39.4 | 21°39.0 | 21°38.6 | 21°38.2 | 21°37.9 | 21°37.5 | -0.4 |
| Ma 15 | 268°30.4 | 283°30.3 | 298°30.3 | 313°30.2 | 328°30.1 | 343°30.1 | 358°30.0 | 13°29.9 | 28°29.9 | 43°29.8 | 58°29.7 | 73°29.7 | -0.1 |
| | 21°32.4 | 21°32.0 | 21°31.7 | 21°31.3 | 21°30.9 | 21°30.5 | 21°30.1 | 21°29.7 | 21°29.3 | 21°28.9 | 21°28.5 | 21°28.1 | -0.4 |
| Me 16 | 268°28.9 | 283°28.8 | 298°28.8 | 313°28.7 | 328°28.6 | 343°28.6 | 358°28.5 | 13°28.5 | 28°28.4 | 43°28.4 | 58°28.3 | 73°28.2 | -0.1 |
| | 21°22.8 | 21°22.4 | 21°22.0 | 21°21.6 | 21°21.2 | 21°20.8 | 21°20.4 | 21°20.0 | 21°19.6 | 21°19.2 | 21°18.7 | 21°18.3 | -0.4 |
| Je 17 | 268°27.5 | 283°27.5 | 298°27.4 | 313°27.3 | 328°27.3 | 343°27.2 | 358°27.2 | 13°27.1 | 28°27.1 | 43°27.0 | 58°27.0 | 73°26.9 | -0.1 |
| | 21°12.9 | 21°12.5 | 21°12.0 | 21°11.6 | 21°11.2 | 21°10.8 | 21°10.4 | 21°09.9 | 21°09.5 | 21°09.1 | 21°08.6 | 21°08.2 | -0.4 |
| Ve 18 | 268°26.3 | 283°26.2 | 298°26.2 | 313°26.1 | 328°26.1 | 343°26.0 | 358°26.0 | 13°25.9 | 28°25.9 | 43°25.8 | 58°25.8 | 73°25.7 | -0.0 |
| | 21°02.6 | 21°02.1 | 21°01.7 | 21°01.3 | 21°00.8 | 21°00.4 | 20°59.9 | 20°59.5 | 20°59.1 | 20°58.6 | 20°58.2 | 20°57.7 | -0.4 |
| Sa 19 | 268°25.1 | 283°25.1 | 298°25.1 | 313°25.0 | 328°25.0 | 343°24.9 | 358°24.9 | 13°24.8 | 28°24.8 | 43°24.8 | 58°24.7 | 73°24.7 | -0.0 |
| | 20°51.9 | 20°51.5 | 20°51.0 | 20°50.6 | 20°50.1 | 20°49.6 | 20°49.2 | 20°48.7 | 20°48.3 | 20°47.8 | 20°47.4 | 20°46.9 | -0.5 |
| Di 20 | 268°24.2 | 283°24.1 | 298°24.1 | 313°24.1 | 328°24.0 | 343°24.0 | 358°24.0 | 13°23.9 | 28°23.9 | 43°23.8 | 58°23.8 | 73°23.8 | -0.0 |
| | 20°40.9 | 20°40.4 | 20°40.0 | 20°39.5 | 20°39.0 | 20°38.6 | 20°38.1 | 20°37.6 | 20°37.1 | 20°36.7 | 20°36.2 | 20°35.7 | -0.5 |
| Lu 21 | 268°23.3 | 283°23.3 | 298°23.3 | 313°23.2 | 328°23.2 | 343°23.2 | 358°23.2 | 13°23.1 | 28°23.1 | 43°23.1 | 58°23.0 | 73°23.0 | -0.0 |
| | 20°29.5 | 20°29.1 | 20°28.6 | 20°28.1 | 20°27.6 | 20°27.1 | 20°26.6 | 20°26.2 | 20°25.7 | 20°25.2 | 20°24.7 | 20°24.2 | -0.5 |
| Ma 22 | 268°22.6 | 283°22.6 | 298°22.6 | 313°22.6 | 328°22.5 | 343°22.5 | 358°22.5 | 13°22.5 | 28°22.4 | 43°22.4 | 58°22.4 | 73°22.4 | -0.0 |
| | 20°17.8 | 20°17.3 | 20°16.8 | 20°16.3 | 20°15.8 | 20°15.3 | 20°14.8 | 20°14.3 | 20°13.8 | 20°13.3 | 20°12.8 | 20°12.3 | -0.5 |
| Me 23 | 268°22.1 | 283°22.1 | 298°22.1 | 313°22.0 | 328°22.0 | 343°22.0 | 358°22.0 | 13°22.0 | 28°21.9 | 43°21.9 | 58°21.9 | 73°21.9 | -0.0 |
| | 20°05.8 | 20°05.3 | 20°04.8 | 20°04.2 | 20°03.7 | 20°03.2 | 20°02.7 | 20°02.2 | 20°01.7 | 20°01.2 | 20°00.7 | 20°00.1 | -0.5 |
| Je 24 | 268°21.7 | 283°21.7 | 298°21.7 | 313°21.7 | 328°21.6 | 343°21.6 | 358°21.6 | 13°21.6 | 28°21.6 | 43°21.6 | 58°21.6 | 73°21.6 | -0.0 |
| | 19°53.4 | 19°52.9 | 19°52.3 | 19°51.8 | 19°51.3 | 19°50.8 | 19°50.2 | 19°49.7 | 19°49.2 | 19°48.7 | 19°48.1 | 19°47.6 | -0.5 |
| Ve 25 | 268°21.5 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.4 | 13°21.4 | 28°21.4 | 43°21.4 | 58°21.4 | 73°21.4 | -0.0 |
| | 19°40.7 | 19°40.1 | 19°39.6 | 19°39.1 | 19°38.5 | 19°38.0 | 19°37.4 | 19°36.9 | 19°36.4 | 19°35.8 | 19°35.3 | 19°34.7 | -0.5 |
| Sa 26 | 268°21.4 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.4 | 13°21.4 | 28°21.4 | 43°21.4 | 58°21.4 | 73°21.4 | +0.0 |
| | 19°27.6 | 19°27.1 | 19°26.5 | 19°26.0 | 19°25.4 | 19°24.9 | 19°24.3 | 19°23.8 | 19°23.2 | 19°22.7 | 19°22.1 | 19°21.6 | -0.6 |
| Di 27 | 268°21.4 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.5 | 13°21.5 | 28°21.5 | 43°21.5 | 58°21.5 | 73°21.5 | +0.0 |
| | 19°14.3 | 19°13.7 | 19°13.2 | 19°12.6 | 19°12.0 | 19°11.5 | 19°10.9 | 19°10.3 | 19°09.8 | 19°09.2 | 19°08.6 | 19°08.1 | -0.6 |
| Lu 28 | 268°21.6 | 283°21.6 | 298°21.7 | 313°21.7 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.8 | 73°21.8 | +0.0 |
| | 19°00.6 | 19°00.0 | 18°59.4 | 18°58.9 | 18°58.3 | 18°57.7 | 18°57.1 | 18°56.6 | 18°56.0 | 18°55.4 | 18°54.8 | 18°54.2 | -0.6 |
| Ma 29 | 268°22.0 | 283°22.0 | 298°22.0 | 313°22.1 | 328°22.1 | 343°22.1 | 358°22.1 | 13°22.1 | 28°22.2 | 43°22.2 | 58°22.2 | 73°22.2 | +0.0 |
| | 18°46.6 | 18°46.0 | 18°45.4 | 18°44.8 | 18°44.3 | 18°43.7 | 18°43.1 | 18°42.5 | 18°41.9 | 18°41.3 | 18°40.7 | 18°40.1 | -0.6 |
| Me 30 | 268°22.5 | 283°22.6 | 298°22.6 | 313°22.6 | 328°22.6 | 343°22.7 | 358°22.7 | 13°22.7 | 28°22.7 | 43°22.8 | 58°22.8 | 73°22.8 | +0.0 |
| | 18°32.3 | 18°31.7 | 18°31.1 | 18°30.5 | 18°29.9 | 18°29.3 | 18°28.7 | 18°28.1 | 18°27.5 | 18°26.9 | 18°26.3 | 18°25.7 | -0.6 |
| Je 31 | 268°23.2 | 283°23.2 | 298°23.3 | 313°23.3 | 328°23.3 | 343°23.4 | 358°23.4 | 13°23.4 | 28°23.5 | 43°23.5 | 58°23.5 | 73°23.6 | +0.0 |
| | 18°17.7 | 18°17.1 | 18°16.5 | 18°15.9 | 18°15.3 | 18°14.6 | 18°14.0 | 18°13.4 | 18°12.8 | 18°12.2 | 18°11.6 | 18°10.9 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2031

| J | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 257°10.1 | 271°34.8 | 285°59.4 | 300°23.9 | 314°48.3 | 329°12.6 | 343°36.8 | 358°00.9 | 12°25.0 | 26°49.0 | 41°12.9 | +24.3 | 16.3 |
| | -19°10.7 | -19°16.2 | -19°21.6 | -19°26.9 | -19°32.1 | -19°37.1 | -19°42.0 | -19°46.8 | -19°51.4 | -19°56.0 | -20°00.3 | -5.0 | 59.9 |
| Me 2 | 257°02.3 | 271°25.1 | 285°47.8 | 300°10.4 | 314°33.1 | 328°55.6 | 343°18.1 | 357°40.6 | 12°03.0 | 26°25.3 | 40°47.7 | +22.5 | 16.5 |
| | -20°49.4 | -20°51.5 | -20°53.5 | -20°55.3 | -20°56.9 | -20°58.4 | -20°59.8 | -21°01.0 | -21°02.0 | -21°02.9 | -21°03.6 | -1.4 | 60.7 |
| Je 3 | 256°18.9 | 270°40.9 | 285°02.8 | 299°24.7 | 313°46.7 | 328°08.6 | 342°30.5 | 356°52.5 | 11°14.4 | 25°36.4 | 39°58.3 | +21.9 | 16.7 |
| | -20°55.5 | -20°53.7 | -20°51.8 | -20°49.6 | -20°47.3 | -20°44.9 | -20°42.3 | -20°39.5 | -20°36.5 | -20°33.5 | -20°30.2 | +2.5 | 61.2 |
| ○ Ve 4 | 255°30.6 | 269°53.0 | 284°15.5 | 298°38.0 | 313°00.5 | 327°23.2 | 341°45.8 | 356°08.5 | 10°31.3 | 24°54.1 | 39°17.0 | +22.6 | 16.7 |
| | -19°22.9 | -19°17.3 | -19°11.4 | -19°05.5 | -18°59.3 | -18°53.1 | -18°46.7 | -18°40.1 | -18°33.4 | -18°26.6 | -18°19.7 | +6.3 | 61.4 |
| Sa 5 | 255°07.9 | 269°31.8 | 283°55.9 | 298°20.0 | 312°44.1 | 327°08.4 | 341°32.7 | 355°57.2 | 10°21.6 | 24°46.2 | 39°10.9 | +24.3 | 16.7 |
| | -16°20.0 | -16°11.0 | -16°02.0 | -15°52.8 | -15°43.6 | -15°34.2 | -15°24.7 | -15°15.1 | -15°05.4 | -14°55.7 | -14°45.8 | +9.4 | 61.2 |
| Di 6 | 255°30.5 | 269°56.4 | 284°22.5 | 298°48.6 | 313°14.8 | 327°41.1 | 342°07.5 | 356°34.0 | 11°00.5 | 25°27.1 | 39°53.8 | +26.3 | 16.5 |
| | -12°07.1 | -11°55.9 | -11°44.6 | -11°33.3 | -11°21.9 | -11°10.4 | -10°58.9 | -10°47.3 | -10°35.6 | -10°23.9 | -10°12.2 | +11.5 | 60.6 |
| Lu 7 | 256°43.6 | 271°11.6 | 285°39.5 | 300°07.6 | 314°35.7 | 329°03.9 | 343°32.2 | 358°00.6 | 12°29.0 | 26°57.4 | 41°26.0 | +28.2 | 16.3 |
| | -7°10.5 | -6°58.1 | -6°45.7 | -6°33.2 | -6°20.7 | -6°08.2 | -5°55.7 | -5°43.2 | -5°30.6 | -5°18.1 | -5°05.5 | +12.5 | 59.9 |
| Ma 8 | 258°41.4 | 273°10.9 | 287°40.5 | 302°10.1 | 316°39.7 | 331°09.4 | 345°39.1 | 0°08.9 | 14°38.7 | 29°08.6 | 43°38.5 | +29.7 | 16.1 |
| | -1°55.9 | -1°43.3 | -1°30.6 | -1°18.0 | -1°05.4 | -0°52.8 | -0°40.2 | -0°27.7 | -0°15.1 | -0°02.6 | 0°09.9 | +12.6 | 58.9 |
| Me 9 | 261°12.2 | 275°42.8 | 290°13.3 | 304°43.9 | 319°14.5 | 333°45.2 | 348°15.9 | 2°46.6 | 17°17.3 | 31°48.0 | 46°18.8 | +30.7 | 15.8 |
| | 3°14.9 | 3°27.0 | 3°39.1 | 3°51.1 | 4°03.1 | 4°15.1 | 4°27.0 | 4°38.9 | 4°50.7 | 5°02.5 | 5°14.3 | +11.9 | 58.0 |
| Je 10 | 264°02.9 | 278°33.9 | 293°05.0 | 307°36.1 | 322°07.2 | 336°38.3 | 351°09.4 | 5°40.6 | 20°11.7 | 34°42.8 | 49°14.0 | +31.1 | 15.5 |
| | 8°05.0 | 8°16.0 | 8°26.9 | 8°37.8 | 8°48.6 | 8°59.4 | 9°10.1 | 9°20.7 | 9°31.3 | 9°41.8 | 9°52.2 | +10.7 | 57.0 |
| ◑ Ve 11 | 278°33.9 | 293°05.0 | 307°36.1 | 322°07.2 | 336°38.3 | 351°09.4 | 5°40.6 | 20°11.7 | 34°42.8 | 49°14.0 | 63°45.1 | +31.1 | 15.5 |
| | 8°16.0 | 8°26.9 | 8°37.8 | 8°48.6 | 8°59.4 | 9°10.1 | 9°20.7 | 9°31.3 | 9°41.8 | 9°52.2 | 10°02.6 | +10.7 | 57.0 |
| Sa 12 | 281°32.7 | 296°03.9 | 310°35.1 | 325°06.2 | 339°37.4 | 354°08.6 | 8°39.7 | 23°10.9 | 37°42.0 | 52°13.2 | 66°44.3 | +31.2 | 15.3 |
| | 12°30.8 | 12°40.1 | 12°49.4 | 12°58.6 | 13°07.7 | 13°16.7 | 13°25.7 | 13°34.6 | 13°43.4 | 13°52.2 | 14°00.8 | +9.0 | 56.1 |
| Di 13 | 284°30.4 | 299°01.4 | 313°32.4 | 328°03.4 | 342°34.3 | 357°05.3 | 11°36.3 | 26°07.2 | 40°38.1 | 55°09.0 | 69°39.9 | +31.0 | 15.1 |
| | 16°01.5 | 16°08.9 | 16°16.2 | 16°23.4 | 16°30.6 | 16°37.6 | 16°44.6 | 16°51.5 | 16°58.3 | 17°05.0 | 17°11.6 | +7.0 | 55.4 |
| Lu 14 | 287°22.2 | 301°52.9 | 316°23.7 | 330°54.4 | 345°25.1 | 359°55.8 | 14°26.4 | 28°57.1 | 43°27.8 | 57°58.4 | 72°29.1 | +30.7 | 15.0 |
| | 18°40.4 | 18°45.6 | 18°50.7 | 18°55.7 | 19°00.6 | 19°05.4 | 19°10.1 | 19°14.8 | 19°19.3 | 19°23.7 | 19°28.1 | +4.8 | 54.8 |
| Ma 15 | 290°07.9 | 304°38.4 | 319°09.0 | 333°39.5 | 348°10.0 | 2°40.6 | 17°11.1 | 31°41.6 | 46°12.1 | 60°42.7 | 75°13.2 | +30.5 | 14.8 |
| | 20°21.8 | 20°24.6 | 20°27.3 | 20°29.9 | 20°32.4 | 20°34.8 | 20°37.1 | 20°39.3 | 20°41.4 | 20°43.5 | 20°45.4 | +2.4 | 54.4 |
| Me 16 | 292°51.3 | 307°21.9 | 321°52.5 | 336°23.0 | 350°53.6 | 5°24.3 | 19°54.9 | 34°25.5 | 48°56.1 | 63°26.8 | 77°57.5 | +30.6 | 14.8 |
| | 21°02.2 | 21°02.6 | 21°02.8 | 21°03.0 | 21°03.0 | 21°02.9 | 21°02.8 | 21°02.5 | 21°02.1 | 21°01.7 | 21°01.1 | -0.1 | 54.1 |
| Je 17 | 295°39.0 | 310°09.9 | 324°40.9 | 339°11.8 | 353°42.8 | 8°13.8 | 22°44.8 | 37°15.8 | 51°46.8 | 66°17.9 | 80°49.0 | +31.0 | 14.7 |
| | 20°41.2 | 20°39.0 | 20°36.9 | 20°34.6 | 20°32.2 | 20°29.7 | 20°27.1 | 20°24.5 | 20°21.7 | 20°18.8 | 20°15.9 | -2.5 | 53.9 |
| Ve 18 | 298°38.3 | 313°09.8 | 327°41.3 | 342°12.9 | 356°44.4 | 11°16.0 | 25°47.7 | 40°19.3 | 54°51.0 | 69°22.8 | 83°54.5 | +31.6 | 14.7 |
| | 19°20.8 | 19°16.4 | 19°12.0 | 19°07.4 | 19°02.8 | 18°58.0 | 18°53.2 | 18°48.3 | 18°43.4 | 18°38.3 | 18°33.1 | -4.8 | 53.9 |
| ● Sa 19 | 301°54.5 | 316°26.7 | 330°59.0 | 345°31.3 | 0°03.6 | 14°36.0 | 29°08.4 | 43°40.8 | 58°13.3 | 72°45.8 | 87°18.3 | +32.4 | 14.7 |
| | 17°06.3 | 16°59.9 | 16°53.5 | 16°46.9 | 16°40.3 | 16°33.6 | 16°26.8 | 16°20.0 | 16°13.0 | 16°06.0 | 15°59.0 | -6.7 | 53.9 |
| Di 20 | 305°29.8 | 320°02.8 | 334°35.8 | 349°08.8 | 3°41.9 | 18°15.0 | 32°48.2 | 47°21.3 | 61°54.5 | 76°27.7 | 91°01.0 | +33.1 | 14.7 |
| | 14°05.1 | 13°57.0 | 13°48.8 | 13°40.6 | 13°32.3 | 13°23.9 | 13°15.5 | 13°07.1 | 12°58.6 | 12°50.0 | 12°41.4 | -8.4 | 54.1 |
| Lu 21 | 309°22.4 | 323°56.0 | 338°29.6 | 353°03.2 | 7°36.9 | 22°10.5 | 36°44.2 | 51°17.9 | 65°51.7 | 80°25.4 | 94°59.1 | +33.7 | 14.8 |
| | 10°25.7 | 10°16.2 | 10°06.8 | 9°57.2 | 9°47.7 | 9°38.1 | 9°28.4 | 9°18.7 | 9°09.0 | 8°59.2 | 8°49.4 | -9.6 | 54.3 |
| Ma 22 | 313°26.8 | 328°00.8 | 342°34.7 | 357°08.6 | 11°42.5 | 26°16.5 | 40°50.4 | 55°24.3 | 69°58.3 | 84°32.2 | 99°06.1 | +33.9 | 14.9 |
| | 6°17.6 | 6°07.2 | 5°56.8 | 5°46.4 | 5°35.9 | 5°25.4 | 5°14.9 | 5°04.3 | 4°53.8 | 4°43.2 | 4°32.5 | -10.5 | 54.6 |
| Me 23 | 317°34.7 | 332°08.6 | 346°42.4 | 1°16.2 | 15°50.0 | 30°23.8 | 44°57.6 | 59°31.3 | 74°05.0 | 88°38.8 | 103°12.5 | +33.8 | 15.0 |
| | 1°50.6 | 1°39.7 | 1°28.8 | 1°17.8 | 1°06.8 | 0°55.9 | 0°44.9 | 0°33.9 | 0°22.9 | 0°11.8 | 0°00.8 | -11.0 | 55.1 |
| Je 24 | 321°35.2 | 336°08.5 | 350°41.8 | 5°15.0 | 19°48.2 | 34°21.3 | 48°54.5 | 63°27.5 | 78°00.6 | 92°33.6 | 107°06.6 | +33.1 | 15.2 |
| | -2°45.0 | -2°56.1 | -3°07.1 | -3°18.2 | -3°29.2 | -3°40.3 | -3°51.3 | -4°02.3 | -4°13.3 | -4°24.3 | -4°35.3 | -11.0 | 55.6 |
| Ve 25 | 325°15.9 | 339°48.1 | 354°20.3 | 8°52.4 | 23°24.5 | 37°56.5 | 52°28.4 | 67°00.3 | 81°32.1 | 96°03.9 | 110°35.6 | +32.0 | 15.3 |
| | -7°18.4 | -7°29.1 | -7°39.8 | -7°50.4 | -8°01.1 | -8°11.7 | -8°22.3 | -8°32.8 | -8°43.4 | -8°53.8 | -9°04.3 | -10.6 | 56.3 |
| Sa 26 | 328°23.6 | 342°54.3 | 357°24.9 | 11°55.4 | 26°25.8 | 40°56.1 | 55°26.4 | 69°56.6 | 84°26.7 | 98°56.8 | 113°26.7 | +30.3 | 15.6 |
| | -11°36.8 | -11°46.7 | -11°56.4 | -12°06.2 | -12°15.8 | -12°25.5 | -12°35.1 | -12°44.6 | -12°54.0 | -13°03.5 | -13°12.8 | -9.6 | 57.0 |
| ◐ Di 27 | 330°46.4 | 345°15.0 | 359°43.6 | 14°12.0 | 28°40.4 | 43°08.7 | 57°36.9 | 72°05.0 | 86°33.0 | 101°01.0 | 115°28.8 | +28.2 | 15.8 |
| | -15°25.6 | -15°33.9 | -15°42.1 | -15°50.3 | -15°58.3 | -16°06.3 | -16°14.2 | -16°22.0 | -16°29.8 | -16°37.4 | -16°45.0 | -7.9 | 57.9 |
| Lu 28 | 332°15.8 | 346°42.2 | 1°08.6 | 15°34.8 | 30°01.0 | 44°27.1 | 58°53.1 | 73°19.0 | 87°44.8 | 102°10.5 | 116°36.2 | +26.0 | 16.0 |
| | -18°27.4 | -18°33.4 | -18°39.3 | -18°45.1 | -18°50.8 | -18°56.4 | -19°01.9 | -19°07.3 | -19°12.5 | -19°17.7 | -19°22.7 | -5.5 | 58.8 |
| Ma 29 | 332°51.4 | 347°15.8 | 1°40.2 | 16°04.4 | 30°28.6 | 44°52.8 | 59°16.9 | 73°40.9 | 88°04.8 | 102°28.7 | 116°52.6 | +24.1 | 16.3 |
| | -20°23.4 | -20°26.4 | -20°29.3 | -20°32.0 | -20°34.6 | -20°37.1 | -20°39.4 | -20°41.6 | -20°43.7 | -20°45.6 | -20°47.4 | -2.4 | 59.7 |
| Me 30 | 332°43.9 | 347°07.0 | 1°30.1 | 15°53.1 | 30°16.1 | 44°39.1 | 59°02.0 | 73°24.9 | 87°47.8 | 102°10.7 | 116°33.5 | +23.0 | 16.5 |
| | -20°56.6 | -20°56.0 | -20°55.2 | -20°54.4 | -20°53.3 | -20°52.2 | -20°50.8 | -20°49.3 | -20°47.7 | -20°45.9 | -20°44.0 | +1.3 | 60.4 |
| Je 31 | 332°15.4 | 346°38.2 | 1°01.0 | 15°23.8 | 29°46.7 | 44°09.5 | 58°32.4 | 72°55.3 | 87°18.2 | 101°41.2 | 116°04.2 | +22.9 | 16.6 |
| | -19°56.6 | -19°52.2 | -19°47.7 | -19°43.0 | -19°38.2 | -19°33.3 | -19°28.2 | -19°22.9 | -19°17.5 | -19°12.0 | -19°06.3 | +5.0 | 60.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24

PL: 4 19h01 — DQ: 11 11h49 — NL: 19 13h40 — PQ: 27 10h34

# SOLEIL

## Août 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 268°24.0 | 283°24.1 | 298°24.1 | 313°24.2 | 328°24.2 | 343°24.2 | 358°24.3 | 13°24.3 | 28°24.4 | 43°24.4 | 58°24.4 | 73°24.5 | +0.0 |
| | 18°02.8 | 18°02.2 | 18°01.6 | 18°00.9 | 18°00.3 | 17°59.7 | 17°59.1 | 17°58.4 | 17°57.8 | 17°57.2 | 17°56.5 | 17°55.9 | -0.6 |
| Sa 2 | 268°25.0 | 283°25.1 | 298°25.1 | 313°25.2 | 328°25.2 | 343°25.3 | 358°25.3 | 13°25.4 | 28°25.4 | 43°25.5 | 58°25.5 | 73°25.5 | +0.0 |
| | 17°47.6 | 17°47.0 | 17°46.4 | 17°45.7 | 17°45.1 | 17°44.4 | 17°43.8 | 17°43.2 | 17°42.5 | 17°41.9 | 17°41.2 | 17°40.6 | -0.6 |
| Di 3 | 268°26.2 | 283°26.2 | 298°26.3 | 313°26.3 | 328°26.4 | 343°26.4 | 358°26.5 | 13°26.5 | 28°26.6 | 43°26.7 | 58°26.7 | 73°26.8 | +0.1 |
| | 17°32.2 | 17°31.5 | 17°30.9 | 17°30.2 | 17°29.5 | 17°28.9 | 17°28.2 | 17°27.6 | 17°26.9 | 17°26.3 | 17°25.6 | 17°25.0 | -0.7 |
| Lu 4 | 268°27.5 | 283°27.5 | 298°27.6 | 313°27.7 | 328°27.7 | 343°27.8 | 358°27.8 | 13°27.9 | 28°27.9 | 43°28.0 | 58°28.1 | 73°28.1 | +0.1 |
| | 17°16.4 | 17°15.7 | 17°15.1 | 17°14.4 | 17°13.7 | 17°13.1 | 17°12.4 | 17°11.7 | 17°11.1 | 17°10.4 | 17°09.7 | 17°09.1 | -0.7 |
| Ma 5 | 268°28.9 | 283°29.0 | 298°29.1 | 313°29.1 | 328°29.2 | 343°29.2 | 358°29.3 | 13°29.4 | 28°29.4 | 43°29.5 | 58°29.6 | 73°29.6 | +0.1 |
| | 17°00.3 | 16°59.7 | 16°59.0 | 16°58.3 | 16°57.6 | 16°57.0 | 16°56.3 | 16°55.6 | 16°54.9 | 16°54.3 | 16°53.6 | 16°52.9 | -0.7 |
| Me 6 | 268°30.5 | 283°30.6 | 298°30.7 | 313°30.7 | 328°30.8 | 343°30.9 | 358°30.9 | 13°31.0 | 28°31.1 | 43°31.2 | 58°31.2 | 73°31.3 | +0.1 |
| | 16°44.0 | 16°43.3 | 16°42.7 | 16°42.0 | 16°41.3 | 16°40.6 | 16°39.9 | 16°39.2 | 16°38.5 | 16°37.8 | 16°37.1 | 16°36.5 | -0.7 |
| Je 7 | 268°32.3 | 283°32.3 | 298°32.4 | 313°32.5 | 328°32.6 | 343°32.6 | 358°32.7 | 13°32.8 | 28°32.9 | 43°33.0 | 58°33.0 | 73°33.1 | +0.1 |
| | 16°27.4 | 16°26.7 | 16°26.0 | 16°25.3 | 16°24.6 | 16°23.9 | 16°23.2 | 16°22.5 | 16°21.8 | 16°21.1 | 16°20.4 | 16°19.7 | -0.7 |
| Ve 8 | 268°34.1 | 283°34.2 | 298°34.3 | 313°34.4 | 328°34.5 | 343°34.6 | 358°34.6 | 13°34.7 | 28°34.8 | 43°34.9 | 58°35.0 | 73°35.1 | +0.1 |
| | 16°10.6 | 16°09.9 | 16°09.2 | 16°08.5 | 16°07.7 | 16°07.0 | 16°06.3 | 16°05.6 | 16°04.9 | 16°04.2 | 16°03.5 | 16°02.8 | -0.7 |
| Sa 9 | 268°36.2 | 283°36.3 | 298°36.3 | 313°36.4 | 328°36.5 | 343°36.6 | 358°36.7 | 13°36.8 | 28°36.9 | 43°37.0 | 58°37.1 | 73°37.1 | +0.1 |
| | 15°53.5 | 15°52.7 | 15°52.0 | 15°51.3 | 15°50.6 | 15°49.9 | 15°49.1 | 15°48.4 | 15°47.7 | 15°47.0 | 15°46.3 | 15°45.5 | -0.7 |
| Di 10 | 268°38.3 | 283°38.4 | 298°38.5 | 313°38.6 | 328°38.7 | 343°38.8 | 358°38.9 | 13°39.0 | 28°39.1 | 43°39.2 | 58°39.3 | 73°39.4 | +0.1 |
| | 15°36.1 | 15°35.4 | 15°34.6 | 15°33.9 | 15°33.2 | 15°32.4 | 15°31.7 | 15°31.0 | 15°30.2 | 15°29.5 | 15°28.8 | 15°28.0 | -0.7 |
| Lu 11 | 268°40.6 | 283°40.7 | 298°40.8 | 313°40.9 | 328°41.0 | 343°41.1 | 358°41.2 | 13°41.3 | 28°41.4 | 43°41.5 | 58°41.6 | 73°41.7 | +0.1 |
| | 15°18.5 | 15°17.7 | 15°17.0 | 15°16.2 | 15°15.5 | 15°14.8 | 15°14.0 | 15°13.3 | 15°12.5 | 15°11.8 | 15°11.0 | 15°10.3 | -0.7 |
| Ma 12 | 268°43.1 | 283°43.2 | 298°43.3 | 313°43.4 | 328°43.5 | 343°43.6 | 358°43.7 | 13°43.8 | 28°43.9 | 43°44.0 | 58°44.1 | 73°44.3 | +0.1 |
| | 15°00.6 | 14°59.8 | 14°59.1 | 14°58.3 | 14°57.6 | 14°56.8 | 14°56.1 | 14°55.3 | 14°54.6 | 14°53.8 | 14°53.1 | 14°52.3 | -0.8 |
| Me 13 | 268°45.7 | 283°45.8 | 298°45.9 | 313°46.0 | 328°46.1 | 343°46.2 | 358°46.3 | 13°46.4 | 28°46.6 | 43°46.7 | 58°46.8 | 73°46.9 | +0.1 |
| | 14°42.5 | 14°41.7 | 14°41.0 | 14°40.2 | 14°39.4 | 14°38.7 | 14°37.9 | 14°37.1 | 14°36.4 | 14°35.6 | 14°34.9 | 14°34.1 | -0.8 |
| Je 14 | 268°48.4 | 283°48.5 | 298°48.6 | 313°48.7 | 328°48.8 | 343°49.0 | 358°49.1 | 13°49.2 | 28°49.3 | 43°49.4 | 58°49.6 | 73°49.7 | +0.1 |
| | 14°24.1 | 14°23.4 | 14°22.6 | 14°21.8 | 14°21.0 | 14°20.3 | 14°19.5 | 14°18.7 | 14°18.0 | 14°17.2 | 14°16.4 | 14°15.6 | -0.8 |
| Ve 15 | 268°51.2 | 283°51.3 | 298°51.5 | 313°51.6 | 328°51.7 | 343°51.8 | 358°52.0 | 13°52.1 | 28°52.2 | 43°52.3 | 58°52.5 | 73°52.6 | +0.1 |
| | 14°05.6 | 14°04.8 | 14°04.0 | 14°03.2 | 14°02.4 | 14°01.7 | 14°00.9 | 14°00.1 | 13°59.3 | 13°58.5 | 13°57.7 | 13°57.0 | -0.8 |
| Sa 16 | 268°54.2 | 283°54.3 | 298°54.5 | 313°54.6 | 328°54.7 | 343°54.8 | 358°55.0 | 13°55.1 | 28°55.2 | 43°55.4 | 58°55.5 | 73°55.6 | +0.1 |
| | 13°46.8 | 13°46.0 | 13°45.2 | 13°44.4 | 13°43.6 | 13°42.8 | 13°42.0 | 13°41.2 | 13°40.4 | 13°39.6 | 13°38.9 | 13°38.1 | -0.8 |
| Di 17 | 268°57.3 | 283°57.4 | 298°57.6 | 313°57.7 | 328°57.8 | 343°58.0 | 358°58.1 | 13°58.2 | 28°58.4 | 43°58.5 | 58°58.6 | 73°58.8 | +0.1 |
| | 13°27.7 | 13°26.9 | 13°26.1 | 13°25.3 | 13°24.5 | 13°23.7 | 13°22.9 | 13°22.1 | 13°21.3 | 13°20.5 | 13°19.7 | 13°18.9 | -0.8 |
| Lu 18 | 269°00.5 | 284°00.7 | 299°00.8 | 314°01.0 | 329°01.1 | 344°01.2 | 359°01.4 | 14°01.5 | 29°01.7 | 44°01.8 | 59°01.9 | 74°02.1 | +0.1 |
| | 13°08.5 | 13°07.7 | 13°06.9 | 13°06.1 | 13°05.3 | 13°04.5 | 13°03.7 | 13°02.9 | 13°02.0 | 13°01.2 | 13°00.4 | 12°59.6 | -0.8 |
| Ma 19 | 269°03.9 | 284°04.1 | 299°04.2 | 314°04.3 | 329°04.5 | 344°04.6 | 359°04.8 | 14°04.9 | 29°05.1 | 44°05.2 | 59°05.3 | 74°05.5 | +0.1 |
| | 12°49.1 | 12°48.2 | 12°47.4 | 12°46.6 | 12°45.8 | 12°45.0 | 12°44.2 | 12°43.4 | 12°42.5 | 12°41.7 | 12°40.9 | 12°40.1 | -0.8 |
| Me 20 | 269°07.4 | 284°07.5 | 299°07.7 | 314°07.8 | 329°08.0 | 344°08.1 | 359°08.3 | 14°08.4 | 29°08.6 | 44°08.7 | 59°08.9 | 74°09.0 | +0.1 |
| | 12°29.4 | 12°28.6 | 12°27.8 | 12°26.9 | 12°26.1 | 12°25.3 | 12°24.5 | 12°23.7 | 12°22.8 | 12°22.0 | 12°21.2 | 12°20.3 | -0.8 |
| Je 21 | 269°11.0 | 284°11.2 | 299°11.3 | 314°11.5 | 329°11.6 | 344°11.8 | 359°11.9 | 14°12.1 | 29°12.2 | 44°12.4 | 59°12.5 | 74°12.7 | +0.2 |
| | 12°09.6 | 12°08.7 | 12°07.9 | 12°07.1 | 12°06.3 | 12°05.4 | 12°04.6 | 12°03.8 | 12°02.9 | 12°02.1 | 12°01.3 | 12°00.4 | -0.8 |
| Ve 22 | 269°14.7 | 284°14.9 | 299°15.0 | 314°15.2 | 329°15.4 | 344°15.5 | 359°15.7 | 14°15.8 | 29°16.0 | 44°16.1 | 59°16.3 | 74°16.5 | +0.2 |
| | 11°49.5 | 11°48.7 | 11°47.9 | 11°47.0 | 11°46.2 | 11°45.4 | 11°44.5 | 11°43.7 | 11°42.8 | 11°42.0 | 11°41.1 | 11°40.3 | -0.8 |
| Sa 23 | 269°18.6 | 284°18.7 | 299°18.9 | 314°19.1 | 329°19.2 | 344°19.4 | 359°19.5 | 14°19.7 | 29°19.9 | 44°20.0 | 59°20.2 | 74°20.4 | +0.2 |
| | 11°29.3 | 11°28.5 | 11°27.6 | 11°26.8 | 11°25.9 | 11°25.1 | 11°24.3 | 11°23.4 | 11°22.6 | 11°21.7 | 11°20.9 | 11°20.0 | -0.8 |
| Di 24 | 269°22.5 | 284°22.7 | 299°22.9 | 314°23.0 | 329°23.2 | 344°23.4 | 359°23.5 | 14°23.7 | 29°23.9 | 44°24.0 | 59°24.2 | 74°24.4 | +0.2 |
| | 11°08.9 | 11°08.1 | 11°07.2 | 11°06.4 | 11°05.5 | 11°04.7 | 11°03.8 | 11°03.0 | 11°02.1 | 11°01.2 | 11°00.4 | 10°59.5 | -0.9 |
| Lu 25 | 269°26.6 | 284°26.8 | 299°26.9 | 314°27.1 | 329°27.3 | 344°27.4 | 359°27.6 | 14°27.8 | 29°28.0 | 44°28.1 | 59°28.3 | 74°28.5 | +0.2 |
| | 10°48.4 | 10°47.5 | 10°46.6 | 10°45.8 | 10°44.9 | 10°44.1 | 10°43.2 | 10°42.3 | 10°41.5 | 10°40.6 | 10°39.7 | 10°38.9 | -0.9 |
| Ma 26 | 269°30.8 | 284°30.9 | 299°31.1 | 314°31.3 | 329°31.5 | 344°31.6 | 359°31.8 | 14°32.0 | 29°32.2 | 44°32.3 | 59°32.5 | 74°32.7 | +0.2 |
| | 10°27.6 | 10°26.8 | 10°25.9 | 10°25.0 | 10°24.2 | 10°23.3 | 10°22.4 | 10°21.5 | 10°20.7 | 10°19.8 | 10°18.9 | 10°18.1 | -0.9 |
| Me 27 | 269°35.0 | 284°35.2 | 299°35.4 | 314°35.6 | 329°35.8 | 344°35.9 | 359°36.1 | 14°36.3 | 29°36.5 | 44°36.7 | 59°36.8 | 74°37.0 | +0.2 |
| | 10°06.7 | 10°05.8 | 10°05.0 | 10°04.1 | 10°03.2 | 10°02.3 | 10°01.5 | 10°00.6 | 9°59.7 | 9°58.8 | 9°58.0 | 9°57.1 | -0.9 |
| Je 28 | 269°39.4 | 284°39.6 | 299°39.8 | 314°40.0 | 329°40.1 | 344°40.3 | 359°40.5 | 14°40.7 | 29°40.9 | 44°41.1 | 59°41.3 | 74°41.4 | +0.2 |
| | 9°45.7 | 9°44.8 | 9°43.9 | 9°43.0 | 9°42.1 | 9°41.3 | 9°40.4 | 9°39.5 | 9°38.6 | 9°37.7 | 9°36.8 | 9°36.0 | -0.9 |
| Ve 29 | 269°43.9 | 284°44.1 | 299°44.3 | 314°44.4 | 329°44.6 | 344°44.8 | 359°45.0 | 14°45.2 | 29°45.4 | 44°45.6 | 59°45.8 | 74°46.0 | +0.2 |
| | 9°24.4 | 9°23.6 | 9°22.7 | 9°21.8 | 9°20.9 | 9°20.0 | 9°19.1 | 9°18.2 | 9°17.3 | 9°16.5 | 9°15.6 | 9°14.7 | -0.9 |
| Sa 30 | 269°48.4 | 284°48.6 | 299°48.8 | 314°49.0 | 329°49.2 | 344°49.4 | 359°49.6 | 14°49.8 | 29°50.0 | 44°50.2 | 59°50.4 | 74°50.6 | +0.2 |
| | 9°03.1 | 9°02.2 | 9°01.3 | 9°00.4 | 8°59.5 | 8°58.6 | 8°57.7 | 8°56.8 | 8°55.9 | 8°55.0 | 8°54.1 | 8°53.2 | -0.9 |
| Di 31 | 269°53.1 | 284°53.3 | 299°53.5 | 314°53.7 | 329°53.9 | 344°54.1 | 359°54.3 | 14°54.5 | 29°54.7 | 44°54.9 | 59°55.1 | 74°55.3 | +0.2 |
| | 8°41.6 | 8°40.7 | 8°39.8 | 8°38.9 | 8°38.0 | 8°37.1 | 8°36.2 | 8°35.3 | 8°34.4 | 8°33.5 | 8°32.6 | 8°31.7 | -0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2031

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 245°32.3 | 259°55.6 | 274°18.9 | 288°42.3 | 303°05.7 | 317°29.2 | 331°52.7 | 346°16.3 | 0°39.9 | 15°03.6 | 29°27.3 | +23.5 | 16.7 |
| | -18°08.8 | -18°01.8 | -17°54.6 | -17°47.2 | -17°39.8 | -17°32.2 | -17°24.5 | -17°16.6 | -17°08.6 | -17°00.5 | -16°52.3 | +7.7 | 61.1 |
| Sa 2 | 245°29.6 | 259°54.3 | 274°19.0 | 288°43.7 | 303°08.5 | 317°33.4 | 331°58.4 | 346°23.4 | 0°48.5 | 15°13.7 | 29°38.9 | +24.9 | 16.7 |
| | -14°35.2 | -14°25.2 | -14°15.1 | -14°04.9 | -13°54.6 | -13°44.2 | -13°33.7 | -13°23.2 | -13°12.5 | -13°01.8 | -12°51.0 | +10.4 | 61.1 |
| ○ Di 3 | 246°05.2 | 260°31.5 | 274°57.9 | 289°24.3 | 303°50.8 | 318°17.4 | 332°44.0 | 347°10.7 | 1°37.5 | 16°04.3 | 30°31.2 | +26.6 | 16.6 |
| | -9°59.6 | -9°47.7 | -9°35.7 | -9°23.6 | -9°11.5 | -8°59.4 | -8°47.2 | -8°34.9 | -8°22.6 | -8°10.3 | -7°57.9 | +12.2 | 60.7 |
| Lu 4 | 247°22.0 | 261°49.8 | 276°17.8 | 290°45.7 | 305°13.8 | 319°41.9 | 334°10.0 | 348°38.2 | 3°06.4 | 17°34.7 | 32°03.1 | +28.1 | 16.4 |
| | -4°48.3 | -4°35.4 | -4°22.6 | -4°09.8 | -3°56.9 | -3°44.0 | -3°31.1 | -3°18.3 | -3°05.4 | -2°52.5 | -2°39.6 | +12.9 | 60.1 |
| Ma 5 | 249°14.2 | 263°43.3 | 278°12.4 | 292°41.6 | 307°10.8 | 321°40.0 | 336°09.3 | 350°38.6 | 5°08.0 | 19°37.4 | 34°06.8 | +29.3 | 16.1 |
| | 0°33.1 | 0°45.8 | 0°58.6 | 1°11.3 | 1°23.9 | 1°36.6 | 1°49.2 | 2°01.8 | 2°14.3 | 2°26.9 | 2°39.4 | +12.6 | 59.2 |
| Me 6 | 251°32.0 | 266°01.9 | 280°31.8 | 295°01.8 | 309°31.7 | 324°01.7 | 338°31.7 | 353°01.7 | 7°31.8 | 22°01.9 | 36°31.9 | +30.0 | 15.9 |
| | 5°42.4 | 5°54.2 | 6°06.0 | 6°17.8 | 6°29.5 | 6°41.1 | 6°52.8 | 7°04.3 | 7°15.8 | 7°27.2 | 7°38.6 | +11.6 | 58.2 |
| Je 7 | 254°05.0 | 268°35.3 | 283°05.7 | 297°36.0 | 312°06.3 | 326°36.7 | 341°07.0 | 355°37.4 | 10°07.7 | 24°38.1 | 39°08.5 | +30.3 | 15.6 |
| | 10°22.1 | 10°32.5 | 10°42.8 | 10°53.0 | 11°03.2 | 11°13.3 | 11°23.4 | 11°33.3 | 11°43.2 | 11°53.0 | 12°02.7 | +10.1 | 57.3 |
| Ve 8 | 256°44.6 | 271°15.0 | 285°45.4 | 300°15.8 | 314°46.3 | 329°16.7 | 343°47.1 | 358°17.5 | 12°47.9 | 27°18.4 | 41°48.8 | +30.4 | 15.4 |
| | 14°19.5 | 14°28.0 | 14°36.4 | 14°44.7 | 14°52.9 | 15°01.1 | 15°09.1 | 15°17.1 | 15°25.0 | 15°32.8 | 15°40.5 | +8.1 | 56.3 |
| Sa 9 | 259°24.9 | 273°55.3 | 288°25.7 | 302°56.1 | 317°26.4 | 331°56.8 | 346°27.2 | 0°57.6 | 15°28.0 | 29°58.3 | 44°28.7 | +30.4 | 15.1 |
| | 17°25.5 | 17°31.8 | 17°38.0 | 17°44.0 | 17°50.0 | 17°55.9 | 18°01.7 | 18°07.5 | 18°13.1 | 18°18.6 | 18°24.0 | +5.9 | 55.5 |
| ◑ Di 10 | 273°55.3 | 288°25.7 | 302°56.1 | 317°26.4 | 331°56.8 | 346°27.2 | 0°57.6 | 15°28.0 | 29°58.3 | 44°28.7 | 58°59.1 | +30.4 | 15.1 |
| | 17°31.8 | 17°38.0 | 17°44.0 | 17°50.0 | 17°55.9 | 18°01.7 | 18°07.5 | 18°13.1 | 18°18.6 | 18°24.0 | 18°29.4 | +5.8 | 55.5 |
| Lu 11 | 276°34.5 | 291°04.8 | 305°35.2 | 320°05.5 | 334°35.9 | 349°06.2 | 3°36.6 | 18°07.0 | 32°37.3 | 47°07.7 | 61°38.1 | +30.4 | 15.0 |
| | 19°37.9 | 19°41.7 | 19°45.3 | 19°48.9 | 19°52.4 | 19°55.8 | 19°59.1 | 20°02.3 | 20°05.4 | 20°08.4 | 20°11.3 | +3.3 | 54.9 |
| Ma 12 | 279°14.2 | 293°44.7 | 308°15.2 | 322°45.6 | 337°16.1 | 351°46.6 | 6°17.1 | 20°47.6 | 35°18.2 | 49°48.7 | 64°19.2 | +30.5 | 14.8 |
| | 20°43.0 | 20°44.3 | 20°45.5 | 20°46.6 | 20°47.6 | 20°48.5 | 20°49.4 | 20°50.1 | 20°50.7 | 20°51.2 | 20°51.7 | +0.9 | 54.4 |
| Me 13 | 281°59.0 | 296°29.8 | 311°00.6 | 325°31.4 | 340°02.2 | 354°33.0 | 9°03.9 | 23°34.8 | 38°05.7 | 52°36.6 | 67°07.5 | +30.9 | 14.8 |
| | 20°46.3 | 20°45.1 | 20°43.9 | 20°42.6 | 20°41.2 | 20°39.6 | 20°38.0 | 20°36.3 | 20°34.5 | 20°32.6 | 20°30.6 | -1.6 | 54.1 |
| Je 14 | 284°54.1 | 299°25.4 | 313°56.7 | 328°28.1 | 342°59.4 | 357°30.8 | 12°02.2 | 26°33.7 | 41°05.1 | 55°36.6 | 70°08.1 | +31.4 | 14.7 |
| | 19°49.6 | 19°46.1 | 19°42.6 | 19°38.9 | 19°35.2 | 19°31.4 | 19°27.4 | 19°23.4 | 19°19.4 | 19°15.2 | 19°10.9 | -3.9 | 54.0 |
| Ve 15 | 288°04.1 | 302°36.1 | 317°08.0 | 331°40.0 | 346°12.1 | 0°44.1 | 15°16.2 | 29°48.4 | 44°20.5 | 58°52.7 | 73°24.9 | +32.1 | 14.7 |
| | 17°56.9 | 17°51.4 | 17°45.7 | 17°39.9 | 17°34.1 | 17°28.2 | 17°22.2 | 17°16.2 | 17°10.0 | 17°03.8 | 16°57.6 | -5.9 | 54.0 |
| Sa 16 | 291°31.2 | 306°03.8 | 320°36.5 | 335°09.2 | 349°41.9 | 4°14.6 | 18°47.4 | 33°20.2 | 47°53.0 | 62°25.9 | 76°58.7 | +32.8 | 14.8 |
| | 15°14.5 | 15°07.1 | 14°59.6 | 14°52.1 | 14°44.4 | 14°36.7 | 14°29.0 | 14°21.2 | 14°13.3 | 14°05.3 | 13°57.3 | -7.7 | 54.1 |
| Di 17 | 295°14.5 | 309°47.8 | 324°21.0 | 338°54.3 | 353°27.6 | 8°00.9 | 22°34.2 | 37°07.5 | 51°40.9 | 66°14.2 | 80°47.6 | +33.3 | 14.8 |
| | 11°50.1 | 11°41.2 | 11°32.2 | 11°23.2 | 11°14.1 | 11°05.0 | 10°55.8 | 10°46.5 | 10°37.3 | 10°27.9 | 10°18.5 | -9.2 | 54.3 |
| ● Lu 18 | 299°10.2 | 313°43.8 | 328°17.4 | 342°51.0 | 357°24.6 | 11°58.3 | 26°31.9 | 41°05.6 | 55°39.2 | 70°12.9 | 84°46.5 | +33.6 | 14.9 |
| | 7°52.6 | 7°42.6 | 7°32.5 | 7°22.3 | 7°12.2 | 7°02.0 | 6°51.8 | 6°41.5 | 6°31.2 | 6°20.9 | 6°10.5 | -10.2 | 54.6 |
| Ma 19 | 303°11.6 | 317°45.2 | 332°18.9 | 346°52.5 | 1°26.2 | 15°59.8 | 30°33.4 | 45°07.0 | 59°40.6 | 74°14.2 | 88°47.8 | +33.6 | 15.0 |
| | 3°31.9 | 3°21.1 | 3°10.3 | 2°59.5 | 2°48.7 | 2°37.9 | 2°27.0 | 2°16.1 | 2°05.2 | 1°54.3 | 1°43.4 | -10.8 | 55.0 |
| Me 20 | 307°09.9 | 321°43.2 | 336°16.5 | 350°49.8 | 5°23.1 | 19°56.3 | 34°29.5 | 49°02.7 | 63°35.9 | 78°09.0 | 92°42.1 | +33.2 | 15.1 |
| | -1°01.5 | -1°12.5 | -1°23.5 | -1°34.6 | -1°45.6 | -1°56.6 | -2°07.7 | -2°18.7 | -2°29.7 | -2°40.8 | -2°51.8 | -11.0 | 55.4 |
| Je 21 | 310°55.0 | 325°27.5 | 340°00.1 | 354°32.6 | 9°05.0 | 23°37.4 | 38°09.8 | 52°42.1 | 67°14.4 | 81°46.7 | 96°18.9 | +32.4 | 15.3 |
| | -5°35.9 | -5°46.7 | -5°57.5 | -6°08.3 | -6°19.1 | -6°29.8 | -6°40.5 | -6°51.2 | -7°01.9 | -7°12.6 | -7°23.2 | -10.7 | 55.9 |
| Ve 22 | 314°15.9 | 328°47.3 | 343°18.6 | 357°49.9 | 12°21.1 | 26°52.3 | 41°23.4 | 55°54.4 | 70°25.4 | 84°56.3 | 99°27.2 | +31.1 | 15.4 |
| | -9°58.8 | -10°08.9 | -10°18.9 | -10°28.9 | -10°38.9 | -10°48.8 | -10°58.7 | -11°08.5 | -11°18.3 | -11°28.0 | -11°37.7 | -9.9 | 56.5 |
| Sa 23 | 317°02.3 | 331°32.2 | 346°01.9 | 0°31.6 | 15°01.2 | 29°30.7 | 44°00.2 | 58°29.6 | 72°58.9 | 87°28.2 | 101°57.3 | +29.5 | 15.6 |
| | -13°56.2 | -14°05.0 | -14°13.7 | -14°22.3 | -14°30.8 | -14°39.3 | -14°47.7 | -14°56.1 | -15°04.3 | -15°12.5 | -15°20.7 | -8.4 | 57.1 |
| Di 24 | 319°06.3 | 333°34.3 | 348°02.3 | 2°30.1 | 16°57.9 | 31°25.6 | 45°53.3 | 60°20.8 | 74°48.3 | 89°15.8 | 103°43.1 | +27.7 | 15.8 |
| | -17°12.8 | -17°19.6 | -17°26.3 | -17°32.9 | -17°39.4 | -17°45.8 | -17°52.1 | -17°58.3 | -18°04.5 | -18°10.5 | -18°16.4 | -6.4 | 57.8 |
| ◐ Lu 25 | 320°24.9 | 334°51.1 | 349°17.3 | 3°43.4 | 18°09.5 | 32°35.5 | 47°01.4 | 61°27.2 | 75°53.0 | 90°18.8 | 104°44.4 | +26.0 | 15.9 |
| | -19°32.4 | -19°36.6 | -19°40.6 | -19°44.6 | -19°48.4 | -19°52.1 | -19°55.7 | -19°59.1 | -20°02.5 | -20°05.7 | -20°08.8 | -3.6 | 58.5 |
| Ma 26 | 321°03.0 | 335°27.9 | 349°52.7 | 4°17.4 | 18°42.1 | 33°06.8 | 47°31.5 | 61°56.1 | 76°20.7 | 90°45.2 | 105°09.7 | +24.7 | 16.1 |
| | -20°39.8 | -20°40.8 | -20°41.6 | -20°42.4 | -20°43.0 | -20°43.5 | -20°43.8 | -20°44.0 | -20°44.0 | -20°43.9 | -20°43.7 | -0.4 | 59.2 |
| Me 27 | 321°14.2 | 335°38.3 | 350°02.4 | 4°26.6 | 18°50.7 | 33°14.8 | 47°38.9 | 62°03.0 | 76°27.1 | 90°51.2 | 105°15.4 | +24.1 | 16.3 |
| | -20°23.6 | -20°21.1 | -20°18.5 | -20°15.7 | -20°12.8 | -20°09.8 | -20°06.6 | -20°03.3 | -19°59.9 | -19°56.3 | -19°52.5 | +3.1 | 59.8 |
| Je 28 | 321°17.8 | 335°42.1 | 350°06.4 | 4°30.7 | 18°55.1 | 33°19.4 | 47°43.8 | 62°08.2 | 76°32.7 | 90°57.2 | 105°21.7 | +24.4 | 16.4 |
| | -18°40.0 | -18°34.0 | -18°28.0 | -18°21.8 | -18°15.5 | -18°09.1 | -18°02.5 | -17°55.8 | -17°49.0 | -17°42.0 | -17°35.0 | +6.5 | 60.3 |
| Ve 29 | 321°33.4 | 335°58.5 | 350°23.6 | 4°48.8 | 19°14.0 | 33°39.3 | 48°04.6 | 62°29.9 | 76°55.3 | 91°20.8 | 105°46.2 | +25.3 | 16.5 |
| | -15°34.6 | -15°25.7 | -15°16.6 | -15°07.5 | -14°58.3 | -14°48.9 | -14°39.5 | -14°29.9 | -14°20.3 | -14°10.5 | -14°00.7 | +9.4 | 60.5 |
| Sa 30 | 322°14.3 | 336°40.6 | 351°06.9 | 5°33.2 | 19°59.6 | 34°26.1 | 48°52.6 | 63°19.2 | 77°45.8 | 92°12.4 | 106°39.1 | +26.5 | 16.5 |
| | -11°22.5 | -11°11.3 | -11°00.0 | -10°48.7 | -10°37.3 | -10°25.9 | -10°14.3 | -10°02.8 | -9°51.1 | -9°39.4 | -9°27.6 | +11.5 | 60.5 |
| Di 31 | 323°25.4 | 337°52.9 | 352°20.4 | 6°47.9 | 21°15.5 | 35°43.1 | 50°10.8 | 64°38.5 | 79°06.3 | 93°34.1 | 108°01.9 | +27.7 | 16.4 |
| | -6°25.1 | -6°12.6 | -6°00.1 | -5°47.5 | -5°34.9 | -5°22.3 | -5°09.7 | -4°57.0 | -4°44.4 | -4°31.6 | -4°18.9 | +12.6 | 60.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 01h45 — DQ: 10 00h23 — NL: 18 04h32 — PQ: 25 18h39

# SOLEIL

## Septembre 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 269°57.8 | 284°58.0 | 299°58.2 | 314°58.4 | 329°58.6 | 344°58.8 | 359°59.0 | 14°59.2 | 29°59.4 | 44°59.6 | 59°59.8 | 75°00.0 | +0.2 |
| | 8°19.9 | 8°19.0 | 8°18.1 | 8°17.2 | 8°16.3 | 8°15.4 | 8°14.5 | 8°13.6 | 8°12.7 | 8°11.8 | 8°10.9 | 8°10.0 | -0.9 |
| Ma 2 | 270°02.6 | 285°02.8 | 300°03.0 | 315°03.2 | 330°03.4 | 345°03.6 | 0°03.8 | 15°04.0 | 30°04.3 | 45°04.5 | 60°04.7 | 75°04.9 | +0.2 |
| | 7°58.1 | 7°57.2 | 7°56.3 | 7°55.4 | 7°54.5 | 7°53.6 | 7°52.7 | 7°51.8 | 7°50.9 | 7°49.9 | 7°49.0 | 7°48.1 | -0.9 |
| Me 3 | 270°07.5 | 285°07.7 | 300°07.9 | 315°08.1 | 330°08.3 | 345°08.5 | 0°08.7 | 15°08.9 | 30°09.1 | 45°09.4 | 60°09.6 | 75°09.8 | +0.2 |
| | 7°36.2 | 7°35.3 | 7°34.4 | 7°33.5 | 7°32.6 | 7°31.7 | 7°30.7 | 7°29.8 | 7°28.9 | 7°28.0 | 7°27.1 | 7°26.2 | -0.9 |
| Je 4 | 270°12.5 | 285°12.7 | 300°12.9 | 315°13.1 | 330°13.3 | 345°13.5 | 0°13.7 | 15°13.9 | 30°14.1 | 45°14.3 | 60°14.5 | 75°14.7 | +0.2 |
| | 7°14.2 | 7°13.3 | 7°12.4 | 7°11.4 | 7°10.5 | 7°09.6 | 7°08.7 | 7°07.8 | 7°06.8 | 7°05.9 | 7°05.0 | 7°04.1 | -0.9 |
| Ve 5 | 270°17.5 | 285°17.7 | 300°17.9 | 315°18.1 | 330°18.3 | 345°18.5 | 0°18.7 | 15°18.9 | 30°19.1 | 45°19.3 | 60°19.6 | 75°19.8 | +0.2 |
| | 6°52.1 | 6°51.1 | 6°50.2 | 6°49.3 | 6°48.4 | 6°47.4 | 6°46.5 | 6°45.6 | 6°44.6 | 6°43.7 | 6°42.8 | 6°41.9 | -0.9 |
| Sa 6 | 270°22.5 | 285°22.7 | 300°22.9 | 315°23.1 | 330°23.4 | 345°23.6 | 0°23.8 | 15°24.0 | 30°24.2 | 45°24.4 | 60°24.6 | 75°24.8 | +0.2 |
| | 6°29.8 | 6°28.9 | 6°27.9 | 6°27.0 | 6°26.1 | 6°25.1 | 6°24.2 | 6°23.3 | 6°22.3 | 6°21.4 | 6°20.5 | 6°19.5 | -0.9 |
| Di 7 | 270°27.6 | 285°27.8 | 300°28.0 | 315°28.3 | 330°28.5 | 345°28.7 | 0°28.9 | 15°29.1 | 30°29.3 | 45°29.5 | 60°29.8 | 75°30.0 | +0.2 |
| | 6°07.4 | 6°06.5 | 6°05.5 | 6°04.6 | 6°03.7 | 6°02.7 | 6°01.8 | 6°00.9 | 5°59.9 | 5°59.0 | 5°58.1 | 5°57.1 | -0.9 |
| Lu 8 | 270°32.8 | 285°33.0 | 300°33.2 | 315°33.4 | 330°33.6 | 345°33.8 | 0°34.1 | 15°34.3 | 30°34.5 | 45°34.7 | 60°34.9 | 75°35.1 | +0.2 |
| | 5°44.9 | 5°44.0 | 5°43.1 | 5°42.1 | 5°41.2 | 5°40.2 | 5°39.3 | 5°38.4 | 5°37.4 | 5°36.5 | 5°35.5 | 5°34.6 | -0.9 |
| Ma 9 | 270°37.9 | 285°38.2 | 300°38.4 | 315°38.6 | 330°38.8 | 345°39.0 | 0°39.3 | 15°39.5 | 30°39.7 | 45°39.9 | 60°40.1 | 75°40.3 | +0.2 |
| | 5°22.4 | 5°21.4 | 5°20.5 | 5°19.5 | 5°18.6 | 5°17.6 | 5°16.7 | 5°15.8 | 5°14.8 | 5°13.9 | 5°12.9 | 5°12.0 | -0.9 |
| Me 10 | 270°43.2 | 285°43.4 | 300°43.6 | 315°43.8 | 330°44.0 | 345°44.3 | 0°44.5 | 15°44.7 | 30°44.9 | 45°45.1 | 60°45.4 | 75°45.6 | +0.2 |
| | 4°59.7 | 4°58.8 | 4°57.8 | 4°56.9 | 4°55.9 | 4°55.0 | 4°54.0 | 4°53.1 | 4°52.1 | 4°51.2 | 4°50.2 | 4°49.3 | -0.9 |
| Je 11 | 270°48.4 | 285°48.6 | 300°48.9 | 315°49.1 | 330°49.3 | 345°49.5 | 0°49.7 | 15°50.0 | 30°50.2 | 45°50.4 | 60°50.6 | 75°50.8 | +0.2 |
| | 4°36.9 | 4°36.0 | 4°35.0 | 4°34.1 | 4°33.1 | 4°32.2 | 4°31.2 | 4°30.3 | 4°29.3 | 4°28.4 | 4°27.4 | 4°26.5 | -1.0 |
| Ve 12 | 270°53.7 | 285°53.9 | 300°54.1 | 315°54.4 | 330°54.6 | 345°54.8 | 0°55.0 | 15°55.2 | 30°55.5 | 45°55.7 | 60°55.9 | 75°56.1 | +0.2 |
| | 4°14.1 | 4°13.2 | 4°12.2 | 4°11.3 | 4°10.3 | 4°09.3 | 4°08.4 | 4°07.4 | 4°06.5 | 4°05.5 | 4°04.6 | 4°03.6 | -1.0 |
| Sa 13 | 270°59.0 | 285°59.2 | 300°59.4 | 315°59.7 | 330°59.9 | 346°00.1 | 1°00.3 | 16°00.6 | 31°00.8 | 46°01.0 | 61°01.2 | 76°01.4 | +0.2 |
| | 3°51.2 | 3°50.2 | 3°49.3 | 3°48.3 | 3°47.4 | 3°46.4 | 3°45.5 | 3°44.5 | 3°43.6 | 3°42.6 | 3°41.6 | 3°40.7 | -1.0 |
| Di 14 | 271°04.3 | 286°04.5 | 301°04.8 | 316°05.0 | 331°05.2 | 346°05.4 | 1°05.7 | 16°05.9 | 31°06.1 | 46°06.3 | 61°06.5 | 76°06.8 | +0.2 |
| | 3°28.2 | 3°27.3 | 3°26.3 | 3°25.4 | 3°24.4 | 3°23.4 | 3°22.5 | 3°21.5 | 3°20.6 | 3°19.6 | 3°18.6 | 3°17.7 | -1.0 |
| Lu 15 | 271°09.7 | 286°09.9 | 301°10.1 | 316°10.3 | 331°10.5 | 346°10.8 | 1°11.0 | 16°11.2 | 31°11.4 | 46°11.7 | 61°11.9 | 76°12.1 | +0.2 |
| | 3°05.2 | 3°04.2 | 3°03.3 | 3°02.3 | 3°01.3 | 3°00.4 | 2°59.4 | 2°58.5 | 2°57.5 | 2°56.5 | 2°55.6 | 2°54.6 | -1.0 |
| Ma 16 | 271°15.0 | 286°15.2 | 301°15.4 | 316°15.7 | 331°15.9 | 346°16.1 | 1°16.3 | 16°16.6 | 31°16.8 | 46°17.0 | 61°17.2 | 76°17.4 | +0.2 |
| | 2°42.1 | 2°41.1 | 2°40.2 | 2°39.2 | 2°38.2 | 2°37.3 | 2°36.3 | 2°35.3 | 2°34.4 | 2°33.4 | 2°32.4 | 2°31.5 | -1.0 |
| Me 17 | 271°20.3 | 286°20.6 | 301°20.8 | 316°21.0 | 331°21.2 | 346°21.5 | 1°21.7 | 16°21.9 | 31°22.1 | 46°22.3 | 61°22.6 | 76°22.8 | +0.2 |
| | 2°18.9 | 2°18.0 | 2°17.0 | 2°16.0 | 2°15.1 | 2°14.1 | 2°13.1 | 2°12.2 | 2°11.2 | 2°10.2 | 2°09.3 | 2°08.3 | -1.0 |
| Je 18 | 271°25.7 | 286°25.9 | 301°26.1 | 316°26.4 | 331°26.6 | 346°26.8 | 1°27.0 | 16°27.2 | 31°27.5 | 46°27.7 | 61°27.9 | 76°28.1 | +0.2 |
| | 1°55.7 | 1°54.8 | 1°53.8 | 1°52.8 | 1°51.9 | 1°50.9 | 1°49.9 | 1°49.0 | 1°48.0 | 1°47.0 | 1°46.1 | 1°45.1 | -1.0 |
| Ve 19 | 271°31.0 | 286°31.3 | 301°31.5 | 316°31.7 | 331°31.9 | 346°32.1 | 1°32.4 | 16°32.6 | 31°32.8 | 46°33.0 | 61°33.3 | 76°33.5 | +0.2 |
| | 1°32.5 | 1°31.5 | 1°30.6 | 1°29.6 | 1°28.6 | 1°27.7 | 1°26.7 | 1°25.7 | 1°24.8 | 1°23.8 | 1°22.8 | 1°21.8 | -1.0 |
| Sa 20 | 271°36.4 | 286°36.6 | 301°36.8 | 316°37.0 | 331°37.3 | 346°37.5 | 1°37.7 | 16°37.9 | 31°38.1 | 46°38.4 | 61°38.6 | 76°38.8 | +0.2 |
| | 1°09.2 | 1°08.3 | 1°07.3 | 1°06.3 | 1°05.4 | 1°04.4 | 1°03.4 | 1°02.4 | 1°01.5 | 1°00.5 | 0°59.5 | 0°58.6 | -1.0 |
| Di 21 | 271°41.7 | 286°41.9 | 301°42.1 | 316°42.4 | 331°42.6 | 346°42.8 | 1°43.0 | 16°43.2 | 31°43.5 | 46°43.7 | 61°43.9 | 76°44.1 | +0.2 |
| | 0°45.9 | 0°45.0 | 0°44.0 | 0°43.0 | 0°42.1 | 0°41.1 | 0°40.1 | 0°39.1 | 0°38.2 | 0°37.2 | 0°36.2 | 0°35.3 | -1.0 |
| Lu 22 | 271°47.0 | 286°47.2 | 301°47.4 | 316°47.7 | 331°47.9 | 346°48.1 | 1°48.3 | 16°48.5 | 31°48.8 | 46°49.0 | 61°49.2 | 76°49.4 | +0.2 |
| | 0°22.6 | 0°21.6 | 0°20.7 | 0°19.7 | 0°18.7 | 0°17.8 | 0°16.8 | 0°15.8 | 0°14.8 | 0°13.9 | 0°12.9 | 0°11.9 | -1.0 |
| Ma 23 | 271°52.3 | 286°52.5 | 301°52.7 | 316°52.9 | 331°53.2 | 346°53.4 | 1°53.6 | 16°53.8 | 31°54.0 | 46°54.3 | 61°54.5 | 76°54.7 | +0.2 |
| | -0°00.7 | -0°01.7 | -0°02.7 | -0°03.6 | -0°04.6 | -0°05.6 | -0°06.6 | -0°07.5 | -0°08.5 | -0°09.5 | -0°10.4 | -0°11.4 | -1.0 |
| Me 24 | 271°57.5 | 286°57.8 | 301°58.0 | 316°58.2 | 331°58.4 | 346°58.6 | 1°58.9 | 16°59.1 | 31°59.3 | 46°59.5 | 61°59.7 | 76°59.9 | +0.2 |
| | -0°24.1 | -0°25.0 | -0°26.0 | -0°27.0 | -0°28.0 | -0°28.9 | -0°29.9 | -0°30.9 | -0°31.9 | -0°32.8 | -0°33.8 | -0°34.8 | -1.0 |
| Je 25 | 272°02.8 | 287°03.0 | 302°03.2 | 317°03.4 | 332°03.6 | 347°03.9 | 2°04.1 | 17°04.3 | 32°04.5 | 47°04.7 | 62°04.9 | 77°05.2 | +0.2 |
| | -0°47.4 | -0°48.4 | -0°49.4 | -0°50.3 | -0°51.3 | -0°52.3 | -0°53.3 | -0°54.2 | -0°55.2 | -0°56.2 | -0°57.2 | -0°58.1 | -1.0 |
| Ve 26 | 272°08.0 | 287°08.2 | 302°08.4 | 317°08.6 | 332°08.8 | 347°09.0 | 2°09.3 | 17°09.5 | 32°09.7 | 47°09.9 | 62°10.1 | 77°10.3 | +0.2 |
| | -1°10.8 | -1°11.8 | -1°12.7 | -1°13.7 | -1°14.7 | -1°15.6 | -1°16.6 | -1°17.6 | -1°18.6 | -1°19.5 | -1°20.5 | -1°21.5 | -1.0 |
| Sa 27 | 272°13.1 | 287°13.3 | 302°13.5 | 317°13.8 | 332°14.0 | 347°14.2 | 2°14.4 | 17°14.6 | 32°14.8 | 47°15.0 | 62°15.3 | 77°15.5 | +0.2 |
| | -1°34.1 | -1°35.1 | -1°36.1 | -1°37.0 | -1°38.0 | -1°39.0 | -1°40.0 | -1°40.9 | -1°41.9 | -1°42.9 | -1°43.9 | -1°44.8 | -1.0 |
| Di 28 | 272°18.2 | 287°18.4 | 302°18.6 | 317°18.9 | 332°19.1 | 347°19.3 | 2°19.5 | 17°19.7 | 32°19.9 | 47°20.1 | 62°20.3 | 77°20.5 | +0.2 |
| | -1°57.5 | -1°58.4 | -1°59.4 | -2°00.4 | -2°01.4 | -2°02.3 | -2°03.3 | -2°04.3 | -2°05.2 | -2°06.2 | -2°07.2 | -2°08.2 | -1.0 |
| Lu 29 | 272°23.3 | 287°23.5 | 302°23.7 | 317°23.9 | 332°24.1 | 347°24.3 | 2°24.5 | 17°24.7 | 32°25.0 | 47°25.2 | 62°25.4 | 77°25.6 | +0.2 |
| | -2°20.8 | -2°21.8 | -2°22.7 | -2°23.7 | -2°24.7 | -2°25.6 | -2°26.6 | -2°27.6 | -2°28.6 | -2°29.5 | -2°30.5 | -2°31.5 | -1.0 |
| Ma 30 | 272°28.3 | 287°28.5 | 302°28.7 | 317°28.9 | 332°29.1 | 347°29.3 | 2°29.5 | 17°29.7 | 32°29.9 | 47°30.1 | 62°30.3 | 77°30.5 | +0.2 |
| | -2°44.1 | -2°45.1 | -2°46.0 | -2°47.0 | -2°48.0 | -2°48.9 | -2°49.9 | -2°50.9 | -2°51.8 | -2°52.8 | -2°53.8 | -2°54.8 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2031

| | J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | Lu 1 | 252°42.5 | 267°10.8 | 281°39.1 | 296°07.4 | 310°35.8 | 325°04.2 | 339°32.7 | 354°01.1 | 8°29.6 | 22°58.2 | 37°26.7 | +28.4 | 16.3 |
| | | -2°11.0 | -1°58.1 | -1°45.3 | -1°32.4 | -1°19.6 | -1°06.8 | -0°54.0 | -0°41.1 | -0°28.3 | -0°15.5 | -0°02.7 | +12.8 | 59.8 |
| | Ma 2 | 254°38.7 | 269°07.7 | 283°36.7 | 298°05.7 | 312°34.8 | 327°03.9 | 341°33.0 | 356°02.1 | 10°31.3 | 25°00.4 | 39°29.6 | +29.1 | 16.1 |
| | | 3°07.0 | 3°19.5 | 3°31.9 | 3°44.2 | 3°56.6 | 4°08.9 | 4°21.2 | 4°33.4 | 4°45.6 | 4°57.7 | 5°09.8 | +12.3 | 59.1 |
| | Me 3 | 256°49.3 | 271°18.7 | 285°48.1 | 300°17.6 | 314°47.0 | 329°16.5 | 343°46.0 | 358°15.5 | 12°44.9 | 27°14.4 | 41°43.9 | +29.5 | 15.9 |
| | | 8°05.6 | 8°16.8 | 8°28.1 | 8°39.2 | 8°50.3 | 9°01.3 | 9°12.3 | 9°23.2 | 9°34.1 | 9°44.8 | 9°55.5 | +11.0 | 58.2 |
| | Je 4 | 259°07.3 | 273°36.9 | 288°06.5 | 302°36.2 | 317°05.8 | 331°35.4 | 346°05.0 | 0°34.6 | 15°04.3 | 29°33.9 | 44°03.5 | +29.6 | 15.6 |
| | | 12°27.5 | 12°37.0 | 12°46.5 | 12°55.8 | 13°05.1 | 13°14.3 | 13°23.4 | 13°32.4 | 13°41.4 | 13°50.3 | 13°59.0 | +9.2 | 57.3 |
| | Ve 5 | 261°28.3 | 275°57.9 | 290°27.6 | 304°57.3 | 319°26.9 | 333°56.6 | 348°26.3 | 2°56.0 | 17°25.7 | 31°55.4 | 46°25.0 | +29.7 | 15.4 |
| | | 16°00.1 | 16°07.5 | 16°14.7 | 16°21.9 | 16°29.0 | 16°36.0 | 16°42.8 | 16°49.6 | 16°56.3 | 17°02.9 | 17°09.4 | +6.9 | 56.4 |
| | Sa 6 | 263°50.8 | 278°20.6 | 292°50.3 | 307°20.1 | 321°49.9 | 336°19.7 | 350°49.4 | 5°19.2 | 19°49.0 | 34°18.8 | 48°48.7 | +29.8 | 15.2 |
| | | 18°35.1 | 18°40.1 | 18°44.9 | 18°49.6 | 18°54.2 | 18°58.8 | 19°03.2 | 19°07.5 | 19°11.7 | 19°15.9 | 19°19.9 | +4.5 | 55.6 |
| | Di 7 | 266°17.0 | 280°47.0 | 295°17.0 | 309°47.0 | 324°17.0 | 338°47.0 | 353°17.0 | 7°47.1 | 22°17.2 | 36°47.3 | 51°17.4 | +30.0 | 15.0 |
| | | 20°08.0 | 20°10.4 | 20°12.7 | 20°14.9 | 20°17.0 | 20°19.0 | 20°20.9 | 20°22.7 | 20°24.3 | 20°25.9 | 20°27.4 | +1.9 | 55.0 |
| ◑ | Lu 8 | 280°47.0 | 295°17.0 | 309°47.0 | 324°17.0 | 338°47.0 | 353°17.0 | 7°47.1 | 22°17.2 | 36°47.3 | 51°17.4 | 65°47.5 | +30.0 | 15.0 |
| | | 20°10.4 | 20°12.7 | 20°14.9 | 20°17.0 | 20°19.0 | 20°20.9 | 20°22.7 | 20°24.3 | 20°25.9 | 20°27.4 | 20°28.8 | +1.8 | 55.0 |
| | Ma 9 | 283°21.3 | 297°51.7 | 312°22.2 | 326°52.6 | 341°23.1 | 355°53.6 | 10°24.1 | 24°54.6 | 39°25.2 | 53°55.8 | 68°26.4 | +30.5 | 14.9 |
| | | 20°37.5 | 20°37.3 | 20°37.0 | 20°36.6 | 20°36.1 | 20°35.5 | 20°34.8 | 20°34.0 | 20°33.1 | 20°32.1 | 20°31.0 | -0.7 | 54.5 |
| | Me 10 | 286°08.4 | 300°39.5 | 315°10.5 | 329°41.6 | 344°12.6 | 358°43.8 | 13°14.9 | 27°46.1 | 42°17.3 | 56°48.5 | 71°19.8 | +31.1 | 14.8 |
| | | 20°03.3 | 20°00.7 | 19°58.0 | 19°55.3 | 19°52.4 | 19°49.4 | 19°46.4 | 19°43.2 | 19°40.0 | 19°36.7 | 19°33.3 | -3.0 | 54.2 |
| | Je 11 | 289°12.0 | 303°43.8 | 318°15.5 | 332°47.3 | 347°19.1 | 1°50.9 | 16°22.8 | 30°54.7 | 45°26.6 | 59°58.5 | 74°30.5 | +31.8 | 14.7 |
| | | 18°31.8 | 18°27.0 | 18°22.2 | 18°17.2 | 18°12.2 | 18°07.1 | 18°01.9 | 17°56.6 | 17°51.3 | 17°45.9 | 17°40.4 | -5.1 | 54.1 |
| | Ve 12 | 292°33.5 | 307°05.9 | 321°38.3 | 336°10.8 | 350°43.3 | 5°15.8 | 19°48.4 | 34°21.0 | 48°53.6 | 63°26.2 | 77°58.8 | +32.5 | 14.8 |
| | | 16°08.7 | 16°02.0 | 15°55.2 | 15°48.4 | 15°41.5 | 15°34.5 | 15°27.4 | 15°20.3 | 15°13.1 | 15°05.9 | 14°58.5 | -7.0 | 54.1 |
| | Sa 13 | 296°11.3 | 310°44.3 | 325°17.3 | 339°50.4 | 354°23.4 | 8°56.5 | 23°29.6 | 38°02.7 | 52°35.8 | 67°09.0 | 81°42.2 | +33.1 | 14.8 |
| | | 13°01.0 | 12°52.6 | 12°44.3 | 12°35.8 | 12°27.3 | 12°18.8 | 12°10.1 | 12°01.5 | 11°52.7 | 11°44.0 | 11°35.1 | -8.6 | 54.3 |
| | Di 14 | 300°01.3 | 314°34.6 | 329°08.0 | 343°41.4 | 358°14.8 | 12°48.2 | 27°21.6 | 41°55.0 | 56°28.4 | 71°01.8 | 85°35.3 | +33.4 | 14.9 |
| | | 9°16.6 | 9°06.9 | 8°57.3 | 8°47.6 | 8°37.8 | 8°28.0 | 8°18.2 | 8°08.3 | 7°58.4 | 7°48.5 | 7°38.5 | -9.8 | 54.7 |
| | Lu 15 | 303°56.8 | 318°30.2 | 333°03.7 | 347°37.1 | 2°10.5 | 16°43.9 | 31°17.3 | 45°50.7 | 60°24.1 | 74°57.4 | 89°30.8 | +33.4 | 15.0 |
| | | 5°04.4 | 4°53.9 | 4°43.3 | 4°32.7 | 4°22.1 | 4°11.5 | 4°00.8 | 3°50.1 | 3°39.4 | 3°28.7 | 3°18.0 | -10.6 | 55.1 |
| ● | Ma 16 | 307°49.6 | 322°22.8 | 336°55.9 | 351°28.9 | 6°02.0 | 20°35.0 | 35°08.1 | 49°41.1 | 64°14.0 | 78°47.0 | 93°19.9 | +33.0 | 15.1 |
| | | 0°34.6 | 0°23.6 | 0°12.5 | 0°01.5 | -0°09.5 | -0°20.5 | -0°31.6 | -0°42.6 | -0°53.7 | -1°04.7 | -1°15.8 | -11.0 | 55.6 |
| | Me 17 | 311°30.3 | 326°02.7 | 340°35.1 | 355°07.5 | 9°39.8 | 24°12.1 | 38°44.3 | 53°16.5 | 67°48.7 | 82°20.8 | 96°52.9 | +32.3 | 15.3 |
| | | -4°01.4 | -4°12.4 | -4°23.4 | -4°34.4 | -4°45.3 | -4°56.3 | -5°07.2 | -5°18.1 | -5°29.0 | -5°39.8 | -5°50.7 | -10.9 | 56.1 |
| | Je 18 | 314°49.0 | 329°20.3 | 343°51.6 | 358°22.9 | 12°54.1 | 27°25.3 | 41°56.4 | 56°27.4 | 70°58.4 | 85°29.4 | 100°00.2 | +31.1 | 15.4 |
| | | -8°30.6 | -8°41.0 | -8°51.4 | -9°01.7 | -9°12.0 | -9°22.3 | -9°32.5 | -9°42.7 | -9°52.9 | -10°03.0 | -10°13.0 | -10.3 | 56.6 |
| | Ve 19 | 317°36.8 | 332°06.7 | 346°36.6 | 1°06.5 | 15°36.3 | 30°06.0 | 44°35.7 | 59°05.3 | 73°34.8 | 88°04.3 | 102°33.7 | +29.7 | 15.6 |
| | | -12°38.1 | -12°47.4 | -12°56.6 | -13°05.7 | -13°14.7 | -13°23.7 | -13°32.6 | -13°41.5 | -13°50.3 | -13°59.0 | -14°07.6 | -9.0 | 57.1 |
| | Sa 20 | 319°47.2 | 334°15.6 | 348°43.9 | 3°12.2 | 17°40.4 | 32°08.6 | 46°36.6 | 61°04.6 | 75°32.6 | 90°00.5 | 104°28.3 | +28.1 | 15.7 |
| | | -16°08.4 | -16°15.8 | -16°23.1 | -16°30.3 | -16°37.4 | -16°44.5 | -16°51.5 | -16°58.3 | -17°05.1 | -17°11.8 | -17°18.4 | -7.0 | 57.6 |
| | Di 21 | 321°18.5 | 335°45.4 | 350°12.2 | 4°39.0 | 19°05.7 | 33°32.3 | 47°58.9 | 62°25.5 | 76°52.0 | 91°18.5 | 105°44.9 | +26.6 | 15.8 |
| | | -18°45.1 | -18°50.1 | -18°54.9 | -18°59.6 | -19°04.3 | -19°08.8 | -19°13.1 | -19°17.4 | -19°21.6 | -19°25.6 | -19°29.5 | -4.4 | 58.1 |
| | Lu 22 | 322°15.4 | 336°41.1 | 351°06.8 | 5°32.4 | 19°58.0 | 34°23.6 | 48°49.2 | 63°14.7 | 77°40.1 | 92°05.6 | 106°31.0 | +25.6 | 16.0 |
| | | -20°14.0 | -20°16.0 | -20°17.8 | -20°19.5 | -20°21.1 | -20°22.6 | -20°23.9 | -20°25.1 | -20°26.2 | -20°27.2 | -20°28.0 | -1.4 | 58.5 |
| | Ma 23 | 322°49.8 | 337°15.0 | 351°40.1 | 6°05.2 | 20°30.3 | 34°55.4 | 49°20.5 | 63°45.6 | 78°10.7 | 92°35.8 | 107°00.9 | +25.1 | 16.1 |
| | | -20°24.4 | -20°23.1 | -20°21.7 | -20°20.1 | -20°18.4 | -20°16.6 | -20°14.6 | -20°12.5 | -20°10.3 | -20°07.9 | -20°05.4 | +1.9 | 58.9 |
| ◐ | Me 24 | 323°18.1 | 337°43.4 | 352°08.6 | 6°33.9 | 20°59.2 | 35°24.5 | 49°49.9 | 64°15.2 | 78°40.6 | 93°06.0 | 107°31.5 | +25.3 | 16.2 |
| | | -19°12.3 | -19°07.7 | -19°03.0 | -18°58.2 | -18°53.2 | -18°48.1 | -18°42.9 | -18°37.6 | -18°32.2 | -18°26.6 | -18°20.9 | +5.1 | 59.3 |
| | Je 25 | 323°56.4 | 338°22.3 | 352°48.3 | 7°14.2 | 21°40.3 | 36°06.3 | 50°32.4 | 64°58.6 | 79°24.7 | 93°50.9 | 108°17.2 | +26.1 | 16.2 |
| | | -16°41.2 | -16°33.7 | -16°26.0 | -16°18.3 | -16°10.4 | -16°02.4 | -15°54.3 | -15°46.1 | -15°37.8 | -15°29.5 | -15°21.0 | +8.0 | 59.6 |
| | Ve 26 | 324°55.7 | 339°22.6 | 353°49.5 | 8°16.5 | 22°43.5 | 37°10.5 | 51°37.6 | 66°04.8 | 80°31.9 | 94°59.2 | 109°26.4 | +27.1 | 16.3 |
| | | -13°02.2 | -12°52.3 | -12°42.2 | -12°32.1 | -12°21.9 | -12°11.6 | -12°01.3 | -11°50.9 | -11°40.4 | -11°29.8 | -11°19.2 | +10.3 | 59.7 |
| | Sa 27 | 326°20.0 | 340°47.8 | 355°15.7 | 9°43.7 | 24°11.7 | 38°39.7 | 53°07.7 | 67°35.8 | 82°03.9 | 96°32.1 | 111°00.3 | +28.0 | 16.3 |
| | | -8°31.8 | -8°20.2 | -8°08.5 | -7°56.8 | -7°45.1 | -7°33.3 | -7°21.5 | -7°09.6 | -6°57.6 | -6°45.7 | -6°33.7 | +11.8 | 59.7 |
| | Di 28 | 328°06.7 | 342°35.3 | 357°04.0 | 11°32.7 | 26°01.5 | 40°30.2 | 54°59.0 | 69°27.8 | 83°56.6 | 98°25.4 | 112°54.3 | +28.8 | 16.2 |
| | | -3°30.0 | -3°17.6 | -3°05.2 | -2°52.7 | -2°40.3 | -2°27.8 | -2°15.3 | -2°02.8 | -1°50.3 | -1°37.8 | -1°25.3 | +12.5 | 59.4 |
| | Lu 29 | 330°09.4 | 344°38.5 | 359°07.7 | 13°36.8 | 28°06.0 | 42°35.2 | 57°04.3 | 71°33.5 | 86°02.7 | 100°32.0 | 115°01.2 | +29.2 | 16.1 |
| | | 1°41.8 | 1°54.2 | 2°06.5 | 2°18.9 | 2°31.2 | 2°43.5 | 2°55.8 | 3°08.0 | 3°20.3 | 3°32.5 | 3°44.6 | +12.3 | 59.0 |
| ○ | Ma 30 | 332°20.3 | 346°49.6 | 1°18.9 | 15°48.2 | 30°17.6 | 44°46.9 | 59°16.2 | 73°45.5 | 88°14.8 | 102°44.1 | 117°13.4 | +29.3 | 15.9 |
| | | 6°42.9 | 6°54.5 | 7°06.0 | 7°17.4 | 7°28.8 | 7°40.2 | 7°51.5 | 8°02.7 | 8°13.9 | 8°25.0 | 8°36.1 | +11.3 | 58.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 1 09h20 — DQ: 8 16h14 — NL: 16 18h46 — PQ: 24 01h19 — PL: 30 18h57

# SOLEIL

## Octobre 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 272°33.2<br>-3°07.4 | 287°33.4<br>-3°08.3 | 302°33.6<br>-3°09.3 | 317°33.8<br>-3°10.3 | 332°34.0<br>-3°11.2 | 347°34.2<br>-3°12.2 | 2°34.4<br>-3°13.2 | 17°34.6<br>-3°14.1 | 32°34.8<br>-3°15.1 | 47°35.0<br>-3°16.1 | 62°35.2<br>-3°17.0 | 77°35.4<br>-3°18.0 | +0.2<br>-1.0 |
| Je 2 | 272°38.1<br>-3°30.6 | 287°38.3<br>-3°31.6 | 302°38.5<br>-3°32.5 | 317°38.7<br>-3°33.5 | 332°38.9<br>-3°34.5 | 347°39.1<br>-3°35.4 | 2°39.3<br>-3°36.4 | 17°39.5<br>-3°37.4 | 32°39.7<br>-3°38.3 | 47°39.9<br>-3°39.3 | 62°40.1<br>-3°40.3 | 77°40.3<br>-3°41.2 | +0.2<br>-1.0 |
| Ve 3 | 272°42.8<br>-3°53.8 | 287°43.0<br>-3°54.8 | 302°43.2<br>-3°55.7 | 317°43.4<br>-3°56.7 | 332°43.6<br>-3°57.7 | 347°43.8<br>-3°58.6 | 2°44.0<br>-3°59.6 | 17°44.2<br>-4°00.6 | 32°44.4<br>-4°01.5 | 47°44.6<br>-4°02.5 | 62°44.8<br>-4°03.5 | 77°45.0<br>-4°04.4 | +0.2<br>-1.0 |
| Sa 4 | 272°47.5<br>-4°17.0 | 287°47.7<br>-4°17.9 | 302°47.9<br>-4°18.9 | 317°48.1<br>-4°19.8 | 332°48.3<br>-4°20.8 | 347°48.5<br>-4°21.8 | 2°48.7<br>-4°22.7 | 17°48.9<br>-4°23.7 | 32°49.1<br>-4°24.7 | 47°49.3<br>-4°25.6 | 62°49.5<br>-4°26.6 | 77°49.7<br>-4°27.6 | +0.2<br>-1.0 |
| Di 5 | 272°52.1<br>-4°40.1 | 287°52.3<br>-4°41.0 | 302°52.5<br>-4°42.0 | 317°52.7<br>-4°43.0 | 332°52.9<br>-4°43.9 | 347°53.1<br>-4°44.9 | 2°53.3<br>-4°45.8 | 17°53.5<br>-4°46.8 | 32°53.7<br>-4°47.8 | 47°53.8<br>-4°48.7 | 62°54.0<br>-4°49.7 | 77°54.2<br>-4°50.6 | +0.2<br>-1.0 |
| Lu 6 | 272°56.7<br>-5°03.1 | 287°56.8<br>-5°04.1 | 302°57.0<br>-5°05.0 | 317°57.2<br>-5°06.0 | 332°57.4<br>-5°07.0 | 347°57.6<br>-5°07.9 | 2°57.8<br>-5°08.9 | 17°58.0<br>-5°09.8 | 32°58.1<br>-5°10.8 | 47°58.3<br>-5°11.7 | 62°58.5<br>-5°12.7 | 77°58.7<br>-5°13.7 | +0.2<br>-1.0 |
| Ma 7 | 273°01.1<br>-5°26.1 | 288°01.2<br>-5°27.1 | 303°01.4<br>-5°28.0 | 318°01.6<br>-5°29.0 | 333°01.8<br>-5°29.9 | 348°02.0<br>-5°30.9 | 3°02.2<br>-5°31.8 | 18°02.3<br>-5°32.8 | 33°02.5<br>-5°33.8 | 48°02.7<br>-5°34.7 | 63°02.9<br>-5°35.7 | 78°03.1<br>-5°36.6 | +0.2<br>-1.0 |
| Me 8 | 273°05.4<br>-5°49.0 | 288°05.6<br>-5°50.0 | 303°05.7<br>-5°50.9 | 318°05.9<br>-5°51.9 | 333°06.1<br>-5°52.8 | 348°06.3<br>-5°53.8 | 3°06.4<br>-5°54.8 | 18°06.6<br>-5°55.7 | 33°06.8<br>-5°56.7 | 48°07.0<br>-5°57.6 | 63°07.1<br>-5°58.6 | 78°07.3<br>-5°59.5 | +0.2<br>-1.0 |
| Je 9 | 273°09.6<br>-6°11.9 | 288°09.7<br>-6°12.8 | 303°09.9<br>-6°13.8 | 318°10.1<br>-6°14.7 | 333°10.3<br>-6°15.7 | 348°10.4<br>-6°16.6 | 3°10.6<br>-6°17.6 | 18°10.8<br>-6°18.5 | 33°10.9<br>-6°19.5 | 48°11.1<br>-6°20.4 | 63°11.3<br>-6°21.4 | 78°11.5<br>-6°22.3 | +0.2<br>-0.9 |
| Ve 10 | 273°13.7<br>-6°34.7 | 288°13.8<br>-6°35.6 | 303°14.0<br>-6°36.5 | 318°14.2<br>-6°37.5 | 333°14.3<br>-6°38.4 | 348°14.5<br>-6°39.4 | 3°14.7<br>-6°40.3 | 18°14.8<br>-6°41.3 | 33°15.0<br>-6°42.2 | 48°15.2<br>-6°43.2 | 63°15.3<br>-6°44.1 | 78°15.5<br>-6°45.1 | +0.2<br>-0.9 |
| Sa 11 | 273°17.6<br>-6°57.3 | 288°17.8<br>-6°58.3 | 303°17.9<br>-6°59.2 | 318°18.1<br>-7°00.2 | 333°18.3<br>-7°01.1 | 348°18.4<br>-7°02.0 | 3°18.6<br>-7°03.0 | 18°18.7<br>-7°03.9 | 33°18.9<br>-7°04.9 | 48°19.1<br>-7°05.8 | 63°19.2<br>-7°06.8 | 78°19.4<br>-7°07.7 | +0.2<br>-0.9 |
| Di 12 | 273°21.5<br>-7°19.9 | 288°21.6<br>-7°20.9 | 303°21.8<br>-7°21.8 | 318°21.9<br>-7°22.7 | 333°22.1<br>-7°23.7 | 348°22.2<br>-7°24.6 | 3°22.4<br>-7°25.6 | 18°22.5<br>-7°26.5 | 33°22.7<br>-7°27.4 | 48°22.9<br>-7°28.4 | 63°23.0<br>-7°29.3 | 78°23.2<br>-7°30.2 | +0.2<br>-0.9 |
| Lu 13 | 273°25.2<br>-7°42.4 | 288°25.3<br>-7°43.3 | 303°25.5<br>-7°44.3 | 318°25.6<br>-7°45.2 | 333°25.8<br>-7°46.2 | 348°25.9<br>-7°47.1 | 3°26.1<br>-7°48.0 | 18°26.2<br>-7°49.0 | 33°26.4<br>-7°49.9 | 48°26.5<br>-7°50.8 | 63°26.7<br>-7°51.8 | 78°26.8<br>-7°52.7 | +0.2<br>-0.9 |
| Ma 14 | 273°28.7<br>-8°04.8 | 288°28.9<br>-8°05.7 | 303°29.0<br>-8°06.7 | 318°29.2<br>-8°07.6 | 333°29.3<br>-8°08.5 | 348°29.5<br>-8°09.4 | 3°29.6<br>-8°10.4 | 18°29.8<br>-8°11.3 | 33°29.9<br>-8°12.2 | 48°30.0<br>-8°13.2 | 63°30.2<br>-8°14.1 | 78°30.3<br>-8°15.0 | +0.1<br>-0.9 |
| Me 15 | 273°32.2<br>-8°27.1 | 288°32.3<br>-8°28.0 | 303°32.5<br>-8°28.9 | 318°32.6<br>-8°29.8 | 333°32.7<br>-8°30.8 | 348°32.9<br>-8°31.7 | 3°33.0<br>-8°32.6 | 18°33.2<br>-8°33.5 | 33°33.3<br>-8°34.5 | 48°33.4<br>-8°35.4 | 63°33.6<br>-8°36.3 | 78°33.7<br>-8°37.2 | +0.1<br>-0.9 |
| Je 16 | 273°35.5<br>-8°49.2 | 288°35.6<br>-8°50.1 | 303°35.7<br>-8°51.1 | 318°35.9<br>-8°52.0 | 333°36.0<br>-8°52.9 | 348°36.1<br>-8°53.8 | 3°36.3<br>-8°54.7 | 18°36.4<br>-8°55.7 | 33°36.5<br>-8°56.6 | 48°36.7<br>-8°57.5 | 63°36.8<br>-8°58.4 | 78°36.9<br>-8°59.3 | +0.1<br>-0.9 |
| Ve 17 | 273°38.6<br>-9°11.3 | 288°38.8<br>-9°12.2 | 303°38.9<br>-9°13.1 | 318°39.0<br>-9°14.0 | 333°39.1<br>-9°14.9 | 348°39.3<br>-9°15.8 | 3°39.4<br>-9°16.7 | 18°39.5<br>-9°17.7 | 33°39.6<br>-9°18.6 | 48°39.8<br>-9°19.5 | 63°39.9<br>-9°20.4 | 78°40.0<br>-9°21.3 | +0.1<br>-0.9 |
| Sa 18 | 273°41.6<br>-9°33.2 | 288°41.8<br>-9°34.1 | 303°41.9<br>-9°35.0 | 318°42.0<br>-9°35.9 | 333°42.1<br>-9°36.8 | 348°42.2<br>-9°37.7 | 3°42.4<br>-9°38.6 | 18°42.5<br>-9°39.5 | 33°42.6<br>-9°40.4 | 48°42.7<br>-9°41.3 | 63°42.8<br>-9°42.2 | 78°43.0<br>-9°43.1 | +0.1<br>-0.9 |
| Di 19 | 273°44.5<br>-9°54.9 | 288°44.6<br>-9°55.8 | 303°44.7<br>-9°56.7 | 318°44.8<br>-9°57.6 | 333°45.0<br>-9°58.5 | 348°45.1<br>-9°59.4 | 3°45.2<br>-10°00.3 | 18°45.3<br>-10°01.2 | 33°45.4<br>-10°02.1 | 48°45.5<br>-10°03.0 | 63°45.6<br>-10°03.9 | 78°45.8<br>-10°04.8 | +0.1<br>-0.9 |
| Lu 20 | 273°47.2<br>-10°16.5 | 288°47.3<br>-10°17.4 | 303°47.4<br>-10°18.3 | 318°47.5<br>-10°19.2 | 333°47.6<br>-10°20.1 | 348°47.7<br>-10°21.0 | 3°47.9<br>-10°21.9 | 18°48.0<br>-10°22.8 | 33°48.1<br>-10°23.7 | 48°48.2<br>-10°24.6 | 63°48.3<br>-10°25.5 | 78°48.4<br>-10°26.4 | +0.1<br>-0.9 |
| Ma 21 | 273°49.8<br>-10°38.0 | 288°49.9<br>-10°38.9 | 303°50.0<br>-10°39.8 | 318°50.1<br>-10°40.7 | 333°50.2<br>-10°41.5 | 348°50.3<br>-10°42.4 | 3°50.4<br>-10°43.3 | 18°50.5<br>-10°44.2 | 33°50.6<br>-10°45.1 | 48°50.7<br>-10°46.0 | 63°50.8<br>-10°46.9 | 78°50.9<br>-10°47.8 | +0.1<br>-0.9 |
| Me 22 | 273°52.1<br>-10°59.3 | 288°52.2<br>-11°00.2 | 303°52.3<br>-11°01.1 | 318°52.4<br>-11°01.9 | 333°52.5<br>-11°02.8 | 348°52.6<br>-11°03.7 | 3°52.7<br>-11°04.6 | 18°52.8<br>-11°05.5 | 33°52.9<br>-11°06.4 | 48°53.0<br>-11°07.2 | 63°53.1<br>-11°08.1 | 78°53.2<br>-11°09.0 | +0.1<br>-0.9 |
| Je 23 | 273°54.4<br>-11°20.4 | 288°54.5<br>-11°21.3 | 303°54.5<br>-11°22.2 | 318°54.6<br>-11°23.1 | 333°54.7<br>-11°23.9 | 348°54.8<br>-11°24.8 | 3°54.9<br>-11°25.7 | 18°55.0<br>-11°26.6 | 33°55.1<br>-11°27.4 | 48°55.2<br>-11°28.3 | 63°55.2<br>-11°29.2 | 78°55.3<br>-11°30.1 | +0.1<br>-0.9 |
| Ve 24 | 273°56.4<br>-11°41.4 | 288°56.5<br>-11°42.3 | 303°56.6<br>-11°43.1 | 318°56.7<br>-11°44.0 | 333°56.8<br>-11°44.9 | 348°56.8<br>-11°45.7 | 3°56.9<br>-11°46.6 | 18°57.0<br>-11°47.5 | 33°57.1<br>-11°48.3 | 48°57.2<br>-11°49.2 | 63°57.2<br>-11°50.1 | 78°57.3<br>-11°50.9 | +0.1<br>-0.9 |
| Sa 25 | 273°58.3<br>-12°02.2 | 288°58.4<br>-12°03.0 | 303°58.5<br>-12°03.9 | 318°58.5<br>-12°04.8 | 333°58.6<br>-12°05.6 | 348°58.7<br>-12°06.5 | 3°58.8<br>-12°07.3 | 18°58.8<br>-12°08.2 | 33°58.9<br>-12°09.1 | 48°59.0<br>-12°09.9 | 63°59.1<br>-12°10.8 | 78°59.1<br>-12°11.6 | +0.1<br>-0.9 |
| Di 26 | 274°00.0<br>-12°22.8 | 289°00.1<br>-12°23.6 | 304°00.2<br>-12°24.5 | 319°00.2<br>-12°25.3 | 334°00.3<br>-12°26.2 | 349°00.4<br>-12°27.0 | 4°00.4<br>-12°27.9 | 19°00.5<br>-12°28.8 | 34°00.6<br>-12°29.6 | 49°00.6<br>-12°30.5 | 64°00.7<br>-12°31.3 | 79°00.8<br>-12°32.2 | +0.1<br>-0.9 |
| Lu 27 | 274°01.6<br>-12°43.2 | 289°01.6<br>-12°44.0 | 304°01.7<br>-12°44.9 | 319°01.8<br>-12°45.7 | 334°01.8<br>-12°46.6 | 349°01.9<br>-12°47.4 | 4°01.9<br>-12°48.3 | 19°02.0<br>-12°49.1 | 34°02.0<br>-12°49.9 | 49°02.1<br>-12°50.8 | 64°02.2<br>-12°51.6 | 79°02.2<br>-12°52.5 | +0.1<br>-0.8 |
| Ma 28 | 274°02.9<br>-13°03.4 | 289°03.0<br>-13°04.2 | 304°03.0<br>-13°05.1 | 319°03.1<br>-13°05.9 | 334°03.1<br>-13°06.7 | 349°03.2<br>-13°07.6 | 4°03.2<br>-13°08.4 | 19°03.3<br>-13°09.3 | 34°03.3<br>-13°10.1 | 49°03.4<br>-13°10.9 | 64°03.4<br>-13°11.8 | 79°03.5<br>-13°12.6 | +0.1<br>-0.8 |
| Me 29 | 274°04.1<br>-13°23.4 | 289°04.1<br>-13°24.2 | 304°04.2<br>-13°25.1 | 319°04.2<br>-13°25.9 | 334°04.3<br>-13°26.7 | 349°04.3<br>-13°27.6 | 4°04.4<br>-13°28.4 | 19°04.4<br>-13°29.2 | 34°04.4<br>-13°30.0 | 49°04.5<br>-13°30.9 | 64°04.5<br>-13°31.7 | 79°04.6<br>-13°32.5 | +0.0<br>-0.8 |
| Je 30 | 274°05.1<br>-13°43.2 | 289°05.1<br>-13°44.0 | 304°05.2<br>-13°44.8 | 319°05.2<br>-13°45.7 | 334°05.2<br>-13°46.5 | 349°05.3<br>-13°47.3 | 4°05.3<br>-13°48.1 | 19°05.3<br>-13°48.9 | 34°05.4<br>-13°49.8 | 49°05.4<br>-13°50.6 | 64°05.4<br>-13°51.4 | 79°05.5<br>-13°52.2 | +0.0<br>-0.8 |
| Ve 31 | 274°05.9<br>-14°02.8 | 289°05.9<br>-14°03.6 | 304°05.9<br>-14°04.4 | 319°05.9<br>-14°05.2 | 334°06.0<br>-14°06.0 | 349°06.0<br>-14°06.8 | 4°06.0<br>-14°07.6 | 19°06.1<br>-14°08.5 | 34°06.1<br>-14°09.3 | 49°06.1<br>-14°10.1 | 64°06.1<br>-14°10.9 | 79°06.2<br>-14°11.7 | +0.0<br>-0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2031

| J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 247°37.2<br>10°13.0 | 262°06.5<br>10°23.5 | 276°35.8<br>10°33.9 | 291°05.1<br>10°44.2 | 305°34.4<br>10°54.4 | 320°03.7<br>11°04.6 | 334°33.0<br>11°14.7 | 349°02.2<br>11°24.7 | 3°31.5<br>11°34.7 | 18°00.8<br>11°44.6 | 32°30.0<br>11°54.4 | +29.3<br>+10.1 | 15.8<br>57.9 |
| Je 2 | 249°48.5<br>14°12.0 | 264°17.7<br>14°20.5 | 278°46.9<br>14°28.9 | 293°16.1<br>14°37.2 | 307°45.3<br>14°45.4 | 322°14.5<br>14°53.6 | 336°43.7<br>15°01.7 | 351°12.9<br>15°09.6 | 5°42.0<br>15°17.5 | 20°11.2<br>15°25.3 | 34°40.4<br>15°33.0 | +29.2<br>+8.1 | 15.6<br>57.1 |
| Ve 3 | 251°57.8<br>17°17.1 | 266°26.9<br>17°23.3 | 280°56.1<br>17°29.4 | 295°25.3<br>17°35.3 | 309°54.4<br>17°41.2 | 324°23.6<br>17°47.0 | 338°52.8<br>17°52.6 | 353°21.9<br>17°58.2 | 7°51.1<br>18°03.6 | 22°20.3<br>18°09.0 | 36°49.5<br>18°14.3 | +29.2<br>+5.7 | 15.4<br>56.4 |
| Sa 4 | 254°08.1<br>19°20.8 | 268°37.4<br>19°24.4 | 283°06.7<br>19°27.9 | 297°36.0<br>19°31.3 | 312°05.4<br>19°34.6 | 326°34.8<br>19°37.8 | 341°04.1<br>19°40.9 | 355°33.5<br>19°43.9 | 10°02.9<br>19°46.8 | 24°32.3<br>19°49.5 | 39°01.8<br>19°52.2 | +29.4<br>+3.1 | 15.2<br>55.7 |
| Di 5 | 256°25.4<br>20°19.8 | 270°55.1<br>20°20.8 | 285°24.9<br>20°21.7 | 299°54.7<br>20°22.5 | 314°24.5<br>20°23.2 | 328°54.3<br>20°23.8 | 343°24.1<br>20°24.3 | 357°54.0<br>20°24.7 | 12°23.9<br>20°25.0 | 26°53.9<br>20°25.2 | 41°23.8<br>20°25.3 | +29.8<br>+0.6 | 15.0<br>55.0 |
| Lu 6 | 258°56.5<br>20°14.8 | 273°26.9<br>20°13.3 | 287°57.3<br>20°11.7 | 302°27.8<br>20°10.1 | 316°58.3<br>20°08.3 | 331°28.8<br>20°06.4 | 345°59.4<br>20°04.5 | 0°30.0<br>20°02.4 | 15°00.7<br>20°00.3 | 29°31.3<br>19°58.0 | 44°02.0<br>19°55.7 | +30.6<br>-1.9 | 14.9<br>54.6 |
| Ma 7 | 261°46.7<br>19°09.8 | 276°17.9<br>19°06.1 | 290°49.2<br>19°02.2 | 305°20.6<br>18°58.3 | 319°51.9<br>18°54.3 | 334°23.3<br>18°50.2 | 348°54.7<br>18°46.0 | 3°26.2<br>18°41.7 | 17°57.7<br>18°37.3 | 32°29.2<br>18°32.9 | 47°00.8<br>18°28.4 | +31.4<br>-4.2 | 14.8<br>54.3 |
| ◑ Me 8 | 276°17.9<br>19°06.1 | 290°49.2<br>19°02.2 | 305°20.6<br>18°58.3 | 319°51.9<br>18°54.3 | 334°23.3<br>18°50.2 | 348°54.7<br>18°46.0 | 3°26.2<br>18°41.7 | 17°57.7<br>18°37.3 | 32°29.2<br>18°32.9 | 47°00.8<br>18°28.4 | 61°32.4<br>18°23.7 | +31.4<br>-4.2 | 14.8<br>54.3 |
| Je 9 | 279°30.6<br>17°05.1 | 294°02.7<br>16°59.2 | 308°34.9<br>16°53.3 | 323°07.1<br>16°47.2 | 337°39.4<br>16°41.2 | 352°11.7<br>16°35.0 | 6°44.0<br>16°28.8 | 21°16.3<br>16°22.5 | 35°48.7<br>16°16.1 | 50°21.1<br>16°09.6 | 64°53.5<br>16°03.1 | +32.3<br>-6.2 | 14.8<br>54.2 |
| Ve 10 | 283°03.5<br>14°17.3 | 297°36.3<br>14°09.7 | 312°09.2<br>14°02.0 | 326°42.2<br>13°54.3 | 341°15.1<br>13°46.6 | 355°48.1<br>13°38.7 | 10°21.1<br>13°30.8 | 24°54.1<br>13°22.9 | 39°27.2<br>13°14.9 | 54°00.2<br>13°06.8 | 68°33.3<br>12°58.7 | +33.0<br>-7.9 | 14.8<br>54.3 |
| Sa 11 | 286°51.9<br>10°50.2 | 301°25.2<br>10°41.2 | 315°58.6<br>10°32.2 | 330°32.0<br>10°23.1 | 345°05.4<br>10°13.9 | 359°38.8<br>10°04.8 | 14°12.2<br>9°55.5 | 28°45.6<br>9°46.2 | 43°19.1<br>9°36.9 | 57°52.5<br>9°27.5 | 72°26.0<br>9°18.1 | +33.4<br>-9.2 | 14.9<br>54.5 |
| Di 12 | 290°48.4<br>6°51.8 | 305°21.9<br>6°41.7 | 319°55.4<br>6°31.6 | 334°28.9<br>6°21.5 | 349°02.4<br>6°11.3 | 3°35.9<br>6°01.1 | 18°09.4<br>5°50.9 | 32°42.9<br>5°40.6 | 47°16.4<br>5°30.3 | 61°49.9<br>5°19.9 | 76°23.3<br>5°09.6 | +33.5<br>-10.2 | 15.0<br>54.9 |
| Lu 13 | 294°43.9<br>2°30.8 | 309°17.2<br>2°20.0 | 323°50.4<br>2°09.2 | 338°23.6<br>1°58.4 | 352°56.8<br>1°47.6 | 7°30.0<br>1°36.7 | 22°03.1<br>1°25.8 | 36°36.3<br>1°15.0 | 51°09.4<br>1°04.1 | 65°42.4<br>0°53.1 | 80°15.5<br>0°42.2 | +33.2<br>-10.9 | 15.1<br>55.5 |
| Ma 14 | 298°27.9<br>-2°02.8 | 313°00.4<br>-2°13.9 | 327°33.0<br>-2°24.9 | 342°05.5<br>-2°36.0 | 356°37.9<br>-2°47.0 | 11°10.3<br>-2°58.1 | 25°42.7<br>-3°09.1 | 40°15.0<br>-3°20.1 | 54°47.3<br>-3°31.1 | 69°19.6<br>-3°42.2 | 83°51.8<br>-3°53.2 | +32.4<br>-11.0 | 15.3<br>56.1 |
| Me 15 | 301°49.5<br>-6°37.0 | 316°21.0<br>-6°47.8 | 330°52.4<br>-6°58.5 | 345°23.7<br>-7°09.3 | 359°55.0<br>-7°20.0 | 14°26.2<br>-7°30.7 | 28°57.4<br>-7°41.3 | 43°28.6<br>-7°51.9 | 57°59.6<br>-8°02.5 | 72°30.6<br>-8°13.1 | 87°01.6<br>-8°23.7 | +31.2<br>-10.7 | 15.5<br>56.7 |
| ● Je 16 | 304°38.8<br>-10°57.2 | 319°08.8<br>-11°07.1 | 333°38.7<br>-11°17.0 | 348°08.6<br>-11°26.8 | 2°38.4<br>-11°36.5 | 17°08.1<br>-11°46.2 | 31°37.8<br>-11°55.8 | 46°07.4<br>-12°05.4 | 60°36.9<br>-12°14.9 | 75°06.4<br>-12°24.3 | 89°35.7<br>-12°33.7 | +29.7<br>-9.7 | 15.6<br>57.4 |
| Ve 17 | 306°48.5<br>-14°46.8 | 321°16.9<br>-14°55.1 | 335°45.1<br>-15°03.3 | 350°13.3<br>-15°11.5 | 4°41.4<br>-15°19.5 | 19°09.4<br>-15°27.5 | 33°37.4<br>-15°35.4 | 48°05.3<br>-15°43.2 | 62°33.1<br>-15°50.9 | 77°00.9<br>-15°58.5 | 91°28.6<br>-16°06.1 | +28.0<br>-7.9 | 15.8<br>57.9 |
| Sa 18 | 308°16.4<br>-17°47.9 | 322°43.1<br>-17°53.9 | 337°09.7<br>-17°59.8 | 351°36.3<br>-18°05.5 | 6°02.8<br>-18°11.2 | 20°29.2<br>-18°16.7 | 34°55.6<br>-18°22.2 | 49°22.0<br>-18°27.5 | 63°48.3<br>-18°32.7 | 78°14.5<br>-18°37.9 | 92°40.7<br>-18°42.9 | +26.4<br>-5.5 | 15.9<br>58.4 |
| Di 19 | 309°07.6<br>-19°43.6 | 323°33.1<br>-19°46.7 | 337°58.5<br>-19°49.7 | 352°23.9<br>-19°52.5 | 6°49.2<br>-19°55.2 | 21°14.6<br>-19°57.7 | 35°39.8<br>-20°00.2 | 50°05.1<br>-20°02.5 | 64°30.3<br>-20°04.7 | 78°55.5<br>-20°06.7 | 93°20.7<br>-20°08.6 | +25.3<br>-2.5 | 16.0<br>58.8 |
| Lu 20 | 309°35.7<br>-20°21.6 | 324°00.6<br>-20°21.4 | 338°25.5<br>-20°21.0 | 352°50.4<br>-20°20.6 | 7°15.3<br>-20°20.0 | 21°40.1<br>-20°19.2 | 36°05.0<br>-20°18.4 | 50°29.9<br>-20°17.3 | 64°54.8<br>-20°16.2 | 79°19.7<br>-20°14.9 | 93°44.6<br>-20°13.5 | +24.9<br>+0.8 | 16.1<br>59.0 |
| Ma 21 | 309°59.3<br>-19°36.5 | 324°24.4<br>-19°33.0 | 338°49.6<br>-19°29.4 | 353°14.8<br>-19°25.6 | 7°40.0<br>-19°21.7 | 22°05.2<br>-19°17.7 | 36°30.4<br>-19°13.5 | 50°55.7<br>-19°09.3 | 65°21.0<br>-19°04.9 | 79°46.4<br>-19°00.3 | 94°11.8<br>-18°55.7 | +25.2<br>+4.1 | 16.1<br>59.1 |
| Me 22 | 310°36.8<br>-17°31.6 | 325°02.8<br>-17°25.1 | 339°28.8<br>-17°18.5 | 353°54.9<br>-17°11.7 | 8°21.0<br>-17°04.9 | 22°47.2<br>-16°57.9 | 37°13.4<br>-16°50.9 | 51°39.7<br>-16°43.7 | 66°06.0<br>-16°36.4 | 80°32.4<br>-16°29.0 | 94°58.8<br>-16°21.5 | +26.2<br>+7.0 | 16.1<br>59.2 |
| ◐ Je 23 | 311°40.6<br>-14°17.6 | 326°07.8<br>-14°08.6 | 340°35.0<br>-13°59.5 | 355°02.3<br>-13°50.4 | 9°29.6<br>-13°41.1 | 23°57.0<br>-13°31.8 | 38°24.4<br>-13°22.4 | 52°51.9<br>-13°12.9 | 67°19.4<br>-13°03.4 | 81°47.0<br>-12°53.7 | 96°14.6<br>-12°44.0 | +27.4<br>+9.4 | 16.1<br>59.2 |
| Ve 24 | 313°14.6<br>-10°10.0 | 327°42.9<br>-9°59.2 | 342°11.3<br>-9°48.4 | 356°39.8<br>-9°37.5 | 11°08.3<br>-9°26.5 | 25°36.8<br>-9°15.6 | 40°05.4<br>-9°04.5 | 54°34.0<br>-8°53.4 | 69°02.6<br>-8°42.3 | 83°31.3<br>-8°31.1 | 98°00.1<br>-8°19.9 | +28.5<br>+11.0 | 16.1<br>59.0 |
| Sa 25 | 315°15.3<br>-5°26.6 | 329°44.6<br>-5°14.8 | 344°13.9<br>-5°03.0 | 358°43.2<br>-4°51.1 | 13°12.6<br>-4°39.2 | 27°42.0<br>-4°27.3 | 42°11.4<br>-4°15.4 | 56°40.9<br>-4°03.4 | 71°10.3<br>-3°51.4 | 85°39.8<br>-3°39.5 | 100°09.3<br>-3°27.4 | +29.4<br>+11.9 | 16.0<br>58.8 |
| Di 26 | 317°34.6<br>-0°26.2 | 332°04.4<br>-0°14.1 | 346°34.2<br>-0°02.0 | 1°04.1<br>0°10.1 | 15°33.9<br>0°22.2 | 30°03.8<br>0°34.3 | 44°33.7<br>0°46.4 | 59°03.6<br>0°58.5 | 73°33.4<br>1°10.5 | 88°03.4<br>1°22.6 | 102°33.3<br>1°34.6 | +29.9<br>+12.1 | 16.0<br>58.5 |
| Lu 27 | 320°02.5<br>4°33.0 | 334°32.5<br>4°44.6 | 349°02.4<br>4°56.3 | 3°32.4<br>5°07.9 | 18°02.3<br>5°19.5 | 32°32.3<br>5°31.1 | 47°02.2<br>5°42.6 | 61°32.2<br>5°54.1 | 76°02.1<br>6°05.5 | 90°32.1<br>6°16.9 | 105°02.0<br>6°28.3 | +30.0<br>+11.5 | 15.9<br>58.1 |
| Ma 28 | 322°30.0<br>9°13.2 | 336°59.8<br>9°23.8 | 351°29.6<br>9°34.3 | 5°59.3<br>9°44.8 | 20°29.1<br>9°55.2 | 34°58.8<br>10°05.6 | 49°28.6<br>10°15.9 | 63°58.3<br>10°26.1 | 78°28.0<br>10°36.2 | 92°57.7<br>10°46.3 | 107°27.4<br>10°56.4 | +29.7<br>+10.3 | 15.7<br>57.7 |
| Me 29 | 324°50.9<br>13°18.6 | 339°20.3<br>13°27.4 | 353°49.8<br>13°36.3 | 8°19.2<br>13°45.0 | 22°48.6<br>13°53.6 | 37°18.0<br>14°02.2 | 51°47.4<br>14°10.7 | 66°16.8<br>14°19.1 | 80°46.1<br>14°27.4 | 95°15.5<br>14°35.6 | 109°44.8<br>14°43.8 | +29.4<br>+8.5 | 15.6<br>57.1 |
| ○ Je 30 | 327°03.3<br>16°35.3 | 341°32.4<br>16°42.0 | 356°01.5<br>16°48.6 | 10°30.7<br>16°55.2 | 24°59.8<br>17°01.6 | 39°28.9<br>17°07.9 | 53°58.0<br>17°14.1 | 68°27.1<br>17°20.3 | 82°56.2<br>17°26.3 | 97°25.3<br>17°32.2 | 111°54.4<br>17°38.0 | +29.1<br>+6.3 | 15.4<br>56.5 |
| Ve 31 | 329°10.2<br>18°53.5 | 343°39.2<br>18°57.7 | 358°08.3<br>19°01.8 | 12°37.4<br>19°05.8 | 27°06.4<br>19°09.7 | 41°35.5<br>19°13.5 | 56°04.6<br>19°17.1 | 70°33.7<br>19°20.7 | 85°02.8<br>19°24.2 | 99°31.9<br>19°27.6 | 114°01.0<br>19°30.9 | +29.1<br>+3.7 | 15.2<br>55.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 8 10h50 — NL: 16 08h20 — PQ: 23 07h36 — PL: 30 07h32

# SOLEIL

## Novembre 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.7 | +0.0 |
| | -14°22.1 | -14°22.9 | -14°23.7 | -14°24.6 | -14°25.4 | -14°26.2 | -14°27.0 | -14°27.7 | -14°28.5 | -14°29.3 | -14°30.1 | -14°30.9 | -0.8 |
| Di 2 | 274°06.8 | 289°06.9 | 304°06.9 | 319°06.9 | 334°06.9 | 349°06.9 | 4°06.9 | 19°06.9 | 34°06.9 | 49°06.9 | 64°06.9 | 79°06.9 | +0.0 |
| | -14°41.3 | -14°42.1 | -14°42.9 | -14°43.6 | -14°44.4 | -14°45.2 | -14°46.0 | -14°46.8 | -14°47.6 | -14°48.4 | -14°49.2 | -14°50.0 | -0.8 |
| Lu 3 | 274°07.0 | 289°07.0 | 304°07.0 | 319°07.0 | 334°07.0 | 349°07.0 | 4°07.0 | 19°07.0 | 34°07.0 | 49°07.0 | 64°07.0 | 79°07.0 | +0.0 |
| | -15°00.2 | -15°00.9 | -15°01.7 | -15°02.5 | -15°03.3 | -15°04.1 | -15°04.9 | -15°05.6 | -15°06.4 | -15°07.2 | -15°08.0 | -15°08.7 | -0.8 |
| Ma 4 | 274°07.0 | 289°07.0 | 304°07.0 | 319°07.0 | 334°07.0 | 349°07.0 | 4°07.0 | 19°07.0 | 34°06.9 | 49°06.9 | 64°06.9 | 79°06.9 | -0.0 |
| | -15°18.8 | -15°19.6 | -15°20.4 | -15°21.1 | -15°21.9 | -15°22.7 | -15°23.4 | -15°24.2 | -15°25.0 | -15°25.7 | -15°26.5 | -15°27.3 | -0.8 |
| Me 5 | 274°06.8 | 289°06.8 | 304°06.7 | 319°06.7 | 334°06.7 | 349°06.7 | 4°06.7 | 19°06.7 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | -0.0 |
| | -15°37.2 | -15°38.0 | -15°38.7 | -15°39.5 | -15°40.3 | -15°41.0 | -15°41.8 | -15°42.5 | -15°43.3 | -15°44.0 | -15°44.8 | -15°45.6 | -0.8 |
| Je 6 | 274°06.3 | 289°06.3 | 304°06.3 | 319°06.3 | 334°06.2 | 349°06.2 | 4°06.2 | 19°06.2 | 34°06.1 | 49°06.1 | 64°06.1 | 79°06.0 | -0.0 |
| | -15°55.4 | -15°56.1 | -15°56.9 | -15°57.6 | -15°58.4 | -15°59.1 | -15°59.9 | -16°00.6 | -16°01.3 | -16°02.1 | -16°02.8 | -16°03.6 | -0.7 |
| Ve 7 | 274°05.7 | 289°05.6 | 304°05.6 | 319°05.6 | 334°05.5 | 349°05.5 | 4°05.5 | 19°05.4 | 34°05.4 | 49°05.4 | 64°05.3 | 79°05.3 | -0.0 |
| | -16°13.2 | -16°14.0 | -16°14.7 | -16°15.5 | -16°16.2 | -16°16.9 | -16°17.7 | -16°18.4 | -16°19.1 | -16°19.9 | -16°20.6 | -16°21.3 | -0.7 |
| Sa 8 | 274°04.8 | 289°04.8 | 304°04.7 | 319°04.7 | 334°04.6 | 349°04.6 | 4°04.5 | 19°04.5 | 34°04.5 | 49°04.4 | 64°04.4 | 79°04.3 | -0.0 |
| | -16°30.8 | -16°31.6 | -16°32.3 | -16°33.0 | -16°33.8 | -16°34.5 | -16°35.2 | -16°35.9 | -16°36.7 | -16°37.4 | -16°38.1 | -16°38.8 | -0.7 |
| Di 9 | 274°03.7 | 289°03.7 | 304°03.6 | 319°03.6 | 334°03.5 | 349°03.5 | 4°03.4 | 19°03.4 | 34°03.3 | 49°03.2 | 64°03.2 | 79°03.1 | -0.1 |
| | -16°48.2 | -16°48.9 | -16°49.6 | -16°50.3 | -16°51.0 | -16°51.8 | -16°52.5 | -16°53.2 | -16°53.9 | -16°54.6 | -16°55.3 | -16°56.0 | -0.7 |
| Lu 10 | 274°02.4 | 289°02.3 | 304°02.3 | 319°02.2 | 334°02.2 | 349°02.1 | 4°02.0 | 19°02.0 | 34°01.9 | 49°01.9 | 64°01.8 | 79°01.7 | -0.1 |
| | -17°05.2 | -17°05.9 | -17°06.6 | -17°07.3 | -17°08.0 | -17°08.7 | -17°09.4 | -17°10.1 | -17°10.8 | -17°11.5 | -17°12.2 | -17°12.9 | -0.7 |
| Ma 11 | 274°00.9 | 289°00.8 | 304°00.8 | 319°00.7 | 334°00.6 | 349°00.5 | 4°00.5 | 19°00.4 | 34°00.3 | 49°00.3 | 64°00.2 | 79°00.1 | -0.1 |
| | -17°22.0 | -17°22.7 | -17°23.4 | -17°24.1 | -17°24.7 | -17°25.4 | -17°26.1 | -17°26.8 | -17°27.5 | -17°28.2 | -17°28.9 | -17°29.6 | -0.7 |
| Me 12 | 273°59.2 | 288°59.1 | 303°59.0 | 318°58.9 | 333°58.8 | 348°58.8 | 3°58.7 | 18°58.6 | 33°58.5 | 48°58.4 | 63°58.4 | 78°58.3 | -0.1 |
| | -17°38.4 | -17°39.1 | -17°39.8 | -17°40.5 | -17°41.2 | -17°41.8 | -17°42.5 | -17°43.2 | -17°43.9 | -17°44.5 | -17°45.2 | -17°45.9 | -0.7 |
| Je 13 | 273°57.2 | 288°57.1 | 303°57.0 | 318°56.9 | 333°56.9 | 348°56.8 | 3°56.7 | 18°56.6 | 33°56.5 | 48°56.4 | 63°56.3 | 78°56.2 | -0.1 |
| | -17°54.6 | -17°55.3 | -17°55.9 | -17°56.6 | -17°57.3 | -17°57.9 | -17°58.6 | -17°59.2 | -17°59.9 | -18°00.6 | -18°01.2 | -18°01.9 | -0.7 |
| Ve 14 | 273°55.0 | 288°54.9 | 303°54.9 | 318°54.8 | 333°54.7 | 348°54.6 | 3°54.5 | 18°54.4 | 33°54.3 | 48°54.2 | 63°54.1 | 78°54.0 | -0.1 |
| | -18°10.4 | -18°11.1 | -18°11.7 | -18°12.4 | -18°13.0 | -18°13.7 | -18°14.3 | -18°15.0 | -18°15.6 | -18°16.3 | -18°16.9 | -18°17.6 | -0.7 |
| Sa 15 | 273°52.7 | 288°52.6 | 303°52.5 | 318°52.4 | 333°52.2 | 348°52.1 | 3°52.0 | 18°51.9 | 33°51.8 | 48°51.7 | 63°51.6 | 78°51.5 | -0.1 |
| | -18°26.0 | -18°26.6 | -18°27.2 | -18°27.9 | -18°28.5 | -18°29.2 | -18°29.8 | -18°30.4 | -18°31.1 | -18°31.7 | -18°32.3 | -18°33.0 | -0.6 |
| Di 16 | 273°50.1 | 288°50.0 | 303°49.9 | 318°49.7 | 333°49.6 | 348°49.5 | 3°49.4 | 18°49.3 | 33°49.2 | 48°49.1 | 63°48.9 | 78°48.8 | -0.1 |
| | -18°41.2 | -18°41.8 | -18°42.4 | -18°43.0 | -18°43.7 | -18°44.3 | -18°44.9 | -18°45.5 | -18°46.2 | -18°46.8 | -18°47.4 | -18°48.0 | -0.6 |
| Lu 17 | 273°47.3 | 288°47.2 | 303°47.0 | 318°46.9 | 333°46.8 | 348°46.7 | 3°46.5 | 18°46.4 | 33°46.3 | 48°46.2 | 63°46.1 | 78°45.9 | -0.1 |
| | -18°56.0 | -18°56.6 | -18°57.3 | -18°57.9 | -18°58.5 | -18°59.1 | -18°59.7 | -19°00.3 | -19°00.9 | -19°01.5 | -19°02.1 | -19°02.7 | -0.6 |
| Ma 18 | 273°44.3 | 288°44.1 | 303°44.0 | 318°43.9 | 333°43.8 | 348°43.6 | 3°43.5 | 18°43.4 | 33°43.2 | 48°43.1 | 63°43.0 | 78°42.8 | -0.1 |
| | -19°10.6 | -19°11.2 | -19°11.8 | -19°12.4 | -19°13.0 | -19°13.6 | -19°14.1 | -19°14.7 | -19°15.3 | -19°15.9 | -19°16.5 | -19°17.1 | -0.6 |
| Me 19 | 273°41.1 | 288°40.9 | 303°40.8 | 318°40.7 | 333°40.5 | 348°40.4 | 3°40.2 | 18°40.1 | 33°40.0 | 48°39.8 | 63°39.7 | 78°39.5 | -0.1 |
| | -19°24.8 | -19°25.3 | -19°25.9 | -19°26.5 | -19°27.1 | -19°27.7 | -19°28.3 | -19°28.8 | -19°29.4 | -19°30.0 | -19°30.6 | -19°31.1 | -0.6 |
| Je 20 | 273°37.7 | 288°37.5 | 303°37.4 | 318°37.2 | 333°37.1 | 348°36.9 | 3°36.8 | 18°36.6 | 33°36.5 | 48°36.3 | 63°36.2 | 78°36.0 | -0.1 |
| | -19°38.6 | -19°39.2 | -19°39.7 | -19°40.3 | -19°40.9 | -19°41.4 | -19°42.0 | -19°42.6 | -19°43.1 | -19°43.7 | -19°44.3 | -19°44.8 | -0.6 |
| Ve 21 | 273°34.1 | 288°33.9 | 303°33.7 | 318°33.6 | 333°33.4 | 348°33.3 | 3°33.1 | 18°33.0 | 33°32.8 | 48°32.7 | 63°32.5 | 78°32.3 | -0.2 |
| | -19°52.1 | -19°52.6 | -19°53.2 | -19°53.7 | -19°54.3 | -19°54.8 | -19°55.4 | -19°55.9 | -19°56.5 | -19°57.0 | -19°57.6 | -19°58.1 | -0.6 |
| Sa 22 | 273°30.3 | 288°30.1 | 303°29.9 | 318°29.8 | 333°29.6 | 348°29.4 | 3°29.3 | 18°29.1 | 33°28.9 | 48°28.8 | 63°28.6 | 78°28.4 | -0.2 |
| | -20°05.2 | -20°05.7 | -20°06.3 | -20°06.8 | -20°07.4 | -20°07.9 | -20°08.4 | -20°09.0 | -20°09.5 | -20°10.0 | -20°10.6 | -20°11.1 | -0.5 |
| Di 23 | 273°26.3 | 288°26.1 | 303°25.9 | 318°25.7 | 333°25.6 | 348°25.4 | 3°25.2 | 18°25.1 | 33°24.9 | 48°24.7 | 63°24.5 | 78°24.4 | -0.2 |
| | -20°18.0 | -20°18.5 | -20°19.0 | -20°19.5 | -20°20.0 | -20°20.6 | -20°21.1 | -20°21.6 | -20°22.1 | -20°22.6 | -20°23.2 | -20°23.7 | -0.5 |
| Lu 24 | 273°22.1 | 288°21.9 | 303°21.7 | 318°21.5 | 333°21.4 | 348°21.2 | 3°21.0 | 18°20.8 | 33°20.6 | 48°20.5 | 63°20.3 | 78°20.1 | -0.2 |
| | -20°30.3 | -20°30.8 | -20°31.3 | -20°31.9 | -20°32.4 | -20°32.9 | -20°33.4 | -20°33.9 | -20°34.4 | -20°34.9 | -20°35.4 | -20°35.9 | -0.5 |
| Ma 25 | 273°17.7 | 288°17.5 | 303°17.3 | 318°17.1 | 333°16.9 | 348°16.8 | 3°16.6 | 18°16.4 | 33°16.2 | 48°16.0 | 63°15.8 | 78°15.6 | -0.2 |
| | -20°42.3 | -20°42.8 | -20°43.3 | -20°43.8 | -20°44.3 | -20°44.8 | -20°45.3 | -20°45.8 | -20°46.2 | -20°46.7 | -20°47.2 | -20°47.7 | -0.5 |
| Me 26 | 273°13.1 | 288°12.9 | 303°12.7 | 318°12.6 | 333°12.4 | 348°12.2 | 3°12.0 | 18°11.8 | 33°11.6 | 48°11.4 | 63°11.2 | 78°11.0 | -0.2 |
| | -20°53.9 | -20°54.4 | -20°54.9 | -20°55.4 | -20°55.8 | -20°56.3 | -20°56.8 | -20°57.3 | -20°57.7 | -20°58.2 | -20°58.7 | -20°59.1 | -0.5 |
| Je 27 | 273°08.4 | 288°08.2 | 303°08.0 | 318°07.8 | 333°07.6 | 348°07.4 | 3°07.2 | 18°07.0 | 33°06.8 | 48°06.6 | 63°06.4 | 78°06.2 | -0.2 |
| | -21°05.2 | -21°05.6 | -21°06.1 | -21°06.5 | -21°07.0 | -21°07.5 | -21°07.9 | -21°08.4 | -21°08.8 | -21°09.3 | -21°09.7 | -21°10.2 | -0.5 |
| Ve 28 | 273°03.5 | 288°03.3 | 303°03.1 | 318°02.8 | 333°02.6 | 348°02.4 | 3°02.2 | 18°02.0 | 33°01.8 | 48°01.6 | 63°01.4 | 78°01.2 | -0.2 |
| | -21°16.0 | -21°16.4 | -21°16.9 | -21°17.3 | -21°17.8 | -21°18.2 | -21°18.6 | -21°19.1 | -21°19.5 | -21°19.9 | -21°20.4 | -21°20.8 | -0.4 |
| Sa 29 | 272°58.4 | 287°58.2 | 302°57.9 | 317°57.7 | 332°57.5 | 347°57.3 | 2°57.1 | 17°56.8 | 32°56.6 | 47°56.4 | 62°56.2 | 77°56.0 | -0.2 |
| | -21°26.4 | -21°26.8 | -21°27.3 | -21°27.7 | -21°28.1 | -21°28.5 | -21°29.0 | -21°29.4 | -21°29.8 | -21°30.2 | -21°30.6 | -21°31.1 | -0.4 |
| Di 30 | 272°53.1 | 287°52.9 | 302°52.6 | 317°52.4 | 332°52.2 | 347°52.0 | 2°51.8 | 17°51.5 | 32°51.3 | 47°51.1 | 62°50.8 | 77°50.6 | -0.2 |
| | -21°36.4 | -21°36.8 | -21°37.3 | -21°37.7 | -21°38.1 | -21°38.5 | -21°38.9 | -21°39.3 | -21°39.7 | -21°40.1 | -21°40.5 | -21°40.9 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2031

| J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 229°54.2 | 244°23.4 | 258°52.6 | 273°21.8 | 287°51.1 | 302°20.3 | 316°49.6 | 331°18.9 | 345°48.2 | 0°17.6 | 14°46.9 | +29.3 | 15.1 |
| | 19°53.2 | 19°55.6 | 19°57.8 | 19°59.9 | 20°01.9 | 20°03.8 | 20°05.6 | 20°07.3 | 20°08.9 | 20°10.4 | 20°11.7 | +1.9 | 55.5 |
| Di 2 | 232°09.9 | 246°39.6 | 261°09.4 | 275°39.2 | 290°09.0 | 304°38.9 | 319°08.8 | 333°38.7 | 348°08.6 | 2°38.6 | 17°08.6 | +29.9 | 15.0 |
| | 20°20.0 | 20°19.7 | 20°19.3 | 20°18.9 | 20°18.3 | 20°17.6 | 20°16.8 | 20°16.0 | 20°15.0 | 20°13.9 | 20°12.8 | -0.7 | 54.9 |
| Lu 3 | 234°42.9 | 249°13.5 | 263°44.1 | 278°14.8 | 292°45.5 | 307°16.2 | 321°47.0 | 336°17.8 | 350°48.6 | 5°19.5 | 19°50.5 | +30.8 | 14.9 |
| | 19°43.6 | 19°40.9 | 19°38.1 | 19°35.2 | 19°32.2 | 19°29.2 | 19°26.0 | 19°22.8 | 19°19.4 | 19°16.0 | 19°12.5 | -3.1 | 54.5 |
| Ma 4 | 237°39.3 | 252°10.9 | 266°42.5 | 281°14.1 | 295°45.8 | 310°17.6 | 324°49.4 | 339°21.2 | 353°53.1 | 8°25.0 | 22°56.9 | +31.8 | 14.8 |
| | 18°09.6 | 18°04.7 | 17°59.8 | 17°54.8 | 17°49.7 | 17°44.5 | 17°39.3 | 17°33.9 | 17°28.5 | 17°23.0 | 17°17.5 | -5.2 | 54.2 |
| Me 5 | 241°00.7 | 255°33.2 | 270°05.8 | 284°38.4 | 299°11.1 | 313°43.8 | 328°16.5 | 342°49.3 | 357°22.1 | 11°54.9 | 26°27.8 | +32.7 | 14.8 |
| | 15°45.4 | 15°38.7 | 15°31.9 | 15°25.1 | 15°18.2 | 15°11.2 | 15°04.2 | 14°57.1 | 14°50.0 | 14°42.7 | 14°35.5 | -7.0 | 54.2 |
| Je 6 | 244°44.3 | 259°17.6 | 273°51.0 | 288°24.4 | 302°57.7 | 317°31.2 | 332°04.6 | 346°38.1 | 1°11.6 | 15°45.1 | 30°18.6 | +33.4 | 14.8 |
| | 12°39.1 | 12°30.8 | 12°22.6 | 12°14.3 | 12°05.9 | 11°57.5 | 11°49.0 | 11°40.4 | 11°31.9 | 11°23.2 | 11°14.5 | -8.5 | 54.2 |
| ◑ Ve 7 | 248°43.5 | 263°17.2 | 277°51.0 | 292°24.8 | 306°58.6 | 321°32.4 | 336°06.2 | 350°40.0 | 5°13.8 | 19°47.6 | 34°21.5 | +33.8 | 14.9 |
| | 8°58.7 | 8°49.3 | 8°39.8 | 8°30.3 | 8°20.8 | 8°11.2 | 8°01.6 | 7°51.9 | 7°42.2 | 7°32.5 | 7°22.8 | -9.6 | 54.5 |
| Sa 8 | 263°17.2 | 277°51.0 | 292°24.8 | 306°58.6 | 321°32.4 | 336°06.2 | 350°40.0 | 5°13.8 | 19°47.6 | 34°21.5 | 48°55.3 | +33.8 | 14.9 |
| | 8°49.3 | 8°39.8 | 8°30.3 | 8°20.8 | 8°11.2 | 8°01.6 | 7°51.9 | 7°42.2 | 7°32.5 | 7°22.8 | 7°13.0 | -9.6 | 54.5 |
| Di 9 | 267°22.5 | 281°56.3 | 296°30.0 | 311°03.8 | 325°37.5 | 340°11.2 | 354°44.9 | 9°18.6 | 23°52.3 | 38°26.0 | 52°59.6 | +33.7 | 15.0 |
| | 4°41.9 | 4°31.6 | 4°21.2 | 4°10.9 | 4°00.5 | 3°50.1 | 3°39.6 | 3°29.1 | 3°18.7 | 3°08.1 | 2°57.6 | -10.4 | 55.0 |
| Lu 10 | 271°21.9 | 285°55.2 | 300°28.4 | 315°01.7 | 329°34.8 | 344°08.0 | 358°41.1 | 13°14.2 | 27°47.3 | 42°20.3 | 56°53.2 | +33.1 | 15.2 |
| | 0°17.2 | 0°06.4 | -0°04.4 | -0°15.3 | -0°26.1 | -0°37.0 | -0°47.9 | -0°58.7 | -1°09.6 | -1°20.5 | -1°31.4 | -10.9 | 55.6 |
| Ma 11 | 275°02.9 | 289°35.2 | 304°07.4 | 318°39.6 | 333°11.7 | 347°43.8 | 2°15.8 | 16°47.8 | 31°19.7 | 45°51.5 | 60°23.3 | +32.0 | 15.4 |
| | -4°15.1 | -4°26.0 | -4°36.9 | -4°47.7 | -4°58.6 | -5°09.4 | -5°20.3 | -5°31.1 | -5°41.9 | -5°52.7 | -6°03.5 | -10.8 | 56.4 |
| Me 12 | 278°12.9 | 292°43.7 | 307°14.4 | 321°45.0 | 336°15.6 | 350°46.1 | 5°16.5 | 19°46.9 | 34°17.2 | 48°47.4 | 63°17.6 | +30.5 | 15.6 |
| | -8°42.9 | -8°53.4 | -9°03.7 | -9°14.1 | -9°24.4 | -9°34.7 | -9°44.9 | -9°55.2 | -10°05.3 | -10°15.5 | -10°25.6 | -10.3 | 57.2 |
| Je 13 | 280°40.6 | 295°09.5 | 309°38.3 | 324°07.1 | 338°35.7 | 353°04.3 | 7°32.8 | 22°01.2 | 36°29.6 | 50°57.8 | 65°26.0 | +28.5 | 15.8 |
| | -12°51.2 | -13°00.5 | -13°09.7 | -13°18.9 | -13°27.9 | -13°37.0 | -13°45.9 | -13°54.8 | -14°03.6 | -14°12.4 | -14°21.1 | -9.0 | 58.0 |
| ● Ve 14 | 282°19.0 | 296°45.9 | 311°12.7 | 325°39.4 | 340°06.0 | 354°32.6 | 8°59.1 | 23°25.5 | 37°51.9 | 52°18.1 | 66°44.3 | +26.5 | 16.0 |
| | -16°21.7 | -16°29.1 | -16°36.4 | -16°43.5 | -16°50.6 | -16°57.6 | -17°04.5 | -17°11.2 | -17°17.9 | -17°24.5 | -17°31.0 | -6.9 | 58.7 |
| Sa 15 | 283°08.7 | 297°33.8 | 311°58.8 | 326°23.8 | 340°48.7 | 355°13.6 | 9°38.4 | 24°03.2 | 38°27.9 | 52°52.5 | 67°17.1 | +24.8 | 16.2 |
| | -18°54.9 | -18°59.5 | -19°04.1 | -19°08.5 | -19°12.8 | -19°16.9 | -19°21.0 | -19°24.9 | -19°28.7 | -19°32.4 | -19°35.9 | -4.1 | 59.3 |
| Di 16 | 283°21.0 | 297°45.0 | 312°08.9 | 326°32.9 | 340°56.8 | 355°20.7 | 9°44.6 | 24°08.4 | 38°32.3 | 52°56.1 | 67°19.9 | +23.9 | 16.3 |
| | -20°12.9 | -20°14.3 | -20°15.5 | -20°16.6 | -20°17.6 | -20°18.4 | -20°19.1 | -20°19.6 | -20°20.0 | -20°20.3 | -20°20.4 | -0.7 | 59.7 |
| Lu 17 | 283°16.8 | 297°40.7 | 312°04.6 | 326°28.4 | 340°52.3 | 355°16.3 | 9°40.2 | 24°04.2 | 38°28.2 | 52°52.2 | 67°16.2 | +23.9 | 16.3 |
| | -20°05.0 | -20°02.9 | -20°00.6 | -19°58.2 | -19°55.6 | -19°52.9 | -19°50.0 | -19°47.0 | -19°43.9 | -19°40.7 | -19°37.3 | +2.8 | 59.8 |
| Ma 18 | 283°21.1 | 297°45.8 | 312°10.5 | 326°35.3 | 341°00.1 | 355°25.0 | 9°49.9 | 24°14.8 | 38°39.9 | 53°04.9 | 67°30.1 | +24.9 | 16.3 |
| | -18°30.5 | -18°25.0 | -18°19.4 | -18°13.7 | -18°07.9 | -18°01.9 | -17°55.8 | -17°49.6 | -17°43.3 | -17°36.8 | -17°30.3 | +6.0 | 59.8 |
| Me 19 | 283°54.1 | 298°20.2 | 312°46.4 | 327°12.6 | 341°38.9 | 356°05.2 | 10°31.7 | 24°58.1 | 39°24.7 | 53°51.3 | 68°18.0 | +26.4 | 16.3 |
| | -15°39.0 | -15°30.7 | -15°22.4 | -15°14.0 | -15°05.4 | -14°56.8 | -14°48.1 | -14°39.3 | -14°30.4 | -14°21.5 | -14°12.4 | +8.7 | 59.6 |
| Je 20 | 285°05.8 | 299°33.5 | 314°01.2 | 328°29.0 | 342°56.9 | 357°24.8 | 11°52.8 | 26°20.9 | 40°49.0 | 55°17.2 | 69°45.4 | +28.0 | 16.2 |
| | -11°47.2 | -11°37.0 | -11°26.6 | -11°16.3 | -11°05.8 | -10°55.3 | -10°44.8 | -10°34.2 | -10°23.5 | -10°12.8 | -10°02.0 | +10.5 | 59.3 |
| ◐ Ve 21 | 286°55.5 | 301°24.5 | 315°53.7 | 330°22.8 | 344°52.1 | 359°21.3 | 13°50.6 | 28°20.0 | 42°49.4 | 57°18.8 | 71°48.3 | +29.3 | 16.0 |
| | -7°14.8 | -7°03.3 | -6°51.8 | -6°40.3 | -6°28.8 | -6°17.2 | -6°05.6 | -5°53.9 | -5°42.3 | -5°30.6 | -5°18.8 | +11.6 | 58.8 |
| Sa 22 | 289°15.1 | 303°45.2 | 318°15.3 | 332°45.4 | 347°15.5 | 1°45.7 | 16°15.8 | 30°46.1 | 45°16.3 | 59°46.5 | 74°16.8 | +30.2 | 15.9 |
| | -2°21.2 | -2°09.2 | -1°57.3 | -1°45.4 | -1°33.4 | -1°21.5 | -1°09.6 | -0°57.6 | -0°45.7 | -0°33.8 | -0°21.8 | +11.9 | 58.4 |
| Di 23 | 291°53.2 | 306°23.7 | 320°54.3 | 335°24.8 | 349°55.4 | 4°26.0 | 18°56.5 | 33°27.1 | 47°57.7 | 62°28.3 | 76°58.9 | +30.6 | 15.8 |
| | 2°35.8 | 2°47.5 | 2°59.2 | 3°10.9 | 3°22.5 | 3°34.1 | 3°45.7 | 3°57.3 | 4°08.9 | 4°20.4 | 4°31.8 | +11.6 | 57.9 |
| Lu 24 | 294°37.8 | 309°08.3 | 323°38.9 | 338°09.4 | 352°40.0 | 7°10.5 | 21°41.1 | 36°11.6 | 50°42.1 | 65°12.6 | 79°43.1 | +30.5 | 15.6 |
| | 7°19.9 | 7°30.8 | 7°41.7 | 7°52.5 | 8°03.2 | 8°13.9 | 8°24.6 | 8°35.2 | 8°45.7 | 8°56.2 | 9°06.7 | +10.7 | 57.4 |
| Ma 25 | 297°18.8 | 311°49.1 | 326°19.4 | 340°49.6 | 355°19.8 | 9°50.0 | 24°20.2 | 38°50.3 | 53°20.5 | 67°50.6 | 82°20.7 | +30.2 | 15.5 |
| | 11°36.6 | 11°46.1 | 11°55.5 | 12°04.9 | 12°14.2 | 12°23.4 | 12°32.6 | 12°41.7 | 12°50.7 | 12°59.6 | 13°08.5 | +9.2 | 56.9 |
| Me 26 | 299°50.2 | 314°20.0 | 328°49.8 | 343°19.6 | 357°49.3 | 12°19.1 | 26°48.8 | 41°18.5 | 55°48.2 | 70°17.8 | 84°47.5 | +29.7 | 15.4 |
| | 15°12.5 | 15°20.1 | 15°27.7 | 15°35.1 | 15°42.5 | 15°49.8 | 15°57.0 | 16°04.1 | 16°11.1 | 16°18.1 | 16°24.9 | +7.2 | 56.4 |
| Je 27 | 302°10.5 | 316°40.0 | 331°09.4 | 345°38.8 | 0°08.2 | 14°37.6 | 29°06.9 | 43°36.3 | 58°05.7 | 72°35.0 | 87°04.4 | +29.4 | 15.2 |
| | 17°56.6 | 18°02.0 | 18°07.3 | 18°12.4 | 18°17.5 | 18°22.5 | 18°27.3 | 18°32.1 | 18°36.8 | 18°41.3 | 18°45.8 | +4.9 | 55.9 |
| ○ Ve 28 | 304°24.1 | 318°53.4 | 333°22.8 | 347°52.1 | 2°21.4 | 16°50.7 | 31°20.1 | 45°49.4 | 60°18.8 | 74°48.1 | 89°17.5 | +29.3 | 15.1 |
| | 19°40.8 | 19°43.6 | 19°46.4 | 19°49.0 | 19°51.5 | 19°54.0 | 19°56.3 | 19°58.5 | 20°00.6 | 20°02.6 | 20°04.6 | +2.4 | 55.4 |
| Sa 29 | 306°39.5 | 321°09.1 | 335°38.7 | 350°08.3 | 4°38.0 | 19°07.7 | 33°37.4 | 48°07.1 | 62°36.9 | 77°06.6 | 91°36.4 | +29.7 | 15.0 |
| | 20°20.8 | 20°21.1 | 20°21.2 | 20°21.3 | 20°21.2 | 20°21.1 | 20°20.8 | 20°20.5 | 20°20.0 | 20°19.4 | 20°18.8 | -0.2 | 54.9 |
| Di 30 | 309°06.9 | 323°37.1 | 338°07.5 | 352°37.8 | 7°08.2 | 21°38.6 | 36°09.1 | 50°39.6 | 65°10.1 | 79°40.7 | 94°11.3 | +30.4 | 14.9 |
| | 19°57.1 | 19°54.9 | 19°52.5 | 19°50.1 | 19°47.6 | 19°45.0 | 19°42.3 | 19°39.5 | 19°36.7 | 19°33.7 | 19°30.6 | -2.6 | 54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 7 07h02 — NL: 14 21h09 — PQ: 21 14h44 — PL: 28 23h18

# SOLEIL

## Décembre 2031

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 272°47.7 | 287°47.4 | 302°47.2 | 317°47.0 | 332°46.7 | 347°46.5 | 2°46.3 | 17°46.0 | 32°45.8 | 47°45.6 | 62°45.3 | 77°45.1 | -0.2 |
| | -21°46.0 | -21°46.4 | -21°46.8 | -21°47.2 | -21°47.6 | -21°48.0 | -21°48.4 | -21°48.8 | -21°49.2 | -21°49.5 | -21°49.9 | -21°50.3 | -0.4 |
| Ma 2 | 272°42.0 | 287°41.8 | 302°41.6 | 317°41.3 | 332°41.1 | 347°40.9 | 2°40.6 | 17°40.4 | 32°40.1 | 47°39.9 | 62°39.7 | 77°39.4 | -0.2 |
| | -21°55.2 | -21°55.6 | -21°56.0 | -21°56.4 | -21°56.7 | -21°57.1 | -21°57.5 | -21°57.8 | -21°58.2 | -21°58.6 | -21°58.9 | -21°59.3 | -0.4 |
| Me 3 | 272°36.3 | 287°36.0 | 302°35.8 | 317°35.5 | 332°35.3 | 347°35.1 | 2°34.8 | 17°34.6 | 32°34.3 | 47°34.1 | 62°33.8 | 77°33.6 | -0.2 |
| | -22°04.0 | -22°04.4 | -22°04.7 | -22°05.1 | -22°05.4 | -22°05.8 | -22°06.1 | -22°06.5 | -22°06.8 | -22°07.2 | -22°07.5 | -22°07.9 | -0.4 |
| Je 4 | 272°30.4 | 287°30.1 | 302°29.9 | 317°29.6 | 332°29.4 | 347°29.1 | 2°28.9 | 17°28.6 | 32°28.3 | 47°28.1 | 62°27.8 | 77°27.6 | -0.3 |
| | -22°12.4 | -22°12.7 | -22°13.0 | -22°13.4 | -22°13.7 | -22°14.0 | -22°14.4 | -22°14.7 | -22°15.1 | -22°15.4 | -22°15.7 | -22°16.0 | -0.3 |
| Ve 5 | 272°24.3 | 287°24.0 | 302°23.8 | 317°23.5 | 332°23.3 | 347°23.0 | 2°22.7 | 17°22.5 | 32°22.2 | 47°22.0 | 62°21.7 | 77°21.5 | -0.3 |
| | -22°20.3 | -22°20.6 | -22°20.9 | -22°21.2 | -22°21.6 | -22°21.9 | -22°22.2 | -22°22.5 | -22°22.8 | -22°23.1 | -22°23.5 | -22°23.8 | -0.3 |
| Sa 6 | 272°18.1 | 287°17.8 | 302°17.5 | 317°17.3 | 332°17.0 | 347°16.8 | 2°16.5 | 17°16.2 | 32°16.0 | 47°15.7 | 62°15.4 | 77°15.2 | -0.3 |
| | -22°27.8 | -22°28.1 | -22°28.4 | -22°28.7 | -22°29.0 | -22°29.3 | -22°29.6 | -22°29.9 | -22°30.2 | -22°30.5 | -22°30.8 | -22°31.1 | -0.3 |
| Di 7 | 272°11.7 | 287°11.4 | 302°11.2 | 317°10.9 | 332°10.6 | 347°10.4 | 2°10.1 | 17°09.8 | 32°09.6 | 47°09.3 | 62°09.0 | 77°08.8 | -0.3 |
| | -22°34.8 | -22°35.1 | -22°35.4 | -22°35.7 | -22°35.9 | -22°36.2 | -22°36.5 | -22°36.8 | -22°37.1 | -22°37.3 | -22°37.6 | -22°37.9 | -0.3 |
| Lu 8 | 272°05.2 | 287°05.0 | 302°04.7 | 317°04.4 | 332°04.1 | 347°03.9 | 2°03.6 | 17°03.3 | 32°03.0 | 47°02.8 | 62°02.5 | 77°02.2 | -0.3 |
| | -22°41.4 | -22°41.7 | -22°42.0 | -22°42.2 | -22°42.5 | -22°42.7 | -22°43.0 | -22°43.3 | -22°43.5 | -22°43.8 | -22°44.0 | -22°44.3 | -0.3 |
| Ma 9 | 271°58.6 | 286°58.3 | 301°58.1 | 316°57.8 | 331°57.5 | 346°57.2 | 1°56.9 | 16°56.7 | 31°56.4 | 46°56.1 | 61°55.8 | 76°55.5 | -0.3 |
| | -22°47.6 | -22°47.8 | -22°48.1 | -22°48.3 | -22°48.6 | -22°48.8 | -22°49.1 | -22°49.3 | -22°49.5 | -22°49.8 | -22°50.0 | -22°50.3 | -0.2 |
| Me 10 | 271°51.9 | 286°51.6 | 301°51.3 | 316°51.0 | 331°50.8 | 346°50.5 | 1°50.2 | 16°49.9 | 31°49.6 | 46°49.3 | 61°49.1 | 76°48.8 | -0.3 |
| | -22°53.3 | -22°53.5 | -22°53.8 | -22°54.0 | -22°54.2 | -22°54.4 | -22°54.7 | -22°54.9 | -22°55.1 | -22°55.3 | -22°55.5 | -22°55.8 | -0.2 |
| Je 11 | 271°45.1 | 286°44.8 | 301°44.5 | 316°44.2 | 331°43.9 | 346°43.6 | 1°43.3 | 16°43.0 | 31°42.8 | 46°42.5 | 61°42.2 | 76°41.9 | -0.3 |
| | -22°58.6 | -22°58.8 | -22°59.0 | -22°59.2 | -22°59.4 | -22°59.6 | -22°59.8 | -23°00.0 | -23°00.2 | -23°00.4 | -23°00.6 | -23°00.8 | -0.2 |
| Ve 12 | 271°38.1 | 286°37.8 | 301°37.5 | 316°37.2 | 331°36.9 | 346°36.7 | 1°36.4 | 16°36.1 | 31°35.8 | 46°35.5 | 61°35.2 | 76°34.9 | -0.3 |
| | -23°03.4 | -23°03.6 | -23°03.7 | -23°03.9 | -23°04.1 | -23°04.3 | -23°04.5 | -23°04.7 | -23°04.9 | -23°05.0 | -23°05.2 | -23°05.4 | -0.2 |
| Sa 13 | 271°31.1 | 286°30.8 | 301°30.5 | 316°30.2 | 331°29.9 | 346°29.6 | 1°29.3 | 16°29.0 | 31°28.7 | 46°28.4 | 61°28.1 | 76°27.8 | -0.3 |
| | -23°07.7 | -23°07.9 | -23°08.1 | -23°08.2 | -23°08.4 | -23°08.6 | -23°08.7 | -23°08.9 | -23°09.1 | -23°09.2 | -23°09.4 | -23°09.6 | -0.2 |
| Di 14 | 271°24.0 | 286°23.7 | 301°23.4 | 316°23.1 | 331°22.8 | 346°22.5 | 1°22.2 | 16°21.9 | 31°21.6 | 46°21.3 | 61°21.0 | 76°20.7 | -0.3 |
| | -23°11.6 | -23°11.8 | -23°11.9 | -23°12.1 | -23°12.2 | -23°12.4 | -23°12.5 | -23°12.7 | -23°12.8 | -23°12.9 | -23°13.1 | -23°13.2 | -0.1 |
| Lu 15 | 271°16.8 | 286°16.5 | 301°16.2 | 316°15.9 | 331°15.6 | 346°15.3 | 1°15.0 | 16°14.7 | 31°14.4 | 46°14.1 | 61°13.8 | 76°13.5 | -0.3 |
| | -23°15.0 | -23°15.2 | -23°15.3 | -23°15.4 | -23°15.6 | -23°15.7 | -23°15.8 | -23°15.9 | -23°16.1 | -23°16.2 | -23°16.3 | -23°16.5 | -0.1 |
| Ma 16 | 271°09.5 | 286°09.2 | 301°08.9 | 316°08.6 | 331°08.3 | 346°08.0 | 1°07.7 | 16°07.4 | 31°07.1 | 46°06.8 | 61°06.5 | 76°06.2 | -0.3 |
| | -23°18.0 | -23°18.1 | -23°18.2 | -23°18.3 | -23°18.4 | -23°18.6 | -23°18.7 | -23°18.8 | -23°18.9 | -23°19.0 | -23°19.1 | -23°19.2 | -0.1 |
| Me 17 | 271°02.2 | 286°01.9 | 301°01.6 | 316°01.3 | 331°01.0 | 346°00.7 | 1°00.4 | 16°00.1 | 30°59.8 | 45°59.4 | 60°59.1 | 75°58.8 | -0.3 |
| | -23°20.5 | -23°20.6 | -23°20.7 | -23°20.8 | -23°20.9 | -23°21.0 | -23°21.1 | -23°21.1 | -23°21.2 | -23°21.3 | -23°21.4 | -23°21.5 | -0.1 |
| Je 18 | 270°54.8 | 285°54.5 | 300°54.2 | 315°53.9 | 330°53.6 | 345°53.3 | 0°53.0 | 15°52.7 | 30°52.4 | 45°52.1 | 60°51.8 | 75°51.5 | -0.3 |
| | -23°22.5 | -23°22.6 | -23°22.7 | -23°22.8 | -23°22.8 | -23°22.9 | -23°23.0 | -23°23.0 | -23°23.1 | -23°23.2 | -23°23.2 | -23°23.3 | -0.1 |
| Ve 19 | 270°47.4 | 285°47.1 | 300°46.8 | 315°46.5 | 330°46.2 | 345°45.9 | 0°45.6 | 15°45.3 | 30°45.0 | 45°44.7 | 60°44.4 | 75°44.0 | -0.3 |
| | -23°24.1 | -23°24.2 | -23°24.2 | -23°24.3 | -23°24.3 | -23°24.4 | -23°24.4 | -23°24.5 | -23°24.5 | -23°24.6 | -23°24.6 | -23°24.7 | -0.1 |
| Sa 20 | 270°40.0 | 285°39.7 | 300°39.4 | 315°39.1 | 330°38.8 | 345°38.5 | 0°38.2 | 15°37.9 | 30°37.5 | 45°37.2 | 60°36.9 | 75°36.6 | -0.3 |
| | -23°25.2 | -23°25.2 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -0.0 |
| Di 21 | 270°32.6 | 285°32.3 | 300°32.0 | 315°31.6 | 330°31.3 | 345°31.0 | 0°30.7 | 15°30.4 | 30°30.1 | 45°29.8 | 60°29.5 | 75°29.2 | -0.3 |
| | -23°25.8 | -23°25.8 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°26.0 | -0.0 |
| Lu 22 | 270°25.1 | 285°24.8 | 300°24.5 | 315°24.2 | 330°23.9 | 345°23.6 | 0°23.3 | 15°22.9 | 30°22.6 | 45°22.3 | 60°22.0 | 75°21.7 | -0.3 |
| | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | +0.0 |
| Ma 23 | 270°17.7 | 285°17.4 | 300°17.0 | 315°16.7 | 330°16.4 | 345°16.1 | 0°15.8 | 15°15.5 | 30°15.2 | 45°14.9 | 60°14.6 | 75°14.3 | -0.3 |
| | -23°25.7 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.4 | -23°25.4 | -23°25.4 | +0.0 |
| Me 24 | 270°10.2 | 285°09.9 | 300°09.6 | 315°09.3 | 330°09.0 | 345°08.7 | 0°08.4 | 15°08.0 | 30°07.7 | 45°07.4 | 60°07.1 | 75°06.8 | -0.3 |
| | -23°24.9 | -23°24.8 | -23°24.8 | -23°24.8 | -23°24.7 | -23°24.7 | -23°24.6 | -23°24.6 | -23°24.5 | -23°24.5 | -23°24.4 | -23°24.4 | +0.0 |
| Je 25 | 270°02.8 | 285°02.5 | 300°02.2 | 315°01.9 | 330°01.5 | 345°01.2 | 0°00.9 | 15°00.6 | 30°00.3 | 45°00.0 | 59°59.7 | 74°59.4 | -0.3 |
| | -23°23.6 | -23°23.6 | -23°23.5 | -23°23.4 | -23°23.4 | -23°23.3 | -23°23.2 | -23°23.2 | -23°23.1 | -23°23.0 | -23°23.0 | -23°22.9 | +0.1 |
| Ve 26 | 269°55.4 | 284°55.1 | 299°54.7 | 314°54.4 | 329°54.1 | 344°53.8 | 359°53.5 | 14°53.2 | 29°52.9 | 44°52.6 | 59°52.3 | 74°52.0 | -0.3 |
| | -23°21.9 | -23°21.8 | -23°21.7 | -23°21.7 | -23°21.6 | -23°21.5 | -23°21.4 | -23°21.3 | -23°21.2 | -23°21.1 | -23°21.0 | -23°21.0 | +0.1 |
| Sa 27 | 269°48.0 | 284°47.7 | 299°47.4 | 314°47.1 | 329°46.8 | 344°46.4 | 359°46.1 | 14°45.8 | 29°45.5 | 44°45.2 | 59°44.9 | 74°44.6 | -0.3 |
| | -23°19.7 | -23°19.6 | -23°19.5 | -23°19.4 | -23°19.3 | -23°19.2 | -23°19.1 | -23°19.0 | -23°18.9 | -23°18.8 | -23°18.7 | -23°18.5 | +0.1 |
| Di 28 | 269°40.6 | 284°40.3 | 299°40.0 | 314°39.7 | 329°39.4 | 344°39.1 | 359°38.8 | 14°38.5 | 29°38.2 | 44°37.9 | 59°37.6 | 74°37.3 | -0.3 |
| | -23°17.0 | -23°16.9 | -23°16.8 | -23°16.7 | -23°16.6 | -23°16.4 | -23°16.3 | -23°16.2 | -23°16.1 | -23°15.9 | -23°15.8 | -23°15.7 | +0.1 |
| Lu 29 | 269°33.3 | 284°33.0 | 299°32.7 | 314°32.4 | 329°32.1 | 344°31.8 | 359°31.5 | 14°31.2 | 29°30.9 | 44°30.6 | 59°30.3 | 74°30.0 | -0.3 |
| | -23°13.9 | -23°13.8 | -23°13.6 | -23°13.5 | -23°13.4 | -23°13.2 | -23°13.1 | -23°12.9 | -23°12.8 | -23°12.6 | -23°12.5 | -23°12.3 | +0.1 |
| Ma 30 | 269°26.1 | 284°25.8 | 299°25.5 | 314°25.2 | 329°24.9 | 344°24.6 | 359°24.3 | 14°24.0 | 29°23.7 | 44°23.4 | 59°23.1 | 74°22.8 | -0.3 |
| | -23°10.3 | -23°10.2 | -23°10.0 | -23°09.8 | -23°09.7 | -23°09.5 | -23°09.4 | -23°09.2 | -23°09.0 | -23°08.9 | -23°08.7 | -23°08.5 | +0.2 |
| Me 31 | 269°18.9 | 284°18.6 | 299°18.3 | 314°18.0 | 329°17.7 | 344°17.4 | 359°17.1 | 14°16.8 | 29°16.5 | 44°16.2 | 59°15.9 | 74°15.6 | -0.3 |
| | -23°06.3 | -23°06.1 | -23°05.9 | -23°05.7 | -23°05.5 | -23°05.4 | -23°05.2 | -23°05.0 | -23°04.8 | -23°04.6 | -23°04.4 | -23°04.3 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Décembre 2031

| J | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 239°19.4 | 253°50.5 | 268°21.6 | 282°52.7 | 297°23.8 | 311°55.0 | 326°26.3 | 340°57.6 | 355°28.9 | 10°00.3 | 24°31.7 | +31.2 | 14.8 |
| | 18°55.1 | 18°51.0 | 18°46.9 | 18°42.7 | 18°38.4 | 18°34.0 | 18°29.6 | 18°25.0 | 18°20.4 | 18°15.7 | 18°10.9 | -4.4 | 54.3 |
| Ma 2 | 242°28.0 | 257°00.1 | 271°32.2 | 286°04.4 | 300°36.6 | 315°08.9 | 329°41.2 | 344°13.5 | 358°45.9 | 13°18.3 | 27°50.8 | +32.3 | 14.8 |
| | 16°49.7 | 16°43.7 | 16°37.6 | 16°31.5 | 16°25.2 | 16°18.9 | 16°12.6 | 16°06.1 | 15°59.6 | 15°53.1 | 15°46.4 | -6.3 | 54.1 |
| Me 3 | 246°02.4 | 260°35.5 | 275°08.6 | 289°41.8 | 304°14.9 | 318°48.2 | 333°21.4 | 347°54.7 | 2°28.0 | 17°01.4 | 31°34.7 | +33.2 | 14.7 |
| | 13°59.2 | 13°51.6 | 13°43.9 | 13°36.1 | 13°28.3 | 13°20.4 | 13°12.5 | 13°04.6 | 12°56.5 | 12°48.5 | 12°40.3 | -7.9 | 54.0 |
| Je 4 | 249°58.9 | 264°32.7 | 279°06.5 | 293°40.4 | 308°14.3 | 322°48.2 | 337°22.1 | 351°56.0 | 6°30.0 | 21°04.0 | 35°38.0 | +33.9 | 14.8 |
| | 10°32.4 | 10°23.5 | 10°14.5 | 10°05.5 | 9°56.5 | 9°47.4 | 9°38.3 | 9°29.1 | 9°19.9 | 9°10.7 | 9°01.4 | -9.1 | 54.1 |
| Ve 5 | 254°09.5 | 268°43.7 | 283°17.9 | 297°52.1 | 312°26.3 | 327°00.5 | 341°34.7 | 356°08.9 | 10°43.1 | 25°17.3 | 39°51.5 | +34.2 | 14.8 |
| | 6°37.9 | 6°28.0 | 6°18.1 | 6°08.2 | 5°58.3 | 5°48.4 | 5°38.4 | 5°28.4 | 5°18.3 | 5°08.2 | 4°58.2 | -10.0 | 54.4 |
| Sa 6 | 258°23.8 | 272°57.9 | 287°31.9 | 302°06.0 | 316°40.0 | 331°14.0 | 345°48.0 | 0°22.0 | 14°55.9 | 29°29.9 | 44°03.8 | +34.0 | 15.0 |
| | 2°23.9 | 2°13.5 | 2°03.0 | 1°52.5 | 1°42.1 | 1°31.5 | 1°21.0 | 1°10.5 | 0°59.9 | 0°49.4 | 0°38.8 | -10.5 | 54.9 |
| ◑ Di 7 | 272°57.9 | 287°31.9 | 302°06.0 | 316°40.0 | 331°14.0 | 345°48.0 | 0°22.0 | 14°55.9 | 29°29.9 | 44°03.8 | 58°37.6 | +34.0 | 15.0 |
| | 2°13.5 | 2°03.0 | 1°52.5 | 1°42.1 | 1°31.5 | 1°21.0 | 1°10.5 | 0°59.9 | 0°49.4 | 0°38.8 | 0°28.2 | -10.5 | 54.9 |
| Lu 8 | 277°02.6 | 291°36.0 | 306°09.3 | 320°42.6 | 335°15.9 | 349°49.2 | 4°22.4 | 18°55.5 | 33°28.6 | 48°01.7 | 62°34.7 | +33.2 | 15.2 |
| | -2°11.6 | -2°22.3 | -2°33.0 | -2°43.7 | -2°54.4 | -3°05.1 | -3°15.8 | -3°26.5 | -3°37.2 | -3°47.9 | -3°58.5 | -10.7 | 55.6 |
| Ma 9 | 280°44.0 | 295°16.1 | 309°48.3 | 324°20.3 | 338°52.3 | 353°24.2 | 7°56.1 | 22°27.9 | 36°59.6 | 51°31.3 | 66°02.9 | +31.9 | 15.4 |
| | -6°37.7 | -6°48.2 | -6°58.7 | -7°09.1 | -7°19.6 | -7°30.0 | -7°40.4 | -7°50.8 | -8°01.1 | -8°11.5 | -8°21.8 | -10.4 | 56.4 |
| Me 10 | 283°48.2 | 298°18.6 | 312°48.9 | 327°19.2 | 341°49.3 | 356°19.4 | 10°49.4 | 25°19.3 | 39°49.2 | 54°18.9 | 68°48.6 | +30.0 | 15.6 |
| | -10°52.7 | -11°02.5 | -11°12.2 | -11°21.9 | -11°31.5 | -11°41.1 | -11°50.7 | -12°00.2 | -12°09.6 | -12°19.0 | -12°28.4 | -9.6 | 57.3 |
| Je 11 | 286°03.0 | 300°31.2 | 314°59.3 | 329°27.4 | 343°55.4 | 358°23.2 | 12°51.0 | 27°18.7 | 41°46.3 | 56°13.8 | 70°41.2 | +27.8 | 15.9 |
| | -14°41.5 | -14°49.9 | -14°58.2 | -15°06.4 | -15°14.5 | -15°22.6 | -15°30.6 | -15°38.5 | -15°46.3 | -15°54.0 | -16°01.7 | -8.0 | 58.2 |
| Ve 12 | 287°21.2 | 301°47.2 | 316°13.0 | 330°38.8 | 345°04.5 | 359°30.1 | 13°55.6 | 28°21.0 | 42°46.4 | 57°11.6 | 71°36.8 | +25.6 | 16.1 |
| | -17°45.6 | -17°51.7 | -17°57.8 | -18°03.7 | -18°09.5 | -18°15.2 | -18°20.8 | -18°26.3 | -18°31.7 | -18°36.9 | -18°42.1 | -5.7 | 59.2 |
| Sa 13 | 287°45.3 | 302°09.3 | 316°33.2 | 330°57.1 | 345°20.9 | 359°44.6 | 14°08.3 | 28°32.0 | 42°55.6 | 57°19.1 | 71°42.6 | +23.7 | 16.3 |
| | -19°44.6 | -19°47.8 | -19°50.8 | -19°53.7 | -19°56.4 | -19°59.0 | -20°01.5 | -20°03.8 | -20°06.0 | -20°08.0 | -20°09.9 | -2.5 | 59.9 |
| ● Di 14 | 287°30.0 | 301°52.9 | 316°15.8 | 330°38.7 | 345°01.6 | 359°24.4 | 13°47.3 | 28°10.1 | 42°32.9 | 56°55.7 | 71°18.5 | +22.8 | 16.5 |
| | -20°21.2 | -20°20.8 | -20°20.2 | -20°19.5 | -20°18.6 | -20°17.6 | -20°16.5 | -20°15.1 | -20°13.7 | -20°12.1 | -20°10.3 | +1.1 | 60.5 |
| Lu 15 | 287°01.4 | 301°24.4 | 315°47.4 | 330°10.5 | 344°33.5 | 358°56.6 | 13°19.8 | 27°43.0 | 42°06.2 | 56°29.4 | 70°52.7 | +23.1 | 16.6 |
| | -19°26.2 | -19°22.1 | -19°17.9 | -19°13.5 | -19°09.0 | -19°04.3 | -18°59.5 | -18°54.6 | -18°49.5 | -18°44.3 | -18°38.9 | +4.7 | 60.7 |
| Ma 16 | 286°47.8 | 301°11.9 | 315°36.1 | 330°00.3 | 344°24.6 | 358°49.0 | 13°13.4 | 27°37.9 | 42°02.4 | 56°27.1 | 70°51.7 | +24.4 | 16.5 |
| | -17°03.1 | -16°55.7 | -16°48.2 | -16°40.6 | -16°32.8 | -16°25.0 | -16°17.0 | -16°09.0 | -16°00.8 | -15°52.5 | -15°44.1 | +7.9 | 60.7 |
| Me 17 | 287°10.3 | 301°36.2 | 316°02.0 | 330°28.0 | 344°54.0 | 359°20.1 | 13°46.3 | 28°12.6 | 42°38.9 | 57°05.3 | 71°31.7 | +26.1 | 16.5 |
| | -13°26.6 | -13°16.8 | -13°06.8 | -12°56.7 | -12°46.6 | -12°36.4 | -12°26.2 | -12°15.8 | -12°05.4 | -11°54.9 | -11°44.4 | +10.2 | 60.4 |
| Je 18 | 288°17.3 | 302°44.8 | 317°12.5 | 331°40.2 | 346°08.0 | 0°35.9 | 15°03.8 | 29°31.8 | 43°59.8 | 58°27.9 | 72°56.1 | +27.9 | 16.3 |
| | -8°58.9 | -8°47.4 | -8°35.9 | -8°24.4 | -8°12.8 | -8°01.2 | -7°49.6 | -7°37.9 | -7°26.2 | -7°14.4 | -7°02.7 | +11.6 | 59.8 |
| Ve 19 | 290°05.5 | 304°34.6 | 319°03.7 | 333°32.9 | 348°02.1 | 2°31.3 | 17°00.7 | 31°30.0 | 45°59.4 | 60°28.8 | 74°58.3 | +29.3 | 16.1 |
| | -4°03.1 | -3°51.0 | -3°38.9 | -3°26.7 | -3°14.6 | -3°02.5 | -2°50.3 | -2°38.2 | -2°26.0 | -2°13.9 | -2°01.8 | +12.1 | 59.1 |
| Sa 20 | 292°25.2 | 306°55.2 | 321°25.3 | 335°55.5 | 350°25.6 | 4°55.8 | 19°26.0 | 33°56.2 | 48°26.4 | 62°56.7 | 77°27.0 | +30.2 | 15.9 |
| | 0°59.6 | 1°11.6 | 1°23.6 | 1°35.5 | 1°47.4 | 1°59.3 | 2°11.2 | 2°23.1 | 2°34.9 | 2°46.7 | 2°58.5 | +11.9 | 58.4 |
| ◐ Di 21 | 295°03.6 | 309°34.2 | 324°04.7 | 338°35.3 | 353°05.9 | 7°36.5 | 22°07.1 | 36°37.7 | 51°08.3 | 65°38.9 | 80°09.5 | +30.6 | 15.7 |
| | 5°51.4 | 6°02.6 | 6°13.8 | 6°24.9 | 6°36.0 | 6°47.1 | 6°58.1 | 7°09.1 | 7°20.0 | 7°30.8 | 7°41.7 | +11.0 | 57.6 |
| Lu 22 | 297°48.8 | 312°19.5 | 326°50.1 | 341°20.6 | 355°51.2 | 10°21.8 | 24°52.4 | 39°23.0 | 53°53.5 | 68°24.1 | 82°54.6 | +30.6 | 15.5 |
| | 10°17.6 | 10°27.5 | 10°37.4 | 10°47.2 | 10°56.9 | 11°06.6 | 11°16.2 | 11°25.8 | 11°35.3 | 11°44.7 | 11°54.0 | +9.7 | 56.9 |
| Ma 23 | 300°31.5 | 315°01.9 | 329°32.2 | 344°02.6 | 358°32.9 | 13°03.2 | 27°33.5 | 42°03.8 | 56°34.0 | 71°04.3 | 85°34.5 | +30.3 | 15.4 |
| | 14°05.9 | 14°14.1 | 14°22.2 | 14°30.2 | 14°38.2 | 14°46.1 | 14°53.9 | 15°01.6 | 15°09.2 | 15°16.8 | 15°24.3 | +7.8 | 56.3 |
| Me 24 | 303°06.4 | 317°36.4 | 332°06.4 | 346°36.4 | 1°06.4 | 15°36.4 | 30°06.3 | 44°36.3 | 59°06.2 | 73°36.1 | 88°06.0 | +30.0 | 15.2 |
| | 17°06.2 | 17°12.3 | 17°18.3 | 17°24.2 | 17°30.0 | 17°35.7 | 17°41.4 | 17°46.9 | 17°52.4 | 17°57.7 | 18°03.0 | +5.7 | 55.7 |
| Je 25 | 305°33.4 | 320°03.2 | 334°33.0 | 349°02.7 | 3°32.5 | 18°02.2 | 32°32.0 | 47°01.7 | 61°31.4 | 76°01.2 | 90°30.9 | +29.7 | 15.1 |
| | 19°10.4 | 19°14.2 | 19°17.8 | 19°21.3 | 19°24.7 | 19°28.1 | 19°31.3 | 19°34.4 | 19°37.4 | 19°40.4 | 19°43.2 | +3.3 | 55.2 |
| Ve 26 | 307°57.2 | 322°27.0 | 336°56.8 | 351°26.7 | 5°56.5 | 20°26.3 | 34°56.2 | 49°26.0 | 63°55.9 | 78°25.8 | 92°55.7 | +29.8 | 15.0 |
| | 20°13.5 | 20°14.7 | 20°15.8 | 20°16.9 | 20°17.8 | 20°18.6 | 20°19.3 | 20°19.9 | 20°20.4 | 20°20.8 | 20°21.1 | +0.8 | 54.8 |
| Sa 27 | 310°26.1 | 324°56.3 | 339°26.5 | 353°56.7 | 8°27.0 | 22°57.3 | 37°27.6 | 51°57.9 | 66°28.3 | 80°58.7 | 95°29.1 | +30.3 | 14.9 |
| | 20°13.8 | 20°12.5 | 20°11.1 | 20°09.6 | 20°08.1 | 20°06.4 | 20°04.6 | 20°02.8 | 20°00.8 | 19°58.8 | 19°56.6 | -1.7 | 54.5 |
| ○ Di 28 | 313°09.1 | 327°40.0 | 342°10.9 | 356°41.9 | 11°13.0 | 25°44.0 | 40°15.1 | 54°46.3 | 69°17.5 | 83°48.7 | 98°19.9 | +31.1 | 14.8 |
| | 19°13.4 | 19°09.8 | 19°06.1 | 19°02.3 | 18°58.4 | 18°54.5 | 18°50.4 | 18°46.3 | 18°42.1 | 18°37.8 | 18°33.4 | -4.0 | 54.2 |
| Lu 29 | 316°13.3 | 330°45.2 | 345°17.1 | 359°49.0 | 14°21.0 | 28°53.0 | 43°25.1 | 57°57.2 | 72°29.4 | 87°01.6 | 101°33.8 | +32.1 | 14.7 |
| | 17°18.0 | 17°12.3 | 17°06.6 | 17°00.8 | 16°54.9 | 16°49.0 | 16°43.0 | 16°36.9 | 16°30.7 | 16°24.5 | 16°18.2 | -6.0 | 54.0 |
| Ma 30 | 319°42.0 | 334°14.8 | 348°47.7 | 3°20.7 | 17°53.6 | 32°26.6 | 46°59.7 | 61°32.7 | 76°05.8 | 90°39.0 | 105°12.2 | +33.0 | 14.7 |
| | 14°35.5 | 14°28.2 | 14°20.8 | 14°13.3 | 14°05.8 | 13°58.2 | 13°50.5 | 13°42.8 | 13°35.1 | 13°27.3 | 13°19.4 | -7.6 | 53.9 |
| Me 31 | 334°14.8 | 348°47.7 | 3°20.7 | 17°53.6 | 32°26.6 | 46°59.7 | 61°32.7 | 76°05.8 | 90°39.0 | 105°12.2 | 119°45.4 | +33.1 | 14.7 |
| | 14°28.2 | 14°20.8 | 14°13.3 | 14°05.8 | 13°58.2 | 13°50.5 | 13°42.8 | 13°35.1 | 13°27.3 | 13°19.4 | 13°11.5 | -7.7 | 53.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 7 03h19 — NL: 14 09h05 — PQ: 21 00h00 — PL: 28 17h33

# SOLEIL

## Janvier 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 269° 11.7 | 284° 11.4 | 299° 11.1 | 314° 10.8 | 329° 10.6 | 344° 10.3 | 359° 10.0 | 14° 09.7 | 29° 09.4 | 44° 09.1 | 59° 08.8 | 74° 08.5 | -0.3 |
| | -23° 01.7 | -23° 01.6 | -23° 01.4 | -23° 01.2 | -23° 01.0 | -23° 00.7 | -23° 00.5 | -23° 00.3 | -23° 00.1 | -22° 59.9 | -22° 59.7 | -22° 59.5 | +0.2 |
| Ve 2 | 269° 04.7 | 284° 04.4 | 299° 04.1 | 314° 03.8 | 329° 03.5 | 344° 03.2 | 359° 02.9 | 14° 02.6 | 29° 02.3 | 44° 02.0 | 59° 01.8 | 74° 01.5 | -0.3 |
| | -22° 56.8 | -22° 56.6 | -22° 56.3 | -22° 56.1 | -22° 55.9 | -22° 55.7 | -22° 55.5 | -22° 55.2 | -22° 55.0 | -22° 54.8 | -22° 54.6 | -22° 54.3 | +0.2 |
| Sa 3 | 268° 57.7 | 283° 57.4 | 298° 57.1 | 313° 56.8 | 328° 56.5 | 343° 56.3 | 358° 56.0 | 13° 55.7 | 28° 55.4 | 43° 55.1 | 58° 54.8 | 73° 54.5 | -0.3 |
| | -22° 51.3 | -22° 51.1 | -22° 50.9 | -22° 50.6 | -22° 50.4 | -22° 50.1 | -22° 49.9 | -22° 49.7 | -22° 49.4 | -22° 49.2 | -22° 48.9 | -22° 48.7 | +0.2 |
| Di 4 | 268° 50.8 | 283° 50.5 | 298° 50.2 | 313° 50.0 | 328° 49.7 | 343° 49.4 | 358° 49.1 | 13° 48.8 | 28° 48.5 | 43° 48.2 | 58° 48.0 | 73° 47.7 | -0.3 |
| | -22° 45.4 | -22° 45.2 | -22° 44.9 | -22° 44.7 | -22° 44.4 | -22° 44.2 | -22° 43.9 | -22° 43.6 | -22° 43.4 | -22° 43.1 | -22° 42.8 | -22° 42.6 | +0.3 |
| Lu 5 | 268° 44.0 | 283° 43.7 | 298° 43.4 | 313° 43.2 | 328° 42.9 | 343° 42.6 | 358° 42.3 | 13° 42.0 | 28° 41.8 | 43° 41.5 | 58° 41.2 | 73° 40.9 | -0.3 |
| | -22° 39.1 | -22° 38.5 | -22° 38.3 | -22° 38.0 | -22° 37.7 | -22° 37.4 | -22° 37.2 | -22° 36.9 | -22° 36.6 | -22° 36.4 | -22° 36.1 | -22° 35.8 | +0.3 |
| Ma 6 | 268° 37.3 | 283° 37.0 | 298° 36.8 | 313° 36.5 | 328° 36.2 | 343° 35.9 | 358° 35.7 | 13° 35.4 | 28° 35.1 | 43° 34.8 | 58° 34.6 | 73° 34.3 | -0.3 |
| | -22° 32.3 | -22° 32.0 | -22° 31.7 | -22° 31.4 | -22° 31.1 | -22° 30.8 | -22° 30.5 | -22° 30.2 | -22° 29.9 | -22° 29.6 | -22° 29.3 | -22° 29.0 | +0.3 |
| Me 7 | 268° 30.7 | 283° 30.5 | 298° 30.2 | 313° 29.9 | 328° 29.6 | 343° 29.4 | 358° 29.1 | 13° 28.8 | 28° 28.6 | 43° 28.3 | 58° 28.0 | 73° 27.7 | -0.3 |
| | -22° 25.0 | -22° 24.7 | -22° 24.4 | -22° 24.1 | -22° 23.8 | -22° 23.5 | -22° 23.2 | -22° 22.9 | -22° 22.5 | -22° 22.2 | -22° 21.9 | -22° 21.6 | +0.3 |
| Je 8 | 268° 24.2 | 283° 24.0 | 298° 23.7 | 313° 23.4 | 328° 23.2 | 343° 22.9 | 358° 22.6 | 13° 22.4 | 28° 22.1 | 43° 21.9 | 58° 21.6 | 73° 21.3 | -0.3 |
| | -22° 17.4 | -22° 17.0 | -22° 16.7 | -22° 16.4 | -22° 16.0 | -22° 15.7 | -22° 15.4 | -22° 15.0 | -22° 14.7 | -22° 14.4 | -22° 14.0 | -22° 13.7 | +0.3 |
| Ve 9 | 268° 17.9 | 283° 17.6 | 298° 17.4 | 313° 17.1 | 328° 16.8 | 343° 16.6 | 358° 16.3 | 13° 16.1 | 28° 15.8 | 43° 15.5 | 58° 15.3 | 73° 15.0 | -0.3 |
| | -22° 09.2 | -22° 08.9 | -22° 08.5 | -22° 08.2 | -22° 07.8 | -22° 07.5 | -22° 07.1 | -22° 06.8 | -22° 06.4 | -22° 06.1 | -22° 05.7 | -22° 05.4 | +0.4 |
| Sa 10 | 268° 11.7 | 283° 11.4 | 298° 11.2 | 313° 10.9 | 328° 10.6 | 343° 10.4 | 358° 10.1 | 13° 09.9 | 28° 09.6 | 43° 09.4 | 58° 09.1 | 73° 08.9 | -0.3 |
| | -22° 00.7 | -22° 00.3 | -21° 59.9 | -21° 59.6 | -21° 59.2 | -21° 58.8 | -21° 58.5 | -21° 58.1 | -21° 57.7 | -21° 57.4 | -21° 57.0 | -21° 56.6 | +0.4 |
| Di 11 | 268° 05.6 | 283° 05.3 | 298° 05.1 | 313° 04.8 | 328° 04.6 | 343° 04.3 | 358° 04.1 | 13° 03.8 | 28° 03.6 | 43° 03.3 | 58° 03.1 | 73° 02.8 | -0.2 |
| | -21° 51.7 | -21° 51.3 | -21° 50.9 | -21° 50.5 | -21° 50.1 | -21° 49.8 | -21° 49.4 | -21° 49.0 | -21° 48.6 | -21° 48.2 | -21° 47.8 | -21° 47.4 | +0.4 |
| Lu 12 | 267° 59.6 | 282° 59.4 | 297° 59.1 | 312° 58.9 | 327° 58.7 | 342° 58.4 | 357° 58.2 | 12° 57.9 | 27° 57.7 | 42° 57.4 | 57° 57.2 | 72° 57.0 | -0.2 |
| | -21° 42.3 | -21° 41.9 | -21° 41.5 | -21° 41.1 | -21° 40.7 | -21° 40.3 | -21° 39.9 | -21° 39.4 | -21° 39.0 | -21° 38.6 | -21° 38.2 | -21° 37.8 | +0.4 |
| Ma 13 | 267° 53.8 | 282° 53.6 | 297° 53.4 | 312° 53.1 | 327° 52.9 | 342° 52.6 | 357° 52.4 | 12° 52.2 | 27° 51.9 | 42° 51.7 | 57° 51.5 | 72° 51.2 | -0.2 |
| | -21° 32.4 | -21° 32.0 | -21° 31.6 | -21° 31.2 | -21° 30.8 | -21° 30.3 | -21° 29.9 | -21° 29.5 | -21° 29.1 | -21° 28.6 | -21° 28.2 | -21° 27.8 | +0.4 |
| Me 14 | 267° 48.2 | 282° 48.0 | 297° 47.7 | 312° 47.5 | 327° 47.3 | 342° 47.0 | 357° 46.8 | 12° 46.6 | 27° 46.3 | 42° 46.1 | 57° 45.9 | 72° 45.7 | -0.2 |
| | -21° 22.2 | -21° 21.7 | -21° 21.3 | -21° 20.9 | -21° 20.4 | -21° 20.0 | -21° 19.6 | -21° 19.1 | -21° 18.7 | -21° 18.2 | -21° 17.8 | -21° 17.3 | +0.4 |
| Je 15 | 267° 42.7 | 282° 42.5 | 297° 42.3 | 312° 42.0 | 327° 41.8 | 342° 41.6 | 357° 41.4 | 12° 41.1 | 27° 40.9 | 42° 40.7 | 57° 40.5 | 72° 40.3 | -0.2 |
| | -21° 11.5 | -21° 11.1 | -21° 10.6 | -21° 10.2 | -21° 09.7 | -21° 09.2 | -21° 08.8 | -21° 08.3 | -21° 07.9 | -21° 07.4 | -21° 07.0 | -21° 06.5 | +0.5 |
| Ve 16 | 267° 37.4 | 282° 37.2 | 297° 37.0 | 312° 36.7 | 327° 36.5 | 342° 36.3 | 357° 36.1 | 12° 35.9 | 27° 35.7 | 42° 35.5 | 57° 35.2 | 72° 35.0 | -0.2 |
| | -21° 00.4 | -21° 00.0 | -20° 59.5 | -20° 59.0 | -20° 58.6 | -20° 58.1 | -20° 57.6 | -20° 57.1 | -20° 56.7 | -20° 56.2 | -20° 55.7 | -20° 55.2 | +0.5 |
| Sa 17 | 267° 32.3 | 282° 32.1 | 297° 31.8 | 312° 31.6 | 327° 31.4 | 342° 31.2 | 357° 31.0 | 12° 30.8 | 27° 30.6 | 42° 30.4 | 57° 30.2 | 72° 30.0 | -0.2 |
| | -20° 49.0 | -20° 48.5 | -20° 48.0 | -20° 47.5 | -20° 47.0 | -20° 46.5 | -20° 46.0 | -20° 45.6 | -20° 45.1 | -20° 44.6 | -20° 44.1 | -20° 43.6 | +0.5 |
| Di 18 | 267° 27.3 | 282° 27.1 | 297° 26.9 | 312° 26.7 | 327° 26.5 | 342° 26.3 | 357° 26.1 | 12° 25.9 | 27° 25.7 | 42° 25.5 | 57° 25.3 | 72° 25.1 | -0.2 |
| | -20° 37.1 | -20° 36.6 | -20° 36.1 | -20° 35.6 | -20° 35.1 | -20° 34.6 | -20° 34.1 | -20° 33.6 | -20° 33.1 | -20° 32.6 | -20° 32.0 | -20° 31.5 | +0.5 |
| Lu 19 | 267° 22.5 | 282° 22.3 | 297° 22.1 | 312° 21.9 | 327° 21.8 | 342° 21.6 | 357° 21.4 | 12° 21.2 | 27° 21.0 | 42° 20.8 | 57° 20.6 | 72° 20.4 | -0.2 |
| | -20° 24.9 | -20° 24.3 | -20° 23.8 | -20° 23.3 | -20° 22.8 | -20° 22.3 | -20° 21.7 | -20° 21.2 | -20° 20.7 | -20° 20.2 | -20° 19.6 | -20° 19.1 | +0.5 |
| Ma 20 | 267° 17.9 | 282° 17.8 | 297° 17.6 | 312° 17.4 | 327° 17.2 | 342° 17.0 | 357° 16.8 | 12° 16.6 | 27° 16.5 | 42° 16.3 | 57° 16.1 | 72° 15.9 | -0.2 |
| | -20° 12.2 | -20° 11.7 | -20° 11.1 | -20° 10.6 | -20° 10.1 | -20° 09.5 | -20° 09.0 | -20° 08.5 | -20° 07.9 | -20° 07.4 | -20° 06.8 | -20° 06.3 | +0.5 |
| Me 21 | 267° 13.6 | 282° 13.4 | 297° 13.2 | 312° 13.0 | 327° 12.8 | 342° 12.7 | 357° 12.5 | 12° 12.3 | 27° 12.1 | 42° 12.0 | 57° 11.8 | 72° 11.6 | -0.2 |
| | -19° 59.2 | -19° 58.6 | -19° 58.1 | -19° 57.5 | -19° 57.0 | -19° 56.4 | -19° 55.9 | -19° 55.3 | -19° 54.8 | -19° 54.2 | -19° 53.7 | -19° 53.1 | +0.6 |
| Je 22 | 267° 09.3 | 282° 09.2 | 297° 09.0 | 312° 08.8 | 327° 08.7 | 342° 08.5 | 357° 08.3 | 12° 08.2 | 27° 08.0 | 42° 07.8 | 57° 07.7 | 72° 07.5 | -0.2 |
| | -19° 45.8 | -19° 45.2 | -19° 44.7 | -19° 44.1 | -19° 43.5 | -19° 43.0 | -19° 42.4 | -19° 41.8 | -19° 41.3 | -19° 40.7 | -19° 40.1 | -19° 39.5 | +0.6 |
| Ve 23 | 267° 05.3 | 282° 05.2 | 297° 05.0 | 312° 04.9 | 327° 04.7 | 342° 04.5 | 357° 04.4 | 12° 04.2 | 27° 04.0 | 42° 03.9 | 57° 03.7 | 72° 03.6 | -0.2 |
| | -19° 32.0 | -19° 31.5 | -19° 30.9 | -19° 30.3 | -19° 29.7 | -19° 29.1 | -19° 28.5 | -19° 28.0 | -19° 27.4 | -19° 26.8 | -19° 26.2 | -19° 25.6 | +0.6 |
| Sa 24 | 267° 01.5 | 282° 01.4 | 297° 01.2 | 312° 01.1 | 327° 00.9 | 342° 00.8 | 357° 00.6 | 12° 00.5 | 27° 00.3 | 42° 00.1 | 57° 00.0 | 71° 59.8 | -0.2 |
| | -19° 17.9 | -19° 17.3 | -19° 16.7 | -19° 16.1 | -19° 15.5 | -19° 14.9 | -19° 14.3 | -19° 13.7 | -19° 13.1 | -19° 12.5 | -19° 11.9 | -19° 11.3 | +0.6 |
| Di 25 | 266° 57.9 | 281° 57.8 | 296° 57.6 | 311° 57.5 | 326° 57.3 | 341° 57.2 | 356° 57.0 | 11° 56.9 | 26° 56.8 | 41° 56.6 | 56° 56.5 | 71° 56.3 | -0.1 |
| | -19° 03.4 | -19° 02.8 | -19° 02.2 | -19° 01.6 | -19° 01.0 | -19° 00.4 | -18° 59.8 | -18° 59.2 | -18° 58.5 | -18° 57.9 | -18° 57.3 | -18° 56.7 | +0.6 |
| Lu 26 | 266° 54.5 | 281° 54.4 | 296° 54.2 | 311° 54.1 | 326° 54.0 | 341° 53.8 | 356° 53.7 | 11° 53.5 | 26° 53.4 | 41° 53.3 | 56° 53.1 | 71° 53.0 | -0.1 |
| | -18° 48.6 | -18° 48.0 | -18° 47.4 | -18° 46.7 | -18° 46.1 | -18° 45.5 | -18° 44.9 | -18° 44.2 | -18° 43.6 | -18° 43.0 | -18° 42.3 | -18° 41.7 | +0.6 |
| Ma 27 | 266° 51.3 | 281° 51.2 | 296° 51.0 | 311° 50.9 | 326° 50.8 | 341° 50.6 | 356° 50.5 | 11° 50.4 | 26° 50.3 | 41° 50.1 | 56° 50.0 | 71° 49.9 | -0.1 |
| | -18° 33.5 | -18° 32.8 | -18° 32.2 | -18° 31.5 | -18° 30.9 | -18° 30.3 | -18° 29.6 | -18° 29.0 | -18° 28.3 | -18° 27.7 | -18° 27.0 | -18° 26.4 | +0.6 |
| Me 28 | 266° 48.3 | 281° 48.2 | 296° 48.0 | 311° 47.9 | 326° 47.8 | 341° 47.7 | 356° 47.6 | 11° 47.4 | 26° 47.3 | 41° 47.2 | 56° 47.1 | 71° 47.0 | -0.1 |
| | -18° 18.0 | -18° 17.3 | -18° 16.6 | -18° 16.0 | -18° 15.3 | -18° 14.7 | -18° 14.0 | -18° 13.4 | -18° 12.7 | -18° 12.1 | -18° 11.4 | -18° 10.7 | +0.7 |
| Je 29 | 266° 45.5 | 281° 45.4 | 296° 45.2 | 311° 45.1 | 326° 45.0 | 341° 44.9 | 356° 44.8 | 11° 44.7 | 26° 44.6 | 41° 44.5 | 56° 44.4 | 71° 44.2 | -0.1 |
| | -18° 02.1 | -18° 01.4 | -18° 00.8 | -18° 00.1 | -17° 59.4 | -17° 58.8 | -17° 58.1 | -17° 57.4 | -17° 56.8 | -17° 56.1 | -17° 55.4 | -17° 54.7 | +0.7 |
| Ve 30 | 266° 42.9 | 281° 42.8 | 296° 42.7 | 311° 42.6 | 326° 42.4 | 341° 42.3 | 356° 42.2 | 11° 42.1 | 26° 42.0 | 41° 41.9 | 56° 41.8 | 71° 41.7 | -0.1 |
| | -17° 46.0 | -17° 45.3 | -17° 44.6 | -17° 43.9 | -17° 43.2 | -17° 42.6 | -17° 41.9 | -17° 41.2 | -17° 40.5 | -17° 39.8 | -17° 39.1 | -17° 38.4 | +0.7 |
| Sa 31 | 266° 40.5 | 281° 40.4 | 296° 40.3 | 311° 40.2 | 326° 40.1 | 341° 40.0 | 356° 39.9 | 11° 39.8 | 26° 39.7 | 41° 39.6 | 56° 39.5 | 71° 39.4 | -0.1 |
| | -17° 29.5 | -17° 28.8 | -17° 28.1 | -17° 27.4 | -17° 26.7 | -17° 26.0 | -17° 25.3 | -17° 24.6 | -17° 23.9 | -17° 23.2 | -17° 22.5 | -17° 21.8 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2032

| J | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 240°18.5<br>8°23.2 | 254°52.7<br>8°13.8 | 269°26.8<br>8°04.3 | 284°01.0<br>7°54.8 | 298°35.2<br>7°45.3 | 313°09.4<br>7°35.7 | 327°43.7<br>7°26.1 | 342°17.9<br>7°16.5 | 356°52.2<br>7°06.9 | 11°26.5<br>6°57.2 | 26°00.8<br>6°47.5 | +34.2<br>-9.6 | 14.7<br>54.0 |
| Ve 2 | 244°36.3<br>4°18.5 | 259°10.7<br>4°08.4 | 273°45.1<br>3°58.3 | 288°19.5<br>3°48.1 | 302°53.9<br>3°38.0 | 317°28.3<br>3°27.8 | 332°02.7<br>3°17.6 | 346°37.1<br>3°07.3 | 1°11.6<br>2°57.1 | 15°46.0<br>2°46.8 | 30°20.3<br>2°36.6 | +34.4<br>-10.2 | 14.8<br>54.3 |
| Sa 3 | 248°55.2<br>0°01.0 | 263°29.4<br>-0°09.5 | 278°03.6<br>-0°19.9 | 292°37.8<br>-0°30.4 | 307°11.9<br>-0°40.9 | 321°46.0<br>-0°51.3 | 336°20.2<br>-1°01.8 | 350°54.2<br>-1°12.3 | 5°28.3<br>-1°22.7 | 20°02.3<br>-1°33.2 | 34°36.4<br>-1°43.7 | +34.1<br>-10.5 | 14.9<br>54.7 |
| Di 4 | 253°03.0<br>-4°20.6 | 267°36.5<br>-4°31.0 | 282°09.9<br>-4°41.4 | 296°43.3<br>-4°51.8 | 311°16.7<br>-5°02.1 | 325°50.0<br>-5°12.5 | 340°23.3<br>-5°22.8 | 354°56.5<br>-5°33.2 | 9°29.7<br>-5°43.5 | 24°02.9<br>-5°53.8 | 38°36.0<br>-6°04.1 | +33.3<br>-10.4 | 15.1<br>55.3 |
| ◑ Lu 5 | 256°46.2<br>-8°36.2 | 271°18.4<br>-8°46.1 | 285°50.6<br>-8°56.0 | 300°22.7<br>-9°05.9 | 314°54.7<br>-9°15.8 | 329°26.7<br>-9°25.6 | 343°58.6<br>-9°35.4 | 358°30.5<br>-9°45.2 | 13°02.2<br>-9°54.9 | 27°33.9<br>-10°04.6 | 42°05.6<br>-10°14.2 | +31.9<br>-9.8 | 15.3<br>56.1 |
| Ma 6 | 271°18.4<br>-8°46.1 | 285°50.6<br>-8°56.0 | 300°22.7<br>-9°05.9 | 314°54.7<br>-9°15.8 | 329°26.7<br>-9°25.6 | 343°58.6<br>-9°35.4 | 358°30.5<br>-9°45.2 | 13°02.2<br>-9°54.9 | 27°33.9<br>-10°04.6 | 42°05.6<br>-10°14.2 | 56°37.2<br>-10°23.9 | +31.9<br>-9.8 | 15.3<br>56.1 |
| Me 7 | 274°21.8<br>-12°43.1 | 288°52.2<br>-12°52.0 | 303°22.5<br>-13°00.9 | 317°52.6<br>-13°09.7 | 332°22.7<br>-13°18.4 | 346°52.8<br>-13°27.1 | 1°22.7<br>-13°35.8 | 15°52.6<br>-13°44.3 | 30°22.3<br>-13°52.8 | 44°52.0<br>-14°01.3 | 59°21.6<br>-14°09.7 | +30.0<br>-8.7 | 15.5<br>57.0 |
| Je 8 | 276°34.9<br>-16°07.4 | 291°03.1<br>-16°14.6 | 305°31.1<br>-16°21.8 | 319°59.1<br>-16°28.9 | 334°27.0<br>-16°35.9 | 348°54.8<br>-16°42.8 | 3°22.4<br>-16°49.6 | 17°50.0<br>-16°56.4 | 32°17.6<br>-17°03.0 | 46°45.0<br>-17°09.6 | 61°12.3<br>-17°16.1 | +27.7<br>-6.9 | 15.8<br>58.0 |
| Ve 9 | 277°51.1<br>-18°41.4 | 292°16.9<br>-18°46.2 | 306°42.7<br>-18°50.9 | 321°08.4<br>-18°55.6 | 335°34.0<br>-19°00.1 | 349°59.5<br>-19°04.5 | 4°24.9<br>-19°08.8 | 18°50.3<br>-19°12.9 | 33°15.5<br>-19°17.0 | 47°40.7<br>-19°20.9 | 62°05.8<br>-19°24.7 | +25.5<br>-4.3 | 16.1<br>59.0 |
| Sa 10 | 278°13.0<br>-20°06.4 | 292°37.0<br>-20°08.2 | 307°00.8<br>-20°09.8 | 321°24.6<br>-20°11.2 | 335°48.3<br>-20°12.5 | 350°12.0<br>-20°13.7 | 4°35.6<br>-20°14.7 | 18°59.2<br>-20°15.6 | 33°22.7<br>-20°16.4 | 47°46.2<br>-20°17.0 | 62°09.6<br>-20°17.4 | +23.6<br>-1.1 | 16.4<br>60.0 |
| Di 11 | 277°55.7<br>-20°06.9 | 292°18.6<br>-20°05.0 | 306°41.4<br>-20°02.9 | 321°04.2<br>-20°00.8 | 335°26.9<br>-19°58.4 | 349°49.7<br>-19°55.9 | 4°12.4<br>-19°53.3 | 18°35.1<br>-19°50.5 | 32°57.9<br>-19°47.6 | 47°20.6<br>-19°44.5 | 61°43.3<br>-19°41.3 | +22.7<br>+2.6 | 16.6<br>60.7 |
| ● Lu 12 | 277°24.3<br>-18°35.4 | 291°47.1<br>-18°29.8 | 306°10.0<br>-18°24.1 | 320°32.9<br>-18°18.3 | 334°55.8<br>-18°12.3 | 349°18.8<br>-18°06.2 | 3°41.7<br>-18°00.0 | 18°04.8<br>-17°53.6 | 32°27.8<br>-17°47.1 | 46°50.9<br>-17°40.5 | 61°14.0<br>-17°33.7 | +23.0<br>+6.2 | 16.7<br>61.2 |
| Ma 13 | 277°05.9<br>-15°37.1 | 291°29.7<br>-15°28.4 | 305°53.6<br>-15°19.6 | 320°17.6<br>-15°10.6 | 334°41.6<br>-15°01.6 | 349°05.7<br>-14°52.4 | 3°29.8<br>-14°43.2 | 17°54.0<br>-14°33.8 | 32°18.3<br>-14°24.3 | 46°42.6<br>-14°14.8 | 61°07.0<br>-14°05.1 | +24.1<br>+9.2 | 16.7<br>61.3 |
| Me 14 | 277°20.3<br>-11°29.4 | 291°45.7<br>-11°18.4 | 306°11.2<br>-11°07.3 | 320°36.7<br>-10°56.1 | 335°02.3<br>-10°44.9 | 349°28.0<br>-10°33.6 | 3°53.8<br>-10°22.3 | 18°19.6<br>-10°10.8 | 32°45.5<br>-9°59.4 | 47°11.4<br>-9°47.8 | 61°37.4<br>-9°36.2 | +25.7<br>+11.3 | 16.7<br>61.1 |
| Je 15 | 278°15.5<br>-6°36.7 | 292°42.5<br>-6°24.4 | 307°09.6<br>-6°12.1 | 321°36.8<br>-5°59.8 | 336°04.0<br>-5°47.4 | 350°31.3<br>-5°35.0 | 4°58.7<br>-5°22.6 | 19°26.1<br>-5°10.2 | 33°53.5<br>-4°57.8 | 48°21.1<br>-4°45.3 | 62°48.6<br>-4°32.8 | +27.3<br>+12.4 | 16.5<br>60.5 |
| Ve 16 | 279°48.8<br>-1°24.8 | 294°17.2<br>-1°12.3 | 308°45.7<br>-0°59.8 | 323°14.2<br>-0°47.3 | 337°42.7<br>-0°34.8 | 352°11.3<br>-0°22.3 | 6°40.0<br>-0°09.8 | 21°08.6<br>0°02.7 | 35°37.4<br>0°15.1 | 50°06.1<br>0°27.5 | 64°34.9<br>0°40.0 | +28.6<br>+12.5 | 16.3<br>59.7 |
| Sa 17 | 281°51.4<br>3°43.0 | 296°20.7<br>3°55.0 | 310°50.1<br>4°06.9 | 325°19.5<br>4°18.8 | 339°48.9<br>4°30.6 | 354°18.4<br>4°42.4 | 8°47.9<br>4°54.2 | 23°17.4<br>5°05.9 | 37°47.0<br>5°17.5 | 52°16.5<br>5°29.2 | 66°46.1<br>5°40.7 | +29.5<br>+11.8 | 16.0<br>58.8 |
| Di 18 | 284°12.2<br>8°28.3 | 298°42.1<br>8°39.0 | 313°12.0<br>8°49.6 | 327°41.9<br>9°00.2 | 342°11.8<br>9°10.8 | 356°41.7<br>9°21.3 | 11°11.6<br>9°31.7 | 25°41.6<br>9°42.0 | 40°11.5<br>9°52.3 | 54°41.5<br>10°02.5 | 69°11.4<br>10°12.7 | +29.9<br>+10.4 | 15.8<br>57.9 |
| ◐ Lu 19 | 286°41.6<br>12°36.6 | 301°11.6<br>12°45.6 | 315°41.7<br>12°54.5 | 330°11.7<br>13°03.4 | 344°41.7<br>13°12.2 | 359°11.8<br>13°20.9 | 13°41.8<br>13°29.5 | 28°11.8<br>13°38.0 | 42°41.9<br>13°46.5 | 57°11.9<br>13°54.8 | 71°42.0<br>14°03.1 | +30.0<br>+8.7 | 15.5<br>57.0 |
| Ma 20 | 289°12.3<br>15°57.5 | 303°42.3<br>16°04.4 | 318°12.3<br>16°11.3 | 332°42.3<br>16°18.0 | 347°12.3<br>16°24.7 | 1°42.3<br>16°31.3 | 16°12.2<br>16°37.8 | 30°42.2<br>16°44.2 | 45°12.2<br>16°50.5 | 59°42.2<br>16°56.7 | 74°12.1<br>17°02.8 | +30.0<br>+6.5 | 15.3<br>56.2 |
| Me 21 | 291°41.3<br>18°23.4 | 306°11.3<br>18°28.1 | 320°41.2<br>18°32.6 | 335°11.1<br>18°37.0 | 349°41.0<br>18°41.3 | 4°11.0<br>18°45.6 | 18°40.9<br>18°49.7 | 33°10.8<br>18°53.7 | 47°40.7<br>18°57.7 | 62°10.7<br>19°01.5 | 76°40.6<br>19°05.2 | +29.9<br>+4.2 | 15.1<br>55.5 |
| Je 22 | 294°09.8<br>19°49.6 | 308°39.8<br>19°51.8 | 323°09.8<br>19°53.8 | 337°39.8<br>19°55.8 | 352°09.8<br>19°57.7 | 6°39.8<br>19°59.4 | 21°09.8<br>20°01.1 | 35°39.9<br>20°02.7 | 50°09.9<br>20°04.2 | 64°40.0<br>20°05.5 | 79°10.0<br>20°06.8 | +30.0<br>+1.7 | 15.0<br>54.9 |
| Ve 23 | 296°42.5<br>20°14.1 | 311°12.8<br>20°13.8 | 325°43.1<br>20°13.4 | 340°13.4<br>20°12.9 | 354°43.7<br>20°12.3 | 9°14.1<br>20°11.6 | 23°44.4<br>20°10.8 | 38°14.8<br>20°10.0 | 52°45.2<br>20°09.0 | 67°15.7<br>20°07.9 | 81°46.1<br>20°06.8 | +30.4<br>-0.7 | 14.9<br>54.5 |
| Sa 24 | 299°25.8<br>19°38.0 | 313°56.6<br>19°35.3 | 328°27.5<br>19°32.6 | 342°58.4<br>19°29.7 | 357°29.4<br>19°26.8 | 12°00.3<br>19°23.8 | 26°31.3<br>19°20.7 | 41°02.3<br>19°17.5 | 55°33.4<br>19°14.2 | 70°04.5<br>19°10.9 | 84°35.6<br>19°07.4 | +31.0<br>-3.1 | 14.8<br>54.2 |
| Di 25 | 302°26.0<br>18°05.3 | 316°57.6<br>18°00.5 | 331°29.3<br>17°55.6 | 346°01.0<br>17°50.7 | 0°32.7<br>17°45.6 | 15°04.5<br>17°40.5 | 29°36.3<br>17°35.3 | 44°08.1<br>17°30.1 | 58°40.0<br>17°24.7 | 73°11.9<br>17°19.3 | 87°43.8<br>17°13.8 | +31.8<br>-5.2 | 14.7<br>54.0 |
| Lu 26 | 305°47.1<br>15°42.6 | 320°19.6<br>15°35.9 | 334°52.1<br>15°29.2 | 349°24.7<br>15°22.4 | 3°57.3<br>15°15.6 | 18°29.9<br>15°08.7 | 33°02.6<br>15°01.7 | 47°35.3<br>14°54.7 | 62°08.1<br>14°47.6 | 76°40.8<br>14°40.5 | 91°13.6<br>14°33.2 | +32.7<br>-6.9 | 14.7<br>53.9 |
| ○ Ma 27 | 309°29.7<br>12°37.9 | 324°03.0<br>12°29.8 | 338°36.4<br>12°21.6 | 353°09.8<br>12°13.4 | 7°43.2<br>12°05.1 | 22°16.6<br>11°56.8 | 36°50.1<br>11°48.4 | 51°23.6<br>11°40.0 | 65°57.1<br>11°31.5 | 80°30.7<br>11°22.9 | 95°04.2<br>11°14.4 | +33.5<br>-8.4 | 14.7<br>53.9 |
| Me 28 | 313°31.0<br>9°00.5 | 328°04.9<br>8°51.3 | 342°38.9<br>8°42.0 | 357°12.9<br>8°32.7 | 11°46.9<br>8°23.4 | 26°21.0<br>8°14.0 | 40°55.0<br>8°04.6 | 55°29.1<br>7°55.1 | 70°03.2<br>7°45.6 | 84°37.3<br>7°36.1 | 99°11.4<br>7°26.5 | +34.1<br>-9.4 | 14.7<br>54.0 |
| Je 29 | 317°44.9<br>4°59.9 | 332°19.3<br>4°49.9 | 346°53.6<br>4°39.9 | 1°27.9<br>4°29.9 | 16°02.2<br>4°19.9 | 30°36.6<br>4°09.8 | 45°10.9<br>3°59.7 | 59°45.2<br>3°49.6 | 74°19.6<br>3°39.5 | 88°53.9<br>3°29.4 | 103°28.3<br>3°19.2 | +34.3<br>-10.1 | 14.8<br>54.2 |
| Ve 30 | 332°19.3<br>4°49.9 | 346°53.6<br>4°39.9 | 1°27.9<br>4°29.9 | 16°02.2<br>4°19.9 | 30°36.6<br>4°09.8 | 45°10.9<br>3°59.7 | 59°45.2<br>3°49.6 | 74°19.6<br>3°39.5 | 88°53.9<br>3°29.4 | 103°28.3<br>3°19.2 | 118°02.7<br>3°09.1 | +34.3<br>-10.1 | 14.8<br>54.2 |
| Sa 31 | 336°37.6<br>0°35.1 | 351°11.9<br>0°24.8 | 5°46.2<br>0°14.5 | 20°20.4<br>0°04.1 | 34°54.7<br>-0°06.2 | 49°28.9<br>-0°16.6 | 64°03.1<br>-0°26.9 | 78°37.3<br>-0°37.3 | 93°11.5<br>-0°47.7 | 107°45.7<br>-0°58.0 | 122°19.9<br>-1°08.4 | +34.2<br>-10.4 | 14.9<br>54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 22h04 — NL: 12 20h06 — PQ: 19 12h14 — PL: 27 12h52

# SOLEIL

## Février 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 266°38.3 | 281°38.2 | 296°38.1 | 311°38.0 | 326°37.9 | 341°37.8 | 356°37.7 | 11°37.6 | 26°37.6 | 41°37.5 | 56°37.4 | 71°37.3 | -0.1 |
| | -17°12.7 | -17°12.0 | -17°11.3 | -17°10.6 | -17°09.9 | -17°09.2 | -17°08.4 | -17°07.7 | -17°07.0 | -17°06.3 | -17°05.6 | -17°04.9 | +0.7 |
| Lu 2 | 266°36.2 | 281°36.2 | 296°36.1 | 311°36.0 | 326°35.9 | 341°35.9 | 356°35.8 | 11°35.7 | 26°35.6 | 41°35.5 | 56°35.5 | 71°35.4 | -0.1 |
| | -16°55.6 | -16°54.9 | -16°54.2 | -16°53.4 | -16°52.7 | -16°52.0 | -16°51.3 | -16°50.6 | -16°49.8 | -16°49.1 | -16°48.4 | -16°47.7 | +0.7 |
| Ma 3 | 266°34.4 | 281°34.4 | 296°34.3 | 311°34.2 | 326°34.2 | 341°34.1 | 356°34.0 | 11°34.0 | 26°33.9 | 41°33.8 | 56°33.8 | 71°33.7 | -0.1 |
| | -16°38.2 | -16°37.5 | -16°36.7 | -16°36.0 | -16°35.3 | -16°34.5 | -16°33.8 | -16°33.1 | -16°32.3 | -16°31.6 | -16°30.9 | -16°30.1 | +0.7 |
| Me 4 | 266°32.8 | 281°32.8 | 296°32.7 | 311°32.7 | 326°32.6 | 341°32.5 | 356°32.5 | 11°32.4 | 26°32.3 | 41°32.3 | 56°32.2 | 71°32.2 | -0.1 |
| | -16°20.5 | -16°19.8 | -16°19.0 | -16°18.3 | -16°17.5 | -16°16.8 | -16°16.1 | -16°15.3 | -16°14.6 | -16°13.8 | -16°13.1 | -16°12.3 | +0.7 |
| Je 5 | 266°31.4 | 281°31.4 | 296°31.3 | 311°31.3 | 326°31.2 | 341°31.2 | 356°31.1 | 11°31.1 | 26°31.0 | 41°31.0 | 56°30.9 | 71°30.9 | -0.1 |
| | -16°02.6 | -16°01.8 | -16°01.0 | -16°00.3 | -15°59.5 | -15°58.8 | -15°58.0 | -15°57.3 | -15°56.5 | -15°55.7 | -15°55.0 | -15°54.2 | +0.8 |
| Ve 6 | 266°30.2 | 281°30.2 | 296°30.1 | 311°30.1 | 326°30.0 | 341°30.0 | 356°29.9 | 11°29.9 | 26°29.9 | 41°29.8 | 56°29.8 | 71°29.7 | -0.0 |
| | -15°44.3 | -15°43.5 | -15°42.8 | -15°42.0 | -15°41.2 | -15°40.5 | -15°39.7 | -15°38.9 | -15°38.2 | -15°37.4 | -15°36.6 | -15°35.9 | +0.8 |
| Sa 7 | 266°29.2 | 281°29.2 | 296°29.1 | 311°29.1 | 326°29.1 | 341°29.0 | 356°29.0 | 11°28.9 | 26°28.9 | 41°28.9 | 56°28.8 | 71°28.8 | -0.0 |
| | -15°25.8 | -15°25.0 | -15°24.2 | -15°23.5 | -15°22.7 | -15°21.9 | -15°21.1 | -15°20.3 | -15°19.6 | -15°18.8 | -15°18.0 | -15°17.2 | +0.8 |
| Di 8 | 266°28.4 | 281°28.4 | 296°28.3 | 311°28.3 | 326°28.3 | 341°28.2 | 356°28.2 | 11°28.2 | 26°28.2 | 41°28.1 | 56°28.1 | 71°28.1 | -0.0 |
| | -15°07.0 | -15°06.2 | -15°05.4 | -15°04.6 | -15°03.9 | -15°03.1 | -15°02.3 | -15°01.5 | -15°00.7 | -14°59.9 | -14°59.1 | -14°58.3 | +0.8 |
| Lu 9 | 266°27.8 | 281°27.7 | 296°27.7 | 311°27.7 | 326°27.7 | 341°27.7 | 356°27.6 | 11°27.6 | 26°27.6 | 41°27.6 | 56°27.6 | 71°27.5 | -0.0 |
| | -14°48.0 | -14°47.2 | -14°46.4 | -14°45.6 | -14°44.8 | -14°44.0 | -14°43.2 | -14°42.4 | -14°41.6 | -14°40.8 | -14°40.0 | -14°39.2 | +0.8 |
| Ma 10 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.2 | 26°27.2 | 41°27.2 | 56°27.2 | 71°27.2 | -0.0 |
| | -14°28.7 | -14°27.9 | -14°27.1 | -14°26.3 | -14°25.4 | -14°24.6 | -14°23.8 | -14°23.0 | -14°22.2 | -14°21.4 | -14°20.6 | -14°19.8 | +0.8 |
| Me 11 | 266°27.1 | 281°27.1 | 296°27.1 | 311°27.1 | 326°27.1 | 341°27.1 | 356°27.1 | 11°27.1 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | -0.0 |
| | -14°09.2 | -14°08.3 | -14°07.5 | -14°06.7 | -14°05.9 | -14°05.1 | -14°04.2 | -14°03.4 | -14°02.6 | -14°01.8 | -14°00.9 | -14°00.1 | +0.8 |
| Je 12 | 266°27.0 | 281°27.1 | 296°27.1 | 311°27.1 | 326°27.1 | 341°27.1 | 356°27.1 | 11°27.1 | 26°27.1 | 41°27.1 | 56°27.1 | 71°27.1 | +0.0 |
| | -13°49.4 | -13°48.6 | -13°47.7 | -13°46.9 | -13°46.1 | -13°45.2 | -13°44.4 | -13°43.6 | -13°42.8 | -13°41.9 | -13°41.1 | -13°40.3 | +0.8 |
| Ve 13 | 266°27.2 | 281°27.2 | 296°27.2 | 311°27.2 | 326°27.2 | 341°27.2 | 356°27.3 | 11°27.3 | 26°27.3 | 41°27.3 | 56°27.3 | 71°27.3 | +0.0 |
| | -13°29.4 | -13°28.6 | -13°27.7 | -13°26.9 | -13°26.0 | -13°25.2 | -13°24.4 | -13°23.5 | -13°22.7 | -13°21.8 | -13°21.0 | -13°20.2 | +0.8 |
| Sa 14 | 266°27.5 | 281°27.5 | 296°27.6 | 311°27.6 | 326°27.6 | 341°27.6 | 356°27.6 | 11°27.7 | 26°27.7 | 41°27.7 | 56°27.7 | 71°27.7 | +0.0 |
| | -13°09.2 | -13°08.3 | -13°07.5 | -13°06.6 | -13°05.8 | -13°05.0 | -13°04.1 | -13°03.3 | -13°02.4 | -13°01.6 | -13°00.7 | -12°59.9 | +0.8 |
| Di 15 | 266°28.1 | 281°28.1 | 296°28.1 | 311°28.1 | 326°28.2 | 341°28.2 | 356°28.2 | 11°28.2 | 26°28.3 | 41°28.3 | 56°28.3 | 71°28.4 | +0.0 |
| | -12°48.8 | -12°47.9 | -12°47.1 | -12°46.2 | -12°45.3 | -12°44.5 | -12°43.6 | -12°42.8 | -12°41.9 | -12°41.1 | -12°40.2 | -12°39.3 | +0.9 |
| Lu 16 | 266°28.8 | 281°28.8 | 296°28.8 | 311°28.9 | 326°28.9 | 341°28.9 | 356°29.0 | 11°29.0 | 26°29.0 | 41°29.1 | 56°29.1 | 71°29.2 | +0.0 |
| | -12°28.1 | -12°27.3 | -12°26.4 | -12°25.5 | -12°24.7 | -12°23.8 | -12°22.9 | -12°22.1 | -12°21.2 | -12°20.3 | -12°19.5 | -12°18.6 | +0.9 |
| Ma 17 | 266°29.7 | 281°29.7 | 296°29.7 | 311°29.8 | 326°29.8 | 341°29.9 | 356°29.9 | 11°30.0 | 26°30.0 | 41°30.0 | 56°30.1 | 71°30.1 | +0.0 |
| | -12°07.3 | -12°06.4 | -12°05.6 | -12°04.7 | -12°03.8 | -12°02.9 | -12°02.1 | -12°01.2 | -12°00.3 | -11°59.4 | -11°58.6 | -11°57.7 | +0.9 |
| Me 18 | 266°30.7 | 281°30.8 | 296°30.8 | 311°30.9 | 326°30.9 | 341°31.0 | 356°31.0 | 11°31.1 | 26°31.1 | 41°31.2 | 56°31.2 | 71°31.3 | +0.1 |
| | -11°46.3 | -11°45.4 | -11°44.5 | -11°43.6 | -11°42.8 | -11°41.9 | -11°41.0 | -11°40.1 | -11°39.2 | -11°38.4 | -11°37.5 | -11°36.6 | +0.9 |
| Je 19 | 266°32.0 | 281°32.0 | 296°32.1 | 311°32.2 | 326°32.2 | 341°32.3 | 356°32.3 | 11°32.4 | 26°32.4 | 41°32.5 | 56°32.6 | 71°32.6 | +0.1 |
| | -11°25.1 | -11°24.2 | -11°23.3 | -11°22.4 | -11°21.5 | -11°20.6 | -11°19.8 | -11°18.9 | -11°18.0 | -11°17.1 | -11°16.2 | -11°15.3 | +0.9 |
| Ve 20 | 266°33.4 | 281°33.5 | 296°33.5 | 311°33.6 | 326°33.7 | 341°33.7 | 356°33.8 | 11°33.9 | 26°33.9 | 41°34.0 | 56°34.1 | 71°34.1 | +0.1 |
| | -11°03.7 | -11°02.8 | -11°01.9 | -11°01.0 | -11°00.1 | -10°59.2 | -10°58.3 | -10°57.4 | -10°56.5 | -10°55.6 | -10°54.7 | -10°53.8 | +0.9 |
| Sa 21 | 266°35.0 | 281°35.1 | 296°35.1 | 311°35.2 | 326°35.3 | 341°35.4 | 356°35.4 | 11°35.5 | 26°35.6 | 41°35.6 | 56°35.7 | 71°35.8 | +0.1 |
| | -10°42.1 | -10°41.2 | -10°40.3 | -10°39.4 | -10°38.5 | -10°37.6 | -10°36.7 | -10°35.8 | -10°34.9 | -10°34.0 | -10°33.1 | -10°32.2 | +0.9 |
| Di 22 | 266°36.8 | 281°36.8 | 296°36.9 | 311°37.0 | 326°37.1 | 341°37.2 | 356°37.2 | 11°37.3 | 26°37.4 | 41°37.5 | 56°37.5 | 71°37.6 | +0.1 |
| | -10°20.4 | -10°19.5 | -10°18.6 | -10°17.7 | -10°16.8 | -10°15.9 | -10°15.0 | -10°14.1 | -10°13.1 | -10°12.2 | -10°11.3 | -10°10.4 | +0.9 |
| Lu 23 | 266°38.7 | 281°38.8 | 296°38.9 | 311°38.9 | 326°39.0 | 341°39.1 | 356°39.2 | 11°39.3 | 26°39.4 | 41°39.5 | 56°39.5 | 71°39.6 | +0.1 |
| | -9°58.5 | -9°57.6 | -9°56.7 | -9°55.8 | -9°54.9 | -9°54.0 | -9°53.1 | -9°52.1 | -9°51.2 | -9°50.3 | -9°49.4 | -9°48.5 | +0.9 |
| Ma 24 | 266°40.8 | 281°40.9 | 296°40.9 | 311°41.0 | 326°41.1 | 341°41.2 | 356°41.3 | 11°41.4 | 26°41.5 | 41°41.6 | 56°41.7 | 71°41.8 | +0.1 |
| | -9°36.5 | -9°35.6 | -9°34.7 | -9°33.8 | -9°32.8 | -9°31.9 | -9°31.0 | -9°30.1 | -9°29.1 | -9°28.2 | -9°27.3 | -9°26.4 | +0.9 |
| Me 25 | 266°43.0 | 281°43.1 | 296°43.2 | 311°43.3 | 326°43.4 | 341°43.5 | 356°43.6 | 11°43.7 | 26°43.8 | 41°43.9 | 56°44.0 | 71°44.1 | +0.1 |
| | -9°14.3 | -9°13.4 | -9°12.5 | -9°11.6 | -9°10.6 | -9°09.7 | -9°08.8 | -9°07.8 | -9°06.9 | -9°06.0 | -9°05.1 | -9°04.1 | +0.9 |
| Je 26 | 266°45.4 | 281°45.5 | 296°45.6 | 311°45.7 | 326°45.8 | 341°45.9 | 356°46.0 | 11°46.1 | 26°46.2 | 41°46.3 | 56°46.4 | 71°46.5 | +0.1 |
| | -8°52.0 | -8°51.1 | -8°50.2 | -8°49.2 | -8°48.3 | -8°47.4 | -8°46.4 | -8°45.5 | -8°44.6 | -8°43.6 | -8°42.7 | -8°41.8 | +0.9 |
| Ve 27 | 266°47.9 | 281°48.0 | 296°48.1 | 311°48.2 | 326°48.3 | 341°48.4 | 356°48.5 | 11°48.7 | 26°48.8 | 41°48.9 | 56°49.0 | 71°49.1 | +0.1 |
| | -8°29.6 | -8°28.6 | -8°27.7 | -8°26.8 | -8°25.8 | -8°24.9 | -8°24.0 | -8°23.0 | -8°22.1 | -8°21.1 | -8°20.2 | -8°19.3 | +0.9 |
| Sa 28 | 266°50.5 | 281°50.7 | 296°50.8 | 311°50.9 | 326°51.0 | 341°51.1 | 356°51.2 | 11°51.3 | 26°51.5 | 41°51.6 | 56°51.7 | 71°51.8 | +0.1 |
| | -8°07.0 | -8°06.1 | -8°05.1 | -8°04.2 | -8°03.2 | -8°02.3 | -8°01.4 | -8°00.4 | -7°59.5 | -7°58.5 | -7°57.6 | -7°56.6 | +0.9 |
| Di 29 | 266°53.3 | 281°53.5 | 296°53.6 | 311°53.7 | 326°53.8 | 341°53.9 | 356°54.1 | 11°54.2 | 26°54.3 | 41°54.4 | 56°54.5 | 71°54.7 | +0.1 |
| | -7°44.3 | -7°43.4 | -7°42.4 | -7°41.5 | -7°40.5 | -7°39.6 | -7°38.6 | -7°37.7 | -7°36.7 | -7°35.8 | -7°34.8 | -7°33.9 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2032

| J | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 242°53.4 | 257°26.5 | 271°59.7 | 286°32.8 | 301°05.8 | 315°38.8 | 330°11.8 | 344°44.7 | 359°17.5 | 13°50.3 | 28°23.1 | +33.0 | 15.1 |
| | -6°46.4 | -6°56.4 | -7°06.3 | -7°16.3 | -7°26.2 | -7°36.1 | -7°46.0 | -7°55.8 | -8°05.6 | -8°15.4 | -8°25.2 | -9.9 | 55.3 |
| Lu 2 | 246°28.4 | 261°00.3 | 275°32.1 | 290°03.9 | 304°35.6 | 319°07.2 | 333°38.8 | 348°10.3 | 2°41.8 | 17°13.2 | 31°44.5 | +31.6 | 15.2 |
| | -10°47.5 | -10°56.7 | -11°05.9 | -11°15.0 | -11°24.0 | -11°33.1 | -11°42.0 | -11°51.0 | -11°59.8 | -12°08.7 | -12°17.4 | -9.0 | 55.9 |
| Ma 3 | 249°26.2 | 263°56.4 | 278°26.6 | 292°56.6 | 307°26.6 | 321°56.5 | 336°26.3 | 350°56.1 | 5°25.7 | 19°55.3 | 34°24.8 | +29.9 | 15.5 |
| | -14°22.6 | -14°30.5 | -14°38.3 | -14°46.0 | -14°53.7 | -15°01.3 | -15°08.8 | -15°16.3 | -15°23.7 | -15°31.0 | -15°38.3 | -7.6 | 56.7 |
| ◑ Me 4 | 251°38.0 | 266°06.2 | 280°34.4 | 295°02.5 | 309°30.5 | 323°58.4 | 338°26.2 | 352°53.9 | 7°21.6 | 21°49.2 | 36°16.7 | +27.9 | 15.7 |
| | -17°17.7 | -17°23.6 | -17°29.5 | -17°35.3 | -17°41.0 | -17°46.5 | -17°52.0 | -17°57.4 | -18°02.7 | -18°08.0 | -18°13.1 | -5.5 | 57.6 |
| Je 5 | 266°06.2 | 280°34.4 | 295°02.5 | 309°30.5 | 323°58.4 | 338°26.2 | 352°53.9 | 7°21.6 | 21°49.2 | 36°16.7 | 50°44.1 | +27.8 | 15.7 |
| | -17°23.6 | -17°29.5 | -17°35.3 | -17°41.0 | -17°46.5 | -17°52.0 | -17°57.4 | -18°02.7 | -18°08.0 | -18°13.1 | -18°18.1 | -5.4 | 57.6 |
| Ve 6 | 267°26.0 | 281°52.2 | 296°18.3 | 310°44.3 | 325°10.3 | 339°36.2 | 354°02.0 | 8°27.7 | 22°53.4 | 37°19.0 | 51°44.5 | +25.9 | 16.0 |
| | -19°20.7 | -19°24.0 | -19°27.1 | -19°30.2 | -19°33.1 | -19°36.0 | -19°38.7 | -19°41.2 | -19°43.7 | -19°46.1 | -19°48.3 | -2.8 | 58.6 |
| Sa 7 | 268°00.1 | 282°24.7 | 296°49.2 | 311°13.7 | 325°38.1 | 340°02.5 | 354°26.9 | 8°51.1 | 23°15.4 | 37°39.6 | 52°03.8 | +24.4 | 16.2 |
| | -20°06.3 | -20°06.4 | -20°06.5 | -20°06.3 | -20°06.1 | -20°05.7 | -20°05.2 | -20°04.5 | -20°03.7 | -20°02.8 | -20°01.7 | +0.5 | 59.5 |
| Di 8 | 268°02.4 | 282°26.1 | 296°49.8 | 311°13.5 | 325°37.1 | 340°00.8 | 354°24.4 | 8°48.0 | 23°11.7 | 37°35.3 | 51°58.9 | +23.6 | 16.5 |
| | -19°28.8 | -19°25.5 | -19°22.0 | -19°18.4 | -19°14.7 | -19°10.8 | -19°06.8 | -19°02.6 | -18°58.3 | -18°53.9 | -18°49.3 | +3.9 | 60.4 |
| Lu 9 | 267°53.4 | 282°17.1 | 296°40.8 | 311°04.5 | 325°28.3 | 339°52.1 | 354°15.9 | 8°39.7 | 23°03.6 | 37°27.5 | 51°51.4 | +23.8 | 16.6 |
| | -17°20.4 | -17°17.6 | -17°10.8 | -17°03.8 | -16°56.7 | -16°49.4 | -16°42.1 | -16°34.6 | -16°27.0 | -16°19.2 | -16°11.4 | +7.3 | 61.0 |
| Ma 10 | 267°53.8 | 282°18.3 | 296°42.7 | 311°07.3 | 325°31.9 | 339°56.5 | 354°21.1 | 8°45.8 | 23°10.6 | 37°35.4 | 52°00.2 | +24.6 | 16.7 |
| | -13°59.8 | -13°50.1 | -13°40.4 | -13°30.6 | -13°20.6 | -13°10.6 | -13°00.5 | -12°50.3 | -12°40.0 | -12°29.6 | -12°19.1 | +10.1 | 61.3 |
| ● Me 11 | 268°18.3 | 282°43.9 | 297°09.6 | 311°35.2 | 326°01.0 | 340°26.8 | 354°52.6 | 9°18.5 | 23°44.4 | 38°10.4 | 52°36.4 | +25.8 | 16.7 |
| | -9°32.3 | -9°20.6 | -9°08.9 | -8°57.1 | -8°45.2 | -8°33.3 | -8°21.4 | -8°09.4 | -7°57.3 | -7°45.2 | -7°33.0 | +11.9 | 61.3 |
| Je 12 | 269°12.5 | 283°39.2 | 298°06.1 | 312°32.9 | 326°59.8 | 341°26.8 | 355°53.8 | 10°20.8 | 24°47.9 | 39°15.0 | 53°42.1 | +27.0 | 16.6 |
| | -4°26.1 | -4°13.5 | -4°00.8 | -3°48.1 | -3°35.3 | -3°22.6 | -3°09.8 | -2°57.1 | -2°44.3 | -2°31.5 | -2°18.8 | +12.7 | 60.9 |
| Ve 13 | 270°34.1 | 285°01.9 | 299°29.7 | 313°57.5 | 328°25.3 | 342°53.2 | 357°21.1 | 11°49.1 | 26°17.1 | 40°45.1 | 55°13.1 | +27.9 | 16.4 |
| | 0°52.4 | 1°05.1 | 1°17.7 | 1°30.3 | 1°42.9 | 1°55.4 | 2°08.0 | 2°20.5 | 2°32.9 | 2°45.4 | 2°57.8 | +12.5 | 60.2 |
| Sa 14 | 272°16.8 | 286°45.3 | 301°13.7 | 315°42.2 | 330°10.7 | 344°39.2 | 359°07.8 | 13°36.3 | 28°04.9 | 42°33.5 | 57°02.1 | +28.5 | 16.2 |
| | 5°59.2 | 6°10.9 | 6°22.6 | 6°34.2 | 6°45.8 | 6°57.3 | 7°08.8 | 7°20.2 | 7°31.5 | 7°42.8 | 7°54.0 | +11.5 | 59.3 |
| Di 15 | 274°13.2 | 288°42.1 | 303°10.9 | 317°39.8 | 332°08.7 | 346°37.6 | 1°06.5 | 15°35.4 | 30°04.3 | 44°33.3 | 59°02.2 | +28.9 | 15.9 |
| | 10°34.4 | 10°44.5 | 10°54.6 | 11°04.5 | 11°14.4 | 11°24.3 | 11°34.0 | 11°43.7 | 11°53.3 | 12°02.8 | 12°12.2 | +9.8 | 58.3 |
| Lu 16 | 276°17.5 | 290°46.6 | 305°15.7 | 319°44.8 | 334°13.9 | 348°43.0 | 3°12.1 | 17°41.3 | 32°10.4 | 46°39.5 | 61°08.7 | +29.1 | 15.6 |
| | 14°23.4 | 14°31.5 | 14°39.4 | 14°47.3 | 14°55.1 | 15°02.8 | 15°10.4 | 15°17.9 | 15°25.3 | 15°32.6 | 15°39.8 | +7.6 | 57.3 |
| Ma 17 | 278°26.8 | 292°56.1 | 307°25.4 | 321°54.7 | 336°24.0 | 350°53.3 | 5°22.6 | 19°51.9 | 34°21.3 | 48°50.6 | 63°20.0 | +29.3 | 15.4 |
| | 17°16.7 | 17°22.4 | 17°28.0 | 17°33.4 | 17°38.8 | 17°44.1 | 17°49.3 | 17°54.4 | 17°59.4 | 18°04.3 | 18°09.0 | +5.2 | 56.4 |
| ◐ Me 18 | 280°41.7 | 295°11.2 | 309°40.8 | 324°10.4 | 338°39.9 | 353°09.6 | 7°39.2 | 22°08.8 | 36°38.5 | 51°08.1 | 65°37.8 | +29.6 | 15.2 |
| | 19°08.8 | 19°12.0 | 19°15.0 | 19°18.0 | 19°20.9 | 19°23.6 | 19°26.3 | 19°28.9 | 19°31.3 | 19°33.7 | 19°36.0 | +2.7 | 55.6 |
| Je 19 | 283°05.3 | 297°35.3 | 312°05.3 | 326°35.4 | 341°05.4 | 355°35.5 | 10°05.6 | 24°35.7 | 39°05.9 | 53°36.1 | 68°06.3 | +30.1 | 15.0 |
| | 19°57.9 | 19°58.6 | 19°59.1 | 19°59.6 | 20°00.0 | 20°00.3 | 20°00.4 | 20°00.5 | 20°00.5 | 20°00.4 | 20°00.1 | +0.2 | 54.9 |
| Ve 20 | 285°42.4 | 300°13.1 | 314°43.7 | 329°14.4 | 343°45.1 | 358°15.9 | 12°46.7 | 27°17.5 | 41°48.3 | 56°19.2 | 70°50.1 | +30.8 | 14.8 |
| | 19°45.4 | 19°43.7 | 19°41.9 | 19°39.9 | 19°37.9 | 19°35.8 | 19°33.6 | 19°31.4 | 19°29.0 | 19°26.5 | 19°24.0 | -2.1 | 54.4 |
| Sa 21 | 288°37.5 | 303°08.9 | 317°40.3 | 332°11.8 | 346°43.3 | 1°14.9 | 15°46.5 | 30°18.1 | 44°49.8 | 59°21.5 | 73°53.2 | +31.6 | 14.8 |
| | 18°35.2 | 18°31.2 | 18°27.2 | 18°23.1 | 18°18.9 | 18°14.7 | 18°10.3 | 18°05.9 | 18°01.4 | 17°56.8 | 17°52.1 | -4.3 | 54.1 |
| Di 22 | 291°53.1 | 306°25.4 | 320°57.6 | 335°30.0 | 350°02.3 | 4°34.7 | 19°07.2 | 33°39.6 | 48°12.1 | 62°44.7 | 77°17.2 | +32.4 | 14.7 |
| | 16°33.0 | 16°27.1 | 16°21.1 | 16°15.1 | 16°09.0 | 16°02.9 | 15°56.7 | 15°50.4 | 15°44.0 | 15°37.6 | 15°31.1 | -6.2 | 53.9 |
| Lu 23 | 295°29.4 | 310°02.4 | 324°35.5 | 339°08.6 | 353°41.8 | 8°14.9 | 22°48.1 | 37°21.3 | 51°54.6 | 66°27.9 | 81°01.2 | +33.2 | 14.7 |
| | 13°46.1 | 13°38.6 | 13°31.0 | 13°23.4 | 13°15.8 | 13°08.1 | 13°00.3 | 12°52.5 | 12°44.6 | 12°36.6 | 12°28.6 | -7.7 | 53.9 |
| Ma 24 | 299°23.6 | 313°57.3 | 328°31.0 | 343°04.7 | 357°38.5 | 12°12.2 | 26°46.0 | 41°19.8 | 55°53.6 | 70°27.5 | 85°01.3 | +33.8 | 14.7 |
| | 10°22.8 | 10°14.0 | 10°05.2 | 9°56.3 | 9°47.4 | 9°38.5 | 9°29.5 | 9°20.5 | 9°11.5 | 9°02.4 | 8°53.2 | -9.0 | 54.0 |
| Me 25 | 303°30.7 | 318°04.8 | 332°38.9 | 347°12.9 | 1°47.0 | 16°21.1 | 30°55.2 | 45°29.3 | 60°03.4 | 74°37.5 | 89°11.6 | +34.1 | 14.8 |
| | 6°31.9 | 6°22.2 | 6°12.5 | 6°02.8 | 5°53.0 | 5°43.3 | 5°33.4 | 5°23.6 | 5°13.7 | 5°03.9 | 4°54.0 | -9.8 | 54.2 |
| ○ Je 26 | 307°43.6 | 322°17.7 | 336°51.8 | 351°25.9 | 6°00.0 | 20°34.1 | 35°08.2 | 49°42.3 | 64°16.4 | 78°50.4 | 93°24.5 | +34.1 | 14.8 |
| | 2°22.9 | 2°12.7 | 2°02.5 | 1°52.3 | 1°42.0 | 1°31.8 | 1°21.5 | 1°11.3 | 1°01.0 | 0°50.7 | 0°40.4 | -10.3 | 54.4 |
| Ve 27 | 311°53.7 | 326°27.5 | 341°01.3 | 355°35.1 | 10°08.9 | 24°42.6 | 39°16.3 | 53°50.0 | 68°23.7 | 82°57.3 | 97°30.9 | +33.7 | 14.9 |
| | -1°54.4 | -2°04.7 | -2°15.0 | -2°25.3 | -2°35.6 | -2°45.9 | -2°56.2 | -3°06.5 | -3°16.7 | -3°27.0 | -3°37.3 | -10.3 | 54.7 |
| Sa 28 | 315°51.8 | 330°24.9 | 344°58.0 | 359°31.1 | 14°04.1 | 28°37.1 | 43°10.0 | 57°43.0 | 72°15.8 | 86°48.7 | 101°21.5 | +33.0 | 15.0 |
| | -6°09.4 | -6°19.4 | -6°29.4 | -6°39.3 | -6°49.3 | -6°59.2 | -7°09.0 | -7°18.9 | -7°28.7 | -7°38.5 | -7°48.3 | -9.9 | 55.2 |
| Di 29 | 330°24.9 | 344°58.0 | 359°31.1 | 14°04.1 | 28°37.1 | 43°10.0 | 57°43.0 | 72°15.8 | 86°48.7 | 101°21.5 | 115°54.2 | +32.9 | 15.0 |
| | -6°19.4 | -6°29.4 | -6°39.3 | -6°49.3 | -6°59.2 | -7°09.0 | -7°18.9 | -7°28.7 | -7°38.5 | -7°48.3 | -7°58.0 | -9.9 | 55.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 4 13h48 — NL: 11 06h24 — PQ: 18 03h29 — PL: 26 07h43

# SOLEIL

## Mars 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 266°56.3<br>-7°21.5 | 281°56.4<br>-7°20.6 | 296°56.5<br>-7°19.6 | 311°56.6<br>-7°18.7 | 326°56.7<br>-7°17.7 | 341°56.9<br>-7°16.8 | 356°57.0<br>-7°15.8 | 11°57.1<br>-7°14.8 | 26°57.2<br>-7°13.9 | 41°57.4<br>-7°12.9 | 56°57.5<br>-7°12.0 | 71°57.6<br>-7°11.0 | +0.1<br>+1.0 |
| Ma 2 | 266°59.3<br>-6°58.6 | 281°59.4<br>-6°57.7 | 296°59.5<br>-6°56.7 | 311°59.7<br>-6°55.7 | 326°59.8<br>-6°54.8 | 341°59.9<br>-6°53.8 | 357°00.1<br>-6°52.9 | 12°00.2<br>-6°51.9 | 27°00.3<br>-6°50.9 | 42°00.5<br>-6°50.0 | 57°00.6<br>-6°49.0 | 72°00.7<br>-6°48.1 | +0.1<br>+1.0 |
| Me 3 | 267°02.4<br>-6°35.6 | 282°02.6<br>-6°34.6 | 297°02.7<br>-6°33.7 | 312°02.8<br>-6°32.7 | 327°03.0<br>-6°31.8 | 342°03.1<br>-6°30.8 | 357°03.2<br>-6°29.8 | 12°03.4<br>-6°28.9 | 27°03.5<br>-6°27.9 | 42°03.6<br>-6°26.9 | 57°03.8<br>-6°26.0 | 72°03.9<br>-6°25.0 | +0.1<br>+1.0 |
| Je 4 | 267°05.7<br>-6°12.5 | 282°05.8<br>-6°11.5 | 297°06.0<br>-6°10.6 | 312°06.1<br>-6°09.6 | 327°06.3<br>-6°08.6 | 342°06.4<br>-6°07.7 | 357°06.5<br>-6°06.7 | 12°06.7<br>-6°05.7 | 27°06.8<br>-6°04.8 | 42°06.9<br>-6°03.8 | 57°07.1<br>-6°02.8 | 72°07.2<br>-6°01.9 | +0.1<br>+1.0 |
| Ve 5 | 267°09.1<br>-5°49.3 | 282°09.2<br>-5°48.3 | 297°09.4<br>-5°47.4 | 312°09.5<br>-5°46.4 | 327°09.6<br>-5°45.4 | 342°09.8<br>-5°44.5 | 357°09.9<br>-5°43.5 | 12°10.1<br>-5°42.5 | 27°10.2<br>-5°41.6 | 42°10.4<br>-5°40.6 | 57°10.5<br>-5°39.6 | 72°10.6<br>-5°38.6 | +0.1<br>+1.0 |
| Sa 6 | 267°12.5<br>-5°26.0 | 282°12.7<br>-5°25.1 | 297°12.8<br>-5°24.1 | 312°13.0<br>-5°23.1 | 327°13.1<br>-5°22.1 | 342°13.3<br>-5°21.2 | 357°13.4<br>-5°20.2 | 12°13.6<br>-5°19.2 | 27°13.7<br>-5°18.3 | 42°13.9<br>-5°17.3 | 57°14.0<br>-5°16.3 | 72°14.2<br>-5°15.3 | +0.1<br>+1.0 |
| Di 7 | 267°16.1<br>-5°02.7 | 282°16.2<br>-5°01.7 | 297°16.4<br>-5°00.7 | 312°16.5<br>-4°59.8 | 327°16.7<br>-4°58.8 | 342°16.8<br>-4°57.8 | 357°17.0<br>-4°56.8 | 12°17.2<br>-4°55.9 | 27°17.3<br>-4°54.9 | 42°17.5<br>-4°53.9 | 57°17.6<br>-4°52.9 | 72°17.8<br>-4°52.0 | +0.2<br>+1.0 |
| Lu 8 | 267°19.7<br>-4°39.3 | 282°19.9<br>-4°38.3 | 297°20.1<br>-4°37.3 | 312°20.2<br>-4°36.3 | 327°20.4<br>-4°35.4 | 342°20.5<br>-4°34.4 | 357°20.7<br>-4°33.4 | 12°20.8<br>-4°32.4 | 27°21.0<br>-4°31.4 | 42°21.1<br>-4°30.5 | 57°21.3<br>-4°29.5 | 72°21.5<br>-4°28.5 | +0.2<br>+1.0 |
| Ma 9 | 267°23.5<br>-4°15.8 | 282°23.6<br>-4°14.8 | 297°23.8<br>-4°13.8 | 312°24.0<br>-4°12.8 | 327°24.1<br>-4°11.9 | 342°24.3<br>-4°10.9 | 357°24.4<br>-4°09.9 | 12°24.6<br>-4°08.9 | 27°24.8<br>-4°07.9 | 42°24.9<br>-4°07.0 | 57°25.1<br>-4°06.0 | 72°25.2<br>-4°05.0 | +0.2<br>+1.0 |
| Me 10 | 267°27.3<br>-3°52.3 | 282°27.5<br>-3°51.3 | 297°27.6<br>-3°50.3 | 312°27.8<br>-3°49.3 | 327°28.0<br>-3°48.3 | 342°28.1<br>-3°47.3 | 357°28.3<br>-3°46.4 | 12°28.4<br>-3°45.4 | 27°28.6<br>-3°44.4 | 42°28.8<br>-3°43.4 | 57°28.9<br>-3°42.4 | 72°29.1<br>-3°41.5 | +0.2<br>+1.0 |
| Je 11 | 267°31.2<br>-3°28.7 | 282°31.4<br>-3°27.7 | 297°31.5<br>-3°26.7 | 312°31.7<br>-3°25.7 | 327°31.9<br>-3°24.7 | 342°32.0<br>-3°23.8 | 357°32.2<br>-3°22.8 | 12°32.4<br>-3°21.8 | 27°32.5<br>-3°20.8 | 42°32.7<br>-3°19.8 | 57°32.9<br>-3°18.8 | 72°33.0<br>-3°17.9 | +0.2<br>+1.0 |
| Ve 12 | 267°35.2<br>-3°05.1 | 282°35.4<br>-3°04.1 | 297°35.5<br>-3°03.1 | 312°35.7<br>-3°02.1 | 327°35.9<br>-3°01.1 | 342°36.0<br>-3°00.1 | 357°36.2<br>-2°59.2 | 12°36.4<br>-2°58.2 | 27°36.5<br>-2°57.2 | 42°36.7<br>-2°56.2 | 57°36.9<br>-2°55.2 | 72°37.0<br>-2°54.2 | +0.2<br>+1.0 |
| Sa 13 | 267°39.2<br>-2°41.4 | 282°39.4<br>-2°40.4 | 297°39.6<br>-2°39.4 | 312°39.8<br>-2°38.5 | 327°39.9<br>-2°37.5 | 342°40.1<br>-2°36.5 | 357°40.3<br>-2°35.5 | 12°40.4<br>-2°34.5 | 27°40.6<br>-2°33.5 | 42°40.8<br>-2°32.5 | 57°40.9<br>-2°31.5 | 72°41.1<br>-2°30.6 | +0.2<br>+1.0 |
| Di 14 | 267°43.4<br>-2°17.7 | 282°43.5<br>-2°16.7 | 297°43.7<br>-2°15.8 | 312°43.9<br>-2°14.8 | 327°44.0<br>-2°13.8 | 342°44.2<br>-2°12.8 | 357°44.4<br>-2°11.8 | 12°44.6<br>-2°10.8 | 27°44.7<br>-2°09.8 | 42°44.9<br>-2°08.8 | 57°45.1<br>-2°07.9 | 72°45.3<br>-2°06.9 | +0.2<br>+1.0 |
| Lu 15 | 267°47.5<br>-1°54.0 | 282°47.7<br>-1°53.0 | 297°47.9<br>-1°52.1 | 312°48.1<br>-1°51.1 | 327°48.2<br>-1°50.1 | 342°48.4<br>-1°49.1 | 357°48.6<br>-1°48.1 | 12°48.8<br>-1°47.1 | 27°48.9<br>-1°46.1 | 42°49.1<br>-1°45.1 | 57°49.3<br>-1°44.1 | 72°49.5<br>-1°43.2 | +0.2<br>+1.0 |
| Ma 16 | 267°51.8<br>-1°30.3 | 282°51.9<br>-1°29.3 | 297°52.1<br>-1°28.3 | 312°52.3<br>-1°27.3 | 327°52.5<br>-1°26.4 | 342°52.7<br>-1°25.4 | 357°52.8<br>-1°24.4 | 12°53.0<br>-1°23.4 | 27°53.2<br>-1°22.4 | 42°53.4<br>-1°21.4 | 57°53.6<br>-1°20.4 | 72°53.7<br>-1°19.4 | +0.2<br>+1.0 |
| Me 17 | 267°56.1<br>-1°06.6 | 282°56.2<br>-1°05.6 | 297°56.4<br>-1°04.6 | 312°56.6<br>-1°03.6 | 327°56.8<br>-1°02.6 | 342°57.0<br>-1°01.6 | 357°57.1<br>-1°00.7 | 12°57.3<br>-0°59.7 | 27°57.5<br>-0°58.7 | 42°57.7<br>-0°57.7 | 57°57.9<br>-0°56.7 | 72°58.0<br>-0°55.7 | +0.2<br>+1.0 |
| Je 18 | 268°00.4<br>-0°42.9 | 283°00.6<br>-0°41.9 | 298°00.8<br>-0°40.9 | 313°01.0<br>-0°39.9 | 328°01.1<br>-0°38.9 | 343°01.3<br>-0°37.9 | 358°01.5<br>-0°36.9 | 13°01.7<br>-0°35.9 | 28°01.9<br>-0°35.0 | 43°02.0<br>-0°34.0 | 58°02.2<br>-0°33.0 | 73°02.4<br>-0°32.0 | +0.2<br>+1.0 |
| Ve 19 | 268°04.8<br>-0°19.1 | 283°05.0<br>-0°18.2 | 298°05.2<br>-0°17.2 | 313°05.3<br>-0°16.2 | 328°05.5<br>-0°15.2 | 343°05.7<br>-0°14.2 | 358°05.9<br>-0°13.2 | 13°06.1<br>-0°12.2 | 28°06.3<br>-0°11.2 | 43°06.4<br>-0°10.2 | 58°06.6<br>-0°09.3 | 73°06.8<br>-0°08.3 | +0.2<br>+1.0 |
| Sa 20 | 268°09.2<br>0°04.6 | 283°09.4<br>0°05.6 | 298°09.6<br>0°06.5 | 313°09.8<br>0°07.5 | 328°10.0<br>0°08.5 | 343°10.1<br>0°09.5 | 358°10.3<br>0°10.5 | 13°10.5<br>0°11.5 | 28°10.7<br>0°12.5 | 43°10.9<br>0°13.5 | 58°11.1<br>0°14.5 | 73°11.3<br>0°15.4 | +0.2<br>+1.0 |
| Di 21 | 268°13.7<br>0°28.3 | 283°13.9<br>0°29.3 | 298°14.0<br>0°30.2 | 313°14.2<br>0°31.2 | 328°14.4<br>0°32.2 | 343°14.6<br>0°33.2 | 358°14.8<br>0°34.2 | 13°15.0<br>0°35.2 | 28°15.2<br>0°36.2 | 43°15.4<br>0°37.2 | 58°15.5<br>0°38.1 | 73°15.7<br>0°39.1 | +0.2<br>+1.0 |
| Lu 22 | 268°18.2<br>0°51.9 | 283°18.3<br>0°52.9 | 298°18.5<br>0°53.9 | 313°18.7<br>0°54.9 | 328°18.9<br>0°55.9 | 343°19.1<br>0°56.9 | 358°19.3<br>0°57.9 | 13°19.5<br>0°58.8 | 28°19.7<br>0°59.8 | 43°19.8<br>1°00.8 | 58°20.0<br>1°01.8 | 73°20.2<br>1°02.8 | +0.2<br>+1.0 |
| Ma 23 | 268°22.7<br>1°15.6 | 283°22.9<br>1°16.6 | 298°23.0<br>1°17.6 | 313°23.2<br>1°18.5 | 328°23.4<br>1°19.5 | 343°23.6<br>1°20.5 | 358°23.8<br>1°21.5 | 13°24.0<br>1°22.5 | 28°24.2<br>1°23.5 | 43°24.4<br>1°24.5 | 58°24.6<br>1°25.4 | 73°24.7<br>1°26.4 | +0.2<br>+1.0 |
| Me 24 | 268°27.2<br>1°39.2 | 283°27.4<br>1°40.2 | 298°27.6<br>1°41.2 | 313°27.8<br>1°42.2 | 328°28.0<br>1°43.1 | 343°28.1<br>1°44.1 | 358°28.3<br>1°45.1 | 13°28.5<br>1°46.1 | 28°28.7<br>1°47.1 | 43°28.9<br>1°48.1 | 58°29.1<br>1°49.0 | 73°29.3<br>1°50.0 | +0.2<br>+1.0 |
| Je 25 | 268°31.7<br>2°02.8 | 283°31.9<br>2°03.8 | 298°32.1<br>2°04.7 | 313°32.3<br>2°05.7 | 328°32.5<br>2°06.7 | 343°32.7<br>2°07.7 | 358°32.9<br>2°08.7 | 13°33.1<br>2°09.6 | 28°33.3<br>2°10.6 | 43°33.4<br>2°11.6 | 58°33.6<br>2°12.6 | 73°33.8<br>2°13.6 | +0.2<br>+1.0 |
| Ve 26 | 268°36.3<br>2°26.3 | 283°36.5<br>2°27.3 | 298°36.7<br>2°28.3 | 313°36.9<br>2°29.2 | 328°37.0<br>2°30.2 | 343°37.2<br>2°31.2 | 358°37.4<br>2°32.2 | 13°37.6<br>2°33.2 | 28°37.8<br>2°34.1 | 43°38.0<br>2°35.1 | 58°38.2<br>2°36.1 | 73°38.4<br>2°37.1 | +0.2<br>+1.0 |
| Sa 27 | 268°40.8<br>2°49.8 | 283°41.0<br>2°50.8 | 298°41.2<br>2°51.7 | 313°41.4<br>2°52.7 | 328°41.6<br>2°53.7 | 343°41.8<br>2°54.7 | 358°42.0<br>2°55.7 | 13°42.2<br>2°56.6 | 28°42.3<br>2°57.6 | 43°42.5<br>2°58.6 | 58°42.7<br>2°59.6 | 73°42.9<br>3°00.5 | +0.2<br>+1.0 |
| Di 28 | 268°45.4<br>3°13.2 | 283°45.6<br>3°14.2 | 298°45.7<br>3°15.2 | 313°45.9<br>3°16.1 | 328°46.1<br>3°17.1 | 343°46.3<br>3°18.1 | 358°46.5<br>3°19.1 | 13°46.7<br>3°20.0 | 28°46.9<br>3°21.0 | 43°47.1<br>3°22.0 | 58°47.3<br>3°23.0 | 73°47.4<br>3°23.9 | +0.2<br>+1.0 |
| Lu 29 | 268°49.9<br>3°36.6 | 283°50.1<br>3°37.5 | 298°50.3<br>3°38.5 | 313°50.5<br>3°39.5 | 328°50.7<br>3°40.5 | 343°50.8<br>3°41.4 | 358°51.0<br>3°42.4 | 13°51.2<br>3°43.4 | 28°51.4<br>3°44.4 | 43°51.6<br>3°45.3 | 58°51.8<br>3°46.3 | 73°52.0<br>3°47.3 | +0.2<br>+1.0 |
| Ma 30 | 268°54.4<br>3°59.9 | 283°54.6<br>4°00.8 | 298°54.8<br>4°01.8 | 313°55.0<br>4°02.8 | 328°55.2<br>4°03.7 | 343°55.3<br>4°04.7 | 358°55.5<br>4°05.7 | 13°55.7<br>4°06.7 | 28°55.9<br>4°07.6 | 43°56.1<br>4°08.6 | 58°56.3<br>4°09.6 | 73°56.5<br>4°10.5 | +0.2<br>+1.0 |
| Me 31 | 268°58.9<br>4°23.1 | 283°59.1<br>4°24.1 | 298°59.3<br>4°25.0 | 313°59.5<br>4°26.0 | 328°59.6<br>4°27.0 | 343°59.8<br>4°27.9 | 359°00.0<br>4°28.9 | 14°00.2<br>4°29.9 | 29°00.4<br>4°30.8 | 44°00.6<br>4°31.8 | 59°00.8<br>4°32.7 | 74°00.9<br>4°33.7 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2032

| J | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 235°28.6<br>-12°58.0 | 249°59.6<br>-13°06.3 | 264°30.6<br>-13°14.5 | 279°01.6<br>-13°22.7 | 293°32.4<br>-13°30.8 | 308°03.2<br>-13°38.8 | 322°34.0<br>-13°46.8 | 337°04.7<br>-13°54.7 | 351°35.3<br>-14°02.6 | 6°05.9<br>-14°10.4 | 20°36.4<br>-14°18.1 | +30.8<br>-8.0 | 15.3<br>56.1 |
| Ma 2 | 238°06.5<br>-16°05.7 | 252°35.9<br>-16°12.2 | 267°05.4<br>-16°18.7 | 281°34.7<br>-16°25.1 | 296°04.0<br>-16°31.5 | 310°33.3<br>-16°37.7 | 325°02.4<br>-16°43.9 | 339°31.5<br>-16°50.0 | 354°00.6<br>-16°56.0 | 8°29.5<br>-17°01.9 | 22°58.4<br>-17°07.7 | +29.2<br>-6.2 | 15.5<br>56.7 |
| Me 3 | 240°04.2<br>-18°24.2 | 254°32.1<br>-18°28.5 | 268°59.9<br>-18°32.7 | 283°27.6<br>-18°36.9 | 297°55.3<br>-18°40.9 | 312°23.0<br>-18°44.8 | 326°50.5<br>-18°48.6 | 341°18.0<br>-18°52.4 | 355°45.5<br>-18°56.0 | 10°12.8<br>-18°59.5 | 24°40.2<br>-19°02.9 | +27.6<br>-3.9 | 15.7<br>57.4 |
| Je 4 | 241°23.2<br>-19°40.5 | 255°49.6<br>-19°42.0 | 270°16.0<br>-19°43.5 | 284°42.4<br>-19°44.9 | 299°08.6<br>-19°46.1 | 313°34.9<br>-19°47.2 | 328°01.1<br>-19°48.2 | 342°27.2<br>-19°49.1 | 356°53.4<br>-19°49.8 | 11°19.4<br>-19°50.4 | 25°45.4<br>-19°50.9 | +26.2<br>-1.1 | 15.9<br>58.2 |
| ◑ Ve 5 | 242°11.1<br>-19°43.5 | 256°36.5<br>-19°42.0 | 271°02.0<br>-19°40.4 | 285°27.3<br>-19°38.6 | 299°52.7<br>-19°36.7 | 314°18.0<br>-19°34.7 | 328°43.4<br>-19°32.5 | 343°08.7<br>-19°30.2 | 357°33.9<br>-19°27.8 | 11°59.2<br>-19°25.3 | 26°24.4<br>-19°22.6 | +25.3<br>+2.1 | 16.1<br>58.9 |
| Sa 6 | 256°36.5<br>-19°42.0 | 271°02.0<br>-19°40.4 | 285°27.3<br>-19°38.6 | 299°52.7<br>-19°36.7 | 314°18.0<br>-19°34.7 | 328°43.4<br>-19°32.5 | 343°08.7<br>-19°30.2 | 357°33.9<br>-19°27.8 | 11°59.2<br>-19°25.3 | 26°24.4<br>-19°22.6 | 40°49.6<br>-19°19.8 | +25.3<br>+2.2 | 16.1<br>59.0 |
| Di 7 | 257°06.2<br>-18°22.4 | 271°31.2<br>-18°17.6 | 285°56.2<br>-18°12.6 | 300°21.3<br>-18°07.5 | 314°46.3<br>-18°02.3 | 329°11.4<br>-17°56.9 | 343°36.4<br>-17°51.4 | 358°01.5<br>-17°45.8 | 12°26.5<br>-17°40.1 | 26°51.5<br>-17°34.3 | 41°16.6<br>-17°28.3 | +25.0<br>+5.4 | 16.3<br>59.7 |
| Lu 8 | 257°33.6<br>-15°44.5 | 271°58.8<br>-15°36.6 | 286°24.1<br>-15°28.7 | 300°49.4<br>-15°20.6 | 315°14.7<br>-15°12.4 | 329°40.0<br>-15°04.2 | 344°05.3<br>-14°55.8 | 358°30.7<br>-14°47.3 | 12°56.1<br>-14°38.7 | 27°21.5<br>-14°30.0 | 41°46.9<br>-14°21.2 | +25.3<br>+8.3 | 16.4<br>60.3 |
| Ma 9 | 258°11.2<br>-11°57.6 | 272°37.1<br>-11°47.3 | 287°02.9<br>-11°36.9 | 301°28.8<br>-11°26.4 | 315°54.7<br>-11°15.9 | 330°20.7<br>-11°05.3 | 344°46.6<br>-10°54.6 | 359°12.6<br>-10°43.8 | 13°38.7<br>-10°33.0 | 28°04.7<br>-10°22.0 | 42°30.8<br>-10°11.1 | +26.0<br>+10.7 | 16.6<br>60.7 |
| Me 10 | 259°05.7<br>-7°18.6 | 273°32.2<br>-7°06.6 | 287°58.8<br>-6°54.6 | 302°25.4<br>-6°42.6 | 316°52.0<br>-6°30.5 | 331°18.7<br>-6°18.4 | 345°45.4<br>-6°06.2 | 0°12.1<br>-5°54.0 | 14°38.9<br>-5°41.8 | 29°05.6<br>-5°29.5 | 43°32.4<br>-5°17.2 | +26.7<br>+12.1 | 16.6<br>60.8 |
| ● Je 11 | 260°17.5<br>-2°09.6 | 274°44.7<br>-1°57.0 | 289°11.9<br>-1°44.3 | 303°39.1<br>-1°31.7 | 318°06.4<br>-1°19.0 | 332°33.6<br>-1°06.4 | 347°00.9<br>-0°53.7 | 1°28.3<br>-0°41.1 | 15°55.6<br>-0°28.4 | 30°22.9<br>-0°15.8 | 44°50.3<br>-0°03.1 | +27.3<br>+12.7 | 16.5<br>60.7 |
| Ve 12 | 261°43.0<br>3°04.9 | 276°10.6<br>3°17.3 | 290°38.3<br>3°29.6 | 305°05.9<br>3°41.9 | 319°33.6<br>3°54.2 | 334°01.3<br>4°06.4 | 348°29.0<br>4°18.6 | 2°56.7<br>4°30.8 | 17°24.4<br>4°42.9 | 31°52.2<br>4°54.9 | 46°19.9<br>5°07.0 | +27.7<br>+12.2 | 16.4<br>60.2 |
| Sa 13 | 263°17.2<br>8°01.7 | 277°45.0<br>8°12.9 | 292°12.9<br>8°24.0 | 306°40.8<br>8°35.1 | 321°08.7<br>8°46.1 | 335°36.6<br>8°57.0 | 350°04.6<br>9°07.9 | 4°32.5<br>9°18.7 | 19°00.4<br>9°29.5 | 33°28.3<br>9°40.1 | 47°56.3<br>9°50.7 | +27.9<br>+10.9 | 16.2<br>59.4 |
| Di 14 | 264°56.0<br>12°20.6 | 279°24.0<br>12°30.0 | 293°52.0<br>12°39.3 | 308°20.0<br>12°48.4 | 322°48.1<br>12°57.5 | 337°16.1<br>13°06.5 | 351°44.2<br>13°15.4 | 6°12.2<br>13°24.2 | 20°40.3<br>13°33.0 | 35°08.3<br>13°41.6 | 49°36.4<br>13°50.1 | +28.0<br>+9.0 | 16.0<br>58.5 |
| Lu 15 | 266°38.3<br>15°47.0 | 281°06.4<br>15°54.0 | 295°34.6<br>16°00.9 | 310°02.8<br>16°07.7 | 324°31.1<br>16°14.4 | 338°59.3<br>16°21.0 | 353°27.5<br>16°27.5 | 7°55.8<br>16°33.9 | 22°24.0<br>16°40.2 | 36°52.3<br>16°46.4 | 51°20.6<br>16°52.5 | +28.2<br>+6.6 | 15.7<br>57.6 |
| Ma 16 | 268°26.4<br>18°11.5 | 282°54.9<br>18°15.9 | 297°23.4<br>18°20.2 | 311°51.9<br>18°24.4 | 326°20.5<br>18°28.5 | 340°49.1<br>18°32.5 | 355°17.7<br>18°36.4 | 9°46.3<br>18°40.2 | 24°15.0<br>18°43.9 | 38°43.6<br>18°47.4 | 53°12.3<br>18°50.9 | +28.6<br>+3.9 | 15.4<br>56.6 |
| Me 17 | 270°25.3<br>19°30.2 | 284°54.4<br>19°32.0 | 299°23.5<br>19°33.7 | 313°52.6<br>19°35.2 | 328°21.8<br>19°36.7 | 342°51.0<br>19°38.1 | 357°20.2<br>19°39.3 | 11°49.4<br>19°40.5 | 26°18.7<br>19°41.5 | 40°48.0<br>19°42.5 | 55°17.3<br>19°43.3 | +29.2<br>+1.3 | 15.2<br>55.8 |
| ◐ Je 18 | 272°41.3<br>19°43.9 | 287°11.2<br>19°43.2 | 301°41.1<br>19°42.3 | 316°11.0<br>19°41.4 | 330°41.0<br>19°40.4 | 345°11.0<br>19°39.2 | 359°41.1<br>19°38.0 | 14°11.2<br>19°36.7 | 28°41.3<br>19°35.2 | 43°11.5<br>19°33.7 | 57°41.7<br>19°32.1 | +30.0<br>-1.2 | 15.0<br>55.1 |
| Ve 19 | 275°19.5<br>18°56.8 | 289°50.3<br>18°53.8 | 304°21.2<br>18°50.6 | 318°52.1<br>18°47.4 | 333°23.1<br>18°44.1 | 347°54.1<br>18°40.7 | 2°25.1<br>18°37.2 | 16°56.2<br>18°33.6 | 31°27.3<br>18°29.9 | 45°58.5<br>18°26.2 | 60°29.7<br>18°22.3 | +31.0<br>-3.5 | 14.9<br>54.5 |
| Sa 20 | 278°22.6<br>17°15.2 | 292°54.4<br>17°10.1 | 307°26.3<br>17°04.9 | 321°58.2<br>16°59.7 | 336°30.2<br>16°54.4 | 351°02.2<br>16°49.0 | 5°34.2<br>16°43.5 | 20°06.3<br>16°38.0 | 34°38.4<br>16°32.4 | 49°10.5<br>16°26.7 | 63°42.7<br>16°20.9 | +32.0<br>-5.4 | 14.8<br>54.2 |
| Di 21 | 281°50.0<br>14°46.5 | 296°22.7<br>14°39.7 | 310°55.5<br>14°32.8 | 325°28.3<br>14°25.9 | 340°01.2<br>14°18.9 | 354°34.1<br>14°11.8 | 9°07.0<br>14°04.7 | 23°40.0<br>13°57.5 | 38°13.0<br>13°50.3 | 52°46.0<br>13°43.0 | 67°19.0<br>13°35.6 | +32.9<br>-7.1 | 14.7<br>54.0 |
| Lu 22 | 285°38.1<br>11°38.7 | 300°11.6<br>11°30.5 | 314°45.1<br>11°22.2 | 329°18.6<br>11°13.9 | 343°52.2<br>11°05.5 | 358°25.8<br>10°57.1 | 12°59.4<br>10°48.7 | 27°33.0<br>10°40.2 | 42°06.6<br>10°31.6 | 56°40.3<br>10°23.1 | 71°13.9<br>10°14.4 | +33.6<br>-8.4 | 14.7<br>54.0 |
| Ma 23 | 289°41.1<br>8°00.0 | 304°15.0<br>7°50.7 | 318°48.9<br>7°41.4 | 333°22.8<br>7°32.1 | 347°56.8<br>7°22.7 | 2°30.8<br>7°13.3 | 17°04.7<br>7°03.8 | 31°38.7<br>6°54.4 | 46°12.7<br>6°44.8 | 60°46.7<br>6°35.3 | 75°20.7<br>6°25.7 | +34.0<br>-9.4 | 14.8<br>54.2 |
| Me 24 | 293°51.0<br>3°59.0 | 308°25.0<br>3°49.0 | 322°59.0<br>3°39.0 | 337°33.0<br>3°29.0 | 352°07.0<br>3°18.9 | 6°41.0<br>3°08.9 | 21°15.0<br>2°58.8 | 35°49.0<br>2°48.7 | 50°23.0<br>2°38.6 | 64°57.0<br>2°28.5 | 79°31.0<br>2°18.4 | +34.0<br>-10.1 | 14.8<br>54.4 |
| Je 25 | 297°59.0<br>-0°15.1 | 312°32.8<br>-0°25.4 | 327°06.5<br>-0°35.7 | 341°40.2<br>-0°46.0 | 356°13.9<br>-0°56.3 | 10°47.6<br>-1°06.6 | 25°21.3<br>-1°17.0 | 39°54.9<br>-1°27.3 | 54°28.5<br>-1°37.6 | 69°02.1<br>-1°47.9 | 83°35.7<br>-1°58.2 | +33.7<br>-10.3 | 14.9<br>54.8 |
| Ve 26 | 301°55.9<br>-4°32.1 | 316°29.0<br>-4°42.3 | 331°02.1<br>-4°52.5 | 345°35.1<br>-5°02.7 | 0°08.1<br>-5°12.8 | 14°41.1<br>-5°22.9 | 29°14.0<br>-5°33.0 | 43°46.9<br>-5°43.1 | 58°19.8<br>-5°53.2 | 72°52.6<br>-6°03.2 | 87°25.4<br>-6°13.3 | +33.0<br>-10.1 | 15.1<br>55.2 |
| ○ Sa 27 | 305°32.3<br>-8°40.7 | 320°04.4<br>-8°50.3 | 334°36.4<br>-8°59.8 | 349°08.5<br>-9°09.3 | 3°40.4<br>-9°18.8 | 18°12.4<br>-9°28.3 | 32°44.2<br>-9°37.7 | 47°16.0<br>-9°47.0 | 61°47.8<br>-9°56.4 | 76°19.5<br>-10°05.7 | 90°51.2<br>-10°14.9 | +31.9<br>-9.4 | 15.2<br>55.7 |
| Di 28 | 308°40.1<br>-12°28.0 | 323°10.9<br>-12°36.5 | 337°41.7<br>-12°44.9 | 352°12.4<br>-12°53.2 | 6°43.0<br>-13°01.5 | 21°13.6<br>-13°09.7 | 35°44.2<br>-13°17.9 | 50°14.6<br>-13°26.0 | 64°45.1<br>-13°34.0 | 79°15.4<br>-13°42.0 | 93°45.8<br>-13°49.9 | +30.6<br>-8.2 | 15.3<br>56.2 |
| Lu 29 | 311°13.4<br>-15°40.4 | 325°42.8<br>-15°47.2 | 340°12.1<br>-15°53.8 | 354°41.4<br>-16°00.5 | 9°10.6<br>-16°07.0 | 23°39.8<br>-16°13.4 | 38°08.8<br>-16°19.8 | 52°37.9<br>-16°26.1 | 67°06.8<br>-16°32.3 | 81°35.7<br>-16°38.4 | 96°04.6<br>-16°44.4 | +29.1<br>-6.4 | 15.5<br>56.7 |
| Ma 30 | 325°42.8<br>-15°47.2 | 340°12.1<br>-15°53.8 | 354°41.4<br>-16°00.5 | 9°10.6<br>-16°07.0 | 23°39.8<br>-16°13.4 | 38°08.8<br>-16°19.8 | 52°37.9<br>-16°26.1 | 67°06.8<br>-16°32.3 | 81°35.7<br>-16°38.4 | 96°04.6<br>-16°44.4 | 110°33.4<br>-16°50.4 | +29.1<br>-6.3 | 15.5<br>56.7 |
| Me 31 | 327°38.6<br>-18°08.4 | 342°06.5<br>-18°12.9 | 356°34.4<br>-18°17.2 | 11°02.2<br>-18°21.4 | 25°30.0<br>-18°25.6 | 39°57.7<br>-18°29.6 | 54°25.3<br>-18°33.5 | 68°52.9<br>-18°37.3 | 83°20.5<br>-18°41.1 | 97°48.0<br>-18°44.7 | 112°15.5<br>-18°48.2 | +27.7<br>-4.0 | 15.6<br>57.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 01h47 — NL: 11 16h24 — PQ: 18 20h56 — PL: 27 00h46

# SOLEIL

## Avril 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 269°03.4 | 284°03.5 | 299°03.7 | 314°03.9 | 329°04.1 | 344°04.3 | 359°04.5 | 14°04.7 | 29°04.8 | 44°05.0 | 59°05.2 | 74°05.4 | +0.2 |
| | 4°46.2 | 4°47.2 | 4°48.2 | 4°49.1 | 4°50.1 | 4°51.1 | 4°52.0 | 4°53.0 | 4°53.9 | 4°54.9 | 4°55.9 | 4°56.8 | +1.0 |
| **Ve 2** | 269°07.8 | 284°08.0 | 299°08.1 | 314°08.3 | 329°08.5 | 344°08.7 | 359°08.9 | 14°09.1 | 29°09.2 | 44°09.4 | 59°09.6 | 74°09.8 | +0.2 |
| | 5°09.3 | 5°10.3 | 5°11.2 | 5°12.2 | 5°13.1 | 5°14.1 | 5°15.1 | 5°16.0 | 5°17.0 | 5°17.9 | 5°18.9 | 5°19.8 | +1.0 |
| **Sa 3** | 269°12.2 | 284°12.4 | 299°12.5 | 314°12.7 | 329°12.9 | 344°13.1 | 359°13.3 | 14°13.4 | 29°13.6 | 44°13.8 | 59°14.0 | 74°14.2 | +0.2 |
| | 5°32.3 | 5°33.2 | 5°34.2 | 5°35.1 | 5°36.1 | 5°37.0 | 5°38.0 | 5°39.0 | 5°39.9 | 5°40.9 | 5°41.8 | 5°42.8 | +1.0 |
| **Di 4** | 269°16.5 | 284°16.7 | 299°16.9 | 314°17.1 | 329°17.2 | 344°17.4 | 359°17.6 | 14°17.8 | 29°17.9 | 44°18.1 | 59°18.3 | 74°18.5 | +0.2 |
| | 5°55.2 | 5°56.1 | 5°57.1 | 5°58.0 | 5°59.0 | 5°59.9 | 6°00.9 | 6°01.8 | 6°02.8 | 6°03.7 | 6°04.7 | 6°05.6 | +1.0 |
| **Lu 5** | 269°20.8 | 284°21.0 | 299°21.2 | 314°21.3 | 329°21.5 | 344°21.7 | 359°21.9 | 14°22.0 | 29°22.2 | 44°22.4 | 59°22.6 | 74°22.8 | +0.2 |
| | 6°17.9 | 6°18.9 | 6°19.8 | 6°20.8 | 6°21.7 | 6°22.7 | 6°23.6 | 6°24.5 | 6°25.5 | 6°26.4 | 6°27.4 | 6°28.3 | +0.9 |
| **Ma 6** | 269°25.0 | 284°25.2 | 299°25.4 | 314°25.6 | 329°25.7 | 344°25.9 | 359°26.1 | 14°26.3 | 29°26.4 | 44°26.6 | 59°26.8 | 74°27.0 | +0.2 |
| | 6°40.6 | 6°41.5 | 6°42.5 | 6°43.4 | 6°44.4 | 6°45.3 | 6°46.2 | 6°47.2 | 6°48.1 | 6°49.1 | 6°50.0 | 6°50.9 | +0.9 |
| **Me 7** | 269°29.2 | 284°29.4 | 299°29.6 | 314°29.7 | 329°29.9 | 344°30.1 | 359°30.3 | 14°30.4 | 29°30.6 | 44°30.8 | 59°31.0 | 74°31.1 | +0.2 |
| | 7°03.1 | 7°04.1 | 7°05.0 | 7°06.0 | 7°06.9 | 7°07.8 | 7°08.8 | 7°09.7 | 7°10.6 | 7°11.6 | 7°12.5 | 7°13.4 | +0.9 |
| **Je 8** | 269°33.3 | 284°33.5 | 299°33.7 | 314°33.9 | 329°34.0 | 344°34.2 | 359°34.4 | 14°34.5 | 29°34.7 | 44°34.9 | 59°35.0 | 74°35.2 | +0.2 |
| | 7°25.6 | 7°26.5 | 7°27.4 | 7°28.4 | 7°29.3 | 7°30.2 | 7°31.2 | 7°32.1 | 7°33.0 | 7°34.0 | 7°34.9 | 7°35.8 | +0.9 |
| **Ve 9** | 269°37.4 | 284°37.6 | 299°37.7 | 314°37.9 | 329°38.1 | 344°38.2 | 359°38.4 | 14°38.6 | 29°38.7 | 44°38.9 | 59°39.1 | 74°39.2 | +0.2 |
| | 7°47.9 | 7°48.8 | 7°49.7 | 7°50.7 | 7°51.6 | 7°52.5 | 7°53.4 | 7°54.4 | 7°55.3 | 7°56.2 | 7°57.1 | 7°58.1 | +0.9 |
| **Sa 10** | 269°41.4 | 284°41.6 | 299°41.7 | 314°41.9 | 329°42.1 | 344°42.2 | 359°42.4 | 14°42.5 | 29°42.7 | 44°42.9 | 59°43.0 | 74°43.2 | +0.2 |
| | 8°10.1 | 8°11.0 | 8°11.9 | 8°12.8 | 8°13.7 | 8°14.7 | 8°15.6 | 8°16.5 | 8°17.4 | 8°18.3 | 8°19.3 | 8°20.2 | +0.9 |
| **Di 11** | 269°45.3 | 284°45.5 | 299°45.6 | 314°45.8 | 329°46.0 | 344°46.1 | 359°46.3 | 14°46.4 | 29°46.6 | 44°46.8 | 59°46.9 | 74°47.1 | +0.2 |
| | 8°32.1 | 8°33.0 | 8°33.9 | 8°34.9 | 8°35.8 | 8°36.7 | 8°37.6 | 8°38.5 | 8°39.4 | 8°40.3 | 8°41.2 | 8°42.2 | +0.9 |
| **Lu 12** | 269°49.2 | 284°49.3 | 299°49.5 | 314°49.6 | 329°49.8 | 344°50.0 | 359°50.1 | 14°50.3 | 29°50.4 | 44°50.6 | 59°50.7 | 74°50.9 | +0.2 |
| | 8°54.0 | 8°54.9 | 8°55.8 | 8°56.7 | 8°57.6 | 8°58.5 | 8°59.5 | 9°00.4 | 9°01.3 | 9°02.2 | 9°03.1 | 9°04.0 | +0.9 |
| **Ma 13** | 269°52.9 | 284°53.1 | 299°53.2 | 314°53.4 | 329°53.6 | 344°53.7 | 359°53.9 | 14°54.0 | 29°54.2 | 44°54.3 | 59°54.5 | 74°54.6 | +0.2 |
| | 9°15.8 | 9°16.7 | 9°17.6 | 9°18.5 | 9°19.4 | 9°20.3 | 9°21.2 | 9°22.1 | 9°23.0 | 9°23.9 | 9°24.8 | 9°25.7 | +0.9 |
| **Me 14** | 269°56.6 | 284°56.8 | 299°56.9 | 314°57.1 | 329°57.2 | 344°57.4 | 359°57.5 | 14°57.7 | 29°57.8 | 44°58.0 | 59°58.1 | 74°58.3 | +0.2 |
| | 9°37.3 | 9°38.2 | 9°39.1 | 9°40.0 | 9°40.9 | 9°41.8 | 9°42.7 | 9°43.6 | 9°44.5 | 9°45.4 | 9°46.3 | 9°47.2 | +0.9 |
| **Je 15** | 270°00.2 | 285°00.4 | 300°00.5 | 315°00.7 | 330°00.8 | 345°01.0 | 0°01.1 | 15°01.3 | 30°01.4 | 45°01.6 | 60°01.7 | 75°01.9 | +0.1 |
| | 9°58.8 | 9°59.7 | 10°00.6 | 10°01.4 | 10°02.3 | 10°03.2 | 10°04.1 | 10°05.0 | 10°05.9 | 10°06.8 | 10°07.7 | 10°08.5 | +0.9 |
| **Ve 16** | 270°03.8 | 285°03.9 | 300°04.0 | 315°04.2 | 330°04.3 | 345°04.5 | 0°04.6 | 15°04.8 | 30°04.9 | 45°05.1 | 60°05.2 | 75°05.3 | +0.1 |
| | 10°20.0 | 10°20.9 | 10°21.8 | 10°22.7 | 10°23.6 | 10°24.5 | 10°25.3 | 10°26.2 | 10°27.1 | 10°28.0 | 10°28.9 | 10°29.7 | +0.9 |
| **Sa 17** | 270°07.2 | 285°07.3 | 300°07.5 | 315°07.6 | 330°07.7 | 345°07.9 | 0°08.0 | 15°08.2 | 30°08.3 | 45°08.4 | 60°08.6 | 75°08.7 | +0.1 |
| | 10°41.1 | 10°42.0 | 10°42.9 | 10°43.8 | 10°44.6 | 10°45.5 | 10°46.4 | 10°47.3 | 10°48.1 | 10°49.0 | 10°49.9 | 10°50.7 | +0.9 |
| **Di 18** | 270°10.5 | 285°10.7 | 300°10.8 | 315°10.9 | 330°11.1 | 345°11.2 | 0°11.3 | 15°11.5 | 30°11.6 | 45°11.8 | 60°11.9 | 75°12.0 | +0.1 |
| | 11°02.1 | 11°02.9 | 11°03.8 | 11°04.7 | 11°05.5 | 11°06.4 | 11°07.3 | 11°08.1 | 11°09.0 | 11°09.8 | 11°10.7 | 11°11.6 | +0.9 |
| **Lu 19** | 270°13.8 | 285°13.9 | 300°14.0 | 315°14.2 | 330°14.3 | 345°14.4 | 0°14.6 | 15°14.7 | 30°14.8 | 45°15.0 | 60°15.1 | 75°15.2 | +0.1 |
| | 11°22.8 | 11°23.6 | 11°24.5 | 11°25.4 | 11°26.2 | 11°27.1 | 11°27.9 | 11°28.8 | 11°29.7 | 11°30.5 | 11°31.4 | 11°32.2 | +0.9 |
| **Ma 20** | 270°16.9 | 285°17.0 | 300°17.2 | 315°17.3 | 330°17.4 | 345°17.6 | 0°17.7 | 15°17.8 | 30°17.9 | 45°18.1 | 60°18.2 | 75°18.3 | +0.1 |
| | 11°43.3 | 11°44.2 | 11°45.0 | 11°45.9 | 11°46.7 | 11°47.6 | 11°48.4 | 11°49.3 | 11°50.1 | 11°51.0 | 11°51.8 | 11°52.7 | +0.8 |
| **Me 21** | 270°19.9 | 285°20.1 | 300°20.2 | 315°20.3 | 330°20.4 | 345°20.6 | 0°20.7 | 15°20.8 | 30°20.9 | 45°21.1 | 60°21.2 | 75°21.3 | +0.1 |
| | 12°03.7 | 12°04.5 | 12°05.4 | 12°06.2 | 12°07.1 | 12°07.9 | 12°08.7 | 12°09.6 | 12°10.4 | 12°11.3 | 12°12.1 | 12°12.9 | +0.8 |
| **Je 22** | 270°22.9 | 285°23.0 | 300°23.1 | 315°23.2 | 330°23.4 | 345°23.5 | 0°23.6 | 15°23.7 | 30°23.8 | 45°23.9 | 60°24.1 | 75°24.2 | +0.1 |
| | 12°23.8 | 12°24.7 | 12°25.5 | 12°26.3 | 12°27.2 | 12°28.0 | 12°28.8 | 12°29.7 | 12°30.5 | 12°31.3 | 12°32.2 | 12°33.0 | +0.8 |
| **Ve 23** | 270°25.7 | 285°25.8 | 300°25.9 | 315°26.0 | 330°26.2 | 345°26.3 | 0°26.4 | 15°26.5 | 30°26.6 | 45°26.7 | 60°26.8 | 75°27.0 | +0.1 |
| | 12°43.8 | 12°44.6 | 12°45.4 | 12°46.3 | 12°47.1 | 12°47.9 | 12°48.7 | 12°49.6 | 12°50.4 | 12°51.2 | 12°52.0 | 12°52.8 | +0.8 |
| **Sa 24** | 270°28.4 | 285°28.5 | 300°28.6 | 315°28.7 | 330°28.8 | 345°28.9 | 0°29.1 | 15°29.2 | 30°29.3 | 45°29.4 | 60°29.5 | 75°29.6 | +0.1 |
| | 13°03.5 | 13°04.3 | 13°05.1 | 13°06.0 | 13°06.8 | 13°07.6 | 13°08.4 | 13°09.2 | 13°10.0 | 13°10.9 | 13°11.7 | 13°12.5 | +0.8 |
| **Di 25** | 270°31.0 | 285°31.1 | 300°31.2 | 315°31.3 | 330°31.4 | 345°31.5 | 0°31.6 | 15°31.7 | 30°31.8 | 45°31.9 | 60°32.0 | 75°32.1 | +0.1 |
| | 13°23.0 | 13°23.8 | 13°24.7 | 13°25.5 | 13°26.3 | 13°27.1 | 13°27.9 | 13°28.7 | 13°29.5 | 13°30.3 | 13°31.1 | 13°31.9 | +0.8 |
| **Lu 26** | 270°33.5 | 285°33.6 | 300°33.7 | 315°33.8 | 330°33.9 | 345°34.0 | 0°34.0 | 15°34.1 | 30°34.2 | 45°34.3 | 60°34.4 | 75°34.5 | +0.1 |
| | 13°42.3 | 13°43.1 | 13°43.9 | 13°44.7 | 13°45.5 | 13°46.3 | 13°47.1 | 13°47.9 | 13°48.7 | 13°49.5 | 13°50.3 | 13°51.1 | +0.8 |
| **Ma 27** | 270°35.8 | 285°35.9 | 300°36.0 | 315°36.1 | 330°36.2 | 345°36.3 | 0°36.4 | 15°36.5 | 30°36.5 | 45°36.6 | 60°36.7 | 75°36.8 | +0.1 |
| | 14°01.4 | 14°02.2 | 14°03.0 | 14°03.8 | 14°04.6 | 14°05.4 | 14°06.1 | 14°06.9 | 14°07.7 | 14°08.5 | 14°09.3 | 14°10.1 | +0.8 |
| **Me 28** | 270°38.0 | 285°38.1 | 300°38.2 | 315°38.3 | 330°38.4 | 345°38.4 | 0°38.5 | 15°38.6 | 30°38.7 | 45°38.8 | 60°38.9 | 75°39.0 | +0.1 |
| | 14°20.3 | 14°21.0 | 14°21.8 | 14°22.6 | 14°23.4 | 14°24.2 | 14°24.9 | 14°25.7 | 14°26.5 | 14°27.3 | 14°28.0 | 14°28.8 | +0.8 |
| **Je 29** | 270°40.1 | 285°40.2 | 300°40.2 | 315°40.3 | 330°40.4 | 345°40.5 | 0°40.6 | 15°40.7 | 30°40.7 | 45°40.8 | 60°40.9 | 75°41.0 | +0.1 |
| | 14°38.9 | 14°39.6 | 14°40.4 | 14°41.2 | 14°41.9 | 14°42.7 | 14°43.5 | 14°44.3 | 14°45.0 | 14°45.8 | 14°46.6 | 14°47.3 | +0.8 |
| **Ve 30** | 270°42.0 | 285°42.1 | 300°42.2 | 315°42.3 | 330°42.3 | 345°42.4 | 0°42.5 | 15°42.6 | 30°42.6 | 45°42.7 | 60°42.8 | 75°42.9 | +0.1 |
| | 14°57.2 | 14°58.0 | 14°58.8 | 14°59.5 | 15°00.3 | 15°01.0 | 15°01.8 | 15°02.5 | 15°03.3 | 15°04.1 | 15°04.8 | 15°05.6 | +0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2032

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 243°25.5<br>-19°40.3 | 257°51.7<br>-19°39.8 | 272°17.9<br>-19°39.1 | 286°44.1<br>-19°38.3 | 301°10.3<br>-19°37.4 | 315°36.4<br>-19°36.4 | 330°02.6<br>-19°35.3 | 344°28.7<br>-19°34.0 | 358°54.8<br>-19°32.6 | 13°20.9<br>-19°31.1 | 27°47.0<br>-19°29.5 | +26.1<br>+1.1 | 15.9<br>58.2 |
| Ve 2 | 244°17.2<br>-18°50.4 | 258°43.2<br>-18°46.8 | 273°09.2<br>-18°43.1 | 287°35.1<br>-18°39.3 | 302°01.1<br>-18°35.4 | 316°27.1<br>-18°31.3 | 330°53.1<br>-18°27.1 | 345°19.1<br>-18°22.8 | 359°45.2<br>-18°18.4 | 14°11.2<br>-18°13.9 | 28°37.2<br>-18°09.2 | +26.0<br>+4.1 | 16.0<br>58.7 |
| ◑ Sa 3 | 245°08.9<br>-16°45.6 | 259°35.2<br>-16°39.1 | 274°01.4<br>-16°32.5 | 288°27.7<br>-16°25.8 | 302°54.0<br>-16°19.0 | 317°20.3<br>-16°12.1 | 331°46.6<br>-16°05.1 | 346°13.0<br>-15°58.0 | 0°39.3<br>-15°50.8 | 15°05.7<br>-15°43.5 | 29°32.1<br>-15°36.0 | +26.3<br>+7.0 | 16.1<br>59.2 |
| Di 4 | 259°35.2<br>-16°39.1 | 274°01.4<br>-16°32.5 | 288°27.7<br>-16°25.8 | 302°54.0<br>-16°19.0 | 317°20.3<br>-16°12.1 | 331°46.6<br>-16°05.1 | 346°13.0<br>-15°58.0 | 0°39.3<br>-15°50.8 | 15°05.7<br>-15°43.5 | 29°32.1<br>-15°36.0 | 43°58.6<br>-15°28.5 | +26.3<br>+7.1 | 16.2<br>59.2 |
| Lu 5 | 260°37.8<br>-13°23.8 | 275°04.7<br>-13°14.8 | 289°31.5<br>-13°05.6 | 303°58.4<br>-12°56.4 | 318°25.3<br>-12°47.1 | 332°52.2<br>-12°37.7 | 347°19.1<br>-12°28.2 | 1°46.1<br>-12°18.6 | 16°13.1<br>-12°09.0 | 30°40.1<br>-11°59.3 | 45°07.1<br>-11°49.5 | +26.9<br>+9.4 | 16.3<br>59.6 |
| Ma 6 | 261°55.7<br>-9°13.7 | 276°23.1<br>-9°02.8 | 290°50.6<br>-8°51.9 | 305°18.1<br>-8°40.8 | 319°45.6<br>-8°29.7 | 334°13.1<br>-8°18.6 | 348°40.6<br>-8°07.4 | 3°08.2<br>-7°56.2 | 17°35.8<br>-7°44.9 | 32°03.4<br>-7°33.5 | 46°31.0<br>-7°22.1 | +27.5<br>+11.2 | 16.3<br>59.9 |
| Me 7 | 263°27.7<br>-4°26.1 | 277°55.6<br>-4°14.1 | 292°23.5<br>-4°02.1 | 306°51.4<br>-3°50.0 | 321°19.4<br>-3°37.9 | 335°47.3<br>-3°25.8 | 350°15.3<br>-3°13.7 | 4°43.3<br>-3°01.5 | 19°11.3<br>-2°49.4 | 33°39.3<br>-2°37.2 | 48°07.3<br>-2°25.0 | +28.0<br>+12.1 | 16.4<br>60.0 |
| Je 8 | 265°08.6<br>0°38.9 | 279°36.8<br>0°51.2 | 294°04.9<br>1°03.5 | 308°33.0<br>1°15.7 | 323°01.2<br>1°27.9 | 337°29.3<br>1°40.2 | 351°57.5<br>1°52.4 | 6°25.6<br>2°04.6 | 20°53.8<br>2°16.8 | 35°21.9<br>2°28.9 | 49°50.1<br>2°41.1 | +28.1<br>+12.2 | 16.3<br>59.9 |
| Ve 9 | 266°52.1<br>5°40.0 | 281°20.2<br>5°51.7 | 295°48.3<br>6°03.3 | 310°16.4<br>6°14.9 | 324°44.5<br>6°26.4 | 339°12.5<br>6°37.9 | 353°40.6<br>6°49.4 | 8°08.7<br>7°00.8 | 22°36.8<br>7°12.1 | 37°04.8<br>7°23.4 | 51°32.9<br>7°34.6 | +28.1<br>+11.5 | 16.2<br>59.5 |
| ● Sa 10 | 268°32.6<br>10°16.3 | 283°00.5<br>10°26.6 | 297°28.4<br>10°36.8 | 311°56.3<br>10°46.9 | 326°24.2<br>10°56.9 | 340°52.1<br>11°06.9 | 355°20.0<br>11°16.8 | 9°47.8<br>11°26.6 | 24°15.7<br>11°36.4 | 38°43.5<br>11°46.1 | 53°11.4<br>11°55.6 | +27.9<br>+9.9 | 16.1<br>59.0 |
| Di 11 | 270°08.1<br>14°09.4 | 284°35.8<br>14°17.7 | 299°03.5<br>14°25.8 | 313°31.2<br>14°33.8 | 327°59.0<br>14°41.7 | 342°26.7<br>14°49.6 | 356°54.4<br>14°57.3 | 11°22.1<br>15°04.9 | 25°49.8<br>15°12.5 | 40°17.5<br>15°19.9 | 54°45.2<br>15°27.3 | +27.7<br>+7.8 | 15.9<br>58.2 |
| Lu 12 | 271°40.9<br>17°05.4 | 286°08.7<br>17°11.1 | 300°36.4<br>17°16.7 | 315°04.2<br>17°22.2 | 329°31.9<br>17°27.6 | 343°59.7<br>17°32.9 | 358°27.5<br>17°38.1 | 12°55.3<br>17°43.1 | 27°23.1<br>17°48.1 | 41°50.9<br>17°53.0 | 56°18.7<br>17°57.7 | +27.8<br>+5.2 | 15.7<br>57.4 |
| Ma 13 | 273°18.0<br>18°55.8 | 287°46.1<br>18°58.9 | 302°14.2<br>19°01.7 | 316°42.3<br>19°04.5 | 331°10.5<br>19°07.2 | 345°38.7<br>19°09.8 | 0°06.9<br>19°12.2 | 14°35.1<br>19°14.6 | 29°03.4<br>19°16.8 | 43°31.7<br>19°18.9 | 58°00.0<br>19°21.0 | +28.2<br>+2.5 | 15.4<br>56.6 |
| Me 14 | 275°08.5<br>19°38.4 | 289°37.3<br>19°38.7 | 304°06.2<br>19°38.9 | 318°35.1<br>19°39.0 | 333°04.1<br>19°39.0 | 347°33.0<br>19°38.9 | 2°02.1<br>19°38.7 | 16°31.1<br>19°38.4 | 31°00.2<br>19°38.0 | 45°29.4<br>19°37.5 | 59°58.6<br>19°36.8 | +29.0<br>-0.2 | 15.2<br>55.8 |
| Je 15 | 277°21.4<br>19°15.7 | 291°51.3<br>19°13.6 | 306°21.2<br>19°11.3 | 320°51.2<br>19°08.9 | 335°21.2<br>19°06.5 | 349°51.3<br>19°03.9 | 4°21.4<br>19°01.3 | 18°51.6<br>18°58.5 | 33°21.8<br>18°55.7 | 47°52.0<br>18°52.8 | 62°22.3<br>18°49.8 | +30.1<br>-2.6 | 15.0<br>55.2 |
| Ve 16 | 280°02.6<br>17°54.3 | 294°33.7<br>17°49.9 | 309°04.8<br>17°45.5 | 323°36.0<br>17°41.0 | 338°07.2<br>17°36.4 | 352°38.5<br>17°31.7 | 7°09.8<br>17°26.9 | 21°41.1<br>17°22.1 | 36°12.5<br>17°17.2 | 50°44.0<br>17°12.2 | 65°15.5<br>17°07.1 | +31.3<br>-4.7 | 14.9<br>54.6 |
| ◐ Sa 17 | 283°13.5<br>15°42.4 | 297°45.7<br>15°36.2 | 312°18.0<br>15°29.9 | 326°50.3<br>15°23.6 | 341°22.7<br>15°17.1 | 355°55.1<br>15°10.7 | 10°27.5<br>15°04.2 | 25°00.0<br>14°57.6 | 39°32.5<br>14°50.9 | 54°05.1<br>14°44.2 | 68°37.7<br>14°37.4 | +32.4<br>-6.5 | 14.8<br>54.3 |
| Di 18 | 286°51.2<br>12°48.6 | 301°24.4<br>12°40.9 | 315°57.6<br>12°33.2 | 330°30.9<br>12°25.4 | 345°04.2<br>12°17.5 | 359°37.5<br>12°09.6 | 14°10.8<br>12°01.7 | 28°44.2<br>11°53.7 | 43°17.6<br>11°45.6 | 57°51.0<br>11°37.5 | 72°24.5<br>11°29.4 | +33.3<br>-7.9 | 14.8<br>54.1 |
| Lu 19 | 290°49.4<br>9°21.7 | 305°23.2<br>9°12.8 | 319°57.0<br>9°04.0 | 334°30.9<br>8°55.0 | 349°04.8<br>8°46.1 | 3°38.7<br>8°37.1 | 18°12.6<br>8°28.0 | 32°46.5<br>8°18.9 | 47°20.5<br>8°09.8 | 61°54.4<br>8°00.7 | 76°28.4<br>7°51.5 | +33.9<br>-9.0 | 14.8<br>54.2 |
| Ma 20 | 294°59.2<br>5°29.8 | 309°33.3<br>5°20.1 | 324°07.4<br>5°10.4 | 338°41.5<br>5°00.7 | 353°15.6<br>4°50.9 | 7°49.7<br>4°41.2 | 22°23.8<br>4°31.4 | 36°57.8<br>4°21.5 | 51°31.9<br>4°11.7 | 66°06.0<br>4°01.8 | 80°40.1<br>3°51.9 | +34.1<br>-9.8 | 14.8<br>54.4 |
| Me 21 | 299°10.5<br>1°21.3 | 313°44.4<br>1°11.2 | 328°18.4<br>1°01.0 | 342°52.3<br>0°50.8 | 357°26.1<br>0°40.6 | 12°00.0<br>0°30.4 | 26°33.9<br>0°20.2 | 41°07.7<br>0°10.0 | 55°41.5<br>-0°00.3 | 70°15.3<br>-0°10.5 | 84°49.0<br>-0°20.7 | +33.9<br>-10.2 | 14.9<br>54.7 |
| Je 22 | 303°12.5<br>-2°54.7 | 317°45.9<br>-3°05.0 | 332°19.2<br>-3°15.3 | 346°52.4<br>-3°25.5 | 1°25.7<br>-3°35.7 | 15°58.8<br>-3°46.0 | 30°32.0<br>-3°56.2 | 45°05.1<br>-4°06.4 | 59°38.2<br>-4°16.6 | 74°11.3<br>-4°26.8 | 88°44.3<br>-4°37.0 | +33.2<br>-10.2 | 15.1<br>55.2 |
| Ve 23 | 306°54.4<br>-7°07.9 | 321°26.7<br>-7°17.9 | 335°59.0<br>-7°27.7 | 350°31.2<br>-7°37.6 | 5°03.4<br>-7°47.4 | 19°35.5<br>-7°57.2 | 34°07.6<br>-8°07.0 | 48°39.6<br>-8°16.7 | 63°11.5<br>-8°26.4 | 77°43.5<br>-8°36.1 | 92°15.3<br>-8°45.8 | +32.1<br>-9.8 | 15.2<br>55.8 |
| Sa 24 | 310°06.4<br>-11°06.1 | 324°37.4<br>-11°15.1 | 339°08.3<br>-11°24.0 | 353°39.1<br>-11°33.0 | 8°09.9<br>-11°41.8 | 22°40.6<br>-11°50.7 | 37°11.2<br>-11°59.4 | 51°41.8<br>-12°08.1 | 66°12.3<br>-12°16.8 | 80°42.7<br>-12°25.4 | 95°13.1<br>-12°34.0 | +30.7<br>-8.8 | 15.4<br>56.4 |
| ○ Di 25 | 312°41.3<br>-14°34.9 | 327°10.7<br>-14°42.5 | 341°40.0<br>-14°49.9 | 356°09.2<br>-14°57.3 | 10°38.4<br>-15°04.6 | 25°07.5<br>-15°11.9 | 39°36.5<br>-15°19.0 | 54°05.5<br>-15°26.1 | 68°34.4<br>-15°33.1 | 83°03.2<br>-15°40.0 | 97°32.0<br>-15°46.9 | +29.1<br>-7.2 | 15.5<br>56.9 |
| Lu 26 | 314°36.2<br>-17°19.2 | 329°04.0<br>-17°24.7 | 343°31.7<br>-17°30.0 | 357°59.4<br>-17°35.2 | 12°27.0<br>-17°40.4 | 26°54.6<br>-17°45.4 | 41°22.1<br>-17°50.3 | 55°49.5<br>-17°55.2 | 70°16.9<br>-17°59.9 | 84°44.2<br>-18°04.5 | 99°11.5<br>-18°09.1 | +27.5<br>-5.0 | 15.7<br>57.5 |
| Ma 27 | 315°54.7<br>-19°04.2 | 330°21.3<br>-19°07.0 | 344°47.7<br>-19°09.6 | 359°14.2<br>-19°12.2 | 13°40.6<br>-19°14.6 | 28°06.9<br>-19°17.0 | 42°33.3<br>-19°19.2 | 56°59.5<br>-19°21.2 | 71°25.8<br>-19°23.2 | 85°52.0<br>-19°25.1 | 100°18.2<br>-19°26.8 | +26.3<br>-2.3 | 15.8<br>58.0 |
| Me 28 | 330°21.3<br>-19°07.0 | 344°47.7<br>-19°09.6 | 359°14.2<br>-19°12.2 | 13°40.6<br>-19°14.6 | 28°06.9<br>-19°17.0 | 42°33.3<br>-19°19.2 | 56°59.5<br>-19°21.2 | 71°25.8<br>-19°23.2 | 85°52.0<br>-19°25.1 | 100°18.2<br>-19°26.8 | 114°44.3<br>-19°28.4 | +26.3<br>-2.1 | 15.8<br>58.0 |
| Je 29 | 331°13.5<br>-19°38.0 | 345°39.3<br>-19°37.7 | 0°05.1<br>-19°37.2 | 14°30.8<br>-19°36.6 | 28°56.6<br>-19°35.9 | 43°22.3<br>-19°35.1 | 57°48.0<br>-19°34.1 | 72°13.8<br>-19°33.0 | 86°39.5<br>-19°31.8 | 101°05.2<br>-19°30.4 | 115°30.9<br>-19°29.0 | +25.7<br>+0.9 | 15.9<br>58.4 |
| Ve 30 | 331°56.6<br>-18°52.2 | 346°22.3<br>-18°48.8 | 0°48.1<br>-18°45.2 | 15°13.9<br>-18°41.6 | 29°39.7<br>-18°37.8 | 44°05.6<br>-18°33.9 | 58°31.4<br>-18°29.8 | 72°57.3<br>-18°25.7 | 87°23.1<br>-18°21.4 | 101°49.0<br>-18°17.0 | 116°15.0<br>-18°12.5 | +25.8<br>+4.0 | 16.0<br>58.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 3 10h10 — NL: 10 02h39 — PQ: 17 15h24 — PL: 25 15h09

# SOLEIL

## Mai 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 270° 43.8<br>15° 15.4 | 285° 43.9<br>15° 16.1 | 300° 44.0<br>15° 16.9 | 315° 44.0<br>15° 17.6 | 330° 44.1<br>15° 18.4 | 345° 44.2<br>15° 19.1 | 0° 44.3<br>15° 19.9 | 15° 44.3<br>15° 20.6 | 30° 44.4<br>15° 21.3 | 45° 44.5<br>15° 22.1 | 60° 44.5<br>15° 22.8 | 75° 44.6<br>15° 23.6 | +0.1<br>+0.7 |
| Di 2 | 270° 45.5<br>15° 33.2 | 285° 45.6<br>15° 34.0 | 300° 45.6<br>15° 34.7 | 315° 45.7<br>15° 35.4 | 330° 45.8<br>15° 36.2 | 345° 45.8<br>15° 36.9 | 0° 45.9<br>15° 37.7 | 15° 46.0<br>15° 38.4 | 30° 46.0<br>15° 39.1 | 45° 46.1<br>15° 39.9 | 60° 46.2<br>15° 40.6 | 75° 46.2<br>15° 41.3 | +0.1<br>+0.7 |
| Lu 3 | 270° 47.0<br>15° 50.8 | 285° 47.1<br>15° 51.6 | 300° 47.1<br>15° 52.3 | 315° 47.2<br>15° 53.0 | 330° 47.3<br>15° 53.8 | 345° 47.3<br>15° 54.5 | 0° 47.4<br>15° 55.2 | 15° 47.4<br>15° 55.9 | 30° 47.5<br>15° 56.7 | 45° 47.6<br>15° 57.4 | 60° 47.6<br>15° 58.1 | 75° 47.7<br>15° 58.8 | +0.1<br>+0.7 |
| Ma 4 | 270° 48.4<br>16° 08.2 | 285° 48.5<br>16° 08.9 | 300° 48.5<br>16° 09.6 | 315° 48.6<br>16° 10.3 | 330° 48.6<br>16° 11.1 | 345° 48.7<br>16° 11.8 | 0° 48.7<br>16° 12.5 | 15° 48.8<br>16° 13.2 | 30° 48.8<br>16° 13.9 | 45° 48.9<br>16° 14.6 | 60° 48.9<br>16° 15.4 | 75° 49.0<br>16° 16.1 | +0.1<br>+0.7 |
| Me 5 | 270° 49.6<br>16° 25.3 | 285° 49.7<br>16° 26.0 | 300° 49.7<br>16° 26.7 | 315° 49.8<br>16° 27.4 | 330° 49.8<br>16° 28.1 | 345° 49.9<br>16° 28.8 | 0° 49.9<br>16° 29.5 | 15° 50.0<br>16° 30.2 | 30° 50.0<br>16° 30.9 | 45° 50.1<br>16° 31.6 | 60° 50.1<br>16° 32.3 | 75° 50.2<br>16° 33.0 | +0.0<br>+0.7 |
| Je 6 | 270° 50.7<br>16° 42.1 | 285° 50.8<br>16° 42.8 | 300° 50.8<br>16° 43.5 | 315° 50.9<br>16° 44.2 | 330° 50.9<br>16° 44.9 | 345° 50.9<br>16° 45.6 | 0° 51.0<br>16° 46.3 | 15° 51.0<br>16° 46.9 | 30° 51.1<br>16° 47.6 | 45° 51.1<br>16° 48.3 | 60° 51.1<br>16° 49.0 | 75° 51.2<br>16° 49.7 | +0.0<br>+0.7 |
| Ve 7 | 270° 51.7<br>16° 58.6 | 285° 51.7<br>16° 59.3 | 300° 51.8<br>17° 00.0 | 315° 51.8<br>17° 00.7 | 330° 51.8<br>17° 01.4 | 345° 51.9<br>17° 02.0 | 0° 51.9<br>17° 02.7 | 15° 51.9<br>17° 03.4 | 30° 52.0<br>17° 04.1 | 45° 52.0<br>17° 04.8 | 60° 52.0<br>17° 05.4 | 75° 52.1<br>17° 06.1 | +0.0<br>+0.7 |
| Sa 8 | 270° 52.5<br>17° 14.9 | 285° 52.5<br>17° 15.6 | 300° 52.5<br>17° 16.2 | 315° 52.6<br>17° 16.9 | 330° 52.6<br>17° 17.6 | 345° 52.6<br>17° 18.2 | 0° 52.7<br>17° 18.9 | 15° 52.7<br>17° 19.6 | 30° 52.7<br>17° 20.2 | 45° 52.7<br>17° 20.9 | 60° 52.8<br>17° 21.6 | 75° 52.8<br>17° 22.2 | +0.0<br>+0.7 |
| Di 9 | 270° 53.1<br>17° 30.8 | 285° 53.2<br>17° 31.5 | 300° 53.2<br>17° 32.2 | 315° 53.2<br>17° 32.8 | 330° 53.2<br>17° 33.5 | 345° 53.3<br>17° 34.1 | 0° 53.3<br>17° 34.8 | 15° 53.3<br>17° 35.4 | 30° 53.3<br>17° 36.1 | 45° 53.4<br>17° 36.8 | 60° 53.4<br>17° 37.4 | 75° 53.4<br>17° 38.1 | +0.0<br>+0.7 |
| Lu 10 | 270° 53.7<br>17° 46.5 | 285° 53.7<br>17° 47.2 | 300° 53.7<br>17° 47.8 | 315° 53.7<br>17° 48.5 | 330° 53.7<br>17° 49.1 | 345° 53.7<br>17° 49.7 | 0° 53.8<br>17° 50.4 | 15° 53.8<br>17° 51.0 | 30° 53.8<br>17° 51.7 | 45° 53.8<br>17° 52.3 | 60° 53.8<br>17° 53.0 | 75° 53.8<br>17° 53.6 | +0.0<br>+0.6 |
| Ma 11 | 270° 54.0<br>18° 01.9 | 285° 54.0<br>18° 02.5 | 300° 54.1<br>18° 03.2 | 315° 54.1<br>18° 03.8 | 330° 54.1<br>18° 04.4 | 345° 54.1<br>18° 05.1 | 0° 54.1<br>18° 05.7 | 15° 54.1<br>18° 06.3 | 30° 54.1<br>18° 06.9 | 45° 54.1<br>18° 07.6 | 60° 54.1<br>18° 08.2 | 75° 54.2<br>18° 08.8 | +0.0<br>+0.6 |
| Me 12 | 270° 54.3<br>18° 17.0 | 285° 54.3<br>18° 17.6 | 300° 54.3<br>18° 18.2 | 315° 54.3<br>18° 18.8 | 330° 54.3<br>18° 19.4 | 345° 54.3<br>18° 20.1 | 0° 54.3<br>18° 20.7 | 15° 54.3<br>18° 21.3 | 30° 54.3<br>18° 21.9 | 45° 54.3<br>18° 22.5 | 60° 54.3<br>18° 23.1 | 75° 54.3<br>18° 23.8 | +0.0<br>+0.6 |
| Je 13 | 270° 54.4<br>18° 31.7 | 285° 54.4<br>18° 32.3 | 300° 54.4<br>18° 32.9 | 315° 54.4<br>18° 33.5 | 330° 54.4<br>18° 34.1 | 345° 54.4<br>18° 34.8 | 0° 54.4<br>18° 35.4 | 15° 54.4<br>18° 36.0 | 30° 54.4<br>18° 36.6 | 45° 54.4<br>18° 37.2 | 60° 54.3<br>18° 37.8 | 75° 54.3<br>18° 38.4 | -0.0<br>+0.6 |
| Ve 14 | 270° 54.3<br>18° 46.2 | 285° 54.3<br>18° 46.8 | 300° 54.3<br>18° 47.4 | 315° 54.3<br>18° 47.9 | 330° 54.3<br>18° 48.5 | 345° 54.3<br>18° 49.1 | 0° 54.3<br>18° 49.7 | 15° 54.3<br>18° 50.3 | 30° 54.3<br>18° 50.9 | 45° 54.3<br>18° 51.5 | 60° 54.2<br>18° 52.1 | 75° 54.2<br>18° 52.7 | -0.0<br>+0.6 |
| Sa 15 | 270° 54.1<br>19° 00.3 | 285° 54.1<br>19° 00.9 | 300° 54.1<br>19° 01.5 | 315° 54.1<br>19° 02.0 | 330° 54.1<br>19° 02.6 | 345° 54.1<br>19° 03.2 | 0° 54.1<br>19° 03.8 | 15° 54.0<br>19° 04.4 | 30° 54.0<br>19° 04.9 | 45° 54.0<br>19° 05.5 | 60° 54.0<br>19° 06.1 | 75° 54.0<br>19° 06.7 | -0.0<br>+0.6 |
| Di 16 | 270° 53.8<br>19° 14.1 | 285° 53.8<br>19° 14.7 | 300° 53.8<br>19° 15.2 | 315° 53.7<br>19° 15.8 | 330° 53.7<br>19° 16.4 | 345° 53.7<br>19° 16.9 | 0° 53.7<br>19° 17.5 | 15° 53.7<br>19° 18.1 | 30° 53.7<br>19° 18.6 | 45° 53.6<br>19° 19.2 | 60° 53.6<br>19° 19.8 | 75° 53.6<br>19° 20.3 | -0.0<br>+0.6 |
| Lu 17 | 270° 53.3<br>19° 27.6 | 285° 53.3<br>19° 28.1 | 300° 53.3<br>19° 28.7 | 315° 53.3<br>19° 29.2 | 330° 53.2<br>19° 29.8 | 345° 53.2<br>19° 30.4 | 0° 53.2<br>19° 30.9 | 15° 53.2<br>19° 31.5 | 30° 53.2<br>19° 32.0 | 45° 53.1<br>19° 32.6 | 60° 53.1<br>19° 33.1 | 75° 53.1<br>19° 33.7 | -0.0<br>+0.6 |
| Ma 18 | 270° 52.7<br>19° 40.7 | 285° 52.7<br>19° 41.3 | 300° 52.7<br>19° 41.8 | 315° 52.7<br>19° 42.4 | 330° 52.6<br>19° 42.9 | 345° 52.6<br>19° 43.4 | 0° 52.6<br>19° 44.0 | 15° 52.5<br>19° 44.5 | 30° 52.5<br>19° 45.0 | 45° 52.5<br>19° 45.6 | 60° 52.5<br>19° 46.1 | 75° 52.4<br>19° 46.6 | -0.0<br>+0.5 |
| Me 19 | 270° 52.0<br>19° 53.5 | 285° 52.0<br>19° 54.1 | 300° 52.0<br>19° 54.6 | 315° 51.9<br>19° 55.1 | 330° 51.9<br>19° 55.6 | 345° 51.9<br>19° 56.2 | 0° 51.8<br>19° 56.7 | 15° 51.8<br>19° 57.2 | 30° 51.8<br>19° 57.7 | 45° 51.7<br>19° 58.3 | 60° 51.7<br>19° 58.8 | 75° 51.6<br>19° 59.3 | -0.0<br>+0.5 |
| Je 20 | 270° 51.2<br>20° 06.0 | 285° 51.1<br>20° 06.5 | 300° 51.1<br>20° 07.0 | 315° 51.1<br>20° 07.6 | 330° 51.0<br>20° 08.1 | 345° 51.0<br>20° 08.6 | 0° 50.9<br>20° 09.1 | 15° 50.9<br>20° 09.6 | 30° 50.9<br>20° 10.1 | 45° 50.8<br>20° 10.6 | 60° 50.8<br>20° 11.1 | 75° 50.7<br>20° 11.6 | -0.0<br>+0.5 |
| Ve 21 | 270° 50.2<br>20° 18.1 | 285° 50.1<br>20° 18.6 | 300° 50.1<br>20° 19.1 | 315° 50.0<br>20° 19.6 | 330° 50.0<br>20° 20.1 | 345° 50.0<br>20° 20.6 | 0° 49.9<br>20° 21.1 | 15° 49.9<br>20° 21.6 | 30° 49.8<br>20° 22.1 | 45° 49.8<br>20° 22.6 | 60° 49.7<br>20° 23.1 | 75° 49.7<br>20° 23.6 | -0.0<br>+0.5 |
| Sa 22 | 270° 49.1<br>20° 29.9 | 285° 49.0<br>20° 30.4 | 300° 49.0<br>20° 30.9 | 315° 48.9<br>20° 31.4 | 330° 48.9<br>20° 31.9 | 345° 48.8<br>20° 32.3 | 0° 48.8<br>20° 32.8 | 15° 48.7<br>20° 33.3 | 30° 48.7<br>20° 33.8 | 45° 48.6<br>20° 34.3 | 60° 48.6<br>20° 34.7 | 75° 48.5<br>20° 35.2 | -0.1<br>+0.5 |
| Di 23 | 270° 47.8<br>20° 41.4 | 285° 47.8<br>20° 41.8 | 300° 47.7<br>20° 42.3 | 315° 47.7<br>20° 42.8 | 330° 47.6<br>20° 43.2 | 345° 47.6<br>20° 43.7 | 0° 47.5<br>20° 44.2 | 15° 47.4<br>20° 44.6 | 30° 47.4<br>20° 45.1 | 45° 47.3<br>20° 45.6 | 60° 47.3<br>20° 46.0 | 75° 47.2<br>20° 46.5 | -0.1<br>+0.5 |
| Lu 24 | 270° 46.5<br>20° 52.4 | 285° 46.4<br>20° 52.9 | 300° 46.3<br>20° 53.3 | 315° 46.3<br>20° 53.8 | 330° 46.2<br>20° 54.2 | 345° 46.2<br>20° 54.7 | 0° 46.1<br>20° 55.1 | 15° 46.0<br>20° 55.6 | 30° 46.0<br>20° 56.0 | 45° 45.9<br>20° 56.5 | 60° 45.9<br>20° 56.9 | 75° 45.8<br>20° 57.4 | -0.1<br>+0.5 |
| Ma 25 | 270° 45.0<br>21° 03.1 | 285° 44.9<br>21° 03.6 | 300° 44.8<br>21° 04.0 | 315° 44.8<br>21° 04.5 | 330° 44.7<br>21° 04.9 | 345° 44.6<br>21° 05.3 | 0° 44.6<br>21° 05.8 | 15° 44.5<br>21° 06.2 | 30° 44.5<br>21° 06.6 | 45° 44.4<br>21° 07.1 | 60° 44.3<br>21° 07.5 | 75° 44.3<br>21° 07.9 | -0.1<br>+0.4 |
| Me 26 | 270° 43.4<br>21° 13.5 | 285° 43.3<br>21° 13.9 | 300° 43.2<br>21° 14.3 | 315° 43.2<br>21° 14.8 | 330° 43.1<br>21° 15.2 | 345° 43.0<br>21° 15.6 | 0° 42.9<br>21° 16.0 | 15° 42.9<br>21° 16.4 | 30° 42.8<br>21° 16.9 | 45° 42.7<br>21° 17.3 | 60° 42.7<br>21° 17.7 | 75° 42.6<br>21° 18.1 | -0.1<br>+0.4 |
| Je 27 | 270° 41.6<br>21° 23.5 | 285° 41.6<br>21° 23.9 | 300° 41.5<br>21° 24.3 | 315° 41.4<br>21° 24.7 | 330° 41.3<br>21° 25.1 | 345° 41.3<br>21° 25.5 | 0° 41.2<br>21° 25.9 | 15° 41.1<br>21° 26.3 | 30° 41.0<br>21° 26.7 | 45° 41.0<br>21° 27.1 | 60° 40.9<br>21° 27.5 | 75° 40.8<br>21° 27.9 | -0.1<br>+0.4 |
| Ve 28 | 270° 39.8<br>21° 33.1 | 285° 39.7<br>21° 33.5 | 300° 39.6<br>21° 33.9 | 315° 39.5<br>21° 34.3 | 330° 39.5<br>21° 34.7 | 345° 39.4<br>21° 35.1 | 0° 39.3<br>21° 35.4 | 15° 39.2<br>21° 35.8 | 30° 39.1<br>21° 36.2 | 45° 39.1<br>21° 36.6 | 60° 39.0<br>21° 37.0 | 75° 38.9<br>21° 37.4 | -0.1<br>+0.4 |
| Sa 29 | 270° 37.8<br>21° 42.3 | 285° 37.7<br>21° 42.7 | 300° 37.7<br>21° 43.1 | 315° 37.6<br>21° 43.5 | 330° 37.5<br>21° 43.8 | 345° 37.4<br>21° 44.2 | 0° 37.3<br>21° 44.6 | 15° 37.2<br>21° 45.0 | 30° 37.1<br>21° 45.3 | 45° 37.1<br>21° 45.7 | 60° 37.0<br>21° 46.1 | 75° 36.9<br>21° 46.4 | -0.1<br>+0.4 |
| Di 30 | 270° 35.7<br>21° 51.2 | 285° 35.7<br>21° 51.6 | 300° 35.6<br>21° 51.9 | 315° 35.5<br>21° 52.3 | 330° 35.4<br>21° 52.6 | 345° 35.3<br>21° 53.0 | 0° 35.2<br>21° 53.4 | 15° 35.1<br>21° 53.7 | 30° 35.0<br>21° 54.1 | 45° 34.9<br>21° 54.4 | 60° 34.8<br>21° 54.8 | 75° 34.8<br>21° 55.1 | -0.1<br>+0.4 |
| Lu 31 | 270° 33.6<br>21° 59.7 | 285° 33.5<br>22° 00.0 | 300° 33.4<br>22° 00.4 | 315° 33.3<br>22° 00.7 | 330° 33.2<br>22° 01.1 | 345° 33.1<br>22° 01.4 | 0° 33.0<br>22° 01.7 | 15° 32.9<br>22° 02.1 | 30° 32.8<br>22° 02.4 | 45° 32.7<br>22° 02.8 | 60° 32.6<br>22° 03.1 | 75° 32.5<br>22° 03.4 | -0.1<br>+0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2032

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 232°45.5<br>-14°42.4 | 247°12.5<br>-14°34.3 | 261°39.4<br>-14°26.1 | 276°06.4<br>-14°17.9 | 290°33.5<br>-14°09.5 | 305°00.6<br>-14°01.1 | 319°27.7<br>-13°52.5 | 333°54.9<br>-13°43.9 | 348°22.1<br>-13°35.2 | 2°49.3<br>-13°26.4 | 17°16.6<br>-13°17.6 | +27.1<br>+8.5 | 16.1<br>59.1 |
| Di 2 | 234°10.1<br>-10°55.3 | 248°38.0<br>-10°45.2 | 263°05.8<br>-10°35.1 | 277°33.8<br>-10°24.9 | 292°01.7<br>-10°14.7 | 306°29.7<br>-10°04.4 | 320°57.7<br>-9°54.0 | 335°25.8<br>-9°43.6 | 349°53.9<br>-9°33.1 | 4°22.0<br>-9°22.6 | 18°50.1<br>-9°12.0 | +28.0<br>+10.3 | 16.2<br>59.3 |
| Lu 3 | 235°55.9<br>-6°27.0 | 250°24.5<br>-6°15.7 | 264°53.1<br>-6°04.3 | 279°21.8<br>-5°52.9 | 293°50.5<br>-5°41.4 | 308°19.2<br>-5°30.0 | 322°47.9<br>-5°18.5 | 337°16.6<br>-5°06.9 | 351°45.3<br>-4°55.3 | 6°14.1<br>-4°43.7 | 20°42.9<br>-4°32.1 | +28.7<br>+11.5 | 16.2<br>59.3 |
| Ma 4 | 250°24.5<br>-6°15.7 | 264°53.1<br>-6°04.3 | 279°21.8<br>-5°52.9 | 293°50.5<br>-5°41.4 | 308°19.2<br>-5°30.0 | 322°47.9<br>-5°18.5 | 337°16.6<br>-5°06.9 | 351°45.3<br>-4°55.3 | 6°14.1<br>-4°43.7 | 20°42.9<br>-4°32.1 | 35°11.7<br>-4°20.5 | +28.7<br>+11.5 | 16.2<br>59.3 |
| Me 5 | 252°25.7<br>-1°23.4 | 266°54.7<br>-1°11.5 | 281°23.8<br>-0°59.6 | 295°52.8<br>-0°47.7 | 310°21.9<br>-0°35.8 | 324°50.9<br>-0°23.9 | 339°20.0<br>-0°11.9 | 353°49.1<br>-0°00.0 | 8°18.1<br>0°11.9 | 22°47.2<br>0°23.8 | 37°16.3<br>0°35.7 | +29.1<br>+11.9 | 16.1<br>59.2 |
| Je 6 | 254°32.5<br>3°33.1 | 269°01.6<br>3°44.7 | 283°30.6<br>3°56.4 | 297°59.7<br>4°08.0 | 312°28.7<br>4°19.6 | 326°57.8<br>4°31.2 | 341°26.8<br>4°42.8 | 355°55.8<br>4°54.3 | 10°24.8<br>5°05.8 | 24°53.8<br>5°17.2 | 39°22.8<br>5°28.7 | +29.0<br>+11.6 | 16.1<br>59.0 |
| Ve 7 | 256°36.2<br>8°15.2 | 271°04.9<br>8°25.9 | 285°33.7<br>8°36.6 | 300°02.4<br>8°47.2 | 314°31.2<br>8°57.8 | 328°59.9<br>9°08.3 | 343°28.6<br>9°18.8 | 357°57.3<br>9°29.2 | 12°25.9<br>9°39.5 | 26°54.6<br>9°49.8 | 41°23.2<br>10°00.0 | +28.7<br>+10.5 | 16.0<br>58.6 |
| Sa 8 | 258°30.4<br>12°25.2 | 272°58.8<br>12°34.3 | 287°27.1<br>12°43.4 | 301°55.4<br>12°52.3 | 316°23.7<br>13°01.2 | 330°51.9<br>13°10.0 | 345°20.2<br>13°18.7 | 359°48.4<br>13°27.3 | 14°16.6<br>13°35.8 | 28°44.8<br>13°44.3 | 43°13.0<br>13°52.7 | +28.3<br>+8.7 | 15.9<br>58.2 |
| Di 9 | 260°13.8<br>15°47.5 | 274°41.8<br>15°54.4 | 289°09.7<br>16°01.3 | 303°37.7<br>16°08.0 | 318°05.6<br>16°14.6 | 332°33.5<br>16°21.1 | 347°01.4<br>16°27.5 | 1°29.3<br>16°33.9 | 15°57.2<br>16°40.1 | 30°25.0<br>16°46.2 | 44°52.9<br>16°52.2 | +27.9<br>+6.5 | 15.7<br>57.6 |
| Lu 10 | 261°50.6<br>18°10.1 | 276°18.4<br>18°14.4 | 290°46.3<br>18°18.6 | 305°14.1<br>18°22.8 | 319°42.0<br>18°26.8 | 334°09.9<br>18°30.7 | 348°37.7<br>18°34.5 | 3°05.6<br>18°38.2 | 17°33.5<br>18°41.8 | 32°01.4<br>18°45.3 | 46°29.3<br>18°48.6 | +27.9<br>+3.9 | 15.5<br>57.0 |
| Ma 11 | 263°29.8<br>19°26.0 | 277°58.0<br>19°27.6 | 292°26.2<br>19°29.1 | 306°54.4<br>19°30.5 | 321°22.7<br>19°31.8 | 335°50.9<br>19°33.0 | 350°19.3<br>19°34.1 | 4°47.6<br>19°35.1 | 19°16.0<br>19°35.9 | 33°44.3<br>19°36.7 | 48°12.8<br>19°37.3 | +28.3<br>+1.1 | 15.4<br>56.3 |
| Me 12 | 265°23.1<br>19°34.3 | 279°52.1<br>19°33.3 | 294°21.1<br>19°32.2 | 308°50.1<br>19°30.9 | 323°19.2<br>19°29.6 | 337°48.4<br>19°28.2 | 352°17.6<br>19°26.6 | 6°46.8<br>19°25.0 | 21°16.1<br>19°23.3 | 35°45.4<br>19°21.4 | 50°14.8<br>19°19.5 | +29.2<br>-1.5 | 15.2<br>55.6 |
| Je 13 | 267°40.8<br>18°39.2 | 282°10.9<br>18°35.8 | 296°41.1<br>18°32.3 | 311°11.3<br>18°28.7 | 325°41.6<br>18°25.0 | 340°11.9<br>18°21.2 | 354°42.3<br>18°17.3 | 9°12.7<br>18°13.4 | 23°43.1<br>18°09.4 | 38°13.7<br>18°05.2 | 52°44.3<br>18°01.0 | +30.3<br>-3.8 | 15.0<br>55.1 |
| Ve 14 | 270°29.1<br>16°48.4 | 285°00.5<br>16°42.9 | 299°31.9<br>16°37.4 | 314°03.4<br>16°31.8 | 328°35.0<br>16°26.1 | 343°06.6<br>16°20.3 | 357°38.2<br>16°14.5 | 12°09.9<br>16°08.6 | 26°41.7<br>16°02.7 | 41°13.5<br>15°56.6 | 55°45.3<br>15°50.5 | +31.6<br>-5.8 | 14.9<br>54.6 |
| Sa 15 | 273°48.8<br>14°11.3 | 288°21.4<br>14°04.2 | 302°54.0<br>13°57.0 | 317°26.7<br>13°49.8 | 331°59.5<br>13°42.5 | 346°32.2<br>13°35.1 | 1°05.0<br>13°27.7 | 15°37.9<br>13°20.3 | 30°10.8<br>13°12.8 | 44°43.7<br>13°05.2 | 59°16.7<br>12°57.6 | +32.8<br>-7.4 | 14.8<br>54.3 |
| Di 16 | 277°35.8<br>10°57.5 | 292°09.4<br>10°49.1 | 306°42.9<br>10°40.7 | 321°16.5<br>10°32.2 | 335°50.2<br>10°23.7 | 350°23.8<br>10°15.1 | 4°57.5<br>10°06.5 | 19°31.3<br>9°57.9 | 34°05.0<br>9°49.2 | 48°38.8<br>9°40.5 | 63°12.6<br>9°31.7 | +33.7<br>-8.6 | 14.8<br>54.2 |
| Lu 17 | 281°42.2<br>7°16.0 | 296°16.4<br>7°06.7 | 310°50.5<br>6°57.3 | 325°24.6<br>6°47.9 | 339°58.8<br>6°38.5 | 354°33.0<br>6°29.1 | 9°07.2<br>6°19.6 | 23°41.4<br>6°10.1 | 38°15.6<br>6°00.6 | 52°49.8<br>5°51.1 | 67°24.0<br>5°41.5 | +34.2<br>-9.4 | 14.8<br>54.2 |
| Ma 18 | 285°57.8<br>3°15.2 | 300°32.0<br>3°05.2 | 315°06.3<br>2°55.3 | 329°40.5<br>2°45.3 | 344°14.8<br>2°35.4 | 358°49.0<br>2°25.4 | 13°23.2<br>2°15.4 | 27°57.4<br>2°05.4 | 42°31.6<br>1°55.3 | 57°05.8<br>1°45.3 | 71°40.0<br>1°35.2 | +34.2<br>-10.0 | 14.9<br>54.5 |
| Me 19 | 290°10.8<br>-0°56.8 | 304°44.6<br>-1°06.9 | 319°18.5<br>-1°17.1 | 333°52.4<br>-1°27.3 | 348°26.2<br>-1°37.5 | 3°00.0<br>-1°47.7 | 17°33.7<br>-1°57.9 | 32°07.4<br>-2°08.1 | 46°41.1<br>-2°18.3 | 61°14.8<br>-2°28.5 | 75°48.5<br>-2°38.7 | +33.8<br>-10.2 | 15.0<br>54.9 |
| Je 20 | 294°08.8<br>-5°10.8 | 308°41.8<br>-5°20.9 | 323°14.8<br>-5°31.0 | 337°47.7<br>-5°41.0 | 352°20.6<br>-5°51.0 | 6°53.5<br>-6°01.0 | 21°26.3<br>-6°11.0 | 35°59.1<br>-6°21.0 | 50°31.8<br>-6°31.0 | 65°04.4<br>-6°40.9 | 79°37.0<br>-6°50.8 | +32.8<br>-10.0 | 15.1<br>55.5 |
| Ve 21 | 297°39.6<br>-9°16.6 | 312°11.4<br>-9°26.1 | 326°43.0<br>-9°35.6 | 341°14.6<br>-9°45.0 | 355°46.1<br>-9°54.4 | 10°17.6<br>-10°03.7 | 24°49.0<br>-10°13.0 | 39°20.3<br>-10°22.3 | 53°51.6<br>-10°31.5 | 68°22.8<br>-10°40.7 | 82°53.9<br>-10°49.9 | +31.4<br>-9.3 | 15.3<br>56.1 |
| Sa 22 | 300°32.7<br>-13°01.4 | 315°02.7<br>-13°09.8 | 329°32.6<br>-13°18.1 | 344°02.5<br>-13°26.3 | 358°32.3<br>-13°34.5 | 13°02.0<br>-13°42.6 | 27°31.7<br>-13°50.6 | 42°01.3<br>-13°58.6 | 56°30.8<br>-14°06.5 | 71°00.2<br>-14°14.4 | 85°29.5<br>-14°22.2 | +29.7<br>-8.1 | 15.5<br>56.9 |
| Di 23 | 302°40.7<br>-16°10.1 | 317°08.9<br>-16°16.7 | 331°37.0<br>-16°23.2 | 346°05.0<br>-16°29.6 | 0°32.9<br>-16°35.9 | 15°00.7<br>-16°42.1 | 29°28.5<br>-16°48.2 | 43°56.2<br>-16°54.3 | 58°23.9<br>-17°00.2 | 72°51.4<br>-17°06.1 | 87°18.9<br>-17°11.8 | +27.8<br>-6.2 | 15.7<br>57.6 |
| Lu 24 | 304°03.0<br>-18°26.3 | 318°29.4<br>-18°30.4 | 332°55.8<br>-18°34.4 | 347°22.0<br>-18°38.3 | 1°48.3<br>-18°42.1 | 16°14.5<br>-18°45.8 | 30°40.6<br>-18°49.3 | 45°06.6<br>-18°52.8 | 59°32.7<br>-18°56.1 | 73°58.6<br>-18°59.3 | 88°24.5<br>-19°02.4 | +26.1<br>-3.6 | 15.9<br>58.3 |
| Ma 25 | 304°47.3<br>-19°34.5 | 319°12.5<br>-19°35.7 | 333°37.6<br>-19°36.7 | 348°02.8<br>-19°37.6 | 2°27.9<br>-19°38.4 | 16°52.9<br>-19°39.0 | 31°18.0<br>-19°39.5 | 45°43.0<br>-19°39.9 | 60°08.0<br>-19°40.1 | 74°32.9<br>-19°40.3 | 88°57.9<br>-19°40.2 | +25.1<br>-0.6 | 16.1<br>58.9 |
| Me 26 | 305°10.1<br>-19°24.5 | 319°34.9<br>-19°22.4 | 333°59.6<br>-19°20.2 | 348°24.4<br>-19°17.8 | 2°49.2<br>-19°15.3 | 17°13.9<br>-19°12.7 | 31°38.7<br>-19°10.0 | 46°03.5<br>-19°07.1 | 60°28.3<br>-19°04.1 | 74°53.1<br>-19°01.0 | 89°17.9<br>-18°57.7 | +24.8<br>+2.7 | 16.2<br>59.3 |
| Je 27 | 305°32.3<br>-17°53.8 | 319°57.4<br>-17°48.6 | 334°22.6<br>-17°43.2 | 348°47.8<br>-17°37.7 | 3°13.1<br>-17°32.1 | 17°38.3<br>-17°26.4 | 32°03.7<br>-17°20.6 | 46°29.0<br>-17°14.7 | 60°54.4<br>-17°08.6 | 75°19.8<br>-17°02.4 | 89°45.3<br>-16°56.2 | +25.3<br>+5.8 | 16.2<br>59.5 |
| Ve 28 | 319°57.4<br>-17°48.6 | 334°22.6<br>-17°43.2 | 348°47.8<br>-17°37.7 | 3°13.1<br>-17°32.1 | 17°38.3<br>-17°26.4 | 32°03.7<br>-17°20.6 | 46°29.0<br>-17°14.7 | 60°54.4<br>-17°08.6 | 75°19.8<br>-17°02.4 | 89°45.3<br>-16°56.2 | 104°10.8<br>-16°49.8 | +25.3<br>+5.9 | 16.2<br>59.5 |
| Sa 29 | 320°38.3<br>-15°01.2 | 335°04.5<br>-14°53.2 | 349°30.8<br>-14°45.1 | 3°57.1<br>-14°36.9 | 18°23.4<br>-14°28.5 | 32°49.8<br>-14°20.1 | 47°16.3<br>-14°11.6 | 61°42.7<br>-14°03.0 | 76°09.3<br>-13°54.4 | 90°35.9<br>-13°45.6 | 105°02.5<br>-13°36.8 | +26.4<br>+8.5 | 16.2<br>59.6 |
| Di 30 | 321°48.0<br>-11°14.7 | 336°15.4<br>-11°04.6 | 350°42.9<br>-10°54.5 | 5°10.4<br>-10°44.3 | 19°37.9<br>-10°34.1 | 34°05.6<br>-10°23.8 | 48°33.2<br>-10°13.4 | 63°00.9<br>-10°03.0 | 77°28.7<br>-9°52.5 | 91°56.5<br>-9°42.0 | 106°24.3<br>-9°31.4 | +27.6<br>+10.3 | 16.2<br>59.5 |
| Lu 31 | 323°27.3<br>-6°46.9 | 337°55.8<br>-6°35.6 | 352°24.4<br>-6°24.3 | 6°53.0<br>-6°12.9 | 21°21.6<br>-6°01.5 | 35°50.3<br>-5°50.1 | 50°19.0<br>-5°38.6 | 64°47.8<br>-5°27.1 | 79°16.5<br>-5°15.6 | 93°45.3<br>-5°04.1 | 108°14.2<br>-4°52.5 | +28.7<br>+11.4 | 16.2<br>59.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 2 16h01 — NL: 9 13h35 — PQ: 17 09h43 — PL: 25 02h37 — DQ: 31 20h51

# SOLEIL

## Juin 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 270°31.3 | 285°31.2 | 300°31.1 | 315°31.0 | 330°30.9 | 345°30.8 | 0°30.7 | 15°30.6 | 30°30.5 | 45°30.4 | 60°30.3 | 75°30.2 | -0.1 |
| | 22°07.8 | 22°08.1 | 22°08.4 | 22°08.8 | 22°09.1 | 22°09.4 | 22°09.8 | 22°10.1 | 22°10.4 | 22°10.7 | 22°11.0 | 22°11.4 | +0.3 |
| Me 2 | 270°28.9 | 285°28.8 | 300°28.7 | 315°28.6 | 330°28.5 | 345°28.4 | 0°28.3 | 15°28.2 | 30°28.1 | 45°27.9 | 60°27.8 | 75°27.7 | -0.1 |
| | 22°15.5 | 22°15.8 | 22°16.1 | 22°16.4 | 22°16.8 | 22°17.1 | 22°17.4 | 22°17.7 | 22°18.0 | 22°18.3 | 22°18.6 | 22°18.9 | +0.3 |
| Je 3 | 270°26.4 | 285°26.3 | 300°26.2 | 315°26.1 | 330°26.0 | 345°25.8 | 0°25.7 | 15°25.6 | 30°25.5 | 45°25.4 | 60°25.3 | 75°25.2 | -0.1 |
| | 22°22.8 | 22°23.1 | 22°23.4 | 22°23.7 | 22°24.0 | 22°24.3 | 22°24.6 | 22°24.9 | 22°25.2 | 22°25.5 | 22°25.8 | 22°26.1 | +0.3 |
| Ve 4 | 270°23.8 | 285°23.7 | 300°23.6 | 315°23.5 | 330°23.4 | 345°23.2 | 0°23.1 | 15°23.0 | 30°22.9 | 45°22.8 | 60°22.7 | 75°22.6 | -0.1 |
| | 22°29.8 | 22°30.0 | 22°30.3 | 22°30.6 | 22°30.9 | 22°31.2 | 22°31.4 | 22°31.7 | 22°32.0 | 22°32.3 | 22°32.5 | 22°32.8 | +0.3 |
| Sa 5 | 270°21.1 | 285°21.0 | 300°20.9 | 315°20.8 | 330°20.7 | 345°20.6 | 0°20.4 | 15°20.3 | 30°20.2 | 45°20.1 | 60°20.0 | 75°19.9 | -0.1 |
| | 22°36.3 | 22°36.6 | 22°36.8 | 22°37.1 | 22°37.4 | 22°37.6 | 22°37.9 | 22°38.1 | 22°38.4 | 22°38.7 | 22°38.9 | 22°39.2 | +0.3 |
| Di 6 | 270°18.4 | 285°18.3 | 300°18.1 | 315°18.0 | 330°17.9 | 345°17.8 | 0°17.7 | 15°17.5 | 30°17.4 | 45°17.3 | 60°17.2 | 75°17.1 | -0.1 |
| | 22°42.5 | 22°42.7 | 22°42.9 | 22°43.2 | 22°43.4 | 22°43.7 | 22°43.9 | 22°44.2 | 22°44.4 | 22°44.7 | 22°44.9 | 22°45.1 | +0.2 |
| Lu 7 | 270°15.5 | 285°15.4 | 300°15.3 | 315°15.2 | 330°15.1 | 345°14.9 | 0°14.8 | 15°14.7 | 30°14.6 | 45°14.5 | 60°14.3 | 75°14.2 | -0.1 |
| | 22°48.2 | 22°48.4 | 22°48.7 | 22°48.9 | 22°49.1 | 22°49.3 | 22°49.6 | 22°49.8 | 22°50.0 | 22°50.2 | 22°50.5 | 22°50.7 | +0.2 |
| Ma 8 | 270°12.6 | 285°12.5 | 300°12.4 | 315°12.3 | 330°12.2 | 345°12.0 | 0°11.9 | 15°11.8 | 30°11.7 | 45°11.5 | 60°11.4 | 75°11.3 | -0.1 |
| | 22°53.5 | 22°53.8 | 22°54.0 | 22°54.2 | 22°54.4 | 22°54.6 | 22°54.8 | 22°55.0 | 22°55.2 | 22°55.4 | 22°55.7 | 22°55.9 | +0.2 |
| Me 9 | 270°09.7 | 285°09.6 | 300°09.4 | 315°09.3 | 330°09.2 | 345°09.1 | 0°08.9 | 15°08.8 | 30°08.7 | 45°08.6 | 60°08.4 | 75°08.3 | -0.1 |
| | 22°58.5 | 22°58.7 | 22°58.9 | 22°59.1 | 22°59.3 | 22°59.5 | 22°59.7 | 22°59.9 | 23°00.0 | 23°00.2 | 23°00.4 | 23°00.6 | +0.2 |
| Je 10 | 270°06.7 | 285°06.5 | 300°06.4 | 315°06.3 | 330°06.2 | 345°06.0 | 0°05.9 | 15°05.8 | 30°05.6 | 45°05.5 | 60°05.4 | 75°05.3 | -0.1 |
| | 23°03.0 | 23°03.2 | 23°03.4 | 23°03.6 | 23°03.7 | 23°03.9 | 23°04.1 | 23°04.3 | 23°04.5 | 23°04.6 | 23°04.8 | 23°05.0 | +0.2 |
| Ve 11 | 270°03.6 | 285°03.5 | 300°03.3 | 315°03.2 | 330°03.1 | 345°02.9 | 0°02.8 | 15°02.7 | 30°02.6 | 45°02.4 | 60°02.3 | 75°02.2 | -0.1 |
| | 23°07.2 | 23°07.3 | 23°07.5 | 23°07.7 | 23°07.8 | 23°08.0 | 23°08.1 | 23°08.3 | 23°08.4 | 23°08.6 | 23°08.8 | 23°08.9 | +0.2 |
| Sa 12 | 270°00.5 | 285°00.3 | 300°00.2 | 315°00.1 | 330°00.0 | 344°59.8 | 359°59.7 | 14°59.6 | 29°59.4 | 44°59.3 | 59°59.2 | 74°59.0 | -0.1 |
| | 23°10.9 | 23°11.0 | 23°11.2 | 23°11.3 | 23°11.5 | 23°11.6 | 23°11.8 | 23°11.9 | 23°12.0 | 23°12.2 | 23°12.3 | 23°12.5 | +0.1 |
| Di 13 | 269°57.3 | 284°57.2 | 299°57.1 | 314°56.9 | 329°56.8 | 344°56.7 | 359°56.5 | 14°56.4 | 29°56.3 | 44°56.1 | 59°56.0 | 74°55.9 | -0.1 |
| | 23°14.2 | 23°14.3 | 23°14.5 | 23°14.6 | 23°14.7 | 23°14.8 | 23°15.0 | 23°15.1 | 23°15.2 | 23°15.3 | 23°15.5 | 23°15.6 | +0.1 |
| Lu 14 | 269°54.1 | 284°54.0 | 299°53.9 | 314°53.7 | 329°53.6 | 344°53.5 | 359°53.3 | 14°53.2 | 29°53.1 | 44°52.9 | 59°52.8 | 74°52.7 | -0.1 |
| | 23°17.1 | 23°17.2 | 23°17.3 | 23°17.5 | 23°17.6 | 23°17.7 | 23°17.8 | 23°17.9 | 23°18.0 | 23°18.1 | 23°18.2 | 23°18.3 | +0.1 |
| Ma 15 | 269°50.9 | 284°50.8 | 299°50.7 | 314°50.5 | 329°50.4 | 344°50.3 | 359°50.1 | 14°50.0 | 29°49.9 | 44°49.7 | 59°49.6 | 74°49.5 | -0.1 |
| | 23°19.6 | 23°19.7 | 23°19.8 | 23°19.9 | 23°20.0 | 23°20.1 | 23°20.2 | 23°20.3 | 23°20.4 | 23°20.4 | 23°20.5 | 23°20.6 | +0.1 |
| Me 16 | 269°47.7 | 284°47.6 | 299°47.4 | 314°47.3 | 329°47.2 | 344°47.0 | 359°46.9 | 14°46.8 | 29°46.6 | 44°46.5 | 59°46.4 | 74°46.2 | -0.1 |
| | 23°21.7 | 23°21.8 | 23°21.9 | 23°21.9 | 23°22.0 | 23°22.1 | 23°22.2 | 23°22.2 | 23°22.3 | 23°22.4 | 23°22.4 | 23°22.5 | +0.1 |
| Je 17 | 269°44.5 | 284°44.3 | 299°44.2 | 314°44.1 | 329°43.9 | 344°43.8 | 359°43.6 | 14°43.5 | 29°43.4 | 44°43.2 | 59°43.1 | 74°43.0 | -0.1 |
| | 23°23.4 | 23°23.4 | 23°23.5 | 23°23.6 | 23°23.6 | 23°23.7 | 23°23.7 | 23°23.8 | 23°23.8 | 23°23.9 | 23°23.9 | 23°24.0 | +0.1 |
| Ve 18 | 269°41.2 | 284°41.1 | 299°40.9 | 314°40.8 | 329°40.7 | 344°40.5 | 359°40.4 | 14°40.3 | 29°40.1 | 44°40.0 | 59°39.9 | 74°39.7 | -0.1 |
| | 23°24.6 | 23°24.7 | 23°24.7 | 23°24.8 | 23°24.8 | 23°24.8 | 23°24.9 | 23°24.9 | 23°25.0 | 23°25.0 | 23°25.0 | 23°25.1 | +0.0 |
| Sa 19 | 269°38.0 | 284°37.8 | 299°37.7 | 314°37.6 | 329°37.4 | 344°37.3 | 359°37.1 | 14°37.0 | 29°36.9 | 44°36.7 | 59°36.6 | 74°36.5 | -0.1 |
| | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | +0.0 |
| Di 20 | 269°34.7 | 284°34.6 | 299°34.4 | 314°34.3 | 329°34.2 | 344°34.0 | 359°33.9 | 14°33.8 | 29°33.6 | 44°33.5 | 59°33.4 | 74°33.2 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | 23°26.0 | +0.0 |
| Lu 21 | 269°31.5 | 284°31.3 | 299°31.2 | 314°31.1 | 329°30.9 | 344°30.8 | 359°30.7 | 14°30.5 | 29°30.4 | 44°30.3 | 59°30.1 | 74°30.0 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.8 | 23°25.8 | 23°25.8 | -0.0 |
| Ma 22 | 269°28.2 | 284°28.1 | 299°28.0 | 314°27.8 | 329°27.7 | 344°27.6 | 359°27.4 | 14°27.3 | 29°27.2 | 44°27.0 | 59°26.9 | 74°26.8 | -0.1 |
| | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.3 | 23°25.3 | 23°25.3 | 23°25.2 | -0.0 |
| Me 23 | 269°25.0 | 284°24.9 | 299°24.8 | 314°24.6 | 329°24.5 | 344°24.4 | 359°24.2 | 14°24.1 | 29°24.0 | 44°23.8 | 59°23.7 | 74°23.6 | -0.1 |
| | 23°24.7 | 23°24.7 | 23°24.7 | 23°24.6 | 23°24.6 | 23°24.5 | 23°24.5 | 23°24.4 | 23°24.4 | 23°24.3 | 23°24.3 | 23°24.2 | -0.0 |
| Je 24 | 269°21.8 | 284°21.7 | 299°21.6 | 314°21.4 | 329°21.3 | 344°21.2 | 359°21.0 | 14°20.9 | 29°20.8 | 44°20.7 | 59°20.5 | 74°20.4 | -0.1 |
| | 23°23.5 | 23°23.5 | 23°23.4 | 23°23.3 | 23°23.3 | 23°23.2 | 23°23.2 | 23°23.1 | 23°23.0 | 23°23.0 | 23°22.9 | 23°22.8 | -0.1 |
| Ve 25 | 269°18.7 | 284°18.6 | 299°18.4 | 314°18.3 | 329°18.2 | 344°18.0 | 359°17.9 | 14°17.8 | 29°17.6 | 44°17.5 | 59°17.4 | 74°17.2 | -0.1 |
| | 23°21.9 | 23°21.8 | 23°21.7 | 23°21.7 | 23°21.6 | 23°21.5 | 23°21.4 | 23°21.3 | 23°21.3 | 23°21.2 | 23°21.1 | 23°21.0 | -0.1 |
| Sa 26 | 269°15.6 | 284°15.4 | 299°15.3 | 314°15.2 | 329°15.0 | 344°14.9 | 359°14.8 | 14°14.6 | 29°14.5 | 44°14.4 | 59°14.3 | 74°14.1 | -0.1 |
| | 23°19.9 | 23°19.8 | 23°19.7 | 23°19.6 | 23°19.5 | 23°19.4 | 23°19.3 | 23°19.2 | 23°19.1 | 23°19.0 | 23°18.9 | 23°18.8 | -0.1 |
| Di 27 | 269°12.5 | 284°12.3 | 299°12.2 | 314°12.1 | 329°12.0 | 344°11.8 | 359°11.7 | 14°11.6 | 29°11.4 | 44°11.3 | 59°11.2 | 74°11.1 | -0.1 |
| | 23°17.4 | 23°17.3 | 23°17.2 | 23°17.1 | 23°17.0 | 23°16.8 | 23°16.7 | 23°16.6 | 23°16.5 | 23°16.4 | 23°16.3 | 23°16.1 | -0.1 |
| Lu 28 | 269°09.4 | 284°09.3 | 299°09.2 | 314°09.0 | 329°08.9 | 344°08.8 | 359°08.7 | 14°08.5 | 29°08.4 | 44°08.3 | 59°08.2 | 74°08.0 | -0.1 |
| | 23°14.5 | 23°14.4 | 23°14.3 | 23°14.2 | 23°14.0 | 23°13.9 | 23°13.8 | 23°13.6 | 23°13.5 | 23°13.4 | 23°13.2 | 23°13.1 | -0.1 |
| Ma 29 | 269°06.4 | 284°06.3 | 299°06.2 | 314°06.0 | 329°05.9 | 344°05.8 | 359°05.7 | 14°05.5 | 29°05.4 | 44°05.3 | 59°05.2 | 74°05.1 | -0.1 |
| | 23°11.3 | 23°11.1 | 23°11.0 | 23°10.8 | 23°10.7 | 23°10.5 | 23°10.4 | 23°10.2 | 23°10.1 | 23°09.9 | 23°09.8 | 23°09.6 | -0.1 |
| Me 30 | 269°03.5 | 284°03.3 | 299°03.2 | 314°03.1 | 329°03.0 | 344°02.9 | 359°02.7 | 14°02.6 | 29°02.5 | 44°02.4 | 59°02.2 | 74°02.1 | -0.1 |
| | 23°07.6 | 23°07.4 | 23°07.3 | 23°07.1 | 23°07.0 | 23°06.8 | 23°06.6 | 23°06.5 | 23°06.3 | 23°06.1 | 23°06.0 | 23°05.8 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2032

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 240°49.5 | 255°19.1 | 269°48.6 | 284°18.2 | 298°47.8 | 313°17.4 | 327°47.0 | 342°16.6 | 356°46.2 | 11°15.8 | 25°45.4 | +29.6 | 16.0 |
| | 1°46.9 | 1°58.6 | 2°10.3 | 2°21.9 | 2°33.6 | 2°45.2 | 2°56.8 | 3°08.4 | 3°19.9 | 3°31.5 | 3°43.0 | +11.6 | 58.7 |
| Me 2 | 255°19.1 | 269°48.6 | 284°18.2 | 298°47.8 | 313°17.4 | 327°47.0 | 342°16.6 | 356°46.2 | 11°15.8 | 25°45.4 | 40°15.0 | +29.6 | 16.0 |
| | 1°58.6 | 2°10.3 | 2°21.9 | 2°33.6 | 2°45.2 | 2°56.8 | 3°08.4 | 3°19.9 | 3°31.5 | 3°43.0 | 3°54.4 | +11.6 | 58.7 |
| Je 3 | 257°38.9 | 272°08.5 | 286°38.0 | 301°07.6 | 315°37.1 | 330°06.6 | 344°36.1 | 359°05.6 | 13°35.1 | 28°04.6 | 42°34.0 | +29.5 | 15.9 |
| | 6°42.9 | 6°53.8 | 7°04.7 | 7°15.5 | 7°26.3 | 7°37.1 | 7°47.8 | 7°58.4 | 8°09.1 | 8°19.6 | 8°30.1 | +10.7 | 58.3 |
| Ve 4 | 259°54.3 | 274°23.6 | 288°52.8 | 303°22.0 | 317°51.1 | 332°20.3 | 346°49.4 | 1°18.5 | 15°47.6 | 30°16.7 | 44°45.8 | +29.1 | 15.8 |
| | 11°01.0 | 11°10.5 | 11°20.0 | 11°29.5 | 11°38.8 | 11°48.1 | 11°57.3 | 12°06.5 | 12°15.6 | 12°24.6 | 12°33.5 | +9.3 | 57.8 |
| Sa 5 | 261°59.5 | 276°28.2 | 290°57.0 | 305°25.7 | 319°54.4 | 334°23.1 | 348°51.8 | 3°20.4 | 17°49.1 | 32°17.7 | 46°46.3 | +28.7 | 15.6 |
| | 14°38.3 | 14°45.9 | 14°53.5 | 15°01.0 | 15°08.4 | 15°15.7 | 15°22.9 | 15°30.0 | 15°37.1 | 15°44.0 | 15°50.9 | +7.3 | 57.3 |
| Di 6 | 263°53.7 | 278°22.1 | 292°50.5 | 307°18.9 | 321°47.2 | 336°15.6 | 350°43.9 | 5°12.3 | 19°40.6 | 34°09.0 | 48°37.3 | +28.4 | 15.5 |
| | 17°22.5 | 17°27.8 | 17°33.1 | 17°38.2 | 17°43.2 | 17°48.1 | 17°52.9 | 17°57.7 | 18°02.3 | 18°06.8 | 18°11.2 | +4.9 | 56.8 |
| Lu 7 | 265°42.2 | 280°10.5 | 294°38.9 | 309°07.2 | 323°35.6 | 338°04.0 | 352°32.4 | 7°00.8 | 21°29.2 | 35°57.6 | 50°26.0 | +28.4 | 15.3 |
| | 19°04.9 | 19°07.6 | 19°10.2 | 19°12.7 | 19°15.1 | 19°17.4 | 19°19.6 | 19°21.7 | 19°23.7 | 19°25.6 | 19°27.4 | +2.3 | 56.3 |
| ● Ma 8 | 267°34.7 | 282°03.4 | 296°32.2 | 311°01.0 | 325°29.8 | 339°58.7 | 354°27.5 | 8°56.5 | 23°25.4 | 37°54.4 | 52°23.4 | +28.9 | 15.2 |
| | 19°41.2 | 19°41.2 | 19°41.2 | 19°41.1 | 19°40.8 | 19°40.5 | 19°40.0 | 19°39.5 | 19°38.8 | 19°38.1 | 19°37.2 | -0.4 | 55.7 |
| Me 9 | 269°42.6 | 284°12.2 | 298°41.9 | 313°11.5 | 327°41.2 | 342°11.0 | 356°40.8 | 11°10.7 | 25°40.5 | 40°10.5 | 54°40.4 | +29.8 | 15.1 |
| | 19°12.4 | 19°09.9 | 19°07.4 | 19°04.8 | 19°02.0 | 18°59.2 | 18°56.3 | 18°53.3 | 18°50.2 | 18°47.0 | 18°43.7 | -2.9 | 55.2 |
| Je 10 | 272°15.7 | 286°46.4 | 301°17.2 | 315°48.1 | 330°18.9 | 344°49.9 | 359°20.8 | 13°51.9 | 28°23.0 | 42°54.1 | 57°25.3 | +31.0 | 14.9 |
| | 17°44.0 | 17°39.4 | 17°34.6 | 17°29.8 | 17°24.9 | 17°19.9 | 17°14.9 | 17°09.7 | 17°04.5 | 16°59.2 | 16°53.9 | -5.0 | 54.8 |
| Ve 11 | 275°19.0 | 289°50.9 | 304°23.0 | 318°55.0 | 333°27.1 | 347°59.3 | 2°31.5 | 17°03.8 | 31°36.1 | 46°08.4 | 60°40.8 | +32.2 | 14.8 |
| | 15°24.7 | 15°18.2 | 15°11.7 | 15°05.1 | 14°58.4 | 14°51.6 | 14°44.8 | 14°38.0 | 14°31.0 | 14°24.0 | 14°17.0 | -6.8 | 54.4 |
| Sa 12 | 278°52.2 | 293°25.3 | 307°58.4 | 322°31.6 | 337°04.8 | 351°38.1 | 6°11.4 | 20°44.7 | 35°18.1 | 49°51.5 | 64°24.9 | +33.3 | 14.8 |
| | 12°24.5 | 12°16.6 | 12°08.6 | 12°00.6 | 11°52.5 | 11°44.4 | 11°36.2 | 11°28.0 | 11°19.8 | 11°11.5 | 11°03.1 | -8.1 | 54.2 |
| Di 13 | 282°50.4 | 297°24.4 | 311°58.4 | 326°32.3 | 341°06.4 | 355°40.4 | 10°14.5 | 24°48.6 | 39°22.7 | 53°56.8 | 68°31.0 | +34.1 | 14.8 |
| | 8°53.2 | 8°44.2 | 8°35.2 | 8°26.1 | 8°17.1 | 8°08.0 | 7°58.8 | 7°49.7 | 7°40.5 | 7°31.3 | 7°22.0 | -9.1 | 54.1 |
| Lu 14 | 287°05.3 | 301°39.7 | 316°14.1 | 330°48.5 | 345°22.9 | 359°57.3 | 14°31.7 | 29°06.2 | 43°40.6 | 58°15.0 | 72°49.5 | +34.4 | 14.8 |
| | 5°00.0 | 4°50.3 | 4°40.6 | 4°30.9 | 4°21.2 | 4°11.5 | 4°01.7 | 3°51.9 | 3°42.1 | 3°32.3 | 3°22.5 | -9.7 | 54.2 |
| Ma 15 | 291°25.9 | 306°00.2 | 320°34.6 | 335°09.0 | 349°43.3 | 4°17.6 | 18°51.9 | 33°26.2 | 48°00.5 | 62°34.8 | 77°09.0 | +34.3 | 14.8 |
| | 0°53.4 | 0°43.4 | 0°33.4 | 0°23.4 | 0°13.3 | 0°03.3 | -0°06.8 | -0°16.8 | -0°26.9 | -0°37.0 | -0°47.0 | -10.1 | 54.4 |
| ◐ Me 16 | 295°40.0 | 310°13.9 | 324°47.7 | 339°21.5 | 353°55.2 | 8°28.9 | 23°02.6 | 37°36.3 | 52°09.9 | 66°43.5 | 81°17.0 | +33.7 | 15.0 |
| | -3°18.1 | -3°28.1 | -3°38.2 | -3°48.2 | -3°58.2 | -4°08.2 | -4°18.2 | -4°28.2 | -4°38.2 | -4°48.2 | -4°58.1 | -10.0 | 54.9 |
| Je 17 | 299°34.8 | 314°07.6 | 328°40.3 | 343°13.0 | 357°45.7 | 12°18.3 | 26°50.8 | 41°23.3 | 55°55.7 | 70°28.1 | 85°00.4 | +32.6 | 15.1 |
| | -7°25.6 | -7°35.3 | -7°45.0 | -7°54.6 | -8°04.2 | -8°13.8 | -8°23.3 | -8°32.8 | -8°42.3 | -8°51.8 | -9°01.2 | -9.6 | 55.5 |
| Ve 18 | 302°57.4 | 317°28.7 | 331°59.9 | 346°31.0 | 1°02.1 | 15°33.1 | 30°04.0 | 44°34.8 | 59°05.6 | 73°36.3 | 88°06.9 | +30.9 | 15.3 |
| | -11°18.7 | -11°27.5 | -11°36.3 | -11°45.1 | -11°53.8 | -12°02.5 | -12°11.1 | -12°19.6 | -12°28.2 | -12°36.6 | -12°45.0 | -8.6 | 56.3 |
| Sa 19 | 305°36.8 | 320°06.2 | 334°35.5 | 349°04.7 | 3°33.8 | 18°02.8 | 32°31.8 | 47°00.6 | 61°29.4 | 75°58.1 | 90°26.7 | +29.0 | 15.6 |
| | -14°44.3 | -14°51.8 | -14°59.2 | -15°06.5 | -15°13.7 | -15°20.9 | -15°28.0 | -15°35.0 | -15°41.9 | -15°48.8 | -15°55.6 | -7.1 | 57.1 |
| Di 20 | 307°26.2 | 321°53.5 | 336°20.7 | 350°47.9 | 5°14.9 | 19°41.9 | 34°08.8 | 48°35.7 | 63°02.4 | 77°29.1 | 91°55.7 | +27.0 | 15.8 |
| | -17°27.2 | -17°32.6 | -17°37.9 | -17°43.1 | -17°48.2 | -17°53.2 | -17°58.1 | -18°02.9 | -18°07.6 | -18°12.2 | -18°16.7 | -4.9 | 58.0 |
| Lu 21 | 308°26.1 | 322°51.5 | 337°17.0 | 351°42.3 | 6°07.6 | 20°32.8 | 34°58.0 | 49°23.1 | 63°48.2 | 78°13.2 | 92°38.2 | +25.2 | 16.1 |
| | -19°10.7 | -19°13.4 | -19°15.9 | -19°18.4 | -19°20.7 | -19°22.9 | -19°25.0 | -19°26.9 | -19°28.7 | -19°30.4 | -19°32.0 | -2.1 | 58.9 |
| Ma 22 | 308°47.0 | 323°11.3 | 337°35.6 | 351°59.8 | 6°24.0 | 20°48.2 | 35°12.4 | 49°36.5 | 64°00.6 | 78°24.7 | 92°48.8 | +24.2 | 16.3 |
| | -19°39.9 | -19°39.3 | -19°38.7 | -19°37.9 | -19°36.9 | -19°35.9 | -19°34.7 | -19°33.3 | -19°31.8 | -19°30.2 | -19°28.5 | +1.1 | 59.6 |
| ○ Me 23 | 308°48.8 | 323°12.8 | 337°36.9 | 352°00.9 | 6°24.9 | 20°49.0 | 35°13.0 | 49°37.1 | 64°01.2 | 78°25.3 | 92°49.4 | +24.1 | 16.4 |
| | -18°45.9 | -18°42.0 | -18°38.0 | -18°33.8 | -18°29.5 | -18°25.1 | -18°20.5 | -18°15.8 | -18°11.0 | -18°06.0 | -18°00.9 | +4.5 | 60.1 |
| Je 24 | 308°54.6 | 323°19.3 | 337°43.9 | 352°08.6 | 6°33.3 | 20°58.1 | 35°22.9 | 49°47.8 | 64°12.7 | 78°37.6 | 93°02.6 | +24.1 | 16.5 |
| | -16°29.8 | -16°22.8 | -16°15.7 | -16°08.4 | -16°01.0 | -15°53.6 | -15°46.0 | -15°38.3 | -15°30.5 | -15°22.6 | -15°14.6 | +7.5 | 60.4 |
| Ve 25 | 309°23.4 | 323°49.2 | 338°15.0 | 352°40.9 | 7°06.9 | 21°32.9 | 35°58.9 | 50°25.1 | 64°51.2 | 79°17.5 | 93°43.7 | +26.0 | 16.5 |
| | -13°02.7 | -12°53.2 | -12°43.6 | -12°33.9 | -12°24.2 | -12°14.3 | -12°04.4 | -11°54.4 | -11°44.4 | -11°34.2 | -11°24.0 | +9.9 | 60.4 |
| Sa 26 | 323°49.2 | 338°15.0 | 352°40.9 | 7°06.9 | 21°32.9 | 35°58.9 | 50°25.1 | 64°51.2 | 79°17.5 | 93°43.7 | 108°10.1 | +26.1 | 16.5 |
| | -12°53.2 | -12°43.6 | -12°33.9 | -12°24.2 | -12°14.3 | -12°04.4 | -11°54.4 | -11°44.4 | -11°34.2 | -11°24.0 | -11°13.7 | +10.0 | 60.4 |
| Di 27 | 324°51.6 | 339°18.8 | 353°46.0 | 8°13.3 | 22°40.7 | 37°08.1 | 51°35.5 | 66°03.0 | 80°30.6 | 94°58.2 | 109°25.8 | +27.4 | 16.4 |
| | -8°32.1 | -8°20.9 | -8°09.6 | -7°58.3 | -7°47.0 | -7°35.6 | -7°24.1 | -7°12.7 | -7°01.2 | -6°49.6 | -6°38.1 | +11.4 | 60.1 |
| Lu 28 | 326°25.9 | 340°54.2 | 355°22.6 | 9°51.0 | 24°19.5 | 38°48.0 | 53°16.5 | 67°45.1 | 82°13.7 | 96°42.3 | 111°11.0 | +28.5 | 16.3 |
| | -3°41.2 | -3°29.3 | -3°17.3 | -3°05.4 | -2°53.4 | -2°41.4 | -2°29.4 | -2°17.4 | -2°05.4 | -1°53.4 | -1°41.4 | +12.0 | 59.7 |
| Ma 29 | 328°24.6 | 342°53.7 | 357°22.9 | 11°52.0 | 26°21.2 | 40°50.4 | 55°19.6 | 69°48.9 | 84°18.1 | 98°47.4 | 113°16.7 | +29.2 | 16.1 |
| | 1°18.0 | 1°29.9 | 1°41.7 | 1°53.5 | 2°05.4 | 2°17.1 | 2°28.9 | 2°40.6 | 2°52.3 | 3°04.0 | 3°15.7 | +11.8 | 59.1 |
| ◑ Me 30 | 330°37.5 | 345°07.0 | 359°36.4 | 14°05.9 | 28°35.4 | 43°04.9 | 57°34.3 | 72°03.8 | 86°33.3 | 101°02.8 | 115°32.3 | +29.5 | 15.9 |
| | 6°06.6 | 6°17.7 | 6°28.8 | 6°39.8 | 6°50.7 | 7°01.6 | 7°12.5 | 7°23.3 | 7°34.0 | 7°44.7 | 7°55.4 | +10.9 | 58.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 8 01h32 — PQ: 16 02h59 — PL: 23 11h32 — DQ: 30 02h11

# SOLEIL

## Juillet 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 269°00.6 | 284°00.4 | 299°00.3 | 314°00.2 | 329°00.1 | 344°00.0 | 358°59.9 | 13°59.7 | 28°59.6 | 43°59.5 | 58°59.4 | 73°59.3 | -0.1 |
| | 23°03.5 | 23°03.3 | 23°03.2 | 23°03.0 | 23°02.8 | 23°02.6 | 23°02.4 | 23°02.3 | 23°02.1 | 23°01.9 | 23°01.7 | 23°01.5 | -0.2 |
| Ve 2 | 268°57.7 | 283°57.6 | 298°57.5 | 313°57.4 | 328°57.3 | 343°57.2 | 358°57.0 | 13°56.9 | 28°56.8 | 43°56.7 | 58°56.6 | 73°56.5 | -0.1 |
| | 22°59.0 | 22°58.8 | 22°58.6 | 22°58.5 | 22°58.3 | 22°58.1 | 22°57.9 | 22°57.7 | 22°57.5 | 22°57.3 | 22°57.1 | 22°56.9 | -0.2 |
| Sa 3 | 268°55.0 | 283°54.9 | 298°54.7 | 313°54.6 | 328°54.5 | 343°54.4 | 358°54.3 | 13°54.2 | 28°54.1 | 43°54.0 | 58°53.8 | 73°53.7 | -0.1 |
| | 22°54.2 | 22°53.9 | 22°53.7 | 22°53.5 | 22°53.3 | 22°53.1 | 22°52.9 | 22°52.7 | 22°52.4 | 22°52.2 | 22°52.0 | 22°51.8 | -0.2 |
| Di 4 | 268°52.3 | 283°52.2 | 298°52.1 | 313°51.9 | 328°51.8 | 343°51.7 | 358°51.6 | 13°51.5 | 28°51.4 | 43°51.3 | 58°51.2 | 73°51.1 | -0.1 |
| | 22°48.9 | 22°48.6 | 22°48.4 | 22°48.2 | 22°48.0 | 22°47.7 | 22°47.5 | 22°47.3 | 22°47.0 | 22°46.8 | 22°46.6 | 22°46.3 | -0.2 |
| Lu 5 | 268°49.7 | 283°49.6 | 298°49.5 | 313°49.3 | 328°49.2 | 343°49.1 | 358°49.0 | 13°48.9 | 28°48.8 | 43°48.7 | 58°48.6 | 73°48.5 | -0.1 |
| | 22°43.2 | 22°42.9 | 22°42.7 | 22°42.5 | 22°42.2 | 22°42.0 | 22°41.7 | 22°41.5 | 22°41.2 | 22°41.0 | 22°40.7 | 22°40.5 | -0.2 |
| Ma 6 | 268°47.1 | 283°47.0 | 298°46.9 | 313°46.8 | 328°46.7 | 343°46.6 | 358°46.5 | 13°46.4 | 28°46.3 | 43°46.2 | 58°46.1 | 73°46.0 | -0.1 |
| | 22°37.1 | 22°36.9 | 22°36.6 | 22°36.3 | 22°36.1 | 22°35.8 | 22°35.5 | 22°35.3 | 22°35.0 | 22°34.7 | 22°34.5 | 22°34.2 | -0.3 |
| Me 7 | 268°44.7 | 283°44.6 | 298°44.5 | 313°44.4 | 328°44.3 | 343°44.2 | 358°44.1 | 13°44.0 | 28°43.9 | 43°43.8 | 58°43.7 | 73°43.6 | -0.1 |
| | 22°30.6 | 22°30.4 | 22°30.1 | 22°29.8 | 22°29.5 | 22°29.3 | 22°29.0 | 22°28.7 | 22°28.4 | 22°28.1 | 22°27.8 | 22°27.6 | -0.3 |
| Je 8 | 268°42.4 | 283°42.3 | 298°42.2 | 313°42.1 | 328°42.0 | 343°41.9 | 358°41.8 | 13°41.7 | 28°41.6 | 43°41.5 | 58°41.4 | 73°41.3 | -0.1 |
| | 22°23.8 | 22°23.5 | 22°23.2 | 22°22.9 | 22°22.6 | 22°22.3 | 22°22.0 | 22°21.7 | 22°21.4 | 22°21.1 | 22°20.8 | 22°20.5 | -0.3 |
| Ve 9 | 268°40.1 | 283°40.1 | 298°40.0 | 313°39.9 | 328°39.8 | 343°39.7 | 358°39.6 | 13°39.5 | 28°39.4 | 43°39.3 | 58°39.2 | 73°39.2 | -0.1 |
| | 22°16.6 | 22°16.2 | 22°15.9 | 22°15.6 | 22°15.3 | 22°15.0 | 22°14.7 | 22°14.4 | 22°14.1 | 22°13.7 | 22°13.4 | 22°13.1 | -0.3 |
| Sa 10 | 268°38.0 | 283°37.9 | 298°37.8 | 313°37.8 | 328°37.7 | 343°37.6 | 358°37.5 | 13°37.4 | 28°37.3 | 43°37.3 | 58°37.2 | 73°37.1 | -0.1 |
| | 22°08.9 | 22°08.6 | 22°08.3 | 22°07.9 | 22°07.6 | 22°07.3 | 22°07.0 | 22°06.6 | 22°06.3 | 22°06.0 | 22°05.6 | 22°05.3 | -0.3 |
| Di 11 | 268°36.0 | 283°35.9 | 298°35.8 | 313°35.8 | 328°35.7 | 343°35.6 | 358°35.5 | 13°35.4 | 28°35.4 | 43°35.3 | 58°35.2 | 73°35.1 | -0.1 |
| | 22°00.9 | 22°00.6 | 22°00.2 | 21°59.9 | 21°59.6 | 21°59.2 | 21°58.9 | 21°58.5 | 21°58.2 | 21°57.8 | 21°57.5 | 21°57.1 | -0.3 |
| Lu 12 | 268°34.1 | 283°34.0 | 298°34.0 | 313°33.9 | 328°33.8 | 343°33.7 | 358°33.7 | 13°33.6 | 28°33.5 | 43°33.4 | 58°33.4 | 73°33.3 | -0.1 |
| | 21°52.5 | 21°52.2 | 21°51.8 | 21°51.5 | 21°51.1 | 21°50.7 | 21°50.4 | 21°50.0 | 21°49.7 | 21°49.3 | 21°48.9 | 21°48.6 | -0.4 |
| Ma 13 | 268°32.3 | 283°32.3 | 298°32.2 | 313°32.1 | 328°32.1 | 343°32.0 | 358°31.9 | 13°31.8 | 28°31.8 | 43°31.7 | 58°31.6 | 73°31.6 | -0.1 |
| | 21°43.8 | 21°43.4 | 21°43.0 | 21°42.7 | 21°42.3 | 21°41.9 | 21°41.5 | 21°41.2 | 21°40.8 | 21°40.4 | 21°40.0 | 21°39.6 | -0.4 |
| Me 14 | 268°30.7 | 283°30.6 | 298°30.6 | 313°30.5 | 328°30.4 | 343°30.4 | 358°30.3 | 13°30.2 | 28°30.2 | 43°30.1 | 58°30.0 | 73°30.0 | -0.1 |
| | 21°34.7 | 21°34.3 | 21°33.9 | 21°33.5 | 21°33.1 | 21°32.7 | 21°32.3 | 21°31.9 | 21°31.5 | 21°31.1 | 21°30.7 | 21°30.4 | -0.4 |
| Je 15 | 268°29.2 | 283°29.1 | 298°29.0 | 313°29.0 | 328°28.9 | 343°28.9 | 358°28.8 | 13°28.8 | 28°28.7 | 43°28.6 | 58°28.6 | 73°28.5 | -0.1 |
| | 21°25.2 | 21°24.8 | 21°24.4 | 21°24.0 | 21°23.5 | 21°23.1 | 21°22.7 | 21°22.3 | 21°21.9 | 21°21.5 | 21°21.1 | 21°20.7 | -0.4 |
| Ve 16 | 268°27.8 | 283°27.7 | 298°27.7 | 313°27.6 | 328°27.6 | 343°27.5 | 358°27.5 | 13°27.4 | 28°27.3 | 43°27.3 | 58°27.2 | 73°27.2 | -0.1 |
| | 21°15.3 | 21°14.9 | 21°14.5 | 21°14.0 | 21°13.6 | 21°13.2 | 21°12.8 | 21°12.4 | 21°11.9 | 21°11.5 | 21°11.1 | 21°10.7 | -0.4 |
| Sa 17 | 268°26.5 | 283°26.5 | 298°26.4 | 313°26.4 | 328°26.3 | 343°26.3 | 358°26.2 | 13°26.2 | 28°26.1 | 43°26.1 | 58°26.0 | 73°26.0 | -0.0 |
| | 21°05.1 | 21°04.7 | 21°04.2 | 21°03.8 | 21°03.4 | 21°02.9 | 21°02.5 | 21°02.0 | 21°01.6 | 21°01.2 | 21°00.7 | 21°00.3 | -0.4 |
| Di 18 | 268°25.4 | 283°25.4 | 298°25.3 | 313°25.3 | 328°25.2 | 343°25.2 | 358°25.2 | 13°25.1 | 28°25.1 | 43°25.0 | 58°25.0 | 73°25.0 | -0.0 |
| | 20°54.5 | 20°54.1 | 20°53.6 | 20°53.2 | 20°52.7 | 20°52.3 | 20°51.8 | 20°51.4 | 20°50.9 | 20°50.5 | 20°50.0 | 20°49.6 | -0.5 |
| Lu 19 | 268°24.4 | 283°24.4 | 298°24.4 | 313°24.3 | 328°24.3 | 343°24.3 | 358°24.2 | 13°24.2 | 28°24.2 | 43°24.1 | 58°24.1 | 73°24.0 | -0.0 |
| | 20°43.6 | 20°43.1 | 20°42.7 | 20°42.2 | 20°41.7 | 20°41.3 | 20°40.8 | 20°40.3 | 20°39.9 | 20°39.4 | 20°38.9 | 20°38.5 | -0.5 |
| Ma 20 | 268°23.6 | 283°23.6 | 298°23.6 | 313°23.5 | 328°23.5 | 343°23.5 | 358°23.4 | 13°23.4 | 28°23.4 | 43°23.3 | 58°23.3 | 73°23.3 | -0.0 |
| | 20°32.3 | 20°31.8 | 20°31.4 | 20°30.9 | 20°30.4 | 20°29.9 | 20°29.4 | 20°29.0 | 20°28.5 | 20°28.0 | 20°27.5 | 20°27.0 | -0.5 |
| Me 21 | 268°22.9 | 283°22.9 | 298°22.9 | 313°22.9 | 328°22.8 | 343°22.8 | 358°22.8 | 13°22.8 | 28°22.7 | 43°22.7 | 58°22.7 | 73°22.7 | -0.0 |
| | 20°20.7 | 20°20.2 | 20°19.7 | 20°19.2 | 20°18.7 | 20°18.2 | 20°17.7 | 20°17.3 | 20°16.8 | 20°16.3 | 20°15.8 | 20°15.3 | -0.5 |
| Je 22 | 268°22.4 | 283°22.4 | 298°22.4 | 313°22.3 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.2 | 43°22.2 | 58°22.2 | 73°22.2 | -0.0 |
| | 20°08.7 | 20°08.2 | 20°07.7 | 20°07.2 | 20°06.7 | 20°06.2 | 20°05.7 | 20°05.2 | 20°04.7 | 20°04.2 | 20°03.7 | 20°03.2 | -0.5 |
| Ve 23 | 268°22.0 | 283°22.0 | 298°22.0 | 313°22.0 | 328°21.9 | 343°21.9 | 358°21.9 | 13°21.9 | 28°21.9 | 43°21.9 | 58°21.9 | 73°21.9 | -0.0 |
| | 19°56.5 | 19°55.9 | 19°55.4 | 19°54.9 | 19°54.4 | 19°53.9 | 19°53.3 | 19°52.8 | 19°52.3 | 19°51.8 | 19°51.2 | 19°50.7 | -0.5 |
| Sa 24 | 268°21.7 | 283°21.7 | 298°21.7 | 313°21.7 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.7 | -0.0 |
| | 19°43.8 | 19°43.3 | 19°42.8 | 19°42.2 | 19°41.7 | 19°41.2 | 19°40.6 | 19°40.1 | 19°39.5 | 19°39.0 | 19°38.5 | 19°37.9 | -0.5 |
| Di 25 | 268°21.6 | 283°21.6 | 298°21.6 | 313°21.6 | 328°21.6 | 343°21.6 | 358°21.6 | 13°21.6 | 28°21.6 | 43°21.6 | 58°21.6 | 73°21.6 | +0.0 |
| | 19°30.9 | 19°30.3 | 19°29.8 | 19°29.2 | 19°28.7 | 19°28.1 | 19°27.6 | 19°27.0 | 19°26.5 | 19°25.9 | 19°25.4 | 19°24.8 | -0.5 |
| Lu 26 | 268°21.7 | 283°21.7 | 298°21.7 | 313°21.7 | 328°21.7 | 343°21.7 | 358°21.7 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.8 | +0.0 |
| | 19°17.6 | 19°17.0 | 19°16.5 | 19°15.9 | 19°15.4 | 19°14.8 | 19°14.2 | 19°13.7 | 19°13.1 | 19°12.5 | 19°12.0 | 19°11.4 | -0.6 |
| Ma 27 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.9 | 13°22.0 | 28°22.0 | 43°22.0 | 58°22.0 | 73°22.0 | +0.0 |
| | 19°04.0 | 19°03.4 | 19°02.9 | 19°02.3 | 19°01.7 | 19°01.1 | 19°00.6 | 19°00.0 | 18°59.4 | 18°58.8 | 18°58.2 | 18°57.7 | -0.6 |
| Me 28 | 268°22.2 | 283°22.2 | 298°22.2 | 313°22.3 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.4 | 43°22.4 | 58°22.4 | 73°22.4 | +0.0 |
| | 18°50.1 | 18°49.5 | 18°48.9 | 18°48.3 | 18°47.7 | 18°47.1 | 18°46.6 | 18°46.0 | 18°45.4 | 18°44.8 | 18°44.2 | 18°43.6 | -0.6 |
| Je 29 | 268°22.7 | 283°22.7 | 298°22.7 | 313°22.8 | 328°22.8 | 343°22.8 | 358°22.8 | 13°22.9 | 28°22.9 | 43°22.9 | 58°22.9 | 73°23.0 | +0.0 |
| | 18°35.9 | 18°35.3 | 18°34.7 | 18°34.1 | 18°33.5 | 18°32.9 | 18°32.3 | 18°31.7 | 18°31.1 | 18°30.4 | 18°29.8 | 18°29.2 | -0.6 |
| Ve 30 | 268°23.3 | 283°23.3 | 298°23.4 | 313°23.4 | 328°23.4 | 343°23.5 | 358°23.5 | 13°23.5 | 28°23.6 | 43°23.6 | 58°23.6 | 73°23.7 | +0.0 |
| | 18°21.3 | 18°20.7 | 18°20.1 | 18°19.5 | 18°18.9 | 18°18.3 | 18°17.7 | 18°17.0 | 18°16.4 | 18°15.8 | 18°15.2 | 18°14.6 | -0.6 |
| Sa 31 | 268°24.1 | 283°24.1 | 298°24.2 | 313°24.2 | 328°24.2 | 343°24.3 | 358°24.3 | 13°24.3 | 28°24.4 | 43°24.4 | 58°24.5 | 73°24.5 | +0.0 |
| | 18°06.5 | 18°05.9 | 18°05.2 | 18°04.6 | 18°04.0 | 18°03.4 | 18°02.7 | 18°02.1 | 18°01.5 | 18°00.9 | 18°00.2 | 17°59.6 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2032

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 233°43.1 | 248°12.3 | 262°41.6 | 277°10.9 | 291°40.1 | 306°09.3 | 320°38.6 | 335°07.8 | 349°37.0 | 4°06.1 | 18°35.3 | +29.2 | 15.6 |
| | 13°12.6 | 13°21.0 | 13°29.4 | 13°37.6 | 13°45.8 | 13°53.9 | 14°01.9 | 14°09.9 | 14°17.7 | 14°25.5 | 14°33.2 | +8.1 | 57.4 |
| Ve 2 | 248°12.3 | 262°41.6 | 277°10.9 | 291°40.1 | 306°09.3 | 320°38.6 | 335°07.8 | 349°37.0 | 4°06.1 | 18°35.3 | 33°04.5 | +29.2 | 15.6 |
| | 13°21.0 | 13°29.4 | 13°37.6 | 13°45.8 | 13°53.9 | 14°01.9 | 14°09.9 | 14°17.7 | 14°25.5 | 14°33.2 | 14°40.8 | +8.0 | 57.3 |
| Sa 3 | 250°20.6 | 264°49.5 | 279°18.5 | 293°47.5 | 308°16.4 | 322°45.4 | 337°14.3 | 351°43.3 | 6°12.2 | 20°41.1 | 35°10.0 | +28.9 | 15.5 |
| | 16°24.3 | 16°30.5 | 16°36.5 | 16°42.5 | 16°48.4 | 16°54.2 | 16°59.9 | 17°05.5 | 17°11.1 | 17°16.5 | 17°21.8 | +5.8 | 56.7 |
| Di 4 | 252°22.9 | 266°51.8 | 281°20.6 | 295°49.4 | 310°18.3 | 324°47.1 | 339°15.9 | 353°44.8 | 8°13.6 | 22°42.5 | 37°11.3 | +28.8 | 15.3 |
| | 18°29.8 | 18°33.5 | 18°37.2 | 18°40.7 | 18°44.1 | 18°47.4 | 18°50.7 | 18°53.8 | 18°56.8 | 18°59.7 | 19°02.5 | +3.3 | 56.2 |
| Lu 5 | 254°24.9 | 268°53.9 | 283°22.9 | 297°52.0 | 312°21.0 | 326°50.1 | 341°19.1 | 355°48.2 | 10°17.3 | 24°46.5 | 39°15.6 | +29.1 | 15.2 |
| | 19°32.3 | 19°33.5 | 19°34.5 | 19°35.5 | 19°36.3 | 19°37.1 | 19°37.7 | 19°38.3 | 19°38.7 | 19°39.1 | 19°39.3 | +0.7 | 55.6 |
| Ma 6 | 256°35.5 | 271°05.0 | 285°34.6 | 300°04.2 | 314°33.8 | 329°03.5 | 343°33.2 | 358°02.9 | 12°32.6 | 27°02.4 | 41°32.2 | +29.7 | 15.0 |
| | 19°30.7 | 19°29.4 | 19°27.9 | 19°26.3 | 19°24.7 | 19°22.9 | 19°21.0 | 19°19.1 | 19°17.1 | 19°14.9 | 19°12.7 | -1.8 | 55.2 |
| ● Me 7 | 259°03.9 | 273°34.3 | 288°04.8 | 302°35.3 | 317°05.8 | 331°36.4 | 346°07.1 | 0°37.7 | 15°08.4 | 29°39.2 | 44°10.0 | +30.6 | 14.9 |
| | 18°28.1 | 18°24.4 | 18°20.6 | 18°16.7 | 18°12.8 | 18°08.7 | 18°04.6 | 18°00.4 | 17°56.1 | 17°51.7 | 17°47.3 | -4.1 | 54.8 |
| Je 8 | 261°57.3 | 276°28.8 | 291°00.4 | 305°32.0 | 320°03.6 | 334°35.3 | 349°07.0 | 3°38.8 | 18°10.7 | 32°42.5 | 47°14.4 | +31.7 | 14.8 |
| | 16°30.9 | 16°25.3 | 16°19.5 | 16°13.6 | 16°07.7 | 16°01.8 | 15°55.7 | 15°49.6 | 15°43.4 | 15°37.1 | 15°30.8 | -6.0 | 54.4 |
| Ve 9 | 265°18.6 | 279°51.2 | 294°23.9 | 308°56.6 | 323°29.3 | 338°02.1 | 352°35.0 | 7°07.8 | 21°40.7 | 36°13.7 | 50°46.7 | +32.8 | 14.8 |
| | 13°48.4 | 13°41.0 | 13°33.7 | 13°26.3 | 13°18.8 | 13°11.2 | 13°03.7 | 12°56.0 | 12°48.3 | 12°40.6 | 12°32.8 | -7.6 | 54.2 |
| Sa 10 | 269°06.2 | 283°39.8 | 298°13.4 | 312°47.1 | 327°20.7 | 341°54.5 | 356°28.2 | 11°02.0 | 25°35.8 | 40°09.6 | 54°43.5 | +33.7 | 14.7 |
| | 10°30.2 | 10°21.7 | 10°13.1 | 10°04.5 | 9°55.9 | 9°47.2 | 9°38.5 | 9°29.7 | 9°20.9 | 9°12.1 | 9°03.2 | -8.7 | 54.0 |
| Di 11 | 273°14.7 | 287°48.9 | 302°23.2 | 316°57.5 | 331°31.8 | 346°06.2 | 0°40.5 | 15°14.9 | 29°49.3 | 44°23.7 | 58°58.1 | +34.3 | 14.7 |
| | 6°46.4 | 6°37.0 | 6°27.6 | 6°18.2 | 6°08.8 | 5°59.3 | 5°49.9 | 5°40.4 | 5°30.8 | 5°21.3 | 5°11.7 | -9.5 | 54.0 |
| Lu 12 | 277°35.6 | 292°10.2 | 306°44.7 | 321°19.3 | 335°53.9 | 350°28.4 | 5°03.0 | 19°37.6 | 34°12.1 | 48°46.7 | 63°21.2 | +34.6 | 14.7 |
| | 2°46.2 | 2°36.3 | 2°26.5 | 2°16.6 | 2°06.8 | 1°56.9 | 1°47.0 | 1°37.2 | 1°27.3 | 1°17.4 | 1°07.5 | -9.9 | 54.1 |
| Ma 13 | 281°58.7 | 296°33.1 | 311°07.5 | 325°41.8 | 340°16.2 | 354°50.5 | 9°24.8 | 23°59.1 | 38°33.4 | 53°07.6 | 67°41.9 | +34.3 | 14.8 |
| | -1°21.7 | -1°31.6 | -1°41.6 | -1°51.5 | -2°01.4 | -2°11.4 | -2°21.3 | -2°31.2 | -2°41.2 | -2°51.1 | -3°01.0 | -9.9 | 54.3 |
| Me 14 | 286°12.1 | 300°45.9 | 315°19.6 | 329°53.3 | 344°26.9 | 359°00.6 | 13°34.1 | 28°07.7 | 42°41.2 | 57°14.6 | 71°48.0 | +33.6 | 14.9 |
| | -5°28.4 | -5°38.2 | -5°47.9 | -5°57.6 | -6°07.2 | -6°16.9 | -6°26.5 | -6°36.1 | -6°45.7 | -6°55.3 | -7°04.8 | -9.6 | 54.8 |
| ◐ Je 15 | 290°03.6 | 304°36.2 | 319°08.8 | 333°41.3 | 348°13.8 | 2°46.2 | 17°18.5 | 31°50.8 | 46°23.1 | 60°55.2 | 75°27.3 | +32.4 | 15.1 |
| | -9°25.0 | -9°34.1 | -9°43.1 | -9°52.2 | -10°01.2 | -10°10.2 | -10°19.1 | -10°28.0 | -10°36.8 | -10°45.6 | -10°54.4 | -8.9 | 55.4 |
| Ve 16 | 293°21.1 | 307°52.1 | 322°23.1 | 336°54.0 | 351°24.8 | 5°55.6 | 20°26.2 | 34°56.8 | 49°27.4 | 63°57.8 | 78°28.2 | +30.7 | 15.3 |
| | -13°00.7 | -13°08.7 | -13°16.7 | -13°24.6 | -13°32.4 | -13°40.2 | -13°48.0 | -13°55.7 | -14°03.3 | -14°10.9 | -14°18.4 | -7.8 | 56.2 |
| Sa 17 | 295°54.4 | 310°23.5 | 324°52.5 | 339°21.4 | 353°50.3 | 8°19.1 | 22°47.8 | 37°16.4 | 51°44.9 | 66°13.4 | 80°41.7 | +28.7 | 15.6 |
| | -16°02.9 | -16°09.3 | -16°15.6 | -16°21.9 | -16°28.0 | -16°34.1 | -16°40.1 | -16°46.0 | -16°51.8 | -16°57.6 | -17°03.2 | -6.0 | 57.1 |
| Di 18 | 297°37.5 | 312°04.5 | 326°31.5 | 340°58.4 | 355°25.3 | 9°52.0 | 24°18.7 | 38°45.3 | 53°11.9 | 67°38.3 | 82°04.7 | +26.7 | 15.8 |
| | -18°17.1 | -18°21.2 | -18°25.2 | -18°29.2 | -18°33.0 | -18°36.7 | -18°40.4 | -18°43.9 | -18°47.3 | -18°50.6 | -18°53.7 | -3.7 | 58.1 |
| Lu 19 | 298°31.9 | 312°57.2 | 327°22.4 | 341°47.6 | 356°12.7 | 10°37.7 | 25°02.7 | 39°27.7 | 53°52.6 | 68°17.4 | 82°42.2 | +25.0 | 16.1 |
| | -19°27.6 | -19°28.9 | -19°30.0 | -19°31.1 | -19°32.0 | -19°32.8 | -19°33.5 | -19°34.0 | -19°34.4 | -19°34.7 | -19°34.8 | -0.7 | 59.0 |
| Ma 20 | 298°48.6 | 313°12.7 | 327°36.8 | 342°00.9 | 356°25.0 | 10°49.0 | 25°13.0 | 39°37.0 | 54°01.0 | 68°24.9 | 82°48.8 | +24.0 | 16.3 |
| | -19°21.2 | -19°19.2 | -19°17.1 | -19°14.9 | -19°12.5 | -19°09.9 | -19°07.3 | -19°04.5 | -19°01.6 | -18°58.5 | -18°55.3 | +2.6 | 59.9 |
| Me 21 | 298°46.8 | 313°10.6 | 327°34.5 | 341°58.3 | 356°22.2 | 10°46.1 | 25°10.0 | 39°33.9 | 53°57.9 | 68°21.8 | 82°45.8 | +23.9 | 16.5 |
| | -17°51.1 | -17°45.7 | -17°40.3 | -17°34.7 | -17°29.0 | -17°23.1 | -17°17.1 | -17°11.0 | -17°04.8 | -16°58.4 | -16°51.9 | +5.9 | 60.6 |
| ○ Je 22 | 298°48.1 | 313°12.5 | 327°36.9 | 342°01.4 | 356°25.9 | 10°50.4 | 25°15.0 | 39°39.6 | 54°04.2 | 68°28.9 | 82°53.7 | +24.6 | 16.6 |
| | -15°00.3 | -14°51.9 | -14°43.5 | -14°34.9 | -14°26.3 | -14°17.5 | -14°08.6 | -13°59.6 | -13°50.6 | -13°41.4 | -13°32.1 | +8.8 | 61.0 |
| Ve 23 | 299°09.8 | 313°35.3 | 328°00.8 | 342°26.3 | 356°51.9 | 11°17.5 | 25°43.2 | 40°08.9 | 54°34.7 | 69°00.5 | 83°26.4 | +25.7 | 16.7 |
| | -11°02.4 | -10°51.8 | -10°41.1 | -10°30.3 | -10°19.4 | -10°08.5 | -9°57.6 | -9°46.5 | -9°35.4 | -9°24.3 | -9°13.0 | +10.9 | 61.1 |
| Sa 24 | 300°00.3 | 314°26.9 | 328°53.6 | 343°20.3 | 357°47.1 | 12°13.9 | 26°40.8 | 41°07.7 | 55°34.6 | 70°01.6 | 84°28.6 | +26.8 | 16.6 |
| | -6°18.6 | -6°06.6 | -5°54.6 | -5°42.6 | -5°30.5 | -5°18.4 | -5°06.3 | -4°54.2 | -4°42.0 | -4°29.9 | -4°17.7 | +12.1 | 60.8 |
| Di 25 | 301°19.0 | 315°46.6 | 330°14.3 | 344°42.1 | 359°09.8 | 13°37.6 | 28°05.4 | 42°33.3 | 57°01.2 | 71°29.1 | 85°57.1 | +27.8 | 16.4 |
| | -1°13.2 | -1°00.9 | -0°48.6 | -0°36.3 | -0°24.0 | -0°11.7 | 0°00.6 | 0°12.9 | 0°25.1 | 0°37.4 | 0°49.6 | +12.3 | 60.3 |
| Lu 26 | 315°46.6 | 330°14.3 | 344°42.1 | 359°09.8 | 13°37.6 | 28°05.4 | 42°33.3 | 57°01.2 | 71°29.1 | 85°57.1 | 100°25.1 | +27.8 | 16.4 |
| | -1°00.9 | -0°48.6 | -0°36.3 | -0°24.0 | -0°11.7 | 0°00.6 | 0°12.9 | 0°25.1 | 0°37.4 | 0°49.6 | 1°01.8 | +12.3 | 60.3 |
| Ma 27 | 317°28.1 | 331°56.4 | 346°24.9 | 0°53.3 | 15°21.7 | 29°50.2 | 44°18.7 | 58°47.2 | 73°15.7 | 87°44.3 | 102°12.8 | +28.5 | 16.2 |
| | 4°02.0 | 4°13.8 | 4°25.5 | 4°37.2 | 4°48.8 | 5°00.5 | 5°12.0 | 5°23.5 | 5°35.0 | 5°46.4 | 5°57.8 | +11.6 | 59.5 |
| Me 28 | 319°22.8 | 333°51.5 | 348°20.3 | 2°49.0 | 17°17.8 | 31°46.6 | 46°15.4 | 60°44.2 | 75°13.0 | 89°41.8 | 104°10.6 | +28.8 | 16.0 |
| | 8°42.2 | 8°52.7 | 9°03.2 | 9°13.5 | 9°23.8 | 9°34.1 | 9°44.2 | 9°54.4 | 10°04.4 | 10°14.4 | 10°24.3 | +10.2 | 58.7 |
| ◑ Je 29 | 321°23.2 | 335°52.1 | 350°20.9 | 4°49.8 | 19°18.6 | 33°47.5 | 48°16.4 | 62°45.2 | 77°14.1 | 91°43.0 | 106°11.8 | +28.9 | 15.8 |
| | 12°43.9 | 12°52.6 | 13°01.2 | 13°09.7 | 13°18.1 | 13°26.5 | 13°34.8 | 13°42.9 | 13°51.0 | 13°59.1 | 14°07.0 | +8.3 | 57.8 |
| Ve 30 | 323°24.8 | 337°53.6 | 352°22.5 | 6°51.4 | 21°20.2 | 35°49.1 | 50°18.0 | 64°46.8 | 79°15.7 | 93°44.6 | 108°13.4 | +28.9 | 15.5 |
| | 15°55.2 | 16°01.7 | 16°08.1 | 16°14.4 | 16°20.6 | 16°26.7 | 16°32.7 | 16°38.6 | 16°44.4 | 16°50.2 | 16°55.8 | +6.1 | 57.0 |
| Sa 31 | 325°26.9 | 339°55.8 | 354°24.7 | 8°53.7 | 23°22.6 | 37°51.6 | 52°20.6 | 66°49.5 | 81°18.5 | 95°47.5 | 110°16.5 | +29.0 | 15.3 |
| | 18°08.3 | 18°12.4 | 18°16.3 | 18°20.2 | 18°23.9 | 18°27.5 | 18°31.1 | 18°34.5 | 18°37.8 | 18°41.1 | 18°44.2 | +3.6 | 56.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 7 14h41 — PQ: 15 18h32 — PL: 22 18h51 — DQ: 29 09h25

# SOLEIL

## Août 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 268°25.0 | 283°25.1 | 298°25.1 | 313°25.1 | 328°25.2 | 343°25.2 | 358°25.3 | 13°25.3 | 28°25.4 | 43°25.4 | 58°25.4 | 73°25.5 | +0.0 |
| | 17°51.4 | 17°50.7 | 17°50.1 | 17°49.5 | 17°48.8 | 17°48.2 | 17°47.5 | 17°46.9 | 17°46.3 | 17°45.6 | 17°45.0 | 17°44.3 | -0.6 |
| Lu 2 | 268°26.1 | 283°26.1 | 298°26.2 | 313°26.2 | 328°26.3 | 343°26.3 | 358°26.4 | 13°26.4 | 28°26.5 | 43°26.5 | 58°26.6 | 73°26.6 | +0.0 |
| | 17°35.9 | 17°35.3 | 17°34.7 | 17°34.0 | 17°33.4 | 17°32.7 | 17°32.0 | 17°31.4 | 17°30.7 | 17°30.1 | 17°29.4 | 17°28.8 | -0.7 |
| Ma 3 | 268°27.3 | 283°27.4 | 298°27.4 | 313°27.5 | 328°27.5 | 343°27.6 | 358°27.6 | 13°27.7 | 28°27.7 | 43°27.8 | 58°27.9 | 73°27.9 | +0.1 |
| | 17°20.2 | 17°19.6 | 17°18.9 | 17°18.3 | 17°17.6 | 17°16.9 | 17°16.3 | 17°15.6 | 17°14.9 | 17°14.3 | 17°13.6 | 17°12.9 | -0.7 |
| Me 4 | 268°28.7 | 283°28.7 | 298°28.8 | 313°28.8 | 328°28.9 | 343°29.0 | 358°29.0 | 13°29.1 | 28°29.2 | 43°29.2 | 58°29.3 | 73°29.3 | +0.1 |
| | 17°04.3 | 17°03.6 | 17°02.9 | 17°02.2 | 17°01.6 | 17°00.9 | 17°00.2 | 16°59.5 | 16°58.9 | 16°58.2 | 16°57.5 | 16°56.8 | -0.7 |
| Je 5 | 268°30.2 | 283°30.2 | 298°30.3 | 313°30.4 | 328°30.4 | 343°30.5 | 358°30.6 | 13°30.7 | 28°30.7 | 43°30.8 | 58°30.9 | 73°30.9 | +0.1 |
| | 16°48.0 | 16°47.3 | 16°46.6 | 16°45.9 | 16°45.3 | 16°44.6 | 16°43.9 | 16°43.2 | 16°42.5 | 16°41.8 | 16°41.1 | 16°40.4 | -0.7 |
| Ve 6 | 268°31.8 | 283°31.9 | 298°32.0 | 313°32.1 | 328°32.1 | 343°32.2 | 358°32.3 | 13°32.4 | 28°32.4 | 43°32.5 | 58°32.6 | 73°32.7 | +0.1 |
| | 16°31.5 | 16°30.8 | 16°30.1 | 16°29.4 | 16°28.7 | 16°28.0 | 16°27.3 | 16°26.6 | 16°25.9 | 16°25.2 | 16°24.5 | 16°23.8 | -0.7 |
| Sa 7 | 268°33.7 | 283°33.7 | 298°33.8 | 313°33.9 | 328°34.0 | 343°34.1 | 358°34.1 | 13°34.2 | 28°34.3 | 43°34.4 | 58°34.5 | 73°34.5 | +0.1 |
| | 16°14.7 | 16°13.9 | 16°13.2 | 16°12.5 | 16°11.8 | 16°11.1 | 16°10.4 | 16°09.7 | 16°09.0 | 16°08.3 | 16°07.6 | 16°06.9 | -0.7 |
| Di 8 | 268°35.6 | 283°35.7 | 298°35.8 | 313°35.9 | 328°36.0 | 343°36.0 | 358°36.1 | 13°36.2 | 28°36.3 | 43°36.4 | 58°36.5 | 73°36.6 | +0.1 |
| | 15°57.6 | 15°56.9 | 15°56.2 | 15°55.4 | 15°54.7 | 15°54.0 | 15°53.3 | 15°52.6 | 15°51.8 | 15°51.1 | 15°50.4 | 15°49.7 | -0.7 |
| Lu 9 | 268°37.7 | 283°37.8 | 298°37.9 | 313°38.0 | 328°38.1 | 343°38.2 | 358°38.3 | 13°38.4 | 28°38.5 | 43°38.6 | 58°38.6 | 73°38.7 | +0.1 |
| | 15°40.3 | 15°39.5 | 15°38.8 | 15°38.1 | 15°37.4 | 15°36.6 | 15°35.9 | 15°35.2 | 15°34.4 | 15°33.7 | 15°33.0 | 15°32.3 | -0.7 |
| Ma 10 | 268°40.0 | 283°40.1 | 298°40.2 | 313°40.3 | 328°40.4 | 343°40.5 | 358°40.6 | 13°40.7 | 28°40.8 | 43°40.9 | 58°41.0 | 73°41.1 | +0.1 |
| | 15°22.7 | 15°22.0 | 15°21.2 | 15°20.5 | 15°19.8 | 15°19.0 | 15°18.3 | 15°17.5 | 15°16.8 | 15°16.1 | 15°15.3 | 15°14.6 | -0.7 |
| Me 11 | 268°42.4 | 283°42.5 | 298°42.6 | 313°42.7 | 328°42.8 | 343°42.9 | 358°43.0 | 13°43.1 | 28°43.2 | 43°43.3 | 58°43.4 | 73°43.5 | +0.1 |
| | 15°04.9 | 15°04.2 | 15°03.4 | 15°02.7 | 15°01.9 | 15°01.2 | 15°00.4 | 14°59.7 | 14°58.9 | 14°58.2 | 14°57.4 | 14°56.7 | -0.7 |
| Je 12 | 268°44.9 | 283°45.0 | 298°45.1 | 313°45.3 | 328°45.4 | 343°45.5 | 358°45.6 | 13°45.7 | 28°45.8 | 43°45.9 | 58°46.0 | 73°46.1 | +0.1 |
| | 14°46.8 | 14°46.1 | 14°45.3 | 14°44.6 | 14°43.8 | 14°43.1 | 14°42.3 | 14°41.5 | 14°40.8 | 14°40.0 | 14°39.3 | 14°38.5 | -0.8 |
| Ve 13 | 268°47.6 | 283°47.7 | 298°47.8 | 313°48.0 | 328°48.1 | 343°48.2 | 358°48.3 | 13°48.4 | 28°48.5 | 43°48.7 | 58°48.8 | 73°48.9 | +0.1 |
| | 14°28.6 | 14°27.8 | 14°27.0 | 14°26.3 | 14°25.5 | 14°24.7 | 14°24.0 | 14°23.2 | 14°22.4 | 14°21.6 | 14°20.9 | 14°20.1 | -0.8 |
| Sa 14 | 268°50.4 | 283°50.6 | 298°50.7 | 313°50.8 | 328°50.9 | 343°51.0 | 358°51.2 | 13°51.3 | 28°51.4 | 43°51.5 | 58°51.7 | 73°51.8 | +0.1 |
| | 14°10.1 | 14°09.3 | 14°08.5 | 14°07.7 | 14°06.9 | 14°06.2 | 14°05.4 | 14°04.6 | 14°03.8 | 14°03.0 | 14°02.3 | 14°01.5 | -0.8 |
| Di 15 | 268°53.4 | 283°53.5 | 298°53.7 | 313°53.8 | 328°53.9 | 343°54.0 | 358°54.2 | 13°54.3 | 28°54.4 | 43°54.6 | 58°54.7 | 73°54.8 | +0.1 |
| | 13°51.3 | 13°50.5 | 13°49.7 | 13°49.0 | 13°48.2 | 13°47.4 | 13°46.6 | 13°45.8 | 13°45.0 | 13°44.2 | 13°43.4 | 13°42.7 | -0.8 |
| Lu 16 | 268°56.5 | 283°56.6 | 298°56.8 | 313°56.9 | 328°57.0 | 343°57.2 | 358°57.3 | 13°57.4 | 28°57.6 | 43°57.7 | 58°57.8 | 73°58.0 | +0.1 |
| | 13°32.4 | 13°31.6 | 13°30.8 | 13°30.0 | 13°29.2 | 13°28.4 | 13°27.6 | 13°26.8 | 13°26.0 | 13°25.2 | 13°24.4 | 13°23.6 | -0.8 |
| Ma 17 | 268°59.7 | 283°59.9 | 299°00.0 | 314°00.2 | 329°00.3 | 344°00.4 | 359°00.6 | 14°00.7 | 29°00.8 | 44°01.0 | 59°01.1 | 74°01.3 | +0.1 |
| | 13°13.2 | 13°12.4 | 13°11.6 | 13°10.8 | 13°10.0 | 13°09.2 | 13°08.4 | 13°07.6 | 13°06.8 | 13°05.9 | 13°05.1 | 13°04.3 | -0.8 |
| Me 18 | 269°03.1 | 284°03.3 | 299°03.4 | 314°03.5 | 329°03.7 | 344°03.8 | 359°04.0 | 14°04.1 | 29°04.3 | 44°04.4 | 59°04.5 | 74°04.7 | +0.1 |
| | 12°53.8 | 12°53.0 | 12°52.2 | 12°51.4 | 12°50.6 | 12°49.7 | 12°48.9 | 12°48.1 | 12°47.3 | 12°46.5 | 12°45.7 | 12°44.9 | -0.8 |
| Je 19 | 269°06.6 | 284°06.7 | 299°06.9 | 314°07.0 | 329°07.2 | 344°07.3 | 359°07.5 | 14°07.6 | 29°07.8 | 44°07.9 | 59°08.1 | 74°08.2 | +0.1 |
| | 12°34.2 | 12°33.4 | 12°32.6 | 12°31.8 | 12°30.9 | 12°30.1 | 12°29.3 | 12°28.5 | 12°27.7 | 12°26.8 | 12°26.0 | 12°25.2 | -0.8 |
| Ve 20 | 269°10.2 | 284°10.4 | 299°10.5 | 314°10.7 | 329°10.8 | 344°11.0 | 359°11.1 | 14°11.3 | 29°11.4 | 44°11.6 | 59°11.8 | 74°11.9 | +0.2 |
| | 12°14.5 | 12°13.6 | 12°12.8 | 12°12.0 | 12°11.1 | 12°10.3 | 12°09.5 | 12°08.6 | 12°07.8 | 12°07.0 | 12°06.2 | 12°05.3 | -0.8 |
| Sa 21 | 269°13.9 | 284°14.1 | 299°14.3 | 314°14.4 | 329°14.6 | 344°14.7 | 359°14.9 | 14°15.1 | 29°15.2 | 44°15.4 | 59°15.5 | 74°15.7 | +0.2 |
| | 11°54.5 | 11°53.6 | 11°52.8 | 11°52.0 | 11°51.1 | 11°50.3 | 11°49.5 | 11°48.6 | 11°47.8 | 11°46.9 | 11°46.1 | 11°45.3 | -0.8 |
| Di 22 | 269°17.8 | 284°18.0 | 299°18.1 | 314°18.3 | 329°18.4 | 344°18.6 | 359°18.8 | 14°18.9 | 29°19.1 | 44°19.3 | 59°19.4 | 74°19.6 | +0.2 |
| | 11°34.3 | 11°33.5 | 11°32.6 | 11°31.8 | 11°30.9 | 11°30.1 | 11°29.3 | 11°28.4 | 11°27.6 | 11°26.7 | 11°25.9 | 11°25.0 | -0.8 |
| Lu 23 | 269°21.8 | 284°21.9 | 299°22.1 | 314°22.3 | 329°22.4 | 344°22.6 | 359°22.8 | 14°22.9 | 29°23.1 | 44°23.3 | 59°23.4 | 74°23.6 | +0.2 |
| | 11°14.0 | 11°13.1 | 11°12.3 | 11°11.4 | 11°10.6 | 11°09.7 | 11°08.9 | 11°08.0 | 11°07.2 | 11°06.3 | 11°05.4 | 11°04.6 | -0.9 |
| Ma 24 | 269°25.8 | 284°26.0 | 299°26.2 | 314°26.3 | 329°26.5 | 344°26.7 | 359°26.8 | 14°27.0 | 29°27.2 | 44°27.4 | 59°27.5 | 74°27.7 | +0.2 |
| | 10°53.5 | 10°52.6 | 10°51.7 | 10°50.9 | 10°50.0 | 10°49.2 | 10°48.3 | 10°47.4 | 10°46.6 | 10°45.7 | 10°44.9 | 10°44.0 | -0.9 |
| Me 25 | 269°30.2 | 284°30.2 | 299°30.3 | 314°30.5 | 329°30.7 | 344°30.9 | 359°31.0 | 14°31.2 | 29°31.4 | 44°31.6 | 59°31.7 | 74°31.9 | +0.2 |
| | 10°32.8 | 10°31.9 | 10°31.0 | 10°30.2 | 10°29.3 | 10°28.4 | 10°27.6 | 10°26.7 | 10°25.8 | 10°25.0 | 10°24.1 | 10°23.2 | -0.9 |
| Je 26 | 269°34.2 | 284°34.4 | 299°34.6 | 314°34.8 | 329°35.0 | 344°35.1 | 359°35.3 | 14°35.5 | 29°35.7 | 44°35.9 | 59°36.0 | 74°36.2 | +0.2 |
| | 10°11.9 | 10°11.0 | 10°10.1 | 10°09.3 | 10°08.4 | 10°07.5 | 10°06.7 | 10°05.8 | 10°04.9 | 10°04.0 | 10°03.2 | 10°02.3 | -0.9 |
| Ve 27 | 269°38.6 | 284°38.8 | 299°39.0 | 314°39.1 | 329°39.3 | 344°39.5 | 359°39.7 | 14°39.9 | 29°40.1 | 44°40.2 | 59°40.4 | 74°40.6 | +0.2 |
| | 9°50.9 | 9°50.0 | 9°49.1 | 9°48.2 | 9°47.3 | 9°46.5 | 9°45.6 | 9°44.7 | 9°43.8 | 9°42.9 | 9°42.1 | 9°41.2 | -0.9 |
| Sa 28 | 269°43.0 | 284°43.2 | 299°43.4 | 314°43.6 | 329°43.8 | 344°44.0 | 359°44.1 | 14°44.3 | 29°44.5 | 44°44.7 | 59°44.9 | 74°45.1 | +0.2 |
| | 9°29.7 | 9°28.8 | 9°27.9 | 9°27.0 | 9°26.1 | 9°25.2 | 9°24.4 | 9°23.5 | 9°22.6 | 9°21.7 | 9°20.8 | 9°19.9 | -0.9 |
| Di 29 | 269°47.5 | 284°47.7 | 299°47.9 | 314°48.1 | 329°48.3 | 344°48.5 | 359°48.7 | 14°48.9 | 29°49.1 | 44°49.3 | 59°49.4 | 74°49.6 | +0.2 |
| | 9°08.3 | 9°07.5 | 9°06.6 | 9°05.7 | 9°04.8 | 9°03.9 | 9°03.0 | 9°02.1 | 9°01.2 | 9°00.3 | 8°59.4 | 8°58.5 | -0.9 |
| Lu 30 | 269°52.1 | 284°52.3 | 299°52.5 | 314°52.7 | 329°52.9 | 344°53.1 | 359°53.3 | 14°53.5 | 29°53.7 | 44°53.9 | 59°54.1 | 74°54.3 | +0.2 |
| | 8°46.9 | 8°46.0 | 8°45.1 | 8°44.2 | 8°43.3 | 8°42.4 | 8°41.5 | 8°40.6 | 8°39.7 | 8°38.8 | 8°37.9 | 8°37.0 | -0.9 |
| Ma 31 | 269°56.8 | 284°57.0 | 299°57.2 | 314°57.4 | 329°57.6 | 344°57.8 | 359°58.0 | 14°58.2 | 29°58.4 | 44°58.6 | 59°58.8 | 74°59.0 | +0.2 |
| | 8°25.2 | 8°24.3 | 8°23.4 | 8°22.5 | 8°21.6 | 8°20.7 | 8°19.8 | 8°18.9 | 8°18.0 | 8°17.1 | 8°16.2 | 8°15.3 | -0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2032

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 240°38.0<br>19°07.8 | 255°07.1<br>19°09.9 | 269°36.2<br>19°11.9 | 284°05.4<br>19°13.8 | 298°34.5<br>19°15.6 | 313°03.7<br>19°17.3 | 327°32.9<br>19°18.9 | 342°02.1<br>19°20.4 | 356°31.3<br>19°21.8 | 11°00.6<br>19°23.1 | 25°29.8<br>19°24.3 | +29.2<br>+1.7 | 15.2<br>55.8 |
| Lu 2 | 242°51.1<br>19°30.2 | 257°20.7<br>19°29.8 | 271°50.3<br>19°29.3 | 286°19.9<br>19°28.7 | 300°49.6<br>19°28.1 | 315°19.3<br>19°27.3 | 329°49.0<br>19°26.4 | 344°18.8<br>19°25.4 | 358°48.6<br>19°24.3 | 13°18.4<br>19°23.1 | 27°48.2<br>19°21.8 | +29.7<br>-0.8 | 15.1<br>55.2 |
| Ma 3 | 245°19.6<br>18°51.5 | 259°49.9<br>18°48.7 | 274°20.3<br>18°45.8 | 288°50.7<br>18°42.9 | 303°21.2<br>18°39.9 | 317°51.7<br>18°36.8 | 332°22.2<br>18°33.6 | 346°52.8<br>18°30.3 | 1°23.4<br>18°26.9 | 15°54.1<br>18°23.4 | 30°24.7<br>18°19.9 | +30.5<br>-3.2 | 14.9<br>54.8 |
| Me 4 | 248°09.6<br>17°16.6 | 262°40.9<br>17°11.8 | 277°12.3<br>17°06.8 | 291°43.7<br>17°01.8 | 306°15.1<br>16°56.7 | 320°46.6<br>16°51.6 | 335°18.1<br>16°46.3 | 349°49.6<br>16°41.0 | 4°21.2<br>16°35.6 | 18°52.9<br>16°30.2 | 33°24.5<br>16°24.7 | +31.5<br>-5.2 | 14.8<br>54.4 |
| Je 5 | 251°24.6<br>14°53.3 | 265°56.9<br>14°46.7 | 280°29.3<br>14°40.0 | 295°01.7<br>14°33.3 | 309°34.1<br>14°26.5 | 324°06.6<br>14°19.6 | 338°39.1<br>14°12.7 | 353°11.7<br>14°05.7 | 7°44.3<br>13°58.7 | 22°16.9<br>13°51.6 | 36°49.6<br>13°44.4 | +32.5<br>-6.9 | 14.8<br>54.1 |
| ● Ve 6 | 255°04.3<br>11°50.6 | 269°37.6<br>11°42.6 | 284°10.9<br>11°34.6 | 298°44.2<br>11°26.5 | 313°17.6<br>11°18.3 | 327°51.0<br>11°10.2 | 342°24.4<br>11°01.9 | 356°57.9<br>10°53.7 | 11°31.4<br>10°45.3 | 26°04.9<br>10°37.0 | 40°38.5<br>10°28.6 | +33.4<br>-8.2 | 14.7<br>54.0 |
| Sa 7 | 259°05.4<br>8°18.0 | 273°39.4<br>8°09.0 | 288°13.4<br>8°00.0 | 302°47.4<br>7°50.9 | 317°21.5<br>7°41.8 | 331°55.6<br>7°32.7 | 346°29.7<br>7°23.6 | 1°03.9<br>7°14.4 | 15°38.0<br>7°05.2 | 30°12.2<br>6°56.0 | 44°46.4<br>6°46.8 | +34.1<br>-9.1 | 14.7<br>53.9 |
| Di 8 | 263°21.5<br>4°25.1 | 277°56.0<br>4°15.5 | 292°30.4<br>4°05.9 | 307°04.9<br>3°56.3 | 321°39.4<br>3°46.6 | 336°13.9<br>3°37.0 | 350°48.4<br>3°27.3 | 5°22.9<br>3°17.6 | 19°57.4<br>3°07.9 | 34°31.9<br>2°58.2 | 49°06.4<br>2°48.4 | +34.5<br>-9.7 | 14.7<br>53.9 |
| Lu 9 | 267°44.6<br>0°21.4 | 282°19.1<br>0°11.5 | 296°53.6<br>0°01.7 | 311°28.2<br>-0°08.2 | 326°02.7<br>-0°18.0 | 340°37.2<br>-0°27.9 | 355°11.7<br>-0°37.7 | 9°46.2<br>-0°47.6 | 24°20.7<br>-0°57.5 | 38°55.1<br>-1°07.3 | 53°29.6<br>-1°17.2 | +34.5<br>-9.9 | 14.7<br>54.0 |
| Ma 10 | 272°04.9<br>-3°44.2 | 286°39.1<br>-3°53.9 | 301°13.3<br>-4°03.7 | 315°47.4<br>-4°13.4 | 330°21.6<br>-4°23.1 | 344°55.7<br>-4°32.7 | 359°29.8<br>-4°42.4 | 14°03.8<br>-4°52.0 | 28°37.9<br>-5°01.7 | 43°11.9<br>-5°11.3 | 57°45.9<br>-5°20.9 | +34.1<br>-9.7 | 14.8<br>54.3 |
| Me 11 | 276°11.9<br>-7°42.4 | 290°45.4<br>-7°51.6 | 305°18.8<br>-8°00.8 | 319°52.2<br>-8°10.0 | 334°25.5<br>-8°19.2 | 348°58.8<br>-8°28.3 | 3°32.1<br>-8°37.4 | 18°05.3<br>-8°46.5 | 32°38.5<br>-8°55.5 | 47°11.6<br>-9°04.5 | 61°44.7<br>-9°13.4 | +33.3<br>-9.1 | 14.9<br>54.7 |
| Je 12 | 279°55.1<br>-11°23.5 | 294°27.4<br>-11°31.8 | 308°59.7<br>-11°40.1 | 323°31.8<br>-11°48.3 | 338°04.0<br>-11°56.5 | 352°36.0<br>-12°04.7 | 7°08.0<br>-12°12.8 | 21°40.0<br>-12°20.9 | 36°11.9<br>-12°28.9 | 50°43.7<br>-12°36.8 | 65°15.5<br>-12°44.7 | +32.0<br>-8.1 | 15.1<br>55.3 |
| Ve 13 | 283°04.5<br>-14°36.6 | 297°35.2<br>-14°43.6 | 312°05.9<br>-14°50.5 | 326°36.5<br>-14°57.4 | 341°07.1<br>-15°04.1 | 355°37.6<br>-15°10.9 | 10°08.0<br>-15°17.5 | 24°38.3<br>-15°24.1 | 39°08.6<br>-15°30.6 | 53°38.8<br>-15°37.0 | 68°08.9<br>-15°43.4 | +30.4<br>-6.7 | 15.3<br>56.0 |
| ◐ Sa 14 | 285°32.2<br>-17°09.7 | 300°01.2<br>-17°14.8 | 314°30.1<br>-17°19.8 | 328°59.0<br>-17°24.8 | 343°27.7<br>-17°29.6 | 357°56.4<br>-17°34.4 | 12°25.0<br>-17°39.0 | 26°53.5<br>-17°43.6 | 41°22.0<br>-17°48.1 | 55°50.4<br>-17°52.5 | 70°18.7<br>-17°56.8 | +28.6<br>-4.7 | 15.5<br>56.8 |
| Di 15 | 287°15.0<br>-18°49.5 | 301°42.2<br>-18°52.2 | 316°09.3<br>-18°54.8 | 330°36.3<br>-18°57.3 | 345°03.3<br>-18°59.6 | 359°30.2<br>-19°01.9 | 13°57.1<br>-19°04.1 | 28°23.9<br>-19°06.1 | 42°50.6<br>-19°08.0 | 57°17.3<br>-19°09.8 | 71°43.9<br>-19°11.5 | +26.9<br>-2.2 | 15.8<br>57.8 |
| Lu 16 | 288°15.7<br>-19°23.0 | 302°41.4<br>-19°22.8 | 317°07.1<br>-19°22.5 | 331°32.6<br>-19°22.1 | 345°58.2<br>-19°21.5 | 0°23.7<br>-19°20.8 | 14°49.1<br>-19°20.0 | 29°14.5<br>-19°19.1 | 43°39.8<br>-19°18.0 | 58°05.2<br>-19°16.8 | 72°30.4<br>-19°15.5 | +25.5<br>+0.8 | 16.0<br>58.8 |
| Ma 17 | 288°45.0<br>-18°40.2 | 303°09.7<br>-18°36.8 | 317°34.4<br>-18°33.3 | 331°59.1<br>-18°29.7 | 346°23.8<br>-18°25.9 | 0°48.4<br>-18°22.0 | 15°13.1<br>-18°18.0 | 29°37.7<br>-18°13.8 | 44°02.2<br>-18°09.5 | 58°26.8<br>-18°05.1 | 72°51.4<br>-18°00.5 | +24.6<br>+4.0 | 16.3<br>59.7 |
| Me 18 | 288°58.7<br>-16°37.1 | 303°23.2<br>-16°30.6 | 317°47.6<br>-16°23.9 | 332°12.1<br>-16°17.1 | 346°36.6<br>-16°10.2 | 1°01.1<br>-16°03.1 | 15°25.6<br>-15°56.0 | 29°50.1<br>-15°48.7 | 44°14.6<br>-15°41.3 | 58°39.1<br>-15°33.8 | 73°03.6<br>-15°26.2 | +24.5<br>+7.1 | 16.5<br>60.6 |
| Je 19 | 289°13.5<br>-13°18.8 | 303°38.3<br>-13°09.5 | 318°03.2<br>-13°00.1 | 332°28.0<br>-12°50.6 | 346°52.9<br>-12°40.9 | 1°17.8<br>-12°31.2 | 15°42.8<br>-12°21.4 | 30°07.7<br>-12°11.6 | 44°32.7<br>-12°01.6 | 58°57.7<br>-11°51.5 | 73°22.8<br>-11°41.4 | +24.9<br>+9.7 | 16.7<br>61.1 |
| Ve 20 | 289°42.0<br>-8°59.7 | 304°07.5<br>-8°48.4 | 318°33.0<br>-8°37.0 | 332°58.6<br>-8°25.5 | 347°24.2<br>-8°14.0 | 1°49.9<br>-8°02.4 | 16°15.6<br>-7°50.8 | 30°41.3<br>-7°39.1 | 45°07.1<br>-7°27.4 | 59°32.8<br>-7°15.6 | 73°58.6<br>-7°03.7 | +25.7<br>+11.6 | 16.7<br>61.4 |
| ○ Sa 21 | 290°29.7<br>-4°01.5 | 304°56.0<br>-3°49.1 | 319°22.3<br>-3°36.7 | 333°48.7<br>-3°24.3 | 348°15.1<br>-3°11.8 | 2°41.5<br>-2°59.4 | 17°08.0<br>-2°46.9 | 31°34.5<br>-2°34.4 | 46°01.0<br>-2°21.9 | 60°27.6<br>-2°09.4 | 74°54.1<br>-1°56.9 | +26.4<br>+12.5 | 16.7<br>61.2 |
| Di 22 | 291°36.0<br>1°10.6 | 306°02.9<br>1°23.0 | 320°29.9<br>1°35.4 | 334°57.0<br>1°47.8 | 349°24.0<br>2°00.1 | 3°51.1<br>2°12.4 | 18°18.2<br>2°24.7 | 32°45.3<br>2°37.0 | 47°12.4<br>2°49.3 | 61°39.6<br>3°01.5 | 76°06.8<br>3°13.7 | +27.1<br>+12.3 | 16.6<br>60.8 |
| Lu 23 | 292°56.5<br>6°11.9 | 307°23.9<br>6°23.4 | 321°51.4<br>6°34.9 | 336°18.9<br>6°46.3 | 350°46.3<br>6°57.6 | 5°13.8<br>7°08.9 | 19°41.3<br>7°20.1 | 34°08.9<br>7°31.3 | 48°36.4<br>7°42.4 | 63°04.0<br>7°53.5 | 77°31.5<br>8°04.5 | +27.5<br>+11.3 | 16.4<br>60.0 |
| Ma 24 | 294°26.2<br>10°41.2 | 308°53.9<br>10°51.1 | 323°21.7<br>11°00.9 | 337°49.4<br>11°10.6 | 352°17.2<br>11°20.2 | 6°44.9<br>11°29.8 | 21°12.7<br>11°39.2 | 35°40.5<br>11°48.6 | 50°08.3<br>11°57.9 | 64°36.0<br>12°07.1 | 79°03.8<br>12°16.3 | +27.8<br>+9.5 | 16.1<br>59.1 |
| Me 25 | 308°53.9<br>10°51.1 | 323°21.7<br>11°00.9 | 337°49.4<br>11°10.6 | 352°17.2<br>11°20.2 | 6°44.9<br>11°29.8 | 21°12.7<br>11°39.2 | 35°40.5<br>11°48.6 | 50°08.3<br>11°57.9 | 64°36.0<br>12°07.1 | 79°03.8<br>12°16.3 | 93°31.7<br>12°25.3 | +27.8<br>+9.4 | 16.1<br>59.1 |
| Je 26 | 310°29.8<br>14°30.3 | 324°57.7<br>14°37.9 | 339°25.7<br>14°45.4 | 353°53.6<br>14°52.8 | 8°21.6<br>15°00.1 | 22°49.6<br>15°07.3 | 37°17.6<br>15°14.4 | 51°45.6<br>15°21.4 | 66°13.6<br>15°28.3 | 80°41.6<br>15°35.1 | 95°09.6<br>15°41.9 | +28.0<br>+7.2 | 15.8<br>58.1 |
| ◑ Ve 27 | 312°11.4<br>17°10.5 | 326°39.6<br>17°15.6 | 341°07.9<br>17°20.6 | 355°36.1<br>17°25.5 | 10°04.4<br>17°30.3 | 24°32.7<br>17°35.0 | 39°01.0<br>17°39.6 | 53°29.3<br>17°44.0 | 67°57.6<br>17°48.4 | 82°25.9<br>17°52.7 | 96°54.3<br>17°56.8 | +28.3<br>+4.6 | 15.6<br>57.1 |
| Sa 28 | 314°02.0<br>18°46.7 | 328°30.7<br>18°49.2 | 342°59.4<br>18°51.5 | 357°28.1<br>18°53.8 | 11°56.9<br>18°56.0 | 26°25.6<br>18°58.1 | 40°54.4<br>19°00.0 | 55°23.3<br>19°01.9 | 69°52.1<br>19°03.7 | 84°21.0<br>19°05.3 | 98°49.9<br>19°06.9 | +28.8<br>+2.0 | 15.3<br>56.3 |
| Di 29 | 316°06.8<br>19°18.0 | 330°36.2<br>19°17.9 | 345°05.6<br>19°17.8 | 359°35.1<br>19°17.5 | 14°04.5<br>19°17.1 | 28°34.0<br>19°16.7 | 43°03.6<br>19°16.1 | 57°33.2<br>19°15.5 | 72°02.8<br>19°14.7 | 86°32.4<br>19°13.9 | 101°02.1<br>19°12.9 | +29.5<br>-0.5 | 15.1<br>55.5 |
| Lu 30 | 318°31.7<br>18°47.4 | 333°01.9<br>18°45.0 | 347°32.2<br>18°42.5 | 2°02.6<br>18°39.9 | 16°33.0<br>18°37.2 | 31°03.4<br>18°34.4 | 45°33.9<br>18°31.5 | 60°04.4<br>18°28.5 | 74°35.0<br>18°25.5 | 89°05.6<br>18°22.3 | 103°36.2<br>18°19.1 | +30.5<br>-2.8 | 15.0<br>54.9 |
| Ma 31 | 321°20.7<br>17°20.7 | 335°52.0<br>17°16.2 | 350°23.3<br>17°11.6 | 4°54.7<br>17°06.9 | 19°26.1<br>17°02.1 | 33°57.6<br>16°57.3 | 48°29.1<br>16°52.4 | 63°00.6<br>16°47.4 | 77°32.2<br>16°42.3 | 92°03.9<br>16°37.2 | 106°35.5<br>16°32.0 | +31.5<br>-4.9 | 14.9<br>54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 05h11 — PQ: 14 07h51 — PL: 21 01h46 — DQ: 27 19h33

# SOLEIL

## Septembre 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Me 1** | 270°01.6 | 285°01.8 | 300°02.0 | 315°02.2 | 330°02.4 | 345°02.6 | 0°02.8 | 15°03.0 | 30°03.2 | 45°03.4 | 60°03.6 | 75°03.8 | +0.2 |
| | 8°03.5 | 8°02.6 | 8°01.6 | 8°00.7 | 7°59.8 | 7°58.9 | 7°58.0 | 7°57.1 | 7°56.2 | 7°55.3 | 7°54.4 | 7°53.5 | -0.9 |
| **Je 2** | 270°06.4 | 285°06.6 | 300°06.8 | 315°07.0 | 330°07.2 | 345°07.4 | 0°07.6 | 15°07.8 | 30°08.0 | 45°08.2 | 60°08.4 | 75°08.6 | +0.2 |
| | 7°41.6 | 7°40.7 | 7°39.7 | 7°38.8 | 7°37.9 | 7°37.0 | 7°36.1 | 7°35.2 | 7°34.3 | 7°33.3 | 7°32.4 | 7°31.5 | -0.9 |
| **Ve 3** | 270°11.3 | 285°11.5 | 300°11.7 | 315°11.9 | 330°12.1 | 345°12.3 | 0°12.5 | 15°12.7 | 30°12.9 | 45°13.1 | 60°13.3 | 75°13.5 | +0.2 |
| | 7°19.6 | 7°18.6 | 7°17.7 | 7°16.8 | 7°15.9 | 7°15.0 | 7°14.0 | 7°13.1 | 7°12.2 | 7°11.3 | 7°10.4 | 7°09.4 | -0.9 |
| **Sa 4** | 270°16.2 | 285°16.4 | 300°16.6 | 315°16.8 | 330°17.1 | 345°17.3 | 0°17.5 | 15°17.7 | 30°17.9 | 45°18.1 | 60°18.3 | 75°18.5 | +0.2 |
| | 6°57.4 | 6°56.5 | 6°55.6 | 6°54.7 | 6°53.7 | 6°52.8 | 6°51.9 | 6°50.9 | 6°50.0 | 6°49.1 | 6°48.2 | 6°47.2 | -0.9 |
| **Di 5** | 270°21.2 | 285°21.4 | 300°21.6 | 315°21.9 | 330°22.1 | 345°22.3 | 0°22.5 | 15°22.7 | 30°22.9 | 45°23.1 | 60°23.3 | 75°23.5 | +0.2 |
| | 6°35.2 | 6°34.2 | 6°33.3 | 6°32.4 | 6°31.5 | 6°30.5 | 6°29.6 | 6°28.7 | 6°27.7 | 6°26.8 | 6°25.9 | 6°24.9 | -0.9 |
| **Lu 6** | 270°26.3 | 285°26.5 | 300°26.7 | 315°26.9 | 330°27.1 | 345°27.4 | 0°27.6 | 15°27.8 | 30°28.0 | 45°28.2 | 60°28.4 | 75°28.6 | +0.2 |
| | 6°12.8 | 6°11.9 | 6°11.0 | 6°10.0 | 6°09.1 | 6°08.2 | 6°07.2 | 6°06.3 | 6°05.3 | 6°04.4 | 6°03.5 | 6°02.5 | -0.9 |
| **Ma 7** | 270°31.4 | 285°31.6 | 300°31.8 | 315°32.0 | 330°32.3 | 345°32.5 | 0°32.7 | 15°32.9 | 30°33.1 | 45°33.3 | 60°33.5 | 75°33.8 | +0.2 |
| | 5°50.4 | 5°49.4 | 5°48.5 | 5°47.5 | 5°46.6 | 5°45.7 | 5°44.7 | 5°43.8 | 5°42.9 | 5°41.9 | 5°41.0 | 5°40.0 | -0.9 |
| **Me 8** | 270°36.6 | 285°36.8 | 300°37.0 | 315°37.2 | 330°37.4 | 345°37.6 | 0°37.9 | 15°38.1 | 30°38.3 | 45°38.5 | 60°38.7 | 75°38.9 | +0.2 |
| | 5°27.8 | 5°26.9 | 5°25.9 | 5°25.0 | 5°24.0 | 5°23.1 | 5°22.2 | 5°21.2 | 5°20.3 | 5°19.3 | 5°18.4 | 5°17.4 | -0.9 |
| **Je 9** | 270°41.8 | 285°42.0 | 300°42.2 | 315°42.4 | 330°42.6 | 345°42.9 | 0°43.1 | 15°43.3 | 30°43.5 | 45°43.7 | 60°43.9 | 75°44.2 | +0.2 |
| | 5°05.2 | 5°04.2 | 5°03.3 | 5°02.3 | 5°01.4 | 5°00.4 | 4°59.5 | 4°58.5 | 4°57.6 | 4°56.6 | 4°55.7 | 4°54.8 | -0.9 |
| **Ve 10** | 270°47.0 | 285°47.2 | 300°47.4 | 315°47.7 | 330°47.9 | 345°48.1 | 0°48.3 | 15°48.5 | 30°48.8 | 45°49.0 | 60°49.2 | 75°49.4 | +0.2 |
| | 4°42.4 | 4°41.5 | 4°40.5 | 4°39.6 | 4°38.6 | 4°37.7 | 4°36.7 | 4°35.8 | 4°34.8 | 4°33.9 | 4°32.9 | 4°32.0 | -0.9 |
| **Sa 11** | 270°52.3 | 285°52.5 | 300°52.7 | 315°52.9 | 330°53.2 | 345°53.4 | 0°53.6 | 15°53.8 | 30°54.0 | 45°54.3 | 60°54.5 | 75°54.7 | +0.2 |
| | 4°19.6 | 4°18.7 | 4°17.7 | 4°16.8 | 4°15.8 | 4°14.9 | 4°13.9 | 4°13.0 | 4°12.0 | 4°11.1 | 4°10.1 | 4°09.1 | -1.0 |
| **Di 12** | 270°57.6 | 285°57.8 | 300°58.0 | 315°58.2 | 330°58.5 | 345°58.7 | 0°58.9 | 15°59.1 | 30°59.4 | 45°59.6 | 60°59.8 | 76°00.0 | +0.2 |
| | 3°56.7 | 3°55.8 | 3°54.8 | 3°53.9 | 3°52.9 | 3°52.0 | 3°51.0 | 3°50.1 | 3°49.1 | 3°48.1 | 3°47.2 | 3°46.2 | -1.0 |
| **Lu 13** | 271°02.9 | 286°03.1 | 301°03.4 | 316°03.6 | 331°03.8 | 346°04.0 | 1°04.3 | 16°04.5 | 31°04.7 | 46°04.9 | 61°05.1 | 76°05.4 | +0.2 |
| | 3°33.8 | 3°32.8 | 3°31.9 | 3°30.9 | 3°30.0 | 3°29.0 | 3°28.0 | 3°27.1 | 3°26.1 | 3°25.2 | 3°24.2 | 3°23.2 | -1.0 |
| **Ma 14** | 271°08.3 | 286°08.5 | 301°08.7 | 316°08.9 | 331°09.2 | 346°09.4 | 1°09.6 | 16°09.8 | 31°10.1 | 46°10.3 | 61°10.5 | 76°10.7 | +0.2 |
| | 3°10.8 | 3°09.8 | 3°08.9 | 3°07.9 | 3°06.9 | 3°06.0 | 3°05.0 | 3°04.0 | 3°03.1 | 3°02.1 | 3°01.2 | 3°00.2 | -1.0 |
| **Me 15** | 271°13.6 | 286°13.9 | 301°14.1 | 316°14.3 | 331°14.5 | 346°14.8 | 1°15.0 | 16°15.2 | 31°15.4 | 46°15.7 | 61°15.9 | 76°16.1 | +0.2 |
| | 2°47.7 | 2°46.7 | 2°45.8 | 2°44.8 | 2°43.9 | 2°42.9 | 2°41.9 | 2°41.0 | 2°40.0 | 2°39.0 | 2°38.1 | 2°37.1 | -1.0 |
| **Je 16** | 271°19.0 | 286°19.2 | 301°19.5 | 316°19.7 | 331°19.9 | 346°20.1 | 1°20.4 | 16°20.6 | 31°20.8 | 46°21.0 | 61°21.3 | 76°21.5 | +0.2 |
| | 2°24.6 | 2°23.6 | 2°22.6 | 2°21.7 | 2°20.7 | 2°19.8 | 2°18.8 | 2°17.8 | 2°16.9 | 2°15.9 | 2°14.9 | 2°14.0 | -1.0 |
| **Ve 17** | 271°24.4 | 286°24.6 | 301°24.8 | 316°25.1 | 331°25.3 | 346°25.5 | 1°25.7 | 16°26.0 | 31°26.2 | 46°26.4 | 61°26.6 | 76°26.9 | +0.2 |
| | 2°01.4 | 2°00.4 | 1°59.5 | 1°58.5 | 1°57.5 | 1°56.6 | 1°55.6 | 1°54.6 | 1°53.7 | 1°52.7 | 1°51.7 | 1°50.8 | -1.0 |
| **Sa 18** | 271°29.8 | 286°30.0 | 301°30.2 | 316°30.5 | 331°30.7 | 346°30.9 | 1°31.1 | 16°31.4 | 31°31.6 | 46°31.8 | 61°32.0 | 76°32.3 | +0.2 |
| | 1°38.2 | 1°37.2 | 1°36.3 | 1°35.3 | 1°34.3 | 1°33.4 | 1°32.4 | 1°31.4 | 1°30.4 | 1°29.5 | 1°28.5 | 1°27.5 | -1.0 |
| **Di 19** | 271°35.2 | 286°35.4 | 301°35.6 | 316°35.8 | 331°36.1 | 346°36.3 | 1°36.5 | 16°36.7 | 31°37.0 | 46°37.2 | 61°37.4 | 76°37.6 | +0.2 |
| | 1°14.9 | 1°14.0 | 1°13.0 | 1°12.0 | 1°11.1 | 1°10.1 | 1°09.1 | 1°08.2 | 1°07.2 | 1°06.2 | 1°05.2 | 1°04.3 | -1.0 |
| **Lu 20** | 271°40.5 | 286°40.7 | 301°41.0 | 316°41.2 | 331°41.4 | 346°41.6 | 1°41.9 | 16°42.1 | 31°42.3 | 46°42.5 | 61°42.8 | 76°43.0 | +0.2 |
| | 0°51.7 | 0°50.7 | 0°49.7 | 0°48.8 | 0°47.8 | 0°46.8 | 0°45.8 | 0°44.9 | 0°43.9 | 0°42.9 | 0°42.0 | 0°41.0 | -1.0 |
| **Ma 21** | 271°45.9 | 286°46.1 | 301°46.3 | 316°46.5 | 331°46.8 | 346°47.0 | 1°47.2 | 16°47.4 | 31°47.6 | 46°47.9 | 61°48.1 | 76°48.3 | +0.2 |
| | 0°28.4 | 0°27.4 | 0°26.4 | 0°25.4 | 0°24.5 | 0°23.5 | 0°22.5 | 0°21.6 | 0°20.6 | 0°19.6 | 0°18.6 | 0°17.7 | -1.0 |
| **Me 22** | 271°51.2 | 286°51.4 | 301°51.6 | 316°51.9 | 331°52.1 | 346°52.3 | 1°52.5 | 16°52.7 | 31°53.0 | 46°53.2 | 61°53.4 | 76°53.6 | +0.2 |
| | 0°05.0 | 0°04.1 | 0°03.1 | 0°02.1 | 0°01.1 | 0°00.2 | -0°00.8 | -0°01.8 | -0°02.7 | -0°03.7 | -0°04.7 | -0°05.7 | -1.0 |
| **Je 23** | 271°56.5 | 286°56.7 | 301°56.9 | 316°57.1 | 331°57.4 | 346°57.6 | 1°57.8 | 16°58.0 | 31°58.2 | 46°58.4 | 61°58.7 | 76°58.9 | +0.2 |
| | -0°18.3 | -0°19.3 | -0°20.3 | -0°21.2 | -0°22.2 | -0°23.2 | -0°24.1 | -0°25.1 | -0°26.1 | -0°27.1 | -0°28.0 | -0°29.0 | -1.0 |
| **Ve 24** | 272°01.7 | 287°01.9 | 302°02.2 | 317°02.4 | 332°02.6 | 347°02.8 | 2°03.0 | 17°03.2 | 32°03.5 | 47°03.7 | 62°03.9 | 77°04.1 | +0.2 |
| | -0°41.7 | -0°42.6 | -0°43.6 | -0°44.6 | -0°45.6 | -0°46.5 | -0°47.5 | -0°48.5 | -0°49.4 | -0°50.4 | -0°51.4 | -0°52.4 | -1.0 |
| **Sa 25** | 272°06.9 | 287°07.1 | 302°07.4 | 317°07.6 | 332°07.8 | 347°08.0 | 2°08.2 | 17°08.4 | 32°08.7 | 47°08.9 | 62°09.1 | 77°09.3 | +0.2 |
| | -1°05.0 | -1°06.0 | -1°07.0 | -1°07.9 | -1°08.9 | -1°09.9 | -1°10.9 | -1°11.8 | -1°12.8 | -1°13.8 | -1°14.8 | -1°15.7 | -1.0 |
| **Di 26** | 272°12.1 | 287°12.3 | 302°12.5 | 317°12.7 | 332°12.9 | 347°13.2 | 2°13.4 | 17°13.6 | 32°13.8 | 47°14.0 | 62°14.2 | 77°14.4 | +0.2 |
| | -1°28.4 | -1°29.3 | -1°30.3 | -1°31.3 | -1°32.3 | -1°33.2 | -1°34.2 | -1°35.2 | -1°36.2 | -1°37.1 | -1°38.1 | -1°39.1 | -1.0 |
| **Lu 27** | 272°17.2 | 287°17.4 | 302°17.6 | 317°17.8 | 332°18.0 | 347°18.2 | 2°18.5 | 17°18.7 | 32°18.9 | 47°19.1 | 62°19.3 | 77°19.5 | +0.2 |
| | -1°51.7 | -1°52.7 | -1°53.7 | -1°54.6 | -1°55.6 | -1°56.6 | -1°57.6 | -1°58.5 | -1°59.5 | -2°00.5 | -2°01.4 | -2°02.4 | -1.0 |
| **Ma 28** | 272°22.2 | 287°22.4 | 302°22.6 | 317°22.9 | 332°23.1 | 347°23.3 | 2°23.5 | 17°23.7 | 32°23.9 | 47°24.1 | 62°24.3 | 77°24.5 | +0.2 |
| | -2°15.1 | -2°16.0 | -2°17.0 | -2°18.0 | -2°18.9 | -2°19.9 | -2°20.9 | -2°21.9 | -2°22.8 | -2°23.8 | -2°24.8 | -2°25.7 | -1.0 |
| **Me 29** | 272°27.2 | 287°27.4 | 302°27.6 | 317°27.8 | 332°28.0 | 347°28.2 | 2°28.4 | 17°28.7 | 32°28.9 | 47°29.1 | 62°29.3 | 77°29.5 | +0.2 |
| | -2°38.4 | -2°39.3 | -2°40.3 | -2°41.3 | -2°42.3 | -2°43.2 | -2°44.2 | -2°45.2 | -2°46.1 | -2°47.1 | -2°48.1 | -2°49.1 | -1.0 |
| **Je 30** | 272°32.1 | 287°32.3 | 302°32.5 | 317°32.7 | 332°32.9 | 347°33.1 | 2°33.3 | 17°33.5 | 32°33.7 | 47°33.9 | 62°34.1 | 77°34.4 | +0.2 |
| | -3°01.7 | -3°02.6 | -3°03.6 | -3°04.6 | -3°05.5 | -3°06.5 | -3°07.5 | -3°08.5 | -3°09.4 | -3°10.4 | -3°11.4 | -3°12.3 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2032

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 251°54.5 | 266°26.6 | 280°58.8 | 295°31.0 | 310°03.3 | 324°35.5 | 339°07.9 | 353°40.2 | 8°12.6 | 22°45.1 | 37°17.5 | +32.3 | 14.8 |
| | 15°36.0 | 15°30.0 | 15°23.9 | 15°17.8 | 15°11.7 | 15°05.4 | 14°59.1 | 14°52.7 | 14°46.3 | 14°39.8 | 14°33.3 | -6.3 | 54.2 |
| Je 2 | 255°29.1 | 270°02.2 | 284°35.3 | 299°08.4 | 313°41.6 | 328°14.8 | 342°48.0 | 357°21.3 | 11°54.6 | 26°27.9 | 41°01.3 | +33.2 | 14.7 |
| | 12°47.9 | 12°40.4 | 12°32.9 | 12°25.3 | 12°17.7 | 12°10.0 | 12°02.3 | 11°54.5 | 11°46.7 | 11°38.8 | 11°30.9 | -7.7 | 54.0 |
| Ve 3 | 259°25.1 | 273°58.9 | 288°32.7 | 303°06.6 | 317°40.5 | 332°14.4 | 346°48.3 | 1°22.2 | 15°56.2 | 30°30.2 | 45°04.2 | +33.9 | 14.7 |
| | 9°26.8 | 9°18.2 | 9°09.6 | 9°00.9 | 8°52.2 | 8°43.5 | 8°34.7 | 8°25.9 | 8°17.1 | 8°08.2 | 7°59.3 | -8.8 | 53.9 |
| ● Sa 4 | 263°36.5 | 278°10.8 | 292°45.1 | 307°19.4 | 321°53.7 | 336°28.0 | 351°02.4 | 5°36.7 | 20°11.1 | 34°45.4 | 49°19.8 | +34.3 | 14.7 |
| | 5°42.1 | 5°32.7 | 5°23.3 | 5°13.9 | 5°04.5 | 4°55.1 | 4°45.6 | 4°36.1 | 4°26.6 | 4°17.1 | 4°07.6 | -9.5 | 53.9 |
| Di 5 | 267°56.0 | 282°30.5 | 297°04.9 | 311°39.3 | 326°13.8 | 340°48.2 | 355°22.6 | 9°57.0 | 24°31.4 | 39°05.8 | 53°40.2 | +34.4 | 14.7 |
| | 1°42.8 | 1°33.0 | 1°23.3 | 1°13.5 | 1°03.8 | 0°54.0 | 0°44.2 | 0°34.5 | 0°24.7 | 0°14.9 | 0°05.1 | -9.8 | 54.0 |
| Lu 6 | 272°15.2 | 286°49.4 | 301°23.7 | 315°57.9 | 330°32.0 | 345°06.2 | 359°40.4 | 14°14.5 | 28°48.6 | 43°22.7 | 57°56.8 | +34.2 | 14.8 |
| | -2°21.7 | -2°31.4 | -2°41.2 | -2°50.9 | -3°00.6 | -3°10.3 | -3°20.0 | -3°29.7 | -3°39.4 | -3°49.1 | -3°58.7 | -9.7 | 54.2 |
| Ma 7 | 276°25.1 | 290°58.8 | 305°32.4 | 320°06.0 | 334°39.6 | 349°13.2 | 3°46.7 | 18°20.2 | 32°53.6 | 47°27.0 | 62°00.4 | +33.5 | 14.9 |
| | -6°21.7 | -6°31.0 | -6°40.4 | -6°49.7 | -6°59.0 | -7°08.3 | -7°17.5 | -7°26.7 | -7°35.9 | -7°45.1 | -7°54.2 | -9.3 | 54.5 |
| Me 8 | 280°16.7 | 294°49.5 | 309°22.2 | 323°54.9 | 338°27.5 | 353°00.1 | 7°32.7 | 22°05.2 | 36°37.6 | 51°10.0 | 65°42.4 | +32.6 | 15.0 |
| | -10°07.3 | -10°15.8 | -10°24.4 | -10°32.9 | -10°41.3 | -10°49.7 | -10°58.1 | -11°06.4 | -11°14.7 | -11°22.9 | -11°31.1 | -8.4 | 54.9 |
| Je 9 | 283°41.9 | 298°13.4 | 312°44.9 | 327°16.4 | 341°47.8 | 356°19.1 | 10°50.4 | 25°21.6 | 39°52.8 | 54°23.9 | 68°55.0 | +31.3 | 15.1 |
| | -13°27.8 | -13°35.2 | -13°42.5 | -13°49.7 | -13°56.9 | -14°04.0 | -14°11.0 | -14°18.0 | -14°24.9 | -14°31.8 | -14°38.6 | -7.1 | 55.4 |
| Ve 10 | 286°34.0 | 301°04.1 | 315°34.2 | 330°04.2 | 344°34.2 | 359°04.1 | 13°33.9 | 28°03.7 | 42°33.4 | 57°03.1 | 71°32.7 | +29.9 | 15.3 |
| | -16°12.2 | -16°17.8 | -16°23.4 | -16°28.9 | -16°34.3 | -16°39.7 | -16°45.0 | -16°50.1 | -16°55.2 | -17°00.3 | -17°05.2 | -5.3 | 56.0 |
| Sa 11 | 288°49.6 | 303°18.2 | 317°46.8 | 332°15.4 | 346°43.9 | 1°12.3 | 15°40.7 | 30°09.0 | 44°37.2 | 59°05.4 | 73°33.6 | +28.4 | 15.5 |
| | -18°08.7 | -18°12.2 | -18°15.6 | -18°19.0 | -18°22.2 | -18°25.3 | -18°28.3 | -18°31.2 | -18°34.1 | -18°36.8 | -18°39.4 | -3.1 | 56.7 |
| ◐ Di 12 | 290°29.5 | 304°56.8 | 319°24.1 | 333°51.3 | 348°18.5 | 2°45.6 | 17°12.7 | 31°39.7 | 46°06.7 | 60°33.7 | 75°00.6 | +27.1 | 15.7 |
| | -19°06.3 | -19°07.2 | -19°08.0 | -19°08.7 | -19°09.4 | -19°09.8 | -19°10.2 | -19°10.5 | -19°10.6 | -19°10.7 | -19°10.6 | -0.4 | 57.5 |
| Lu 13 | 291°39.6 | 306°06.0 | 320°32.2 | 334°58.5 | 349°24.7 | 3°50.9 | 18°17.1 | 32°43.3 | 47°09.4 | 61°35.5 | 76°01.6 | +26.2 | 15.9 |
| | -18°55.5 | -18°53.6 | -18°51.5 | -18°49.3 | -18°47.0 | -18°44.6 | -18°42.1 | -18°39.4 | -18°36.6 | -18°33.7 | -18°30.7 | +2.5 | 58.4 |
| Ma 14 | 292°30.2 | 306°56.0 | 321°21.7 | 335°47.5 | 350°13.3 | 4°39.0 | 19°04.7 | 33°30.4 | 47°56.2 | 62°21.9 | 76°47.6 | +25.7 | 16.2 |
| | -17°31.0 | -17°26.1 | -17°21.0 | -17°15.9 | -17°10.6 | -17°05.2 | -16°59.7 | -16°54.0 | -16°48.3 | -16°42.4 | -16°36.5 | +5.5 | 59.3 |
| Me 15 | 293°12.8 | 307°38.5 | 322°04.2 | 336°29.9 | 350°55.6 | 5°21.3 | 19°47.0 | 34°12.8 | 48°38.5 | 63°04.2 | 77°30.0 | +25.7 | 16.4 |
| | -14°53.3 | -14°45.5 | -14°37.7 | -14°29.7 | -14°21.6 | -14°13.5 | -14°05.2 | -13°56.8 | -13°48.4 | -13°39.8 | -13°31.1 | +8.2 | 60.1 |
| Je 16 | 293°57.3 | 308°23.2 | 322°49.2 | 337°15.1 | 351°41.1 | 6°07.0 | 20°33.0 | 34°59.0 | 49°25.0 | 63°51.0 | 78°17.1 | +26.0 | 16.6 |
| | -11°09.9 | -10°59.8 | -10°49.6 | -10°39.4 | -10°29.0 | -10°18.6 | -10°08.1 | -9°57.5 | -9°46.9 | -9°36.2 | -9°25.4 | +10.5 | 60.7 |
| Ve 17 | 294°49.3 | 309°15.5 | 323°41.8 | 338°08.1 | 352°34.4 | 7°00.7 | 21°27.0 | 35°53.4 | 50°19.7 | 64°46.1 | 79°12.4 | +26.3 | 16.7 |
| | -6°36.0 | -6°24.3 | -6°12.5 | -6°00.7 | -5°48.8 | -5°36.9 | -5°24.9 | -5°12.9 | -5°00.9 | -4°48.8 | -4°36.8 | +11.9 | 61.1 |
| Sa 18 | 295°49.5 | 310°16.0 | 324°42.6 | 339°09.1 | 353°35.7 | 8°02.3 | 22°28.9 | 36°55.5 | 51°22.1 | 65°48.7 | 80°15.3 | +26.6 | 16.7 |
| | -1°32.3 | -1°19.8 | -1°07.4 | -0°54.9 | -0°42.5 | -0°30.0 | -0°17.6 | -0°05.1 | 0°07.3 | 0°19.8 | 0°32.2 | +12.5 | 61.1 |
| ○ Di 19 | 296°55.4 | 311°22.1 | 325°48.8 | 340°15.6 | 354°42.3 | 9°09.0 | 23°35.7 | 38°02.5 | 52°29.2 | 66°55.9 | 81°22.7 | +26.7 | 16.6 |
| | 3°37.1 | 3°49.2 | 4°01.3 | 4°13.4 | 4°25.4 | 4°37.4 | 4°49.4 | 5°01.3 | 5°13.2 | 5°25.0 | 5°36.8 | +12.0 | 60.8 |
| Lu 20 | 298°03.9 | 312°30.7 | 326°57.4 | 341°24.2 | 355°50.9 | 10°17.7 | 24°44.5 | 39°11.2 | 53°38.0 | 68°04.8 | 82°31.5 | +26.8 | 16.4 |
| | 8°27.6 | 8°38.5 | 8°49.4 | 9°00.2 | 9°10.9 | 9°21.5 | 9°32.1 | 9°42.6 | 9°53.0 | 10°03.4 | 10°13.7 | +10.6 | 60.2 |
| Ma 21 | 299°13.3 | 313°40.1 | 328°06.9 | 342°33.7 | 357°00.6 | 11°27.4 | 25°54.2 | 40°21.0 | 54°47.9 | 69°14.7 | 83°41.6 | +26.8 | 16.2 |
| | 12°38.1 | 12°47.0 | 12°55.9 | 13°04.6 | 13°13.3 | 13°21.9 | 13°30.3 | 13°38.7 | 13°47.0 | 13°55.2 | 14°03.3 | +8.5 | 59.4 |
| Me 22 | 300°25.4 | 314°52.4 | 329°19.4 | 343°46.4 | 358°13.5 | 12°40.5 | 27°07.6 | 41°34.7 | 56°01.8 | 70°28.9 | 84°56.1 | +27.1 | 15.9 |
| | 15°52.5 | 15°58.9 | 16°05.3 | 16°11.5 | 16°17.7 | 16°23.7 | 16°29.6 | 16°35.4 | 16°41.1 | 16°46.7 | 16°52.2 | +6.0 | 58.4 |
| Je 23 | 314°52.4 | 329°19.4 | 343°46.4 | 358°13.5 | 12°40.5 | 27°07.6 | 41°34.7 | 56°01.8 | 70°28.9 | 84°56.1 | 99°23.2 | +27.1 | 15.9 |
| | 15°58.9 | 16°05.3 | 16°11.5 | 16°17.7 | 16°23.7 | 16°29.6 | 16°35.4 | 16°41.1 | 16°46.7 | 16°52.2 | 16°57.6 | +5.9 | 58.4 |
| Ve 24 | 316°13.1 | 330°40.6 | 345°08.1 | 359°35.7 | 14°03.3 | 28°30.9 | 42°58.5 | 57°26.2 | 71°53.9 | 86°21.7 | 100°49.4 | +27.6 | 15.6 |
| | 18°05.1 | 18°08.7 | 18°12.2 | 18°15.6 | 18°18.9 | 18°22.0 | 18°25.1 | 18°28.1 | 18°30.9 | 18°33.7 | 18°36.3 | +3.1 | 57.4 |
| Sa 25 | 317°50.0 | 332°18.3 | 346°46.7 | 1°15.1 | 15°43.5 | 30°12.0 | 44°40.6 | 59°09.1 | 73°37.7 | 88°06.4 | 102°35.1 | +28.5 | 15.4 |
| | 19°02.7 | 19°03.6 | 19°04.4 | 19°05.0 | 19°05.6 | 19°06.1 | 19°06.5 | 19°06.8 | 19°06.9 | 19°07.0 | 19°06.9 | +0.4 | 56.4 |
| ◑ Di 26 | 319°50.9 | 334°20.3 | 348°49.7 | 3°19.3 | 17°48.8 | 32°18.4 | 46°48.1 | 61°17.8 | 75°47.6 | 90°17.4 | 104°47.2 | +29.6 | 15.2 |
| | 18°54.3 | 18°52.7 | 18°51.0 | 18°49.2 | 18°47.3 | 18°45.2 | 18°43.2 | 18°41.0 | 18°38.7 | 18°36.3 | 18°33.8 | -2.0 | 55.6 |
| Lu 27 | 322°21.0 | 336°51.7 | 351°22.4 | 5°53.1 | 20°23.9 | 34°54.8 | 49°25.7 | 63°56.6 | 78°27.6 | 92°58.7 | 107°29.8 | +30.9 | 15.0 |
| | 17°46.3 | 17°42.5 | 17°38.5 | 17°34.5 | 17°30.4 | 17°26.2 | 17°22.0 | 17°17.7 | 17°13.2 | 17°08.8 | 17°04.2 | -4.2 | 55.0 |
| Ma 28 | 325°22.1 | 339°53.9 | 354°25.9 | 8°57.8 | 23°29.8 | 38°01.9 | 52°34.0 | 67°06.1 | 81°38.3 | 96°10.5 | 110°42.8 | +32.1 | 14.9 |
| | 15°46.8 | 15°41.1 | 15°35.3 | 15°29.5 | 15°23.5 | 15°17.6 | 15°11.5 | 15°05.4 | 14°59.2 | 14°53.0 | 14°46.6 | -6.0 | 54.5 |
| Me 29 | 328°52.0 | 343°24.9 | 357°57.9 | 12°30.9 | 27°03.9 | 41°37.0 | 56°10.1 | 70°43.2 | 85°16.4 | 99°49.6 | 114°22.9 | +33.1 | 14.8 |
| | 13°04.9 | 12°57.6 | 12°50.4 | 12°43.0 | 12°35.6 | 12°28.2 | 12°20.7 | 12°13.1 | 12°05.5 | 11°57.9 | 11°50.2 | -7.5 | 54.1 |
| Je 30 | 332°45.5 | 347°19.2 | 1°53.0 | 16°26.8 | 31°00.6 | 45°34.4 | 60°08.3 | 74°42.2 | 89°16.1 | 103°50.0 | 118°24.0 | +33.8 | 14.7 |
| | 9°49.4 | 9°41.0 | 9°32.6 | 9°24.1 | 9°15.6 | 9°07.0 | 8°58.5 | 8°49.8 | 8°41.2 | 8°32.5 | 8°23.8 | -8.6 | 54.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 20h56 — PQ: 12 18h49 — PL: 19 09h30 — DQ: 26 09h12

# SOLEIL

## Octobre 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 272°37.0 | 287°37.2 | 302°37.4 | 317°37.6 | 332°37.8 | 347°38.0 | 2°38.2 | 17°38.4 | 32°38.6 | 47°38.8 | 62°39.0 | 77°39.2 | +0.2 |
| | -3°24.9 | -3°25.9 | -3°26.9 | -3°27.8 | -3°28.8 | -3°29.8 | -3°30.7 | -3°31.7 | -3°32.7 | -3°33.6 | -3°34.6 | -3°35.6 | -1.0 |
| **Sa 2** | 272°41.7 | 287°41.9 | 302°42.1 | 317°42.3 | 332°42.5 | 347°42.7 | 2°42.9 | 17°43.1 | 32°43.3 | 47°43.5 | 62°43.7 | 77°43.9 | +0.2 |
| | -3°48.1 | -3°49.1 | -3°50.1 | -3°51.0 | -3°52.0 | -3°53.0 | -3°53.9 | -3°54.9 | -3°55.9 | -3°56.8 | -3°57.8 | -3°58.8 | -1.0 |
| **Di 3** | 272°46.4 | 287°46.6 | 302°46.8 | 317°47.0 | 332°47.2 | 347°47.4 | 2°47.6 | 17°47.8 | 32°47.9 | 47°48.1 | 62°48.3 | 77°48.5 | +0.2 |
| | -4°11.3 | -4°12.3 | -4°13.3 | -4°14.2 | -4°15.2 | -4°16.2 | -4°17.1 | -4°18.1 | -4°19.0 | -4°20.0 | -4°21.0 | -4°21.9 | -1.0 |
| **Lu 4** | 272°51.0 | 287°51.2 | 302°51.4 | 317°51.6 | 332°51.8 | 347°51.9 | 2°52.1 | 17°52.3 | 32°52.5 | 47°52.7 | 62°52.9 | 77°53.1 | +0.2 |
| | -4°34.5 | -4°35.4 | -4°36.4 | -4°37.3 | -4°38.3 | -4°39.3 | -4°40.2 | -4°41.2 | -4°42.2 | -4°43.1 | -4°44.1 | -4°45.0 | -1.0 |
| **Ma 5** | 272°55.5 | 287°55.7 | 302°55.9 | 317°56.1 | 332°56.2 | 347°56.4 | 2°56.6 | 17°56.8 | 32°57.0 | 47°57.2 | 62°57.3 | 77°57.5 | +0.2 |
| | -4°57.5 | -4°58.5 | -4°59.5 | -5°00.4 | -5°01.4 | -5°02.3 | -5°03.3 | -5°04.3 | -5°05.2 | -5°06.2 | -5°07.1 | -5°08.1 | -1.0 |
| **Me 6** | 272°59.9 | 288°00.1 | 303°00.3 | 318°00.5 | 333°00.6 | 348°00.8 | 3°01.0 | 18°01.2 | 33°01.4 | 48°01.5 | 63°01.7 | 78°01.9 | +0.2 |
| | -5°20.5 | -5°21.5 | -5°22.5 | -5°23.4 | -5°24.4 | -5°25.3 | -5°26.3 | -5°27.2 | -5°28.2 | -5°29.2 | -5°30.1 | -5°31.1 | -1.0 |
| **Je 7** | 273°04.2 | 288°04.4 | 303°04.6 | 318°04.7 | 333°04.9 | 348°05.1 | 3°05.3 | 18°05.5 | 33°05.6 | 48°05.8 | 63°06.0 | 78°06.2 | +0.2 |
| | -5°43.5 | -5°44.4 | -5°45.4 | -5°46.4 | -5°47.3 | -5°48.3 | -5°49.2 | -5°50.2 | -5°51.1 | -5°52.1 | -5°53.0 | -5°54.0 | -1.0 |
| **Ve 8** | 273°08.4 | 288°08.6 | 303°08.8 | 318°08.9 | 333°09.1 | 348°09.3 | 3°09.5 | 18°09.6 | 33°09.8 | 48°10.0 | 63°10.1 | 78°10.3 | +0.2 |
| | -6°06.4 | -6°07.3 | -6°08.3 | -6°09.2 | -6°10.2 | -6°11.1 | -6°12.1 | -6°13.0 | -6°14.0 | -6°14.9 | -6°15.9 | -6°16.8 | -1.0 |
| **Sa 9** | 273°12.5 | 288°12.7 | 303°12.9 | 318°13.0 | 333°13.2 | 348°13.4 | 3°13.5 | 18°13.7 | 33°13.9 | 48°14.0 | 63°14.2 | 78°14.4 | +0.2 |
| | -6°29.1 | -6°30.1 | -6°31.0 | -6°32.0 | -6°32.9 | -6°33.9 | -6°34.8 | -6°35.8 | -6°36.7 | -6°37.7 | -6°38.6 | -6°39.6 | -0.9 |
| **Di 10** | 273°16.5 | 288°16.7 | 303°16.8 | 318°17.0 | 333°17.2 | 348°17.3 | 3°17.5 | 18°17.7 | 33°17.8 | 48°18.0 | 63°18.1 | 78°18.3 | +0.2 |
| | -6°51.8 | -6°52.8 | -6°53.7 | -6°54.7 | -6°55.6 | -6°56.6 | -6°57.5 | -6°58.5 | -6°59.4 | -7°00.3 | -7°01.3 | -7°02.2 | -0.9 |
| **Lu 11** | 273°20.4 | 288°20.5 | 303°20.7 | 318°20.9 | 333°21.0 | 348°21.2 | 3°21.3 | 18°21.5 | 33°21.7 | 48°21.8 | 63°22.0 | 78°22.1 | +0.2 |
| | -7°14.5 | -7°15.4 | -7°16.3 | -7°17.3 | -7°18.2 | -7°19.2 | -7°20.1 | -7°21.0 | -7°22.0 | -7°22.9 | -7°23.8 | -7°24.8 | -0.9 |
| **Ma 12** | 273°24.1 | 288°24.3 | 303°24.5 | 318°24.6 | 333°24.8 | 348°24.9 | 3°25.1 | 18°25.2 | 33°25.4 | 48°25.5 | 63°25.7 | 78°25.8 | +0.2 |
| | -7°37.0 | -7°37.9 | -7°38.8 | -7°39.8 | -7°40.7 | -7°41.6 | -7°42.6 | -7°43.5 | -7°44.4 | -7°45.4 | -7°46.3 | -7°47.2 | -0.9 |
| **Me 13** | 273°27.8 | 288°27.9 | 303°28.1 | 318°28.2 | 333°28.4 | 348°28.5 | 3°28.7 | 18°28.8 | 33°29.0 | 48°29.1 | 63°29.3 | 78°29.4 | +0.1 |
| | -7°59.4 | -8°00.3 | -8°01.2 | -8°02.2 | -8°03.1 | -8°04.0 | -8°05.0 | -8°05.9 | -8°06.8 | -8°07.7 | -8°08.7 | -8°09.6 | -0.9 |
| **Je 14** | 273°31.3 | 288°31.4 | 303°31.6 | 318°31.7 | 333°31.9 | 348°32.0 | 3°32.1 | 18°32.3 | 33°32.4 | 48°32.6 | 63°32.7 | 78°32.8 | +0.1 |
| | -8°21.7 | -8°22.6 | -8°23.5 | -8°24.4 | -8°25.4 | -8°26.3 | -8°27.2 | -8°28.1 | -8°29.1 | -8°30.0 | -8°30.9 | -8°31.8 | -0.9 |
| **Ve 15** | 273°34.7 | 288°34.8 | 303°34.9 | 318°35.1 | 333°35.2 | 348°35.3 | 3°35.5 | 18°35.6 | 33°35.7 | 48°35.9 | 63°36.0 | 78°36.2 | +0.1 |
| | -8°43.8 | -8°44.8 | -8°45.7 | -8°46.6 | -8°47.5 | -8°48.4 | -8°49.4 | -8°50.3 | -8°51.2 | -8°52.1 | -8°53.0 | -8°54.0 | -0.9 |
| **Sa 16** | 273°37.9 | 288°38.0 | 303°38.1 | 318°38.3 | 333°38.4 | 348°38.5 | 3°38.7 | 18°38.8 | 33°38.9 | 48°39.1 | 63°39.2 | 78°39.3 | +0.1 |
| | -9°05.9 | -9°06.8 | -9°07.7 | -9°08.6 | -9°09.5 | -9°10.5 | -9°11.4 | -9°12.3 | -9°13.2 | -9°14.1 | -9°15.0 | -9°15.9 | -0.9 |
| **Di 17** | 273°41.0 | 288°41.1 | 303°41.2 | 318°41.3 | 333°41.5 | 348°41.6 | 3°41.7 | 18°41.8 | 33°42.0 | 48°42.1 | 63°42.2 | 78°42.3 | +0.1 |
| | -9°27.8 | -9°28.7 | -9°29.6 | -9°30.5 | -9°31.4 | -9°32.3 | -9°33.3 | -9°34.2 | -9°35.1 | -9°36.0 | -9°36.9 | -9°37.8 | -0.9 |
| **Lu 18** | 273°43.9 | 288°44.0 | 303°44.2 | 318°44.3 | 333°44.4 | 348°44.5 | 3°44.6 | 18°44.7 | 33°44.9 | 48°45.0 | 63°45.1 | 78°45.2 | +0.1 |
| | -9°49.6 | -9°50.5 | -9°51.4 | -9°52.3 | -9°53.2 | -9°54.1 | -9°55.0 | -9°55.9 | -9°56.8 | -9°57.7 | -9°58.6 | -9°59.5 | -0.9 |
| **Ma 19** | 273°46.7 | 288°46.8 | 303°46.9 | 318°47.0 | 333°47.1 | 348°47.3 | 3°47.4 | 18°47.5 | 33°47.6 | 48°47.7 | 63°47.8 | 78°47.9 | +0.1 |
| | -10°11.2 | -10°12.1 | -10°13.0 | -10°13.9 | -10°14.8 | -10°15.7 | -10°16.6 | -10°17.5 | -10°18.4 | -10°19.3 | -10°20.2 | -10°21.1 | -0.9 |
| **Me 20** | 273°49.3 | 288°49.4 | 303°49.5 | 318°49.6 | 333°49.7 | 348°49.9 | 3°50.0 | 18°50.1 | 33°50.2 | 48°50.3 | 63°50.4 | 78°50.5 | +0.1 |
| | -10°32.7 | -10°33.6 | -10°34.5 | -10°35.4 | -10°36.3 | -10°37.2 | -10°38.0 | -10°38.9 | -10°39.8 | -10°40.7 | -10°41.6 | -10°42.5 | -0.9 |
| **Je 21** | 273°51.8 | 288°51.9 | 303°52.0 | 318°52.1 | 333°52.2 | 348°52.3 | 3°52.4 | 18°52.5 | 33°52.6 | 48°52.7 | 63°52.8 | 78°52.9 | +0.1 |
| | -10°54.0 | -10°54.9 | -10°55.8 | -10°56.7 | -10°57.6 | -10°58.5 | -10°59.3 | -11°00.2 | -11°01.1 | -11°02.0 | -11°02.9 | -11°03.8 | -0.9 |
| **Ve 22** | 273°54.1 | 288°54.2 | 303°54.3 | 318°54.4 | 333°54.4 | 348°54.5 | 3°54.6 | 18°54.7 | 33°54.8 | 48°54.9 | 63°55.0 | 78°55.1 | +0.1 |
| | -11°15.2 | -11°16.1 | -11°17.0 | -11°17.8 | -11°18.7 | -11°19.6 | -11°20.5 | -11°21.3 | -11°22.2 | -11°23.1 | -11°24.0 | -11°24.9 | -0.9 |
| **Sa 23** | 273°56.2 | 288°56.3 | 303°56.4 | 318°56.4 | 333°56.5 | 348°56.6 | 3°56.7 | 18°56.8 | 33°56.9 | 48°56.9 | 63°57.0 | 78°57.1 | +0.1 |
| | -11°36.2 | -11°37.1 | -11°38.0 | -11°38.8 | -11°39.7 | -11°40.6 | -11°41.4 | -11°42.3 | -11°43.2 | -11°44.0 | -11°44.9 | -11°45.8 | -0.9 |
| **Di 24** | 273°58.1 | 288°58.2 | 303°58.3 | 318°58.4 | 333°58.4 | 348°58.5 | 3°58.6 | 18°58.7 | 33°58.7 | 48°58.8 | 63°58.9 | 78°59.0 | +0.1 |
| | -11°57.0 | -11°57.9 | -11°58.8 | -11°59.6 | -12°00.5 | -12°01.4 | -12°02.2 | -12°03.1 | -12°03.9 | -12°04.8 | -12°05.7 | -12°06.5 | -0.9 |
| **Lu 25** | 273°59.9 | 289°00.0 | 304°00.0 | 319°00.1 | 334°00.2 | 349°00.2 | 4°00.3 | 19°00.4 | 34°00.4 | 49°00.5 | 64°00.6 | 79°00.6 | +0.1 |
| | -12°17.7 | -12°18.5 | -12°19.4 | -12°20.3 | -12°21.1 | -12°22.0 | -12°22.8 | -12°23.7 | -12°24.5 | -12°25.4 | -12°26.2 | -12°27.1 | -0.9 |
| **Ma 26** | 274°01.5 | 289°01.5 | 304°01.6 | 319°01.6 | 334°01.7 | 349°01.8 | 4°01.8 | 19°01.9 | 34°01.9 | 49°02.0 | 64°02.1 | 79°02.1 | +0.1 |
| | -12°38.1 | -12°39.0 | -12°39.8 | -12°40.7 | -12°41.5 | -12°42.4 | -12°43.2 | -12°44.1 | -12°44.9 | -12°45.8 | -12°46.6 | -12°47.5 | -0.8 |
| **Me 27** | 274°02.8 | 289°02.9 | 304°03.0 | 319°03.0 | 334°03.1 | 349°03.1 | 4°03.2 | 19°03.2 | 34°03.3 | 49°03.3 | 64°03.4 | 79°03.4 | +0.1 |
| | -12°58.4 | -12°59.3 | -13°00.1 | -13°00.9 | -13°01.8 | -13°02.6 | -13°03.5 | -13°04.3 | -13°05.1 | -13°06.0 | -13°06.8 | -13°07.6 | -0.8 |
| **Je 28** | 274°04.0 | 289°04.1 | 304°04.1 | 319°04.2 | 334°04.2 | 349°04.3 | 4°04.3 | 19°04.4 | 34°04.4 | 49°04.4 | 64°04.5 | 79°04.5 | +0.0 |
| | -13°18.5 | -13°19.3 | -13°20.1 | -13°21.0 | -13°21.8 | -13°22.6 | -13°23.5 | -13°24.3 | -13°25.1 | -13°26.0 | -13°26.8 | -13°27.6 | -0.8 |
| **Ve 29** | 274°05.0 | 289°05.1 | 304°05.1 | 319°05.1 | 334°05.2 | 349°05.2 | 4°05.3 | 19°05.3 | 34°05.3 | 49°05.4 | 64°05.4 | 79°05.4 | +0.0 |
| | -13°38.3 | -13°39.2 | -13°40.0 | -13°40.8 | -13°41.6 | -13°42.4 | -13°43.3 | -13°44.1 | -13°44.9 | -13°45.7 | -13°46.6 | -13°47.4 | -0.8 |
| **Sa 30** | 274°05.8 | 289°05.9 | 304°05.9 | 319°05.9 | 334°05.9 | 349°06.0 | 4°06.0 | 19°06.0 | 34°06.1 | 49°06.1 | 64°06.1 | 79°06.1 | +0.0 |
| | -13°58.0 | -13°58.8 | -13°59.6 | -14°00.4 | -14°01.2 | -14°02.0 | -14°02.9 | -14°03.7 | -14°04.5 | -14°05.3 | -14°06.1 | -14°06.9 | -0.8 |
| **Di 31** | 274°06.4 | 289°06.5 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.6 | 19°06.6 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°17.4 | -14°18.2 | -14°19.0 | -14°19.8 | -14°20.6 | -14°21.4 | -14°22.2 | -14°23.0 | -14°23.8 | -14°24.6 | -14°25.4 | -14°26.2 | -0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2032

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 249°30.4 | 264°04.5 | 278°38.7 | 293°12.9 | 307°47.0 | 322°21.2 | 336°55.4 | 351°29.7 | 6°03.9 | 20°38.1 | 35°12.4 | +34.2 | 14.7 |
| | 7°03.8 | 6°54.7 | 6°45.7 | 6°36.6 | 6°27.4 | 6°18.3 | 6°09.1 | 5°59.9 | 5°50.7 | 5°41.4 | 5°32.2 | -9.2 | 54.0 |
| Sa 2 | 253°47.2 | 268°21.5 | 282°55.9 | 297°30.3 | 312°04.6 | 326°39.0 | 341°13.3 | 355°47.7 | 10°22.0 | 24°56.4 | 39°30.7 | +34.4 | 14.7 |
| | 3°10.5 | 3°00.9 | 2°51.3 | 2°41.7 | 2°32.1 | 2°22.5 | 2°12.8 | 2°03.1 | 1°53.5 | 1°43.8 | 1°34.1 | -9.6 | 54.0 |
| Di 3 | 258°05.1 | 272°39.3 | 287°13.5 | 301°47.6 | 316°21.8 | 330°56.0 | 345°30.1 | 0°04.2 | 14°38.3 | 29°12.4 | 43°46.5 | +34.1 | 14.8 |
| | -0°52.0 | -1°01.8 | -1°11.6 | -1°21.3 | -1°31.1 | -1°40.8 | -1°50.6 | -2°00.3 | -2°10.1 | -2°19.8 | -2°29.6 | -9.8 | 54.2 |
| ● Lu 4 | 262°14.9 | 276°48.6 | 291°22.3 | 305°55.9 | 320°29.6 | 335°03.2 | 349°36.7 | 4°10.2 | 18°43.7 | 33°17.2 | 47°50.6 | +33.6 | 14.9 |
| | -4°54.5 | -5°04.0 | -5°13.6 | -5°23.1 | -5°32.6 | -5°42.1 | -5°51.5 | -6°01.0 | -6°10.4 | -6°19.8 | -6°29.2 | -9.5 | 54.5 |
| Ma 5 | 266°08.1 | 280°40.9 | 295°13.8 | 309°46.5 | 324°19.3 | 338°52.0 | 353°24.7 | 7°57.3 | 22°29.9 | 37°02.4 | 51°34.9 | +32.7 | 15.0 |
| | -8°46.7 | -8°55.6 | -9°04.5 | -9°13.3 | -9°22.1 | -9°30.9 | -9°39.7 | -9°48.4 | -9°57.0 | -10°05.6 | -10°14.2 | -8.8 | 54.9 |
| Me 6 | 269°36.9 | 284°08.7 | 298°40.4 | 313°12.0 | 327°43.6 | 342°15.2 | 356°46.7 | 11°18.2 | 25°49.6 | 40°21.0 | 54°52.3 | +31.5 | 15.1 |
| | -12°17.6 | -12°25.4 | -12°33.2 | -12°40.9 | -12°48.6 | -12°56.2 | -13°03.8 | -13°11.3 | -13°18.7 | -13°26.1 | -13°33.4 | -7.6 | 55.3 |
| Je 7 | 272°35.9 | 287°06.4 | 301°36.8 | 316°07.2 | 330°37.5 | 345°07.8 | 359°38.0 | 14°08.2 | 28°38.4 | 43°08.4 | 57°38.5 | +30.3 | 15.2 |
| | -15°15.7 | -15°21.9 | -15°28.1 | -15°34.3 | -15°40.3 | -15°46.3 | -15°52.2 | -15°58.0 | -16°03.8 | -16°09.5 | -16°15.0 | -5.9 | 55.7 |
| Ve 8 | 275°02.6 | 289°31.9 | 304°01.0 | 318°30.1 | 332°59.2 | 347°28.2 | 1°57.2 | 16°26.1 | 30°55.0 | 45°23.8 | 59°52.6 | +29.0 | 15.3 |
| | -17°29.1 | -17°33.4 | -17°37.5 | -17°41.6 | -17°45.6 | -17°49.4 | -17°53.2 | -17°56.9 | -18°00.5 | -18°04.1 | -18°07.5 | -3.8 | 56.3 |
| Sa 9 | 276°59.0 | 291°27.1 | 305°55.1 | 320°23.2 | 334°51.1 | 349°19.1 | 3°47.0 | 18°14.9 | 32°42.7 | 47°10.5 | 61°38.2 | +27.9 | 15.5 |
| | -18°47.0 | -18°48.8 | -18°50.6 | -18°52.2 | -18°53.7 | -18°55.1 | -18°56.4 | -18°57.6 | -18°58.7 | -18°59.7 | -19°00.6 | -1.4 | 56.9 |
| Di 10 | 278°31.0 | 292°58.3 | 307°25.6 | 321°52.8 | 336°20.1 | 350°47.3 | 5°14.5 | 19°41.6 | 34°08.8 | 48°35.9 | 63°03.0 | +27.2 | 15.7 |
| | -19°00.7 | -18°59.8 | -18°58.8 | -18°57.7 | -18°56.5 | -18°55.2 | -18°53.8 | -18°52.2 | -18°50.5 | -18°48.8 | -18°46.9 | +1.4 | 57.5 |
| Lu 11 | 279°48.0 | 294°14.9 | 308°41.8 | 323°08.7 | 337°35.6 | 352°02.4 | 6°29.3 | 20°56.2 | 35°23.1 | 49°49.9 | 64°16.8 | +26.9 | 15.9 |
| | -18°05.1 | -18°01.4 | -17°57.6 | -17°53.7 | -17°49.7 | -17°45.6 | -17°41.3 | -17°37.0 | -17°32.5 | -17°28.0 | -17°23.3 | +4.2 | 58.2 |
| ◐ Ma 12 | 280°59.7 | 295°26.6 | 309°53.5 | 324°20.4 | 338°47.3 | 353°14.2 | 7°41.1 | 22°08.0 | 36°34.9 | 51°01.8 | 65°28.8 | +26.9 | 16.0 |
| | -16°00.1 | -15°53.7 | -15°47.2 | -15°40.6 | -15°33.9 | -15°27.1 | -15°20.2 | -15°13.2 | -15°06.1 | -14°58.9 | -14°51.6 | +6.8 | 58.8 |
| Me 13 | 282°13.8 | 296°40.9 | 311°08.0 | 325°35.1 | 340°02.2 | 354°29.3 | 8°56.4 | 23°23.6 | 37°50.7 | 52°17.9 | 66°45.0 | +27.1 | 16.2 |
| | -12°50.9 | -12°42.1 | -12°33.2 | -12°24.3 | -12°15.2 | -12°06.1 | -11°56.9 | -11°47.7 | -11°38.3 | -11°28.9 | -11°19.3 | +9.2 | 59.5 |
| Je 14 | 283°33.7 | 298°01.0 | 312°28.3 | 326°55.6 | 341°23.0 | 355°50.3 | 10°17.7 | 24°45.0 | 39°12.4 | 53°39.8 | 68°07.1 | +27.3 | 16.4 |
| | -8°47.8 | -8°37.2 | -8°26.5 | -8°15.8 | -8°04.9 | -7°54.1 | -7°43.1 | -7°32.2 | -7°21.1 | -7°10.0 | -6°58.9 | +10.9 | 60.0 |
| Ve 15 | 284°58.2 | 299°25.6 | 313°53.1 | 328°20.5 | 342°47.9 | 357°15.3 | 11°42.8 | 26°10.2 | 40°37.6 | 55°05.0 | 69°32.4 | +27.4 | 16.5 |
| | -4°06.4 | -3°54.6 | -3°42.8 | -3°30.9 | -3°19.0 | -3°07.1 | -2°55.2 | -2°43.3 | -2°31.3 | -2°19.3 | -2°07.3 | +11.9 | 60.4 |
| Sa 16 | 286°23.1 | 300°50.4 | 315°17.7 | 329°45.0 | 344°12.3 | 358°39.6 | 13°06.9 | 27°34.1 | 42°01.4 | 56°28.6 | 70°55.9 | +27.3 | 16.5 |
| | 0°54.2 | 1°06.3 | 1°18.5 | 1°30.6 | 1°42.7 | 1°54.7 | 2°06.8 | 2°18.9 | 2°30.9 | 2°43.0 | 2°55.0 | +12.1 | 60.5 |
| Di 17 | 287°42.8 | 302°09.9 | 316°36.9 | 331°03.9 | 345°30.8 | 359°57.8 | 14°24.7 | 28°51.7 | 43°18.6 | 57°45.5 | 72°12.4 | +27.0 | 16.5 |
| | 5°52.2 | 6°03.7 | 6°15.2 | 6°26.7 | 6°38.1 | 6°49.5 | 7°00.8 | 7°12.0 | 7°23.3 | 7°34.4 | 7°45.5 | +11.3 | 60.4 |
| ○ Lu 18 | 288°53.7 | 303°20.4 | 317°47.0 | 332°13.6 | 346°40.2 | 1°06.8 | 15°33.3 | 29°59.9 | 44°26.4 | 58°53.0 | 73°19.5 | +26.6 | 16.3 |
| | 10°25.1 | 10°35.1 | 10°45.2 | 10°55.1 | 11°05.0 | 11°14.8 | 11°24.5 | 11°34.1 | 11°43.7 | 11°53.1 | 12°02.5 | +9.7 | 59.9 |
| Ma 19 | 289°55.9 | 304°22.3 | 318°48.7 | 333°15.0 | 347°41.4 | 2°07.7 | 16°34.1 | 31°00.4 | 45°26.8 | 59°53.1 | 74°19.5 | +26.3 | 16.2 |
| | 14°12.6 | 14°20.5 | 14°28.3 | 14°36.0 | 14°43.6 | 14°51.1 | 14°58.6 | 15°05.9 | 15°13.1 | 15°20.2 | 15°27.2 | +7.5 | 59.3 |
| Me 20 | 290°55.0 | 305°21.5 | 319°47.9 | 334°14.4 | 348°40.8 | 3°07.3 | 17°33.8 | 32°00.3 | 46°26.8 | 60°53.4 | 75°20.0 | +26.5 | 15.9 |
| | 16°59.2 | 17°04.5 | 17°09.6 | 17°14.6 | 17°19.6 | 17°24.4 | 17°29.0 | 17°33.6 | 17°38.1 | 17°42.4 | 17°46.7 | +4.7 | 58.4 |
| Je 21 | 292°01.2 | 306°28.2 | 320°55.2 | 335°22.2 | 349°49.3 | 4°16.4 | 18°43.5 | 33°10.7 | 47°37.9 | 62°05.1 | 76°32.4 | +27.1 | 15.7 |
| | 18°36.4 | 18°38.8 | 18°41.1 | 18°43.2 | 18°45.3 | 18°47.2 | 18°49.0 | 18°50.8 | 18°52.4 | 18°53.9 | 18°55.2 | +1.9 | 57.5 |
| Ve 22 | 293°26.7 | 307°54.6 | 322°22.7 | 336°50.7 | 351°18.9 | 5°47.0 | 20°15.3 | 34°43.6 | 49°11.9 | 63°40.3 | 78°08.7 | +28.2 | 15.4 |
| | 19°02.6 | 19°02.2 | 19°01.8 | 19°01.2 | 19°00.5 | 18°59.7 | 18°58.8 | 18°57.8 | 18°56.7 | 18°55.5 | 18°54.2 | -0.8 | 56.6 |
| Sa 23 | 307°54.6 | 322°22.7 | 336°50.7 | 351°18.9 | 5°47.0 | 20°15.3 | 34°43.6 | 49°11.9 | 63°40.3 | 78°08.7 | 92°37.2 | +28.3 | 15.4 |
| | 19°02.2 | 19°01.8 | 19°01.2 | 19°00.5 | 18°59.7 | 18°58.8 | 18°57.8 | 18°56.7 | 18°55.5 | 18°54.2 | 18°52.8 | -1.0 | 56.6 |
| Di 24 | 309°51.2 | 324°20.6 | 338°50.0 | 353°19.5 | 7°49.1 | 22°18.7 | 36°48.3 | 51°18.1 | 65°47.9 | 80°17.7 | 94°47.6 | +29.6 | 15.2 |
| | 18°19.8 | 18°16.9 | 18°13.8 | 18°10.7 | 18°07.5 | 18°04.2 | 18°00.8 | 17°57.3 | 17°53.7 | 17°50.0 | 17°46.3 | -3.4 | 55.8 |
| Lu 25 | 312°23.4 | 326°54.2 | 341°25.1 | 355°56.1 | 10°27.1 | 24°58.2 | 39°29.3 | 54°00.5 | 68°31.8 | 83°03.1 | 97°34.4 | +31.1 | 15.0 |
| | 16°40.2 | 16°35.2 | 16°30.0 | 16°24.9 | 16°19.6 | 16°14.3 | 16°08.9 | 16°03.4 | 15°57.9 | 15°52.3 | 15°46.6 | -5.4 | 55.1 |
| ◑ Ma 26 | 315°31.3 | 330°03.6 | 344°35.8 | 359°08.1 | 13°40.5 | 28°12.9 | 42°45.3 | 57°17.8 | 71°50.4 | 86°23.0 | 100°55.6 | +32.4 | 14.9 |
| | 14°13.5 | 14°06.8 | 14°00.0 | 13°53.2 | 13°46.3 | 13°39.4 | 13°32.4 | 13°25.4 | 13°18.3 | 13°11.1 | 13°03.9 | -7.0 | 54.6 |
| Me 27 | 319°10.5 | 333°43.8 | 348°17.1 | 2°50.5 | 17°23.9 | 31°57.4 | 46°30.9 | 61°04.4 | 75°37.9 | 90°11.5 | 104°45.2 | +33.5 | 14.8 |
| | 11°09.9 | 11°01.9 | 10°53.9 | 10°45.8 | 10°37.7 | 10°29.5 | 10°21.3 | 10°13.1 | 10°04.8 | 9°56.5 | 9°48.2 | -8.2 | 54.2 |
| Je 28 | 323°12.9 | 337°46.9 | 352°21.0 | 6°55.1 | 21°29.2 | 36°03.3 | 50°37.5 | 65°11.6 | 79°45.8 | 94°20.0 | 108°54.2 | +34.1 | 14.8 |
| | 7°38.6 | 7°29.7 | 7°20.8 | 7°11.8 | 7°02.8 | 6°53.8 | 6°44.8 | 6°35.7 | 6°26.6 | 6°17.5 | 6°08.3 | -9.0 | 54.1 |
| Ve 29 | 327°28.8 | 342°03.2 | 356°37.6 | 11°12.0 | 25°46.3 | 40°20.7 | 54°55.1 | 69°29.5 | 84°03.9 | 98°38.3 | 113°12.6 | +34.4 | 14.8 |
| | 3°48.3 | 3°38.9 | 3°29.4 | 3°19.8 | 3°10.3 | 3°00.7 | 2°51.2 | 2°41.6 | 2°32.0 | 2°22.4 | 2°12.8 | -9.6 | 54.1 |
| Sa 30 | 331°47.7 | 346°22.0 | 0°56.3 | 15°30.5 | 30°04.7 | 44°38.9 | 59°13.1 | 73°47.3 | 88°21.5 | 102°55.6 | 117°29.7 | +34.2 | 14.8 |
| | -0°12.6 | -0°22.3 | -0°32.1 | -0°41.8 | -0°51.5 | -1°01.3 | -1°11.0 | -1°20.8 | -1°30.5 | -1°40.3 | -1°50.0 | -9.7 | 54.3 |
| Di 31 | 335°58.9 | 350°32.6 | 5°06.4 | 19°40.0 | 34°13.7 | 48°47.3 | 63°20.9 | 77°54.4 | 92°28.0 | 107°01.4 | 121°34.9 | +33.6 | 14.9 |
| | -4°15.5 | -4°25.1 | -4°34.7 | -4°44.3 | -4°53.9 | -5°03.5 | -5°13.0 | -5°22.6 | -5°32.1 | -5°41.6 | -5°51.1 | -9.6 | 54.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 4 13h26 — PQ: 12 03h47 — PL: 18 18h58 — DQ: 26 02h28

# SOLEIL

## Novembre 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 274°06.8 | 289°06.8 | 304°06.9 | 319°06.9 | 334°06.9 | 349°06.9 | 4°06.9 | 19°06.9 | 34°06.9 | 49°06.9 | 64°06.9 | 79°06.9 | +0.0 |
| | -14°36.6 | -14°37.4 | -14°38.2 | -14°39.0 | -14°39.8 | -14°40.6 | -14°41.4 | -14°42.1 | -14°42.9 | -14°43.7 | -14°44.5 | -14°45.3 | -0.8 |
| **Ma 2** | 274°07.0 | 289°07.0 | 304°07.0 | 319°07.0 | 334°07.0 | 349°07.0 | 4°07.0 | 19°07.0 | 34°07.0 | 49°07.0 | 64°07.0 | 79°07.0 | +0.0 |
| | -14°55.6 | -14°56.3 | -14°57.1 | -14°57.9 | -14°58.7 | -14°59.5 | -15°00.3 | -15°01.0 | -15°01.8 | -15°02.6 | -15°03.4 | -15°04.2 | -0.8 |
| **Me 3** | 274°07.0 | 289°07.0 | 304°07.0 | 319°07.0 | 334°07.0 | 349°07.0 | 4°07.0 | 19°07.0 | 34°07.0 | 49°07.0 | 64°07.0 | 79°06.9 | -0.0 |
| | -15°14.3 | -15°15.0 | -15°15.8 | -15°16.6 | -15°17.4 | -15°18.1 | -15°18.9 | -15°19.7 | -15°20.5 | -15°21.2 | -15°22.0 | -15°22.8 | -0.8 |
| **Je 4** | 274°06.8 | 289°06.8 | 304°06.8 | 319°06.8 | 334°06.8 | 349°06.7 | 4°06.7 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.6 | -0.0 |
| | -15°32.7 | -15°33.5 | -15°34.3 | -15°35.0 | -15°35.8 | -15°36.5 | -15°37.3 | -15°38.1 | -15°38.8 | -15°39.6 | -15°40.4 | -15°41.1 | -0.8 |
| **Ve 5** | 274°06.4 | 289°06.4 | 304°06.3 | 319°06.3 | 334°06.3 | 349°06.3 | 4°06.3 | 19°06.2 | 34°06.2 | 49°06.2 | 64°06.2 | 79°06.1 | -0.0 |
| | -15°50.9 | -15°51.7 | -15°52.4 | -15°53.2 | -15°54.0 | -15°54.7 | -15°55.5 | -15°56.2 | -15°57.0 | -15°57.7 | -15°58.5 | -15°59.2 | -0.8 |
| **Sa 6** | 274°05.8 | 289°05.7 | 304°05.7 | 319°05.7 | 334°05.6 | 349°05.6 | 4°05.6 | 19°05.5 | 34°05.5 | 49°05.5 | 64°05.4 | 79°05.4 | -0.0 |
| | -16°08.9 | -16°09.6 | -16°10.4 | -16°11.1 | -16°11.9 | -16°12.6 | -16°13.3 | -16°14.1 | -16°14.8 | -16°15.5 | -16°16.3 | -16°17.0 | -0.7 |
| **Di 7** | 274°04.9 | 289°04.9 | 304°04.9 | 319°04.8 | 334°04.8 | 349°04.7 | 4°04.7 | 19°04.6 | 34°04.6 | 49°04.6 | 64°04.5 | 79°04.5 | -0.0 |
| | -16°26.6 | -16°27.3 | -16°28.0 | -16°28.8 | -16°29.5 | -16°30.2 | -16°30.9 | -16°31.7 | -16°32.4 | -16°33.1 | -16°33.8 | -16°34.6 | -0.7 |
| **Lu 8** | 274°03.9 | 289°03.8 | 304°03.8 | 319°03.7 | 334°03.7 | 349°03.7 | 4°03.6 | 19°03.6 | 34°03.5 | 49°03.5 | 64°03.4 | 79°03.3 | -0.0 |
| | -16°44.0 | -16°44.7 | -16°45.4 | -16°46.1 | -16°46.8 | -16°47.6 | -16°48.3 | -16°49.0 | -16°49.7 | -16°50.4 | -16°51.1 | -16°51.8 | -0.7 |
| **Ma 9** | 274°02.6 | 289°02.6 | 304°02.5 | 319°02.5 | 334°02.4 | 349°02.4 | 4°02.3 | 19°02.2 | 34°02.2 | 49°02.1 | 64°02.1 | 79°02.0 | -0.1 |
| | -17°01.1 | -17°01.8 | -17°02.5 | -17°03.2 | -17°03.9 | -17°04.6 | -17°05.3 | -17°06.0 | -17°06.7 | -17°07.4 | -17°08.1 | -17°08.8 | -0.7 |
| **Me 10** | 274°01.2 | 289°01.1 | 304°01.1 | 319°01.0 | 334°00.9 | 349°00.9 | 4°00.8 | 19°00.7 | 34°00.7 | 49°00.6 | 64°00.5 | 79°00.5 | -0.1 |
| | -17°17.9 | -17°18.6 | -17°19.3 | -17°20.0 | -17°20.7 | -17°21.4 | -17°22.1 | -17°22.8 | -17°23.5 | -17°24.1 | -17°24.8 | -17°25.5 | -0.7 |
| **Je 11** | 273°59.5 | 288°59.5 | 303°59.4 | 318°59.3 | 333°59.2 | 348°59.2 | 3°59.1 | 18°59.0 | 33°58.9 | 48°58.9 | 63°58.8 | 78°58.7 | -0.1 |
| | -17°34.4 | -17°35.1 | -17°35.8 | -17°36.5 | -17°37.2 | -17°37.8 | -17°38.5 | -17°39.2 | -17°39.9 | -17°40.6 | -17°41.2 | -17°41.9 | -0.7 |
| **Ve 12** | 273°57.7 | 288°57.6 | 303°57.5 | 318°57.4 | 333°57.3 | 348°57.3 | 3°57.2 | 18°57.1 | 33°57.0 | 48°56.9 | 63°56.8 | 78°56.7 | -0.1 |
| | -17°50.7 | -17°51.3 | -17°52.0 | -17°52.7 | -17°53.3 | -17°54.0 | -17°54.7 | -17°55.3 | -17°56.0 | -17°56.7 | -17°57.3 | -17°58.0 | -0.7 |
| **Sa 13** | 273°55.6 | 288°55.5 | 303°55.4 | 318°55.3 | 333°55.2 | 348°55.1 | 3°55.0 | 18°55.0 | 33°54.9 | 48°54.8 | 63°54.7 | 78°54.6 | -0.1 |
| | -18°06.6 | -18°07.2 | -18°07.9 | -18°08.5 | -18°09.2 | -18°09.8 | -18°10.5 | -18°11.2 | -18°11.8 | -18°12.5 | -18°13.1 | -18°13.8 | -0.7 |
| **Di 14** | 273°53.3 | 288°53.2 | 303°53.1 | 318°53.0 | 333°52.9 | 348°52.8 | 3°52.7 | 18°52.6 | 33°52.5 | 48°52.4 | 63°52.3 | 78°52.2 | -0.1 |
| | -18°22.2 | -18°22.8 | -18°23.5 | -18°24.1 | -18°24.7 | -18°25.4 | -18°26.0 | -18°26.7 | -18°27.3 | -18°27.9 | -18°28.6 | -18°29.2 | -0.6 |
| **Lu 15** | 273°50.8 | 288°50.7 | 303°50.6 | 318°50.5 | 333°50.4 | 348°50.3 | 3°50.2 | 18°50.1 | 33°50.0 | 48°49.8 | 63°49.7 | 78°49.6 | -0.1 |
| | -18°37.4 | -18°38.1 | -18°38.7 | -18°39.3 | -18°40.0 | -18°40.6 | -18°41.2 | -18°41.8 | -18°42.5 | -18°43.1 | -18°43.7 | -18°44.3 | -0.6 |
| **Ma 16** | 273°48.1 | 288°48.0 | 303°47.9 | 318°47.8 | 333°47.7 | 348°47.5 | 3°47.4 | 18°47.3 | 33°47.2 | 48°47.1 | 63°47.0 | 78°46.8 | -0.1 |
| | -18°52.4 | -18°53.0 | -18°53.6 | -18°54.2 | -18°54.8 | -18°55.5 | -18°56.1 | -18°56.7 | -18°57.3 | -18°57.9 | -18°58.5 | -18°59.1 | -0.6 |
| **Me 17** | 273°45.2 | 288°45.1 | 303°45.0 | 318°44.9 | 333°44.7 | 348°44.6 | 3°44.5 | 18°44.3 | 33°44.2 | 48°44.1 | 63°44.0 | 78°43.8 | -0.1 |
| | -19°07.0 | -19°07.6 | -19°08.2 | -19°08.8 | -19°09.4 | -19°10.0 | -19°10.6 | -19°11.2 | -19°11.8 | -19°12.4 | -19°13.0 | -19°13.6 | -0.6 |
| **Je 18** | 273°42.1 | 288°42.0 | 303°41.9 | 318°41.7 | 333°41.6 | 348°41.4 | 3°41.3 | 18°41.2 | 33°41.0 | 48°40.9 | 63°40.8 | 78°40.6 | -0.1 |
| | -19°21.3 | -19°21.9 | -19°22.4 | -19°23.0 | -19°23.6 | -19°24.2 | -19°24.8 | -19°25.4 | -19°25.9 | -19°26.5 | -19°27.1 | -19°27.7 | -0.6 |
| **Ve 19** | 273°38.8 | 288°38.7 | 303°38.5 | 318°38.4 | 333°38.2 | 348°38.1 | 3°37.9 | 18°37.8 | 33°37.6 | 48°37.5 | 63°37.4 | 78°37.2 | -0.1 |
| | -19°35.2 | -19°35.8 | -19°36.3 | -19°36.9 | -19°37.5 | -19°38.0 | -19°38.6 | -19°39.2 | -19°39.7 | -19°40.3 | -19°40.9 | -19°41.4 | -0.6 |
| **Sa 20** | 273°35.3 | 288°35.1 | 303°35.0 | 318°34.8 | 333°34.7 | 348°34.5 | 3°34.4 | 18°34.2 | 33°34.1 | 48°33.9 | 63°33.7 | 78°33.6 | -0.2 |
| | -19°48.8 | -19°49.3 | -19°49.9 | -19°50.4 | -19°51.0 | -19°51.5 | -19°52.1 | -19°52.6 | -19°53.2 | -19°53.7 | -19°54.3 | -19°54.8 | -0.6 |
| **Di 21** | 273°31.5 | 288°31.4 | 303°31.2 | 318°31.1 | 333°30.9 | 348°30.7 | 3°30.6 | 18°30.4 | 33°30.3 | 48°30.1 | 63°29.9 | 78°29.8 | -0.2 |
| | -20°02.0 | -20°02.5 | -20°03.0 | -20°03.6 | -20°04.1 | -20°04.7 | -20°05.2 | -20°05.7 | -20°06.3 | -20°06.8 | -20°07.4 | -20°07.9 | -0.5 |
| **Lu 22** | 273°27.6 | 288°27.4 | 303°27.3 | 318°27.1 | 333°26.9 | 348°26.8 | 3°26.6 | 18°26.4 | 33°26.3 | 48°26.1 | 63°25.9 | 78°25.7 | -0.2 |
| | -20°14.8 | -20°15.3 | -20°15.9 | -20°16.4 | -20°16.9 | -20°17.4 | -20°18.0 | -20°18.5 | -20°19.0 | -20°19.5 | -20°20.0 | -20°20.6 | -0.5 |
| **Ma 23** | 273°23.5 | 288°23.3 | 303°23.1 | 318°22.9 | 333°22.8 | 348°22.6 | 3°22.4 | 18°22.2 | 33°22.1 | 48°21.9 | 63°21.7 | 78°21.5 | -0.2 |
| | -20°27.3 | -20°27.8 | -20°28.3 | -20°28.8 | -20°29.3 | -20°29.8 | -20°30.3 | -20°30.8 | -20°31.3 | -20°31.8 | -20°32.4 | -20°32.9 | -0.5 |
| **Me 24** | 273°19.1 | 288°19.0 | 303°18.8 | 318°18.6 | 333°18.4 | 348°18.2 | 3°18.0 | 18°17.8 | 33°17.7 | 48°17.5 | 63°17.3 | 78°17.1 | -0.2 |
| | -20°39.4 | -20°39.9 | -20°40.4 | -20°40.8 | -20°41.3 | -20°41.8 | -20°42.3 | -20°42.8 | -20°43.3 | -20°43.8 | -20°44.3 | -20°44.8 | -0.5 |
| **Je 25** | 273°14.6 | 288°14.4 | 303°14.2 | 318°14.0 | 333°13.8 | 348°13.6 | 3°13.4 | 18°13.3 | 33°13.1 | 48°12.9 | 63°12.7 | 78°12.5 | -0.2 |
| | -20°51.1 | -20°51.6 | -20°52.0 | -20°52.5 | -20°53.0 | -20°53.5 | -20°53.9 | -20°54.4 | -20°54.9 | -20°55.4 | -20°55.8 | -20°56.3 | -0.5 |
| **Ve 26** | 273°09.9 | 288°09.7 | 303°09.5 | 318°09.3 | 333°09.1 | 348°08.9 | 3°08.7 | 18°08.5 | 33°08.3 | 48°08.1 | 63°07.9 | 78°07.7 | -0.2 |
| | -21°02.4 | -21°02.9 | -21°03.3 | -21°03.8 | -21°04.2 | -21°04.7 | -21°05.2 | -21°05.6 | -21°06.1 | -21°06.5 | -21°07.0 | -21°07.4 | -0.5 |
| **Sa 27** | 273°05.0 | 288°04.8 | 303°04.6 | 318°04.4 | 333°04.1 | 348°03.9 | 3°03.7 | 18°03.5 | 33°03.3 | 48°03.1 | 63°02.9 | 78°02.7 | -0.2 |
| | -21°13.3 | -21°13.8 | -21°14.2 | -21°14.7 | -21°15.1 | -21°15.5 | -21°16.0 | -21°16.4 | -21°16.9 | -21°17.3 | -21°17.8 | -21°18.2 | -0.4 |
| **Di 28** | 272°59.9 | 287°59.7 | 302°59.5 | 317°59.2 | 332°59.0 | 347°58.8 | 2°58.6 | 17°58.4 | 32°58.2 | 47°57.9 | 62°57.7 | 77°57.5 | -0.2 |
| | -21°23.8 | -21°24.3 | -21°24.7 | -21°25.1 | -21°25.6 | -21°26.0 | -21°26.4 | -21°26.8 | -21°27.3 | -21°27.7 | -21°28.1 | -21°28.5 | -0.4 |
| **Lu 29** | 272°54.6 | 287°54.4 | 302°54.2 | 317°54.0 | 332°53.7 | 347°53.5 | 2°53.3 | 17°53.1 | 32°52.8 | 47°52.6 | 62°52.4 | 77°52.2 | -0.2 |
| | -21°34.0 | -21°34.4 | -21°34.8 | -21°35.2 | -21°35.6 | -21°36.0 | -21°36.4 | -21°36.8 | -21°37.3 | -21°37.7 | -21°38.1 | -21°38.5 | -0.4 |
| **Ma 30** | 272°49.2 | 287°49.0 | 302°48.7 | 317°48.5 | 332°48.3 | 347°48.0 | 2°47.8 | 17°47.6 | 32°47.3 | 47°47.1 | 62°46.9 | 77°46.6 | -0.2 |
| | -21°43.7 | -21°44.1 | -21°44.5 | -21°44.9 | -21°45.3 | -21°45.7 | -21°46.0 | -21°46.4 | -21°46.8 | -21°47.2 | -21°47.6 | -21°48.0 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2032

| J | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 252°34.3 | 267°07.4 | 281°40.4 | 296°13.4 | 310°46.4 | 325°19.3 | 339°52.2 | 354°25.0 | 8°57.8 | 23°30.5 | 38°03.2 | +32.9 | 15.0 |
| | -7°15.5 | -7°24.8 | -7°34.1 | -7°43.3 | -7°52.5 | -8°01.6 | -8°10.7 | -8°19.8 | -8°28.9 | -8°38.0 | -8°47.0 | -9.1 | 54.9 |
| Ma 2 | 256°08.0 | 270°39.9 | 285°11.8 | 299°43.6 | 314°15.4 | 328°47.1 | 343°18.8 | 357°50.4 | 12°22.0 | 26°53.5 | 41°24.9 | +31.7 | 15.1 |
| | -10°57.7 | -11°06.1 | -11°14.5 | -11°22.8 | -11°31.0 | -11°39.3 | -11°47.4 | -11°55.5 | -12°03.6 | -12°11.6 | -12°19.5 | -8.2 | 55.4 |
| ● Me 3 | 259°10.1 | 273°40.6 | 288°11.2 | 302°41.6 | 317°12.0 | 331°42.3 | 346°12.6 | 0°42.8 | 15°13.0 | 29°43.1 | 44°13.2 | +30.3 | 15.2 |
| | -14°12.1 | -14°19.2 | -14°26.1 | -14°33.0 | -14°39.8 | -14°46.6 | -14°53.2 | -14°59.9 | -15°06.4 | -15°12.9 | -15°19.3 | -6.7 | 55.9 |
| Je 4 | 261°37.3 | 276°06.5 | 290°35.6 | 305°04.7 | 319°33.7 | 334°02.6 | 348°31.5 | 3°00.4 | 17°29.2 | 31°58.0 | 46°26.7 | +28.9 | 15.4 |
| | -16°45.9 | -16°51.1 | -16°56.1 | -17°01.0 | -17°05.9 | -17°10.7 | -17°15.4 | -17°20.0 | -17°24.5 | -17°28.9 | -17°33.2 | -4.7 | 56.4 |
| Ve 5 | 263°31.6 | 277°59.5 | 292°27.5 | 306°55.4 | 321°23.2 | 335°51.0 | 350°18.8 | 4°46.6 | 19°14.3 | 33°41.9 | 48°09.6 | +27.8 | 15.5 |
| | -18°26.7 | -18°29.4 | -18°32.1 | -18°34.7 | -18°37.1 | -18°39.5 | -18°41.7 | -18°43.9 | -18°45.9 | -18°47.9 | -18°49.7 | -2.3 | 56.9 |
| Sa 6 | 265°00.3 | 279°27.5 | 293°54.7 | 308°21.8 | 322°48.9 | 337°16.0 | 351°43.1 | 6°10.2 | 20°37.2 | 35°04.2 | 49°31.3 | +27.1 | 15.7 |
| | -19°04.1 | -19°04.2 | -19°04.2 | -19°04.0 | -19°03.8 | -19°03.4 | -19°02.9 | -19°02.3 | -19°01.6 | -19°00.8 | -18°59.9 | +0.4 | 57.4 |
| Di 7 | 266°15.3 | 280°42.2 | 295°09.1 | 309°36.0 | 324°02.9 | 338°29.8 | 352°56.7 | 7°23.6 | 21°50.5 | 36°17.4 | 50°44.3 | +26.9 | 15.8 |
| | -18°32.3 | -18°29.6 | -18°26.7 | -18°23.8 | -18°20.7 | -18°17.5 | -18°14.2 | -18°10.8 | -18°07.3 | -18°03.7 | -17°59.9 | +3.2 | 57.9 |
| Lu 8 | 267°29.2 | 281°56.3 | 296°23.4 | 310°50.5 | 325°17.6 | 339°44.8 | 354°11.9 | 8°39.1 | 23°06.3 | 37°33.6 | 52°00.8 | +27.2 | 15.9 |
| | -16°50.8 | -16°45.3 | -16°39.8 | -16°34.1 | -16°28.4 | -16°22.5 | -16°16.5 | -16°10.5 | -16°04.3 | -15°58.0 | -15°51.7 | +5.9 | 58.3 |
| Ma 9 | 268°51.8 | 283°19.4 | 297°47.0 | 312°14.6 | 326°42.3 | 341°09.9 | 355°37.6 | 10°05.3 | 24°33.0 | 39°00.8 | 53°28.6 | +27.7 | 16.0 |
| | -14°04.8 | -13°56.9 | -13°49.0 | -13°41.0 | -13°32.8 | -13°24.7 | -13°16.4 | -13°08.0 | -12°59.6 | -12°51.0 | -12°42.4 | +8.2 | 58.7 |
| ◐ Me 10 | 270°27.8 | 284°55.9 | 299°24.0 | 313°52.2 | 328°20.3 | 342°48.5 | 357°16.7 | 11°44.9 | 26°13.2 | 40°41.4 | 55°09.7 | +28.2 | 16.1 |
| | -10°24.3 | -10°14.6 | -10°04.7 | -9°54.8 | -9°44.9 | -9°34.9 | -9°24.8 | -9°14.7 | -9°04.5 | -8°54.2 | -8°43.9 | +10.0 | 59.1 |
| Je 11 | 272°15.6 | 286°44.1 | 301°12.6 | 315°41.1 | 330°09.6 | 344°38.1 | 359°06.6 | 13°35.2 | 28°03.7 | 42°32.2 | 57°00.8 | +28.5 | 16.2 |
| | -6°03.1 | -5°52.0 | -5°40.9 | -5°29.8 | -5°18.6 | -5°07.4 | -4°56.1 | -4°44.8 | -4°33.5 | -4°22.1 | -4°10.8 | +11.2 | 59.4 |
| Ve 12 | 274°09.3 | 288°37.8 | 303°06.4 | 317°34.9 | 332°03.5 | 346°32.0 | 1°00.5 | 15°29.1 | 29°57.6 | 44°26.1 | 58°54.6 | +28.5 | 16.2 |
| | -1°17.3 | -1°05.6 | -0°53.9 | -0°42.2 | -0°30.5 | -0°18.7 | -0°07.0 | 0°04.7 | 0°16.5 | 0°28.2 | 0°40.0 | +11.7 | 59.6 |
| Sa 13 | 276°00.6 | 290°28.9 | 304°57.1 | 319°25.4 | 333°53.6 | 348°21.8 | 2°50.0 | 17°18.2 | 31°46.3 | 46°14.4 | 60°42.5 | +28.2 | 16.3 |
| | 3°35.2 | 3°46.7 | 3°58.3 | 4°09.8 | 4°21.3 | 4°32.7 | 4°44.2 | 4°55.6 | 5°07.0 | 5°18.4 | 5°29.7 | +11.5 | 59.6 |
| Di 14 | 277°41.4 | 292°09.2 | 306°36.9 | 321°04.5 | 335°32.2 | 349°59.8 | 4°27.4 | 18°55.0 | 33°22.6 | 47°50.1 | 62°17.6 | +27.6 | 16.2 |
| | 8°15.0 | 8°25.6 | 8°36.2 | 8°46.8 | 8°57.2 | 9°07.7 | 9°18.1 | 9°28.4 | 9°38.6 | 9°48.8 | 9°59.0 | +10.4 | 59.5 |
| Lu 15 | 279°06.8 | 293°33.9 | 308°01.0 | 322°28.0 | 336°55.0 | 351°22.0 | 5°48.9 | 20°15.9 | 34°42.8 | 49°09.7 | 63°36.5 | +27.0 | 16.1 |
| | 12°22.8 | 12°31.8 | 12°40.7 | 12°49.5 | 12°58.2 | 13°06.9 | 13°15.4 | 13°23.9 | 13°32.3 | 13°40.6 | 13°48.9 | +8.6 | 59.2 |
| Ma 16 | 280°17.2 | 294°43.8 | 309°10.3 | 323°36.9 | 338°03.4 | 352°30.0 | 6°56.5 | 21°23.0 | 35°49.5 | 50°16.0 | 64°42.5 | +26.5 | 16.0 |
| | 15°40.9 | 15°47.6 | 15°54.1 | 16°00.6 | 16°07.0 | 16°13.3 | 16°19.4 | 16°25.5 | 16°31.4 | 16°37.3 | 16°43.0 | +6.2 | 58.7 |
| ○ Me 17 | 281°19.5 | 295°46.0 | 310°12.5 | 324°39.0 | 339°05.6 | 353°32.1 | 7°58.6 | 22°25.2 | 36°51.7 | 51°18.3 | 65°44.9 | +26.5 | 15.8 |
| | 17°55.7 | 17°59.7 | 18°03.5 | 18°07.3 | 18°10.9 | 18°14.4 | 18°17.7 | 18°21.0 | 18°24.1 | 18°27.2 | 18°30.1 | +3.4 | 58.1 |
| Je 18 | 282°26.5 | 296°53.5 | 311°20.5 | 325°47.5 | 340°14.6 | 354°41.7 | 9°08.9 | 23°36.1 | 38°03.3 | 52°30.5 | 66°57.9 | +27.1 | 15.6 |
| | 19°00.1 | 19°01.1 | 19°02.1 | 19°03.0 | 19°03.7 | 19°04.3 | 19°04.8 | 19°05.2 | 19°05.5 | 19°05.7 | 19°05.8 | +0.6 | 57.3 |
| Ve 19 | 283°52.6 | 298°20.7 | 312°48.8 | 327°16.9 | 341°45.1 | 356°13.3 | 10°41.6 | 25°10.0 | 39°38.4 | 54°06.9 | 68°35.4 | +28.3 | 15.4 |
| | 18°53.7 | 18°52.1 | 18°50.3 | 18°48.5 | 18°46.5 | 18°44.4 | 18°42.3 | 18°40.0 | 18°37.7 | 18°35.2 | 18°32.6 | -2.1 | 56.6 |
| Sa 20 | 285°50.1 | 300°19.6 | 314°49.1 | 329°18.7 | 343°48.4 | 358°18.1 | 12°47.8 | 27°17.7 | 41°47.6 | 56°17.5 | 70°47.5 | +29.7 | 15.2 |
| | 17°42.9 | 17°38.8 | 17°34.7 | 17°30.5 | 17°26.2 | 17°21.8 | 17°17.4 | 17°12.8 | 17°08.2 | 17°03.5 | 16°58.7 | -4.4 | 55.8 |
| Di 21 | 288°25.3 | 302°56.3 | 317°27.4 | 331°58.5 | 346°29.7 | 1°01.0 | 15°32.3 | 30°03.6 | 44°35.1 | 59°06.5 | 73°38.1 | +31.3 | 15.0 |
| | 15°37.5 | 15°31.5 | 15°25.5 | 15°19.4 | 15°13.2 | 15°06.9 | 15°00.6 | 14°54.2 | 14°47.8 | 14°41.3 | 14°34.7 | -6.3 | 55.2 |
| Lu 22 | 302°56.3 | 317°27.4 | 331°58.5 | 346°29.7 | 1°01.0 | 15°32.3 | 30°03.6 | 44°35.1 | 59°06.5 | 73°38.1 | 88°09.7 | +31.3 | 15.0 |
| | 15°31.5 | 15°25.5 | 15°19.4 | 15°13.2 | 15°06.9 | 15°00.6 | 14°54.2 | 14°47.8 | 14°41.3 | 14°34.7 | 14°28.0 | -6.4 | 55.2 |
| Ma 23 | 306°10.4 | 320°42.9 | 335°15.4 | 349°48.0 | 4°20.6 | 18°53.3 | 33°26.0 | 47°58.8 | 62°31.6 | 77°04.5 | 91°37.4 | +32.7 | 14.9 |
| | 12°41.6 | 12°34.0 | 12°26.5 | 12°18.8 | 12°11.2 | 12°03.4 | 11°55.7 | 11°47.8 | 11°40.0 | 11°32.1 | 11°24.1 | -7.7 | 54.7 |
| ◑ Me 24 | 309°56.3 | 324°29.8 | 339°03.4 | 353°37.1 | 8°10.8 | 22°44.5 | 37°18.2 | 51°52.0 | 66°25.8 | 80°59.6 | 95°33.5 | +33.7 | 14.8 |
| | 9°19.8 | 9°11.2 | 9°02.6 | 8°54.0 | 8°45.3 | 8°36.5 | 8°27.8 | 8°19.0 | 8°10.2 | 8°01.3 | 7°52.5 | -8.7 | 54.3 |
| Je 25 | 314°04.6 | 328°38.9 | 343°13.2 | 357°47.4 | 12°21.7 | 26°56.1 | 41°30.4 | 56°04.7 | 70°39.1 | 85°13.5 | 99°47.8 | +34.3 | 14.8 |
| | 5°36.0 | 5°26.8 | 5°17.5 | 5°08.1 | 4°58.8 | 4°49.4 | 4°40.0 | 4°30.6 | 4°21.2 | 4°11.8 | 4°02.3 | -9.4 | 54.2 |
| Ve 26 | 318°24.4 | 332°58.9 | 347°33.3 | 2°07.8 | 16°42.3 | 31°16.7 | 45°51.2 | 60°25.6 | 75°00.0 | 89°34.5 | 104°08.9 | +34.4 | 14.8 |
| | 1°38.9 | 1°29.2 | 1°19.5 | 1°09.9 | 1°00.2 | 0°50.5 | 0°40.8 | 0°31.1 | 0°21.4 | 0°11.7 | 0°02.0 | -9.7 | 54.2 |
| Sa 27 | 322°43.6 | 337°17.8 | 351°52.0 | 6°26.1 | 21°00.3 | 35°34.4 | 50°08.4 | 64°42.5 | 79°16.5 | 93°50.5 | 108°24.5 | +34.1 | 14.8 |
| | -2°23.6 | -2°33.3 | -2°43.0 | -2°52.7 | -3°02.4 | -3°12.0 | -3°21.7 | -3°31.3 | -3°41.0 | -3°50.6 | -4°00.2 | -9.7 | 54.5 |
| Di 28 | 326°50.2 | 341°23.6 | 355°57.0 | 10°30.4 | 25°03.7 | 39°37.0 | 54°10.2 | 68°43.4 | 83°16.5 | 97°49.6 | 112°22.7 | +33.3 | 15.0 |
| | -6°22.9 | -6°32.3 | -6°41.7 | -6°51.0 | -7°00.3 | -7°09.6 | -7°18.9 | -7°28.1 | -7°37.3 | -7°46.5 | -7°55.7 | -9.3 | 54.8 |
| Lu 29 | 330°32.7 | 345°05.0 | 359°37.2 | 14°09.3 | 28°41.4 | 43°13.4 | 57°45.4 | 72°17.3 | 86°49.2 | 101°21.0 | 115°52.7 | +32.0 | 15.1 |
| | -10°09.6 | -10°18.2 | -10°26.8 | -10°35.4 | -10°43.9 | -10°52.4 | -11°00.9 | -11°09.3 | -11°17.6 | -11°26.0 | -11°34.2 | -8.5 | 55.4 |
| Ma 30 | 333°41.6 | 348°12.3 | 2°43.0 | 17°13.6 | 31°44.2 | 46°14.7 | 60°45.1 | 75°15.5 | 89°45.8 | 104°16.0 | 118°46.2 | +30.5 | 15.3 |
| | -13°32.3 | -13°39.7 | -13°47.1 | -13°54.4 | -14°01.7 | -14°08.9 | -14°16.0 | -14°23.1 | -14°30.0 | -14°37.0 | -14°43.8 | -7.2 | 56.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 3 05h44 — PQ: 10 11h33 — PL: 17 06h42 — DQ: 24 22h47

# SOLEIL

## Décembre 2032

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 272°43.6 | 287°43.3 | 302°43.1 | 317°42.9 | 332°42.6 | 347°42.4 | 2°42.2 | 17°41.9 | 32°41.7 | 47°41.4 | 62°41.2 | 77°41.0 | -0.2 |
| | -21°53.0 | -21°53.4 | -21°53.7 | -21°54.1 | -21°54.5 | -21°54.9 | -21°55.2 | -21°55.6 | -21°56.0 | -21°56.4 | -21°56.7 | -21°57.1 | -0.4 |
| Je 2 | 272°37.8 | 287°37.6 | 302°37.3 | 317°37.1 | 332°36.8 | 347°36.6 | 2°36.3 | 17°36.1 | 32°35.9 | 47°35.6 | 62°35.4 | 77°35.1 | -0.2 |
| | -22°01.9 | -22°02.2 | -22°02.6 | -22°02.9 | -22°03.3 | -22°03.7 | -22°04.0 | -22°04.4 | -22°04.7 | -22°05.1 | -22°05.4 | -22°05.8 | -0.4 |
| Ve 3 | 272°31.9 | 287°31.6 | 302°31.4 | 317°31.1 | 332°30.9 | 347°30.6 | 2°30.4 | 17°30.1 | 32°29.9 | 47°29.6 | 62°29.4 | 77°29.1 | -0.3 |
| | -22°10.3 | -22°10.7 | -22°11.0 | -22°11.3 | -22°11.7 | -22°12.0 | -22°12.4 | -22°12.7 | -22°13.0 | -22°13.4 | -22°13.7 | -22°14.0 | -0.3 |
| Sa 4 | 272°25.8 | 287°25.6 | 302°25.3 | 317°25.1 | 332°24.8 | 347°24.5 | 2°24.3 | 17°24.0 | 32°23.8 | 47°23.5 | 62°23.3 | 77°23.0 | -0.3 |
| | -22°18.3 | -22°18.7 | -22°19.0 | -22°19.3 | -22°19.6 | -22°20.0 | -22°20.3 | -22°20.6 | -22°20.9 | -22°21.2 | -22°21.6 | -22°21.9 | -0.3 |
| Di 5 | 272°19.6 | 287°19.4 | 302°19.1 | 317°18.8 | 332°18.6 | 347°18.3 | 2°18.0 | 17°17.8 | 32°17.5 | 47°17.3 | 62°17.0 | 77°16.7 | -0.3 |
| | -22°25.9 | -22°26.2 | -22°26.5 | -22°26.8 | -22°27.2 | -22°27.5 | -22°27.8 | -22°28.1 | -22°28.4 | -22°28.7 | -22°29.0 | -22°29.3 | -0.3 |
| Lu 6 | 272°13.3 | 287°13.0 | 302°12.7 | 317°12.5 | 332°12.2 | 347°11.9 | 2°11.7 | 17°11.4 | 32°11.1 | 47°10.9 | 62°10.6 | 77°10.3 | -0.3 |
| | -22°33.1 | -22°33.4 | -22°33.7 | -22°34.0 | -22°34.2 | -22°34.5 | -22°34.8 | -22°35.1 | -22°35.4 | -22°35.7 | -22°35.9 | -22°36.2 | -0.3 |
| Ma 7 | 272°06.8 | 287°06.5 | 302°06.3 | 317°06.0 | 332°05.7 | 347°05.4 | 2°05.2 | 17°04.9 | 32°04.6 | 47°04.4 | 62°04.1 | 77°03.8 | -0.3 |
| | -22°39.8 | -22°40.1 | -22°40.3 | -22°40.6 | -22°40.9 | -22°41.1 | -22°41.4 | -22°41.7 | -22°41.9 | -22°42.2 | -22°42.5 | -22°42.7 | -0.3 |
| Me 8 | 272°00.2 | 287°00.0 | 301°59.7 | 316°59.4 | 331°59.1 | 346°58.8 | 1°58.6 | 16°58.3 | 31°58.0 | 46°57.7 | 61°57.5 | 76°57.2 | -0.3 |
| | -22°46.1 | -22°46.3 | -22°46.6 | -22°46.8 | -22°47.1 | -22°47.3 | -22°47.6 | -22°47.8 | -22°48.1 | -22°48.3 | -22°48.6 | -22°48.8 | -0.2 |
| Je 9 | 271°53.5 | 286°53.3 | 301°53.0 | 316°52.7 | 331°52.4 | 346°52.1 | 1°51.8 | 16°51.6 | 31°51.3 | 46°51.0 | 61°50.7 | 76°50.4 | -0.3 |
| | -22°51.9 | -22°52.1 | -22°52.4 | -22°52.6 | -22°52.8 | -22°53.1 | -22°53.3 | -22°53.5 | -22°53.7 | -22°54.0 | -22°54.2 | -22°54.4 | -0.2 |
| Ve 10 | 271°46.7 | 286°46.5 | 301°46.2 | 316°45.9 | 331°45.6 | 346°45.3 | 1°45.0 | 16°44.7 | 31°44.5 | 46°44.2 | 61°43.9 | 76°43.6 | -0.3 |
| | -22°57.3 | -22°57.5 | -22°57.7 | -22°57.9 | -22°58.1 | -22°58.3 | -22°58.5 | -22°58.8 | -22°59.0 | -22°59.2 | -22°59.4 | -22°59.6 | -0.2 |
| Sa 11 | 271°39.9 | 286°39.6 | 301°39.3 | 316°39.0 | 331°38.7 | 346°38.4 | 1°38.1 | 16°37.8 | 31°37.5 | 46°37.3 | 61°37.0 | 76°36.7 | -0.3 |
| | -23°02.2 | -23°02.4 | -23°02.6 | -23°02.8 | -23°03.0 | -23°03.2 | -23°03.4 | -23°03.5 | -23°03.7 | -23°03.9 | -23°04.1 | -23°04.3 | -0.2 |
| Di 12 | 271°32.9 | 286°32.6 | 301°32.3 | 316°32.0 | 331°31.7 | 346°31.4 | 1°31.1 | 16°30.8 | 31°30.5 | 46°30.3 | 61°30.0 | 76°29.7 | -0.3 |
| | -23°06.7 | -23°06.8 | -23°07.0 | -23°07.2 | -23°07.4 | -23°07.5 | -23°07.7 | -23°07.9 | -23°08.0 | -23°08.2 | -23°08.4 | -23°08.6 | -0.2 |
| Lu 13 | 271°25.8 | 286°25.5 | 301°25.2 | 316°24.9 | 331°24.7 | 346°24.4 | 1°24.1 | 16°23.8 | 31°23.5 | 46°23.2 | 61°22.9 | 76°22.6 | -0.3 |
| | -23°10.7 | -23°10.8 | -23°11.0 | -23°11.1 | -23°11.3 | -23°11.4 | -23°11.6 | -23°11.7 | -23°11.9 | -23°12.0 | -23°12.2 | -23°12.3 | -0.2 |
| Ma 14 | 271°18.7 | 286°18.4 | 301°18.1 | 316°17.8 | 331°17.5 | 346°17.2 | 1°16.9 | 16°16.6 | 31°16.3 | 46°16.0 | 61°15.7 | 76°15.4 | -0.3 |
| | -23°14.2 | -23°14.3 | -23°14.5 | -23°14.6 | -23°14.8 | -23°14.9 | -23°15.0 | -23°15.2 | -23°15.3 | -23°15.4 | -23°15.5 | -23°15.7 | -0.1 |
| Me 15 | 271°11.5 | 286°11.2 | 301°10.9 | 316°10.6 | 331°10.3 | 346°10.0 | 1°09.7 | 16°09.4 | 31°09.1 | 46°08.8 | 61°08.5 | 76°08.2 | -0.3 |
| | -23°17.3 | -23°17.4 | -23°17.5 | -23°17.6 | -23°17.8 | -23°17.9 | -23°18.0 | -23°18.1 | -23°18.2 | -23°18.3 | -23°18.4 | -23°18.5 | -0.1 |
| Je 16 | 271°04.3 | 286°04.0 | 301°03.7 | 316°03.4 | 331°03.1 | 346°02.8 | 1°02.5 | 16°02.1 | 31°01.8 | 46°01.5 | 61°01.2 | 76°00.9 | -0.3 |
| | -23°19.9 | -23°20.0 | -23°20.1 | -23°20.2 | -23°20.3 | -23°20.4 | -23°20.5 | -23°20.6 | -23°20.7 | -23°20.8 | -23°20.9 | -23°20.9 | -0.1 |
| Ve 17 | 270°57.0 | 285°56.7 | 300°56.4 | 315°56.1 | 330°55.7 | 345°55.4 | 0°55.1 | 15°54.8 | 30°54.5 | 45°54.2 | 60°53.9 | 75°53.6 | -0.3 |
| | -23°22.1 | -23°22.1 | -23°22.2 | -23°22.3 | -23°22.4 | -23°22.4 | -23°22.5 | -23°22.6 | -23°22.7 | -23°22.7 | -23°22.8 | -23°22.9 | -0.1 |
| Sa 18 | 270°49.6 | 285°49.3 | 300°49.0 | 315°48.7 | 330°48.4 | 345°48.1 | 0°47.8 | 15°47.5 | 30°47.2 | 45°46.9 | 60°46.6 | 75°46.2 | -0.3 |
| | -23°23.7 | -23°23.8 | -23°23.9 | -23°23.9 | -23°24.0 | -23°24.0 | -23°24.1 | -23°24.1 | -23°24.2 | -23°24.2 | -23°24.3 | -23°24.4 | -0.1 |
| Di 19 | 270°42.2 | 285°41.9 | 300°41.6 | 315°41.3 | 330°41.0 | 345°40.7 | 0°40.4 | 15°40.1 | 30°39.8 | 45°39.5 | 60°39.2 | 75°38.8 | -0.3 |
| | -23°25.0 | -23°25.0 | -23°25.0 | -23°25.1 | -23°25.1 | -23°25.1 | -23°25.2 | -23°25.2 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.4 | -0.0 |
| Lu 20 | 270°34.8 | 285°34.5 | 300°34.2 | 315°33.9 | 330°33.6 | 345°33.3 | 0°33.0 | 15°32.7 | 30°32.4 | 45°32.0 | 60°31.7 | 75°31.4 | -0.3 |
| | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.9 | -23°25.9 | -23°25.9 | -0.0 |
| Ma 21 | 270°27.4 | 285°27.1 | 300°26.8 | 315°26.5 | 330°26.2 | 345°25.8 | 0°25.5 | 15°25.2 | 30°24.9 | 45°24.6 | 60°24.3 | 75°24.0 | -0.3 |
| | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°26.0 | -23°25.9 | -23°25.9 | -23°25.9 | +0.0 |
| Me 22 | 270°20.0 | 285°19.6 | 300°19.3 | 315°19.0 | 330°18.7 | 345°18.4 | 0°18.1 | 15°17.8 | 30°17.5 | 45°17.2 | 60°16.8 | 75°16.5 | -0.3 |
| | -23°25.8 | -23°25.8 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.5 | -23°25.5 | +0.0 |
| Je 23 | 270°12.5 | 285°12.2 | 300°11.9 | 315°11.6 | 330°11.3 | 345°10.9 | 0°10.6 | 15°10.3 | 30°10.0 | 45°09.7 | 60°09.4 | 75°09.1 | -0.3 |
| | -23°25.1 | -23°25.1 | -23°25.0 | -23°25.0 | -23°24.9 | -23°24.9 | -23°24.9 | -23°24.8 | -23°24.8 | -23°24.7 | -23°24.7 | -23°24.6 | +0.0 |
| Ve 24 | 270°05.1 | 285°04.7 | 300°04.4 | 315°04.1 | 330°03.8 | 345°03.5 | 0°03.2 | 15°02.9 | 30°02.6 | 45°02.3 | 60°02.0 | 75°01.6 | -0.3 |
| | -23°24.0 | -23°23.9 | -23°23.8 | -23°23.8 | -23°23.7 | -23°23.7 | -23°23.6 | -23°23.5 | -23°23.5 | -23°23.4 | -23°23.3 | -23°23.3 | +0.1 |
| Sa 25 | 269°57.6 | 284°57.3 | 299°57.0 | 314°56.7 | 329°56.4 | 344°56.1 | 359°55.8 | 14°55.4 | 29°55.1 | 44°54.8 | 59°54.5 | 74°54.2 | -0.3 |
| | -23°22.3 | -23°22.3 | -23°22.2 | -23°22.1 | -23°22.0 | -23°22.0 | -23°21.9 | -23°21.8 | -23°21.7 | -23°21.6 | -23°21.5 | -23°21.5 | +0.1 |
| Di 26 | 269°50.2 | 284°49.9 | 299°49.6 | 314°49.3 | 329°49.0 | 344°48.7 | 359°48.3 | 14°48.0 | 29°47.7 | 44°47.4 | 59°47.1 | 74°46.8 | -0.3 |
| | -23°20.3 | -23°20.2 | -23°20.1 | -23°20.0 | -23°19.9 | -23°19.8 | -23°19.7 | -23°19.6 | -23°19.5 | -23°19.4 | -23°19.3 | -23°19.2 | +0.1 |
| Lu 27 | 269°42.8 | 284°42.5 | 299°42.2 | 314°41.9 | 329°41.6 | 344°41.3 | 359°41.0 | 14°40.7 | 29°40.4 | 44°40.0 | 59°39.7 | 74°39.4 | -0.3 |
| | -23°17.7 | -23°17.6 | -23°17.5 | -23°17.4 | -23°17.2 | -23°17.1 | -23°17.0 | -23°16.9 | -23°16.8 | -23°16.6 | -23°16.5 | -23°16.4 | +0.1 |
| Ma 28 | 269°35.5 | 284°35.1 | 299°34.8 | 314°34.5 | 329°34.2 | 344°33.9 | 359°33.6 | 14°33.3 | 29°33.0 | 44°32.7 | 59°32.4 | 74°32.1 | -0.3 |
| | -23°14.7 | -23°14.6 | -23°14.4 | -23°14.3 | -23°14.2 | -23°14.0 | -23°13.9 | -23°13.7 | -23°13.6 | -23°13.4 | -23°13.3 | -23°13.2 | +0.1 |
| Me 29 | 269°28.1 | 284°27.8 | 299°27.5 | 314°27.2 | 329°26.9 | 344°26.6 | 359°26.3 | 14°26.0 | 29°25.7 | 44°25.4 | 59°25.1 | 74°24.8 | -0.3 |
| | -23°11.2 | -23°11.1 | -23°10.9 | -23°10.7 | -23°10.6 | -23°10.4 | -23°10.3 | -23°10.1 | -23°10.0 | -23°09.8 | -23°09.6 | -23°09.5 | +0.2 |
| Je 30 | 269°20.9 | 284°20.6 | 299°20.3 | 314°20.0 | 329°19.7 | 344°19.4 | 359°19.1 | 14°18.8 | 29°18.5 | 44°18.2 | 59°17.9 | 74°17.6 | -0.3 |
| | -23°07.3 | -23°07.1 | -23°06.9 | -23°06.7 | -23°06.6 | -23°06.4 | -23°06.2 | -23°06.0 | -23°05.8 | -23°05.7 | -23°05.5 | -23°05.3 | +0.2 |
| Ve 31 | 269°13.7 | 284°13.4 | 299°13.1 | 314°12.8 | 329°12.5 | 344°12.2 | 359°11.9 | 14°11.6 | 29°11.3 | 44°11.0 | 59°10.7 | 74°10.4 | -0.3 |
| | -23°02.9 | -23°02.7 | -23°02.5 | -23°02.3 | -23°02.1 | -23°01.9 | -23°01.7 | -23°01.5 | -23°01.3 | -23°01.1 | -23°00.9 | -23°00.7 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Décembre 2032

| J | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 249°14.7<br>-15°42.5 | 263°44.2<br>-15°48.6 | 278°13.6<br>-15°54.7 | 292°43.0<br>-16°00.7 | 307°12.3<br>-16°06.6 | 321°41.5<br>-16°12.4 | 336°10.7<br>-16°18.2 | 350°39.8<br>-16°23.9 | 5°08.9<br>-16°29.4 | 19°37.9<br>-16°35.0 | 34°06.8<br>-16°40.4 | +29.2<br>-5.8 | 15.4<br>56.5 |
| Je 2 | 251°13.0<br>-17°51.1 | 265°40.9<br>-17°55.1 | 280°08.8<br>-17°59.0 | 294°36.6<br>-18°02.8 | 309°04.4<br>-18°06.4 | 323°32.1<br>-18°10.0 | 337°59.8<br>-18°13.5 | 352°27.3<br>-18°16.8 | 6°54.9<br>-18°20.1 | 21°22.4<br>-18°23.3 | 35°49.8<br>-18°26.4 | +27.7<br>-3.5 | 15.6<br>57.1 |
| Ve 3 | 252°35.7<br>-18°59.5 | 267°02.4<br>-19°00.8 | 281°29.0<br>-19°02.0 | 295°55.7<br>-19°03.1 | 310°22.3<br>-19°04.1 | 324°48.9<br>-19°04.9 | 339°15.4<br>-19°05.7 | 353°41.9<br>-19°06.3 | 8°08.4<br>-19°06.9 | 22°34.8<br>-19°07.3 | 37°01.2<br>-19°07.6 | +26.6<br>-0.8 | 15.7<br>57.7 |
| Sa 4 | 253°34.6<br>-18°57.8 | 268°00.7<br>-18°56.2 | 282°26.8<br>-18°54.5 | 296°52.9<br>-18°52.6 | 311°19.0<br>-18°50.7 | 325°45.0<br>-18°48.6 | 340°11.1<br>-18°46.4 | 354°37.1<br>-18°44.1 | 9°03.2<br>-18°41.7 | 23°29.2<br>-18°39.1 | 37°55.2<br>-18°36.4 | +26.1<br>+2.1 | 15.9<br>58.3 |
| Di 5 | 254°26.3<br>-17°42.5 | 268°52.5<br>-17°37.9 | 283°18.6<br>-17°33.3 | 297°44.8<br>-17°28.6 | 312°11.0<br>-17°23.7 | 326°37.2<br>-17°18.7 | 341°03.5<br>-17°13.7 | 355°29.7<br>-17°08.5 | 9°56.0<br>-17°03.2 | 24°22.3<br>-16°57.8 | 38°48.6<br>-16°52.3 | +26.2<br>+5.0 | 16.0<br>58.7 |
| Lu 6 | 255°26.4<br>-15°17.2 | 269°53.2<br>-15°10.0 | 284°20.0<br>-15°02.8 | 298°46.8<br>-14°55.5 | 313°13.6<br>-14°48.0 | 327°40.5<br>-14°40.5 | 342°07.4<br>-14°32.9 | 356°34.4<br>-14°25.2 | 11°01.3<br>-14°17.4 | 25°28.3<br>-14°09.6 | 39°55.4<br>-14°01.6 | +26.9<br>+7.6 | 16.1<br>58.9 |
| Ma 7 | 256°45.3<br>-11°52.3 | 271°12.9<br>-11°43.0 | 285°40.5<br>-11°33.7 | 300°08.2<br>-11°24.3 | 314°35.9<br>-11°14.9 | 329°03.7<br>-11°05.4 | 343°31.5<br>-10°55.8 | 357°59.3<br>-10°46.1 | 12°27.1<br>-10°36.4 | 26°55.0<br>-10°26.6 | 41°22.9<br>-10°16.8 | +27.8<br>+9.5 | 16.1<br>59.1 |
| Me 8 | 258°25.7<br>-7°42.5 | 272°54.1<br>-7°31.8 | 287°22.5<br>-7°21.1 | 301°51.0<br>-7°10.3 | 316°19.5<br>-6°59.5 | 330°48.1<br>-6°48.6 | 345°16.6<br>-6°37.7 | 359°45.2<br>-6°26.8 | 14°13.8<br>-6°15.8 | 28°42.5<br>-6°04.8 | 43°11.1<br>-5°53.8 | +28.5<br>+10.9 | 16.1<br>59.2 |
| Je 9 | 260°23.6<br>-3°04.8 | 274°52.5<br>-2°53.4 | 289°21.5<br>-2°41.9 | 303°50.5<br>-2°30.4 | 318°19.5<br>-2°19.0 | 332°48.5<br>-2°07.5 | 347°17.6<br>-1°56.0 | 1°46.6<br>-1°44.4 | 16°15.7<br>-1°32.9 | 30°44.7<br>-1°21.4 | 45°13.8<br>-1°09.9 | +29.0<br>+11.5 | 16.1<br>59.1 |
| Ve 10 | 262°30.5<br>1°43.2 | 276°59.7<br>1°54.7 | 291°28.8<br>2°06.2 | 305°57.9<br>2°17.7 | 320°27.0<br>2°29.1 | 334°56.1<br>2°40.5 | 349°25.2<br>2°51.9 | 3°54.3<br>3°03.3 | 18°23.4<br>3°14.7 | 32°52.5<br>3°26.1 | 47°21.6<br>3°37.4 | +29.1<br>+11.4 | 16.1<br>59.0 |
| Sa 11 | 264°36.6<br>6°24.2 | 279°05.5<br>6°35.0 | 293°34.3<br>6°45.8 | 308°03.2<br>6°56.6 | 322°32.0<br>7°07.3 | 337°00.8<br>7°18.0 | 351°29.6<br>7°28.7 | 5°58.4<br>7°39.3 | 20°27.2<br>7°49.8 | 34°55.9<br>8°00.3 | 49°24.6<br>8°10.8 | +28.8<br>+10.7 | 16.0<br>58.9 |
| Di 12 | 266°32.7<br>10°41.1 | 281°01.1<br>10°50.6 | 295°29.4<br>11°00.1 | 309°57.7<br>11°09.5 | 324°26.0<br>11°18.9 | 338°54.2<br>11°28.1 | 353°22.4<br>11°37.3 | 7°50.6<br>11°46.5 | 22°18.8<br>11°55.5 | 36°46.9<br>12°04.5 | 51°15.1<br>12°13.5 | +28.2<br>+9.2 | 16.0<br>58.6 |
| Lu 13 | 268°13.7<br>14°17.9 | 282°41.4<br>14°25.5 | 297°09.1<br>14°33.0 | 311°36.8<br>14°40.5 | 326°04.4<br>14°47.9 | 340°32.0<br>14°55.1 | 354°59.6<br>15°02.3 | 9°27.2<br>15°09.4 | 23°54.7<br>15°16.4 | 38°22.2<br>15°23.3 | 52°49.7<br>15°30.1 | +27.6<br>+7.2 | 15.9<br>58.3 |
| Ma 14 | 269°40.0<br>17°00.6 | 284°07.2<br>17°05.8 | 298°34.4<br>17°10.9 | 313°01.6<br>17°15.9 | 327°28.8<br>17°20.8 | 341°56.0<br>17°25.6 | 356°23.1<br>17°30.3 | 10°50.3<br>17°34.9 | 25°17.5<br>17°39.4 | 39°44.6<br>17°43.8 | 54°11.7<br>17°48.0 | +27.2<br>+4.7 | 15.8<br>57.8 |
| Me 15 | 270°58.6<br>18°38.9 | 285°25.7<br>18°41.5 | 299°52.9<br>18°43.9 | 314°20.0<br>18°46.1 | 328°47.2<br>18°48.3 | 343°14.4<br>18°50.4 | 357°41.6<br>18°52.3 | 12°08.8<br>18°54.2 | 26°36.0<br>18°55.9 | 41°03.2<br>18°57.5 | 55°30.5<br>18°59.0 | +27.2<br>+2.0 | 15.6<br>57.3 |
| Je 16 | 272°21.7<br>19°08.3 | 286°49.3<br>19°08.0 | 301°17.0<br>19°07.6 | 315°44.7<br>19°07.1 | 330°12.4<br>19°06.5 | 344°40.1<br>19°05.9 | 359°07.9<br>19°05.0 | 13°35.7<br>19°04.1 | 28°03.6<br>19°03.1 | 42°31.5<br>19°02.0 | 56°59.4<br>19°00.8 | +27.8<br>-0.8 | 15.5<br>56.7 |
| Ve 17 | 274°03.4<br>18°30.0 | 288°32.0<br>18°27.1 | 303°00.7<br>18°24.2 | 317°29.4<br>18°21.1 | 331°58.2<br>18°18.0 | 346°27.0<br>18°14.7 | 0°55.9<br>18°11.4 | 15°24.8<br>18°08.0 | 29°53.8<br>18°04.5 | 44°22.8<br>18°00.9 | 58°51.9<br>17°57.2 | +28.9<br>-3.3 | 15.3<br>56.1 |
| Sa 18 | 276°14.8<br>16°51.1 | 290°44.8<br>16°46.0 | 305°14.9<br>16°40.8 | 319°45.0<br>16°35.6 | 334°15.1<br>16°30.3 | 348°45.3<br>16°24.9 | 3°15.6<br>16°19.4 | 17°45.9<br>16°13.9 | 32°16.3<br>16°08.3 | 46°46.8<br>16°02.6 | 61°17.3<br>15°56.8 | +30.2<br>-5.4 | 15.2<br>55.6 |
| Di 19 | 279°01.9<br>14°22.0 | 293°33.3<br>14°15.2 | 308°04.8<br>14°08.3 | 322°36.4<br>14°01.3 | 337°08.0<br>13°54.3 | 351°39.6<br>13°47.2 | 6°11.4<br>13°40.0 | 20°43.1<br>13°32.9 | 35°15.0<br>13°25.6 | 49°46.8<br>13°18.3 | 64°18.8<br>13°10.9 | +31.7<br>-7.1 | 15.0<br>55.0 |
| Lu 20 | 282°24.1<br>11°14.4 | 296°56.9<br>11°06.3 | 311°29.7<br>10°58.1 | 326°02.6<br>10°49.9 | 340°35.4<br>10°41.6 | 355°08.4<br>10°33.3 | 9°41.4<br>10°25.0 | 24°14.4<br>10°16.6 | 38°47.5<br>10°08.2 | 53°20.6<br>9°59.7 | 67°53.8<br>9°51.2 | +33.0<br>-8.3 | 14.9<br>54.6 |
| Ma 21 | 286°16.0<br>7°39.6 | 300°49.8<br>7°30.6 | 315°23.6<br>7°21.6 | 329°57.4<br>7°12.5 | 344°31.3<br>7°03.4 | 359°05.2<br>6°54.3 | 13°39.1<br>6°45.2 | 28°13.1<br>6°36.0 | 42°47.1<br>6°26.8 | 57°21.1<br>6°17.6 | 71°55.1<br>6°08.4 | +33.9<br>-9.1 | 14.8<br>54.3 |
| Me 22 | 300°49.8<br>7°30.6 | 315°23.6<br>7°21.6 | 329°57.4<br>7°12.5 | 344°31.3<br>7°03.4 | 359°05.2<br>6°54.3 | 13°39.1<br>6°45.2 | 28°13.1<br>6°36.0 | 42°47.1<br>6°26.8 | 57°21.1<br>6°17.6 | 71°55.1<br>6°08.4 | 86°29.2<br>5°59.1 | +33.9<br>-9.2 | 14.8<br>54.3 |
| Je 23 | 305°02.9<br>3°38.1 | 319°37.3<br>3°28.6 | 334°11.7<br>3°19.1 | 348°46.2<br>3°09.5 | 3°20.6<br>3°00.0 | 17°55.0<br>2°50.4 | 32°29.5<br>2°40.8 | 47°04.0<br>2°31.3 | 61°38.4<br>2°21.7 | 76°12.9<br>2°12.1 | 90°47.4<br>2°02.5 | +34.5<br>-9.6 | 14.8<br>54.2 |
| Ve 24 | 309°25.2<br>-0°22.3 | 323°59.7<br>-0°32.0 | 338°34.2<br>-0°41.7 | 353°08.7<br>-0°51.3 | 7°43.2<br>-1°01.0 | 22°17.7<br>-1°10.7 | 36°52.1<br>-1°20.3 | 51°26.6<br>-1°30.0 | 66°01.1<br>-1°39.6 | 80°35.5<br>-1°49.3 | 95°09.9<br>-1°58.9 | +34.5<br>-9.7 | 14.8<br>54.2 |
| Sa 25 | 313°44.4<br>-4°22.7 | 328°18.6<br>-4°32.1 | 342°52.7<br>-4°41.6 | 357°26.7<br>-4°51.1 | 12°00.8<br>-5°00.5 | 26°34.8<br>-5°10.0 | 41°08.8<br>-5°19.4 | 55°42.8<br>-5°28.8 | 70°16.7<br>-5°38.2 | 84°50.6<br>-5°47.5 | 99°24.5<br>-5°56.9 | +34.0<br>-9.4 | 14.8<br>54.5 |
| Di 26 | 317°48.2<br>-8°14.5 | 332°21.5<br>-8°23.4 | 346°54.7<br>-8°32.4 | 1°27.9<br>-8°41.3 | 16°01.0<br>-8°50.2 | 30°34.1<br>-8°59.0 | 45°07.1<br>-9°07.8 | 59°40.1<br>-9°16.6 | 74°13.0<br>-9°25.4 | 88°45.9<br>-9°34.1 | 103°18.7<br>-9°42.8 | +33.1<br>-8.8 | 15.0<br>54.9 |
| Lu 27 | 321°24.7<br>-11°48.5 | 335°56.7<br>-11°56.5 | 350°28.5<br>-12°04.5 | 5°00.4<br>-12°12.4 | 19°32.1<br>-12°20.3 | 34°03.8<br>-12°28.2 | 48°35.4<br>-12°36.0 | 63°07.0<br>-12°43.7 | 77°38.5<br>-12°51.4 | 92°10.0<br>-12°59.1 | 106°41.3<br>-13°06.7 | +31.7<br>-7.8 | 15.1<br>55.5 |
| Ma 28 | 324°23.8<br>-14°53.6 | 338°54.1<br>-15°00.2 | 353°24.3<br>-15°06.8 | 7°54.5<br>-15°13.3 | 22°24.5<br>-15°19.7 | 36°54.5<br>-15°26.0 | 51°24.4<br>-15°32.3 | 65°54.3<br>-15°38.5 | 80°24.1<br>-15°44.7 | 94°53.8<br>-15°50.7 | 109°23.4<br>-15°56.7 | +30.0<br>-6.3 | 15.3<br>56.2 |
| Me 29 | 326°39.2<br>-17°17.0 | 341°07.7<br>-17°21.7 | 355°36.1<br>-17°26.3 | 10°04.4<br>-17°30.7 | 24°32.7<br>-17°35.1 | 39°00.9<br>-17°39.5 | 53°29.0<br>-17°43.7 | 67°57.1<br>-17°47.8 | 82°25.0<br>-17°51.8 | 96°53.0<br>-17°55.8 | 111°20.8<br>-17°59.6 | +28.2<br>-4.3 | 15.5<br>57.0 |
| Je 30 | 328°10.7<br>-18°45.0 | 342°37.5<br>-18°47.1 | 357°04.3<br>-18°49.2 | 11°31.0<br>-18°51.2 | 25°57.7<br>-18°53.0 | 40°24.3<br>-18°54.7 | 54°50.8<br>-18°56.4 | 69°17.3<br>-18°57.9 | 83°43.8<br>-18°59.3 | 98°10.2<br>-19°00.6 | 112°36.5<br>-19°01.7 | +26.6<br>-1.7 | 15.8<br>57.8 |
| Ve 31 | 329°06.2<br>-19°05.1 | 343°31.9<br>-19°04.4 | 357°57.5<br>-19°03.5 | 12°23.1<br>-19°02.5 | 26°48.7<br>-19°01.4 | 41°14.2<br>-19°00.2 | 55°39.8<br>-18°58.9 | 70°05.2<br>-18°57.4 | 84°30.7<br>-18°55.8 | 98°56.2<br>-18°54.1 | 113°21.6<br>-18°52.2 | +25.5<br>+1.3 | 16.0<br>58.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 20h52 — PQ: 9 19h08 — PL: 16 20h49 — DQ: 24 20h39

# SOLEIL

## Janvier 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°06.6 | 284°06.3 | 299°06.0 | 314°05.7 | 329°05.4 | 344°05.1 | 359°04.8 | 14°04.5 | 29°04.2 | 44°03.9 | 59°03.6 | 74°03.3 | -0.3 |
| | -22°58.0 | -22°57.8 | -22°57.6 | -22°57.3 | -22°57.1 | -22°56.9 | -22°56.7 | -22°56.5 | -22°56.3 | -22°56.0 | -22°55.8 | -22°55.6 | +0.2 |
| Di 2 | 268°59.5 | 283°59.3 | 298°59.0 | 313°58.7 | 328°58.4 | 343°58.1 | 358°57.8 | 13°57.5 | 28°57.2 | 43°56.9 | 58°56.6 | 73°56.3 | -0.3 |
| | -22°52.7 | -22°52.4 | -22°52.2 | -22°52.0 | -22°51.7 | -22°51.5 | -22°51.3 | -22°51.0 | -22°50.8 | -22°50.5 | -22°50.3 | -22°50.1 | +0.2 |
| Lu 3 | 268°52.6 | 283°52.3 | 298°52.0 | 313°51.7 | 328°51.4 | 343°51.2 | 358°50.9 | 13°50.6 | 28°50.3 | 43°50.0 | 58°49.7 | 73°49.4 | -0.3 |
| | -22°46.9 | -22°46.6 | -22°46.4 | -22°46.1 | -22°45.9 | -22°45.6 | -22°45.4 | -22°45.1 | -22°44.8 | -22°44.6 | -22°44.3 | -22°44.1 | +0.3 |
| Ma 4 | 268°45.7 | 283°45.5 | 298°45.2 | 313°44.9 | 328°44.6 | 343°44.3 | 358°44.1 | 13°43.8 | 28°43.5 | 43°43.2 | 58°42.9 | 73°42.6 | -0.3 |
| | -22°40.6 | -22°40.4 | -22°40.1 | -22°39.8 | -22°39.6 | -22°39.3 | -22°39.0 | -22°38.7 | -22°38.5 | -22°38.2 | -22°37.9 | -22°37.6 | +0.3 |
| Me 5 | 268°39.0 | 283°38.7 | 298°38.5 | 313°38.2 | 328°37.9 | 343°37.6 | 358°37.3 | 13°37.1 | 28°36.8 | 43°36.5 | 58°36.2 | 73°36.0 | -0.3 |
| | -22°34.0 | -22°33.7 | -22°33.4 | -22°33.1 | -22°32.8 | -22°32.5 | -22°32.2 | -22°31.9 | -22°31.6 | -22°31.3 | -22°31.0 | -22°30.7 | +0.3 |
| Je 6 | 268°32.4 | 283°32.1 | 298°31.8 | 313°31.6 | 328°31.3 | 343°31.0 | 358°30.7 | 13°30.5 | 28°30.2 | 43°29.9 | 58°29.7 | 73°29.4 | -0.3 |
| | -22°26.8 | -22°26.5 | -22°26.2 | -22°25.9 | -22°25.6 | -22°25.3 | -22°25.0 | -22°24.7 | -22°24.3 | -22°24.0 | -22°23.7 | -22°23.4 | +0.3 |
| Ve 7 | 268°25.9 | 283°25.6 | 298°25.3 | 313°25.1 | 328°24.8 | 343°24.5 | 358°24.3 | 13°24.0 | 28°23.7 | 43°23.5 | 58°23.2 | 73°22.9 | -0.3 |
| | -22°19.2 | -22°18.9 | -22°18.6 | -22°18.3 | -22°17.9 | -22°17.6 | -22°17.3 | -22°17.0 | -22°16.6 | -22°16.3 | -22°16.0 | -22°15.6 | +0.3 |
| Sa 8 | 268°19.5 | 283°19.2 | 298°19.0 | 313°18.7 | 328°18.5 | 343°18.2 | 358°17.9 | 13°17.7 | 28°17.4 | 43°17.2 | 58°16.9 | 73°16.6 | -0.3 |
| | -22°11.2 | -22°10.9 | -22°10.5 | -22°10.2 | -22°09.9 | -22°09.5 | -22°09.2 | -22°08.8 | -22°08.5 | -22°08.1 | -22°07.8 | -22°07.4 | +0.3 |
| Di 9 | 268°13.3 | 283°13.0 | 298°12.8 | 313°12.5 | 328°12.3 | 343°12.0 | 358°11.7 | 13°11.5 | 28°11.2 | 43°11.0 | 58°10.7 | 73°10.5 | -0.3 |
| | -22°02.8 | -22°02.4 | -22°02.1 | -22°01.7 | -22°01.3 | -22°01.0 | -22°00.6 | -22°00.2 | -21°59.9 | -21°59.5 | -21°59.1 | -21°58.8 | +0.4 |
| Lu 10 | 268°07.2 | 283°06.9 | 298°06.7 | 313°06.4 | 328°06.2 | 343°05.9 | 358°05.7 | 13°05.4 | 28°05.2 | 43°04.9 | 58°04.7 | 73°04.4 | -0.2 |
| | -21°53.9 | -21°53.5 | -21°53.2 | -21°52.8 | -21°52.4 | -21°52.0 | -21°51.6 | -21°51.2 | -21°50.9 | -21°50.5 | -21°50.1 | -21°49.7 | +0.4 |
| Ma 11 | 268°01.2 | 283°01.0 | 298°00.8 | 313°00.5 | 328°00.3 | 343°00.0 | 357°59.8 | 12°59.5 | 27°59.3 | 42°59.1 | 57°58.8 | 72°58.6 | -0.2 |
| | -21°44.6 | -21°44.2 | -21°43.8 | -21°43.4 | -21°43.0 | -21°42.6 | -21°42.2 | -21°41.8 | -21°41.4 | -21°41.0 | -21°40.6 | -21°40.2 | +0.4 |
| Me 12 | 267°55.5 | 282°55.2 | 297°55.0 | 312°54.7 | 327°54.5 | 342°54.3 | 357°54.0 | 12°53.8 | 27°53.6 | 42°53.3 | 57°53.1 | 72°52.8 | -0.2 |
| | -21°34.9 | -21°34.5 | -21°34.1 | -21°33.6 | -21°33.2 | -21°32.8 | -21°32.4 | -21°32.0 | -21°31.6 | -21°31.1 | -21°30.7 | -21°30.3 | +0.4 |
| Je 13 | 267°49.8 | 282°49.6 | 297°49.4 | 312°49.1 | 327°48.9 | 342°48.7 | 357°48.4 | 12°48.2 | 27°48.0 | 42°47.7 | 57°47.5 | 72°47.3 | -0.2 |
| | -21°24.7 | -21°24.3 | -21°23.9 | -21°23.4 | -21°23.0 | -21°22.6 | -21°22.1 | -21°21.7 | -21°21.3 | -21°20.8 | -21°20.4 | -21°20.0 | +0.4 |
| Ve 14 | 267°44.3 | 282°44.1 | 297°43.9 | 312°43.7 | 327°43.4 | 342°43.2 | 357°43.0 | 12°42.8 | 27°42.6 | 42°42.3 | 57°42.1 | 72°41.9 | -0.2 |
| | -21°14.2 | -21°13.7 | -21°13.3 | -21°12.8 | -21°12.4 | -21°11.9 | -21°11.5 | -21°11.0 | -21°10.6 | -21°10.1 | -21°09.7 | -21°09.2 | +0.5 |
| Sa 15 | 267°39.0 | 282°38.8 | 297°38.6 | 312°38.4 | 327°38.2 | 342°38.0 | 357°37.7 | 12°37.5 | 27°37.3 | 42°37.1 | 57°36.9 | 72°36.7 | -0.2 |
| | -21°03.2 | -21°02.8 | -21°02.3 | -21°01.8 | -21°01.4 | -21°00.9 | -21°00.4 | -21°00.0 | -20°59.5 | -20°59.0 | -20°58.5 | -20°58.1 | +0.5 |
| Di 16 | 267°33.9 | 282°33.7 | 297°33.5 | 312°33.3 | 327°33.1 | 342°32.8 | 357°32.6 | 12°32.4 | 27°32.2 | 42°32.0 | 57°31.8 | 72°31.6 | -0.2 |
| | -20°51.9 | -20°51.4 | -20°50.9 | -20°50.4 | -20°49.9 | -20°49.4 | -20°49.0 | -20°48.5 | -20°48.0 | -20°47.5 | -20°47.0 | -20°46.5 | +0.5 |
| Lu 17 | 267°28.9 | 282°28.7 | 297°28.5 | 312°28.3 | 327°28.1 | 342°27.9 | 357°27.7 | 12°27.5 | 27°27.3 | 42°27.1 | 57°26.9 | 72°26.7 | -0.2 |
| | -20°40.1 | -20°39.6 | -20°39.1 | -20°38.6 | -20°38.1 | -20°37.6 | -20°37.1 | -20°36.6 | -20°36.1 | -20°35.6 | -20°35.1 | -20°34.6 | +0.5 |
| Ma 18 | 267°24.1 | 282°23.9 | 297°23.8 | 312°23.6 | 327°23.4 | 342°23.2 | 357°23.0 | 12°22.8 | 27°22.6 | 42°22.4 | 57°22.2 | 72°22.0 | -0.2 |
| | -20°27.9 | -20°27.4 | -20°26.9 | -20°26.4 | -20°25.9 | -20°25.4 | -20°24.8 | -20°24.3 | -20°23.8 | -20°23.3 | -20°22.8 | -20°22.2 | +0.5 |
| Me 19 | 267°19.5 | 282°19.3 | 297°19.2 | 312°19.0 | 327°18.8 | 342°18.6 | 357°18.4 | 12°18.2 | 27°18.0 | 42°17.8 | 57°17.7 | 72°17.5 | -0.2 |
| | -20°15.4 | -20°14.9 | -20°14.3 | -20°13.8 | -20°13.3 | -20°12.7 | -20°12.2 | -20°11.7 | -20°11.1 | -20°10.6 | -20°10.1 | -20°09.5 | +0.5 |
| Je 20 | 267°15.1 | 282°14.9 | 297°14.7 | 312°14.6 | 327°14.4 | 342°14.2 | 357°14.0 | 12°13.8 | 27°13.7 | 42°13.5 | 57°13.3 | 72°13.1 | -0.2 |
| | -20°02.5 | -20°01.9 | -20°01.4 | -20°00.8 | -20°00.3 | -19°59.7 | -19°59.2 | -19°58.6 | -19°58.1 | -19°57.5 | -19°57.0 | -19°56.4 | +0.6 |
| Ve 21 | 267°10.9 | 282°10.7 | 297°10.5 | 312°10.3 | 327°10.2 | 342°10.0 | 357°09.8 | 12°09.6 | 27°09.5 | 42°09.3 | 57°09.1 | 72°09.0 | -0.2 |
| | -19°49.2 | -19°48.6 | -19°48.1 | -19°47.5 | -19°46.9 | -19°46.4 | -19°45.8 | -19°45.2 | -19°44.7 | -19°44.1 | -19°43.5 | -19°43.0 | +0.6 |
| Sa 22 | 267°06.8 | 282°06.6 | 297°06.5 | 312°06.3 | 327°06.1 | 342°06.0 | 357°05.8 | 12°05.6 | 27°05.5 | 42°05.3 | 57°05.2 | 72°05.0 | -0.2 |
| | -19°35.5 | -19°34.9 | -19°34.3 | -19°33.8 | -19°33.2 | -19°32.6 | -19°32.0 | -19°31.4 | -19°30.9 | -19°30.3 | -19°29.7 | -19°29.1 | +0.6 |
| Di 23 | 267°02.9 | 282°02.8 | 297°02.6 | 312°02.5 | 327°02.3 | 342°02.1 | 357°02.0 | 12°01.8 | 27°01.7 | 42°01.5 | 57°01.4 | 72°01.2 | -0.2 |
| | -19°21.5 | -19°20.9 | -19°20.3 | -19°19.7 | -19°19.1 | -19°18.5 | -19°17.9 | -19°17.3 | -19°16.7 | -19°16.1 | -19°15.5 | -19°14.9 | +0.6 |
| Lu 24 | 266°59.2 | 281°59.1 | 296°58.9 | 311°58.8 | 326°58.6 | 341°58.5 | 356°58.4 | 11°58.2 | 26°58.1 | 41°57.9 | 56°57.8 | 71°57.6 | -0.1 |
| | -19°07.1 | -19°06.5 | -19°05.9 | -19°05.3 | -19°04.6 | -19°04.0 | -19°03.4 | -19°02.8 | -19°02.2 | -19°01.6 | -19°01.0 | -19°00.4 | +0.6 |
| Ma 25 | 266°55.8 | 281°55.6 | 296°55.5 | 311°55.3 | 326°55.2 | 341°55.1 | 356°54.9 | 11°54.8 | 26°54.6 | 41°54.5 | 56°54.4 | 71°54.2 | -0.1 |
| | -18°52.3 | -18°51.7 | -18°51.1 | -18°50.5 | -18°49.8 | -18°49.2 | -18°48.6 | -18°48.0 | -18°47.3 | -18°46.7 | -18°46.1 | -18°45.5 | +0.6 |
| Me 26 | 266°52.5 | 281°52.3 | 296°52.2 | 311°52.1 | 326°51.9 | 341°51.8 | 356°51.7 | 11°51.5 | 26°51.4 | 41°51.3 | 56°51.1 | 71°51.0 | -0.1 |
| | -18°37.2 | -18°36.6 | -18°36.0 | -18°35.3 | -18°34.7 | -18°34.0 | -18°33.4 | -18°32.8 | -18°32.1 | -18°31.5 | -18°30.8 | -18°30.2 | +0.6 |
| Je 27 | 266°49.4 | 281°49.2 | 296°49.1 | 311°49.0 | 326°48.9 | 341°48.7 | 356°48.6 | 11°48.5 | 26°48.4 | 41°48.3 | 56°48.1 | 71°48.0 | -0.1 |
| | -18°21.8 | -18°21.2 | -18°20.5 | -18°19.9 | -18°19.2 | -18°18.5 | -18°17.9 | -18°17.2 | -18°16.6 | -18°15.9 | -18°15.3 | -18°14.6 | +0.7 |
| Ve 28 | 266°46.5 | 281°46.3 | 296°46.2 | 311°46.1 | 326°46.0 | 341°45.9 | 356°45.8 | 11°45.7 | 26°45.5 | 41°45.4 | 56°45.3 | 71°45.2 | -0.1 |
| | -18°06.0 | -18°05.4 | -18°04.7 | -18°04.0 | -18°03.4 | -18°02.7 | -18°02.0 | -18°01.4 | -18°00.7 | -18°00.0 | -17°59.4 | -17°58.7 | +0.7 |
| Sa 29 | 266°43.8 | 281°43.7 | 296°43.5 | 311°43.4 | 326°43.3 | 341°43.2 | 356°43.1 | 11°43.0 | 26°42.9 | 41°42.8 | 56°42.7 | 71°42.6 | -0.1 |
| | -17°49.9 | -17°49.3 | -17°48.6 | -17°47.9 | -17°47.2 | -17°46.6 | -17°45.9 | -17°45.2 | -17°44.5 | -17°43.8 | -17°43.2 | -17°42.5 | +0.7 |
| Di 30 | 266°41.3 | 281°41.2 | 296°41.1 | 311°41.0 | 326°40.9 | 341°40.8 | 356°40.7 | 11°40.6 | 26°40.5 | 41°40.4 | 56°40.3 | 71°40.2 | -0.1 |
| | -17°33.5 | -17°32.9 | -17°32.2 | -17°31.5 | -17°30.8 | -17°30.1 | -17°29.4 | -17°28.7 | -17°28.0 | -17°27.3 | -17°26.6 | -17°25.9 | +0.7 |
| Lu 31 | 266°39.0 | 281°38.9 | 296°38.8 | 311°38.7 | 326°38.6 | 341°38.5 | 356°38.4 | 11°38.3 | 26°38.2 | 41°38.2 | 56°38.1 | 71°38.0 | -0.1 |
| | -17°16.8 | -17°16.1 | -17°15.4 | -17°14.7 | -17°14.0 | -17°13.3 | -17°12.6 | -17°11.9 | -17°11.2 | -17°10.5 | -17°09.8 | -17°09.1 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2033

| | J | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ● | Sa 1 | 243°09.5<br>-18°30.1 | 257°34.8<br>-18°27.0 | 272°00.0<br>-18°23.8 | 286°25.3<br>-18°20.5 | 300°50.5<br>-18°17.0 | 315°15.8<br>-18°13.5 | 329°41.0<br>-18°09.8 | 344°06.2<br>-18°06.0 | 358°31.4<br>-18°02.0 | 12°56.7<br>-17°58.0 | 27°21.9<br>-17°53.8 | +25.2<br>+3.6 | 16.1<br>59.1 |
| | Di 2 | 243°41.1<br>-16°36.9 | 258°06.4<br>-16°30.8 | 272°31.8<br>-16°24.7 | 286°57.3<br>-16°18.4 | 301°22.7<br>-16°12.0 | 315°48.2<br>-16°05.5 | 330°13.6<br>-15°58.9 | 344°39.2<br>-15°52.2 | 359°04.7<br>-15°45.4 | 13°30.2<br>-15°38.5 | 27°55.8<br>-15°31.5 | +25.5<br>+6.5 | 16.3<br>59.6 |
| | Lu 3 | 244°23.1<br>-13°34.0 | 258°49.2<br>-13°25.5 | 273°15.3<br>-13°16.8 | 287°41.5<br>-13°08.0 | 302°07.7<br>-12°59.2 | 316°33.9<br>-12°50.2 | 331°00.2<br>-12°41.2 | 345°26.5<br>-12°32.1 | 359°52.8<br>-12°23.0 | 14°19.2<br>-12°13.7 | 28°45.6<br>-12°04.4 | +26.2<br>+9.0 | 16.3<br>59.9 |
| | Ma 4 | 245°26.6<br>-9°35.7 | 259°53.7<br>-9°25.3 | 274°20.8<br>-9°14.8 | 288°47.9<br>-9°04.3 | 303°15.1<br>-8°53.7 | 317°42.3<br>-8°43.0 | 332°09.5<br>-8°32.3 | 346°36.8<br>-8°21.6 | 1°04.1<br>-8°10.8 | 15°31.5<br>-7°59.9 | 29°58.9<br>-7°49.0 | +27.2<br>+10.7 | 16.3<br>59.9 |
| | Me 5 | 246°54.2<br>-5°00.8 | 261°22.1<br>-4°49.3 | 275°50.1<br>-4°37.8 | 290°18.2<br>-4°26.3 | 304°46.2<br>-4°14.8 | 319°14.3<br>-4°03.2 | 333°42.4<br>-3°51.6 | 348°10.5<br>-3°40.0 | 2°38.7<br>-3°28.4 | 17°06.9<br>-3°16.8 | 31°35.1<br>-3°05.2 | +28.1<br>+11.6 | 16.3<br>59.8 |
| | Je 6 | 248°41.5<br>-0°09.6 | 263°10.1<br>0°02.1 | 277°38.7<br>0°13.8 | 292°07.3<br>0°25.5 | 306°36.0<br>0°37.1 | 321°04.6<br>0°48.8 | 335°33.3<br>1°00.5 | 350°02.0<br>1°12.1 | 4°30.7<br>1°23.8 | 18°59.4<br>1°35.4 | 33°28.1<br>1°47.0 | +28.7<br>+11.7 | 16.2<br>59.5 |
| | Ve 7 | 250°40.3<br>4°38.3 | 265°09.1<br>4°49.5 | 279°38.0<br>5°00.7 | 294°06.9<br>5°11.8 | 308°35.7<br>5°22.9 | 323°04.6<br>5°33.9 | 337°33.4<br>5°45.0 | 352°02.3<br>5°55.9 | 6°31.2<br>6°06.9 | 21°00.0<br>6°17.7 | 35°28.9<br>6°28.6 | +28.9<br>+11.0 | 16.1<br>59.1 |
| ◐ | Sa 8 | 252°41.3<br>9°05.5 | 267°10.1<br>9°15.5 | 281°38.8<br>9°25.4 | 296°07.6<br>9°35.4 | 310°36.3<br>9°45.2 | 325°05.0<br>9°55.0 | 339°33.8<br>10°04.7 | 354°02.5<br>10°14.4 | 8°31.2<br>10°24.0 | 22°59.9<br>10°33.5 | 37°28.5<br>10°43.0 | +28.7<br>+9.8 | 16.0<br>58.6 |
| | Di 9 | 254°37.0<br>12°56.4 | 269°05.4<br>13°04.7 | 283°33.9<br>13°12.9 | 298°02.3<br>13°21.1 | 312°30.7<br>13°29.1 | 326°59.1<br>13°37.1 | 341°27.5<br>13°45.0 | 355°55.8<br>13°52.8 | 10°24.1<br>14°00.5 | 24°52.5<br>14°08.1 | 39°20.8<br>14°15.7 | +28.4<br>+7.9 | 15.8<br>58.1 |
| | Lu 10 | 256°23.6<br>15°58.4 | 270°51.7<br>16°04.5 | 285°19.8<br>16°10.5 | 299°47.9<br>16°16.4 | 314°15.9<br>16°22.2 | 328°43.9<br>16°27.9 | 343°11.9<br>16°33.6 | 357°40.0<br>16°39.1 | 12°08.0<br>16°44.5 | 26°35.9<br>16°49.8 | 41°03.9<br>16°55.1 | +28.0<br>+5.7 | 15.7<br>57.5 |
| | Ma 11 | 258°02.8<br>18°01.4 | 272°30.6<br>18°05.0 | 286°58.5<br>18°08.5 | 301°26.4<br>18°11.9 | 315°54.3<br>18°15.2 | 330°22.2<br>18°18.4 | 344°50.1<br>18°21.4 | 359°18.0<br>18°24.4 | 13°45.8<br>18°27.3 | 28°13.7<br>18°30.0 | 42°41.6<br>18°32.7 | +27.9<br>+3.1 | 15.5<br>57.0 |
| | Me 12 | 259°41.0<br>18°59.7 | 274°09.1<br>19°00.6 | 288°37.2<br>19°01.5 | 303°05.2<br>19°02.2 | 317°33.3<br>19°02.8 | 332°01.5<br>19°03.4 | 346°29.6<br>19°03.8 | 0°57.8<br>19°04.1 | 15°25.9<br>19°04.3 | 29°54.1<br>19°04.4 | 44°22.4<br>19°04.4 | +28.1<br>+0.5 | 15.4<br>56.5 |
| | Je 13 | 261°28.7<br>18°51.9 | 275°57.4<br>18°50.3 | 290°26.1<br>18°48.5 | 304°54.8<br>18°46.7 | 319°23.6<br>18°44.7 | 333°52.4<br>18°42.7 | 348°21.2<br>18°40.6 | 2°50.1<br>18°38.3 | 17°19.0<br>18°36.0 | 31°47.9<br>18°33.5 | 46°16.9<br>18°31.0 | +28.8<br>-2.1 | 15.3<br>56.0 |
| | Ve 14 | 263°36.5<br>17°41.8 | 278°06.1<br>17°37.8 | 292°35.8<br>17°33.7 | 307°05.6<br>17°29.5 | 321°35.3<br>17°25.3 | 336°05.2<br>17°20.9 | 350°35.1<br>17°16.5 | 5°05.0<br>17°12.0 | 19°35.0<br>17°07.4 | 34°05.0<br>17°02.7 | 48°35.1<br>16°57.9 | +29.9<br>-4.4 | 15.1<br>55.5 |
| ○ | Sa 15 | 266°12.2<br>15°37.1 | 280°43.0<br>15°31.1 | 295°14.0<br>15°25.0 | 309°44.9<br>15°18.9 | 324°16.0<br>15°12.7 | 338°47.0<br>15°06.4 | 353°18.2<br>15°00.1 | 7°49.3<br>14°53.7 | 22°20.6<br>14°47.2 | 36°51.9<br>14°40.7 | 51°23.2<br>14°34.1 | +31.1<br>-6.3 | 15.0<br>55.1 |
| | Di 16 | 269°19.1<br>12°47.9 | 283°51.3<br>12°40.4 | 298°23.4<br>12°32.8 | 312°55.7<br>12°25.2 | 327°27.9<br>12°17.5 | 342°00.2<br>12°09.8 | 356°32.6<br>12°02.0 | 11°05.0<br>11°54.1 | 25°37.5<br>11°46.3 | 40°10.0<br>11°38.3 | 54°42.5<br>11°30.4 | +32.3<br>-7.8 | 14.9<br>54.7 |
| | Lu 17 | 272°55.9<br>9°25.6 | 287°29.1<br>9°17.0 | 302°02.4<br>9°08.4 | 316°35.7<br>8°59.7 | 331°09.0<br>8°50.9 | 345°42.4<br>8°42.2 | 0°15.8<br>8°33.4 | 14°49.2<br>8°24.6 | 29°22.7<br>8°15.7 | 43°56.2<br>8°06.8 | 58°29.8<br>7°57.9 | +33.4<br>-8.8 | 14.8<br>54.4 |
| | Ma 18 | 276°56.9<br>5°41.1 | 291°30.9<br>5°31.8 | 306°05.0<br>5°22.5 | 320°39.1<br>5°13.2 | 335°13.2<br>5°03.8 | 349°47.3<br>4°54.5 | 4°21.4<br>4°45.1 | 18°55.6<br>4°35.7 | 33°29.8<br>4°26.2 | 48°04.0<br>4°16.8 | 62°38.3<br>4°07.4 | +34.1<br>-9.4 | 14.8<br>54.1 |
| | Me 19 | 281°13.8<br>1°44.4 | 295°48.3<br>1°34.8 | 310°22.7<br>1°25.2 | 324°57.2<br>1°15.6 | 339°31.7<br>1°06.0 | 354°06.2<br>0°56.4 | 8°40.7<br>0°46.8 | 23°15.2<br>0°37.2 | 37°49.8<br>0°27.6 | 52°24.3<br>0°18.0 | 66°58.8<br>0°08.3 | +34.5<br>-9.6 | 14.7<br>54.0 |
| | Je 20 | 285°36.6<br>-2°15.5 | 300°11.0<br>-2°25.0 | 314°45.5<br>-2°34.5 | 329°20.0<br>-2°44.1 | 343°54.4<br>-2°53.6 | 358°28.9<br>-3°03.1 | 13°03.3<br>-3°12.6 | 27°37.7<br>-3°22.0 | 42°12.1<br>-3°31.5 | 56°46.5<br>-3°41.0 | 71°20.9<br>-3°50.4 | +34.4<br>-9.5 | 14.8<br>54.1 |
| | Ve 21 | 300°11.0<br>-2°25.0 | 314°45.5<br>-2°34.5 | 329°20.0<br>-2°44.1 | 343°54.4<br>-2°53.6 | 358°28.9<br>-3°03.1 | 13°03.3<br>-3°12.6 | 27°37.7<br>-3°22.0 | 42°12.1<br>-3°31.5 | 56°46.5<br>-3°41.0 | 71°20.9<br>-3°50.4 | 85°55.2<br>-3°59.8 | +34.4<br>-9.5 | 14.8<br>54.1 |
| | Sa 22 | 304°28.2<br>-6°19.2 | 319°02.2<br>-6°28.3 | 333°36.2<br>-6°37.4 | 348°10.2<br>-6°46.5 | 2°44.1<br>-6°55.5 | 17°18.0<br>-7°04.6 | 31°51.9<br>-7°13.6 | 46°25.7<br>-7°22.6 | 60°59.5<br>-7°31.5 | 75°33.2<br>-7°40.5 | 90°07.0<br>-7°49.4 | +33.9<br>-9.0 | 14.8<br>54.3 |
| ◑ | Di 23 | 308°28.4<br>-9°59.2 | 323°01.5<br>-10°07.5 | 337°34.6<br>-10°15.9 | 352°07.6<br>-10°24.2 | 6°40.6<br>-10°32.5 | 21°13.5<br>-10°40.7 | 35°46.3<br>-10°48.9 | 50°19.2<br>-10°57.0 | 64°51.9<br>-11°05.1 | 79°24.6<br>-11°13.2 | 93°57.3<br>-11°21.2 | +32.9<br>-8.2 | 14.9<br>54.8 |
| | Lu 24 | 312°00.8<br>-13°15.8 | 326°32.6<br>-13°23.0 | 341°04.3<br>-13°30.2 | 355°36.0<br>-13°37.3 | 10°07.6<br>-13°44.4 | 24°39.1<br>-13°51.4 | 39°10.6<br>-13°58.3 | 53°42.0<br>-14°05.2 | 68°13.3<br>-14°12.1 | 82°44.6<br>-14°18.8 | 97°15.8<br>-14°25.6 | +31.5<br>-7.0 | 15.1<br>55.4 |
| | Ma 25 | 314°56.2<br>-15°58.4 | 329°26.3<br>-16°04.1 | 343°56.4<br>-16°09.6 | 358°26.4<br>-16°15.1 | 12°56.4<br>-16°20.5 | 27°26.2<br>-16°25.9 | 41°56.0<br>-16°31.1 | 56°25.8<br>-16°36.3 | 70°55.4<br>-16°41.4 | 85°25.0<br>-16°46.4 | 99°54.5<br>-16°51.4 | +29.8<br>-5.3 | 15.3<br>56.1 |
| | Me 26 | 317°08.8<br>-17°55.2 | 331°37.2<br>-17°58.8 | 346°05.6<br>-18°02.2 | 0°33.8<br>-18°05.6 | 15°02.0<br>-18°08.8 | 29°30.1<br>-18°12.0 | 43°58.2<br>-18°15.1 | 58°26.2<br>-18°18.0 | 72°54.1<br>-18°20.9 | 87°21.9<br>-18°23.6 | 101°49.7<br>-18°26.3 | +28.1<br>-3.1 | 15.5<br>57.0 |
| | Je 27 | 318°38.7<br>-18°53.7 | 333°05.5<br>-18°54.7 | 347°32.2<br>-18°55.5 | 1°58.9<br>-18°56.2 | 16°25.5<br>-18°56.9 | 30°52.1<br>-18°57.4 | 45°18.6<br>-18°57.8 | 59°45.0<br>-18°58.0 | 74°11.4<br>-18°58.2 | 88°37.8<br>-18°58.2 | 103°04.1<br>-18°58.2 | +26.5<br>-0.4 | 15.8<br>58.0 |
| | Ve 28 | 319°33.0<br>-18°42.8 | 333°58.6<br>-18°40.8 | 348°24.2<br>-18°38.7 | 2°49.7<br>-18°36.5 | 17°15.2<br>-18°34.1 | 31°40.7<br>-18°31.7 | 46°06.1<br>-18°29.0 | 60°31.6<br>-18°26.3 | 74°56.9<br>-18°23.5 | 89°22.3<br>-18°20.5 | 103°47.6<br>-18°17.4 | +25.5<br>+2.5 | 16.1<br>58.9 |
| | Sa 29 | 320°05.3<br>-17°16.2 | 334°30.4<br>-17°11.2 | 348°55.4<br>-17°06.0 | 3°20.5<br>-17°00.7 | 17°45.5<br>-16°55.3 | 32°10.6<br>-16°49.8 | 46°35.6<br>-16°44.1 | 61°00.6<br>-16°38.4 | 75°25.7<br>-16°32.5 | 89°50.7<br>-16°26.5 | 104°15.8<br>-16°20.4 | +25.0<br>+5.6 | 16.3<br>59.7 |
| ● | Di 30 | 320°32.1<br>-14°35.1 | 334°57.3<br>-14°27.2 | 349°22.5<br>-14°19.3 | 3°47.7<br>-14°11.2 | 18°13.0<br>-14°03.0 | 32°38.2<br>-13°54.7 | 47°03.5<br>-13°46.3 | 61°28.8<br>-13°37.8 | 75°54.1<br>-13°29.2 | 90°19.4<br>-13°20.6 | 104°44.8<br>-13°11.8 | +25.3<br>+8.3 | 16.5<br>60.4 |
| | Lu 31 | 321°07.9<br>-10°49.6 | 335°33.7<br>-10°39.4 | 349°59.5<br>-10°29.2 | 4°25.3<br>-10°18.9 | 18°51.1<br>-10°08.6 | 33°17.0<br>-9°58.2 | 47°42.9<br>-9°47.7 | 62°08.9<br>-9°37.1 | 76°34.8<br>-9°26.5 | 91°00.8<br>-9°15.8 | 105°26.8<br>-9°05.1 | +25.9<br>+10.5 | 16.6<br>60.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 1 10h17 — PQ: 8 03h34 — PL: 15 13h07 — DQ: 23 17h45 — NL: 30 21h59

# SOLEIL

## Février 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 266°36.9 | 281°36.8 | 296°36.7 | 311°36.6 | 326°36.6 | 341°36.5 | 356°36.4 | 11°36.3 | 26°36.2 | 41°36.1 | 56°36.1 | 71°36.0 | -0.1 |
| | -16°59.8 | -16°59.1 | -16°58.4 | -16°57.6 | -16°56.9 | -16°56.2 | -16°55.5 | -16°54.8 | -16°54.1 | -16°53.3 | -16°52.6 | -16°51.9 | +0.7 |
| Me 2 | 266°35.0 | 281°34.9 | 296°34.8 | 311°34.8 | 326°34.7 | 341°34.6 | 356°34.6 | 11°34.5 | 26°34.4 | 41°34.3 | 56°34.3 | 71°34.2 | -0.1 |
| | -16°42.5 | -16°41.7 | -16°41.0 | -16°40.3 | -16°39.6 | -16°38.8 | -16°38.1 | -16°37.4 | -16°36.6 | -16°35.9 | -16°35.2 | -16°34.4 | +0.7 |
| Je 3 | 266°33.3 | 281°33.3 | 296°33.2 | 311°33.1 | 326°33.1 | 341°33.0 | 356°32.9 | 11°32.9 | 26°32.8 | 41°32.7 | 56°32.7 | 71°32.6 | -0.1 |
| | -16°24.9 | -16°24.1 | -16°23.4 | -16°22.6 | -16°21.9 | -16°21.2 | -16°20.4 | -16°19.7 | -16°18.9 | -16°18.2 | -16°17.4 | -16°16.7 | +0.7 |
| Ve 4 | 266°31.8 | 281°31.8 | 296°31.7 | 311°31.7 | 326°31.6 | 341°31.6 | 356°31.5 | 11°31.5 | 26°31.4 | 41°31.3 | 56°31.3 | 71°31.2 | -0.1 |
| | -16°07.0 | -16°06.2 | -16°05.5 | -16°04.7 | -16°03.9 | -16°03.2 | -16°02.4 | -16°01.7 | -16°00.9 | -16°00.2 | -15°59.4 | -15°58.7 | +0.8 |
| Sa 5 | 266°30.6 | 281°30.5 | 296°30.5 | 311°30.4 | 326°30.4 | 341°30.3 | 356°30.3 | 11°30.3 | 26°30.2 | 41°30.2 | 56°30.1 | 71°30.1 | -0.0 |
| | -15°48.8 | -15°48.0 | -15°47.3 | -15°46.5 | -15°45.7 | -15°45.0 | -15°44.2 | -15°43.4 | -15°42.7 | -15°41.9 | -15°41.1 | -15°40.4 | +0.8 |
| Di 6 | 266°29.5 | 281°29.5 | 296°29.4 | 311°29.4 | 326°29.4 | 341°29.3 | 356°29.3 | 11°29.3 | 26°29.2 | 41°29.2 | 56°29.1 | 71°29.1 | -0.0 |
| | -15°30.3 | -15°29.6 | -15°28.8 | -15°28.0 | -15°27.2 | -15°26.5 | -15°25.7 | -15°24.9 | -15°24.1 | -15°23.4 | -15°22.6 | -15°21.8 | +0.8 |
| Lu 7 | 266°28.7 | 281°28.6 | 296°28.6 | 311°28.6 | 326°28.5 | 341°28.5 | 356°28.5 | 11°28.5 | 26°28.4 | 41°28.4 | 56°28.4 | 71°28.3 | -0.0 |
| | -15°11.6 | -15°10.8 | -15°10.1 | -15°09.3 | -15°08.5 | -15°07.7 | -15°06.9 | -15°06.1 | -15°05.3 | -15°04.5 | -15°03.8 | -15°03.0 | +0.8 |
| Ma 8 | 266°28.0 | 281°28.0 | 296°28.0 | 311°28.0 | 326°27.9 | 341°27.9 | 356°27.9 | 11°27.9 | 26°27.8 | 41°27.8 | 56°27.8 | 71°27.8 | -0.0 |
| | -14°52.7 | -14°51.9 | -14°51.1 | -14°50.3 | -14°49.5 | -14°48.7 | -14°47.9 | -14°47.1 | -14°46.3 | -14°45.5 | -14°44.7 | -14°43.9 | +0.8 |
| Me 9 | 266°27.6 | 281°27.6 | 296°27.5 | 311°27.5 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.5 | 41°27.5 | 56°27.4 | 71°27.4 | -0.0 |
| | -14°33.4 | -14°32.6 | -14°31.8 | -14°31.0 | -14°30.2 | -14°29.4 | -14°28.6 | -14°27.8 | -14°27.0 | -14°26.2 | -14°25.4 | -14°24.6 | +0.8 |
| Je 10 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.3 | 26°27.3 | 41°27.3 | 56°27.3 | 71°27.3 | -0.0 |
| | -14°14.0 | -14°13.2 | -14°12.4 | -14°11.5 | -14°10.7 | -14°09.9 | -14°09.1 | -14°08.3 | -14°07.5 | -14°06.6 | -14°05.8 | -14°05.0 | +0.8 |
| Ve 11 | 266°27.3 | 281°27.3 | 296°27.3 | 311°27.3 | 326°27.3 | 341°27.3 | 356°27.3 | 11°27.3 | 26°27.3 | 41°27.3 | 56°27.3 | 71°27.3 | +0.0 |
| | -13°54.3 | -13°53.5 | -13°52.6 | -13°51.8 | -13°51.0 | -13°50.2 | -13°49.3 | -13°48.5 | -13°47.7 | -13°46.9 | -13°46.0 | -13°45.2 | +0.8 |
| Sa 12 | 266°27.4 | 281°27.4 | 296°27.4 | 311°27.4 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.5 | 41°27.5 | 56°27.5 | 71°27.5 | +0.0 |
| | -13°34.4 | -13°33.5 | -13°32.7 | -13°31.9 | -13°31.0 | -13°30.2 | -13°29.4 | -13°28.5 | -13°27.7 | -13°26.8 | -13°26.0 | -13°25.2 | +0.8 |
| Di 13 | 266°27.7 | 281°27.8 | 296°27.8 | 311°27.8 | 326°27.8 | 341°27.8 | 356°27.9 | 11°27.9 | 26°27.9 | 41°27.9 | 56°27.9 | 71°28.0 | +0.0 |
| | -13°14.2 | -13°13.4 | -13°12.5 | -13°11.7 | -13°10.9 | -13°10.0 | -13°09.2 | -13°08.3 | -13°07.5 | -13°06.6 | -13°05.8 | -13°04.9 | +0.8 |
| Lu 14 | 266°28.3 | 281°28.3 | 296°28.3 | 311°28.3 | 326°28.4 | 341°28.4 | 356°28.4 | 11°28.4 | 26°28.5 | 41°28.5 | 56°28.5 | 71°28.6 | +0.0 |
| | -12°53.9 | -12°53.0 | -12°52.2 | -12°51.3 | -12°50.5 | -12°49.6 | -12°48.7 | -12°47.9 | -12°47.0 | -12°46.2 | -12°45.3 | -12°44.5 | +0.9 |
| Ma 15 | 266°29.0 | 281°29.0 | 296°29.0 | 311°29.1 | 326°29.1 | 341°29.1 | 356°29.2 | 11°29.2 | 26°29.2 | 41°29.3 | 56°29.3 | 71°29.3 | +0.0 |
| | -12°33.3 | -12°32.4 | -12°31.6 | -12°30.7 | -12°29.9 | -12°29.0 | -12°28.1 | -12°27.3 | -12°26.4 | -12°25.5 | -12°24.7 | -12°23.8 | +0.9 |
| Me 16 | 266°29.8 | 281°29.9 | 296°29.9 | 311°30.0 | 326°30.0 | 341°30.0 | 356°30.1 | 11°30.1 | 26°30.2 | 41°30.2 | 56°30.3 | 71°30.3 | +0.0 |
| | -12°12.5 | -12°11.7 | -12°10.8 | -12°09.9 | -12°09.0 | -12°08.2 | -12°07.3 | -12°06.4 | -12°05.6 | -12°04.7 | -12°03.8 | -12°02.9 | +0.9 |
| Je 17 | 266°30.9 | 281°30.9 | 296°31.0 | 311°31.0 | 326°31.1 | 341°31.1 | 356°31.2 | 11°31.2 | 26°31.3 | 41°31.3 | 56°31.4 | 71°31.4 | +0.0 |
| | -11°51.6 | -11°50.7 | -11°49.8 | -11°48.9 | -11°48.0 | -11°47.2 | -11°46.3 | -11°45.4 | -11°44.5 | -11°43.7 | -11°42.8 | -11°41.9 | +0.9 |
| Ve 18 | 266°32.1 | 281°32.2 | 296°32.2 | 311°32.3 | 326°32.3 | 341°32.4 | 356°32.4 | 11°32.5 | 26°32.6 | 41°32.6 | 56°32.7 | 71°32.7 | +0.1 |
| | -11°30.4 | -11°29.5 | -11°28.6 | -11°27.7 | -11°26.9 | -11°26.0 | -11°25.1 | -11°24.2 | -11°23.3 | -11°22.4 | -11°21.5 | -11°20.6 | +0.9 |
| Sa 19 | 266°33.5 | 281°33.6 | 296°33.6 | 311°33.7 | 326°33.8 | 341°33.8 | 356°33.9 | 11°33.9 | 26°34.0 | 41°34.1 | 56°34.1 | 71°34.2 | +0.1 |
| | -11°09.1 | -11°08.2 | -11°07.3 | -11°06.4 | -11°05.5 | -11°04.6 | -11°03.7 | -11°02.8 | -11°01.9 | -11°01.0 | -11°00.1 | -10°59.2 | +0.9 |
| Di 20 | 266°35.1 | 281°35.1 | 296°35.2 | 311°35.3 | 326°35.3 | 341°35.4 | 356°35.5 | 11°35.5 | 26°35.6 | 41°35.7 | 56°35.8 | 71°35.8 | +0.1 |
| | -10°47.6 | -10°46.7 | -10°45.8 | -10°44.9 | -10°44.0 | -10°43.0 | -10°42.1 | -10°41.2 | -10°40.3 | -10°39.4 | -10°38.5 | -10°37.6 | +0.9 |
| Lu 21 | 266°36.8 | 281°36.8 | 296°36.9 | 311°37.0 | 326°37.1 | 341°37.1 | 356°37.2 | 11°37.3 | 26°37.4 | 41°37.5 | 56°37.5 | 71°37.6 | +0.1 |
| | -10°25.9 | -10°25.0 | -10°24.1 | -10°23.1 | -10°22.2 | -10°21.3 | -10°20.4 | -10°19.5 | -10°18.6 | -10°17.7 | -10°16.8 | -10°15.9 | +0.9 |
| Ma 22 | 266°38.6 | 281°38.7 | 296°38.8 | 311°38.9 | 326°39.0 | 341°39.0 | 356°39.1 | 11°39.2 | 26°39.3 | 41°39.4 | 56°39.5 | 71°39.5 | +0.1 |
| | -10°04.0 | -10°03.1 | -10°02.2 | -10°01.3 | -10°00.4 | -9°59.5 | -9°58.5 | -9°57.6 | -9°56.7 | -9°55.8 | -9°54.9 | -9°54.0 | +0.9 |
| Me 23 | 266°40.7 | 281°40.7 | 296°40.8 | 311°40.9 | 326°41.0 | 341°41.1 | 356°41.2 | 11°41.3 | 26°41.4 | 41°41.5 | 56°41.5 | 71°41.6 | +0.1 |
| | -9°42.0 | -9°41.1 | -9°40.2 | -9°39.3 | -9°38.3 | -9°37.4 | -9°36.5 | -9°35.6 | -9°34.7 | -9°33.7 | -9°32.8 | -9°31.9 | +0.9 |
| Je 24 | 266°42.8 | 281°42.9 | 296°43.0 | 311°43.1 | 326°43.2 | 341°43.3 | 356°43.4 | 11°43.5 | 26°43.6 | 41°43.7 | 56°43.8 | 71°43.9 | +0.1 |
| | -9°19.9 | -9°18.9 | -9°18.0 | -9°17.1 | -9°16.2 | -9°15.2 | -9°14.3 | -9°13.4 | -9°12.5 | -9°11.5 | -9°10.6 | -9°09.7 | +0.9 |
| Ve 25 | 266°45.1 | 281°45.2 | 296°45.3 | 311°45.4 | 326°45.5 | 341°45.6 | 356°45.7 | 11°45.8 | 26°45.9 | 41°46.0 | 56°46.1 | 71°46.2 | +0.1 |
| | -8°57.6 | -8°56.6 | -8°55.7 | -8°54.8 | -8°53.9 | -8°52.9 | -8°52.0 | -8°51.1 | -8°50.1 | -8°49.2 | -8°48.3 | -8°47.3 | +0.9 |
| Sa 26 | 266°47.6 | 281°47.7 | 296°47.8 | 311°47.9 | 326°48.0 | 341°48.1 | 356°48.2 | 11°48.3 | 26°48.4 | 41°48.5 | 56°48.6 | 71°48.7 | +0.1 |
| | -8°35.2 | -8°34.2 | -8°33.3 | -8°32.3 | -8°31.4 | -8°30.5 | -8°29.5 | -8°28.6 | -8°27.6 | -8°26.7 | -8°25.8 | -8°24.8 | +0.9 |
| Di 27 | 266°50.2 | 281°50.3 | 296°50.4 | 311°50.5 | 326°50.6 | 341°50.7 | 356°50.8 | 11°50.9 | 26°51.0 | 41°51.2 | 56°51.3 | 71°51.4 | +0.1 |
| | -8°12.6 | -8°11.7 | -8°10.7 | -8°09.8 | -8°08.8 | -8°07.9 | -8°06.9 | -8°06.0 | -8°05.1 | -8°04.1 | -8°03.2 | -8°02.2 | +0.9 |
| Lu 28 | 266°52.9 | 281°53.0 | 296°53.1 | 311°53.2 | 326°53.3 | 341°53.5 | 356°53.6 | 11°53.7 | 26°53.8 | 41°53.9 | 56°54.0 | 71°54.2 | +0.1 |
| | -7°49.9 | -7°49.0 | -7°48.0 | -7°47.1 | -7°46.1 | -7°45.2 | -7°44.2 | -7°43.3 | -7°42.3 | -7°41.4 | -7°40.4 | -7°39.5 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2033

| J | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 249°48.8 | 264°15.2 | 278°41.5 | 293°08.0 | 307°34.4 | 322°00.9 | 336°27.4 | 350°54.0 | 5°20.6 | 19°47.2 | 34°13.8 | +26.5 | 16.6 |
| | -7°14.4 | -7°03.1 | -6°51.7 | -6°40.2 | -6°28.8 | -6°17.2 | -6°05.7 | -5°54.1 | -5°42.5 | -5°30.8 | -5°19.1 | +11.5 | 60.8 |
| Me 2 | 250°56.8 | 265°23.9 | 279°51.0 | 294°18.1 | 308°45.2 | 323°12.4 | 337°39.6 | 352°06.9 | 6°34.1 | 21°01.4 | 35°28.7 | +27.2 | 16.5 |
| | -2°20.6 | -2°08.6 | -1°56.6 | -1°44.5 | -1°32.5 | -1°20.4 | -1°08.4 | -0°56.3 | -0°44.3 | -0°32.2 | -0°20.2 | +12.1 | 60.6 |
| Je 3 | 252°20.5 | 266°48.1 | 281°15.7 | 295°43.3 | 310°11.0 | 324°38.6 | 339°06.3 | 353°34.0 | 8°01.7 | 22°29.4 | 36°57.1 | +27.7 | 16.4 |
| | 2°39.1 | 2°50.9 | 3°02.6 | 3°14.4 | 3°26.1 | 3°37.8 | 3°49.4 | 4°01.0 | 4°12.6 | 4°24.1 | 4°35.6 | +11.7 | 60.2 |
| Ve 4 | 253°54.1 | 268°21.9 | 282°49.8 | 297°17.7 | 311°45.6 | 326°13.4 | 340°41.3 | 355°09.2 | 9°37.1 | 24°05.0 | 38°32.9 | +27.9 | 16.2 |
| | 7°23.0 | 7°33.7 | 7°44.4 | 7°55.0 | 8°05.6 | 8°16.2 | 8°26.6 | 8°37.0 | 8°47.4 | 8°57.6 | 9°07.8 | +10.5 | 59.5 |
| Sa 5 | 255°31.6 | 269°59.5 | 284°27.4 | 298°55.3 | 313°23.2 | 327°51.2 | 342°19.1 | 356°47.0 | 11°14.9 | 25°42.8 | 40°10.7 | +27.9 | 16.0 |
| | 11°32.7 | 11°41.7 | 11°50.7 | 11°59.6 | 12°08.5 | 12°17.2 | 12°25.9 | 12°34.4 | 12°42.9 | 12°51.3 | 12°59.7 | +8.7 | 58.8 |
| ◐ Di 6 | 257°09.3 | 271°37.2 | 286°05.1 | 300°33.0 | 315°00.9 | 329°28.8 | 343°56.7 | 358°24.6 | 12°52.5 | 27°20.4 | 41°48.3 | +27.9 | 15.8 |
| | 14°54.0 | 15°00.9 | 15°07.7 | 15°14.4 | 15°21.0 | 15°27.5 | 15°33.9 | 15°40.3 | 15°46.5 | 15°52.6 | 15°58.6 | +6.5 | 58.0 |
| Lu 7 | 258°47.3 | 273°15.2 | 287°43.2 | 302°11.2 | 316°39.2 | 331°07.2 | 345°35.2 | 0°03.2 | 14°31.2 | 28°59.2 | 43°27.3 | +28.0 | 15.6 |
| | 17°17.1 | 17°21.5 | 17°25.8 | 17°30.0 | 17°34.2 | 17°38.2 | 17°42.1 | 17°45.9 | 17°49.6 | 17°53.2 | 17°56.6 | +4.0 | 57.2 |
| Ma 8 | 260°29.4 | 274°57.7 | 289°26.0 | 303°54.3 | 318°22.6 | 332°50.9 | 347°19.3 | 1°47.7 | 16°16.1 | 30°44.5 | 45°13.0 | +28.4 | 15.4 |
| | 18°36.4 | 18°38.2 | 18°40.0 | 18°41.6 | 18°43.1 | 18°44.5 | 18°45.8 | 18°47.0 | 18°48.1 | 18°49.0 | 18°49.9 | +1.3 | 56.6 |
| Me 9 | 262°22.6 | 276°51.5 | 291°20.4 | 305°49.3 | 320°18.3 | 334°47.3 | 349°16.3 | 3°45.3 | 18°14.4 | 32°43.6 | 47°12.7 | +29.0 | 15.3 |
| | 18°50.9 | 18°50.1 | 18°49.3 | 18°48.3 | 18°47.3 | 18°46.1 | 18°44.9 | 18°43.6 | 18°42.1 | 18°40.6 | 18°39.0 | -1.2 | 55.9 |
| Je 10 | 264°34.4 | 279°04.2 | 293°33.9 | 308°03.8 | 322°33.7 | 337°03.6 | 351°33.5 | 6°03.5 | 20°33.6 | 35°03.6 | 49°33.8 | +29.9 | 15.1 |
| | 18°03.3 | 18°00.2 | 17°56.9 | 17°53.7 | 17°50.3 | 17°46.8 | 17°43.3 | 17°39.6 | 17°35.9 | 17°32.1 | 17°28.2 | -3.5 | 55.4 |
| Ve 11 | 267°10.8 | 281°41.7 | 296°12.5 | 310°43.5 | 325°14.4 | 339°45.4 | 354°16.5 | 8°47.6 | 23°18.7 | 37°49.9 | 52°21.1 | +31.0 | 15.0 |
| | 16°19.9 | 16°14.7 | 16°09.5 | 16°04.1 | 15°58.7 | 15°53.3 | 15°47.7 | 15°42.1 | 15°36.4 | 15°30.7 | 15°24.8 | -5.5 | 55.0 |
| Sa 12 | 270°15.0 | 284°46.9 | 299°18.9 | 313°50.9 | 328°23.0 | 342°55.1 | 357°27.3 | 11°59.5 | 26°31.7 | 41°04.0 | 55°36.3 | +32.1 | 14.9 |
| | 13°49.4 | 13°42.6 | 13°35.6 | 13°28.7 | 13°21.6 | 13°14.5 | 13°07.4 | 13°00.2 | 12°52.9 | 12°45.6 | 12°38.3 | -7.1 | 54.6 |
| Di 13 | 273°46.1 | 288°19.1 | 302°52.1 | 317°25.1 | 331°58.2 | 346°31.3 | 1°04.4 | 15°37.6 | 30°10.8 | 44°44.1 | 59°17.4 | +33.1 | 14.8 |
| | 10°41.8 | 10°33.7 | 10°25.5 | 10°17.3 | 10°09.0 | 10°00.7 | 9°52.4 | 9°44.0 | 9°35.6 | 9°27.2 | 9°18.7 | -8.3 | 54.3 |
| ○ Lu 14 | 277°40.4 | 292°14.2 | 306°48.0 | 321°21.8 | 335°55.7 | 350°29.5 | 5°03.5 | 19°37.4 | 34°11.3 | 48°45.3 | 63°19.3 | +33.9 | 14.8 |
| | 7°07.4 | 6°58.5 | 6°49.5 | 6°40.4 | 6°31.4 | 6°22.3 | 6°13.2 | 6°04.0 | 5°54.9 | 5°45.7 | 5°36.5 | -9.1 | 54.1 |
| Ma 15 | 281°51.6 | 296°25.9 | 311°00.2 | 325°34.5 | 340°08.9 | 354°43.2 | 9°17.5 | 23°51.9 | 38°26.3 | 53°00.7 | 67°35.1 | +34.3 | 14.7 |
| | 3°16.5 | 3°07.1 | 2°57.6 | 2°48.2 | 2°38.7 | 2°29.2 | 2°19.7 | 2°10.2 | 2°00.7 | 1°51.2 | 1°41.7 | -9.5 | 54.0 |
| Me 16 | 286°11.7 | 300°46.2 | 315°20.6 | 329°55.1 | 344°29.5 | 359°04.0 | 13°38.5 | 28°12.9 | 42°47.4 | 57°21.8 | 71°56.2 | +34.5 | 14.7 |
| | -0°41.3 | -0°50.8 | -1°00.3 | -1°09.8 | -1°19.3 | -1°28.8 | -1°38.3 | -1°47.8 | -1°57.3 | -2°06.8 | -2°16.3 | -9.5 | 53.9 |
| Je 17 | 290°31.7 | 305°06.0 | 319°40.2 | 334°14.5 | 348°48.7 | 3°22.9 | 17°57.1 | 32°31.2 | 47°05.4 | 61°39.5 | 76°13.6 | +34.2 | 14.7 |
| | -4°36.8 | -4°46.0 | -4°55.2 | -5°04.5 | -5°13.6 | -5°22.8 | -5°32.0 | -5°41.1 | -5°50.2 | -5°59.3 | -6°08.3 | -9.2 | 54.0 |
| Ve 18 | 294°42.3 | 309°16.0 | 323°49.6 | 338°23.3 | 352°56.9 | 7°30.4 | 22°04.0 | 36°37.5 | 51°10.9 | 65°44.4 | 80°17.8 | +33.5 | 14.8 |
| | -8°21.1 | -8°29.7 | -8°38.3 | -8°46.8 | -8°55.3 | -9°03.8 | -9°12.3 | -9°20.7 | -9°29.0 | -9°37.4 | -9°45.7 | -8.5 | 54.3 |
| Sa 19 | 309°16.0 | 323°49.6 | 338°23.3 | 352°56.9 | 7°30.4 | 22°04.0 | 36°37.5 | 51°10.9 | 65°44.4 | 80°17.8 | 94°51.1 | +33.5 | 14.8 |
| | -8°29.7 | -8°38.3 | -8°46.8 | -8°55.3 | -9°03.8 | -9°12.3 | -9°20.7 | -9°29.0 | -9°37.4 | -9°45.7 | -9°53.9 | -8.4 | 54.3 |
| Di 20 | 313°06.8 | 327°39.6 | 342°12.2 | 356°44.8 | 11°17.4 | 25°50.0 | 40°22.4 | 54°54.9 | 69°27.3 | 83°59.6 | 98°31.9 | +32.5 | 14.9 |
| | -11°52.9 | -12°00.5 | -12°08.0 | -12°15.5 | -12°22.9 | -12°30.2 | -12°37.6 | -12°44.8 | -12°52.1 | -12°59.2 | -13°06.3 | -7.3 | 54.7 |
| Lu 21 | 316°30.2 | 331°01.7 | 345°33.1 | 0°04.4 | 14°35.7 | 29°06.9 | 43°38.1 | 58°09.2 | 72°40.3 | 87°11.3 | 101°42.3 | +31.2 | 15.1 |
| | -14°46.2 | -14°52.4 | -14°58.5 | -15°04.5 | -15°10.5 | -15°16.4 | -15°22.2 | -15°28.0 | -15°33.7 | -15°39.3 | -15°44.9 | -5.9 | 55.2 |
| ◑ Ma 22 | 319°19.6 | 333°49.6 | 348°19.5 | 2°49.4 | 17°19.2 | 31°49.0 | 46°18.7 | 60°48.3 | 75°17.9 | 89°47.5 | 104°16.9 | +29.7 | 15.2 |
| | -16°59.5 | -17°03.9 | -17°08.2 | -17°12.4 | -17°16.5 | -17°20.5 | -17°24.4 | -17°28.3 | -17°32.1 | -17°35.7 | -17°39.3 | -4.0 | 55.9 |
| Me 23 | 321°31.8 | 336°00.3 | 350°28.7 | 4°57.2 | 19°25.5 | 33°53.8 | 48°22.0 | 62°50.2 | 77°18.3 | 91°46.4 | 106°14.4 | +28.3 | 15.5 |
| | -18°22.4 | -18°24.5 | -18°26.6 | -18°28.5 | -18°30.3 | -18°32.0 | -18°33.6 | -18°35.2 | -18°36.6 | -18°37.9 | -18°39.1 | -1.7 | 56.8 |
| Je 24 | 323°08.3 | 337°35.5 | 352°02.6 | 6°29.7 | 20°56.8 | 35°23.8 | 49°50.8 | 64°17.7 | 78°44.6 | 93°11.4 | 107°38.2 | +27.0 | 15.7 |
| | -18°44.7 | -18°44.2 | -18°43.6 | -18°42.8 | -18°42.0 | -18°41.1 | -18°40.0 | -18°38.9 | -18°37.6 | -18°36.2 | -18°34.7 | +1.0 | 57.7 |
| Ve 25 | 324°15.7 | 338°41.9 | 353°08.1 | 7°34.2 | 22°00.4 | 36°26.5 | 50°52.6 | 65°18.7 | 79°44.7 | 94°10.7 | 108°36.7 | +26.1 | 16.0 |
| | -17°58.3 | -17°54.9 | -17°51.4 | -17°47.8 | -17°44.1 | -17°40.3 | -17°36.4 | -17°32.3 | -17°28.1 | -17°23.8 | -17°19.4 | +3.9 | 58.7 |
| Sa 26 | 325°04.3 | 339°30.0 | 353°55.7 | 8°21.4 | 22°47.1 | 37°12.8 | 51°38.5 | 66°04.1 | 80°29.8 | 94°55.4 | 109°21.1 | +25.7 | 16.3 |
| | -15°59.5 | -15°53.3 | -15°46.9 | -15°40.5 | -15°33.9 | -15°27.2 | -15°20.4 | -15°13.5 | -15°06.5 | -14°59.4 | -14°52.2 | +6.7 | 59.7 |
| Di 27 | 325°45.6 | 340°11.3 | 354°36.9 | 9°02.6 | 23°28.2 | 37°53.9 | 52°19.5 | 66°45.2 | 81°10.9 | 95°36.6 | 110°02.3 | +25.7 | 16.5 |
| | -12°51.5 | -12°42.6 | -12°33.7 | -12°24.7 | -12°15.5 | -12°06.3 | -11°57.0 | -11°47.6 | -11°38.2 | -11°28.6 | -11°19.0 | +9.3 | 60.5 |
| Lu 28 | 326°28.8 | 340°54.7 | 355°20.5 | 9°46.4 | 24°12.3 | 38°38.2 | 53°04.1 | 67°30.0 | 81°56.0 | 96°21.9 | 110°47.9 | +25.9 | 16.7 |
| | -8°44.9 | -8°34.0 | -8°23.1 | -8°12.1 | -8°01.1 | -7°50.0 | -7°38.8 | -7°27.6 | -7°16.4 | -7°05.0 | -6°53.7 | +11.1 | 61.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 13h34 — PL: 14 07h04 — DQ: 22 11h53

# SOLEIL

## Mars 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 266°55.7 | 281°55.8 | 296°56.0 | 311°56.1 | 326°56.2 | 341°56.3 | 356°56.4 | 11°56.6 | 26°56.7 | 41°56.8 | 56°56.9 | 71°57.1 | +0.1 |
| | -7°27.1 | -7°26.2 | -7°25.2 | -7°24.3 | -7°23.3 | -7°22.4 | -7°21.4 | -7°20.5 | -7°19.5 | -7°18.6 | -7°17.6 | -7°16.7 | +1.0 |
| Me 2 | 266°58.7 | 281°58.8 | 296°58.9 | 311°59.1 | 326°59.2 | 341°59.3 | 356°59.4 | 11°59.6 | 26°59.7 | 41°59.8 | 57°00.0 | 72°00.1 | +0.1 |
| | -7°04.2 | -7°03.3 | -7°02.3 | -7°01.4 | -7°00.4 | -6°59.5 | -6°58.5 | -6°57.5 | -6°56.6 | -6°55.6 | -6°54.7 | -6°53.7 | +1.0 |
| Je 3 | 267°01.8 | 282°01.9 | 297°02.0 | 312°02.2 | 327°02.3 | 342°02.4 | 357°02.6 | 12°02.7 | 27°02.8 | 42°03.0 | 57°03.1 | 72°03.2 | +0.1 |
| | -6°41.2 | -6°40.3 | -6°39.3 | -6°38.4 | -6°37.4 | -6°36.4 | -6°35.5 | -6°34.5 | -6°33.6 | -6°32.6 | -6°31.6 | -6°30.7 | +1.0 |
| Ve 4 | 267°05.0 | 282°05.1 | 297°05.2 | 312°05.4 | 327°05.5 | 342°05.7 | 357°05.8 | 12°05.9 | 27°06.1 | 42°06.2 | 57°06.3 | 72°06.5 | +0.1 |
| | -6°18.2 | -6°17.2 | -6°16.2 | -6°15.3 | -6°14.3 | -6°13.3 | -6°12.4 | -6°11.4 | -6°10.4 | -6°09.5 | -6°08.5 | -6°07.5 | +1.0 |
| Sa 5 | 267°08.3 | 282°08.4 | 297°08.6 | 312°08.7 | 327°08.9 | 342°09.0 | 357°09.1 | 12°09.3 | 27°09.4 | 42°09.6 | 57°09.7 | 72°09.9 | +0.1 |
| | -5°55.0 | -5°54.0 | -5°53.0 | -5°52.1 | -5°51.1 | -5°50.1 | -5°49.2 | -5°48.2 | -5°47.2 | -5°46.3 | -5°45.3 | -5°44.3 | +1.0 |
| Di 6 | 267°11.7 | 282°11.9 | 297°12.0 | 312°12.2 | 327°12.3 | 342°12.5 | 357°12.6 | 12°12.7 | 27°12.9 | 42°13.0 | 57°13.2 | 72°13.3 | +0.1 |
| | -5°31.7 | -5°30.8 | -5°29.8 | -5°28.8 | -5°27.8 | -5°26.9 | -5°25.9 | -5°24.9 | -5°24.0 | -5°23.0 | -5°22.0 | -5°21.0 | +1.0 |
| Lu 7 | 267°15.3 | 282°15.4 | 297°15.6 | 312°15.7 | 327°15.9 | 342°16.0 | 357°16.2 | 12°16.3 | 27°16.5 | 42°16.6 | 57°16.8 | 72°16.9 | +0.2 |
| | -5°08.4 | -5°07.4 | -5°06.5 | -5°05.5 | -5°04.5 | -5°03.5 | -5°02.6 | -5°01.6 | -5°00.6 | -4°59.6 | -4°58.7 | -4°57.7 | +1.0 |
| Ma 8 | 267°18.9 | 282°19.1 | 297°19.2 | 312°19.4 | 327°19.5 | 342°19.7 | 357°19.8 | 12°20.0 | 27°20.1 | 42°20.3 | 57°20.4 | 72°20.6 | +0.2 |
| | -4°45.0 | -4°44.0 | -4°43.1 | -4°42.1 | -4°41.1 | -4°40.1 | -4°39.1 | -4°38.2 | -4°37.2 | -4°36.2 | -4°35.2 | -4°34.3 | +1.0 |
| Me 9 | 267°22.6 | 282°22.8 | 297°23.0 | 312°23.1 | 327°23.3 | 342°23.4 | 357°23.6 | 12°23.7 | 27°23.9 | 42°24.1 | 57°24.2 | 72°24.4 | +0.2 |
| | -4°21.6 | -4°20.6 | -4°19.6 | -4°18.6 | -4°17.6 | -4°16.7 | -4°15.7 | -4°14.7 | -4°13.7 | -4°12.7 | -4°11.8 | -4°10.8 | +1.0 |
| Je 10 | 267°26.5 | 282°26.6 | 297°26.8 | 312°27.0 | 327°27.1 | 342°27.3 | 357°27.4 | 12°27.6 | 27°27.8 | 42°27.9 | 57°28.1 | 72°28.2 | +0.2 |
| | -3°58.0 | -3°57.1 | -3°56.1 | -3°55.1 | -3°54.1 | -3°53.1 | -3°52.2 | -3°51.2 | -3°50.2 | -3°49.2 | -3°48.2 | -3°47.3 | +1.0 |
| Ve 11 | 267°30.4 | 282°30.5 | 297°30.7 | 312°30.9 | 327°31.0 | 342°31.2 | 357°31.4 | 12°31.5 | 27°31.7 | 42°31.9 | 57°32.0 | 72°32.2 | +0.2 |
| | -3°34.5 | -3°33.5 | -3°32.5 | -3°31.5 | -3°30.6 | -3°29.6 | -3°28.6 | -3°27.6 | -3°26.6 | -3°25.6 | -3°24.7 | -3°23.7 | +1.0 |
| Sa 12 | 267°34.4 | 282°34.5 | 297°34.7 | 312°34.9 | 327°35.0 | 342°35.2 | 357°35.4 | 12°35.6 | 27°35.7 | 42°35.9 | 57°36.1 | 72°36.2 | +0.2 |
| | -3°10.9 | -3°09.9 | -3°08.9 | -3°07.9 | -3°07.0 | -3°06.0 | -3°05.0 | -3°04.0 | -3°03.0 | -3°02.0 | -3°01.1 | -3°00.1 | +1.0 |
| Di 13 | 267°38.4 | 282°38.6 | 297°38.8 | 312°39.0 | 327°39.1 | 342°39.3 | 357°39.5 | 12°39.6 | 27°39.8 | 42°40.0 | 57°40.2 | 72°40.3 | +0.2 |
| | -2°47.3 | -2°46.3 | -2°45.3 | -2°44.3 | -2°43.3 | -2°42.3 | -2°41.4 | -2°40.4 | -2°39.4 | -2°38.4 | -2°37.4 | -2°36.4 | +1.0 |
| Lu 14 | 267°42.6 | 282°42.8 | 297°42.9 | 312°43.1 | 327°43.3 | 342°43.4 | 357°43.6 | 12°43.8 | 27°44.0 | 42°44.1 | 57°44.3 | 72°44.5 | +0.2 |
| | -2°23.6 | -2°22.6 | -2°21.6 | -2°20.6 | -2°19.7 | -2°18.7 | -2°17.7 | -2°16.7 | -2°15.7 | -2°14.7 | -2°13.7 | -2°12.8 | +1.0 |
| Ma 15 | 267°46.8 | 282°47.0 | 297°47.1 | 312°47.3 | 327°47.5 | 342°47.7 | 357°47.8 | 12°48.0 | 27°48.2 | 42°48.4 | 57°48.5 | 72°48.7 | +0.2 |
| | -1°59.9 | -1°58.9 | -1°57.9 | -1°57.0 | -1°56.0 | -1°55.0 | -1°54.0 | -1°53.0 | -1°52.0 | -1°51.0 | -1°50.0 | -1°49.1 | +1.0 |
| Me 16 | 267°51.0 | 282°51.2 | 297°51.4 | 312°51.6 | 327°51.8 | 342°51.9 | 357°52.1 | 12°52.3 | 27°52.5 | 42°52.6 | 57°52.8 | 72°53.0 | +0.2 |
| | -1°36.2 | -1°35.2 | -1°34.2 | -1°33.3 | -1°32.3 | -1°31.3 | -1°30.3 | -1°29.3 | -1°28.3 | -1°27.3 | -1°26.3 | -1°25.4 | +1.0 |
| Je 17 | 267°55.3 | 282°55.5 | 297°55.7 | 312°55.9 | 327°56.1 | 342°56.2 | 357°56.4 | 12°56.6 | 27°56.8 | 42°57.0 | 57°57.2 | 72°57.3 | +0.2 |
| | -1°12.5 | -1°11.5 | -1°10.5 | -1°09.5 | -1°08.6 | -1°07.6 | -1°06.6 | -1°05.6 | -1°04.6 | -1°03.6 | -1°02.6 | -1°01.6 | +1.0 |
| Ve 18 | 267°59.7 | 282°59.9 | 298°00.1 | 313°00.2 | 328°00.4 | 343°00.6 | 358°00.8 | 13°01.0 | 28°01.2 | 43°01.3 | 58°01.5 | 73°01.7 | +0.2 |
| | -0°48.8 | -0°47.8 | -0°46.8 | -0°45.8 | -0°44.8 | -0°43.8 | -0°42.9 | -0°41.9 | -0°40.9 | -0°39.9 | -0°38.9 | -0°37.9 | +1.0 |
| Sa 19 | 268°04.1 | 283°04.3 | 298°04.5 | 313°04.6 | 328°04.8 | 343°05.0 | 358°05.2 | 13°05.4 | 28°05.6 | 43°05.7 | 58°05.9 | 73°06.1 | +0.2 |
| | -0°25.1 | -0°24.1 | -0°23.1 | -0°22.1 | -0°21.1 | -0°20.1 | -0°19.1 | -0°18.2 | -0°17.2 | -0°16.2 | -0°15.2 | -0°14.2 | +1.0 |
| Di 20 | 268°08.5 | 283°08.7 | 298°08.9 | 313°09.1 | 328°09.3 | 343°09.4 | 358°09.6 | 13°09.8 | 28°10.0 | 43°10.2 | 58°10.4 | 73°10.6 | +0.2 |
| | -0°01.4 | -0°00.4 | 0°00.6 | 0°01.6 | 0°02.6 | 0°03.6 | 0°04.6 | 0°05.6 | 0°06.5 | 0°07.5 | 0°08.5 | 0°09.5 | +1.0 |
| Lu 21 | 268°13.0 | 283°13.2 | 298°13.3 | 313°13.5 | 328°13.7 | 343°13.9 | 358°14.1 | 13°14.3 | 28°14.5 | 43°14.7 | 58°14.8 | 73°15.0 | +0.2 |
| | 0°22.3 | 0°23.3 | 0°24.3 | 0°25.3 | 0°26.3 | 0°27.3 | 0°28.3 | 0°29.3 | 0°30.2 | 0°31.2 | 0°32.2 | 0°33.2 | +1.0 |
| Ma 22 | 268°17.5 | 283°17.6 | 298°17.8 | 313°18.0 | 328°18.2 | 343°18.4 | 358°18.6 | 13°18.8 | 28°19.0 | 43°19.1 | 58°19.3 | 73°19.5 | +0.2 |
| | 0°46.0 | 0°47.0 | 0°48.0 | 0°49.0 | 0°50.0 | 0°51.0 | 0°51.9 | 0°52.9 | 0°53.9 | 0°54.9 | 0°55.9 | 0°56.9 | +1.0 |
| Me 23 | 268°21.9 | 283°22.1 | 298°22.3 | 313°22.5 | 328°22.7 | 343°22.9 | 358°23.1 | 13°23.3 | 28°23.5 | 43°23.6 | 58°23.8 | 73°24.0 | +0.2 |
| | 1°09.7 | 1°10.7 | 1°11.7 | 1°12.6 | 1°13.6 | 1°14.6 | 1°15.6 | 1°16.6 | 1°17.6 | 1°18.6 | 1°19.5 | 1°20.5 | +1.0 |
| Je 24 | 268°26.5 | 283°26.6 | 298°26.8 | 313°27.0 | 328°27.2 | 343°27.4 | 358°27.6 | 13°27.8 | 28°28.0 | 43°28.1 | 58°28.3 | 73°28.5 | +0.2 |
| | 1°33.3 | 1°34.3 | 1°35.3 | 1°36.3 | 1°37.3 | 1°38.2 | 1°39.2 | 1°40.2 | 1°41.2 | 1°42.2 | 1°43.2 | 1°44.1 | +1.0 |
| Ve 25 | 268°31.0 | 283°31.2 | 298°31.3 | 313°31.5 | 328°31.7 | 343°31.9 | 358°32.1 | 13°32.3 | 28°32.5 | 43°32.7 | 58°32.8 | 73°33.0 | +0.2 |
| | 1°56.9 | 1°57.9 | 1°58.9 | 1°59.9 | 2°00.8 | 2°01.8 | 2°02.8 | 2°03.8 | 2°04.8 | 2°05.8 | 2°06.7 | 2°07.7 | +1.0 |
| Sa 26 | 268°35.5 | 283°35.7 | 298°35.9 | 313°36.0 | 328°36.2 | 343°36.4 | 358°36.6 | 13°36.8 | 28°37.0 | 43°37.2 | 58°37.4 | 73°37.5 | +0.2 |
| | 2°20.5 | 2°21.4 | 2°22.4 | 2°23.4 | 2°24.4 | 2°25.4 | 2°26.3 | 2°27.3 | 2°28.3 | 2°29.3 | 2°30.3 | 2°31.2 | +1.0 |
| Di 27 | 268°40.0 | 283°40.2 | 298°40.4 | 313°40.6 | 328°40.7 | 343°40.9 | 358°41.1 | 13°41.3 | 28°41.5 | 43°41.7 | 58°41.9 | 73°42.1 | +0.2 |
| | 2°44.0 | 2°45.0 | 2°45.9 | 2°46.9 | 2°47.9 | 2°48.9 | 2°49.8 | 2°50.8 | 2°51.8 | 2°52.8 | 2°53.8 | 2°54.7 | +1.0 |
| Lu 28 | 268°44.5 | 283°44.7 | 298°44.9 | 313°45.1 | 328°45.2 | 343°45.4 | 358°45.6 | 13°45.8 | 28°46.0 | 43°46.2 | 58°46.4 | 73°46.5 | +0.2 |
| | 3°07.4 | 3°08.4 | 3°09.4 | 3°10.4 | 3°11.3 | 3°12.3 | 3°13.3 | 3°14.3 | 3°15.2 | 3°16.2 | 3°17.2 | 3°18.2 | +1.0 |
| Ma 29 | 268°49.0 | 283°49.2 | 298°49.4 | 313°49.5 | 328°49.7 | 343°49.9 | 358°50.1 | 13°50.3 | 28°50.5 | 43°50.7 | 58°50.8 | 73°51.0 | +0.2 |
| | 3°30.8 | 3°31.8 | 3°32.8 | 3°33.7 | 3°34.7 | 3°35.7 | 3°36.7 | 3°37.6 | 3°38.6 | 3°39.6 | 3°40.5 | 3°41.5 | +1.0 |
| Me 30 | 268°53.4 | 283°53.6 | 298°53.8 | 313°54.0 | 328°54.2 | 343°54.4 | 358°54.6 | 13°54.8 | 28°54.9 | 43°55.1 | 58°55.3 | 73°55.5 | +0.2 |
| | 3°54.1 | 3°55.1 | 3°56.1 | 3°57.1 | 3°58.0 | 3°59.0 | 4°00.0 | 4°00.9 | 4°01.9 | 4°02.9 | 4°03.8 | 4°04.8 | +1.0 |
| Je 31 | 268°57.9 | 283°58.1 | 298°58.3 | 313°58.5 | 328°58.6 | 343°58.8 | 358°59.0 | 13°59.2 | 28°59.4 | 43°59.6 | 58°59.8 | 73°59.9 | +0.2 |
| | 4°17.4 | 4°18.4 | 4°19.3 | 4°20.3 | 4°21.3 | 4°22.2 | 4°23.2 | 4°24.2 | 4°25.1 | 4°26.1 | 4°27.1 | 4°28.0 | +1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2033

| | J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ● | Ma 1 | 255°08.1<br>-4°57.4 | 269°34.2<br>-4°45.5 | 284°00.3<br>-4°33.6 | 298°26.5<br>-4°21.7 | 312°52.6<br>-4°09.8 | 327°18.7<br>-3°57.8 | 341°44.9<br>-3°45.8 | 356°11.0<br>-3°33.8 | 10°37.2<br>-3°21.7 | 25°03.4<br>-3°09.6 | 39°29.6<br>-2°57.5 | +26.1<br>+12.0 | 16.7<br>61.3 |
| | Me 2 | 256°03.8<br>0°05.6 | 270°30.2<br>0°17.8 | 284°56.6<br>0°30.0 | 299°22.9<br>0°42.2 | 313°49.3<br>0°54.4 | 328°15.7<br>1°06.6 | 342°42.1<br>1°18.8 | 357°08.5<br>1°31.0 | 11°34.9<br>1°43.2 | 26°01.4<br>1°55.3 | 40°27.8<br>2°07.4 | +26.4<br>+12.2 | 16.7<br>61.2 |
| | Je 3 | 257°04.9<br>5°06.1 | 271°31.4<br>5°17.7 | 285°58.0<br>5°29.3 | 300°24.5<br>5°40.8 | 314°51.0<br>5°52.3 | 329°17.5<br>6°03.8 | 343°44.1<br>6°15.2 | 358°10.6<br>6°26.5 | 12°37.2<br>6°37.8 | 27°03.7<br>6°49.1 | 41°30.3<br>7°00.3 | +26.5<br>+11.4 | 16.6<br>60.8 |
| | Ve 4 | 258°08.8<br>9°40.7 | 272°35.4<br>9°50.9 | 287°02.0<br>10°01.0 | 301°28.5<br>10°11.0 | 315°55.1<br>10°20.9 | 330°21.7<br>10°30.8 | 344°48.3<br>10°40.5 | 359°14.9<br>10°50.2 | 13°41.6<br>10°59.8 | 28°08.2<br>11°09.4 | 42°34.8<br>11°18.8 | +26.6<br>+9.8 | 16.4<br>60.1 |
| | Sa 5 | 259°14.4<br>13°30.1 | 273°41.1<br>13°38.1 | 288°07.8<br>13°46.0 | 302°34.5<br>13°53.8 | 317°01.2<br>14°01.6 | 331°27.9<br>14°09.2 | 345°54.6<br>14°16.7 | 0°21.3<br>14°24.2 | 14°48.1<br>14°31.5 | 29°14.8<br>14°38.7 | 43°41.5<br>14°45.9 | +26.7<br>+7.6 | 16.2<br>59.3 |
| | Di 6 | 260°24.0<br>16°20.5 | 274°51.0<br>16°26.0 | 289°17.9<br>16°31.3 | 303°44.9<br>16°36.6 | 318°11.9<br>16°41.7 | 332°38.9<br>16°46.7 | 347°05.9<br>16°51.7 | 1°32.9<br>16°56.5 | 16°00.0<br>17°01.2 | 30°27.0<br>17°05.8 | 44°54.1<br>17°10.3 | +27.0<br>+5.0 | 15.9<br>58.3 |
| | Lu 7 | 261°43.1<br>18°04.7 | 276°10.5<br>18°07.4 | 290°38.0<br>18°10.0 | 305°05.5<br>18°12.6 | 319°33.1<br>18°15.0 | 334°00.7<br>18°17.3 | 348°28.3<br>18°19.5 | 2°55.9<br>18°21.6 | 17°23.6<br>18°23.6 | 31°51.2<br>18°25.5 | 46°19.0<br>18°27.3 | +27.6<br>+2.3 | 15.6<br>57.4 |
| ◐ | Ma 8 | 263°18.9<br>18°41.2 | 277°47.2<br>18°41.2 | 292°15.6<br>18°41.2 | 306°43.9<br>18°41.1 | 321°12.3<br>18°40.9 | 335°40.8<br>18°40.6 | 350°09.3<br>18°40.1 | 4°37.8<br>18°39.6 | 19°06.4<br>18°39.0 | 33°35.0<br>18°38.3 | 48°03.7<br>18°37.4 | +28.5<br>-0.4 | 15.4<br>56.5 |
| | Me 9 | 265°18.8<br>18°13.3 | 279°48.2<br>18°11.0 | 294°17.6<br>18°08.5 | 308°47.1<br>18°06.0 | 323°16.6<br>18°03.3 | 337°46.1<br>18°00.6 | 352°15.7<br>17°57.8 | 6°45.4<br>17°54.9 | 21°15.1<br>17°51.9 | 35°44.9<br>17°48.8 | 50°14.7<br>17°45.6 | +29.6<br>-2.8 | 15.2<br>55.8 |
| | Je 10 | 267°47.6<br>16°47.9 | 282°18.2<br>16°43.4 | 296°48.8<br>16°38.9 | 311°19.5<br>16°34.2 | 325°50.2<br>16°29.5 | 340°21.0<br>16°24.7 | 354°51.8<br>16°19.8 | 9°22.7<br>16°14.9 | 23°53.6<br>16°09.8 | 38°24.6<br>16°04.7 | 52°55.6<br>15°59.5 | +30.8<br>-4.8 | 15.0<br>55.2 |
| | Ve 11 | 270°46.8<br>14°33.6 | 285°18.6<br>14°27.3 | 299°50.4<br>14°21.0 | 314°22.3<br>14°14.6 | 328°54.2<br>14°08.2 | 343°26.2<br>14°01.7 | 357°58.2<br>13°55.1 | 12°30.3<br>13°48.5 | 27°02.4<br>13°41.8 | 41°34.5<br>13°35.1 | 56°06.7<br>13°28.3 | +32.0<br>-6.5 | 14.9<br>54.7 |
| | Sa 12 | 274°14.6<br>11°39.9 | 288°47.5<br>11°32.2 | 303°20.4<br>11°24.5 | 317°53.3<br>11°16.8 | 332°26.2<br>11°09.1 | 346°59.2<br>11°01.2 | 1°32.3<br>10°53.4 | 16°05.4<br>10°45.5 | 30°38.5<br>10°37.5 | 45°11.6<br>10°29.5 | 59°44.8<br>10°21.5 | +33.0<br>-7.8 | 14.8<br>54.3 |
| | Di 13 | 278°06.3<br>8°16.4 | 292°40.0<br>8°07.8 | 307°13.7<br>7°59.2 | 321°47.4<br>7°50.5 | 336°21.2<br>7°41.8 | 350°54.9<br>7°33.0 | 5°28.8<br>7°24.3 | 20°02.6<br>7°15.5 | 34°36.4<br>7°06.6 | 49°10.3<br>6°57.8 | 63°44.2<br>6°48.9 | +33.8<br>-8.8 | 14.7<br>54.1 |
| | Lu 14 | 282°15.2<br>4°32.9 | 296°49.4<br>4°23.7 | 311°23.6<br>4°14.4 | 325°57.9<br>4°05.2 | 340°32.1<br>3°55.9 | 355°06.4<br>3°46.6 | 9°40.7<br>3°37.3 | 24°15.0<br>3°28.0 | 38°49.3<br>3°18.7 | 53°23.6<br>3°09.3 | 67°57.9<br>3°00.0 | +34.3<br>-9.3 | 14.7<br>53.9 |
| | Ma 15 | 286°33.6<br>0°38.7 | 301°08.0<br>0°29.2 | 315°42.4<br>0°19.7 | 330°16.8<br>0°10.3 | 344°51.2<br>0°00.8 | 359°25.7<br>-0°08.6 | 14°00.1<br>-0°18.1 | 28°34.5<br>-0°27.6 | 43°08.9<br>-0°37.0 | 57°43.3<br>-0°46.5 | 72°17.7<br>-0°55.9 | +34.4<br>-9.5 | 14.7<br>53.9 |
| ○ | Me 16 | 290°53.1<br>-3°17.0 | 305°27.4<br>-3°26.3 | 320°01.6<br>-3°35.7 | 334°35.9<br>-3°45.0 | 349°10.2<br>-3°54.2 | 3°44.4<br>-4°03.5 | 18°18.6<br>-4°12.8 | 32°52.8<br>-4°22.0 | 47°27.0<br>-4°31.2 | 62°01.2<br>-4°40.4 | 76°35.3<br>-4°49.6 | +34.2<br>-9.3 | 14.7<br>54.0 |
| | Je 17 | 295°05.4<br>-7°04.9 | 309°39.2<br>-7°13.7 | 324°13.0<br>-7°22.5 | 338°46.8<br>-7°31.3 | 353°20.6<br>-7°40.0 | 7°54.3<br>-7°48.7 | 22°28.0<br>-7°57.4 | 37°01.7<br>-8°06.0 | 51°35.3<br>-8°14.6 | 66°08.9<br>-8°23.2 | 80°42.5<br>-8°31.7 | +33.7<br>-8.7 | 14.8<br>54.1 |
| | Ve 18 | 299°02.7<br>-10°35.5 | 313°35.7<br>-10°43.5 | 328°08.8<br>-10°51.4 | 342°41.8<br>-10°59.2 | 357°14.7<br>-11°07.0 | 11°47.7<br>-11°14.8 | 26°20.6<br>-11°22.5 | 40°53.4<br>-11°30.1 | 55°26.2<br>-11°37.8 | 69°59.0<br>-11°45.3 | 84°31.7<br>-11°52.8 | +32.9<br>-7.7 | 14.8<br>54.4 |
| | Sa 19 | 302°37.9<br>-13°39.4 | 317°10.0<br>-13°46.1 | 331°42.0<br>-13°52.7 | 346°14.0<br>-13°59.2 | 0°46.0<br>-14°05.7 | 15°17.9<br>-14°12.1 | 29°49.7<br>-14°18.5 | 44°21.5<br>-14°24.8 | 58°53.3<br>-14°31.0 | 73°25.0<br>-14°37.2 | 87°56.7<br>-14°43.3 | +31.9<br>-6.4 | 14.9<br>54.7 |
| | Di 20 | 317°10.0<br>-13°46.1 | 331°42.0<br>-13°52.7 | 346°14.0<br>-13°59.2 | 0°46.0<br>-14°05.7 | 15°17.9<br>-14°12.1 | 29°49.7<br>-14°18.5 | 44°21.5<br>-14°24.8 | 58°53.3<br>-14°31.0 | 73°25.0<br>-14°37.2 | 87°56.7<br>-14°43.3 | 102°28.3<br>-14°49.3 | +31.8<br>-6.3 | 14.9<br>54.7 |
| | Lu 21 | 320°17.0<br>-16°11.8 | 334°47.9<br>-16°16.7 | 349°18.7<br>-16°21.6 | 3°49.5<br>-16°26.4 | 18°20.2<br>-16°31.1 | 32°50.9<br>-16°35.7 | 47°21.5<br>-16°40.2 | 61°52.1<br>-16°44.7 | 76°22.6<br>-16°49.1 | 90°53.1<br>-16°53.4 | 105°23.5<br>-16°57.6 | +30.7<br>-4.6 | 15.1<br>55.2 |
| | Ma 22 | 322°54.3<br>-17°51.1 | 337°23.9<br>-17°54.0 | 351°53.6<br>-17°56.8 | 6°23.1<br>-17°59.5 | 20°52.7<br>-18°02.1 | 35°22.2<br>-18°04.6 | 49°51.6<br>-18°07.0 | 64°21.0<br>-18°09.4 | 78°50.4<br>-18°11.6 | 93°19.7<br>-18°13.8 | 107°48.9<br>-18°15.8 | +29.5<br>-2.5 | 15.2<br>55.8 |
| | Me 23 | 325°02.6<br>-18°35.2 | 339°31.2<br>-18°35.7 | 353°59.7<br>-18°36.1 | 8°28.2<br>-18°36.4 | 22°56.7<br>-18°36.6 | 37°25.1<br>-18°36.7 | 51°53.5<br>-18°36.7 | 66°21.8<br>-18°36.6 | 80°50.1<br>-18°36.4 | 95°18.4<br>-18°36.1 | 109°46.7<br>-18°35.6 | +28.4<br>-0.0 | 15.4<br>56.6 |
| ◑ | Je 24 | 326°46.1<br>-18°16.8 | 341°13.9<br>-18°14.7 | 355°41.6<br>-18°12.5 | 10°09.2<br>-18°10.2 | 24°36.8<br>-18°07.8 | 39°04.4<br>-18°05.2 | 53°32.0<br>-18°02.6 | 67°59.6<br>-17°59.9 | 82°27.1<br>-17°57.0 | 96°54.6<br>-17°54.0 | 111°22.1<br>-17°51.0 | +27.6<br>+2.6 | 15.7<br>57.4 |
| | Ve 25 | 328°11.6<br>-16°51.9 | 342°38.7<br>-16°47.1 | 357°05.9<br>-16°42.2 | 11°33.0<br>-16°37.2 | 26°00.1<br>-16°32.1 | 40°27.1<br>-16°26.9 | 54°54.2<br>-16°21.6 | 69°21.3<br>-16°16.1 | 83°48.3<br>-16°10.6 | 98°15.3<br>-16°05.0 | 112°42.3<br>-15°59.2 | +27.1<br>+5.3 | 15.9<br>58.4 |
| | Sa 26 | 329°26.2<br>-14°20.7 | 343°53.0<br>-14°13.3 | 358°19.8<br>-14°05.8 | 12°46.7<br>-13°58.3 | 27°13.5<br>-13°50.6 | 41°40.3<br>-13°42.9 | 56°07.1<br>-13°35.0 | 70°33.9<br>-13°27.1 | 85°00.7<br>-13°19.0 | 99°27.5<br>-13°10.9 | 113°54.3<br>-13°02.6 | +26.8<br>+7.8 | 16.2<br>59.3 |
| | Di 27 | 330°35.6<br>-10°48.6 | 345°02.3<br>-10°39.0 | 359°29.1<br>-10°29.4 | 13°55.8<br>-10°19.6 | 28°22.5<br>-10°09.8 | 42°49.2<br>-9°59.9 | 57°15.9<br>-9°49.9 | 71°42.6<br>-9°39.8 | 86°09.3<br>-9°29.7 | 100°36.0<br>-9°19.5 | 115°02.7<br>-9°09.2 | +26.7<br>+9.9 | 16.4<br>60.1 |
| | Lu 28 | 331°42.7<br>-6°27.5 | 346°09.3<br>-6°16.2 | 0°35.9<br>-6°04.9 | 15°02.6<br>-5°53.6 | 29°29.2<br>-5°42.2 | 43°55.8<br>-5°30.8 | 58°22.4<br>-5°19.3 | 72°49.0<br>-5°07.8 | 87°15.6<br>-4°56.2 | 101°42.2<br>-4°44.6 | 116°08.8<br>-4°33.0 | +26.6<br>+11.5 | 16.6<br>60.8 |
| | Ma 29 | 332°46.8<br>-1°34.6 | 347°13.3<br>-1°22.5 | 1°39.8<br>-1°10.5 | 16°06.2<br>-0°58.4 | 30°32.7<br>-0°46.3 | 44°59.1<br>-0°34.1 | 59°25.5<br>-0°22.0 | 73°51.9<br>-0°09.9 | 88°18.3<br>0°02.2 | 102°44.7<br>0°14.4 | 117°11.1<br>0°26.5 | +26.4<br>+12.1 | 16.7<br>61.2 |
| ● | Me 30 | 333°45.5<br>3°27.7 | 348°11.7<br>3°39.7 | 2°37.8<br>3°51.6 | 17°04.0<br>4°03.5 | 31°30.1<br>4°15.4 | 45°56.3<br>4°27.2 | 60°22.4<br>4°39.0 | 74°48.5<br>4°50.8 | 89°14.6<br>5°02.5 | 103°40.7<br>5°14.2 | 118°06.8<br>5°25.9 | +26.1<br>+11.8 | 16.7<br>61.3 |
| | Je 31 | 334°36.1<br>8°15.3 | 349°02.0<br>8°26.1 | 3°27.8<br>8°36.9 | 17°53.7<br>8°47.6 | 32°19.5<br>8°58.3 | 46°45.3<br>9°08.9 | 61°11.1<br>9°19.4 | 75°36.8<br>9°29.9 | 90°02.6<br>9°40.2 | 104°28.3<br>9°50.5 | 118°54.1<br>10°00.8 | +25.8<br>+10.6 | 16.6<br>60.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 1 08h23 — PQ: 8 01h27 — PL: 16 01h37 — DQ: 24 01h49 — NL: 30 17h51

# SOLEIL

## Avril 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 269°02.3<br>4°40.6 | 284°02.5<br>4°41.5 | 299°02.7<br>4°42.5 | 314°02.9<br>4°43.5 | 329°03.1<br>4°44.4 | 344°03.3<br>4°45.4 | 359°03.4<br>4°46.4 | 14°03.6<br>4°47.3 | 29°03.8<br>4°48.3 | 44°04.0<br>4°49.2 | 59°04.2<br>4°50.2 | 74°04.4<br>4°51.2 | +0.2<br>+1.0 |
| Sa 2 | 269°06.7<br>5°03.7 | 284°06.9<br>5°04.6 | 299°07.1<br>5°05.6 | 314°07.3<br>5°06.5 | 329°07.5<br>5°07.5 | 344°07.6<br>5°08.5 | 359°07.8<br>5°09.4 | 14°08.0<br>5°10.4 | 29°08.2<br>5°11.3 | 44°08.4<br>5°12.3 | 59°08.6<br>5°13.3 | 74°08.7<br>5°14.2 | +0.2<br>+1.0 |
| Di 3 | 269°11.1<br>5°26.7 | 284°11.3<br>5°27.6 | 299°11.5<br>5°28.6 | 314°11.6<br>5°29.5 | 329°11.8<br>5°30.5 | 344°12.0<br>5°31.4 | 359°12.2<br>5°32.4 | 14°12.4<br>5°33.4 | 29°12.6<br>5°34.3 | 44°12.7<br>5°35.3 | 59°12.9<br>5°36.2 | 74°13.1<br>5°37.2 | +0.2<br>+1.0 |
| Lu 4 | 269°15.4<br>5°49.6 | 284°15.6<br>5°50.5 | 299°15.8<br>5°51.5 | 314°16.0<br>5°52.4 | 329°16.2<br>5°53.4 | 344°16.3<br>5°54.3 | 359°16.5<br>5°55.3 | 14°16.7<br>5°56.2 | 29°16.9<br>5°57.2 | 44°17.1<br>5°58.1 | 59°17.2<br>5°59.1 | 74°17.4<br>6°00.0 | +0.2<br>+1.0 |
| Ma 5 | 269°19.7<br>6°12.4 | 284°19.9<br>6°13.3 | 299°20.1<br>6°14.3 | 314°20.3<br>6°15.2 | 329°20.5<br>6°16.2 | 344°20.6<br>6°17.1 | 359°20.8<br>6°18.0 | 14°21.0<br>6°19.0 | 29°21.2<br>6°19.9 | 44°21.3<br>6°20.9 | 59°21.5<br>6°21.8 | 74°21.7<br>6°22.8 | +0.2<br>+0.9 |
| Me 6 | 269°24.0<br>6°35.1 | 284°24.2<br>6°36.0 | 299°24.3<br>6°36.9 | 314°24.5<br>6°37.9 | 329°24.7<br>6°38.8 | 344°24.9<br>6°39.8 | 359°25.1<br>6°40.7 | 14°25.2<br>6°41.7 | 29°25.4<br>6°42.6 | 44°25.6<br>6°43.5 | 59°25.8<br>6°44.5 | 74°25.9<br>6°45.4 | +0.2<br>+0.9 |
| Je 7 | 269°28.2<br>6°57.6 | 284°28.4<br>6°58.6 | 299°28.6<br>6°59.5 | 314°28.7<br>7°00.4 | 329°28.9<br>7°01.4 | 344°29.1<br>7°02.3 | 359°29.2<br>7°03.3 | 14°29.4<br>7°04.2 | 29°29.6<br>7°05.1 | 44°29.8<br>7°06.1 | 59°29.9<br>7°07.0 | 74°30.1<br>7°07.9 | +0.2<br>+0.9 |
| Ve 8 | 269°32.4<br>7°20.1 | 284°32.5<br>7°21.0 | 299°32.7<br>7°22.0 | 314°32.9<br>7°22.9 | 329°33.0<br>7°23.8 | 344°33.2<br>7°24.8 | 359°33.4<br>7°25.7 | 14°33.6<br>7°26.6 | 29°33.7<br>7°27.5 | 44°33.9<br>7°28.5 | 59°34.1<br>7°29.4 | 74°34.2<br>7°30.3 | +0.2<br>+0.9 |
| Sa 9 | 269°36.5<br>7°42.4 | 284°36.6<br>7°43.3 | 299°36.8<br>7°44.3 | 314°37.0<br>7°45.2 | 329°37.1<br>7°46.1 | 344°37.3<br>7°47.1 | 359°37.5<br>7°48.0 | 14°37.6<br>7°48.9 | 29°37.8<br>7°49.8 | 44°38.0<br>7°50.8 | 59°38.2<br>7°51.7 | 74°38.3<br>7°52.6 | +0.2<br>+0.9 |
| Di 10 | 269°40.5<br>8°04.6 | 284°40.7<br>8°05.5 | 299°40.8<br>8°06.5 | 314°41.0<br>8°07.4 | 329°41.2<br>8°08.3 | 344°41.3<br>8°09.2 | 359°41.5<br>8°10.2 | 14°41.7<br>8°11.1 | 29°41.8<br>8°12.0 | 44°42.0<br>8°12.9 | 59°42.2<br>8°13.8 | 74°42.3<br>8°14.8 | +0.2<br>+0.9 |
| Lu 11 | 269°44.5<br>8°26.7 | 284°44.6<br>8°27.6 | 299°44.8<br>8°28.5 | 314°45.0<br>8°29.4 | 329°45.1<br>8°30.4 | 344°45.3<br>8°31.3 | 359°45.5<br>8°32.2 | 14°45.6<br>8°33.1 | 29°45.8<br>8°34.0 | 44°45.9<br>8°34.9 | 59°46.1<br>8°35.8 | 74°46.3<br>8°36.8 | +0.2<br>+0.9 |
| Ma 12 | 269°48.4<br>8°48.6 | 284°48.5<br>8°49.5 | 299°48.7<br>8°50.4 | 314°48.9<br>8°51.3 | 329°49.0<br>8°52.2 | 344°49.2<br>8°53.2 | 359°49.3<br>8°54.1 | 14°49.5<br>8°55.0 | 29°49.7<br>8°55.9 | 44°49.8<br>8°56.8 | 59°50.0<br>8°57.7 | 74°50.1<br>8°58.6 | +0.2<br>+0.9 |
| Me 13 | 269°52.2<br>9°10.4 | 284°52.4<br>9°11.3 | 299°52.5<br>9°12.2 | 314°52.7<br>9°13.1 | 329°52.8<br>9°14.0 | 344°53.0<br>9°14.9 | 359°53.1<br>9°15.8 | 14°53.3<br>9°16.7 | 29°53.5<br>9°17.6 | 44°53.6<br>9°18.5 | 59°53.8<br>9°19.4 | 74°53.9<br>9°20.3 | +0.2<br>+0.9 |
| Je 14 | 269°55.9<br>9°32.0 | 284°56.1<br>9°32.9 | 299°56.3<br>9°33.8 | 314°56.4<br>9°34.7 | 329°56.6<br>9°35.6 | 344°56.7<br>9°36.5 | 359°56.9<br>9°37.4 | 14°57.0<br>9°38.3 | 29°57.2<br>9°39.2 | 44°57.3<br>9°40.1 | 59°57.5<br>9°41.0 | 74°57.6<br>9°41.9 | +0.2<br>+0.9 |
| Ve 15 | 269°59.6<br>9°53.5 | 284°59.8<br>9°54.4 | 299°59.9<br>9°55.2 | 315°00.1<br>9°56.1 | 330°00.2<br>9°57.0 | 345°00.4<br>9°57.9 | 0°00.5<br>9°58.8 | 15°00.7<br>9°59.7 | 30°00.8<br>10°00.6 | 45°01.0<br>10°01.5 | 60°01.1<br>10°02.4 | 75°01.3<br>10°03.3 | +0.1<br>+0.9 |
| Sa 16 | 270°03.2<br>10°14.8 | 285°03.3<br>10°15.7 | 300°03.5<br>10°16.5 | 315°03.6<br>10°17.4 | 330°03.8<br>10°18.3 | 345°03.9<br>10°19.2 | 0°04.1<br>10°20.1 | 15°04.2<br>10°20.9 | 30°04.3<br>10°21.8 | 45°04.5<br>10°22.7 | 60°04.6<br>10°23.6 | 75°04.8<br>10°24.5 | +0.1<br>+0.9 |
| Di 17 | 270°06.7<br>10°35.9 | 285°06.8<br>10°36.8 | 300°06.9<br>10°37.7 | 315°07.1<br>10°38.5 | 330°07.2<br>10°39.4 | 345°07.4<br>10°40.3 | 0°07.5<br>10°41.2 | 15°07.6<br>10°42.0 | 30°07.8<br>10°42.9 | 45°07.9<br>10°43.8 | 60°08.1<br>10°44.7 | 75°08.2<br>10°45.5 | +0.1<br>+0.9 |
| Lu 18 | 270°10.0<br>10°56.9 | 285°10.2<br>10°57.7 | 300°10.3<br>10°58.6 | 315°10.4<br>10°59.5 | 330°10.6<br>11°00.3 | 345°10.7<br>11°01.2 | 0°10.9<br>11°02.1 | 15°11.0<br>11°02.9 | 30°11.1<br>11°03.8 | 45°11.3<br>11°04.7 | 60°11.4<br>11°05.5 | 75°11.5<br>11°06.4 | +0.1<br>+0.9 |
| Ma 19 | 270°13.3<br>11°17.6 | 285°13.4<br>11°18.5 | 300°13.6<br>11°19.4 | 315°13.7<br>11°20.2 | 330°13.8<br>11°21.1 | 345°14.0<br>11°21.9 | 0°14.1<br>11°22.8 | 15°14.2<br>11°23.7 | 30°14.4<br>11°24.5 | 45°14.5<br>11°25.4 | 60°14.6<br>11°26.2 | 75°14.8<br>11°27.1 | +0.1<br>+0.9 |
| Me 20 | 270°16.5<br>11°38.2 | 285°16.6<br>11°39.1 | 300°16.7<br>11°39.9 | 315°16.9<br>11°40.8 | 330°17.0<br>11°41.6 | 345°17.1<br>11°42.5 | 0°17.2<br>11°43.3 | 15°17.4<br>11°44.2 | 30°17.5<br>11°45.0 | 45°17.6<br>11°45.9 | 60°17.8<br>11°46.7 | 75°17.9<br>11°47.6 | +0.1<br>+0.9 |
| Je 21 | 270°19.5<br>11°58.6 | 285°19.7<br>11°59.5 | 300°19.8<br>12°00.3 | 315°19.9<br>12°01.2 | 330°20.0<br>12°02.0 | 345°20.2<br>12°02.9 | 0°20.3<br>12°03.7 | 15°20.4<br>12°04.5 | 30°20.5<br>12°05.4 | 45°20.6<br>12°06.2 | 60°20.8<br>12°07.1 | 75°20.9<br>12°07.9 | +0.1<br>+0.8 |
| Ve 22 | 270°22.5<br>12°18.8 | 285°22.6<br>12°19.7 | 300°22.7<br>12°20.5 | 315°22.8<br>12°21.3 | 330°22.9<br>12°22.2 | 345°23.1<br>12°23.0 | 0°23.2<br>12°23.9 | 15°23.3<br>12°24.7 | 30°23.4<br>12°25.5 | 45°23.5<br>12°26.4 | 60°23.7<br>12°27.2 | 75°23.8<br>12°28.0 | +0.1<br>+0.8 |
| Sa 23 | 270°25.3<br>12°38.8 | 285°25.4<br>12°39.7 | 300°25.5<br>12°40.5 | 315°25.6<br>12°41.3 | 330°25.8<br>12°42.1 | 345°25.9<br>12°43.0 | 0°26.0<br>12°43.8 | 15°26.1<br>12°44.6 | 30°26.2<br>12°45.5 | 45°26.3<br>12°46.3 | 60°26.4<br>12°47.1 | 75°26.5<br>12°47.9 | +0.1<br>+0.8 |
| Di 24 | 270°28.0<br>12°58.6 | 285°28.1<br>12°59.5 | 300°28.2<br>13°00.3 | 315°28.3<br>13°01.1 | 330°28.4<br>13°01.9 | 345°28.5<br>13°02.7 | 0°28.7<br>13°03.5 | 15°28.8<br>13°04.4 | 30°28.9<br>13°05.2 | 45°29.0<br>13°06.0 | 60°29.1<br>13°06.8 | 75°29.2<br>13°07.6 | +0.1<br>+0.8 |
| Lu 25 | 270°30.6<br>13°18.2 | 285°30.7<br>13°19.0 | 300°30.8<br>13°19.8 | 315°30.9<br>13°20.6 | 330°31.0<br>13°21.5 | 345°31.1<br>13°22.3 | 0°31.2<br>13°23.1 | 15°31.3<br>13°23.9 | 30°31.4<br>13°24.7 | 45°31.5<br>13°25.5 | 60°31.6<br>13°26.3 | 75°31.7<br>13°27.1 | +0.1<br>+0.8 |
| Ma 26 | 270°33.0<br>13°37.6 | 285°33.1<br>13°38.4 | 300°33.2<br>13°39.2 | 315°33.3<br>13°40.0 | 330°33.4<br>13°40.8 | 345°33.5<br>13°41.6 | 0°33.6<br>13°42.4 | 15°33.7<br>13°43.2 | 30°33.8<br>13°44.0 | 45°33.9<br>13°44.8 | 60°34.0<br>13°45.6 | 75°34.1<br>13°46.4 | +0.1<br>+0.8 |
| Me 27 | 270°35.3<br>13°56.7 | 285°35.4<br>13°57.5 | 300°35.5<br>13°58.3 | 315°35.6<br>13°59.1 | 330°35.7<br>13°59.9 | 345°35.8<br>14°00.7 | 0°35.9<br>14°01.5 | 15°36.0<br>14°02.3 | 30°36.1<br>14°03.1 | 45°36.2<br>14°03.8 | 60°36.3<br>14°04.6 | 75°36.4<br>14°05.4 | +0.1<br>+0.8 |
| Je 28 | 270°37.5<br>14°15.6 | 285°37.6<br>14°16.4 | 300°37.7<br>14°17.2 | 315°37.8<br>14°18.0 | 330°37.9<br>14°18.8 | 345°38.0<br>14°19.5 | 0°38.1<br>14°20.3 | 15°38.2<br>14°21.1 | 30°38.2<br>14°21.9 | 45°38.3<br>14°22.7 | 60°38.4<br>14°23.4 | 75°38.5<br>14°24.2 | +0.1<br>+0.8 |
| Ve 29 | 270°39.6<br>14°34.3 | 285°39.7<br>14°35.1 | 300°39.8<br>14°35.9 | 315°39.9<br>14°36.6 | 330°39.9<br>14°37.4 | 345°40.0<br>14°38.2 | 0°40.1<br>14°38.9 | 15°40.2<br>14°39.7 | 30°40.3<br>14°40.5 | 45°40.4<br>14°41.3 | 60°40.4<br>14°42.0 | 75°40.5<br>14°42.8 | +0.1<br>+0.8 |
| Sa 30 | 270°41.5<br>14°52.7 | 285°41.6<br>14°53.5 | 300°41.7<br>14°54.3 | 315°41.8<br>14°55.0 | 330°41.9<br>14°55.8 | 345°41.9<br>14°56.6 | 0°42.0<br>14°57.3 | 15°42.1<br>14°58.1 | 30°42.2<br>14°58.8 | 45°42.2<br>14°59.6 | 60°42.3<br>15°00.4 | 75°42.4<br>15°01.1 | +0.1<br>+0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2033

| J | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 248°45.3<br>11°29.4 | 263°10.9<br>11°38.8 | 277°36.6<br>11°48.2 | 292°02.2<br>11°57.4 | 306°27.8<br>12°06.6 | 320°53.4<br>12°15.7 | 335°19.0<br>12°24.7 | 349°44.6<br>12°33.6 | 4°10.2<br>12°42.4 | 18°35.8<br>12°51.1 | 33°01.4<br>12°59.7 | +25.6<br>+9.0 | 16.5<br>60.5 |
| Sa 2 | 249°25.1<br>14°57.0 | 263°50.7<br>15°04.0 | 278°16.3<br>15°10.9 | 292°41.9<br>15°17.6 | 307°07.5<br>15°24.3 | 321°33.1<br>15°30.9 | 335°58.7<br>15°37.3 | 350°24.4<br>15°43.6 | 4°50.0<br>15°49.8 | 19°15.7<br>15°56.0 | 33°41.3<br>16°01.9 | +25.6<br>+6.5 | 16.3<br>59.7 |
| Di 3 | 250°08.3<br>17°18.2 | 264°34.2<br>17°22.4 | 279°00.2<br>17°26.4 | 293°26.2<br>17°30.4 | 307°52.2<br>17°34.2 | 322°18.3<br>17°37.9 | 336°44.4<br>17°41.5 | 351°10.5<br>17°44.9 | 5°36.7<br>17°48.3 | 20°02.8<br>17°51.5 | 34°29.0<br>17°54.6 | +26.1<br>+3.6 | 16.0<br>58.7 |
| Lu 4 | 251°06.3<br>18°27.5 | 265°33.1<br>18°28.7 | 280°00.0<br>18°29.9 | 294°26.8<br>18°30.9 | 308°53.8<br>18°31.9 | 323°20.8<br>18°32.7 | 337°47.8<br>18°33.4 | 352°14.8<br>18°34.0 | 6°42.0<br>18°34.5 | 21°09.1<br>18°34.9 | 35°36.3<br>18°35.2 | +27.0<br>+0.8 | 15.7<br>57.7 |
| Ma 5 | 252°30.6<br>18°26.4 | 266°58.7<br>18°25.0 | 281°26.8<br>18°23.4 | 295°55.0<br>18°21.8 | 310°23.2<br>18°20.1 | 324°51.5<br>18°18.3 | 339°19.8<br>18°16.4 | 353°48.2<br>18°14.3 | 8°16.6<br>18°12.2 | 22°45.1<br>18°10.0 | 37°13.7<br>18°07.7 | +28.3<br>-1.9 | 15.5<br>56.8 |
| ◐ Me 6 | 254°29.4<br>17°22.0 | 268°59.0<br>17°18.2 | 283°28.6<br>17°14.4 | 297°58.2<br>17°10.5 | 312°27.9<br>17°06.4 | 326°57.7<br>17°02.3 | 341°27.5<br>16°58.2 | 355°57.4<br>16°53.9 | 10°27.4<br>16°49.6 | 24°57.4<br>16°45.1 | 39°27.5<br>16°40.6 | +29.8<br>-4.1 | 15.2<br>55.9 |
| Je 7 | 257°05.9<br>15°24.1 | 271°36.9<br>15°18.4 | 286°08.0<br>15°12.7 | 300°39.1<br>15°06.9 | 315°10.3<br>15°01.0 | 329°41.6<br>14°55.0 | 344°12.9<br>14°49.0 | 358°44.3<br>14°42.9 | 13°15.7<br>14°36.8 | 27°47.2<br>14°30.6 | 42°18.7<br>14°24.3 | +31.3<br>-6.0 | 15.1<br>55.2 |
| Ve 8 | 260°18.1<br>12°43.4 | 274°50.4<br>12°36.2 | 289°22.8<br>12°29.0 | 303°55.3<br>12°21.7 | 318°27.8<br>12°14.4 | 333°00.4<br>12°07.0 | 347°33.0<br>11°59.6 | 2°05.6<br>11°52.1 | 16°38.3<br>11°44.6 | 31°11.0<br>11°37.0 | 45°43.8<br>11°29.4 | +32.6<br>-7.4 | 14.9<br>54.6 |
| Sa 9 | 264°00.4<br>9°30.1 | 278°33.8<br>9°21.9 | 293°07.2<br>9°13.5 | 307°40.7<br>9°05.2 | 322°14.2<br>8°56.8 | 336°47.8<br>8°48.4 | 351°21.4<br>8°40.0 | 5°55.0<br>8°31.5 | 20°28.6<br>8°23.0 | 35°02.3<br>8°14.5 | 49°36.0<br>8°05.9 | +33.6<br>-8.4 | 14.8<br>54.3 |
| Di 10 | 268°04.8<br>5°54.0 | 282°38.9<br>5°45.0 | 297°13.0<br>5°35.9 | 311°47.1<br>5°26.9 | 326°21.3<br>5°17.9 | 340°55.5<br>5°08.8 | 355°29.7<br>4°59.7 | 10°03.9<br>4°50.6 | 24°38.1<br>4°41.4 | 39°12.4<br>4°32.3 | 53°46.6<br>4°23.1 | +34.2<br>-9.1 | 14.7<br>54.0 |
| Lu 11 | 272°22.0<br>2°03.9 | 286°56.4<br>1°54.5 | 301°30.8<br>1°45.1 | 316°05.3<br>1°35.7 | 330°39.7<br>1°26.3 | 345°14.2<br>1°16.9 | 359°48.6<br>1°07.5 | 14°23.0<br>0°58.1 | 28°57.5<br>0°48.7 | 43°31.9<br>0°39.3 | 58°06.4<br>0°29.9 | +34.4<br>-9.4 | 14.7<br>53.9 |
| Ma 12 | 276°42.6<br>-1°51.4 | 291°16.9<br>-2°00.8 | 305°51.3<br>-2°10.2 | 320°25.6<br>-2°19.6 | 335°00.0<br>-2°28.9 | 349°34.3<br>-2°38.3 | 4°08.6<br>-2°47.7 | 18°42.9<br>-2°57.0 | 33°17.2<br>-3°06.3 | 47°51.4<br>-3°15.7 | 62°25.7<br>-3°25.0 | +34.3<br>-9.4 | 14.7<br>54.0 |
| Me 13 | 280°57.3<br>-5°42.9 | 295°31.3<br>-5°52.0 | 310°05.2<br>-6°01.0 | 324°39.1<br>-6°10.0 | 339°12.9<br>-6°19.0 | 353°46.8<br>-6°28.0 | 8°20.6<br>-6°36.9 | 22°54.4<br>-6°45.8 | 37°28.2<br>-6°54.7 | 52°01.9<br>-7°03.6 | 66°35.6<br>-7°12.4 | +33.8<br>-9.0 | 14.8<br>54.1 |
| ○ Je 14 | 284°57.8<br>-9°21.4 | 299°31.0<br>-9°29.7 | 314°04.2<br>-9°38.0 | 328°37.3<br>-9°46.2 | 343°10.4<br>-9°54.5 | 357°43.5<br>-10°02.6 | 12°16.5<br>-10°10.8 | 26°49.5<br>-10°18.9 | 41°22.5<br>-10°26.9 | 55°55.4<br>-10°34.9 | 70°28.3<br>-10°42.9 | +33.1<br>-8.2 | 14.8<br>54.3 |
| Ve 15 | 288°37.0<br>-12°36.8 | 303°09.3<br>-12°44.0 | 317°41.5<br>-12°51.2 | 332°13.6<br>-12°58.3 | 346°45.8<br>-13°05.3 | 1°17.8<br>-13°12.3 | 15°49.9<br>-13°19.2 | 30°21.9<br>-13°26.0 | 44°53.8<br>-13°32.8 | 59°25.7<br>-13°39.6 | 73°57.6<br>-13°46.3 | +32.1<br>-6.9 | 14.9<br>54.6 |
| Sa 16 | 291°50.3<br>-15°19.0 | 306°21.4<br>-15°24.7 | 320°52.5<br>-15°30.3 | 335°23.6<br>-15°35.8 | 349°54.6<br>-15°41.2 | 4°25.6<br>-15°46.6 | 18°56.5<br>-15°51.9 | 33°27.4<br>-15°57.1 | 47°58.2<br>-16°02.2 | 62°29.0<br>-16°07.3 | 76°59.8<br>-16°12.3 | +31.0<br>-5.3 | 15.0<br>55.0 |
| Di 17 | 294°35.8<br>-17°17.9 | 309°05.8<br>-17°21.6 | 323°35.9<br>-17°25.2 | 338°05.8<br>-17°28.8 | 352°35.8<br>-17°32.2 | 7°05.7<br>-17°35.6 | 21°35.5<br>-17°38.9 | 36°05.3<br>-17°42.1 | 50°35.1<br>-17°45.2 | 65°04.8<br>-17°48.2 | 79°34.5<br>-17°51.2 | +29.9<br>-3.3 | 15.1<br>55.5 |
| Lu 18 | 296°55.4<br>-18°24.2 | 311°24.5<br>-18°25.7 | 325°53.6<br>-18°27.0 | 340°22.6<br>-18°28.3 | 354°51.6<br>-18°29.4 | 9°20.6<br>-18°30.5 | 23°49.6<br>-18°31.5 | 38°18.5<br>-18°32.4 | 52°47.4<br>-18°33.1 | 67°16.2<br>-18°33.8 | 81°45.0<br>-18°34.4 | +29.0<br>-1.0 | 15.3<br>56.0 |
| Ma 19 | 311°24.5<br>-18°25.7 | 325°53.6<br>-18°27.0 | 340°22.6<br>-18°28.3 | 354°51.6<br>-18°29.4 | 9°20.6<br>-18°30.5 | 23°49.6<br>-18°31.5 | 38°18.5<br>-18°32.4 | 52°47.4<br>-18°33.1 | 67°16.2<br>-18°33.8 | 81°45.0<br>-18°34.4 | 96°13.8<br>-18°34.8 | +28.9<br>-0.9 | 15.3<br>56.0 |
| Me 20 | 313°22.7<br>-18°29.9 | 327°51.1<br>-18°28.8 | 342°19.5<br>-18°27.6 | 356°47.8<br>-18°26.2 | 11°16.2<br>-18°24.8 | 25°44.5<br>-18°23.2 | 40°12.8<br>-18°21.6 | 54°41.1<br>-18°19.8 | 69°09.3<br>-18°18.0 | 83°37.6<br>-18°16.0 | 98°05.8<br>-18°13.9 | +28.3<br>+1.6 | 15.5<br>56.7 |
| Je 21 | 315°07.7<br>-17°30.6 | 329°35.7<br>-17°26.9 | 344°03.8<br>-17°23.1 | 358°31.8<br>-17°19.2 | 12°59.8<br>-17°15.1 | 27°27.8<br>-17°11.0 | 41°55.8<br>-17°06.8 | 56°23.8<br>-17°02.5 | 70°51.8<br>-16°58.0 | 85°19.7<br>-16°53.5 | 99°47.7<br>-16°48.9 | +28.0<br>+4.2 | 15.6<br>57.3 |
| ◑ Ve 22 | 316°46.8<br>-15°27.6 | 331°14.7<br>-15°21.5 | 345°42.7<br>-15°15.2 | 0°10.6<br>-15°08.8 | 14°38.5<br>-15°02.3 | 29°06.4<br>-14°55.7 | 43°34.3<br>-14°49.1 | 58°02.3<br>-14°42.3 | 72°30.2<br>-14°35.5 | 86°58.1<br>-14°28.5 | 101°26.0<br>-14°21.5 | +27.9<br>+6.6 | 15.8<br>58.1 |
| Sa 23 | 318°24.9<br>-12°25.4 | 332°52.9<br>-12°17.0 | 347°20.8<br>-12°08.5 | 1°48.7<br>-11°59.9 | 16°16.7<br>-11°51.3 | 30°44.6<br>-11°42.5 | 45°12.6<br>-11°33.7 | 59°40.5<br>-11°24.8 | 74°08.4<br>-11°15.9 | 88°36.4<br>-11°06.8 | 103°04.3<br>-10°57.7 | +27.9<br>+8.8 | 16.0<br>58.8 |
| Di 24 | 320°03.3<br>-8°32.5 | 334°31.2<br>-8°22.3 | 348°59.1<br>-8°12.0 | 3°27.0<br>-8°01.7 | 17°54.9<br>-7°51.3 | 32°22.8<br>-7°40.9 | 46°50.7<br>-7°30.4 | 61°18.6<br>-7°19.9 | 75°46.5<br>-7°09.2 | 90°14.3<br>-6°58.6 | 104°42.2<br>-6°47.9 | +27.9<br>+10.5 | 16.2<br>59.6 |
| Lu 25 | 321°39.2<br>-4°01.7 | 336°06.9<br>-3°50.4 | 350°34.6<br>-3°38.9 | 5°02.3<br>-3°27.5 | 19°30.0<br>-3°16.0 | 33°57.7<br>-3°04.5 | 48°25.3<br>-2°52.9 | 62°53.0<br>-2°41.4 | 77°20.6<br>-2°29.8 | 91°48.2<br>-2°18.1 | 106°15.8<br>-2°06.5 | +27.7<br>+11.5 | 16.4<br>60.2 |
| Ma 26 | 323°07.4<br>0°50.0 | 337°34.7<br>1°01.8 | 352°01.9<br>1°13.6 | 6°29.1<br>1°25.5 | 20°56.3<br>1°37.3 | 35°23.5<br>1°49.1 | 49°50.7<br>2°00.9 | 64°17.8<br>2°12.7 | 78°44.9<br>2°24.5 | 93°12.0<br>2°36.3 | 107°39.1<br>2°48.1 | +27.2<br>+11.8 | 16.5<br>60.6 |
| Me 27 | 324°21.7<br>5°42.3 | 338°48.3<br>5°53.7 | 353°14.9<br>6°05.0 | 7°41.4<br>6°16.3 | 22°08.0<br>6°27.6 | 36°34.4<br>6°38.9 | 51°00.9<br>6°50.1 | 65°27.3<br>7°01.2 | 79°53.7<br>7°12.3 | 94°20.1<br>7°23.4 | 108°46.5<br>7°34.4 | +26.5<br>+11.2 | 16.6<br>60.7 |
| Je 28 | 325°18.0<br>10°12.7 | 339°43.9<br>10°22.8 | 354°09.7<br>10°32.8 | 8°35.5<br>10°42.7 | 23°01.3<br>10°52.5 | 37°27.1<br>11°02.2 | 51°52.8<br>11°11.9 | 66°18.5<br>11°21.5 | 80°44.2<br>11°31.0 | 95°09.8<br>11°40.4 | 109°35.4<br>11°49.8 | +25.7<br>+9.7 | 16.5<br>60.6 |
| ● Ve 29 | 325°57.1<br>13°59.4 | 340°22.3<br>14°07.3 | 354°47.6<br>14°15.1 | 9°12.9<br>14°22.8 | 23°38.1<br>14°30.3 | 38°03.3<br>14°37.8 | 52°28.5<br>14°45.2 | 66°53.7<br>14°52.5 | 81°18.9<br>14°59.6 | 95°44.1<br>15°06.7 | 110°09.3<br>15°13.6 | +25.2<br>+7.4 | 16.4<br>60.2 |
| Sa 30 | 326°26.2<br>16°44.4 | 340°51.3<br>16°49.6 | 355°16.4<br>16°54.6 | 9°41.6<br>16°59.5 | 24°06.7<br>17°04.3 | 38°31.9<br>17°08.9 | 52°57.1<br>17°13.5 | 67°22.3<br>17°17.9 | 81°47.5<br>17°22.2 | 96°12.7<br>17°26.4 | 110°37.9<br>17°30.5 | +25.2<br>+4.6 | 16.2<br>59.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 15h13 — PL: 14 19h17 — DQ: 22 11h42 — NL: 29 02h46

# SOLEIL

## Mai 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 270° 43.3<br>15° 10.9 | 285° 43.4<br>15° 11.7 | 300° 43.5<br>15° 12.4 | 315° 43.6<br>15° 13.2 | 330° 43.6<br>15° 13.9 | 345° 43.7<br>15° 14.7 | 0° 43.8<br>15° 15.4 | 15° 43.8<br>15° 16.2 | 30° 43.9<br>15° 16.9 | 45° 44.0<br>15° 17.7 | 60° 44.1<br>15° 18.4 | 75° 44.1<br>15° 19.2 | +0.1<br>+0.8 |
| Lu 2 | 270° 45.0<br>15° 28.9 | 285° 45.1<br>15° 29.6 | 300° 45.2<br>15° 30.4 | 315° 45.2<br>15° 31.1 | 330° 45.3<br>15° 31.8 | 345° 45.3<br>15° 32.6 | 0° 45.4<br>15° 33.3 | 15° 45.5<br>15° 34.1 | 30° 45.5<br>15° 34.8 | 45° 45.6<br>15° 35.5 | 60° 45.7<br>15° 36.3 | 75° 45.7<br>15° 37.0 | +0.1<br>+0.7 |
| Ma 3 | 270° 46.6<br>15° 46.6 | 285° 46.6<br>15° 47.3 | 300° 46.7<br>15° 48.0 | 315° 46.7<br>15° 48.8 | 330° 46.8<br>15° 49.5 | 345° 46.9<br>15° 50.2 | 0° 46.9<br>15° 50.9 | 15° 47.0<br>15° 51.7 | 30° 47.0<br>15° 52.4 | 45° 47.1<br>15° 53.1 | 60° 47.2<br>15° 53.9 | 75° 47.2<br>15° 54.6 | +0.1<br>+0.7 |
| Me 4 | 270° 48.0<br>16° 04.0 | 285° 48.0<br>16° 04.7 | 300° 48.1<br>16° 05.4 | 315° 48.1<br>16° 06.1 | 330° 48.2<br>16° 06.9 | 345° 48.2<br>16° 07.6 | 0° 48.3<br>16° 08.3 | 15° 48.3<br>16° 09.0 | 30° 48.4<br>16° 09.7 | 45° 48.5<br>16° 10.4 | 60° 48.5<br>16° 11.2 | 75° 48.6<br>16° 11.9 | +0.1<br>+0.7 |
| Je 5 | 270° 49.2<br>16° 21.1 | 285° 49.3<br>16° 21.8 | 300° 49.3<br>16° 22.6 | 315° 49.4<br>16° 23.3 | 330° 49.4<br>16° 24.0 | 345° 49.5<br>16° 24.7 | 0° 49.5<br>16° 25.4 | 15° 49.6<br>16° 26.1 | 30° 49.6<br>16° 26.8 | 45° 49.7<br>16° 27.5 | 60° 49.7<br>16° 28.2 | 75° 49.8<br>16° 28.9 | +0.0<br>+0.7 |
| Ve 6 | 270° 50.4<br>16° 38.0 | 285° 50.4<br>16° 38.7 | 300° 50.5<br>16° 39.4 | 315° 50.5<br>16° 40.1 | 330° 50.5<br>16° 40.8 | 345° 50.6<br>16° 41.5 | 0° 50.6<br>16° 42.2 | 15° 50.7<br>16° 42.9 | 30° 50.7<br>16° 43.6 | 45° 50.8<br>16° 44.3 | 60° 50.8<br>16° 45.0 | 75° 50.8<br>16° 45.7 | +0.0<br>+0.7 |
| Sa 7 | 270° 51.4<br>16° 54.6 | 285° 51.4<br>16° 55.3 | 300° 51.4<br>16° 56.0 | 315° 51.5<br>16° 56.7 | 330° 51.5<br>16° 57.4 | 345° 51.6<br>16° 58.0 | 0° 51.6<br>16° 58.7 | 15° 51.6<br>16° 59.4 | 30° 51.7<br>17° 00.1 | 45° 51.7<br>17° 00.8 | 60° 51.7<br>17° 01.4 | 75° 51.8<br>17° 02.1 | +0.0<br>+0.7 |
| Di 8 | 270° 52.2<br>17° 10.9 | 285° 52.3<br>17° 11.6 | 300° 52.3<br>17° 12.3 | 315° 52.3<br>17° 13.0 | 330° 52.4<br>17° 13.6 | 345° 52.4<br>17° 14.3 | 0° 52.4<br>17° 15.0 | 15° 52.4<br>17° 15.6 | 30° 52.5<br>17° 16.3 | 45° 52.5<br>17° 17.0 | 60° 52.5<br>17° 17.6 | 75° 52.6<br>17° 18.3 | +0.0<br>+0.7 |
| Lu 9 | 270° 52.9<br>17° 27.0 | 285° 53.0<br>17° 27.6 | 300° 53.0<br>17° 28.3 | 315° 53.0<br>17° 28.9 | 330° 53.1<br>17° 29.6 | 345° 53.1<br>17° 30.3 | 0° 53.1<br>17° 30.9 | 15° 53.1<br>17° 31.6 | 30° 53.2<br>17° 32.2 | 45° 53.2<br>17° 32.9 | 60° 53.2<br>17° 33.6 | 75° 53.2<br>17° 34.2 | +0.0<br>+0.7 |
| Ma 10 | 270° 53.5<br>17° 42.7 | 285° 53.6<br>17° 43.3 | 300° 53.6<br>17° 44.0 | 315° 53.6<br>17° 44.6 | 330° 53.6<br>17° 45.3 | 345° 53.6<br>17° 45.9 | 0° 53.7<br>17° 46.6 | 15° 53.7<br>17° 47.2 | 30° 53.7<br>17° 47.9 | 45° 53.7<br>17° 48.5 | 60° 53.7<br>17° 49.2 | 75° 53.8<br>17° 49.8 | +0.0<br>+0.6 |
| Me 11 | 270° 54.0<br>17° 58.1 | 285° 54.0<br>17° 58.8 | 300° 54.0<br>17° 59.4 | 315° 54.0<br>18° 00.0 | 330° 54.0<br>18° 00.7 | 345° 54.0<br>18° 01.3 | 0° 54.1<br>18° 02.0 | 15° 54.1<br>18° 02.6 | 30° 54.1<br>18° 03.2 | 45° 54.1<br>18° 03.9 | 60° 54.1<br>18° 04.5 | 75° 54.1<br>18° 05.1 | +0.0<br>+0.6 |
| Je 12 | 270° 54.3<br>18° 13.3 | 285° 54.3<br>18° 13.9 | 300° 54.3<br>18° 14.5 | 315° 54.3<br>18° 15.1 | 330° 54.3<br>18° 15.8 | 345° 54.3<br>18° 16.4 | 0° 54.3<br>18° 17.0 | 15° 54.3<br>18° 17.6 | 30° 54.3<br>18° 18.3 | 45° 54.4<br>18° 18.9 | 60° 54.4<br>18° 19.5 | 75° 54.4<br>18° 20.1 | +0.0<br>+0.6 |
| Ve 13 | 270° 54.4<br>18° 28.1 | 285° 54.4<br>18° 28.7 | 300° 54.4<br>18° 29.3 | 315° 54.5<br>18° 29.9 | 330° 54.5<br>18° 30.5 | 345° 54.5<br>18° 31.2 | 0° 54.5<br>18° 31.8 | 15° 54.5<br>18° 32.4 | 30° 54.5<br>18° 33.0 | 45° 54.5<br>18° 33.6 | 60° 54.5<br>18° 34.2 | 75° 54.5<br>18° 34.8 | +0.0<br>+0.6 |
| Sa 14 | 270° 54.5<br>18° 42.6 | 285° 54.5<br>18° 43.2 | 300° 54.5<br>18° 43.8 | 315° 54.5<br>18° 44.4 | 330° 54.5<br>18° 45.0 | 345° 54.4<br>18° 45.6 | 0° 54.4<br>18° 46.2 | 15° 54.4<br>18° 46.8 | 30° 54.4<br>18° 47.4 | 45° 54.4<br>18° 48.0 | 60° 54.4<br>18° 48.6 | 75° 54.4<br>18° 49.2 | -0.0<br>+0.6 |
| Di 15 | 270° 54.3<br>18° 56.8 | 285° 54.3<br>18° 57.4 | 300° 54.3<br>18° 58.0 | 315° 54.3<br>18° 58.6 | 330° 54.3<br>18° 59.2 | 345° 54.3<br>18° 59.7 | 0° 54.3<br>19° 00.3 | 15° 54.3<br>19° 00.9 | 30° 54.3<br>19° 01.5 | 45° 54.3<br>19° 02.1 | 60° 54.2<br>19° 02.7 | 75° 54.2<br>19° 03.2 | -0.0<br>+0.6 |
| Lu 16 | 270° 54.1<br>19° 10.7 | 285° 54.1<br>19° 11.3 | 300° 54.0<br>19° 11.9 | 315° 54.0<br>19° 12.4 | 330° 54.0<br>19° 13.0 | 345° 54.0<br>19° 13.6 | 0° 54.0<br>19° 14.1 | 15° 54.0<br>19° 14.7 | 30° 54.0<br>19° 15.3 | 45° 53.9<br>19° 15.8 | 60° 53.9<br>19° 16.4 | 75° 53.9<br>19° 17.0 | -0.0<br>+0.6 |
| Ma 17 | 270° 53.7<br>19° 24.3 | 285° 53.7<br>19° 24.8 | 300° 53.6<br>19° 25.4 | 315° 53.6<br>19° 25.9 | 330° 53.6<br>19° 26.5 | 345° 53.6<br>19° 27.1 | 0° 53.6<br>19° 27.6 | 15° 53.5<br>19° 28.2 | 30° 53.5<br>19° 28.7 | 45° 53.5<br>19° 29.3 | 60° 53.5<br>19° 29.8 | 75° 53.4<br>19° 30.4 | -0.0<br>+0.6 |
| Me 18 | 270° 53.1<br>19° 37.5 | 285° 53.1<br>19° 38.0 | 300° 53.1<br>19° 38.6 | 315° 53.0<br>19° 39.1 | 330° 53.0<br>19° 39.7 | 345° 53.0<br>19° 40.2 | 0° 53.0<br>19° 40.8 | 15° 52.9<br>19° 41.3 | 30° 52.9<br>19° 41.8 | 45° 52.9<br>19° 42.4 | 60° 52.9<br>19° 42.9 | 75° 52.8<br>19° 43.4 | -0.0<br>+0.5 |
| Je 19 | 270° 52.4<br>19° 50.4 | 285° 52.4<br>19° 50.9 | 300° 52.4<br>19° 51.4 | 315° 52.3<br>19° 52.0 | 330° 52.3<br>19° 52.5 | 345° 52.3<br>19° 53.0 | 0° 52.2<br>19° 53.6 | 15° 52.2<br>19° 54.1 | 30° 52.2<br>19° 54.6 | 45° 52.1<br>19° 55.1 | 60° 52.1<br>19° 55.7 | 75° 52.1<br>19° 56.2 | -0.0<br>+0.5 |
| Ve 20 | 270° 51.6<br>20° 02.9 | 285° 51.6<br>20° 03.5 | 300° 51.5<br>20° 04.0 | 315° 51.5<br>20° 04.5 | 330° 51.5<br>20° 05.0 | 345° 51.4<br>20° 05.5 | 0° 51.4<br>20° 06.0 | 15° 51.3<br>20° 06.5 | 30° 51.3<br>20° 07.1 | 45° 51.3<br>20° 07.6 | 60° 51.2<br>20° 08.1 | 75° 51.2<br>20° 08.6 | -0.0<br>+0.5 |
| Sa 21 | 270° 50.6<br>20° 15.2 | 285° 50.6<br>20° 15.7 | 300° 50.6<br>20° 16.2 | 315° 50.5<br>20° 16.7 | 330° 50.5<br>20° 17.2 | 345° 50.4<br>20° 17.7 | 0° 50.4<br>20° 18.2 | 15° 50.3<br>20° 18.7 | 30° 50.3<br>20° 19.2 | 45° 50.2<br>20° 19.7 | 60° 50.2<br>20° 20.1 | 75° 50.2<br>20° 20.6 | -0.0<br>+0.5 |
| Di 22 | 270° 49.5<br>20° 27.0 | 285° 49.5<br>20° 27.5 | 300° 49.4<br>20° 28.0 | 315° 49.4<br>20° 28.5 | 330° 49.3<br>20° 29.0 | 345° 49.3<br>20° 29.5 | 0° 49.2<br>20° 29.9 | 15° 49.2<br>20° 30.4 | 30° 49.1<br>20° 30.9 | 45° 49.1<br>20° 31.4 | 60° 49.0<br>20° 31.9 | 75° 49.0<br>20° 32.4 | -0.1<br>+0.5 |
| Lu 23 | 270° 48.3<br>20° 38.5 | 285° 48.2<br>20° 39.0 | 300° 48.2<br>20° 39.5 | 315° 48.1<br>20° 40.0 | 330° 48.1<br>20° 40.4 | 345° 48.0<br>20° 40.9 | 0° 48.0<br>20° 41.4 | 15° 47.9<br>20° 41.8 | 30° 47.9<br>20° 42.3 | 45° 47.8<br>20° 42.8 | 60° 47.7<br>20° 43.2 | 75° 47.7<br>20° 43.7 | -0.1<br>+0.5 |
| Ma 24 | 270° 46.9<br>20° 49.7 | 285° 46.9<br>20° 50.2 | 300° 46.8<br>20° 50.6 | 315° 46.7<br>20° 51.1 | 330° 46.7<br>20° 51.5 | 345° 46.6<br>20° 52.0 | 0° 46.6<br>20° 52.4 | 15° 46.5<br>20° 52.9 | 30° 46.4<br>20° 53.4 | 45° 46.4<br>20° 53.8 | 60° 46.3<br>20° 54.3 | 75° 46.3<br>20° 54.7 | -0.1<br>+0.5 |
| Me 25 | 270° 45.4<br>21° 00.5 | 285° 45.4<br>21° 01.0 | 300° 45.3<br>21° 01.4 | 315° 45.2<br>21° 01.8 | 330° 45.2<br>21° 02.3 | 345° 45.1<br>21° 02.7 | 0° 45.0<br>21° 03.2 | 15° 45.0<br>21° 03.6 | 30° 44.9<br>21° 04.0 | 45° 44.8<br>21° 04.5 | 60° 44.8<br>21° 04.9 | 75° 44.7<br>21° 05.3 | -0.1<br>+0.4 |
| Je 26 | 270° 43.8<br>21° 11.0 | 285° 43.7<br>21° 11.4 | 300° 43.7<br>21° 11.8 | 315° 43.6<br>21° 12.2 | 330° 43.5<br>21° 12.7 | 345° 43.4<br>21° 13.1 | 0° 43.4<br>21° 13.5 | 15° 43.3<br>21° 13.9 | 30° 43.2<br>21° 14.4 | 45° 43.2<br>21° 14.8 | 60° 43.1<br>21° 15.2 | 75° 43.0<br>21° 15.6 | -0.1<br>+0.4 |
| Ve 27 | 270° 42.0<br>21° 21.0 | 285° 42.0<br>21° 21.5 | 300° 41.9<br>21° 21.9 | 315° 41.8<br>21° 22.3 | 330° 41.7<br>21° 22.7 | 345° 41.7<br>21° 23.1 | 0° 41.6<br>21° 23.5 | 15° 41.5<br>21° 23.9 | 30° 41.4<br>21° 24.3 | 45° 41.4<br>21° 24.7 | 60° 41.3<br>21° 25.1 | 75° 41.2<br>21° 25.5 | -0.1<br>+0.4 |
| Sa 28 | 270° 40.2<br>21° 30.7 | 285° 40.1<br>21° 31.1 | 300° 40.0<br>21° 31.5 | 315° 39.9<br>21° 31.9 | 330° 39.9<br>21° 32.3 | 345° 39.8<br>21° 32.7 | 0° 39.7<br>21° 33.1 | 15° 39.6<br>21° 33.5 | 30° 39.5<br>21° 33.9 | 45° 39.4<br>21° 34.3 | 60° 39.4<br>21° 34.7 | 75° 39.3<br>21° 35.1 | -0.1<br>+0.4 |
| Di 29 | 270° 38.2<br>21° 40.1 | 285° 38.1<br>21° 40.5 | 300° 38.0<br>21° 40.8 | 315° 37.9<br>21° 41.2 | 330° 37.9<br>21° 41.6 | 345° 37.8<br>21° 42.0 | 0° 37.7<br>21° 42.4 | 15° 37.6<br>21° 42.7 | 30° 37.5<br>21° 43.1 | 45° 37.4<br>21° 43.5 | 60° 37.3<br>21° 43.9 | 75° 37.2<br>21° 44.2 | -0.1<br>+0.4 |
| Lu 30 | 270° 36.1<br>21° 49.0 | 285° 36.0<br>21° 49.4 | 300° 35.9<br>21° 49.8 | 315° 35.8<br>21° 50.1 | 330° 35.7<br>21° 50.5 | 345° 35.7<br>21° 50.9 | 0° 35.6<br>21° 51.2 | 15° 35.5<br>21° 51.6 | 30° 35.4<br>21° 51.9 | 45° 35.3<br>21° 52.3 | 60° 35.2<br>21° 52.7 | 75° 35.1<br>21° 53.0 | -0.1<br>+0.4 |
| Ma 31 | 270° 33.9<br>21° 57.6 | 285° 33.8<br>21° 58.0 | 300° 33.7<br>21° 58.3 | 315° 33.6<br>21° 58.7 | 330° 33.5<br>21° 59.0 | 345° 33.4<br>21° 59.4 | 0° 33.3<br>21° 59.7 | 15° 33.2<br>22° 00.1 | 30° 33.2<br>22° 00.4 | 45° 33.1<br>22° 00.7 | 60° 33.0<br>22° 01.1 | 75° 32.9<br>22° 01.4 | -0.1<br>+0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 254°51.2 | 269°16.7 | 283°42.2 | 298°07.7 | 312°33.3 | 326°58.8 | 341°24.5 | 355°50.1 | 10°15.8 | 24°41.5 | 39°07.2 | +25.6 | 16.0 |
| | 18°04.5 | 18°07.2 | 18°09.8 | 18°12.3 | 18°14.7 | 18°17.0 | 18°19.1 | 18°21.1 | 18°23.0 | 18°24.8 | 18°26.4 | +2.2 | 58.8 |
| Lu 2 | 255°38.5 | 270°04.9 | 284°31.4 | 298°58.0 | 313°24.6 | 327°51.3 | 342°18.0 | 356°44.8 | 11°11.6 | 25°38.5 | 40°05.4 | +26.7 | 15.8 |
| | 18°37.1 | 18°36.9 | 18°36.5 | 18°36.1 | 18°35.5 | 18°34.9 | 18°34.1 | 18°33.2 | 18°32.2 | 18°31.1 | 18°29.9 | -0.7 | 57.9 |
| Ma 3 | 256°57.0 | 271°24.9 | 285°52.9 | 300°21.0 | 314°49.1 | 329°17.3 | 343°45.6 | 358°14.0 | 12°42.4 | 27°10.9 | 41°39.4 | +28.2 | 15.5 |
| | 17°58.9 | 17°56.1 | 17°53.1 | 17°50.0 | 17°46.9 | 17°43.6 | 17°40.3 | 17°36.8 | 17°33.3 | 17°29.7 | 17°25.9 | -3.3 | 56.9 |
| Me 4 | 258°55.9 | 273°25.6 | 287°55.3 | 302°25.1 | 316°55.0 | 331°24.9 | 345°54.9 | 0°25.0 | 14°55.1 | 29°25.3 | 43°55.6 | +30.0 | 15.3 |
| | 16°19.7 | 16°14.7 | 16°09.5 | 16°04.3 | 15°59.0 | 15°53.6 | 15°48.2 | 15°42.7 | 15°37.1 | 15°31.4 | 15°25.7 | -5.4 | 56.1 |
| Je 5 | 261°37.6 | 276°08.9 | 290°40.3 | 305°11.7 | 319°43.2 | 334°14.8 | 348°46.4 | 3°18.1 | 17°49.8 | 32°21.6 | 46°53.5 | +31.6 | 15.1 |
| | 13°51.6 | 13°44.8 | 13°38.0 | 13°31.1 | 13°24.2 | 13°17.2 | 13°10.1 | 13°03.0 | 12°55.8 | 12°48.6 | 12°41.4 | -7.0 | 55.3 |
| ◐ Ve 6 | 264°57.9 | 279°30.7 | 294°03.4 | 308°36.2 | 323°09.1 | 337°42.0 | 352°14.9 | 6°47.9 | 21°21.0 | 35°54.0 | 50°27.2 | +32.9 | 14.9 |
| | 10°46.6 | 10°38.6 | 10°30.5 | 10°22.4 | 10°14.3 | 10°06.2 | 9°57.9 | 9°49.7 | 9°41.4 | 9°33.1 | 9°24.8 | -8.2 | 54.7 |
| Sa 7 | 268°48.8 | 283°22.6 | 297°56.3 | 312°30.1 | 327°03.9 | 341°37.8 | 356°11.7 | 10°45.6 | 25°19.5 | 39°53.5 | 54°27.5 | +33.9 | 14.8 |
| | 7°15.7 | 7°06.8 | 6°58.0 | 6°49.1 | 6°40.2 | 6°31.3 | 6°22.3 | 6°13.3 | 6°04.3 | 5°55.3 | 5°46.2 | -8.9 | 54.3 |
| Di 8 | 273°00.0 | 287°34.3 | 302°08.6 | 316°43.0 | 331°17.3 | 345°51.7 | 0°26.0 | 15°00.4 | 29°34.8 | 44°09.2 | 58°43.6 | +34.4 | 14.8 |
| | 3°28.4 | 3°19.1 | 3°09.8 | 3°00.5 | 2°51.2 | 2°41.8 | 2°32.5 | 2°23.1 | 2°13.7 | 2°04.3 | 1°54.9 | -9.4 | 54.1 |
| Lu 9 | 277°20.3 | 291°54.7 | 306°29.2 | 321°03.6 | 335°38.0 | 350°12.5 | 4°46.9 | 19°21.3 | 33°55.7 | 48°30.1 | 63°04.5 | +34.4 | 14.7 |
| | -0°26.5 | -0°35.9 | -0°45.4 | -0°54.8 | -1°04.2 | -1°13.7 | -1°23.1 | -1°32.5 | -1°41.9 | -1°51.3 | -2°00.7 | -9.4 | 54.1 |
| Ma 10 | 281°38.7 | 296°12.8 | 310°47.0 | 325°21.1 | 339°55.2 | 354°29.2 | 9°03.3 | 23°37.3 | 38°11.3 | 52°45.3 | 67°19.2 | +34.1 | 14.8 |
| | -4°20.8 | -4°30.0 | -4°39.2 | -4°48.4 | -4°57.6 | -5°06.8 | -5°16.0 | -5°25.1 | -5°34.2 | -5°43.3 | -5°52.4 | -9.2 | 54.2 |
| Me 11 | 285°44.9 | 300°18.4 | 314°51.8 | 329°25.2 | 343°58.6 | 358°31.9 | 13°05.2 | 27°38.5 | 42°11.7 | 56°44.8 | 71°18.0 | +33.3 | 14.8 |
| | -8°05.7 | -8°14.4 | -8°23.1 | -8°31.7 | -8°40.3 | -8°48.8 | -8°57.3 | -9°05.8 | -9°14.3 | -9°22.7 | -9°31.0 | -8.5 | 54.4 |
| Je 12 | 289°30.1 | 304°02.6 | 318°35.0 | 333°07.4 | 347°39.7 | 2°12.0 | 16°44.3 | 31°16.5 | 45°48.6 | 60°20.7 | 74°52.8 | +32.3 | 14.9 |
| | -11°31.9 | -11°39.7 | -11°47.3 | -11°54.9 | -12°02.5 | -12°10.0 | -12°17.5 | -12°24.9 | -12°32.3 | -12°39.6 | -12°46.9 | -7.5 | 54.7 |
| Ve 13 | 292°47.8 | 307°19.1 | 321°50.3 | 336°21.5 | 350°52.6 | 5°23.7 | 19°54.7 | 34°25.7 | 48°56.6 | 63°27.5 | 77°58.3 | +31.1 | 15.0 |
| | -14°29.0 | -14°35.3 | -14°41.6 | -14°47.8 | -14°53.9 | -14°59.9 | -15°05.9 | -15°11.9 | -15°17.7 | -15°23.5 | -15°29.2 | -6.0 | 55.1 |
| ○ Sa 14 | 295°34.9 | 310°04.9 | 324°34.9 | 339°04.9 | 353°34.8 | 8°04.6 | 22°34.5 | 37°04.2 | 51°34.0 | 66°03.6 | 80°33.3 | +29.8 | 15.2 |
| | -16°46.0 | -16°50.5 | -16°54.9 | -16°59.2 | -17°03.5 | -17°07.6 | -17°11.7 | -17°15.7 | -17°19.6 | -17°23.5 | -17°27.2 | -4.1 | 55.6 |
| Di 15 | 297°52.8 | 312°21.7 | 326°50.7 | 341°19.6 | 355°48.5 | 10°17.3 | 24°46.1 | 39°14.9 | 53°43.6 | 68°12.3 | 82°41.0 | +28.8 | 15.3 |
| | -18°12.5 | -18°14.8 | -18°17.0 | -18°19.1 | -18°21.1 | -18°23.0 | -18°24.8 | -18°26.5 | -18°28.1 | -18°29.6 | -18°31.0 | -1.8 | 56.1 |
| Lu 16 | 299°47.6 | 314°15.9 | 328°44.1 | 343°12.3 | 357°40.5 | 12°08.6 | 26°36.8 | 41°04.9 | 55°33.0 | 70°01.1 | 84°29.2 | +28.2 | 15.4 |
| | -18°40.0 | -18°39.8 | -18°39.5 | -18°39.1 | -18°38.6 | -18°37.9 | -18°37.2 | -18°36.4 | -18°35.4 | -18°34.4 | -18°33.2 | +0.7 | 56.6 |
| Ma 17 | 301°29.0 | 315°56.9 | 330°24.8 | 344°52.7 | 359°20.6 | 13°48.5 | 28°16.4 | 42°44.4 | 57°12.3 | 71°40.2 | 86°08.1 | +27.9 | 15.6 |
| | -18°03.5 | -18°00.7 | -17°57.8 | -17°54.7 | -17°51.6 | -17°48.4 | -17°45.0 | -17°41.6 | -17°38.1 | -17°34.4 | -17°30.7 | +3.3 | 57.1 |
| Me 18 | 315°56.9 | 330°24.8 | 344°52.7 | 359°20.6 | 13°48.5 | 28°16.4 | 42°44.4 | 57°12.3 | 71°40.2 | 86°08.1 | 100°36.0 | +27.9 | 15.6 |
| | -18°00.7 | -17°57.8 | -17°54.7 | -17°51.6 | -17°48.4 | -17°45.0 | -17°41.6 | -17°38.1 | -17°34.4 | -17°30.7 | -17°26.8 | +3.4 | 57.1 |
| Je 19 | 317°35.0 | 332°03.0 | 346°31.0 | 0°59.0 | 15°27.1 | 29°55.1 | 44°23.1 | 58°51.2 | 73°19.2 | 87°47.3 | 102°15.4 | +28.0 | 15.7 |
| | -16°17.1 | -16°11.7 | -16°06.1 | -16°00.5 | -15°54.8 | -15°49.0 | -15°43.0 | -15°37.0 | -15°30.9 | -15°24.7 | -15°18.5 | +5.9 | 57.7 |
| Ve 20 | 319°18.1 | 333°46.4 | 348°14.7 | 2°43.0 | 17°11.3 | 31°39.7 | 46°08.0 | 60°36.4 | 75°04.8 | 89°33.2 | 104°01.6 | +28.3 | 15.9 |
| | -13°33.5 | -13°25.9 | -13°18.1 | -13°10.2 | -13°02.3 | -12°54.3 | -12°46.2 | -12°38.1 | -12°29.8 | -12°21.5 | -12°13.1 | +8.0 | 58.2 |
| ◑ Sa 21 | 321°09.2 | 335°37.8 | 350°06.4 | 4°35.1 | 19°03.7 | 33°32.3 | 48°01.0 | 62°29.6 | 76°58.3 | 91°27.0 | 105°55.6 | +28.6 | 16.0 |
| | -9°58.7 | -9°49.2 | -9°39.6 | -9°30.0 | -9°20.3 | -9°10.6 | -9°00.8 | -8°50.9 | -8°41.0 | -8°31.0 | -8°21.0 | +9.8 | 58.7 |
| Di 22 | 323°06.4 | 337°35.1 | 352°03.8 | 6°32.6 | 21°01.3 | 35°30.0 | 49°58.8 | 64°27.5 | 78°56.2 | 93°24.9 | 107°53.6 | +28.7 | 16.1 |
| | -5°44.5 | -5°33.7 | -5°22.9 | -5°12.1 | -5°01.2 | -4°50.2 | -4°39.3 | -4°28.3 | -4°17.2 | -4°06.2 | -3°55.1 | +11.0 | 59.2 |
| Lu 23 | 325°03.4 | 339°31.9 | 354°00.5 | 8°29.0 | 22°57.5 | 37°26.0 | 51°54.5 | 66°23.0 | 80°51.4 | 95°19.8 | 109°48.2 | +28.5 | 16.2 |
| | -1°05.7 | -0°54.3 | -0°42.9 | -0°31.4 | -0°19.9 | -0°08.5 | 0°03.0 | 0°14.5 | 0°26.0 | 0°37.5 | 0°49.0 | +11.5 | 59.6 |
| Ma 24 | 326°51.7 | 341°19.8 | 355°47.8 | 10°15.7 | 24°43.7 | 39°11.6 | 53°39.5 | 68°07.4 | 82°35.2 | 97°03.0 | 111°30.8 | +27.9 | 16.3 |
| | 3°40.8 | 3°52.1 | 4°03.5 | 4°14.8 | 4°26.1 | 4°37.4 | 4°48.6 | 4°59.8 | 5°11.0 | 5°22.2 | 5°33.3 | +11.3 | 59.8 |
| Me 25 | 328°23.3 | 342°50.5 | 357°17.7 | 11°44.8 | 26°11.9 | 40°39.0 | 55°06.0 | 69°33.0 | 84°00.0 | 98°26.9 | 112°53.8 | +27.1 | 16.3 |
| | 8°16.1 | 8°26.6 | 8°37.1 | 8°47.5 | 8°57.8 | 9°08.1 | 9°18.3 | 9°28.5 | 9°38.6 | 9°48.7 | 9°58.7 | +10.3 | 59.9 |
| Je 26 | 329°32.8 | 343°59.1 | 358°25.3 | 12°51.6 | 27°17.8 | 41°44.0 | 56°10.1 | 70°36.2 | 85°02.3 | 99°28.3 | 113°54.3 | +26.2 | 16.3 |
| | 12°20.4 | 12°29.3 | 12°38.1 | 12°46.8 | 12°55.4 | 13°03.9 | 13°12.3 | 13°20.7 | 13°28.9 | 13°37.1 | 13°45.2 | +8.5 | 59.8 |
| Ve 27 | 330°21.1 | 344°46.6 | 359°12.2 | 13°37.7 | 28°03.3 | 42°28.8 | 56°54.3 | 71°19.7 | 85°45.2 | 100°10.6 | 114°36.1 | +25.5 | 16.2 |
| | 15°34.8 | 15°41.3 | 15°47.7 | 15°54.0 | 16°00.2 | 16°06.2 | 16°12.2 | 16°18.1 | 16°23.8 | 16°29.4 | 16°35.0 | +6.0 | 59.5 |
| ● Sa 28 | 330°56.6 | 345°22.0 | 359°47.3 | 14°12.7 | 28°38.1 | 43°03.4 | 57°28.8 | 71°54.2 | 86°19.6 | 100°45.1 | 115°10.5 | +25.4 | 16.1 |
| | 17°44.0 | 17°47.7 | 17°51.2 | 17°54.7 | 17°58.0 | 18°01.2 | 18°04.2 | 18°07.2 | 18°10.0 | 18°12.7 | 18°15.3 | +3.1 | 59.0 |
| Di 29 | 331°34.6 | 346°00.4 | 0°26.2 | 14°52.1 | 29°18.0 | 43°44.0 | 58°10.0 | 72°36.0 | 87°02.1 | 101°28.2 | 115°54.4 | +26.0 | 15.9 |
| | 18°39.7 | 18°40.4 | 18°40.9 | 18°41.3 | 18°41.7 | 18°41.8 | 18°41.9 | 18°41.9 | 18°41.7 | 18°41.5 | 18°41.1 | +0.1 | 58.3 |
| Lu 30 | 332°32.5 | 346°59.5 | 1°26.5 | 15°53.6 | 30°20.7 | 44°47.9 | 59°15.2 | 73°42.5 | 88°09.9 | 102°37.3 | 117°04.8 | +27.2 | 15.7 |
| | 18°21.7 | 18°19.5 | 18°17.2 | 18°14.8 | 18°12.3 | 18°09.8 | 18°07.1 | 18°04.3 | 18°01.4 | 17°58.4 | 17°55.3 | -2.6 | 57.5 |
| Ma 31 | 334°05.2 | 348°33.7 | 3°02.4 | 17°31.1 | 31°59.8 | 46°28.7 | 60°57.6 | 75°26.6 | 89°55.6 | 104°24.7 | 118°53.9 | +28.9 | 15.5 |
| | 16°57.2 | 16°52.6 | 16°47.9 | 16°43.1 | 16°38.2 | 16°33.3 | 16°28.3 | 16°23.2 | 16°18.0 | 16°12.7 | 16°07.3 | -5.0 | 56.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 6 06h45 — PL: 14 10h42 — DQ: 21 18h29 — NL: 28 11h36

# SOLEIL

## Juin 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 270°31.6 | 285°31.5 | 300°31.4 | 315°31.3 | 330°31.2 | 345°31.1 | 0°31.0 | 15°30.9 | 30°30.8 | 45°30.7 | 60°30.6 | 75°30.5 | -0.1 |
| | 22°05.8 | 22°06.2 | 22°06.5 | 22°06.8 | 22°07.2 | 22°07.5 | 22°07.8 | 22°08.1 | 22°08.5 | 22°08.8 | 22°09.1 | 22°09.5 | +0.3 |
| Je 2 | 270°29.2 | 285°29.1 | 300°29.0 | 315°28.9 | 330°28.8 | 345°28.7 | 0°28.6 | 15°28.5 | 30°28.4 | 45°28.3 | 60°28.2 | 75°28.1 | -0.1 |
| | 22°13.6 | 22°14.0 | 22°14.3 | 22°14.6 | 22°14.9 | 22°15.2 | 22°15.5 | 22°15.8 | 22°16.2 | 22°16.5 | 22°16.8 | 22°17.1 | +0.3 |
| Ve 3 | 270°26.8 | 285°26.6 | 300°26.5 | 315°26.4 | 330°26.3 | 345°26.2 | 0°26.1 | 15°26.0 | 30°25.9 | 45°25.8 | 60°25.7 | 75°25.6 | -0.1 |
| | 22°21.1 | 22°21.4 | 22°21.7 | 22°22.0 | 22°22.3 | 22°22.6 | 22°22.9 | 22°23.2 | 22°23.4 | 22°23.7 | 22°24.0 | 22°24.3 | +0.3 |
| Sa 4 | 270°24.2 | 285°24.1 | 300°24.0 | 315°23.9 | 330°23.8 | 345°23.6 | 0°23.5 | 15°23.4 | 30°23.3 | 45°23.2 | 60°23.1 | 75°23.0 | -0.1 |
| | 22°28.1 | 22°28.4 | 22°28.7 | 22°28.9 | 22°29.2 | 22°29.5 | 22°29.8 | 22°30.1 | 22°30.3 | 22°30.6 | 22°30.9 | 22°31.2 | +0.3 |
| Di 5 | 270°21.6 | 285°21.4 | 300°21.3 | 315°21.2 | 330°21.1 | 345°21.0 | 0°20.9 | 15°20.8 | 30°20.7 | 45°20.5 | 60°20.4 | 75°20.3 | -0.1 |
| | 22°34.7 | 22°35.0 | 22°35.3 | 22°35.5 | 22°35.8 | 22°36.1 | 22°36.3 | 22°36.6 | 22°36.9 | 22°37.1 | 22°37.4 | 22°37.6 | +0.3 |
| Lu 6 | 270°18.8 | 285°18.7 | 300°18.6 | 315°18.5 | 330°18.4 | 345°18.3 | 0°18.1 | 15°18.0 | 30°17.9 | 45°17.8 | 60°17.7 | 75°17.6 | -0.1 |
| | 22°41.0 | 22°41.2 | 22°41.5 | 22°41.7 | 22°42.0 | 22°42.2 | 22°42.5 | 22°42.7 | 22°43.0 | 22°43.2 | 22°43.5 | 22°43.7 | +0.2 |
| Ma 7 | 270°16.1 | 285°15.9 | 300°15.8 | 315°15.7 | 330°15.6 | 345°15.5 | 0°15.3 | 15°15.2 | 30°15.1 | 45°15.0 | 60°14.9 | 75°14.8 | -0.1 |
| | 22°46.8 | 22°47.1 | 22°47.3 | 22°47.5 | 22°47.8 | 22°48.0 | 22°48.2 | 22°48.4 | 22°48.7 | 22°48.9 | 22°49.1 | 22°49.4 | +0.2 |
| Me 8 | 270°13.2 | 285°13.1 | 300°13.0 | 315°12.8 | 330°12.7 | 345°12.6 | 0°12.5 | 15°12.4 | 30°12.2 | 45°12.1 | 60°12.0 | 75°11.9 | -0.1 |
| | 22°52.3 | 22°52.5 | 22°52.7 | 22°52.9 | 22°53.1 | 22°53.3 | 22°53.6 | 22°53.8 | 22°54.0 | 22°54.2 | 22°54.4 | 22°54.6 | +0.2 |
| Je 9 | 270°10.3 | 285°10.2 | 300°10.0 | 315°09.9 | 330°09.8 | 345°09.7 | 0°09.6 | 15°09.4 | 30°09.3 | 45°09.2 | 60°09.1 | 75°08.9 | -0.1 |
| | 22°57.3 | 22°57.5 | 22°57.7 | 22°57.9 | 22°58.1 | 22°58.3 | 22°58.5 | 22°58.7 | 22°58.9 | 22°59.1 | 22°59.3 | 22°59.5 | +0.2 |
| Ve 10 | 270°07.3 | 285°07.2 | 300°07.1 | 315°07.0 | 330°06.8 | 345°06.7 | 0°06.6 | 15°06.5 | 30°06.3 | 45°06.2 | 60°06.1 | 75°05.9 | -0.1 |
| | 23°01.9 | 23°02.1 | 23°02.3 | 23°02.5 | 23°02.7 | 23°02.9 | 23°03.0 | 23°03.2 | 23°03.4 | 23°03.6 | 23°03.8 | 23°03.9 | +0.2 |
| Sa 11 | 270°04.3 | 285°04.2 | 300°04.1 | 315°03.9 | 330°03.8 | 345°03.7 | 0°03.5 | 15°03.4 | 30°03.3 | 45°03.2 | 60°03.0 | 75°02.9 | -0.1 |
| | 23°06.2 | 23°06.3 | 23°06.5 | 23°06.7 | 23°06.8 | 23°07.0 | 23°07.2 | 23°07.3 | 23°07.5 | 23°07.7 | 23°07.8 | 23°08.0 | +0.2 |
| Di 12 | 270°01.2 | 285°01.1 | 300°01.0 | 315°00.9 | 330°00.7 | 345°00.6 | 0°00.5 | 15°00.3 | 30°00.2 | 45°00.1 | 60°00.0 | 74°59.8 | -0.1 |
| | 23°10.0 | 23°10.1 | 23°10.3 | 23°10.4 | 23°10.6 | 23°10.7 | 23°10.9 | 23°11.0 | 23°11.2 | 23°11.3 | 23°11.5 | 23°11.6 | +0.1 |
| Lu 13 | 269°58.1 | 284°58.0 | 299°57.9 | 314°57.7 | 329°57.6 | 344°57.5 | 359°57.4 | 14°57.2 | 29°57.1 | 44°57.0 | 59°56.8 | 74°56.7 | -0.1 |
| | 23°13.4 | 23°13.5 | 23°13.7 | 23°13.8 | 23°13.9 | 23°14.1 | 23°14.2 | 23°14.3 | 23°14.5 | 23°14.6 | 23°14.7 | 23°14.8 | +0.1 |
| Ma 14 | 269°55.0 | 284°54.9 | 299°54.7 | 314°54.6 | 329°54.5 | 344°54.3 | 359°54.2 | 14°54.1 | 29°53.9 | 44°53.8 | 59°53.7 | 74°53.5 | -0.1 |
| | 23°16.4 | 23°16.5 | 23°16.7 | 23°16.8 | 23°16.9 | 23°17.0 | 23°17.1 | 23°17.2 | 23°17.3 | 23°17.4 | 23°17.6 | 23°17.7 | +0.1 |
| Me 15 | 269°51.8 | 284°51.7 | 299°51.5 | 314°51.4 | 329°51.3 | 344°51.1 | 359°51.0 | 14°50.9 | 29°50.7 | 44°50.6 | 59°50.5 | 74°50.3 | -0.1 |
| | 23°19.0 | 23°19.1 | 23°19.2 | 23°19.3 | 23°19.4 | 23°19.5 | 23°19.6 | 23°19.7 | 23°19.8 | 23°19.9 | 23°20.0 | 23°20.1 | +0.1 |
| Je 16 | 269°48.6 | 284°48.5 | 299°48.3 | 314°48.2 | 329°48.1 | 344°47.9 | 359°47.8 | 14°47.7 | 29°47.5 | 44°47.4 | 59°47.3 | 74°47.1 | -0.1 |
| | 23°21.2 | 23°21.3 | 23°21.4 | 23°21.4 | 23°21.5 | 23°21.6 | 23°21.7 | 23°21.8 | 23°21.8 | 23°21.9 | 23°22.0 | 23°22.1 | +0.1 |
| Ve 17 | 269°45.4 | 284°45.2 | 299°45.1 | 314°45.0 | 329°44.8 | 344°44.7 | 359°44.6 | 14°44.4 | 29°44.3 | 44°44.2 | 59°44.0 | 74°43.9 | -0.1 |
| | 23°23.0 | 23°23.0 | 23°23.1 | 23°23.2 | 23°23.2 | 23°23.3 | 23°23.4 | 23°23.4 | 23°23.5 | 23°23.5 | 23°23.6 | 23°23.6 | +0.1 |
| Sa 18 | 269°42.1 | 284°42.0 | 299°41.9 | 314°41.7 | 329°41.6 | 344°41.4 | 359°41.3 | 14°41.2 | 29°41.0 | 44°40.9 | 59°40.8 | 74°40.6 | -0.1 |
| | 23°24.3 | 23°24.4 | 23°24.4 | 23°24.5 | 23°24.5 | 23°24.6 | 23°24.6 | 23°24.7 | 23°24.7 | 23°24.7 | 23°24.8 | 23°24.8 | +0.0 |
| Di 19 | 269°38.9 | 284°38.7 | 299°38.6 | 314°38.5 | 329°38.3 | 344°38.2 | 359°38.0 | 14°37.9 | 29°37.8 | 44°37.6 | 59°37.5 | 74°37.4 | -0.1 |
| | 23°25.3 | 23°25.3 | 23°25.3 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.6 | 23°25.6 | +0.0 |
| Lu 20 | 269°35.6 | 284°35.5 | 299°35.3 | 314°35.2 | 329°35.0 | 344°34.9 | 359°34.8 | 14°34.6 | 29°34.5 | 44°34.4 | 59°34.2 | 74°34.1 | -0.1 |
| | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | +0.0 |
| Ma 21 | 269°32.3 | 284°32.2 | 299°32.1 | 314°31.9 | 329°31.8 | 344°31.6 | 359°31.5 | 14°31.4 | 29°31.2 | 44°31.1 | 59°31.0 | 74°30.8 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.8 | -0.0 |
| Me 22 | 269°29.1 | 284°28.9 | 299°28.8 | 314°28.6 | 329°28.5 | 344°28.4 | 359°28.2 | 14°28.1 | 29°28.0 | 44°27.8 | 59°27.7 | 74°27.6 | -0.1 |
| | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.5 | 23°25.4 | 23°25.4 | 23°25.4 | 23°25.4 | -0.0 |
| Je 23 | 269°25.8 | 284°25.7 | 299°25.5 | 314°25.4 | 329°25.3 | 344°25.1 | 359°25.0 | 14°24.8 | 29°24.7 | 44°24.6 | 59°24.4 | 74°24.3 | -0.1 |
| | 23°24.9 | 23°24.9 | 23°24.8 | 23°24.8 | 23°24.8 | 23°24.7 | 23°24.7 | 23°24.6 | 23°24.6 | 23°24.6 | 23°24.5 | 23°24.5 | -0.0 |
| Ve 24 | 269°22.6 | 284°22.4 | 299°22.3 | 314°22.2 | 329°22.0 | 344°21.9 | 359°21.7 | 14°21.6 | 29°21.5 | 44°21.3 | 59°21.2 | 74°21.1 | -0.1 |
| | 23°23.8 | 23°23.8 | 23°23.7 | 23°23.6 | 23°23.6 | 23°23.5 | 23°23.5 | 23°23.4 | 23°23.3 | 23°23.3 | 23°23.2 | 23°23.2 | -0.1 |
| Sa 25 | 269°19.3 | 284°19.2 | 299°19.1 | 314°18.9 | 329°18.8 | 344°18.7 | 359°18.5 | 14°18.4 | 29°18.3 | 44°18.1 | 59°18.0 | 74°17.9 | -0.1 |
| | 23°22.3 | 23°22.2 | 23°22.1 | 23°22.1 | 23°22.0 | 23°21.9 | 23°21.8 | 23°21.7 | 23°21.7 | 23°21.6 | 23°21.5 | 23°21.4 | -0.1 |
| Di 26 | 269°16.2 | 284°16.0 | 299°15.9 | 314°15.8 | 329°15.6 | 344°15.5 | 359°15.4 | 14°15.2 | 29°15.1 | 44°15.0 | 59°14.8 | 74°14.7 | -0.1 |
| | 23°20.3 | 23°20.2 | 23°20.1 | 23°20.1 | 23°20.0 | 23°19.9 | 23°19.8 | 23°19.7 | 23°19.6 | 23°19.5 | 23°19.4 | 23°19.3 | -0.1 |
| Lu 27 | 269°13.0 | 284°12.9 | 299°12.7 | 314°12.6 | 329°12.5 | 344°12.4 | 359°12.2 | 14°12.1 | 29°12.0 | 44°11.8 | 59°11.7 | 74°11.6 | -0.1 |
| | 23°18.0 | 23°17.9 | 23°17.8 | 23°17.7 | 23°17.5 | 23°17.4 | 23°17.3 | 23°17.2 | 23°17.1 | 23°17.0 | 23°16.9 | 23°16.8 | -0.1 |
| Ma 28 | 269°09.9 | 284°09.8 | 299°09.6 | 314°09.5 | 329°09.4 | 344°09.3 | 359°09.1 | 14°09.0 | 29°08.9 | 44°08.8 | 59°08.6 | 74°08.5 | -0.1 |
| | 23°15.2 | 23°15.1 | 23°15.0 | 23°14.8 | 23°14.7 | 23°14.6 | 23°14.5 | 23°14.3 | 23°14.2 | 23°14.1 | 23°13.9 | 23°13.8 | -0.1 |
| Me 29 | 269°06.9 | 284°06.7 | 299°06.6 | 314°06.5 | 329°06.3 | 344°06.2 | 359°06.1 | 14°06.0 | 29°05.8 | 44°05.7 | 59°05.6 | 74°05.5 | -0.1 |
| | 23°12.0 | 23°11.9 | 23°11.8 | 23°11.6 | 23°11.5 | 23°11.3 | 23°11.2 | 23°11.0 | 23°10.9 | 23°10.8 | 23°10.6 | 23°10.5 | -0.1 |
| Je 30 | 269°03.9 | 284°03.7 | 299°03.6 | 314°03.5 | 329°03.4 | 344°03.2 | 359°03.1 | 14°03.0 | 29°02.9 | 44°02.8 | 59°02.6 | 74°02.5 | -0.1 |
| | 23°08.5 | 23°08.3 | 23°08.2 | 23°08.0 | 23°07.8 | 23°07.7 | 23°07.5 | 23°07.3 | 23°07.2 | 23°07.0 | 23°06.9 | 23°06.7 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2033

| J | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 249°19.8<br>15°15.7 | 263°49.6<br>15°09.6 | 278°19.6<br>15°03.4 | 292°49.6<br>14°57.2 | 307°19.7<br>14°50.9 | 321°49.9<br>14°44.5 | 336°20.1<br>14°38.0 | 350°50.4<br>14°31.5 | 5°20.8<br>14°24.9 | 19°51.2<br>14°18.3 | 34°21.7<br>14°11.6 | +30.2<br>-6.4 | 15.3<br>56.1 |
| Je 2 | 252°07.3<br>12°23.9 | 266°38.8<br>12°16.3 | 281°10.4<br>12°08.6 | 295°42.1<br>12°00.9 | 310°13.8<br>11°53.2 | 324°45.6<br>11°45.4 | 339°17.5<br>11°37.5 | 353°49.4<br>11°29.6 | 8°21.3<br>11°21.7 | 22°53.3<br>11°13.7 | 37°25.4<br>11°05.7 | +31.8<br>-7.8 | 15.1<br>55.4 |
| Ve 3 | 255°33.1<br>9°00.5 | 270°06.0<br>8°51.8 | 284°39.0<br>8°43.2 | 299°12.0<br>8°34.5 | 313°45.0<br>8°25.8 | 328°18.1<br>8°17.0 | 342°51.2<br>8°08.2 | 357°24.4<br>7°59.4 | 11°57.6<br>7°50.6 | 26°30.9<br>7°41.7 | 41°04.2<br>7°32.8 | +33.1<br>-8.8 | 15.0<br>54.8 |
| ◐ Sa 4 | 259°28.3<br>5°16.7 | 274°02.1<br>5°07.5 | 288°36.0<br>4°58.2 | 303°10.0<br>4°48.9 | 317°43.9<br>4°39.7 | 332°17.9<br>4°30.4 | 346°51.9<br>4°21.1 | 1°25.9<br>4°11.7 | 15°59.9<br>4°02.4 | 30°34.0<br>3°53.1 | 45°08.1<br>3°43.7 | +34.0<br>-9.3 | 14.8<br>54.4 |
| Di 5 | 263°41.7<br>1°22.2 | 278°16.0<br>1°12.8 | 292°50.4<br>1°03.3 | 307°24.8<br>0°53.8 | 321°59.1<br>0°44.3 | 336°33.5<br>0°34.8 | 351°07.9<br>0°25.3 | 5°42.3<br>0°15.9 | 20°16.7<br>0°06.4 | 34°51.1<br>-0°03.1 | 49°25.5<br>-0°12.6 | +34.4<br>-9.5 | 14.8<br>54.2 |
| Lu 6 | 268°01.4<br>-2°34.4 | 282°35.8<br>-2°43.8 | 297°10.1<br>-2°53.2 | 311°44.4<br>-3°02.5 | 326°18.7<br>-3°11.9 | 340°53.1<br>-3°21.2 | 355°27.3<br>-3°30.6 | 10°01.6<br>-3°39.9 | 24°35.9<br>-3°49.2 | 39°10.1<br>-3°58.5 | 53°44.4<br>-4°07.8 | +34.3<br>-9.3 | 14.8<br>54.2 |
| Ma 7 | 272°15.5<br>-6°25.0 | 286°49.4<br>-6°34.0 | 301°23.3<br>-6°43.0 | 315°57.1<br>-6°51.9 | 330°30.9<br>-7°00.8 | 345°04.7<br>-7°09.7 | 359°38.4<br>-7°18.6 | 14°12.2<br>-7°27.4 | 28°45.8<br>-7°36.2 | 43°19.5<br>-7°45.0 | 57°53.1<br>-7°53.7 | +33.8<br>-8.9 | 14.8<br>54.3 |
| Me 8 | 276°13.0<br>-10°01.2 | 290°46.0<br>-10°09.4 | 305°19.0<br>-10°17.6 | 319°51.9<br>-10°25.8 | 334°24.8<br>-10°33.9 | 348°57.6<br>-10°41.9 | 3°30.4<br>-10°49.9 | 18°03.2<br>-10°57.9 | 32°35.9<br>-11°05.8 | 47°08.5<br>-11°13.7 | 61°41.2<br>-11°21.6 | +32.8<br>-8.0 | 14.9<br>54.6 |
| Je 9 | 279°44.5<br>-13°13.5 | 294°16.3<br>-13°20.5 | 308°48.0<br>-13°27.5 | 323°19.7<br>-13°34.5 | 337°51.4<br>-13°41.3 | 352°23.0<br>-13°48.1 | 6°54.5<br>-13°54.9 | 21°26.0<br>-14°01.6 | 35°57.4<br>-14°08.3 | 50°28.8<br>-14°14.8 | 65°00.2<br>-14°21.3 | +31.6<br>-6.8 | 15.0<br>55.1 |
| Ve 10 | 282°43.4<br>-15°51.2 | 297°13.8<br>-15°56.7 | 311°44.2<br>-16°02.0 | 326°14.5<br>-16°07.3 | 340°44.8<br>-16°12.5 | 355°15.0<br>-16°17.6 | 9°45.1<br>-16°22.7 | 24°15.2<br>-16°27.7 | 38°45.3<br>-16°32.6 | 53°15.3<br>-16°37.4 | 67°45.2<br>-16°42.1 | +30.2<br>-5.1 | 15.2<br>55.6 |
| Sa 11 | 285°07.7<br>-17°43.2 | 299°36.8<br>-17°46.6 | 314°05.8<br>-17°49.8 | 328°34.8<br>-17°53.0 | 343°03.7<br>-17°56.1 | 357°32.6<br>-17°59.1 | 12°01.5<br>-18°02.0 | 26°30.2<br>-18°04.9 | 40°59.0<br>-18°07.6 | 55°27.7<br>-18°10.2 | 69°56.3<br>-18°12.7 | +28.9<br>-3.0 | 15.3<br>56.2 |
| ○ Di 12 | 287°01.0<br>-18°38.9 | 301°29.0<br>-18°39.8 | 315°56.9<br>-18°40.6 | 330°24.9<br>-18°41.3 | 344°52.7<br>-18°42.0 | 359°20.6<br>-18°42.5 | 13°48.4<br>-18°42.9 | 28°16.2<br>-18°43.2 | 42°44.0<br>-18°43.4 | 57°11.7<br>-18°43.5 | 71°39.5<br>-18°43.5 | +27.8<br>-0.5 | 15.5<br>56.8 |
| Lu 13 | 288°32.3<br>-18°30.3 | 302°59.6<br>-18°28.6 | 317°27.0<br>-18°26.7 | 331°54.3<br>-18°24.8 | 346°21.7<br>-18°22.7 | 0°49.0<br>-18°20.5 | 15°16.3<br>-18°18.2 | 29°43.6<br>-18°15.9 | 44°10.9<br>-18°13.3 | 58°38.1<br>-18°10.7 | 73°05.4<br>-18°08.0 | +27.3<br>+2.2 | 15.6<br>57.3 |
| Ma 14 | 289°54.2<br>-17°14.4 | 304°21.4<br>-17°09.9 | 318°48.7<br>-17°05.4 | 333°16.0<br>-17°00.8 | 347°43.3<br>-16°56.0 | 2°10.6<br>-16°51.2 | 16°37.9<br>-16°46.3 | 31°05.2<br>-16°41.2 | 45°32.5<br>-16°36.1 | 59°59.8<br>-16°30.8 | 74°27.2<br>-16°25.5 | +27.3<br>+4.9 | 15.8<br>57.8 |
| Me 15 | 291°19.0<br>-14°53.6 | 305°46.6<br>-14°46.7 | 320°14.2<br>-14°39.8 | 334°41.9<br>-14°32.7 | 349°09.5<br>-14°25.5 | 3°37.2<br>-14°18.3 | 18°04.9<br>-14°11.0 | 32°32.6<br>-14°03.6 | 47°00.3<br>-13°56.1 | 61°28.1<br>-13°48.5 | 75°55.9<br>-13°40.8 | +27.7<br>+7.3 | 15.9<br>58.3 |
| Je 16 | 292°55.2<br>-11°36.3 | 307°23.4<br>-11°27.4 | 321°51.5<br>-11°18.4 | 336°19.7<br>-11°09.4 | 350°47.9<br>-11°00.2 | 5°16.1<br>-10°51.1 | 19°44.4<br>-10°41.8 | 34°12.7<br>-10°32.5 | 48°41.0<br>-10°23.1 | 63°09.3<br>-10°13.7 | 77°37.6<br>-10°04.2 | +28.2<br>+9.2 | 16.0<br>58.7 |
| Ve 17 | 307°23.4<br>-11°27.4 | 321°51.5<br>-11°18.4 | 336°19.7<br>-11°09.4 | 350°47.9<br>-11°00.2 | 5°16.1<br>-10°51.1 | 19°44.4<br>-10°41.8 | 34°12.7<br>-10°32.5 | 48°41.0<br>-10°23.1 | 63°09.3<br>-10°13.7 | 77°37.6<br>-10°04.2 | 92°06.0<br>-9°54.6 | +28.3<br>+9.3 | 16.0<br>58.7 |
| Sa 18 | 309°13.8<br>-7°24.5 | 323°42.5<br>-7°14.1 | 338°11.1<br>-7°03.7 | 352°39.8<br>-6°53.2 | 7°08.6<br>-6°42.6 | 21°37.3<br>-6°32.1 | 36°06.0<br>-6°21.4 | 50°34.8<br>-6°10.8 | 65°03.6<br>-6°00.1 | 79°32.4<br>-5°49.4 | 94°01.2<br>-5°38.6 | +28.7<br>+10.6 | 16.1<br>59.0 |
| ◑ Di 19 | 311°14.3<br>-2°53.5 | 325°43.3<br>-2°42.3 | 340°12.2<br>-2°31.1 | 354°41.2<br>-2°19.8 | 9°10.1<br>-2°08.6 | 23°39.1<br>-1°57.3 | 38°08.0<br>-1°46.0 | 52°36.9<br>-1°34.8 | 67°05.9<br>-1°23.5 | 81°34.8<br>-1°12.2 | 96°03.8<br>-1°00.8 | +28.9<br>+11.3 | 16.1<br>59.1 |
| Lu 20 | 313°17.4<br>1°49.2 | 327°46.3<br>2°00.5 | 342°15.1<br>2°11.8 | 356°43.9<br>2°23.1 | 11°12.7<br>2°34.4 | 25°41.5<br>2°45.6 | 40°10.3<br>2°56.9 | 54°39.0<br>3°08.1 | 69°07.8<br>3°19.3 | 83°36.5<br>3°30.5 | 98°05.2<br>3°41.7 | +28.8<br>+11.2 | 16.2<br>59.3 |
| Ma 21 | 315°13.7<br>6°26.2 | 329°42.0<br>6°36.9 | 344°10.4<br>6°47.6 | 358°38.7<br>6°58.2 | 13°07.0<br>7°08.8 | 27°35.3<br>7°19.3 | 42°03.6<br>7°29.8 | 56°31.8<br>7°40.3 | 71°00.0<br>7°50.7 | 85°28.2<br>8°01.1 | 99°56.3<br>8°11.4 | +28.3<br>+10.5 | 16.2<br>59.3 |
| Me 22 | 316°54.8<br>10°39.9 | 331°22.4<br>10°49.3 | 345°50.0<br>10°58.7 | 0°17.6<br>11°07.9 | 14°45.1<br>11°17.2 | 29°12.6<br>11°26.3 | 43°40.1<br>11°35.4 | 58°07.6<br>11°44.4 | 72°35.0<br>11°53.3 | 87°02.4<br>12°02.2 | 101°29.7<br>12°11.0 | +27.5<br>+9.1 | 16.1<br>59.2 |
| Je 23 | 318°16.0<br>14°13.3 | 332°42.8<br>14°20.7 | 347°09.6<br>14°28.1 | 1°36.4<br>14°35.4 | 16°03.1<br>14°42.6 | 30°29.8<br>14°49.7 | 44°56.5<br>14°56.7 | 59°23.2<br>15°03.6 | 73°49.8<br>15°10.4 | 88°16.4<br>15°17.2 | 102°43.0<br>15°23.8 | +26.7<br>+7.1 | 16.1<br>59.0 |
| Ve 24 | 319°18.8<br>16°51.0 | 333°45.0<br>16°56.0 | 348°11.2<br>17°00.9 | 2°37.4<br>17°05.6 | 17°03.6<br>17°10.3 | 31°29.7<br>17°14.8 | 45°55.9<br>17°19.3 | 60°22.0<br>17°23.6 | 74°48.2<br>17°27.8 | 89°14.3<br>17°31.9 | 103°40.4<br>17°35.9 | +26.2<br>+4.5 | 16.0<br>58.7 |
| Sa 25 | 320°11.7<br>18°22.0 | 334°37.8<br>18°24.2 | 349°03.9<br>18°26.2 | 3°30.1<br>18°28.1 | 17°56.2<br>18°29.9 | 32°22.3<br>18°31.6 | 46°48.5<br>18°33.2 | 61°14.7<br>18°34.6 | 75°40.8<br>18°36.0 | 90°07.0<br>18°37.2 | 104°33.2<br>18°38.3 | +26.1<br>+1.6 | 15.9<br>58.2 |
| ● Di 26 | 321°09.2<br>18°41.1 | 335°35.8<br>18°40.4 | 350°02.4<br>18°39.6 | 4°29.1<br>18°38.6 | 18°55.9<br>18°37.5 | 33°22.6<br>18°36.4 | 47°49.4<br>18°35.1 | 62°16.3<br>18°33.7 | 76°43.1<br>18°32.2 | 91°10.1<br>18°30.6 | 105°37.0<br>18°28.9 | +26.8<br>-1.2 | 15.7<br>57.7 |
| Lu 27 | 322°27.0<br>17°50.4 | 336°54.7<br>17°47.0 | 351°22.5<br>17°43.5 | 5°50.4<br>17°40.0 | 20°18.3<br>17°36.3 | 34°46.2<br>17°32.5 | 49°14.2<br>17°28.7 | 63°42.3<br>17°24.7 | 78°10.4<br>17°20.6 | 92°38.6<br>17°16.5 | 107°06.9<br>17°12.3 | +28.0<br>-3.8 | 15.6<br>57.0 |
| Ma 28 | 324°17.8<br>15°58.2 | 338°47.1<br>15°52.5 | 353°16.4<br>15°46.9 | 7°45.7<br>15°41.1 | 22°15.1<br>15°35.3 | 36°44.6<br>15°29.3 | 51°14.2<br>15°23.4 | 65°43.8<br>15°17.3 | 80°13.5<br>15°11.2 | 94°43.2<br>15°04.9 | 109°13.0<br>14°58.7 | +29.5<br>-6.0 | 15.4<br>56.4 |
| Me 29 | 326°47.9<br>13°16.5 | 341°18.7<br>13°09.2 | 355°49.6<br>13°01.8 | 10°20.5<br>12°54.4 | 24°51.5<br>12°46.9 | 39°22.6<br>12°39.4 | 53°53.7<br>12°31.8 | 68°24.9<br>12°24.2 | 82°56.2<br>12°16.5 | 97°27.5<br>12°08.7 | 111°58.9<br>12°00.9 | +31.1<br>-7.6 | 15.2<br>55.7 |
| Je 30 | 329°56.4<br>9°58.6 | 344°28.7<br>9°50.1 | 359°01.0<br>9°41.6 | 13°33.4<br>9°33.1 | 28°05.8<br>9°24.5 | 42°38.3<br>9°15.8 | 57°10.8<br>9°07.2 | 71°43.4<br>8°58.5 | 86°16.0<br>8°49.8 | 100°48.7<br>8°41.0 | 115°21.4<br>8°32.2 | +32.5<br>-8.6 | 15.0<br>55.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 4 23h38 — PL: 12 23h19 — DQ: 19 23h29 — NL: 26 21h07

# SOLEIL

## Juillet 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 269°00.9 | 284°00.8 | 299°00.7 | 314°00.6 | 329°00.4 | 344°00.3 | 359°00.2 | 14°00.1 | 29°00.0 | 43°59.8 | 58°59.7 | 73°59.6 | -0.1 |
| | 23°04.5 | 23°04.3 | 23°04.1 | 23°04.0 | 23°03.8 | 23°03.6 | 23°03.4 | 23°03.3 | 23°03.1 | 23°02.9 | 23°02.7 | 23°02.5 | -0.2 |
| Sa 2 | 268°58.1 | 283°58.0 | 298°57.8 | 313°57.7 | 328°57.6 | 343°57.5 | 358°57.4 | 13°57.3 | 28°57.1 | 43°57.0 | 58°56.9 | 73°56.8 | -0.1 |
| | 23°00.1 | 22°59.9 | 22°59.7 | 22°59.5 | 22°59.3 | 22°59.1 | 22°58.9 | 22°58.7 | 22°58.6 | 22°58.4 | 22°58.2 | 22°58.0 | -0.2 |
| Di 3 | 268°55.3 | 283°55.2 | 298°55.1 | 313°54.9 | 328°54.8 | 343°54.7 | 358°54.6 | 13°54.5 | 28°54.4 | 43°54.3 | 58°54.2 | 73°54.0 | -0.1 |
| | 22°55.3 | 22°55.1 | 22°54.9 | 22°54.7 | 22°54.5 | 22°54.3 | 22°54.1 | 22°53.8 | 22°53.6 | 22°53.4 | 22°53.2 | 22°53.0 | -0.2 |
| Lu 4 | 268°52.6 | 283°52.5 | 298°52.4 | 313°52.3 | 328°52.1 | 343°52.0 | 358°51.9 | 13°51.8 | 28°51.7 | 43°51.6 | 58°51.5 | 73°51.4 | -0.1 |
| | 22°50.1 | 22°49.9 | 22°49.7 | 22°49.5 | 22°49.2 | 22°49.0 | 22°48.8 | 22°48.5 | 22°48.3 | 22°48.1 | 22°47.9 | 22°47.6 | -0.2 |
| Ma 5 | 268°50.0 | 283°49.9 | 298°49.8 | 313°49.7 | 328°49.5 | 343°49.4 | 358°49.3 | 13°49.2 | 28°49.1 | 43°49.0 | 58°48.9 | 73°48.8 | -0.1 |
| | 22°44.6 | 22°44.3 | 22°44.1 | 22°43.8 | 22°43.6 | 22°43.3 | 22°43.1 | 22°42.9 | 22°42.6 | 22°42.4 | 22°42.1 | 22°41.9 | -0.2 |
| Me 6 | 268°47.5 | 283°47.3 | 298°47.2 | 313°47.1 | 328°47.0 | 343°46.9 | 358°46.8 | 13°46.7 | 28°46.6 | 43°46.5 | 58°46.4 | 73°46.3 | -0.1 |
| | 22°38.6 | 22°38.3 | 22°38.1 | 22°37.8 | 22°37.5 | 22°37.3 | 22°37.0 | 22°36.8 | 22°36.5 | 22°36.2 | 22°36.0 | 22°35.7 | -0.3 |
| Je 7 | 268°45.0 | 283°44.9 | 298°44.8 | 313°44.7 | 328°44.6 | 343°44.5 | 358°44.4 | 13°44.3 | 28°44.2 | 43°44.1 | 58°44.0 | 73°43.9 | -0.1 |
| | 22°32.2 | 22°31.9 | 22°31.7 | 22°31.4 | 22°31.1 | 22°30.8 | 22°30.6 | 22°30.3 | 22°30.0 | 22°29.7 | 22°29.4 | 22°29.2 | -0.3 |
| Ve 8 | 268°42.7 | 283°42.6 | 298°42.5 | 313°42.4 | 328°42.3 | 343°42.2 | 358°42.1 | 13°42.0 | 28°41.9 | 43°41.9 | 58°41.8 | 73°41.7 | -0.1 |
| | 22°25.5 | 22°25.2 | 22°24.9 | 22°24.6 | 22°24.3 | 22°24.0 | 22°23.7 | 22°23.4 | 22°23.1 | 22°22.8 | 22°22.5 | 22°22.2 | -0.3 |
| Sa 9 | 268°40.5 | 283°40.4 | 298°40.3 | 313°40.2 | 328°40.1 | 343°40.0 | 358°39.9 | 13°39.9 | 28°39.8 | 43°39.7 | 58°39.6 | 73°39.5 | -0.1 |
| | 22°18.3 | 22°18.0 | 22°17.7 | 22°17.4 | 22°17.1 | 22°16.8 | 22°16.5 | 22°16.2 | 22°15.8 | 22°15.5 | 22°15.2 | 22°14.9 | -0.3 |
| Di 10 | 268°38.4 | 283°38.3 | 298°38.2 | 313°38.1 | 328°38.0 | 343°37.9 | 358°37.9 | 13°37.8 | 28°37.7 | 43°37.6 | 58°37.5 | 73°37.4 | -0.1 |
| | 22°10.8 | 22°10.5 | 22°10.1 | 22°09.8 | 22°09.5 | 22°09.2 | 22°08.8 | 22°08.5 | 22°08.2 | 22°07.9 | 22°07.5 | 22°07.2 | -0.3 |
| Lu 11 | 268°36.4 | 283°36.3 | 298°36.2 | 313°36.1 | 328°36.0 | 343°36.0 | 358°35.9 | 13°35.8 | 28°35.7 | 43°35.6 | 58°35.6 | 73°35.5 | -0.1 |
| | 22°02.9 | 22°02.5 | 22°02.2 | 22°01.9 | 22°01.5 | 22°01.2 | 22°00.8 | 22°00.5 | 22°00.2 | 21°59.8 | 21°59.5 | 21°59.1 | -0.3 |
| Ma 12 | 268°34.5 | 283°34.4 | 298°34.3 | 313°34.2 | 328°34.2 | 343°34.1 | 358°34.0 | 13°33.9 | 28°33.9 | 43°33.8 | 58°33.7 | 73°33.7 | -0.1 |
| | 21°54.6 | 21°54.2 | 21°53.9 | 21°53.5 | 21°53.2 | 21°52.8 | 21°52.5 | 21°52.1 | 21°51.7 | 21°51.4 | 21°51.0 | 21°50.7 | -0.4 |
| Me 13 | 268°32.7 | 283°32.6 | 298°32.6 | 313°32.5 | 328°32.4 | 343°32.4 | 358°32.3 | 13°32.2 | 28°32.1 | 43°32.1 | 58°32.0 | 73°31.9 | -0.1 |
| | 21°45.9 | 21°45.6 | 21°45.2 | 21°44.8 | 21°44.4 | 21°44.1 | 21°43.7 | 21°43.3 | 21°43.0 | 21°42.6 | 21°42.2 | 21°41.8 | -0.4 |
| Je 14 | 268°31.1 | 283°31.0 | 298°30.9 | 313°30.9 | 328°30.8 | 343°30.7 | 358°30.7 | 13°30.6 | 28°30.5 | 43°30.5 | 58°30.4 | 73°30.3 | -0.1 |
| | 21°36.9 | 21°36.5 | 21°36.1 | 21°35.7 | 21°35.3 | 21°35.0 | 21°34.6 | 21°34.2 | 21°33.8 | 21°33.4 | 21°33.0 | 21°32.6 | -0.4 |
| Ve 15 | 268°29.5 | 283°29.5 | 298°29.4 | 313°29.3 | 328°29.3 | 343°29.2 | 358°29.2 | 13°29.1 | 28°29.0 | 43°29.0 | 58°28.9 | 73°28.9 | -0.1 |
| | 21°27.5 | 21°27.1 | 21°26.7 | 21°26.3 | 21°25.9 | 21°25.5 | 21°25.1 | 21°24.7 | 21°24.3 | 21°23.9 | 21°23.5 | 21°23.1 | -0.4 |
| Sa 16 | 268°28.1 | 283°28.1 | 298°28.0 | 313°28.0 | 328°27.9 | 343°27.8 | 358°27.8 | 13°27.7 | 28°27.7 | 43°27.6 | 58°27.6 | 73°27.5 | -0.1 |
| | 21°17.7 | 21°17.3 | 21°16.9 | 21°16.5 | 21°16.1 | 21°15.6 | 21°15.2 | 21°14.8 | 21°14.4 | 21°14.0 | 21°13.5 | 21°13.1 | -0.4 |
| Di 17 | 268°26.8 | 283°26.8 | 298°26.7 | 313°26.7 | 328°26.6 | 343°26.6 | 358°26.5 | 13°26.5 | 28°26.4 | 43°26.4 | 58°26.3 | 73°26.3 | -0.0 |
| | 21°07.6 | 21°07.2 | 21°06.7 | 21°06.3 | 21°05.9 | 21°05.4 | 21°05.0 | 21°04.6 | 21°04.1 | 21°03.7 | 21°03.3 | 21°02.8 | -0.4 |
| Lu 18 | 268°25.7 | 283°25.6 | 298°25.6 | 313°25.6 | 328°25.5 | 343°25.5 | 358°25.4 | 13°25.4 | 28°25.3 | 43°25.3 | 58°25.3 | 73°25.2 | -0.0 |
| | 20°57.1 | 20°56.6 | 20°56.2 | 20°55.8 | 20°55.3 | 20°54.9 | 20°54.4 | 20°54.0 | 20°53.5 | 20°53.1 | 20°52.6 | 20°52.2 | -0.4 |
| Ma 19 | 268°24.7 | 283°24.6 | 298°24.6 | 313°24.6 | 328°24.5 | 343°24.5 | 358°24.4 | 13°24.4 | 28°24.4 | 43°24.3 | 58°24.3 | 73°24.2 | -0.0 |
| | 20°46.2 | 20°45.8 | 20°45.3 | 20°44.9 | 20°44.4 | 20°43.9 | 20°43.5 | 20°43.0 | 20°42.6 | 20°42.1 | 20°41.6 | 20°41.2 | -0.5 |
| Me 20 | 268°23.8 | 283°23.8 | 298°23.7 | 313°23.7 | 328°23.6 | 343°23.6 | 358°23.6 | 13°23.6 | 28°23.5 | 43°23.5 | 58°23.5 | 73°23.4 | -0.0 |
| | 20°35.1 | 20°34.6 | 20°34.1 | 20°33.6 | 20°33.2 | 20°32.7 | 20°32.2 | 20°31.7 | 20°31.2 | 20°30.8 | 20°30.3 | 20°29.8 | -0.5 |
| Je 21 | 268°23.0 | 283°23.0 | 298°23.0 | 313°22.9 | 328°22.9 | 343°22.9 | 358°22.9 | 13°22.8 | 28°22.8 | 43°22.8 | 58°22.8 | 73°22.7 | -0.0 |
| | 20°23.5 | 20°23.0 | 20°22.5 | 20°22.0 | 20°21.6 | 20°21.1 | 20°20.6 | 20°20.1 | 20°19.6 | 20°19.1 | 20°18.6 | 20°18.1 | -0.5 |
| Ve 22 | 268°22.4 | 283°22.4 | 298°22.4 | 313°22.3 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.2 | 43°22.2 | 58°22.2 | 73°22.2 | -0.0 |
| | 20°11.6 | 20°11.1 | 20°10.6 | 20°10.1 | 20°09.6 | 20°09.1 | 20°08.6 | 20°08.1 | 20°07.6 | 20°07.1 | 20°06.6 | 20°06.1 | -0.5 |
| Sa 23 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.9 | 358°21.8 | 13°21.8 | 28°21.8 | 43°21.8 | 58°21.8 | 73°21.8 | -0.0 |
| | 19°59.4 | 19°58.9 | 19°58.4 | 19°57.9 | 19°57.3 | 19°56.8 | 19°56.3 | 19°55.8 | 19°55.3 | 19°54.7 | 19°54.2 | 19°53.7 | -0.5 |
| Di 24 | 268°21.6 | 283°21.6 | 298°21.6 | 313°21.6 | 328°21.6 | 343°21.6 | 358°21.5 | 13°21.5 | 28°21.5 | 43°21.5 | 58°21.5 | 73°21.5 | -0.0 |
| | 19°46.8 | 19°46.3 | 19°45.8 | 19°45.3 | 19°44.7 | 19°44.2 | 19°43.7 | 19°43.1 | 19°42.6 | 19°42.1 | 19°41.5 | 19°41.0 | -0.5 |
| Lu 25 | 268°21.4 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.4 | 13°21.4 | 28°21.4 | 43°21.4 | 58°21.4 | 73°21.4 | -0.0 |
| | 19°34.0 | 19°33.4 | 19°32.9 | 19°32.3 | 19°31.8 | 19°31.2 | 19°30.7 | 19°30.1 | 19°29.6 | 19°29.0 | 19°28.5 | 19°27.9 | -0.5 |
| Ma 26 | 268°21.4 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.4 | 13°21.4 | 28°21.4 | 43°21.4 | 58°21.4 | 73°21.4 | +0.0 |
| | 19°20.8 | 19°20.2 | 19°19.6 | 19°19.1 | 19°18.5 | 19°18.0 | 19°17.4 | 19°16.8 | 19°16.3 | 19°15.7 | 19°15.2 | 19°14.6 | -0.6 |
| Me 27 | 268°21.5 | 283°21.5 | 298°21.5 | 313°21.5 | 328°21.5 | 343°21.5 | 358°21.5 | 13°21.6 | 28°21.6 | 43°21.6 | 58°21.6 | 73°21.6 | +0.0 |
| | 19°07.2 | 19°06.7 | 19°06.1 | 19°05.5 | 19°04.9 | 19°04.4 | 19°03.8 | 19°03.2 | 19°02.6 | 19°02.1 | 19°01.5 | 19°00.9 | -0.6 |
| Je 28 | 268°21.8 | 283°21.8 | 298°21.8 | 313°21.8 | 328°21.8 | 343°21.8 | 358°21.8 | 13°21.9 | 28°21.9 | 43°21.9 | 58°21.9 | 73°21.9 | +0.0 |
| | 18°53.4 | 18°52.8 | 18°52.2 | 18°51.6 | 18°51.0 | 18°50.5 | 18°49.9 | 18°49.3 | 18°48.7 | 18°48.1 | 18°47.5 | 18°46.9 | -0.6 |
| Ve 29 | 268°22.2 | 283°22.2 | 298°22.2 | 313°22.2 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.3 | 43°22.4 | 58°22.4 | 73°22.4 | +0.0 |
| | 18°39.2 | 18°38.6 | 18°38.0 | 18°37.4 | 18°36.8 | 18°36.2 | 18°35.6 | 18°35.0 | 18°34.4 | 18°33.8 | 18°33.2 | 18°32.6 | -0.6 |
| Sa 30 | 268°22.7 | 283°22.8 | 298°22.8 | 313°22.8 | 328°22.9 | 343°22.9 | 358°22.9 | 13°22.9 | 28°23.0 | 43°23.0 | 58°23.0 | 73°23.1 | +0.0 |
| | 18°24.8 | 18°24.2 | 18°23.5 | 18°22.9 | 18°22.3 | 18°21.7 | 18°21.1 | 18°20.5 | 18°19.9 | 18°19.3 | 18°18.7 | 18°18.0 | -0.6 |
| Di 31 | 268°23.5 | 283°23.5 | 298°23.5 | 313°23.6 | 328°23.6 | 343°23.6 | 358°23.7 | 13°23.7 | 28°23.7 | 43°23.8 | 58°23.8 | 73°23.9 | +0.0 |
| | 18°10.0 | 18°09.4 | 18°08.8 | 18°08.1 | 18°07.5 | 18°06.9 | 18°06.3 | 18°05.6 | 18°05.0 | 18°04.4 | 18°03.8 | 18°03.1 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2033

| J | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 246°18.0<br>7°11.8 | 260°51.1<br>7°02.8 | 275°24.4<br>6°53.7 | 289°57.6<br>6°44.6 | 304°30.9<br>6°35.5 | 319°04.2<br>6°26.3 | 333°37.6<br>6°17.1 | 348°11.0<br>6°08.0 | 2°44.4<br>5°58.7 | 17°17.9<br>5°49.5 | 31°51.4<br>5°40.3 | +33.3<br>-9.2 | 14.9<br>54.8 |
| Sa 2 | 250°17.7<br>3°19.8 | 264°51.7<br>3°10.3 | 279°25.7<br>3°00.9 | 293°59.7<br>2°51.4 | 308°33.8<br>2°41.9 | 323°07.8<br>2°32.4 | 337°41.9<br>2°22.9 | 352°16.0<br>2°13.4 | 6°50.2<br>2°03.9 | 21°24.3<br>1°54.4 | 35°58.5<br>1°44.9 | +34.1<br>-9.5 | 14.8<br>54.4 |
| Di 3 | 254°32.4<br>-0°37.7 | 269°06.7<br>-0°47.2 | 283°41.1<br>-0°56.7 | 298°15.4<br>-1°06.2 | 312°49.7<br>-1°15.7 | 327°24.1<br>-1°25.1 | 341°58.4<br>-1°34.6 | 356°32.8<br>-1°44.0 | 11°07.1<br>-1°53.5 | 25°41.5<br>-2°02.9 | 40°15.8<br>-2°12.3 | +34.3<br>-9.5 | 14.8<br>54.2 |
| ◐ Lu 4 | 258°50.2<br>-4°32.2 | 273°24.5<br>-4°41.4 | 287°58.7<br>-4°50.6 | 302°32.8<br>-4°59.8 | 317°07.0<br>-5°08.9 | 331°41.2<br>-5°18.0 | 346°15.3<br>-5°27.1 | 0°49.4<br>-5°36.2 | 15°23.5<br>-5°45.3 | 29°57.6<br>-5°54.3 | 44°31.6<br>-6°03.3 | +34.1<br>-9.1 | 14.8<br>54.2 |
| Ma 5 | 262°59.6<br>-8°15.5 | 277°33.2<br>-8°24.1 | 292°06.9<br>-8°32.7 | 306°40.4<br>-8°41.2 | 321°14.0<br>-8°49.7 | 335°47.5<br>-8°58.1 | 350°20.9<br>-9°06.6 | 4°54.4<br>-9°14.9 | 19°27.8<br>-9°23.3 | 34°01.1<br>-9°31.6 | 48°34.5<br>-9°39.9 | +33.5<br>-8.4 | 14.8<br>54.4 |
| Me 6 | 266°49.5<br>-11°39.3 | 281°22.1<br>-11°47.0 | 295°54.7<br>-11°54.5 | 310°27.3<br>-12°02.0 | 324°59.8<br>-12°09.5 | 339°32.2<br>-12°16.9 | 354°04.6<br>-12°24.3 | 8°37.0<br>-12°31.7 | 23°09.3<br>-12°38.9 | 37°41.6<br>-12°46.2 | 52°13.8<br>-12°53.3 | +32.4<br>-7.4 | 14.9<br>54.7 |
| Je 7 | 270°10.5<br>-14°34.3 | 284°41.8<br>-14°40.5 | 299°13.1<br>-14°46.7 | 313°44.3<br>-14°52.9 | 328°15.5<br>-14°58.9 | 342°46.6<br>-15°04.9 | 357°17.7<br>-15°10.8 | 11°48.7<br>-15°16.7 | 26°19.6<br>-15°22.5 | 40°50.5<br>-15°28.2 | 55°21.3<br>-15°33.9 | +31.1<br>-6.0 | 15.1<br>55.3 |
| Ve 8 | 272°56.4<br>-16°50.0 | 287°26.3<br>-16°54.4 | 301°56.1<br>-16°58.8 | 316°25.8<br>-17°03.1 | 330°55.5<br>-17°07.3 | 345°25.1<br>-17°11.4 | 359°54.7<br>-17°15.4 | 14°24.2<br>-17°19.4 | 28°53.6<br>-17°23.3 | 43°23.0<br>-17°27.1 | 57°52.4<br>-17°30.8 | +29.6<br>-4.1 | 15.2<br>55.9 |
| Sa 9 | 275°05.6<br>-18°15.3 | 289°34.0<br>-18°17.6 | 304°02.4<br>-18°19.7 | 318°30.7<br>-18°21.7 | 332°59.0<br>-18°23.6 | 347°27.3<br>-18°25.5 | 1°55.5<br>-18°27.2 | 16°23.6<br>-18°28.8 | 30°51.7<br>-18°30.3 | 45°19.7<br>-18°31.7 | 59°47.7<br>-18°33.1 | +28.2<br>-1.8 | 15.4<br>56.6 |
| Di 10 | 276°42.4<br>-18°40.3 | 291°09.7<br>-18°39.9 | 305°37.0<br>-18°39.4 | 320°04.3<br>-18°38.8 | 334°31.5<br>-18°38.1 | 348°58.7<br>-18°37.3 | 3°25.9<br>-18°36.4 | 17°53.0<br>-18°35.4 | 32°20.1<br>-18°34.2 | 46°47.2<br>-18°33.0 | 61°14.2<br>-18°31.6 | +27.2<br>+0.9 | 15.6<br>57.4 |
| Lu 11 | 277°57.1<br>-17°57.7 | 292°23.8<br>-17°54.6 | 306°50.5<br>-17°51.3 | 321°17.2<br>-17°47.9 | 335°43.9<br>-17°44.4 | 350°10.5<br>-17°40.8 | 4°37.2<br>-17°37.1 | 19°03.8<br>-17°33.3 | 33°30.5<br>-17°29.4 | 47°57.1<br>-17°25.4 | 62°23.8<br>-17°21.2 | +26.7<br>+3.7 | 15.8<br>58.1 |
| ○ Ma 12 | 279°03.1<br>-16°06.0 | 293°29.8<br>-16°00.1 | 307°56.4<br>-15°54.2 | 322°23.1<br>-15°48.1 | 336°49.8<br>-15°41.9 | 351°16.5<br>-15°35.7 | 5°43.2<br>-15°29.3 | 20°09.9<br>-15°22.8 | 34°36.6<br>-15°16.3 | 49°03.3<br>-15°09.6 | 63°30.1<br>-15°02.8 | +26.7<br>+6.3 | 16.0<br>58.7 |
| Me 13 | 280°13.3<br>-13°10.2 | 294°40.3<br>-13°01.9 | 309°07.4<br>-12°53.6 | 323°34.4<br>-12°45.2 | 338°01.5<br>-12°36.8 | 352°28.7<br>-12°28.2 | 6°55.8<br>-12°19.6 | 21°23.0<br>-12°10.9 | 35°50.1<br>-12°02.1 | 50°17.3<br>-11°53.2 | 64°44.6<br>-11°44.3 | +27.1<br>+8.6 | 16.1<br>59.1 |
| Je 14 | 281°35.9<br>-9°21.6 | 296°03.5<br>-9°11.6 | 310°31.1<br>-9°01.5 | 324°58.8<br>-8°51.4 | 339°26.5<br>-8°41.2 | 353°54.2<br>-8°30.9 | 8°21.9<br>-8°20.6 | 22°49.7<br>-8°10.3 | 37°17.5<br>-7°59.9 | 51°45.3<br>-7°49.4 | 66°13.1<br>-7°38.9 | +27.7<br>+10.3 | 16.2<br>59.4 |
| Ve 15 | 283°13.0<br>-4°56.3 | 297°41.2<br>-4°45.2 | 312°09.3<br>-4°34.1 | 326°37.5<br>-4°22.9 | 341°05.7<br>-4°11.7 | 355°33.9<br>-4°00.5 | 10°02.2<br>-3°49.2 | 24°30.4<br>-3°38.0 | 38°58.7<br>-3°26.7 | 53°27.0<br>-3°15.4 | 67°55.3<br>-3°04.0 | +28.2<br>+11.2 | 16.2<br>59.6 |
| Sa 16 | 285°01.1<br>-0°12.7 | 299°29.6<br>-0°01.3 | 313°58.1<br>0°10.2 | 328°26.5<br>0°21.7 | 342°55.0<br>0°33.1 | 357°23.5<br>0°44.5 | 11°52.0<br>0°56.0 | 26°20.5<br>1°07.4 | 40°49.0<br>1°18.8 | 55°17.4<br>1°30.2 | 69°45.9<br>1°41.6 | +28.5<br>+11.4 | 16.2<br>59.5 |
| Di 17 | 299°29.6<br>-0°01.3 | 313°58.1<br>0°10.2 | 328°26.5<br>0°21.7 | 342°55.0<br>0°33.1 | 357°23.5<br>0°44.5 | 11°52.0<br>0°56.0 | 26°20.5<br>1°07.4 | 40°49.0<br>1°18.8 | 55°17.4<br>1°30.2 | 69°45.9<br>1°41.6 | 84°14.4<br>1°53.0 | +28.5<br>+11.4 | 16.2<br>59.5 |
| Lu 18 | 301°21.7<br>4°41.5 | 315°50.1<br>4°52.5 | 330°18.5<br>5°03.5 | 344°47.0<br>5°14.5 | 359°15.4<br>5°25.4 | 13°43.8<br>5°36.3 | 28°12.2<br>5°47.1 | 42°40.6<br>5°57.9 | 57°08.9<br>6°08.7 | 71°37.3<br>6°19.5 | 86°05.7<br>6°30.2 | +28.4<br>+10.9 | 16.2<br>59.4 |
| ◑ Ma 19 | 303°09.3<br>9°05.0 | 317°37.4<br>9°14.9 | 332°05.5<br>9°24.7 | 346°33.6<br>9°34.5 | 1°01.7<br>9°44.2 | 15°29.7<br>9°53.9 | 29°57.7<br>10°03.5 | 44°25.7<br>10°13.0 | 58°53.7<br>10°22.5 | 73°21.7<br>10°31.9 | 87°49.6<br>10°41.2 | +28.0<br>+9.6 | 16.1<br>59.1 |
| Me 20 | 304°46.2<br>12°52.7 | 319°13.8<br>13°00.8 | 333°41.4<br>13°08.9 | 348°09.0<br>13°16.9 | 2°36.5<br>13°24.8 | 17°04.0<br>13°32.6 | 31°31.5<br>13°40.4 | 45°59.0<br>13°48.0 | 60°26.4<br>13°55.6 | 74°53.9<br>14°03.1 | 89°21.3<br>14°10.5 | +27.5<br>+7.8 | 16.0<br>58.7 |
| Je 21 | 306°10.1<br>15°50.4 | 320°37.2<br>15°56.3 | 335°04.3<br>16°02.1 | 349°31.4<br>16°07.7 | 3°58.4<br>16°13.3 | 18°25.5<br>16°18.8 | 32°52.5<br>16°24.2 | 47°19.5<br>16°29.5 | 61°46.5<br>16°34.7 | 76°13.5<br>16°39.8 | 90°40.5<br>16°44.8 | +27.0<br>+5.4 | 15.9<br>58.3 |
| Ve 22 | 307°24.1<br>17°47.0 | 321°51.0<br>17°50.3 | 336°17.9<br>17°53.4 | 350°44.7<br>17°56.5 | 5°11.6<br>17°59.5 | 19°38.4<br>18°02.3 | 34°05.3<br>18°05.0 | 48°32.2<br>18°07.7 | 62°59.0<br>18°10.2 | 77°25.9<br>18°12.6 | 91°52.8<br>18°14.9 | +26.9<br>+2.8 | 15.8<br>57.9 |
| Sa 23 | 308°37.1<br>18°36.1 | 323°04.2<br>18°36.6 | 337°31.3<br>18°37.0 | 351°58.4<br>18°37.3 | 6°25.5<br>18°37.5 | 20°52.6<br>18°37.6 | 35°19.8<br>18°37.6 | 49°47.0<br>18°37.4 | 64°14.2<br>18°37.2 | 78°41.4<br>18°36.8 | 93°08.7<br>18°36.4 | +27.2<br>+0.0 | 15.7<br>57.4 |
| Di 24 | 310°01.2<br>18°16.7 | 324°29.0<br>18°14.5 | 338°56.8<br>18°12.3 | 353°24.6<br>18°09.9 | 7°52.5<br>18°07.5 | 22°20.4<br>18°04.9 | 36°48.4<br>18°02.3 | 51°16.4<br>17°59.5 | 65°44.5<br>17°56.7 | 80°12.6<br>17°53.7 | 94°40.7<br>17°50.7 | +27.9<br>-2.6 | 15.5<br>56.9 |
| Lu 25 | 311°48.3<br>16°53.6 | 326°17.2<br>16°49.1 | 340°46.2<br>16°44.5 | 355°15.2<br>16°39.8 | 9°44.2<br>16°35.0 | 24°13.4<br>16°30.1 | 38°42.5<br>16°25.2 | 53°11.7<br>16°20.1 | 67°41.0<br>16°15.0 | 82°10.3<br>16°09.8 | 96°39.7<br>16°04.5 | +29.1<br>-4.9 | 15.4<br>56.4 |
| ● Ma 26 | 314°06.9<br>14°36.0 | 328°37.2<br>14°29.5 | 343°07.5<br>14°23.0 | 357°37.8<br>14°16.4 | 12°08.3<br>14°09.7 | 26°38.8<br>14°03.0 | 41°09.3<br>13°56.2 | 55°39.9<br>13°49.3 | 70°10.5<br>13°42.4 | 84°41.2<br>13°35.4 | 99°12.0<br>13°28.3 | +30.5<br>-6.8 | 15.2<br>55.8 |
| Me 27 | 317°00.0<br>11°35.7 | 331°31.6<br>11°27.8 | 346°03.3<br>11°19.8 | 0°35.0<br>11°11.8 | 15°06.8<br>11°03.7 | 29°38.6<br>10°55.6 | 44°10.5<br>10°47.5 | 58°42.4<br>10°39.3 | 73°14.4<br>10°31.1 | 87°46.4<br>10°22.8 | 102°18.5<br>10°14.5 | +31.9<br>-8.1 | 15.1<br>55.3 |
| Je 28 | 320°25.3<br>8°05.2 | 334°58.2<br>7°56.3 | 349°31.0<br>7°47.4 | 4°03.9<br>7°38.5 | 18°36.8<br>7°29.5 | 33°09.8<br>7°20.6 | 47°42.8<br>7°11.5 | 62°15.9<br>7°02.5 | 76°49.0<br>6°53.4 | 91°22.1<br>6°44.4 | 105°55.3<br>6°35.3 | +33.0<br>-9.0 | 15.0<br>54.8 |
| Ve 29 | 324°16.9<br>4°16.4 | 338°50.6<br>4°07.0 | 353°24.3<br>3°57.6 | 7°58.1<br>3°48.2 | 22°31.9<br>3°38.8 | 37°05.7<br>3°29.4 | 51°39.5<br>3°19.9 | 66°13.3<br>3°10.5 | 80°47.2<br>3°01.1 | 95°21.1<br>2°51.6 | 109°55.0<br>2°42.1 | +33.8<br>-9.4 | 14.9<br>54.5 |
| Sa 30 | 328°26.1<br>0°19.8 | 343°00.3<br>0°10.3 | 357°34.5<br>0°00.9 | 12°08.7<br>-0°08.6 | 26°42.9<br>-0°18.1 | 41°17.1<br>-0°27.6 | 55°51.4<br>-0°37.0 | 70°25.6<br>-0°46.5 | 84°59.9<br>-0°55.9 | 99°34.2<br>-1°05.4 | 114°08.4<br>-1°14.8 | +34.2<br>-9.5 | 14.8<br>54.2 |
| Di 31 | 332°42.7<br>-3°35.1 | 347°17.0<br>-3°44.3 | 1°51.3<br>-3°53.6 | 16°25.5<br>-4°02.8 | 30°59.8<br>-4°12.0 | 45°34.0<br>-4°21.1 | 60°08.3<br>-4°30.3 | 74°42.5<br>-4°39.4 | 89°16.7<br>-4°48.5 | 103°50.9<br>-4°57.6 | 118°25.1<br>-5°06.7 | +34.2<br>-9.2 | 14.8<br>54.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 4 17h12 — PL: 12 09h28 — DQ: 19 04h07 — NL: 26 08h12

# SOLEIL

## Août 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 268° 24.3<br>17° 55.0 | 283° 24.4<br>17° 54.3 | 298° 24.4<br>17° 53.7 | 313° 24.5<br>17° 53.0 | 328° 24.5<br>17° 52.4 | 343° 24.6<br>17° 51.8 | 358° 24.6<br>17° 51.1 | 13° 24.6<br>17° 50.5 | 28° 24.7<br>17° 49.9 | 43° 24.7<br>17° 49.2 | 58° 24.8<br>17° 48.6 | 73° 24.8<br>17° 48.0 | +0.0<br>-0.6 |
| Ma 2 | 268° 25.4<br>17° 39.6 | 283° 25.4<br>17° 39.0 | 298° 25.5<br>17° 38.3 | 313° 25.5<br>17° 37.7 | 328° 25.6<br>17° 37.0 | 343° 25.6<br>17° 36.4 | 358° 25.7<br>17° 35.7 | 13° 25.7<br>17° 35.1 | 28° 25.8<br>17° 34.4 | 43° 25.8<br>17° 33.8 | 58° 25.9<br>17° 33.1 | 73° 25.9<br>17° 32.5 | +0.0<br>-0.6 |
| Me 3 | 268° 26.6<br>17° 24.0 | 283° 26.6<br>17° 23.3 | 298° 26.7<br>17° 22.7 | 313° 26.7<br>17° 22.0 | 328° 26.8<br>17° 21.3 | 343° 26.8<br>17° 20.7 | 358° 26.9<br>17° 20.0 | 13° 27.0<br>17° 19.4 | 28° 27.0<br>17° 18.7 | 43° 27.1<br>17° 18.0 | 58° 27.1<br>17° 17.4 | 73° 27.2<br>17° 16.7 | +0.1<br>-0.7 |
| Je 4 | 268° 27.9<br>17° 08.1 | 283° 28.0<br>17° 07.4 | 298° 28.0<br>17° 06.7 | 313° 28.1<br>17° 06.0 | 328° 28.2<br>17° 05.4 | 343° 28.2<br>17° 04.7 | 358° 28.3<br>17° 04.0 | 13° 28.4<br>17° 03.4 | 28° 28.4<br>17° 02.7 | 43° 28.5<br>17° 02.0 | 58° 28.5<br>17° 01.3 | 73° 28.6<br>17° 00.7 | +0.1<br>-0.7 |
| Ve 5 | 268° 29.4<br>16° 51.9 | 283° 29.5<br>16° 51.2 | 298° 29.6<br>16° 50.5 | 313° 29.6<br>16° 49.8 | 328° 29.7<br>16° 49.1 | 343° 29.8<br>16° 48.5 | 358° 29.8<br>16° 47.8 | 13° 29.9<br>16° 47.1 | 28° 30.0<br>16° 46.4 | 43° 30.0<br>16° 45.7 | 58° 30.1<br>16° 45.0 | 73° 30.2<br>16° 44.4 | +0.1<br>-0.7 |
| Sa 6 | 268° 31.1<br>16° 35.4 | 283° 31.2<br>16° 34.7 | 298° 31.2<br>16° 34.0 | 313° 31.3<br>16° 33.3 | 328° 31.4<br>16° 32.6 | 343° 31.5<br>16° 31.9 | 358° 31.5<br>16° 31.2 | 13° 31.6<br>16° 30.6 | 28° 31.7<br>16° 29.9 | 43° 31.7<br>16° 29.2 | 58° 31.8<br>16° 28.5 | 73° 31.9<br>16° 27.8 | +0.1<br>-0.7 |
| Di 7 | 268° 32.9<br>16° 18.7 | 283° 33.0<br>16° 18.0 | 298° 33.1<br>16° 17.3 | 313° 33.1<br>16° 16.6 | 328° 33.2<br>16° 15.9 | 343° 33.3<br>16° 15.2 | 358° 33.4<br>16° 14.5 | 13° 33.5<br>16° 13.7 | 28° 33.5<br>16° 13.0 | 43° 33.6<br>16° 12.3 | 58° 33.7<br>16° 11.6 | 73° 33.8<br>16° 10.9 | +0.1<br>-0.7 |
| Lu 8 | 268° 34.9<br>16° 01.7 | 283° 34.9<br>16° 01.0 | 298° 35.0<br>16° 00.3 | 313° 35.1<br>15° 59.5 | 328° 35.2<br>15° 58.8 | 343° 35.3<br>15° 58.1 | 358° 35.4<br>15° 57.4 | 13° 35.5<br>15° 56.7 | 28° 35.5<br>15° 56.0 | 43° 35.6<br>15° 55.2 | 58° 35.7<br>15° 54.5 | 73° 35.8<br>15° 53.8 | +0.1<br>-0.7 |
| Ma 9 | 268° 37.0<br>15° 44.4 | 283° 37.1<br>15° 43.7 | 298° 37.2<br>15° 43.0 | 313° 37.2<br>15° 42.3 | 328° 37.3<br>15° 41.5 | 343° 37.4<br>15° 40.8 | 358° 37.5<br>15° 40.1 | 13° 37.6<br>15° 39.4 | 28° 37.7<br>15° 38.6 | 43° 37.8<br>15° 37.9 | 58° 37.9<br>15° 37.2 | 73° 38.0<br>15° 36.5 | +0.1<br>-0.7 |
| Me 10 | 268° 39.2<br>15° 26.9 | 283° 39.3<br>15° 26.2 | 298° 39.4<br>15° 25.5 | 313° 39.5<br>15° 24.7 | 328° 39.6<br>15° 24.0 | 343° 39.7<br>15° 23.3 | 358° 39.8<br>15° 22.5 | 13° 39.9<br>15° 21.8 | 28° 40.0<br>15° 21.1 | 43° 40.1<br>15° 20.3 | 58° 40.2<br>15° 19.6 | 73° 40.3<br>15° 18.8 | +0.1<br>-0.7 |
| Je 11 | 268° 41.6<br>15° 09.2 | 283° 41.7<br>15° 08.5 | 298° 41.8<br>15° 07.7 | 313° 41.9<br>15° 07.0 | 328° 42.0<br>15° 06.2 | 343° 42.1<br>15° 05.5 | 358° 42.2<br>15° 04.7 | 13° 42.4<br>15° 04.0 | 28° 42.5<br>15° 03.2 | 43° 42.6<br>15° 02.5 | 58° 42.7<br>15° 01.7 | 73° 42.8<br>15° 01.0 | +0.1<br>-0.7 |
| Ve 12 | 268° 44.2<br>14° 51.2 | 283° 44.3<br>14° 50.5 | 298° 44.4<br>14° 49.7 | 313° 44.5<br>14° 48.9 | 328° 44.6<br>14° 48.2 | 343° 44.7<br>14° 47.4 | 358° 44.8<br>14° 46.7 | 13° 44.9<br>14° 45.9 | 28° 45.0<br>14° 45.2 | 43° 45.2<br>14° 44.4 | 58° 45.3<br>14° 43.6 | 73° 45.4<br>14° 42.9 | +0.1<br>-0.8 |
| Sa 13 | 268° 46.8<br>14° 33.0 | 283° 47.0<br>14° 32.2 | 298° 47.1<br>14° 31.5 | 313° 47.2<br>14° 30.7 | 328° 47.3<br>14° 29.9 | 343° 47.4<br>14° 29.2 | 358° 47.5<br>14° 28.4 | 13° 47.7<br>14° 27.6 | 28° 47.8<br>14° 26.9 | 43° 47.9<br>14° 26.1 | 58° 48.0<br>14° 25.3 | 73° 48.1<br>14° 24.6 | +0.1<br>-0.8 |
| Di 14 | 268° 49.7<br>14° 14.5 | 283° 49.8<br>14° 13.8 | 298° 49.9<br>14° 13.0 | 313° 50.0<br>14° 12.2 | 328° 50.1<br>14° 11.4 | 343° 50.3<br>14° 10.7 | 358° 50.4<br>14° 09.9 | 13° 50.5<br>14° 09.1 | 28° 50.6<br>14° 08.3 | 43° 50.7<br>14° 07.6 | 58° 50.9<br>14° 06.8 | 73° 51.0<br>14° 06.0 | +0.1<br>-0.8 |
| Lu 15 | 268° 52.6<br>13° 55.8 | 283° 52.7<br>13° 55.1 | 298° 52.8<br>13° 54.3 | 313° 53.0<br>13° 53.5 | 328° 53.1<br>13° 52.7 | 343° 53.2<br>13° 51.9 | 358° 53.4<br>13° 51.1 | 13° 53.5<br>13° 50.4 | 28° 53.6<br>13° 49.6 | 43° 53.7<br>13° 48.8 | 58° 53.9<br>13° 48.0 | 73° 54.0<br>13° 47.2 | +0.1<br>-0.8 |
| Ma 16 | 268° 55.7<br>13° 36.9 | 283° 55.8<br>13° 36.1 | 298° 55.9<br>13° 35.4 | 313° 56.1<br>13° 34.6 | 328° 56.2<br>13° 33.8 | 343° 56.3<br>13° 33.0 | 358° 56.5<br>13° 32.2 | 13° 56.6<br>13° 31.4 | 28° 56.7<br>13° 30.6 | 43° 56.9<br>13° 29.8 | 58° 57.0<br>13° 29.0 | 73° 57.1<br>13° 28.2 | +0.1<br>-0.8 |
| Me 17 | 268° 58.9<br>13° 17.8 | 283° 59.0<br>13° 17.0 | 298° 59.1<br>13° 16.2 | 313° 59.3<br>13° 15.4 | 328° 59.4<br>13° 14.6 | 343° 59.5<br>13° 13.8 | 358° 59.7<br>13° 13.0 | 13° 59.8<br>13° 12.2 | 29° 00.0<br>13° 11.4 | 44° 00.1<br>13° 10.6 | 59° 00.2<br>13° 09.8 | 74° 00.4<br>13° 09.0 | +0.1<br>-0.8 |
| Je 18 | 269° 02.2<br>12° 58.5 | 284° 02.3<br>12° 57.7 | 299° 02.5<br>12° 56.9 | 314° 02.6<br>12° 56.0 | 329° 02.7<br>12° 55.2 | 344° 02.9<br>12° 54.4 | 359° 03.0<br>12° 53.6 | 14° 03.2<br>12° 52.8 | 29° 03.3<br>12° 52.0 | 44° 03.5<br>12° 51.2 | 59° 03.6<br>12° 50.4 | 74° 03.7<br>12° 49.5 | +0.1<br>-0.8 |
| Ve 19 | 269° 05.6<br>12° 38.9 | 284° 05.8<br>12° 38.1 | 299° 05.9<br>12° 37.3 | 314° 06.1<br>12° 36.5 | 329° 06.2<br>12° 35.7 | 344° 06.3<br>12° 34.8 | 359° 06.5<br>12° 34.0 | 14° 06.6<br>12° 33.2 | 29° 06.8<br>12° 32.4 | 44° 06.9<br>12° 31.6 | 59° 07.1<br>12° 30.7 | 74° 07.2<br>12° 29.9 | +0.1<br>-0.8 |
| Sa 20 | 269° 09.2<br>12° 19.2 | 284° 09.3<br>12° 18.4 | 299° 09.5<br>12° 17.5 | 314° 09.6<br>12° 16.7 | 329° 09.8<br>12° 15.9 | 344° 09.9<br>12° 15.1 | 359° 10.1<br>12° 14.2 | 14° 10.2<br>12° 13.4 | 29° 10.4<br>12° 12.6 | 44° 10.5<br>12° 11.7 | 59° 10.7<br>12° 10.9 | 74° 10.8<br>12° 10.1 | +0.2<br>-0.8 |
| Di 21 | 269° 12.8<br>11° 59.3 | 284° 13.0<br>11° 58.4 | 299° 13.1<br>11° 57.6 | 314° 13.3<br>11° 56.7 | 329° 13.5<br>11° 55.9 | 344° 13.6<br>11° 55.1 | 359° 13.8<br>11° 54.2 | 14° 13.9<br>11° 53.4 | 29° 14.1<br>11° 52.6 | 44° 14.2<br>11° 51.7 | 59° 14.4<br>11° 50.9 | 74° 14.5<br>11° 50.1 | +0.2<br>-0.8 |
| Lu 22 | 269° 16.6<br>11° 39.1 | 284° 16.8<br>11° 38.3 | 299° 16.9<br>11° 37.4 | 314° 17.1<br>11° 36.6 | 329° 17.2<br>11° 35.8 | 344° 17.4<br>11° 34.9 | 359° 17.6<br>11° 34.1 | 14° 17.7<br>11° 33.2 | 29° 17.9<br>11° 32.4 | 44° 18.1<br>11° 31.5 | 59° 18.2<br>11° 30.7 | 74° 18.4<br>11° 29.8 | +0.2<br>-0.8 |
| Ma 23 | 269° 20.5<br>11° 18.8 | 284° 20.7<br>11° 18.0 | 299° 20.8<br>11° 17.1 | 314° 21.0<br>11° 16.3 | 329° 21.2<br>11° 15.4 | 344° 21.3<br>11° 14.6 | 359° 21.5<br>11° 13.7 | 14° 21.6<br>11° 12.9 | 29° 21.8<br>11° 12.0 | 44° 22.0<br>11° 11.1 | 59° 22.1<br>11° 10.3 | 74° 22.3<br>11° 09.4 | +0.2<br>-0.9 |
| Me 24 | 269° 24.5<br>10° 58.3 | 284° 24.7<br>10° 57.5 | 299° 24.8<br>10° 56.6 | 314° 25.0<br>10° 55.7 | 329° 25.2<br>10° 54.9 | 344° 25.3<br>10° 54.0 | 359° 25.5<br>10° 53.2 | 14° 25.7<br>10° 52.3 | 29° 25.8<br>10° 51.5 | 44° 26.0<br>10° 50.6 | 59° 26.2<br>10° 49.7 | 74° 26.4<br>10° 48.9 | +0.2<br>-0.9 |
| Je 25 | 269° 28.6<br>10° 37.7 | 284° 28.8<br>10° 36.8 | 299° 28.9<br>10° 35.9 | 314° 29.1<br>10° 35.1 | 329° 29.3<br>10° 34.2 | 344° 29.5<br>10° 33.3 | 359° 29.6<br>10° 32.5 | 14° 29.8<br>10° 31.6 | 29° 30.0<br>10° 30.7 | 44° 30.1<br>10° 29.9 | 59° 30.3<br>10° 29.0 | 74° 30.5<br>10° 28.1 | +0.2<br>-0.9 |
| Ve 26 | 269° 32.8<br>10° 16.8 | 284° 33.0<br>10° 16.0 | 299° 33.1<br>10° 15.1 | 314° 33.3<br>10° 14.2 | 329° 33.5<br>10° 13.3 | 344° 33.7<br>10° 12.5 | 359° 33.9<br>10° 11.6 | 14° 34.0<br>10° 10.7 | 29° 34.2<br>10° 09.8 | 44° 34.4<br>10° 09.0 | 59° 34.6<br>10° 08.1 | 74° 34.7<br>10° 07.2 | +0.2<br>-0.9 |
| Sa 27 | 269° 37.1<br>9° 55.8 | 284° 37.3<br>9° 54.9 | 299° 37.4<br>9° 54.1 | 314° 37.6<br>9° 53.2 | 329° 37.8<br>9° 52.3 | 344° 38.0<br>9° 51.4 | 359° 38.2<br>9° 50.6 | 14° 38.4<br>9° 49.7 | 29° 38.5<br>9° 48.8 | 44° 38.7<br>9° 47.9 | 59° 38.9<br>9° 47.0 | 74° 39.1<br>9° 46.2 | +0.2<br>-0.9 |
| Di 28 | 269° 41.5<br>9° 34.7 | 284° 41.7<br>9° 33.8 | 299° 41.8<br>9° 32.9 | 314° 42.0<br>9° 32.0 | 329° 42.2<br>9° 31.1 | 344° 42.4<br>9° 30.2 | 359° 42.6<br>9° 29.4 | 14° 42.8<br>9° 28.5 | 29° 43.0<br>9° 27.6 | 44° 43.1<br>9° 26.7 | 59° 43.3<br>9° 26.7 | 74° 43.5<br>9° 24.9 | +0.2<br>-0.9 |
| Lu 29 | 269° 46.0<br>9° 13.4 | 284° 46.1<br>9° 12.5 | 299° 46.3<br>9° 11.6 | 314° 46.5<br>9° 10.7 | 329° 46.7<br>9° 09.8 | 344° 46.9<br>9° 08.9 | 359° 47.1<br>9° 08.0 | 14° 47.3<br>9° 07.1 | 29° 47.5<br>9° 06.2 | 44° 47.7<br>9° 05.3 | 59° 47.9<br>9° 04.4 | 74° 48.0<br>9° 03.6 | +0.2<br>-0.9 |
| Ma 30 | 269° 50.5<br>8° 51.9 | 284° 50.7<br>8° 51.0 | 299° 50.9<br>8° 50.1 | 314° 51.1<br>8° 49.2 | 329° 51.3<br>8° 48.3 | 344° 51.5<br>8° 47.4 | 359° 51.7<br>8° 46.5 | 14° 51.9<br>8° 45.6 | 29° 52.1<br>8° 44.7 | 44° 52.3<br>8° 43.8 | 59° 52.5<br>8° 42.9 | 74° 52.7<br>8° 42.0 | +0.2<br>-0.9 |
| Me 31 | 269° 55.2<br>8° 30.3 | 284° 55.4<br>8° 29.4 | 299° 55.6<br>8° 28.5 | 314° 55.8<br>8° 27.6 | 329° 56.0<br>8° 26.7 | 344° 56.2<br>8° 25.8 | 359° 56.4<br>8° 24.9 | 14° 56.6<br>8° 24.0 | 29° 56.8<br>8° 23.1 | 44° 57.0<br>8° 22.2 | 59° 57.2<br>8° 21.3 | 74° 57.4<br>8° 20.4 | +0.2<br>-0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2033

| J | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 249°32.3<br>-6°27.3 | 264°06.4<br>-6°36.2 | 278°40.4<br>-6°45.0 | 293°14.4<br>-6°53.8 | 307°48.4<br>-7°02.5 | 322°22.4<br>-7°11.3 | 336°56.3<br>-7°20.0 | 351°30.3<br>-7°28.6 | 6°04.2<br>-7°37.3 | 20°38.1<br>-7°45.9 | 35°11.9<br>-7°54.5 | +34.0<br>-8.7 | 14.8<br>54.1 |
| Ma 2 | 253°36.6<br>-9°59.1 | 268°10.0<br>-10°07.1 | 282°43.4<br>-10°15.1 | 297°16.7<br>-10°23.0 | 311°50.0<br>-10°30.9 | 326°23.3<br>-10°38.8 | 340°56.5<br>-10°46.6 | 355°29.7<br>-10°54.3 | 10°02.8<br>-11°02.1 | 24°35.9<br>-11°09.7 | 39°09.0<br>-11°17.4 | +33.2<br>-7.8 | 14.8<br>54.3 |
| ◐ Me 3 | 257°20.0<br>-13°06.2 | 271°52.4<br>-13°13.1 | 286°24.7<br>-13°19.9 | 300°57.0<br>-13°26.6 | 315°29.2<br>-13°33.3 | 330°01.4<br>-13°39.9 | 344°33.6<br>-13°46.5 | 359°05.7<br>-13°53.0 | 13°37.7<br>-13°59.4 | 28°09.7<br>-14°05.8 | 42°41.6<br>-14°12.2 | +32.2<br>-6.6 | 14.9<br>54.7 |
| Je 4 | 260°34.3<br>-15°39.7 | 275°05.4<br>-15°45.0 | 289°36.4<br>-15°50.2 | 304°07.4<br>-15°55.4 | 318°38.3<br>-16°00.5 | 333°09.1<br>-16°05.5 | 347°39.9<br>-16°10.5 | 2°10.6<br>-16°15.3 | 16°41.3<br>-16°20.1 | 31°11.9<br>-16°24.9 | 45°42.5<br>-16°29.5 | +30.8<br>-5.0 | 15.1<br>55.3 |
| Ve 5 | 263°14.1<br>-17°29.8 | 277°43.7<br>-17°33.1 | 292°13.3<br>-17°36.4 | 306°42.8<br>-17°39.6 | 321°12.3<br>-17°42.7 | 335°41.7<br>-17°45.7 | 350°11.0<br>-17°48.6 | 4°40.3<br>-17°51.4 | 19°09.6<br>-17°54.2 | 33°38.8<br>-17°56.8 | 48°07.9<br>-17°59.4 | +29.4<br>-3.0 | 15.3<br>56.0 |
| Sa 6 | 265°18.3<br>-18°26.3 | 279°46.5<br>-18°27.4 | 294°14.7<br>-18°28.3 | 308°42.9<br>-18°29.1 | 323°11.0<br>-18°29.8 | 337°39.1<br>-18°30.4 | 352°07.1<br>-18°30.9 | 6°35.1<br>-18°31.3 | 21°03.0<br>-18°31.6 | 35°30.9<br>-18°31.8 | 49°58.8<br>-18°31.9 | +28.0<br>-0.6 | 15.5<br>56.8 |
| Di 7 | 266°51.2<br>-18°20.5 | 281°18.4<br>-18°18.9 | 295°45.5<br>-18°17.1 | 310°12.6<br>-18°15.3 | 324°39.7<br>-18°13.3 | 339°06.7<br>-18°11.3 | 353°33.8<br>-18°09.1 | 8°00.7<br>-18°06.8 | 22°27.7<br>-18°04.4 | 36°54.6<br>-18°01.9 | 51°21.5<br>-17°59.2 | +27.0<br>+2.1 | 15.7<br>57.7 |
| Lu 8 | 268°02.0<br>-17°06.5 | 282°28.5<br>-17°02.1 | 296°55.1<br>-16°57.6 | 311°21.6<br>-16°52.9 | 325°48.1<br>-16°48.2 | 340°14.6<br>-16°43.3 | 354°41.0<br>-16°38.4 | 9°07.5<br>-16°33.3 | 23°33.9<br>-16°28.2 | 38°00.4<br>-16°22.9 | 52°26.8<br>-16°17.5 | +26.5<br>+4.9 | 16.0<br>58.6 |
| Ma 9 | 269°02.6<br>-14°44.0 | 283°29.0<br>-14°36.9 | 297°55.3<br>-14°29.8 | 312°21.7<br>-14°22.5 | 326°48.1<br>-14°15.1 | 341°14.5<br>-14°07.7 | 355°40.9<br>-14°00.2 | 10°07.3<br>-13°52.5 | 24°33.7<br>-13°44.8 | 39°00.1<br>-13°36.9 | 53°26.5<br>-13°29.0 | +26.4<br>+7.5 | 16.2<br>59.3 |
| ○ Me 10 | 270°03.8<br>-11°19.5 | 284°30.4<br>-11°10.2 | 298°57.0<br>-11°00.9 | 313°23.6<br>-10°51.4 | 327°50.3<br>-10°41.9 | 342°16.9<br>-10°32.3 | 356°43.5<br>-10°22.6 | 11°10.2<br>-10°12.9 | 25°36.9<br>-10°03.1 | 40°03.6<br>-9°53.2 | 54°30.3<br>-9°43.2 | +26.6<br>+9.6 | 16.3<br>59.9 |
| Je 11 | 271°12.8<br>-7°06.6 | 285°39.8<br>-6°55.7 | 300°06.7<br>-6°44.7 | 314°33.7<br>-6°33.8 | 329°00.7<br>-6°22.8 | 343°27.8<br>-6°11.7 | 357°54.8<br>-6°00.6 | 12°21.9<br>-5°49.5 | 26°48.9<br>-5°38.3 | 41°16.0<br>-5°27.0 | 55°43.1<br>-5°15.8 | +27.0<br>+11.1 | 16.4<br>60.3 |
| Ve 12 | 272°31.2<br>-2°23.5 | 286°58.5<br>-2°11.9 | 301°25.8<br>-2°00.2 | 315°53.2<br>-1°48.5 | 330°20.5<br>-1°36.9 | 344°47.9<br>-1°25.2 | 359°15.2<br>-1°13.5 | 13°42.6<br>-1°01.8 | 28°10.0<br>-0°50.0 | 42°37.4<br>-0°38.3 | 57°04.8<br>-0°26.6 | +27.4<br>+11.7 | 16.5<br>60.4 |
| Sa 13 | 273°56.5<br>2°28.4 | 288°24.0<br>2°40.0 | 302°51.4<br>2°51.5 | 317°18.9<br>3°03.0 | 331°46.4<br>3°14.5 | 346°13.9<br>3°26.0 | 0°41.4<br>3°37.4 | 15°08.9<br>3°48.8 | 29°36.4<br>4°00.2 | 44°03.9<br>4°11.5 | 58°31.4<br>4°22.9 | +27.5<br>+11.5 | 16.4<br>60.2 |
| Di 14 | 275°23.6<br>7°08.0 | 289°51.0<br>7°18.7 | 304°18.5<br>7°29.3 | 318°45.9<br>7°39.8 | 333°13.3<br>7°50.3 | 347°40.8<br>8°00.7 | 2°08.2<br>8°11.1 | 16°35.6<br>8°21.4 | 31°03.0<br>8°31.7 | 45°30.4<br>8°41.9 | 59°57.8<br>8°52.0 | +27.4<br>+10.4 | 16.3<br>59.9 |
| Lu 15 | 276°47.8<br>11°16.1 | 291°15.0<br>11°25.1 | 305°42.3<br>11°34.1 | 320°09.5<br>11°43.0 | 334°36.8<br>11°51.8 | 349°04.0<br>12°00.5 | 3°31.2<br>12°09.1 | 17°58.4<br>12°17.7 | 32°25.6<br>12°26.1 | 46°52.8<br>12°34.5 | 61°20.0<br>12°42.8 | +27.2<br>+8.7 | 16.2<br>59.3 |
| Ma 16 | 291°15.0<br>11°25.1 | 305°42.3<br>11°34.1 | 320°09.5<br>11°43.0 | 334°36.8<br>11°51.8 | 349°04.0<br>12°00.5 | 3°31.2<br>12°09.1 | 17°58.4<br>12°17.7 | 32°25.6<br>12°26.1 | 46°52.8<br>12°34.5 | 61°20.0<br>12°42.8 | 75°47.1<br>12°51.0 | +27.2<br>+8.6 | 16.2<br>59.3 |
| ◑ Me 17 | 292°33.7<br>14°43.7 | 307°00.8<br>14°50.4 | 321°27.8<br>14°57.1 | 335°54.9<br>15°03.7 | 350°21.9<br>15°10.2 | 4°48.9<br>15°16.5 | 19°15.9<br>15°22.8 | 33°43.0<br>15°29.0 | 48°10.0<br>15°35.1 | 62°37.0<br>15°41.1 | 77°04.0<br>15°46.9 | +27.0<br>+6.3 | 16.0<br>58.7 |
| Je 18 | 293°49.0<br>17°02.8 | 308°16.0<br>17°07.1 | 322°43.0<br>17°11.2 | 337°10.0<br>17°15.2 | 351°37.1<br>17°19.1 | 6°04.1<br>17°22.9 | 20°31.1<br>17°26.6 | 34°58.2<br>17°30.1 | 49°25.2<br>17°33.6 | 63°52.3<br>17°37.0 | 78°19.4<br>17°40.2 | +27.0<br>+3.7 | 15.8<br>58.0 |
| Ve 19 | 295°06.9<br>18°16.1 | 309°34.1<br>18°17.6 | 324°01.5<br>18°19.0 | 338°28.8<br>18°20.3 | 352°56.1<br>18°21.5 | 7°23.5<br>18°22.6 | 21°50.9<br>18°23.6 | 36°18.3<br>18°24.5 | 50°45.7<br>18°25.2 | 65°13.2<br>18°25.9 | 79°40.7<br>18°26.5 | +27.4<br>+1.0 | 15.7<br>57.4 |
| Sa 20 | 296°36.3<br>18°22.0 | 311°04.2<br>18°20.9 | 325°32.2<br>18°19.7 | 340°00.2<br>18°18.3 | 354°28.3<br>18°16.9 | 8°56.4<br>18°15.4 | 23°24.5<br>18°13.7 | 37°52.7<br>18°12.0 | 52°20.9<br>18°10.2 | 66°49.1<br>18°08.2 | 81°17.4<br>18°06.2 | +28.1<br>-1.6 | 15.5<br>56.8 |
| Di 21 | 298°26.4<br>17°24.1 | 312°55.4<br>17°20.6 | 327°24.4<br>17°16.9 | 341°53.4<br>17°13.2 | 356°22.5<br>17°09.4 | 10°51.7<br>17°05.5 | 25°20.8<br>17°01.5 | 39°50.1<br>16°57.4 | 54°19.3<br>16°53.2 | 68°48.7<br>16°49.0 | 83°18.0<br>16°44.6 | +29.2<br>-4.0 | 15.3<br>56.2 |
| Lu 22 | 300°44.4<br>15°29.8 | 315°14.6<br>15°24.2 | 329°44.8<br>15°18.5 | 344°15.1<br>15°12.7 | 358°45.4<br>15°06.9 | 13°15.7<br>15°01.0 | 27°46.1<br>14°55.0 | 42°16.6<br>14°49.0 | 56°47.1<br>14°42.8 | 71°17.7<br>14°36.7 | 85°48.3<br>14°30.4 | +30.4<br>-5.9 | 15.2<br>55.7 |
| Ma 23 | 303°33.4<br>12°49.0 | 318°04.8<br>12°41.8 | 332°36.2<br>12°34.5 | 347°07.7<br>12°27.1 | 1°39.3<br>12°19.7 | 16°10.8<br>12°12.3 | 30°42.5<br>12°04.8 | 45°14.2<br>11°57.2 | 59°45.9<br>11°49.6 | 74°17.7<br>11°41.9 | 88°49.5<br>11°34.2 | +31.6<br>-7.5 | 15.1<br>55.2 |
| ● Me 24 | 306°52.2<br>9°33.2 | 321°24.8<br>9°24.8 | 335°57.3<br>9°16.3 | 350°29.9<br>9°07.9 | 5°02.6<br>8°59.3 | 19°35.3<br>8°50.8 | 34°08.0<br>8°42.2 | 48°40.8<br>8°33.6 | 63°13.6<br>8°25.0 | 77°46.4<br>8°16.3 | 92°19.3<br>8°07.6 | +32.7<br>-8.6 | 15.0<br>54.8 |
| Je 25 | 310°36.7<br>5°53.7 | 325°10.1<br>5°44.5 | 339°43.5<br>5°35.4 | 354°17.0<br>5°26.3 | 8°50.5<br>5°17.1 | 23°24.1<br>5°07.9 | 37°57.6<br>4°58.7 | 52°31.2<br>4°49.5 | 67°04.8<br>4°40.2 | 81°38.5<br>4°31.0 | 96°12.1<br>4°21.7 | +33.5<br>-9.2 | 14.9<br>54.5 |
| Ve 26 | 314°39.9<br>2°01.4 | 329°13.9<br>1°52.0 | 343°47.9<br>1°42.6 | 358°21.9<br>1°33.2 | 12°56.0<br>1°23.7 | 27°30.1<br>1°14.3 | 42°04.1<br>1°04.9 | 56°38.2<br>0°55.5 | 71°12.3<br>0°46.0 | 85°46.5<br>0°36.6 | 100°20.6<br>0°27.2 | +34.1<br>-9.4 | 14.8<br>54.2 |
| Sa 27 | 318°53.7<br>-1°53.6 | 333°27.9<br>-2°02.9 | 348°02.2<br>-2°12.2 | 2°36.4<br>-2°21.5 | 17°10.7<br>-2°30.8 | 31°44.9<br>-2°40.1 | 46°19.2<br>-2°49.3 | 60°53.4<br>-2°58.6 | 75°27.7<br>-3°07.8 | 90°01.9<br>-3°17.0 | 104°36.2<br>-3°26.2 | +34.3<br>-9.3 | 14.7<br>54.0 |
| Di 28 | 323°09.2<br>-5°42.0 | 337°43.4<br>-5°50.9 | 352°17.5<br>-5°59.7 | 6°51.6<br>-6°08.6 | 21°25.7<br>-6°17.4 | 35°59.8<br>-6°26.1 | 50°33.8<br>-6°34.9 | 65°07.9<br>-6°43.6 | 79°41.9<br>-6°52.3 | 94°15.9<br>-7°01.0 | 108°49.9<br>-7°09.6 | +34.1<br>-8.8 | 14.7<br>54.0 |
| Lu 29 | 327°17.6<br>-9°15.3 | 341°51.3<br>-9°23.4 | 356°24.9<br>-9°31.4 | 10°58.6<br>-9°39.5 | 25°32.1<br>-9°47.5 | 40°05.7<br>-9°55.4 | 54°39.2<br>-10°03.3 | 69°12.7<br>-10°11.2 | 83°46.2<br>-10°19.0 | 98°19.7<br>-10°26.8 | 112°53.1<br>-10°34.5 | +33.5<br>-7.9 | 14.7<br>54.1 |
| Ma 30 | 331°10.5<br>-12°25.1 | 345°43.3<br>-12°32.0 | 0°16.2<br>-12°39.0 | 14°49.0<br>-12°45.9 | 29°21.7<br>-12°52.7 | 43°54.5<br>-12°59.5 | 58°27.2<br>-13°06.2 | 72°59.8<br>-13°12.8 | 87°32.4<br>-13°19.5 | 102°05.0<br>-13°26.0 | 116°37.5<br>-13°32.5 | +32.7<br>-6.7 | 14.8<br>54.3 |
| Me 31 | 334°40.3<br>-15°02.9 | 349°12.2<br>-15°08.4 | 3°43.9<br>-15°13.9 | 18°15.7<br>-15°19.3 | 32°47.4<br>-15°24.6 | 47°19.0<br>-15°29.9 | 61°50.6<br>-15°35.1 | 76°22.2<br>-15°40.2 | 90°53.7<br>-15°45.3 | 105°25.1<br>-15°50.2 | 119°56.5<br>-15°55.2 | +31.6<br>-5.2 | 14.9<br>54.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 3 10h25 — PL: 10 18h07 — DQ: 17 09h42 — NL: 24 21h39

# SOLEIL

## Septembre 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 269°59.9 | 285°00.1 | 300°00.3 | 315°00.5 | 330°00.7 | 345°00.9 | 0°01.1 | 15°01.3 | 30°01.5 | 45°01.7 | 60°01.9 | 75°02.1 | +0.2 |
| | 8°08.6 | 8°07.7 | 8°06.8 | 8°05.9 | 8°05.0 | 8°04.1 | 8°03.2 | 8°02.2 | 8°01.3 | 8°00.4 | 7°59.5 | 7°58.6 | -0.9 |
| Ve 2 | 270°04.7 | 285°05.0 | 300°05.2 | 315°05.4 | 330°05.6 | 345°05.8 | 0°06.0 | 15°06.2 | 30°06.4 | 45°06.6 | 60°06.8 | 75°07.0 | +0.2 |
| | 7°46.7 | 7°45.8 | 7°44.9 | 7°44.0 | 7°43.1 | 7°42.2 | 7°41.3 | 7°40.3 | 7°39.4 | 7°38.5 | 7°37.6 | 7°36.7 | -0.9 |
| Sa 3 | 270°09.6 | 285°09.8 | 300°10.0 | 315°10.3 | 330°10.5 | 345°10.7 | 0°10.9 | 15°11.1 | 30°11.3 | 45°11.5 | 60°11.7 | 75°11.9 | +0.2 |
| | 7°24.8 | 7°23.8 | 7°22.9 | 7°22.0 | 7°21.1 | 7°20.2 | 7°19.3 | 7°18.3 | 7°17.4 | 7°16.5 | 7°15.6 | 7°14.7 | -0.9 |
| Di 4 | 270°14.6 | 285°14.8 | 300°15.0 | 315°15.2 | 330°15.4 | 345°15.6 | 0°15.8 | 15°16.1 | 30°16.3 | 45°16.5 | 60°16.7 | 75°16.9 | +0.2 |
| | 7°02.7 | 7°01.7 | 7°00.8 | 6°59.9 | 6°59.0 | 6°58.1 | 6°57.1 | 6°56.2 | 6°55.3 | 6°54.4 | 6°53.4 | 6°52.5 | -0.9 |
| Lu 5 | 270°19.6 | 285°19.8 | 300°20.0 | 315°20.3 | 330°20.5 | 345°20.7 | 0°20.9 | 15°21.1 | 30°21.3 | 45°21.5 | 60°21.7 | 75°21.9 | +0.2 |
| | 6°40.5 | 6°39.5 | 6°38.6 | 6°37.7 | 6°36.7 | 6°35.8 | 6°34.9 | 6°34.0 | 6°33.0 | 6°32.1 | 6°31.2 | 6°30.2 | -0.9 |
| Ma 6 | 270°24.7 | 285°24.9 | 300°25.1 | 315°25.3 | 330°25.6 | 345°25.8 | 0°26.0 | 15°26.2 | 30°26.4 | 45°26.6 | 60°26.8 | 75°27.1 | +0.2 |
| | 6°18.1 | 6°17.2 | 6°16.3 | 6°15.3 | 6°14.4 | 6°13.5 | 6°12.5 | 6°11.6 | 6°10.7 | 6°09.7 | 6°08.8 | 6°07.9 | -0.9 |
| Me 7 | 270°29.8 | 285°30.1 | 300°30.3 | 315°30.5 | 330°30.7 | 345°30.9 | 0°31.1 | 15°31.3 | 30°31.6 | 45°31.8 | 60°32.0 | 75°32.2 | +0.2 |
| | 5°55.7 | 5°54.8 | 5°53.8 | 5°52.9 | 5°52.0 | 5°51.0 | 5°50.1 | 5°49.2 | 5°48.2 | 5°47.3 | 5°46.3 | 5°45.4 | -0.9 |
| Je 8 | 270°35.0 | 285°35.2 | 300°35.5 | 315°35.7 | 330°35.9 | 345°36.1 | 0°36.3 | 15°36.5 | 30°36.8 | 45°37.0 | 60°37.2 | 75°37.4 | +0.2 |
| | 5°33.2 | 5°32.3 | 5°31.3 | 5°30.4 | 5°29.4 | 5°28.5 | 5°27.6 | 5°26.6 | 5°25.7 | 5°24.7 | 5°23.8 | 5°22.8 | -0.9 |
| Ve 9 | 270°40.3 | 285°40.5 | 300°40.7 | 315°40.9 | 330°41.1 | 345°41.3 | 0°41.6 | 15°41.8 | 30°42.0 | 45°42.2 | 60°42.4 | 75°42.7 | +0.2 |
| | 5°10.6 | 5°09.6 | 5°08.7 | 5°07.8 | 5°06.8 | 5°05.9 | 5°04.9 | 5°04.0 | 5°03.0 | 5°02.1 | 5°01.1 | 5°00.2 | -0.9 |
| Sa 10 | 270°45.5 | 285°45.7 | 300°46.0 | 315°46.2 | 330°46.4 | 345°46.6 | 0°46.8 | 15°47.1 | 30°47.3 | 45°47.5 | 60°47.7 | 75°47.9 | +0.2 |
| | 4°47.9 | 4°46.9 | 4°46.0 | 4°45.0 | 4°44.1 | 4°43.1 | 4°42.2 | 4°41.2 | 4°40.3 | 4°39.4 | 4°38.4 | 4°37.5 | -0.9 |
| Di 11 | 270°50.8 | 285°51.0 | 300°51.3 | 315°51.5 | 330°51.7 | 345°51.9 | 0°52.1 | 15°52.4 | 30°52.6 | 45°52.8 | 60°53.0 | 75°53.3 | +0.2 |
| | 4°25.1 | 4°24.2 | 4°23.2 | 4°22.3 | 4°21.3 | 4°20.3 | 4°19.4 | 4°18.4 | 4°17.5 | 4°16.5 | 4°15.6 | 4°14.6 | -1.0 |
| Lu 12 | 270°56.1 | 285°56.4 | 300°56.6 | 315°56.8 | 330°57.0 | 345°57.2 | 0°57.5 | 15°57.7 | 30°57.9 | 45°58.1 | 60°58.4 | 75°58.6 | +0.2 |
| | 4°02.2 | 4°01.3 | 4°00.3 | 3°59.4 | 3°58.4 | 3°57.5 | 3°56.5 | 3°55.6 | 3°54.6 | 3°53.7 | 3°52.7 | 3°51.7 | -1.0 |
| Ma 13 | 271°01.5 | 286°01.7 | 301°01.9 | 316°02.1 | 331°02.4 | 346°02.6 | 1°02.8 | 16°03.0 | 31°03.3 | 46°03.5 | 61°03.7 | 76°03.9 | +0.2 |
| | 3°39.3 | 3°38.4 | 3°37.4 | 3°36.4 | 3°35.5 | 3°34.5 | 3°33.6 | 3°32.6 | 3°31.7 | 3°30.7 | 3°29.7 | 3°28.8 | -1.0 |
| Me 14 | 271°06.8 | 286°07.1 | 301°07.3 | 316°07.5 | 331°07.7 | 346°07.9 | 1°08.2 | 16°08.4 | 31°08.6 | 46°08.8 | 61°09.1 | 76°09.3 | +0.2 |
| | 3°16.3 | 3°15.4 | 3°14.4 | 3°13.4 | 3°12.5 | 3°11.5 | 3°10.6 | 3°09.6 | 3°08.6 | 3°07.7 | 3°06.7 | 3°05.7 | -1.0 |
| Je 15 | 271°12.2 | 286°12.4 | 301°12.6 | 316°12.9 | 331°13.1 | 346°13.3 | 1°13.5 | 16°13.8 | 31°14.0 | 46°14.2 | 61°14.4 | 76°14.7 | +0.2 |
| | 2°53.2 | 2°52.3 | 2°51.3 | 2°50.4 | 2°49.4 | 2°48.4 | 2°47.5 | 2°46.5 | 2°45.5 | 2°44.6 | 2°43.6 | 2°42.7 | -1.0 |
| Ve 16 | 271°17.6 | 286°17.8 | 301°18.0 | 316°18.2 | 331°18.5 | 346°18.7 | 1°18.9 | 16°19.1 | 31°19.3 | 46°19.6 | 61°19.8 | 76°20.0 | +0.2 |
| | 2°30.1 | 2°29.2 | 2°28.2 | 2°27.2 | 2°26.3 | 2°25.3 | 2°24.3 | 2°23.4 | 2°22.4 | 2°21.4 | 2°20.5 | 2°19.5 | -1.0 |
| Sa 17 | 271°22.9 | 286°23.1 | 301°23.4 | 316°23.6 | 331°23.8 | 346°24.0 | 1°24.3 | 16°24.5 | 31°24.7 | 46°24.9 | 61°25.2 | 76°25.4 | +0.2 |
| | 2°07.0 | 2°06.0 | 2°05.0 | 2°04.1 | 2°03.1 | 2°02.1 | 2°01.2 | 2°00.2 | 1°59.2 | 1°58.3 | 1°57.3 | 1°56.3 | -1.0 |
| Di 18 | 271°28.3 | 286°28.5 | 301°28.7 | 316°28.9 | 331°29.2 | 346°29.4 | 1°29.6 | 16°29.8 | 31°30.1 | 46°30.3 | 61°30.5 | 76°30.7 | +0.2 |
| | 1°43.7 | 1°42.8 | 1°41.8 | 1°40.8 | 1°39.9 | 1°38.9 | 1°37.9 | 1°37.0 | 1°36.0 | 1°35.0 | 1°34.1 | 1°33.1 | -1.0 |
| Lu 19 | 271°33.6 | 286°33.8 | 301°34.1 | 316°34.3 | 331°34.5 | 346°34.7 | 1°35.0 | 16°35.2 | 31°35.4 | 46°35.6 | 61°35.8 | 76°36.1 | +0.2 |
| | 1°20.5 | 1°19.5 | 1°18.6 | 1°17.6 | 1°16.6 | 1°15.6 | 1°14.7 | 1°13.7 | 1°12.7 | 1°11.8 | 1°10.8 | 1°09.8 | -1.0 |
| Ma 20 | 271°38.9 | 286°39.2 | 301°39.4 | 316°39.6 | 331°39.8 | 346°40.1 | 1°40.3 | 16°40.5 | 31°40.7 | 46°40.9 | 61°41.2 | 76°41.4 | +0.2 |
| | 0°57.2 | 0°56.2 | 0°55.3 | 0°54.3 | 0°53.3 | 0°52.4 | 0°51.4 | 0°50.4 | 0°49.4 | 0°48.5 | 0°47.5 | 0°46.5 | -1.0 |
| Me 21 | 271°44.3 | 286°44.5 | 301°44.7 | 316°44.9 | 331°45.1 | 346°45.4 | 1°45.6 | 16°45.8 | 31°46.0 | 46°46.2 | 61°46.5 | 76°46.7 | +0.2 |
| | 0°33.9 | 0°32.9 | 0°32.0 | 0°31.0 | 0°30.0 | 0°29.0 | 0°28.1 | 0°27.1 | 0°26.1 | 0°25.1 | 0°24.2 | 0°23.2 | -1.0 |
| Je 22 | 271°49.5 | 286°49.8 | 301°50.0 | 316°50.2 | 331°50.4 | 346°50.6 | 1°50.9 | 16°51.1 | 31°51.3 | 46°51.5 | 61°51.7 | 76°52.0 | +0.2 |
| | 0°10.6 | 0°09.6 | 0°08.6 | 0°07.6 | 0°06.7 | 0°05.7 | 0°04.7 | 0°03.8 | 0°02.8 | 0°01.8 | 0°00.8 | -0°00.1 | -1.0 |
| Ve 23 | 271°54.8 | 286°55.0 | 301°55.2 | 316°55.5 | 331°55.7 | 346°55.9 | 1°56.1 | 16°56.3 | 31°56.5 | 46°56.8 | 61°57.0 | 76°57.2 | +0.2 |
| | -0°12.8 | -0°13.8 | -0°14.7 | -0°15.7 | -0°16.7 | -0°17.7 | -0°18.6 | -0°19.6 | -0°20.6 | -0°21.5 | -0°22.5 | -0°23.5 | -1.0 |
| Sa 24 | 272°00.0 | 287°00.2 | 302°00.5 | 317°00.7 | 332°00.9 | 347°01.1 | 2°01.3 | 17°01.5 | 32°01.8 | 47°02.0 | 62°02.2 | 77°02.4 | +0.2 |
| | -0°36.1 | -0°37.1 | -0°38.1 | -0°39.1 | -0°40.0 | -0°41.0 | -0°42.0 | -0°43.0 | -0°43.9 | -0°44.9 | -0°45.9 | -0°46.9 | -1.0 |
| Di 25 | 272°05.2 | 287°05.4 | 302°05.6 | 317°05.9 | 332°06.1 | 347°06.3 | 2°06.5 | 17°06.7 | 32°06.9 | 47°07.1 | 62°07.4 | 77°07.6 | +0.2 |
| | -0°59.5 | -1°00.5 | -1°01.5 | -1°02.4 | -1°03.4 | -1°04.4 | -1°05.4 | -1°06.3 | -1°07.3 | -1°08.3 | -1°09.2 | -1°10.2 | -1.0 |
| Lu 26 | 272°10.4 | 287°10.6 | 302°10.8 | 317°11.0 | 332°11.2 | 347°11.4 | 2°11.6 | 17°11.8 | 32°12.1 | 47°12.3 | 62°12.5 | 77°12.7 | +0.2 |
| | -1°22.9 | -1°23.8 | -1°24.8 | -1°25.8 | -1°26.8 | -1°27.7 | -1°28.7 | -1°29.7 | -1°30.7 | -1°31.6 | -1°32.6 | -1°33.6 | -1.0 |
| Ma 27 | 272°15.4 | 287°15.7 | 302°15.9 | 317°16.1 | 332°16.3 | 347°16.5 | 2°16.7 | 17°16.9 | 32°17.1 | 47°17.3 | 62°17.6 | 77°17.8 | +0.2 |
| | -1°46.2 | -1°47.2 | -1°48.2 | -1°49.1 | -1°50.1 | -1°51.1 | -1°52.1 | -1°53.0 | -1°54.0 | -1°55.0 | -1°56.0 | -1°56.9 | -1.0 |
| Me 28 | 272°20.5 | 287°20.7 | 302°20.9 | 317°21.1 | 332°21.3 | 347°21.5 | 2°21.7 | 17°22.0 | 32°22.2 | 47°22.4 | 62°22.6 | 77°22.8 | +0.2 |
| | -2°09.6 | -2°10.5 | -2°11.5 | -2°12.5 | -2°13.5 | -2°14.4 | -2°15.4 | -2°16.4 | -2°17.3 | -2°18.3 | -2°19.3 | -2°20.3 | -1.0 |
| Je 29 | 272°25.5 | 287°25.7 | 302°25.9 | 317°26.1 | 332°26.3 | 347°26.5 | 2°26.7 | 17°26.9 | 32°27.1 | 47°27.3 | 62°27.6 | 77°27.8 | +0.2 |
| | -2°32.9 | -2°33.9 | -2°34.8 | -2°35.8 | -2°36.8 | -2°37.7 | -2°38.7 | -2°39.7 | -2°40.7 | -2°41.6 | -2°42.6 | -2°43.6 | -1.0 |
| Ve 30 | 272°30.4 | 287°30.6 | 302°30.8 | 317°31.0 | 332°31.2 | 347°31.4 | 2°31.6 | 17°31.8 | 32°32.1 | 47°32.3 | 62°32.5 | 77°32.7 | +0.2 |
| | -2°56.2 | -2°57.2 | -2°58.1 | -2°59.1 | -3°00.1 | -3°01.0 | -3°02.0 | -3°03.0 | -3°03.9 | -3°04.9 | -3°05.9 | -3°06.9 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2033

| J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 250°37.0<br>-16°36.2 | 265°07.9<br>-16°40.4 | 279°38.8<br>-16°44.5 | 294°09.6<br>-16°48.5 | 308°40.4<br>-16°52.5 | 323°11.1<br>-16°56.3 | 337°41.8<br>-17°00.1 | 352°12.4<br>-17°03.9 | 6°43.0<br>-17°07.5 | 21°13.5<br>-17°11.1 | 35°44.0<br>-17°14.6 | +30.7<br>-3.8 | 15.0<br>55.1 |
| ◐ Ve 2 | 253°15.0<br>-17°56.7 | 267°44.7<br>-17°58.8 | 282°14.3<br>-18°00.9 | 296°43.9<br>-18°02.8 | 311°13.4<br>-18°04.7 | 325°42.9<br>-18°06.4 | 340°12.3<br>-18°08.1 | 354°41.7<br>-18°09.6 | 9°11.0<br>-18°11.1 | 23°40.3<br>-18°12.5 | 38°09.6<br>-18°13.8 | +29.5<br>-1.7 | 15.2<br>55.8 |
| Sa 3 | 255°22.6<br>-18°21.7 | 269°51.1<br>-18°21.4 | 284°19.5<br>-18°21.0 | 298°48.0<br>-18°20.6 | 313°16.3<br>-18°20.0 | 327°44.7<br>-18°19.3 | 342°13.0<br>-18°18.6 | 356°41.3<br>-18°17.7 | 11°09.5<br>-18°16.7 | 25°37.7<br>-18°15.6 | 40°05.8<br>-18°14.5 | +28.3<br>+0.7 | 15.5<br>56.7 |
| Di 4 | 257°03.6<br>-17°44.2 | 271°31.2<br>-17°41.3 | 285°58.7<br>-17°38.3 | 300°26.2<br>-17°35.2 | 314°53.7<br>-17°32.1 | 329°21.2<br>-17°28.8 | 343°48.6<br>-17°25.4 | 358°16.0<br>-17°21.9 | 12°43.4<br>-17°18.2 | 27°10.7<br>-17°14.5 | 41°38.1<br>-17°10.7 | +27.4<br>+3.3 | 15.7<br>57.6 |
| Lu 5 | 258°25.1<br>-16°00.5 | 272°52.0<br>-15°55.0 | 287°19.0<br>-15°49.3 | 301°45.9<br>-15°43.6 | 316°12.8<br>-15°37.8 | 330°39.7<br>-15°31.8 | 345°06.6<br>-15°25.8 | 359°33.5<br>-15°19.6 | 14°00.4<br>-15°13.4 | 28°27.2<br>-15°07.0 | 42°54.0<br>-15°00.6 | +26.9<br>+6.0 | 16.0<br>58.6 |
| Ma 6 | 259°35.1<br>-13°11.9 | 274°01.8<br>-13°03.9 | 288°28.4<br>-12°55.8 | 302°55.1<br>-12°47.6 | 317°21.8<br>-12°39.3 | 331°48.4<br>-12°30.9 | 346°15.0<br>-12°22.5 | 0°41.7<br>-12°13.9 | 15°08.3<br>-12°05.3 | 29°34.9<br>-11°56.6 | 44°01.5<br>-11°47.7 | +26.6<br>+8.4 | 16.2<br>59.6 |
| Me 7 | 260°40.5<br>-9°25.8 | 275°07.1<br>-9°15.8 | 289°33.7<br>-9°05.6 | 304°00.2<br>-8°55.4 | 318°26.8<br>-8°45.2 | 332°53.4<br>-8°34.9 | 347°20.0<br>-8°24.5 | 1°46.6<br>-8°14.0 | 16°13.1<br>-8°03.5 | 30°39.7<br>-7°52.9 | 45°06.3<br>-7°42.2 | +26.6<br>+10.4 | 16.5<br>60.3 |
| Je 8 | 261°44.9<br>-4°56.3 | 276°11.5<br>-4°44.9 | 290°38.1<br>-4°33.4 | 305°04.7<br>-4°21.9 | 319°31.2<br>-4°10.4 | 333°57.8<br>-3°58.8 | 348°24.4<br>-3°47.2 | 2°50.9<br>-3°35.6 | 17°17.5<br>-3°23.9 | 31°44.1<br>-3°12.3 | 46°10.6<br>-3°00.6 | +26.6<br>+11.6 | 16.6<br>60.9 |
| ○ Ve 9 | 262°48.8<br>-0°02.9 | 277°15.3<br>0°09.0 | 291°41.8<br>0°21.0 | 306°08.3<br>0°32.9 | 320°34.8<br>0°44.8 | 335°01.3<br>0°56.7 | 349°27.8<br>1°08.6 | 3°54.3<br>1°20.5 | 18°20.8<br>1°32.4 | 32°47.3<br>1°44.2 | 47°13.7<br>1°56.1 | +26.5<br>+11.9 | 16.7<br>61.1 |
| Sa 10 | 263°50.0<br>4°51.5 | 278°16.4<br>5°02.9 | 292°42.7<br>5°14.4 | 307°09.1<br>5°25.7 | 321°35.4<br>5°37.1 | 336°01.8<br>5°48.4 | 350°28.1<br>5°59.6 | 4°54.4<br>6°10.8 | 19°20.7<br>6°22.0 | 33°47.0<br>6°33.1 | 48°13.3<br>6°44.2 | +26.3<br>+11.3 | 16.6<br>61.0 |
| Di 11 | 264°46.5<br>9°23.4 | 279°12.7<br>9°33.6 | 293°38.8<br>9°43.6 | 308°05.0<br>9°53.6 | 322°31.1<br>10°03.4 | 336°57.2<br>10°13.3 | 351°23.3<br>10°23.0 | 5°49.4<br>10°32.7 | 20°15.5<br>10°42.3 | 34°41.6<br>10°51.8 | 49°07.7<br>11°01.2 | +26.1<br>+9.8 | 16.5<br>60.5 |
| Lu 12 | 265°38.2<br>13°12.4 | 280°04.2<br>13°20.5 | 294°30.2<br>13°28.4 | 308°56.2<br>13°36.2 | 323°22.2<br>13°44.0 | 337°48.2<br>13°51.6 | 352°14.2<br>13°59.1 | 6°40.2<br>14°06.6 | 21°06.2<br>14°13.9 | 35°32.2<br>14°21.2 | 49°58.2<br>14°28.3 | +26.0<br>+7.6 | 16.3<br>59.9 |
| Ma 13 | 266°28.6<br>16°02.9 | 280°54.6<br>16°08.4 | 295°20.7<br>16°13.7 | 309°46.8<br>16°19.0 | 324°12.9<br>16°24.1 | 338°39.1<br>16°29.1 | 353°05.2<br>16°34.0 | 7°31.4<br>16°38.8 | 21°57.5<br>16°43.5 | 36°23.7<br>16°48.1 | 50°49.9<br>16°52.5 | +26.1<br>+5.0 | 16.1<br>59.0 |
| Me 14 | 267°25.0<br>17°46.0 | 281°51.5<br>17°48.6 | 296°18.1<br>17°51.2 | 310°44.6<br>17°53.6 | 325°11.2<br>17°55.9 | 339°37.9<br>17°58.1 | 354°04.5<br>18°00.2 | 8°31.2<br>18°02.2 | 22°57.9<br>18°04.1 | 37°24.7<br>18°05.9 | 51°51.4<br>18°07.5 | +26.6<br>+2.2 | 15.9<br>58.2 |
| ◑ Je 15 | 281°51.5<br>17°48.6 | 296°18.1<br>17°51.2 | 310°44.6<br>17°53.6 | 325°11.2<br>17°55.9 | 339°37.9<br>17°58.1 | 354°04.5<br>18°00.2 | 8°31.2<br>18°02.2 | 22°57.9<br>18°04.1 | 37°24.7<br>18°05.9 | 51°51.4<br>18°07.5 | 66°18.2<br>18°09.1 | +26.7<br>+2.0 | 15.9<br>58.2 |
| Ve 16 | 283°04.6<br>18°19.0 | 297°32.0<br>18°18.8 | 311°59.4<br>18°18.5 | 326°26.9<br>18°18.0 | 340°54.4<br>18°17.5 | 355°21.9<br>18°16.9 | 9°49.6<br>18°16.2 | 24°17.2<br>18°15.3 | 38°44.9<br>18°14.4 | 53°12.6<br>18°13.3 | 67°40.4<br>18°12.2 | +27.6<br>-0.7 | 15.6<br>57.3 |
| Sa 17 | 284°42.9<br>17°43.0 | 299°11.5<br>17°40.3 | 313°40.1<br>17°37.5 | 328°08.8<br>17°34.6 | 342°37.5<br>17°31.6 | 357°06.2<br>17°28.5 | 11°35.1<br>17°25.3 | 26°03.9<br>17°22.0 | 40°32.9<br>17°18.6 | 55°01.8<br>17°15.2 | 69°30.9<br>17°11.6 | +28.8<br>-3.1 | 15.4<br>56.5 |
| Di 18 | 286°52.8<br>16°08.3 | 301°22.7<br>16°03.4 | 315°52.7<br>15°58.4 | 330°22.7<br>15°53.4 | 344°52.7<br>15°48.3 | 359°22.8<br>15°43.1 | 13°53.0<br>15°37.9 | 28°23.2<br>15°32.5 | 42°53.5<br>15°27.1 | 57°23.8<br>15°21.6 | 71°54.2<br>15°16.1 | +30.1<br>-5.2 | 15.2<br>55.9 |
| Lu 19 | 289°36.4<br>13°44.6 | 304°07.6<br>13°38.0 | 318°38.9<br>13°31.4 | 333°10.2<br>13°24.6 | 347°41.6<br>13°17.9 | 2°13.0<br>13°11.0 | 16°44.5<br>13°04.1 | 31°16.0<br>12°57.1 | 45°47.6<br>12°50.1 | 60°19.2<br>12°43.1 | 74°50.8<br>12°35.9 | +31.5<br>-6.9 | 15.1<br>55.3 |
| Ma 20 | 292°51.5<br>10°42.9 | 307°23.9<br>10°35.0 | 321°56.4<br>10°27.1 | 336°28.8<br>10°19.1 | 351°01.4<br>10°11.0 | 5°33.9<br>10°03.0 | 20°06.5<br>9°54.9 | 34°39.2<br>9°46.7 | 49°11.9<br>9°38.5 | 63°44.6<br>9°30.3 | 78°17.4<br>9°22.0 | +32.6<br>-8.1 | 15.0<br>54.8 |
| Me 21 | 296°33.2<br>7°13.9 | 311°06.6<br>7°05.1 | 325°39.9<br>6°56.3 | 340°13.3<br>6°47.5 | 354°46.7<br>6°38.6 | 9°20.2<br>6°29.7 | 23°53.6<br>6°20.8 | 38°27.2<br>6°11.9 | 53°00.7<br>6°03.0 | 67°34.2<br>5°54.0 | 82°07.8<br>5°45.0 | +33.5<br>-8.9 | 14.8<br>54.5 |
| Je 22 | 300°34.5<br>3°28.0 | 315°08.4<br>3°18.7 | 329°42.4<br>3°09.4 | 344°16.4<br>3°00.2 | 358°50.4<br>2°50.9 | 13°24.4<br>2°41.6 | 27°58.4<br>2°32.3 | 42°32.5<br>2°23.0 | 57°06.5<br>2°13.7 | 71°40.6<br>2°04.4 | 86°14.7<br>1°55.1 | +34.0<br>-9.3 | 14.8<br>54.2 |
| ● Ve 23 | 304°47.3<br>-0°25.0 | 319°21.5<br>-0°34.4 | 333°55.8<br>-0°43.7 | 348°30.0<br>-0°53.0 | 3°04.3<br>-1°02.3 | 17°38.5<br>-1°11.6 | 32°12.8<br>-1°20.9 | 46°47.0<br>-1°30.2 | 61°21.3<br>-1°39.5 | 75°55.5<br>-1°48.8 | 90°29.8<br>-1°58.1 | +34.3<br>-9.3 | 14.7<br>54.0 |
| Sa 24 | 309°03.4<br>-4°15.6 | 323°37.6<br>-4°24.7 | 338°11.8<br>-4°33.7 | 352°45.9<br>-4°42.7 | 7°20.1<br>-4°51.7 | 21°54.3<br>-5°00.6 | 36°28.4<br>-5°09.6 | 51°02.6<br>-5°18.5 | 65°36.7<br>-5°27.4 | 80°10.8<br>-5°36.3 | 94°44.9<br>-5°45.1 | +34.2<br>-9.0 | 14.7<br>53.9 |
| Di 25 | 313°14.8<br>-7°54.7 | 327°48.6<br>-8°03.1 | 342°22.4<br>-8°11.5 | 356°56.3<br>-8°19.8 | 11°30.0<br>-8°28.1 | 26°03.8<br>-8°36.4 | 40°37.6<br>-8°44.6 | 55°11.3<br>-8°52.8 | 69°45.0<br>-9°00.9 | 84°18.7<br>-9°09.1 | 98°52.3<br>-9°17.1 | +33.8<br>-8.2 | 14.7<br>53.9 |
| Lu 26 | 317°14.2<br>-11°13.5 | 331°47.4<br>-11°20.9 | 346°20.6<br>-11°28.2 | 0°53.8<br>-11°35.5 | 15°26.9<br>-11°42.8 | 30°00.0<br>-11°50.0 | 44°33.1<br>-11°57.2 | 59°06.2<br>-12°04.3 | 73°39.2<br>-12°11.4 | 88°12.2<br>-12°18.4 | 102°45.1<br>-12°25.3 | +33.1<br>-7.2 | 14.7<br>54.0 |
| Ma 27 | 320°55.4<br>-14°03.2 | 335°27.8<br>-14°09.3 | 350°00.2<br>-14°15.3 | 4°32.5<br>-14°21.3 | 19°04.8<br>-14°27.1 | 33°37.1<br>-14°33.0 | 48°09.3<br>-14°38.7 | 62°41.5<br>-14°44.4 | 77°13.7<br>-14°50.0 | 91°45.8<br>-14°55.6 | 106°17.8<br>-15°01.1 | +32.2<br>-5.8 | 14.8<br>54.3 |
| Me 28 | 324°14.2<br>-16°15.6 | 338°45.7<br>-16°20.0 | 353°17.1<br>-16°24.3 | 7°48.4<br>-16°28.6 | 22°19.8<br>-16°32.7 | 36°51.1<br>-16°36.8 | 51°22.3<br>-16°40.9 | 65°53.5<br>-16°44.8 | 80°24.7<br>-16°48.7 | 94°55.8<br>-16°52.5 | 109°26.9<br>-16°56.2 | +31.3<br>-4.1 | 14.9<br>54.6 |
| Je 29 | 327°08.4<br>-17°42.5 | 341°38.8<br>-17°44.9 | 356°09.2<br>-17°47.2 | 10°39.6<br>-17°49.5 | 25°09.9<br>-17°51.7 | 39°40.2<br>-17°53.7 | 54°10.5<br>-17°55.7 | 68°40.7<br>-17°57.6 | 83°10.9<br>-17°59.5 | 97°41.0<br>-18°01.2 | 112°11.1<br>-18°02.9 | +30.3<br>-2.0 | 15.0<br>55.1 |
| Ve 30 | 329°38.3<br>-18°16.7 | 344°07.8<br>-18°16.9 | 358°37.3<br>-18°17.0 | 13°06.8<br>-18°17.0 | 27°36.2<br>-18°16.9 | 42°05.6<br>-18°16.7 | 56°34.9<br>-18°16.4 | 71°04.3<br>-18°16.1 | 85°33.6<br>-18°15.6 | 100°02.8<br>-18°15.0 | 114°32.1<br>-18°14.3 | +29.4<br>+0.2 | 15.2<br>55.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 2 02h23 — PL: 9 02h20 — DQ: 15 17h33 — NL: 23 13h39

# SOLEIL

## Octobre 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 272°35.3 | 287°35.5 | 302°35.7 | 317°35.9 | 332°36.1 | 347°36.3 | 2°36.5 | 17°36.7 | 32°36.9 | 47°37.1 | 62°37.3 | 77°37.5 | +0.2 |
| | -3°19.4 | -3°20.4 | -3°21.4 | -3°22.4 | -3°23.3 | -3°24.3 | -3°25.3 | -3°26.2 | -3°27.2 | -3°28.2 | -3°29.1 | -3°30.1 | -1.0 |
| Di 2 | 272°40.1 | 287°40.3 | 302°40.5 | 317°40.7 | 332°40.9 | 347°41.1 | 2°41.3 | 17°41.5 | 32°41.7 | 47°41.9 | 62°42.1 | 77°42.3 | +0.2 |
| | -3°42.7 | -3°43.6 | -3°44.6 | -3°45.6 | -3°46.5 | -3°47.5 | -3°48.5 | -3°49.4 | -3°50.4 | -3°51.4 | -3°52.3 | -3°53.3 | -1.0 |
| Lu 3 | 272°44.8 | 287°45.0 | 302°45.2 | 317°45.4 | 332°45.6 | 347°45.8 | 2°46.0 | 17°46.2 | 32°46.4 | 47°46.6 | 62°46.8 | 77°47.0 | +0.2 |
| | -4°05.9 | -4°06.8 | -4°07.8 | -4°08.7 | -4°09.7 | -4°10.7 | -4°11.6 | -4°12.6 | -4°13.6 | -4°14.5 | -4°15.5 | -4°16.5 | -1.0 |
| Ma 4 | 272°49.5 | 287°49.7 | 302°49.8 | 317°50.0 | 332°50.2 | 347°50.4 | 2°50.6 | 17°50.8 | 32°51.0 | 47°51.2 | 62°51.4 | 77°51.6 | +0.2 |
| | -4°29.0 | -4°29.9 | -4°30.9 | -4°31.9 | -4°32.8 | -4°33.8 | -4°34.8 | -4°35.7 | -4°36.7 | -4°37.6 | -4°38.6 | -4°39.6 | -1.0 |
| Me 5 | 272°54.0 | 287°54.2 | 302°54.4 | 317°54.6 | 332°54.8 | 347°55.0 | 2°55.1 | 17°55.3 | 32°55.5 | 47°55.7 | 62°55.9 | 77°56.1 | +0.2 |
| | -4°52.1 | -4°53.0 | -4°54.0 | -4°54.9 | -4°55.9 | -4°56.9 | -4°57.8 | -4°58.8 | -4°59.7 | -5°00.7 | -5°01.7 | -5°02.6 | -1.0 |
| Je 6 | 272°58.5 | 287°58.7 | 302°58.9 | 317°59.0 | 332°59.2 | 347°59.4 | 2°59.6 | 17°59.8 | 33°00.0 | 48°00.1 | 63°00.3 | 78°00.5 | +0.2 |
| | -5°15.1 | -5°16.0 | -5°17.0 | -5°17.9 | -5°18.9 | -5°19.9 | -5°20.8 | -5°21.8 | -5°22.7 | -5°23.7 | -5°24.6 | -5°25.6 | -1.0 |
| Ve 7 | 273°02.9 | 288°03.0 | 303°03.2 | 318°03.4 | 333°03.6 | 348°03.8 | 3°03.9 | 18°04.1 | 33°04.3 | 48°04.5 | 63°04.7 | 78°04.8 | +0.2 |
| | -5°38.0 | -5°39.0 | -5°39.9 | -5°40.9 | -5°41.8 | -5°42.8 | -5°43.7 | -5°44.7 | -5°45.7 | -5°46.6 | -5°47.6 | -5°48.5 | -1.0 |
| Sa 8 | 273°07.1 | 288°07.3 | 303°07.5 | 318°07.7 | 333°07.8 | 348°08.0 | 3°08.2 | 18°08.4 | 33°08.5 | 48°08.7 | 63°08.9 | 78°09.1 | +0.2 |
| | -6°00.9 | -6°01.8 | -6°02.8 | -6°03.8 | -6°04.7 | -6°05.7 | -6°06.6 | -6°07.6 | -6°08.5 | -6°09.5 | -6°10.4 | -6°11.4 | -1.0 |
| Di 9 | 273°11.3 | 288°11.5 | 303°11.7 | 318°11.8 | 333°12.0 | 348°12.2 | 3°12.3 | 18°12.5 | 33°12.7 | 48°12.8 | 63°13.0 | 78°13.2 | +0.2 |
| | -6°23.7 | -6°24.6 | -6°25.6 | -6°26.5 | -6°27.5 | -6°28.4 | -6°29.4 | -6°30.3 | -6°31.3 | -6°32.2 | -6°33.2 | -6°34.1 | -0.9 |
| Lu 10 | 273°15.4 | 288°15.5 | 303°15.7 | 318°15.9 | 333°16.0 | 348°16.2 | 3°16.4 | 18°16.5 | 33°16.7 | 48°16.8 | 63°17.0 | 78°17.2 | +0.2 |
| | -6°46.4 | -6°47.4 | -6°48.3 | -6°49.2 | -6°50.2 | -6°51.1 | -6°52.1 | -6°53.0 | -6°54.0 | -6°54.9 | -6°55.8 | -6°56.8 | -0.9 |
| Ma 11 | 273°19.3 | 288°19.5 | 303°19.6 | 318°19.8 | 333°19.9 | 348°20.1 | 3°20.3 | 18°20.4 | 33°20.6 | 48°20.7 | 63°20.9 | 78°21.1 | +0.2 |
| | -7°09.0 | -7°10.0 | -7°10.9 | -7°11.8 | -7°12.8 | -7°13.7 | -7°14.7 | -7°15.6 | -7°16.5 | -7°17.5 | -7°18.4 | -7°19.4 | -0.9 |
| Me 12 | 273°23.1 | 288°23.3 | 303°23.4 | 318°23.6 | 333°23.7 | 348°23.9 | 3°24.0 | 18°24.2 | 33°24.3 | 48°24.5 | 63°24.6 | 78°24.8 | +0.2 |
| | -7°31.6 | -7°32.5 | -7°33.4 | -7°34.4 | -7°35.3 | -7°36.2 | -7°37.2 | -7°38.1 | -7°39.0 | -7°40.0 | -7°40.9 | -7°41.8 | -0.9 |
| Je 13 | 273°26.8 | 288°26.9 | 303°27.1 | 318°27.2 | 333°27.4 | 348°27.5 | 3°27.7 | 18°27.8 | 33°28.0 | 48°28.1 | 63°28.3 | 78°28.4 | +0.1 |
| | -7°54.0 | -7°54.9 | -7°55.8 | -7°56.8 | -7°57.7 | -7°58.6 | -7°59.6 | -8°00.5 | -8°01.4 | -8°02.4 | -8°03.3 | -8°04.2 | -0.9 |
| Ve 14 | 273°30.3 | 288°30.5 | 303°30.6 | 318°30.7 | 333°30.9 | 348°31.0 | 3°31.2 | 18°31.3 | 33°31.5 | 48°31.6 | 63°31.7 | 78°31.9 | +0.1 |
| | -8°16.3 | -8°17.2 | -8°18.2 | -8°19.1 | -8°20.0 | -8°20.9 | -8°21.9 | -8°22.8 | -8°23.7 | -8°24.6 | -8°25.6 | -8°26.5 | -0.9 |
| Sa 15 | 273°33.7 | 288°33.8 | 303°34.0 | 318°34.1 | 333°34.3 | 348°34.4 | 3°34.5 | 18°34.7 | 33°34.8 | 48°34.9 | 63°35.1 | 78°35.2 | +0.1 |
| | -8°38.5 | -8°39.4 | -8°40.3 | -8°41.3 | -8°42.2 | -8°43.1 | -8°44.0 | -8°45.0 | -8°45.9 | -8°46.8 | -8°47.7 | -8°48.6 | -0.9 |
| Di 16 | 273°37.0 | 288°37.1 | 303°37.2 | 318°37.4 | 333°37.5 | 348°37.6 | 3°37.7 | 18°37.9 | 33°38.0 | 48°38.1 | 63°38.3 | 78°38.4 | +0.1 |
| | -9°00.6 | -9°01.5 | -9°02.4 | -9°03.3 | -9°04.2 | -9°05.2 | -9°06.1 | -9°07.0 | -9°07.9 | -9°08.8 | -9°09.7 | -9°10.7 | -0.9 |
| Lu 17 | 273°40.1 | 288°40.2 | 303°40.3 | 318°40.4 | 333°40.6 | 348°40.7 | 3°40.8 | 18°40.9 | 33°41.1 | 48°41.2 | 63°41.3 | 78°41.4 | +0.1 |
| | -9°22.5 | -9°23.4 | -9°24.4 | -9°25.3 | -9°26.2 | -9°27.1 | -9°28.0 | -9°28.9 | -9°29.8 | -9°30.7 | -9°31.6 | -9°32.6 | -0.9 |
| Ma 18 | 273°43.0 | 288°43.1 | 303°43.2 | 318°43.4 | 333°43.5 | 348°43.6 | 3°43.7 | 18°43.8 | 33°43.9 | 48°44.1 | 63°44.2 | 78°44.3 | +0.1 |
| | -9°44.4 | -9°45.3 | -9°46.2 | -9°47.1 | -9°48.0 | -9°48.9 | -9°49.8 | -9°50.7 | -9°51.6 | -9°52.5 | -9°53.4 | -9°54.3 | -0.9 |
| Me 19 | 273°45.8 | 288°45.9 | 303°46.0 | 318°46.1 | 333°46.2 | 348°46.4 | 3°46.5 | 18°46.6 | 33°46.7 | 48°46.8 | 63°46.9 | 78°47.0 | +0.1 |
| | -10°06.0 | -10°06.9 | -10°07.8 | -10°08.7 | -10°09.6 | -10°10.5 | -10°11.4 | -10°12.3 | -10°13.2 | -10°14.1 | -10°15.0 | -10°15.9 | -0.9 |
| Je 20 | 273°48.4 | 288°48.5 | 303°48.6 | 318°48.7 | 333°48.8 | 348°48.9 | 3°49.1 | 18°49.2 | 33°49.3 | 48°49.4 | 63°49.5 | 78°49.6 | +0.1 |
| | -10°27.6 | -10°28.5 | -10°29.4 | -10°30.3 | -10°31.1 | -10°32.0 | -10°32.9 | -10°33.8 | -10°34.7 | -10°35.6 | -10°36.5 | -10°37.4 | -0.9 |
| Ve 21 | 273°50.9 | 288°51.0 | 303°51.1 | 318°51.2 | 333°51.3 | 348°51.4 | 3°51.5 | 18°51.6 | 33°51.7 | 48°51.8 | 63°51.9 | 78°52.0 | +0.1 |
| | -10°48.9 | -10°49.8 | -10°50.7 | -10°51.6 | -10°52.5 | -10°53.4 | -10°54.3 | -10°55.2 | -10°56.0 | -10°56.9 | -10°57.8 | -10°58.7 | -0.9 |
| Sa 22 | 273°53.2 | 288°53.3 | 303°53.4 | 318°53.5 | 333°53.5 | 348°53.6 | 3°53.7 | 18°53.8 | 33°53.9 | 48°54.0 | 63°54.1 | 78°54.2 | +0.1 |
| | -11°10.2 | -11°11.0 | -11°11.9 | -11°12.8 | -11°13.7 | -11°14.6 | -11°15.4 | -11°16.3 | -11°17.2 | -11°18.1 | -11°19.0 | -11°19.8 | -0.9 |
| Di 23 | 273°55.3 | 288°55.4 | 303°55.5 | 318°55.6 | 333°55.6 | 348°55.7 | 3°55.8 | 18°55.9 | 33°56.0 | 48°56.1 | 63°56.1 | 78°56.2 | +0.1 |
| | -11°31.2 | -11°32.1 | -11°33.0 | -11°33.8 | -11°34.7 | -11°35.6 | -11°36.5 | -11°37.3 | -11°38.2 | -11°39.1 | -11°39.9 | -11°40.8 | -0.9 |
| Lu 24 | 273°57.3 | 288°57.3 | 303°57.4 | 318°57.5 | 333°57.6 | 348°57.6 | 3°57.7 | 18°57.8 | 33°57.9 | 48°57.9 | 63°58.0 | 78°58.1 | +0.1 |
| | -11°52.1 | -11°53.0 | -11°53.8 | -11°54.7 | -11°55.6 | -11°56.4 | -11°57.3 | -11°58.2 | -11°59.0 | -11°59.9 | -12°00.7 | -12°01.6 | -0.9 |
| Ma 25 | 273°59.0 | 288°59.1 | 303°59.2 | 318°59.2 | 333°59.3 | 348°59.4 | 3°59.4 | 18°59.5 | 33°59.6 | 48°59.7 | 63°59.7 | 78°59.8 | +0.1 |
| | -12°12.8 | -12°13.7 | -12°14.5 | -12°15.4 | -12°16.2 | -12°17.1 | -12°17.9 | -12°18.8 | -12°19.7 | -12°20.5 | -12°21.4 | -12°22.2 | -0.9 |
| Me 26 | 274°00.6 | 289°00.7 | 304°00.8 | 319°00.8 | 334°00.9 | 349°00.9 | 4°01.0 | 19°01.1 | 34°01.1 | 49°01.2 | 64°01.2 | 79°01.3 | +0.1 |
| | -12°33.3 | -12°34.2 | -12°35.0 | -12°35.9 | -12°36.7 | -12°37.6 | -12°38.4 | -12°39.3 | -12°40.1 | -12°40.9 | -12°41.8 | -12°42.6 | -0.8 |
| Je 27 | 274°02.0 | 289°02.1 | 304°02.2 | 319°02.2 | 334°02.3 | 349°02.3 | 4°02.4 | 19°02.4 | 34°02.5 | 49°02.5 | 64°02.6 | 79°02.6 | +0.1 |
| | -12°53.6 | -12°54.5 | -12°55.3 | -12°56.1 | -12°57.0 | -12°57.8 | -12°58.7 | -12°59.5 | -13°00.3 | -13°01.2 | -13°02.0 | -13°02.9 | -0.8 |
| Ve 28 | 274°03.3 | 289°03.3 | 304°03.4 | 319°03.4 | 334°03.5 | 349°03.5 | 4°03.6 | 19°03.6 | 34°03.6 | 49°03.7 | 64°03.7 | 79°03.8 | +0.0 |
| | -13°13.7 | -13°14.6 | -13°15.4 | -13°16.2 | -13°17.1 | -13°17.9 | -13°18.7 | -13°19.6 | -13°20.4 | -13°21.2 | -13°22.1 | -13°22.9 | -0.8 |
| Sa 29 | 274°04.3 | 289°04.4 | 304°04.4 | 319°04.4 | 334°04.5 | 349°04.5 | 4°04.6 | 19°04.6 | 34°04.6 | 49°04.7 | 64°04.7 | 79°04.7 | +0.0 |
| | -13°33.6 | -13°34.5 | -13°35.3 | -13°36.1 | -13°36.9 | -13°37.8 | -13°38.6 | -13°39.4 | -13°40.2 | -13°41.1 | -13°41.9 | -13°42.7 | -0.8 |
| Di 30 | 274°05.2 | 289°05.2 | 304°05.2 | 319°05.3 | 334°05.3 | 349°05.3 | 4°05.4 | 19°05.4 | 34°05.4 | 49°05.5 | 64°05.5 | 79°05.5 | +0.0 |
| | -13°53.3 | -13°54.2 | -13°55.0 | -13°55.8 | -13°56.6 | -13°57.4 | -13°58.2 | -13°59.0 | -13°59.9 | -14°00.7 | -14°01.5 | -14°02.3 | -0.8 |
| Lu 31 | 274°05.8 | 289°05.9 | 304°05.9 | 319°05.9 | 334°05.9 | 349°06.0 | 4°06.0 | 19°06.0 | 34°06.0 | 49°06.0 | 64°06.1 | 79°06.1 | +0.0 |
| | -14°12.8 | -14°13.6 | -14°14.4 | -14°15.2 | -14°16.0 | -14°16.8 | -14°17.6 | -14°18.4 | -14°19.2 | -14°20.0 | -14°20.9 | -14°21.7 | -0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2033

| J | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◐ Sa 1 | 244°53.7<br>-18°04.0 | 259°22.7<br>-18°02.3 | 273°51.6<br>-18°00.6 | 288°20.4<br>-17°58.8 | 302°49.3<br>-17°56.8 | 317°18.1<br>-17°54.8 | 331°46.9<br>-17°52.6 | 346°15.6<br>-17°50.4 | 0°44.3<br>-17°48.1 | 15°13.1<br>-17°45.6 | 29°41.7<br>-17°43.1 | +28.8<br>+2.1 | 15.4<br>56.4 |
| Di 2 | 246°49.0<br>-16°53.2 | 261°17.3<br>-16°49.0 | 275°45.6<br>-16°44.8 | 290°13.8<br>-16°40.5 | 304°42.1<br>-16°36.0 | 319°10.3<br>-16°31.5 | 333°38.5<br>-16°26.9 | 348°06.7<br>-16°22.2 | 2°34.9<br>-16°17.3 | 17°03.0<br>-16°12.4 | 31°31.1<br>-16°07.4 | +28.2<br>+4.6 | 15.6<br>57.3 |
| Lu 3 | 248°30.9<br>-14°40.4 | 262°58.8<br>-14°33.8 | 277°26.7<br>-14°27.1 | 291°54.5<br>-14°20.4 | 306°22.3<br>-14°13.5 | 320°50.1<br>-14°06.6 | 335°17.9<br>-13°59.5 | 349°45.7<br>-13°52.4 | 4°13.4<br>-13°45.2 | 18°41.2<br>-13°37.8 | 33°08.9<br>-13°30.4 | +27.8<br>+7.0 | 15.9<br>58.3 |
| Ma 4 | 250°03.3<br>-11°28.8 | 264°30.9<br>-11°20.0 | 278°58.4<br>-11°11.2 | 293°25.9<br>-11°02.2 | 307°53.4<br>-10°53.2 | 322°20.8<br>-10°44.1 | 336°48.3<br>-10°34.9 | 351°15.8<br>-10°25.7 | 5°43.2<br>-10°16.3 | 20°10.6<br>-10°06.9 | 34°38.0<br>-9°57.5 | +27.5<br>+9.1 | 16.2<br>59.3 |
| Me 5 | 251°27.7<br>-7°26.9 | 265°54.9<br>-7°16.4 | 280°22.1<br>-7°05.8 | 294°49.2<br>-6°55.1 | 309°16.4<br>-6°44.4 | 323°43.5<br>-6°33.6 | 338°10.6<br>-6°22.8 | 352°37.8<br>-6°11.9 | 7°04.9<br>-6°01.0 | 21°31.9<br>-5°50.0 | 35°59.0<br>-5°38.9 | +27.1<br>+10.8 | 16.4<br>60.2 |
| Je 6 | 252°42.9<br>-2°48.5 | 267°09.7<br>-2°36.8 | 281°36.4<br>-2°25.1 | 296°03.2<br>-2°13.5 | 310°29.9<br>-2°01.7 | 324°56.6<br>-1°50.0 | 339°23.3<br>-1°38.2 | 353°49.9<br>-1°26.4 | 8°16.6<br>-1°14.6 | 22°43.2<br>-1°02.8 | 37°09.8<br>-0°51.0 | +26.7<br>+11.8 | 16.6<br>60.9 |
| Ve 7 | 253°46.0<br>2°07.3 | 268°12.2<br>2°19.2 | 282°38.5<br>2°31.0 | 297°04.6<br>2°42.9 | 311°30.8<br>2°54.7 | 325°56.9<br>3°06.5 | 340°23.0<br>3°18.4 | 354°49.1<br>3°30.1 | 9°15.2<br>3°41.9 | 23°41.2<br>3°53.6 | 38°07.2<br>4°05.4 | +26.1<br>+11.8 | 16.7<br>61.3 |
| ○ Sa 8 | 254°34.2<br>6°57.2 | 268°59.8<br>7°08.4 | 283°25.3<br>7°19.5 | 297°50.9<br>7°30.5 | 312°16.4<br>7°41.5 | 326°41.9<br>7°52.4 | 341°07.3<br>8°03.2 | 355°32.8<br>8°14.0 | 9°58.2<br>8°24.8 | 24°23.6<br>8°35.5 | 38°49.0<br>8°46.1 | +25.5<br>+10.9 | 16.7<br>61.4 |
| Di 9 | 255°06.9<br>11°17.0 | 269°31.9<br>11°26.5 | 283°56.9<br>11°35.8 | 298°21.9<br>11°45.1 | 312°46.9<br>11°54.3 | 327°11.8<br>12°03.4 | 341°36.8<br>12°12.4 | 356°01.7<br>12°21.3 | 10°26.6<br>12°30.1 | 24°51.5<br>12°38.8 | 39°16.4<br>12°47.4 | +25.0<br>+9.0 | 16.6<br>61.0 |
| Lu 10 | 255°28.4<br>14°44.9 | 269°53.2<br>14°51.9 | 284°17.9<br>14°58.8 | 298°42.7<br>15°05.5 | 313°07.4<br>15°12.2 | 327°32.2<br>15°18.8 | 341°56.9<br>15°25.2 | 356°21.7<br>15°31.5 | 10°46.5<br>15°37.7 | 25°11.2<br>15°43.8 | 39°36.0<br>15°49.8 | +24.8<br>+6.5 | 16.5<br>60.4 |
| Ma 11 | 255°48.9<br>17°05.4 | 270°13.8<br>17°09.5 | 284°38.8<br>17°13.5 | 299°03.9<br>17°17.4 | 313°28.9<br>17°21.1 | 327°54.0<br>17°24.7 | 342°19.1<br>17°28.2 | 356°44.2<br>17°31.5 | 11°09.4<br>17°34.8 | 25°34.6<br>17°37.9 | 39°59.8<br>17°40.9 | +25.1<br>+3.5 | 16.2<br>59.5 |
| Me 12 | 256°22.1<br>18°11.6 | 270°47.9<br>18°12.7 | 285°13.7<br>18°13.7 | 299°39.6<br>18°14.5 | 314°05.6<br>18°15.3 | 328°31.6<br>18°15.9 | 342°57.6<br>18°16.4 | 357°23.7<br>18°16.8 | 11°49.8<br>18°17.1 | 26°16.0<br>18°17.2 | 40°42.2<br>18°17.3 | +26.0<br>+0.6 | 16.0<br>58.6 |
| Je 13 | 257°22.3<br>18°04.7 | 271°49.4<br>18°03.0 | 286°16.6<br>18°01.2 | 300°43.8<br>17°59.3 | 315°11.1<br>17°57.3 | 329°38.5<br>17°55.2 | 344°06.0<br>17°53.0 | 358°33.5<br>17°50.7 | 13°01.0<br>17°48.2 | 27°28.6<br>17°45.7 | 41°56.3<br>17°43.1 | +27.4<br>-2.2 | 15.7<br>57.6 |
| Ve 14 | 258°59.6<br>16°52.5 | 273°28.3<br>16°48.4 | 287°57.1<br>16°44.2 | 302°26.0<br>16°40.0 | 316°54.9<br>16°35.6 | 331°24.0<br>16°31.2 | 345°53.0<br>16°26.7 | 0°22.2<br>16°22.1 | 14°51.4<br>16°17.4 | 29°20.7<br>16°12.6 | 43°50.0<br>16°07.8 | +29.0<br>-4.5 | 15.5<br>56.7 |
| ◑ Sa 15 | 273°28.3<br>16°48.4 | 287°57.1<br>16°44.2 | 302°26.0<br>16°40.0 | 316°54.9<br>16°35.6 | 331°24.0<br>16°31.2 | 345°53.0<br>16°26.7 | 0°22.2<br>16°22.1 | 14°51.4<br>16°17.4 | 29°20.7<br>16°12.6 | 43°50.0<br>16°07.8 | 58°19.4<br>16°02.8 | +29.1<br>-4.6 | 15.4<br>56.6 |
| Di 16 | 275°48.6<br>14°40.0 | 290°19.0<br>14°33.9 | 304°49.5<br>14°27.8 | 319°20.1<br>14°21.6 | 333°50.8<br>14°15.3 | 348°21.5<br>14°09.0 | 2°52.3<br>14°02.6 | 17°23.1<br>13°56.1 | 31°54.0<br>13°49.6 | 46°24.9<br>13°43.0 | 60°56.0<br>13°36.3 | +30.7<br>-6.4 | 15.2<br>55.8 |
| Lu 17 | 278°48.2<br>11°49.9 | 293°20.1<br>11°42.4 | 307°52.1<br>11°34.8 | 322°24.2<br>11°27.2 | 336°56.2<br>11°19.6 | 351°28.4<br>11°11.9 | 6°00.6<br>11°04.1 | 20°32.8<br>10°56.4 | 35°05.1<br>10°48.5 | 49°37.4<br>10°40.7 | 64°09.8<br>10°32.7 | +32.2<br>-7.7 | 15.0<br>55.2 |
| Ma 18 | 282°21.1<br>8°29.5 | 296°54.2<br>8°21.0 | 311°27.3<br>8°12.4 | 326°00.4<br>8°03.9 | 340°33.6<br>7°55.3 | 355°06.9<br>7°46.7 | 9°40.2<br>7°38.0 | 24°13.5<br>7°29.4 | 38°46.8<br>7°20.7 | 53°20.2<br>7°11.9 | 67°53.6<br>7°03.2 | +33.3<br>-8.6 | 14.9<br>54.6 |
| Me 19 | 286°18.5<br>4°49.2 | 300°52.4<br>4°40.1 | 315°26.3<br>4°31.0 | 330°00.2<br>4°21.9 | 344°34.2<br>4°12.8 | 359°08.1<br>4°03.6 | 13°42.1<br>3°54.5 | 28°16.1<br>3°45.3 | 42°50.2<br>3°36.1 | 57°24.2<br>3°26.9 | 71°58.3<br>3°17.7 | +34.0<br>-9.2 | 14.8<br>54.3 |
| Je 20 | 290°31.0<br>0°58.6 | 305°05.3<br>0°49.3 | 319°39.6<br>0°40.0 | 334°13.9<br>0°30.7 | 348°48.2<br>0°21.4 | 3°22.5<br>0°12.1 | 17°56.8<br>0°02.8 | 32°31.1<br>-0°06.5 | 47°05.4<br>-0°15.8 | 61°39.8<br>-0°25.2 | 76°14.1<br>-0°34.5 | +34.3<br>-9.3 | 14.7<br>54.0 |
| Ve 21 | 294°49.0<br>-2°53.2 | 309°23.3<br>-3°02.4 | 323°57.6<br>-3°11.6 | 338°31.9<br>-3°20.7 | 353°06.2<br>-3°29.9 | 7°40.5<br>-3°39.0 | 22°14.7<br>-3°48.1 | 36°49.0<br>-3°57.2 | 51°23.2<br>-4°06.3 | 65°57.5<br>-4°15.3 | 80°31.7<br>-4°24.4 | +34.3<br>-9.1 | 14.7<br>53.9 |
| Sa 22 | 299°03.5<br>-6°37.5 | 313°37.5<br>-6°46.2 | 328°11.5<br>-6°54.9 | 342°45.4<br>-7°03.5 | 357°19.4<br>-7°12.1 | 11°53.3<br>-7°20.7 | 26°27.2<br>-7°29.2 | 41°01.1<br>-7°37.8 | 55°34.9<br>-7°46.3 | 70°08.7<br>-7°54.7 | 84°42.6<br>-8°03.1 | +33.9<br>-8.6 | 14.7<br>53.9 |
| ● Di 23 | 303°06.7<br>-10°05.3 | 317°40.1<br>-10°13.2 | 332°13.5<br>-10°21.0 | 346°46.9<br>-10°28.7 | 1°20.2<br>-10°36.4 | 15°53.5<br>-10°44.1 | 30°26.7<br>-10°51.7 | 44°59.9<br>-10°59.3 | 59°33.1<br>-11°06.9 | 74°06.3<br>-11°14.3 | 88°39.4<br>-11°21.8 | +33.3<br>-7.6 | 14.7<br>54.0 |
| Lu 24 | 306°52.5<br>-13°07.5 | 321°25.1<br>-13°14.2 | 335°57.7<br>-13°20.7 | 350°30.2<br>-13°27.2 | 5°02.7<br>-13°33.7 | 19°35.2<br>-13°40.1 | 34°07.6<br>-13°46.4 | 48°40.0<br>-13°52.7 | 63°12.4<br>-13°59.0 | 77°44.7<br>-14°05.1 | 92°17.0<br>-14°11.2 | +32.4<br>-6.4 | 14.8<br>54.1 |
| Ma 25 | 310°17.0<br>-15°35.1 | 324°48.7<br>-15°40.2 | 339°20.3<br>-15°45.2 | 353°52.0<br>-15°50.1 | 8°23.6<br>-15°55.0 | 22°55.1<br>-15°59.7 | 37°26.6<br>-16°04.4 | 51°58.1<br>-16°09.1 | 66°29.6<br>-16°13.6 | 81°01.0<br>-16°18.1 | 95°32.4<br>-16°22.5 | +31.5<br>-4.7 | 14.8<br>54.4 |
| Me 26 | 313°18.8<br>-17°19.6 | 327°49.6<br>-17°22.8 | 342°20.4<br>-17°25.9 | 356°51.2<br>-17°28.9 | 11°21.9<br>-17°31.8 | 25°52.6<br>-17°34.7 | 40°23.2<br>-17°37.4 | 54°53.9<br>-17°40.1 | 69°24.4<br>-17°42.7 | 83°55.0<br>-17°45.2 | 98°25.5<br>-17°47.6 | +30.7<br>-2.8 | 14.9<br>54.8 |
| Je 27 | 315°59.8<br>-18°13.6 | 330°29.8<br>-18°14.6 | 344°59.9<br>-18°15.6 | 359°29.9<br>-18°16.4 | 13°59.8<br>-18°17.2 | 28°29.8<br>-18°17.8 | 42°59.7<br>-18°18.4 | 57°29.6<br>-18°18.9 | 71°59.5<br>-18°19.3 | 86°29.3<br>-18°19.6 | 100°59.2<br>-18°19.8 | +29.9<br>-0.6 | 15.1<br>55.2 |
| Ve 28 | 318°23.9<br>-18°11.6 | 332°53.4<br>-18°10.3 | 347°22.9<br>-18°09.0 | 1°52.3<br>-18°07.5 | 16°21.8<br>-18°05.9 | 30°51.2<br>-18°04.2 | 45°20.6<br>-18°02.5 | 59°50.0<br>-18°00.6 | 74°19.3<br>-17°58.6 | 88°48.7<br>-17°56.6 | 103°18.0<br>-17°54.4 | +29.4<br>+1.7 | 15.2<br>55.8 |
| Sa 29 | 320°36.5<br>-17°10.8 | 335°05.6<br>-17°07.1 | 349°34.8<br>-17°03.3 | 4°03.9<br>-16°59.5 | 18°33.0<br>-16°55.5 | 33°02.1<br>-16°51.5 | 47°31.2<br>-16°47.3 | 62°00.2<br>-16°43.1 | 76°29.3<br>-16°38.8 | 90°58.4<br>-16°34.3 | 105°27.4<br>-16°29.8 | +29.1<br>+4.1 | 15.4<br>56.5 |
| Di 30 | 322°42.3<br>-15°11.0 | 337°11.2<br>-15°05.1 | 351°40.2<br>-14°59.0 | 6°09.1<br>-14°52.8 | 20°38.0<br>-14°46.6 | 35°06.9<br>-14°40.3 | 49°35.8<br>-14°33.9 | 64°04.7<br>-14°27.4 | 78°33.6<br>-14°20.8 | 93°02.5<br>-14°14.1 | 107°31.4<br>-14°07.3 | +28.9<br>+6.4 | 15.6<br>57.3 |
| ◐ Lu 31 | 324°43.9<br>-12°15.8 | 339°12.7<br>-12°07.7 | 353°41.5<br>-11°59.6 | 8°10.2<br>-11°51.4 | 22°39.0<br>-11°43.0 | 37°07.8<br>-11°34.7 | 51°36.5<br>-11°26.2 | 66°05.2<br>-11°17.7 | 80°34.0<br>-11°09.0 | 95°02.7<br>-11°00.4 | 109°31.4<br>-10°51.6 | +28.7<br>+8.4 | 15.9<br>58.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 1 16h32 — PL: 8 10h58 — DQ: 15 04h47 — NL: 23 07h28 — PQ: 31 04h46

# SOLEIL

## Novembre 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 274°06.3 | 289°06.3 | 304°06.4 | 319°06.4 | 334°06.4 | 349°06.4 | 4°06.4 | 19°06.4 | 34°06.4 | 49°06.4 | 64°06.5 | 79°06.5 | +0.0 |
| | -14°32.0 | -14°32.8 | -14°33.6 | -14°34.4 | -14°35.2 | -14°36.0 | -14°36.8 | -14°37.6 | -14°38.4 | -14°39.2 | -14°40.0 | -14°40.8 | -0.8 |
| Me 2 | 274°06.6 | 289°06.6 | 304°06.6 | 319°06.6 | 334°06.6 | 349°06.6 | 4°06.6 | 19°06.6 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | +0.0 |
| | -14°51.1 | -14°51.8 | -14°52.6 | -14°53.4 | -14°54.2 | -14°55.0 | -14°55.8 | -14°56.6 | -14°57.3 | -14°58.1 | -14°58.9 | -14°59.7 | -0.8 |
| Je 3 | 274°06.7 | 289°06.7 | 304°06.7 | 319°06.7 | 334°06.7 | 349°06.7 | 4°06.7 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | -0.0 |
| | -15°09.8 | -15°10.6 | -15°11.4 | -15°12.1 | -15°12.9 | -15°13.7 | -15°14.5 | -15°15.2 | -15°16.0 | -15°16.8 | -15°17.6 | -15°18.3 | -0.8 |
| Ve 4 | 274°06.6 | 289°06.6 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.5 | 64°06.5 | 79°06.4 | -0.0 |
| | -15°28.3 | -15°29.1 | -15°29.9 | -15°30.6 | -15°31.4 | -15°32.2 | -15°32.9 | -15°33.7 | -15°34.4 | -15°35.2 | -15°36.0 | -15°36.7 | -0.8 |
| Sa 5 | 274°06.2 | 289°06.2 | 304°06.2 | 319°06.2 | 334°06.2 | 349°06.2 | 4°06.1 | 19°06.1 | 34°06.1 | 49°06.1 | 64°06.1 | 79°06.0 | -0.0 |
| | -15°46.6 | -15°47.3 | -15°48.1 | -15°48.9 | -15°49.6 | -15°50.4 | -15°51.1 | -15°51.9 | -15°52.6 | -15°53.4 | -15°54.1 | -15°54.9 | -0.8 |
| Di 6 | 274°05.7 | 289°05.7 | 304°05.7 | 319°05.6 | 334°05.6 | 349°05.6 | 4°05.6 | 19°05.5 | 34°05.5 | 49°05.5 | 64°05.4 | 79°05.4 | -0.0 |
| | -16°04.6 | -16°05.3 | -16°06.1 | -16°06.8 | -16°07.6 | -16°08.3 | -16°09.0 | -16°09.8 | -16°10.5 | -16°11.3 | -16°12.0 | -16°12.8 | -0.7 |
| Lu 7 | 274°05.0 | 289°05.0 | 304°04.9 | 319°04.9 | 334°04.8 | 349°04.8 | 4°04.8 | 19°04.7 | 34°04.7 | 49°04.7 | 64°04.6 | 79°04.6 | -0.0 |
| | -16°22.3 | -16°23.1 | -16°23.8 | -16°24.5 | -16°25.3 | -16°26.0 | -16°26.7 | -16°27.4 | -16°28.2 | -16°28.9 | -16°29.6 | -16°30.4 | -0.7 |
| Ma 8 | 274°04.0 | 289°04.0 | 304°04.0 | 319°03.9 | 334°03.9 | 349°03.8 | 4°03.8 | 19°03.7 | 34°03.7 | 49°03.6 | 64°03.6 | 79°03.5 | -0.0 |
| | -16°39.8 | -16°40.5 | -16°41.2 | -16°41.9 | -16°42.7 | -16°43.4 | -16°44.1 | -16°44.8 | -16°45.5 | -16°46.3 | -16°47.0 | -16°47.7 | -0.7 |
| Me 9 | 274°02.9 | 289°02.8 | 304°02.8 | 319°02.7 | 334°02.7 | 349°02.6 | 4°02.6 | 19°02.5 | 34°02.4 | 49°02.4 | 64°02.3 | 79°02.3 | -0.1 |
| | -16°57.0 | -16°57.7 | -16°58.4 | -16°59.1 | -16°59.8 | -17°00.5 | -17°01.2 | -17°01.9 | -17°02.6 | -17°03.3 | -17°04.0 | -17°04.7 | -0.7 |
| Je 10 | 274°01.5 | 289°01.4 | 304°01.4 | 319°01.3 | 334°01.3 | 349°01.2 | 4°01.1 | 19°01.1 | 34°01.0 | 49°00.9 | 64°00.9 | 79°00.8 | -0.1 |
| | -17°13.8 | -17°14.5 | -17°15.2 | -17°15.9 | -17°16.6 | -17°17.3 | -17°18.0 | -17°18.7 | -17°19.4 | -17°20.1 | -17°20.8 | -17°21.5 | -0.7 |
| Ve 11 | 273°59.9 | 288°59.9 | 303°59.8 | 318°59.7 | 333°59.6 | 348°59.6 | 3°59.5 | 18°59.4 | 33°59.3 | 48°59.3 | 63°59.2 | 78°59.1 | -0.1 |
| | -17°30.4 | -17°31.1 | -17°31.8 | -17°32.5 | -17°33.2 | -17°33.9 | -17°34.5 | -17°35.2 | -17°35.9 | -17°36.6 | -17°37.3 | -17°37.9 | -0.7 |
| Sa 12 | 273°58.1 | 288°58.0 | 303°58.0 | 318°57.9 | 333°57.8 | 348°57.7 | 3°57.6 | 18°57.6 | 33°57.5 | 48°57.4 | 63°57.3 | 78°57.2 | -0.1 |
| | -17°46.7 | -17°47.4 | -17°48.1 | -17°48.7 | -17°49.4 | -17°50.1 | -17°50.8 | -17°51.4 | -17°52.1 | -17°52.8 | -17°53.4 | -17°54.1 | -0.7 |
| Di 13 | 273°56.1 | 288°56.0 | 303°55.9 | 318°55.8 | 333°55.7 | 348°55.6 | 3°55.6 | 18°55.5 | 33°55.4 | 48°55.3 | 63°55.2 | 78°55.1 | -0.1 |
| | -18°02.7 | -18°03.4 | -18°04.0 | -18°04.7 | -18°05.4 | -18°06.0 | -18°06.7 | -18°07.3 | -18°08.0 | -18°08.6 | -18°09.3 | -18°09.9 | -0.7 |
| Lu 14 | 273°53.9 | 288°53.8 | 303°53.7 | 318°53.6 | 333°53.5 | 348°53.4 | 3°53.3 | 18°53.2 | 33°53.1 | 48°53.0 | 63°52.9 | 78°52.8 | -0.1 |
| | -18°18.4 | -18°19.0 | -18°19.7 | -18°20.3 | -18°21.0 | -18°21.6 | -18°22.3 | -18°22.9 | -18°23.5 | -18°24.2 | -18°24.8 | -18°25.5 | -0.6 |
| Ma 15 | 273°51.4 | 288°51.3 | 303°51.2 | 318°51.1 | 333°51.0 | 348°50.9 | 3°50.8 | 18°50.6 | 33°50.5 | 48°50.4 | 63°50.3 | 78°50.2 | -0.1 |
| | -18°33.7 | -18°34.4 | -18°35.0 | -18°35.6 | -18°36.3 | -18°36.9 | -18°36.9 | -18°37.5 | -18°38.2 | -18°38.8 | -18°39.4 | -18°40.0 | -0.6 |
| Me 16 | 273°48.7 | 288°48.6 | 303°48.5 | 318°48.4 | 333°48.3 | 348°48.2 | 3°48.0 | 18°47.9 | 33°47.8 | 48°47.7 | 63°47.6 | 78°47.4 | -0.1 |
| | -18°48.8 | -18°49.4 | -18°50.0 | -18°50.6 | -18°51.2 | -18°51.9 | -18°52.5 | -18°53.1 | -18°53.7 | -18°54.3 | -18°54.9 | -18°55.5 | -0.6 |
| Je 17 | 273°45.9 | 288°45.7 | 303°45.6 | 318°45.5 | 333°45.3 | 348°45.2 | 3°45.1 | 18°45.0 | 33°44.8 | 48°44.7 | 63°44.6 | 78°44.5 | -0.1 |
| | -19°03.5 | -19°04.1 | -19°04.7 | -19°05.3 | -19°05.9 | -19°06.5 | -19°07.1 | -19°07.7 | -19°08.3 | -19°08.9 | -19°09.5 | -19°10.1 | -0.6 |
| Ve 18 | 273°42.8 | 288°42.6 | 303°42.5 | 318°42.4 | 333°42.2 | 348°42.1 | 3°41.9 | 18°41.8 | 33°41.7 | 48°41.5 | 63°41.4 | 78°41.3 | -0.1 |
| | -19°17.8 | -19°18.4 | -19°19.0 | -19°19.6 | -19°20.2 | -19°20.8 | -19°21.4 | -19°21.9 | -19°22.5 | -19°23.1 | -19°23.7 | -19°24.3 | -0.6 |
| Sa 19 | 273°39.5 | 288°39.3 | 303°39.2 | 318°39.0 | 333°38.9 | 348°38.7 | 3°38.6 | 18°38.4 | 33°38.3 | 48°38.2 | 63°38.0 | 78°37.9 | -0.1 |
| | -19°31.8 | -19°32.4 | -19°33.0 | -19°33.6 | -19°34.1 | -19°34.7 | -19°35.3 | -19°35.8 | -19°36.4 | -19°37.0 | -19°37.6 | -19°38.1 | -0.6 |
| Di 20 | 273°35.9 | 288°35.8 | 303°35.6 | 318°35.5 | 333°35.3 | 348°35.2 | 3°35.0 | 18°34.9 | 33°34.7 | 48°34.6 | 63°34.4 | 78°34.3 | -0.2 |
| | -19°45.5 | -19°46.0 | -19°46.6 | -19°47.2 | -19°47.7 | -19°48.3 | -19°48.8 | -19°49.4 | -19°50.0 | -19°50.5 | -19°51.1 | -19°51.6 | -0.6 |
| Lu 21 | 273°32.2 | 288°32.1 | 303°31.9 | 318°31.7 | 333°31.6 | 348°31.4 | 3°31.3 | 18°31.1 | 33°30.9 | 48°30.8 | 63°30.6 | 78°30.5 | -0.2 |
| | -19°58.8 | -19°59.3 | -19°59.9 | -20°00.4 | -20°01.0 | -20°01.5 | -20°02.0 | -20°02.6 | -20°03.1 | -20°03.7 | -20°04.2 | -20°04.8 | -0.5 |
| Ma 22 | 273°28.3 | 288°28.1 | 303°28.0 | 318°27.8 | 333°27.6 | 348°27.5 | 3°27.3 | 18°27.1 | 33°27.0 | 48°26.8 | 63°26.6 | 78°26.4 | -0.2 |
| | -20°11.7 | -20°12.2 | -20°12.8 | -20°13.3 | -20°13.8 | -20°14.4 | -20°14.9 | -20°15.4 | -20°15.9 | -20°16.5 | -20°17.0 | -20°17.5 | -0.5 |
| Me 23 | 273°24.2 | 288°24.0 | 303°23.8 | 318°23.7 | 333°23.5 | 348°23.3 | 3°23.1 | 18°23.0 | 33°22.8 | 48°22.6 | 63°22.4 | 78°22.2 | -0.2 |
| | -20°24.3 | -20°24.8 | -20°25.3 | -20°25.8 | -20°26.3 | -20°26.8 | -20°27.4 | -20°27.9 | -20°28.4 | -20°28.9 | -20°29.4 | -20°29.9 | -0.5 |
| Je 24 | 273°19.9 | 288°19.7 | 303°19.5 | 318°19.3 | 333°19.1 | 348°19.0 | 3°18.8 | 18°18.6 | 33°18.4 | 48°18.2 | 63°18.0 | 78°17.8 | -0.2 |
| | -20°36.5 | -20°37.0 | -20°37.5 | -20°38.0 | -20°38.5 | -20°39.0 | -20°39.4 | -20°39.9 | -20°40.4 | -20°40.9 | -20°41.4 | -20°41.9 | -0.5 |
| Ve 25 | 273°15.4 | 288°15.2 | 303°15.0 | 318°14.8 | 333°14.6 | 348°14.4 | 3°14.2 | 18°14.0 | 33°13.8 | 48°13.7 | 63°13.5 | 78°13.3 | -0.2 |
| | -20°48.3 | -20°48.8 | -20°49.2 | -20°49.7 | -20°50.2 | -20°50.7 | -20°51.2 | -20°51.6 | -20°52.1 | -20°52.6 | -20°53.1 | -20°53.5 | -0.5 |
| Sa 26 | 273°10.7 | 288°10.5 | 303°10.3 | 318°10.1 | 333°09.9 | 348°09.7 | 3°09.5 | 18°09.3 | 33°09.1 | 48°08.9 | 63°08.7 | 78°08.5 | -0.2 |
| | -20°59.7 | -21°00.2 | -21°00.6 | -21°01.1 | -21°01.5 | -21°02.0 | -21°02.5 | -21°02.9 | -21°03.4 | -21°03.9 | -21°04.3 | -21°04.8 | -0.5 |
| Di 27 | 273°05.8 | 288°05.6 | 303°05.4 | 318°05.2 | 333°05.0 | 348°04.8 | 3°04.6 | 18°04.4 | 33°04.2 | 48°04.0 | 63°03.8 | 78°03.6 | -0.2 |
| | -21°10.7 | -21°11.2 | -21°11.6 | -21°12.1 | -21°12.5 | -21°13.0 | -21°13.4 | -21°13.8 | -21°14.3 | -21°14.7 | -21°15.2 | -21°15.6 | -0.4 |
| Lu 28 | 273°00.8 | 288°00.6 | 303°00.4 | 318°00.2 | 332°59.9 | 347°59.7 | 2°59.5 | 17°59.3 | 32°59.1 | 47°58.9 | 62°58.7 | 77°58.4 | -0.2 |
| | -21°21.3 | -21°21.8 | -21°22.2 | -21°22.6 | -21°23.1 | -21°23.5 | -21°23.9 | -21°24.4 | -21°24.8 | -21°25.2 | -21°25.6 | -21°26.1 | -0.4 |
| Ma 29 | 272°55.6 | 287°55.4 | 302°55.2 | 317°54.9 | 332°54.7 | 347°54.5 | 2°54.3 | 17°54.1 | 32°53.8 | 47°53.6 | 62°53.4 | 77°53.2 | -0.2 |
| | -21°31.6 | -21°32.0 | -21°32.4 | -21°32.8 | -21°33.2 | -21°33.6 | -21°34.0 | -21°34.5 | -21°34.9 | -21°35.3 | -21°35.7 | -21°36.1 | -0.4 |
| Me 30 | 272°50.2 | 287°50.0 | 302°49.8 | 317°49.5 | 332°49.3 | 347°49.1 | 2°48.9 | 17°48.6 | 32°48.4 | 47°48.2 | 62°47.9 | 77°47.7 | -0.2 |
| | -21°41.4 | -21°41.8 | -21°42.2 | -21°42.6 | -21°43.0 | -21°43.4 | -21°43.8 | -21°44.1 | -21°44.5 | -21°44.9 | -21°45.3 | -21°45.7 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2033

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 254°18.0<br>-9°20.1 | 268°46.6<br>-9°10.6 | 283°15.1<br>-9°01.0 | 297°43.7<br>-8°51.4 | 312°12.3<br>-8°41.7 | 326°40.8<br>-8°31.9 | 341°09.4<br>-8°22.1 | 355°37.9<br>-8°12.2 | 10°06.4<br>-8°02.2 | 24°34.9<br>-7°52.2 | 39°03.3<br>-7°42.2 | +28.5<br>+9.8 | 16.0<br>58.8 |
| Me 2 | 256°08.5<br>-5°04.8 | 270°36.6<br>-4°53.9 | 285°04.8<br>-4°43.0 | 299°32.9<br>-4°32.0 | 314°01.1<br>-4°21.0 | 328°29.2<br>-4°10.0 | 342°57.2<br>-3°58.9 | 357°25.3<br>-3°47.8 | 11°53.3<br>-3°36.6 | 26°21.3<br>-3°25.5 | 40°49.3<br>-3°14.3 | +28.1<br>+11.1 | 16.3<br>59.7 |
| Je 3 | 257°45.6<br>-0°22.8 | 272°13.1<br>-0°11.3 | 286°40.6<br>0°00.3 | 301°08.0<br>0°12.0 | 315°35.4<br>0°23.6 | 330°02.8<br>0°35.2 | 344°30.1<br>0°46.8 | 358°57.4<br>0°58.5 | 13°24.7<br>1°10.1 | 27°51.9<br>1°21.8 | 42°19.1<br>1°33.4 | +27.4<br>+11.6 | 16.5<br>60.4 |
| Ve 4 | 259°02.5<br>4°27.4 | 273°29.1<br>4°38.9 | 287°55.6<br>4°50.3 | 302°22.1<br>5°01.8 | 316°48.6<br>5°13.2 | 331°15.0<br>5°24.6 | 345°41.3<br>5°35.9 | 0°07.7<br>5°47.2 | 14°33.9<br>5°58.5 | 29°00.2<br>6°09.8 | 43°26.4<br>6°21.0 | +26.4<br>+11.4 | 16.6<br>60.9 |
| Sa 5 | 259°54.0<br>9°04.0 | 274°19.5<br>9°14.5 | 288°45.0<br>9°24.9 | 303°10.4<br>9°35.2 | 317°35.8<br>9°45.5 | 332°01.1<br>9°55.7 | 346°26.4<br>10°05.8 | 0°51.7<br>10°15.9 | 15°16.9<br>10°25.8 | 29°42.0<br>10°35.8 | 44°07.2<br>10°45.6 | +25.3<br>+10.2 | 16.7<br>61.2 |
| ○ Di 6 | 260°19.5<br>13°03.6 | 274°44.0<br>13°12.1 | 289°08.6<br>13°20.5 | 303°33.0<br>13°28.8 | 317°57.5<br>13°37.0 | 332°21.9<br>13°45.1 | 346°46.3<br>13°53.1 | 1°10.7<br>14°01.0 | 15°35.0<br>14°08.8 | 29°59.3<br>14°16.5 | 44°23.6<br>14°24.1 | +24.4<br>+8.1 | 16.6<br>61.0 |
| Lu 7 | 260°25.7<br>16°04.7 | 274°49.8<br>16°10.5 | 289°13.8<br>16°16.2 | 303°37.8<br>16°21.7 | 318°01.8<br>16°27.2 | 332°25.8<br>16°32.5 | 346°49.9<br>16°37.7 | 1°13.9<br>16°42.7 | 15°37.9<br>16°47.7 | 30°01.9<br>16°52.5 | 44°25.9<br>16°57.2 | +24.0<br>+5.2 | 16.5<br>60.6 |
| Ma 8 | 260°27.5<br>17°52.6 | 274°51.7<br>17°55.3 | 289°16.0<br>17°57.8 | 303°40.3<br>18°00.2 | 318°04.7<br>18°02.5 | 332°29.0<br>18°04.7 | 346°53.4<br>18°06.7 | 1°17.8<br>18°08.7 | 15°42.3<br>18°10.5 | 30°06.8<br>18°12.1 | 44°31.3<br>18°13.7 | +24.4<br>+2.1 | 16.3<br>59.8 |
| Me 9 | 260°44.3<br>18°21.8 | 275°09.6<br>18°21.4 | 289°34.9<br>18°20.8 | 304°00.3<br>18°20.2 | 318°25.7<br>18°19.4 | 332°51.2<br>18°18.5 | 347°16.7<br>18°17.5 | 1°42.3<br>18°16.3 | 16°08.0<br>18°15.1 | 30°33.7<br>18°13.7 | 44°59.5<br>18°12.2 | +25.5<br>-1.0 | 16.1<br>58.9 |
| Je 10 | 261°34.3<br>17°36.8 | 276°01.2<br>17°33.5 | 290°28.2<br>17°30.2 | 304°55.2<br>17°26.8 | 319°22.3<br>17°23.3 | 333°49.5<br>17°19.7 | 348°16.8<br>17°16.0 | 2°44.1<br>17°12.2 | 17°11.5<br>17°08.3 | 31°39.0<br>17°04.3 | 46°06.5<br>17°00.3 | +27.2<br>-3.7 | 15.8<br>57.9 |
| Ve 11 | 263°09.2<br>15°48.4 | 277°38.0<br>15°43.0 | 292°06.9<br>15°37.4 | 306°35.8<br>15°31.8 | 321°04.8<br>15°26.1 | 335°33.9<br>15°20.4 | 350°03.1<br>15°14.5 | 4°32.4<br>15°08.6 | 19°01.7<br>15°02.6 | 33°31.1<br>14°56.6 | 48°00.6<br>14°50.5 | +29.1<br>-5.8 | 15.5<br>56.9 |
| Sa 12 | 265°31.8<br>13°10.7 | 280°02.5<br>13°03.6 | 294°33.2<br>12°56.4 | 309°04.0<br>12°49.2 | 323°34.9<br>12°41.9 | 338°05.8<br>12°34.5 | 352°36.8<br>12°27.1 | 7°07.9<br>12°19.6 | 21°39.0<br>12°12.1 | 36°10.2<br>12°04.6 | 50°41.5<br>11°57.0 | +31.0<br>-7.4 | 15.3<br>56.0 |
| ◑ Di 13 | 280°02.5<br>13°03.6 | 294°33.2<br>12°56.4 | 309°04.0<br>12°49.2 | 323°34.9<br>12°41.9 | 338°05.8<br>12°34.5 | 352°36.8<br>12°27.1 | 7°07.9<br>12°19.6 | 21°39.0<br>12°12.1 | 36°10.2<br>12°04.6 | 50°41.5<br>11°57.0 | 65°12.8<br>11°49.3 | +31.0<br>-7.4 | 15.3<br>56.0 |
| Lu 14 | 283°10.3<br>9°49.2 | 297°42.6<br>9°40.9 | 312°14.9<br>9°32.5 | 326°47.3<br>9°24.2 | 341°19.8<br>9°15.7 | 355°52.3<br>9°07.3 | 10°24.8<br>8°58.8 | 24°57.5<br>8°50.2 | 39°30.1<br>8°41.7 | 54°02.8<br>8°33.1 | 68°35.6<br>8°24.5 | +32.5<br>-8.5 | 15.1<br>55.2 |
| Ma 15 | 286°52.4<br>6°12.0 | 301°25.9<br>6°03.0 | 315°59.3<br>5°54.0 | 330°32.9<br>5°44.9 | 345°06.4<br>5°35.8 | 359°40.0<br>5°26.7 | 14°13.6<br>5°17.6 | 28°47.3<br>5°08.5 | 43°21.0<br>4°59.4 | 57°54.7<br>4°50.2 | 72°28.4<br>4°41.1 | +33.6<br>-9.1 | 14.9<br>54.7 |
| Me 16 | 290°57.9<br>2°22.2 | 305°32.0<br>2°12.9 | 320°06.2<br>2°03.5 | 334°40.3<br>1°54.2 | 349°14.5<br>1°44.9 | 3°48.7<br>1°35.5 | 18°23.0<br>1°26.2 | 32°57.2<br>1°16.8 | 47°31.4<br>1°07.5 | 62°05.7<br>0°58.1 | 76°40.0<br>0°48.8 | +34.2<br>-9.3 | 14.8<br>54.3 |
| Je 17 | 295°15.1<br>-1°31.3 | 309°49.5<br>-1°40.5 | 324°23.8<br>-1°49.8 | 338°58.2<br>-1°59.1 | 353°32.6<br>-2°08.4 | 8°07.0<br>-2°17.6 | 22°41.3<br>-2°26.9 | 37°15.7<br>-2°36.1 | 51°50.1<br>-2°45.4 | 66°24.4<br>-2°54.6 | 80°58.8<br>-3°03.8 | +34.4<br>-9.3 | 14.7<br>54.0 |
| Ve 18 | 299°33.0<br>-5°20.0 | 314°07.2<br>-5°28.9 | 328°41.4<br>-5°37.8 | 343°15.6<br>-5°46.7 | 357°49.7<br>-5°55.6 | 12°23.8<br>-6°04.4 | 26°57.9<br>-6°13.2 | 41°32.0<br>-6°22.0 | 56°06.1<br>-6°30.8 | 70°40.1<br>-6°39.6 | 85°14.2<br>-6°48.3 | +34.1<br>-8.8 | 14.7<br>54.0 |
| Sa 19 | 303°41.8<br>-8°55.6 | 318°15.4<br>-9°03.9 | 332°49.0<br>-9°12.1 | 347°22.6<br>-9°20.2 | 1°56.2<br>-9°28.3 | 16°29.7<br>-9°36.4 | 31°03.2<br>-9°44.5 | 45°36.6<br>-9°52.5 | 60°10.1<br>-10°00.5 | 74°43.5<br>-10°08.4 | 89°16.8<br>-10°16.3 | +33.5<br>-8.1 | 14.7<br>54.0 |
| Di 20 | 307°33.2<br>-12°09.4 | 322°06.0<br>-12°16.6 | 336°38.8<br>-12°23.7 | 351°11.5<br>-12°30.8 | 5°44.2<br>-12°37.8 | 20°16.8<br>-12°44.8 | 34°49.5<br>-12°51.7 | 49°22.0<br>-12°58.5 | 63°54.6<br>-13°05.3 | 78°27.1<br>-13°12.1 | 92°59.5<br>-13°18.8 | +32.6<br>-6.9 | 14.8<br>54.2 |
| Lu 21 | 311°01.6<br>-14°52.1 | 325°33.4<br>-14°57.9 | 340°05.2<br>-15°03.5 | 354°37.0<br>-15°09.1 | 9°08.6<br>-15°14.7 | 23°40.3<br>-15°20.1 | 38°11.9<br>-15°25.5 | 52°43.5<br>-15°30.9 | 67°15.0<br>-15°36.1 | 81°46.5<br>-15°41.3 | 96°17.9<br>-15°46.4 | +31.6<br>-5.4 | 14.9<br>54.5 |
| ● Ma 22 | 314°04.8<br>-16°54.4 | 328°35.7<br>-16°58.4 | 343°06.4<br>-17°02.2 | 357°37.2<br>-17°06.0 | 12°07.9<br>-17°09.7 | 26°38.5<br>-17°13.3 | 41°09.2<br>-17°16.8 | 55°39.8<br>-17°20.3 | 70°10.3<br>-17°23.6 | 84°40.8<br>-17°26.9 | 99°11.3<br>-17°30.1 | +30.6<br>-3.6 | 14.9<br>54.8 |
| Me 23 | 316°44.5<br>-18°07.8 | 331°14.4<br>-18°09.6 | 345°44.4<br>-18°11.3 | 0°14.3<br>-18°13.0 | 14°44.2<br>-18°14.5 | 29°14.0<br>-18°16.0 | 43°43.8<br>-18°17.3 | 58°13.6<br>-18°18.6 | 72°43.4<br>-18°19.8 | 87°13.1<br>-18°20.8 | 101°42.8<br>-18°21.8 | +29.8<br>-1.4 | 15.1<br>55.2 |
| Je 24 | 319°05.9<br>-18°25.5 | 333°35.3<br>-18°25.0 | 348°04.6<br>-18°24.4 | 2°34.0<br>-18°23.7 | 17°03.3<br>-18°22.9 | 31°32.6<br>-18°22.0 | 46°01.9<br>-18°21.0 | 60°31.2<br>-18°19.9 | 75°00.5<br>-18°18.7 | 89°29.8<br>-18°17.5 | 103°59.0<br>-18°16.1 | +29.3<br>+0.9 | 15.2<br>55.6 |
| Ve 25 | 321°16.7<br>-17°43.9 | 335°45.8<br>-17°41.0 | 350°15.0<br>-17°38.0 | 4°44.1<br>-17°34.9 | 19°13.2<br>-17°31.7 | 33°42.3<br>-17°28.5 | 48°11.4<br>-17°25.1 | 62°40.6<br>-17°21.6 | 77°09.7<br>-17°18.0 | 91°38.8<br>-17°14.4 | 106°07.9<br>-17°10.6 | +29.1<br>+3.3 | 15.3<br>56.1 |
| Sa 26 | 323°24.7<br>-16°03.1 | 337°53.9<br>-15°57.9 | 352°23.0<br>-15°52.6 | 6°52.2<br>-15°47.2 | 21°21.4<br>-15°41.7 | 35°50.5<br>-15°36.1 | 50°19.7<br>-15°30.4 | 64°48.9<br>-15°24.7 | 79°18.1<br>-15°18.8 | 93°47.3<br>-15°12.9 | 108°16.5<br>-15°06.9 | +29.2<br>+5.6 | 15.5<br>56.7 |
| Di 27 | 325°35.3<br>-13°26.7 | 340°04.6<br>-13°19.4 | 354°34.0<br>-13°12.0 | 9°03.3<br>-13°04.5 | 23°32.6<br>-12°57.0 | 38°02.0<br>-12°49.3 | 52°31.3<br>-12°41.6 | 67°00.7<br>-12°33.9 | 81°30.0<br>-12°26.0 | 95°59.4<br>-12°18.1 | 110°28.7<br>-12°10.1 | +29.3<br>+7.7 | 15.6<br>57.3 |
| Lu 28 | 327°49.9<br>-10°01.8 | 342°19.3<br>-9°52.7 | 356°48.7<br>-9°43.6 | 11°18.2<br>-9°34.4 | 25°47.6<br>-9°25.2 | 40°17.1<br>-9°15.8 | 54°46.5<br>-9°06.5 | 69°15.9<br>-8°57.0 | 83°45.4<br>-8°47.5 | 98°14.8<br>-8°38.0 | 112°44.2<br>-8°28.4 | +29.4<br>+9.3 | 15.8<br>58.0 |
| ◐ Ma 29 | 330°05.3<br>-5°58.2 | 344°34.6<br>-5°47.9 | 359°04.0<br>-5°37.4 | 13°33.3<br>-5°27.0 | 28°02.6<br>-5°16.5 | 42°31.9<br>-5°05.9 | 57°01.2<br>-4°55.3 | 71°30.5<br>-4°44.7 | 85°59.8<br>-4°34.1 | 100°29.0<br>-4°23.4 | 114°58.3<br>-4°12.7 | +29.3<br>+10.6 | 16.0<br>58.6 |
| Me 30 | 332°14.8<br>-1°28.4 | 346°43.7<br>-1°17.2 | 1°12.6<br>-1°06.1 | 15°41.5<br>-0°54.9 | 30°10.3<br>-0°43.7 | 44°39.2<br>-0°32.5 | 59°08.0<br>-0°21.3 | 73°36.7<br>-0°10.1 | 88°05.5<br>0°01.2 | 102°34.2<br>0°12.4 | 117°02.9<br>0°23.7 | +28.8<br>+11.2 | 16.2<br>59.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 6 20h32 — DQ: 13 20h08 — NL: 22 01h39 — PQ: 29 15h15

# SOLEIL

## Décembre 2033

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 272°44.7 | 287°44.5 | 302°44.2 | 317°44.0 | 332°43.8 | 347°43.5 | 2°43.3 | 17°43.1 | 32°42.8 | 47°42.6 | 62°42.4 | 77°42.1 | -0.2 |
| | -21°50.8 | -21°51.1 | -21°51.5 | -21°51.9 | -21°52.3 | -21°52.7 | -21°53.0 | -21°53.4 | -21°53.8 | -21°54.2 | -21°54.6 | -21°54.9 | -0.4 |
| Ve 2 | 272°39.0 | 287°38.8 | 302°38.5 | 317°38.3 | 332°38.1 | 347°37.8 | 2°37.6 | 17°37.3 | 32°37.1 | 47°36.8 | 62°36.6 | 77°36.4 | -0.2 |
| | -21°59.7 | -22°00.1 | -22°00.5 | -22°00.8 | -22°01.2 | -22°01.6 | -22°01.9 | -22°02.3 | -22°02.6 | -22°03.0 | -22°03.4 | -22°03.7 | -0.4 |
| Sa 3 | 272°33.2 | 287°32.9 | 302°32.7 | 317°32.4 | 332°32.2 | 347°31.9 | 2°31.7 | 17°31.5 | 32°31.2 | 47°31.0 | 62°30.7 | 77°30.5 | -0.2 |
| | -22°08.3 | -22°08.6 | -22°09.0 | -22°09.3 | -22°09.7 | -22°10.0 | -22°10.4 | -22°10.7 | -22°11.0 | -22°11.4 | -22°11.7 | -22°12.1 | -0.3 |
| Di 4 | 272°27.2 | 287°27.0 | 302°26.7 | 317°26.4 | 332°26.2 | 347°25.9 | 2°25.7 | 17°25.4 | 32°25.2 | 47°24.9 | 62°24.7 | 77°24.4 | -0.3 |
| | -22°16.4 | -22°16.7 | -22°17.1 | -22°17.4 | -22°17.7 | -22°18.1 | -22°18.4 | -22°18.7 | -22°19.0 | -22°19.4 | -22°19.7 | -22°20.0 | -0.3 |
| Lu 5 | 272°21.1 | 287°20.8 | 302°20.6 | 317°20.3 | 332°20.1 | 347°19.8 | 2°19.5 | 17°19.3 | 32°19.0 | 47°18.8 | 62°18.5 | 77°18.2 | -0.3 |
| | -22°24.1 | -22°24.4 | -22°24.7 | -22°25.0 | -22°25.4 | -22°25.7 | -22°26.0 | -22°26.3 | -22°26.6 | -22°26.9 | -22°27.2 | -22°27.5 | -0.3 |
| Ma 6 | 272°14.8 | 287°14.6 | 302°14.3 | 317°14.0 | 332°13.8 | 347°13.5 | 2°13.2 | 17°13.0 | 32°12.7 | 47°12.5 | 62°12.2 | 77°11.9 | -0.3 |
| | -22°31.4 | -22°31.7 | -22°32.0 | -22°32.2 | -22°32.5 | -22°32.8 | -22°33.1 | -22°33.4 | -22°33.7 | -22°34.0 | -22°34.3 | -22°34.5 | -0.3 |
| Me 7 | 272°08.4 | 287°08.2 | 302°07.9 | 317°07.6 | 332°07.4 | 347°07.1 | 2°06.8 | 17°06.6 | 32°06.3 | 47°06.0 | 62°05.7 | 77°05.5 | -0.3 |
| | -22°38.2 | -22°38.5 | -22°38.7 | -22°39.0 | -22°39.3 | -22°39.6 | -22°39.8 | -22°40.1 | -22°40.4 | -22°40.6 | -22°40.9 | -22°41.2 | -0.3 |
| Je 8 | 272°01.9 | 287°01.7 | 302°01.4 | 317°01.1 | 332°00.8 | 347°00.6 | 2°00.3 | 17°00.0 | 31°59.7 | 46°59.5 | 61°59.2 | 76°58.9 | -0.3 |
| | -22°44.6 | -22°44.8 | -22°45.1 | -22°45.3 | -22°45.6 | -22°45.8 | -22°46.1 | -22°46.3 | -22°46.6 | -22°46.8 | -22°47.1 | -22°47.3 | -0.3 |
| Ve 9 | 271°55.3 | 286°55.0 | 301°54.8 | 316°54.5 | 331°54.2 | 346°53.9 | 1°53.6 | 16°53.4 | 31°53.1 | 46°52.8 | 61°52.5 | 76°52.2 | -0.3 |
| | -22°50.5 | -22°50.7 | -22°51.0 | -22°51.2 | -22°51.4 | -22°51.7 | -22°51.9 | -22°52.1 | -22°52.4 | -22°52.6 | -22°52.8 | -22°53.1 | -0.2 |
| Sa 10 | 271°48.6 | 286°48.3 | 301°48.0 | 316°47.7 | 331°47.4 | 346°47.2 | 1°46.9 | 16°46.6 | 31°46.3 | 46°46.0 | 61°45.7 | 76°45.4 | -0.3 |
| | -22°56.0 | -22°56.2 | -22°56.4 | -22°56.6 | -22°56.8 | -22°57.1 | -22°57.3 | -22°57.5 | -22°57.7 | -22°57.9 | -22°58.1 | -22°58.3 | -0.2 |
| Di 11 | 271°41.7 | 286°41.4 | 301°41.2 | 316°40.9 | 331°40.6 | 346°40.3 | 1°40.0 | 16°39.7 | 31°39.4 | 46°39.1 | 61°38.8 | 76°38.6 | -0.3 |
| | -23°01.0 | -23°01.2 | -23°01.4 | -23°01.6 | -23°01.8 | -23°02.0 | -23°02.2 | -23°02.4 | -23°02.6 | -23°02.8 | -23°03.0 | -23°03.2 | -0.2 |
| Lu 12 | 271°34.8 | 286°34.5 | 301°34.2 | 316°33.9 | 331°33.6 | 346°33.3 | 1°33.0 | 16°32.7 | 31°32.5 | 46°32.2 | 61°31.9 | 76°31.6 | -0.3 |
| | -23°05.6 | -23°05.8 | -23°05.9 | -23°06.1 | -23°06.3 | -23°06.5 | -23°06.7 | -23°06.8 | -23°07.0 | -23°07.2 | -23°07.3 | -23°07.5 | -0.2 |
| Ma 13 | 271°27.8 | 286°27.5 | 301°27.2 | 316°26.9 | 331°26.6 | 346°26.3 | 1°26.0 | 16°25.7 | 31°25.4 | 46°25.1 | 61°24.8 | 76°24.5 | -0.3 |
| | -23°09.7 | -23°09.9 | -23°10.0 | -23°10.2 | -23°10.3 | -23°10.5 | -23°10.7 | -23°10.8 | -23°11.0 | -23°11.1 | -23°11.3 | -23°11.4 | -0.2 |
| Me 14 | 271°20.6 | 286°20.3 | 301°20.0 | 316°19.7 | 331°19.4 | 346°19.1 | 1°18.8 | 16°18.5 | 31°18.2 | 46°17.9 | 61°17.6 | 76°17.3 | -0.3 |
| | -23°13.3 | -23°13.5 | -23°13.6 | -23°13.8 | -23°13.9 | -23°14.1 | -23°14.2 | -23°14.3 | -23°14.5 | -23°14.6 | -23°14.7 | -23°14.9 | -0.1 |
| Je 15 | 271°13.4 | 286°13.1 | 301°12.8 | 316°12.5 | 331°12.2 | 346°11.9 | 1°11.6 | 16°11.3 | 31°11.0 | 46°10.7 | 61°10.4 | 76°10.1 | -0.3 |
| | -23°16.5 | -23°16.7 | -23°16.8 | -23°16.9 | -23°17.0 | -23°17.1 | -23°17.3 | -23°17.4 | -23°17.5 | -23°17.6 | -23°17.7 | -23°17.8 | -0.1 |
| Ve 16 | 271°06.2 | 286°05.9 | 301°05.6 | 316°05.3 | 331°05.0 | 346°04.7 | 1°04.4 | 16°04.1 | 31°03.7 | 46°03.4 | 61°03.1 | 76°02.8 | -0.3 |
| | -23°19.3 | -23°19.4 | -23°19.5 | -23°19.6 | -23°19.7 | -23°19.8 | -23°19.9 | -23°20.0 | -23°20.1 | -23°20.2 | -23°20.3 | -23°20.4 | -0.1 |
| Sa 17 | 270°58.9 | 285°58.6 | 300°58.2 | 315°57.9 | 330°57.6 | 345°57.3 | 0°57.0 | 15°56.7 | 30°56.4 | 45°56.1 | 60°55.8 | 75°55.5 | -0.3 |
| | -23°21.5 | -23°21.6 | -23°21.7 | -23°21.8 | -23°21.9 | -23°21.9 | -23°22.0 | -23°22.1 | -23°22.2 | -23°22.3 | -23°22.3 | -23°22.4 | -0.1 |
| Di 18 | 270°51.5 | 285°51.2 | 300°50.9 | 315°50.6 | 330°50.3 | 345°50.0 | 0°49.6 | 15°49.3 | 30°49.0 | 45°48.7 | 60°48.4 | 75°48.1 | -0.3 |
| | -23°23.3 | -23°23.4 | -23°23.5 | -23°23.5 | -23°23.6 | -23°23.6 | -23°23.7 | -23°23.8 | -23°23.8 | -23°23.9 | -23°23.9 | -23°24.0 | -0.1 |
| Lu 19 | 270°44.1 | 285°43.8 | 300°43.5 | 315°43.2 | 330°42.8 | 345°42.5 | 0°42.2 | 15°41.9 | 30°41.6 | 45°41.3 | 60°41.0 | 75°40.7 | -0.3 |
| | -23°24.7 | -23°24.7 | -23°24.7 | -23°24.8 | -23°24.8 | -23°24.9 | -23°24.9 | -23°24.9 | -23°25.0 | -23°25.0 | -23°25.1 | -23°25.1 | -0.0 |
| Ma 20 | 270°36.6 | 285°36.3 | 300°36.0 | 315°35.7 | 330°35.4 | 345°35.1 | 0°34.8 | 15°34.5 | 30°34.2 | 45°33.8 | 60°33.5 | 75°33.2 | -0.3 |
| | -23°25.5 | -23°25.5 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -0.0 |
| Me 21 | 270°29.2 | 285°28.9 | 300°28.6 | 315°28.2 | 330°27.9 | 345°27.6 | 0°27.3 | 15°27.0 | 30°26.7 | 45°26.4 | 60°26.1 | 75°25.8 | -0.3 |
| | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -0.0 |
| Je 22 | 270°21.7 | 285°21.4 | 300°21.1 | 315°20.8 | 330°20.5 | 345°20.1 | 0°19.8 | 15°19.5 | 30°19.2 | 45°18.9 | 60°18.6 | 75°18.3 | -0.3 |
| | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.7 | -23°25.6 | -23°25.6 | +0.0 |
| Ve 23 | 270°14.2 | 285°13.9 | 300°13.6 | 315°13.3 | 330°13.0 | 345°12.7 | 0°12.4 | 15°12.0 | 30°11.7 | 45°11.4 | 60°11.1 | 75°10.8 | -0.3 |
| | -23°25.3 | -23°25.2 | -23°25.2 | -23°25.2 | -23°25.1 | -23°25.1 | -23°25.0 | -23°25.0 | -23°25.0 | -23°24.9 | -23°24.9 | -23°24.8 | +0.0 |
| Sa 24 | 270°06.8 | 285°06.4 | 300°06.1 | 315°05.8 | 330°05.5 | 345°05.2 | 0°04.9 | 15°04.6 | 30°04.3 | 45°04.0 | 60°03.6 | 75°03.3 | -0.3 |
| | -23°24.2 | -23°24.2 | -23°24.1 | -23°24.1 | -23°24.0 | -23°24.0 | -23°23.9 | -23°23.8 | -23°23.8 | -23°23.7 | -23°23.7 | -23°23.6 | +0.1 |
| Di 25 | 269°59.3 | 284°59.0 | 299°58.7 | 314°58.4 | 329°58.1 | 344°57.8 | 359°57.4 | 14°57.1 | 29°56.8 | 44°56.5 | 59°56.2 | 74°55.9 | -0.3 |
| | -23°22.7 | -23°22.7 | -23°22.6 | -23°22.5 | -23°22.4 | -23°22.4 | -23°22.3 | -23°22.2 | -23°22.1 | -23°22.1 | -23°22.0 | -23°21.9 | +0.1 |
| Lu 26 | 269°51.9 | 284°51.6 | 299°51.3 | 314°50.9 | 329°50.6 | 344°50.3 | 359°50.0 | 14°49.7 | 29°49.4 | 44°49.1 | 59°48.8 | 74°48.5 | -0.3 |
| | -23°20.8 | -23°20.7 | -23°20.6 | -23°20.5 | -23°20.4 | -23°20.3 | -23°20.2 | -23°20.1 | -23°20.0 | -23°19.9 | -23°19.8 | -23°19.7 | +0.1 |
| Ma 27 | 269°44.5 | 284°44.2 | 299°43.9 | 314°43.6 | 329°43.3 | 344°42.9 | 359°42.6 | 14°42.3 | 29°42.0 | 44°41.7 | 59°41.4 | 74°41.1 | -0.3 |
| | -23°18.3 | -23°18.2 | -23°18.1 | -23°18.0 | -23°17.9 | -23°17.8 | -23°17.7 | -23°17.5 | -23°17.4 | -23°17.3 | -23°17.2 | -23°17.1 | +0.1 |
| Me 28 | 269°37.1 | 284°36.8 | 299°36.5 | 314°36.2 | 329°35.9 | 344°35.6 | 359°35.3 | 14°35.0 | 29°34.7 | 44°34.4 | 59°34.1 | 74°33.8 | -0.3 |
| | -23°15.4 | -23°15.3 | -23°15.2 | -23°15.0 | -23°14.9 | -23°14.8 | -23°14.6 | -23°14.5 | -23°14.4 | -23°14.2 | -23°14.1 | -23°14.0 | +0.1 |
| Je 29 | 269°29.8 | 284°29.5 | 299°29.2 | 314°28.9 | 329°28.6 | 344°28.3 | 359°28.0 | 14°27.7 | 29°27.4 | 44°27.1 | 59°26.8 | 74°26.5 | -0.3 |
| | -23°12.1 | -23°11.9 | -23°11.8 | -23°11.6 | -23°11.5 | -23°11.3 | -23°11.2 | -23°11.0 | -23°10.9 | -23°10.7 | -23°10.5 | -23°10.4 | +0.2 |
| Ve 30 | 269°22.6 | 284°22.3 | 299°22.0 | 314°21.7 | 329°21.4 | 344°21.1 | 359°20.8 | 14°20.5 | 29°20.2 | 44°19.9 | 59°19.6 | 74°19.3 | -0.3 |
| | -23°08.2 | -23°08.1 | -23°07.9 | -23°07.7 | -23°07.6 | -23°07.4 | -23°07.2 | -23°07.0 | -23°06.9 | -23°06.7 | -23°06.5 | -23°06.3 | +0.2 |
| Sa 31 | 269°15.4 | 284°15.1 | 299°14.8 | 314°14.5 | 329°14.2 | 344°14.0 | 359°13.7 | 14°13.4 | 29°13.1 | 44°12.8 | 59°12.5 | 74°12.2 | -0.3 |
| | -23°04.0 | -23°03.8 | -23°03.6 | -23°03.4 | -23°03.2 | -23°03.0 | -23°02.8 | -23°02.6 | -23°02.4 | -23°02.2 | -23°02.0 | -23°01.8 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Décembre 2033

| J | 11h | 12h | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 247°19.6<br>2°05.1 | 261°48.0<br>2°16.4 | 276°16.3<br>2°27.7 | 290°44.6<br>2°39.0 | 305°12.8<br>2°50.2 | 319°41.0<br>3°01.5 | 334°09.2<br>3°12.7 | 348°37.3<br>3°23.9 | 3°05.4<br>3°35.2 | 17°33.5<br>3°46.4 | 32°01.5<br>3°57.6 | +28.2<br>+11.2 | 16.3<br>59.7 |
| Ve 2 | 248°56.4<br>6°43.0 | 263°23.7<br>6°53.7 | 277°50.9<br>7°04.5 | 292°18.1<br>7°15.2 | 306°45.3<br>7°25.9 | 321°12.4<br>7°36.6 | 335°39.5<br>7°47.2 | 350°06.5<br>7°57.7 | 4°33.4<br>8°08.2 | 19°00.3<br>8°18.7 | 33°27.2<br>8°29.1 | +27.1<br>+10.6 | 16.4<br>60.2 |
| Sa 3 | 250°03.9<br>10°58.9 | 264°29.9<br>11°08.4 | 278°55.9<br>11°17.8 | 293°21.9<br>11°27.1 | 307°47.7<br>11°36.4 | 322°13.6<br>11°45.6 | 336°39.4<br>11°54.7 | 351°05.1<br>12°03.8 | 5°30.8<br>12°12.7 | 19°56.4<br>12°21.6 | 34°22.0<br>12°30.4 | +25.8<br>+9.2 | 16.5<br>60.4 |
| Di 4 | 250°40.3<br>14°32.1 | 265°05.2<br>14°39.4 | 279°30.1<br>14°46.7 | 293°54.9<br>14°53.8 | 308°19.6<br>15°00.9 | 322°44.3<br>15°07.8 | 337°09.0<br>15°14.7 | 351°33.7<br>15°21.4 | 5°58.3<br>15°28.0 | 20°22.9<br>15°34.5 | 34°47.4<br>15°40.9 | +24.7<br>+6.9 | 16.5<br>60.4 |
| Lu 5 | 250°52.6<br>17°03.4 | 265°16.7<br>17°08.0 | 279°40.9<br>17°12.4 | 294°05.1<br>17°16.7 | 308°29.2<br>17°20.9 | 322°53.4<br>17°25.0 | 337°17.5<br>17°28.9 | 351°41.6<br>17°32.7 | 6°05.7<br>17°36.4 | 20°29.9<br>17°40.0 | 34°54.0<br>17°43.4 | +24.1<br>+4.0 | 16.4<br>60.2 |
| ○ Ma 6 | 250°56.4<br>18°19.9 | 265°20.7<br>18°21.3 | 279°45.0<br>18°22.6 | 294°09.3<br>18°23.7 | 308°33.7<br>18°24.7 | 322°58.0<br>18°25.6 | 337°22.4<br>18°26.4 | 351°46.9<br>18°27.1 | 6°11.3<br>18°27.6 | 20°35.8<br>18°28.0 | 35°00.3<br>18°28.2 | +24.4<br>+0.8 | 16.3<br>59.6 |
| Me 7 | 251°13.2<br>18°17.5 | 265°38.4<br>18°15.8 | 280°03.7<br>18°14.0 | 294°29.1<br>18°12.0 | 308°54.5<br>18°10.0 | 323°19.9<br>18°07.9 | 337°45.5<br>18°05.6 | 352°11.0<br>18°03.2 | 6°36.7<br>18°00.7 | 21°02.4<br>17°58.1 | 35°28.2<br>17°55.4 | +25.5<br>-2.2 | 16.1<br>58.9 |
| Je 8 | 252°02.8<br>17°01.9 | 266°29.7<br>16°57.5 | 280°56.6<br>16°53.0 | 295°23.6<br>16°48.4 | 309°50.7<br>16°43.8 | 324°17.9<br>16°39.0 | 338°45.2<br>16°34.1 | 353°12.5<br>16°29.2 | 7°39.9<br>16°24.1 | 22°07.4<br>16°19.0 | 36°35.0<br>16°13.8 | +27.2<br>-4.8 | 15.8<br>58.0 |
| Ve 9 | 253°37.8<br>14°45.7 | 268°06.7<br>14°39.2 | 282°35.6<br>14°32.6 | 297°04.5<br>14°26.0 | 311°33.6<br>14°19.3 | 326°02.7<br>14°12.5 | 340°32.0<br>14°05.6 | 355°01.2<br>13°58.7 | 9°30.6<br>13°51.8 | 24°00.1<br>13°44.7 | 38°29.6<br>13°37.6 | +29.2<br>-6.8 | 15.6<br>57.1 |
| Sa 10 | 256°01.6<br>11°44.2 | 270°32.3<br>11°36.3 | 285°03.1<br>11°28.2 | 299°33.9<br>11°20.2 | 314°04.8<br>11°12.0 | 328°35.8<br>11°03.9 | 343°06.9<br>10°55.7 | 357°38.0<br>10°47.4 | 12°09.2<br>10°39.1 | 26°40.5<br>10°30.8 | 41°11.8<br>10°22.4 | +31.0<br>-8.2 | 15.3<br>56.2 |
| Di 11 | 259°09.3<br>8°12.6 | 273°41.6<br>8°03.7 | 288°14.0<br>7°54.7 | 302°46.4<br>7°45.8 | 317°18.9<br>7°36.8 | 331°51.4<br>7°27.8 | 346°24.0<br>7°18.7 | 0°56.6<br>7°09.7 | 15°29.3<br>7°00.6 | 30°02.0<br>6°51.5 | 44°34.8<br>6°42.4 | +32.5<br>-9.0 | 15.1<br>55.5 |
| Lu 12 | 262°51.7<br>4°23.5 | 277°25.2<br>4°14.1 | 291°58.6<br>4°04.7 | 306°32.2<br>3°55.3 | 321°05.7<br>3°45.9 | 335°39.3<br>3°36.5 | 350°12.9<br>3°27.1 | 4°46.6<br>3°17.7 | 19°20.3<br>3°08.2 | 33°54.0<br>2°58.8 | 48°27.7<br>2°49.4 | +33.6<br>-9.4 | 15.0<br>54.8 |
| ◑ Ma 13 | 277°25.2<br>4°14.1 | 291°58.6<br>4°04.7 | 306°32.2<br>3°55.3 | 321°05.7<br>3°45.9 | 335°39.3<br>3°36.5 | 350°12.9<br>3°27.1 | 4°46.6<br>3°17.7 | 19°20.3<br>3°08.2 | 33°54.0<br>2°58.8 | 48°27.7<br>2°49.4 | 63°01.5<br>2°39.9 | +33.6<br>-9.4 | 15.0<br>54.8 |
| Me 14 | 281°31.0<br>0°18.0 | 296°05.1<br>0°08.6 | 310°39.3<br>-0°00.9 | 325°13.4<br>-0°10.3 | 339°47.6<br>-0°19.7 | 354°21.8<br>-0°29.2 | 8°55.9<br>-0°38.6 | 23°30.1<br>-0°48.0 | 38°04.4<br>-0°57.4 | 52°38.6<br>-1°06.8 | 67°12.8<br>-1°16.2 | +34.2<br>-9.4 | 14.8<br>54.4 |
| Je 15 | 285°46.8<br>-3°35.7 | 300°21.1<br>-3°44.9 | 314°55.4<br>-3°54.1 | 329°29.6<br>-4°03.3 | 344°03.9<br>-4°12.4 | 358°38.1<br>-4°21.5 | 13°12.4<br>-4°30.6 | 27°46.6<br>-4°39.7 | 42°20.8<br>-4°48.8 | 56°55.1<br>-4°57.8 | 71°29.3<br>-5°06.8 | +34.2<br>-9.1 | 14.8<br>54.2 |
| Ve 16 | 290°00.8<br>-7°19.3 | 304°34.8<br>-7°27.9 | 319°08.7<br>-7°36.5 | 333°42.6<br>-7°45.0 | 348°16.5<br>-7°53.5 | 2°50.4<br>-8°02.0 | 17°24.2<br>-8°10.5 | 31°58.1<br>-8°18.9 | 46°31.9<br>-8°27.3 | 61°05.7<br>-8°35.7 | 75°39.4<br>-8°44.0 | +33.9<br>-8.5 | 14.8<br>54.1 |
| Sa 17 | 294°02.2<br>-10°44.6 | 308°35.5<br>-10°52.3 | 323°08.7<br>-11°00.0 | 337°41.9<br>-11°07.6 | 352°15.1<br>-11°15.2 | 6°48.2<br>-11°22.7 | 21°21.3<br>-11°30.2 | 35°54.3<br>-11°37.7 | 50°27.3<br>-11°45.1 | 65°00.3<br>-11°52.4 | 79°33.2<br>-11°59.7 | +33.1<br>-7.5 | 14.8<br>54.2 |
| Di 18 | 297°42.4<br>-13°43.2 | 312°14.7<br>-13°49.7 | 326°46.9<br>-13°56.1 | 341°19.1<br>-14°02.5 | 355°51.2<br>-14°08.8 | 10°23.3<br>-14°15.0 | 24°55.4<br>-14°21.2 | 39°27.4<br>-14°27.3 | 53°59.4<br>-14°33.3 | 68°31.3<br>-14°39.3 | 83°03.1<br>-14°45.2 | +32.1<br>-6.2 | 14.9<br>54.5 |
| Lu 19 | 300°55.7<br>-16°06.1 | 315°26.8<br>-16°10.9 | 329°57.9<br>-16°15.7 | 344°28.9<br>-16°20.4 | 358°59.9<br>-16°25.0 | 13°30.9<br>-16°29.6 | 28°01.8<br>-16°34.0 | 42°32.6<br>-16°38.4 | 57°03.4<br>-16°42.7 | 71°34.2<br>-16°47.0 | 86°04.9<br>-16°51.1 | +30.9<br>-4.5 | 15.0<br>54.8 |
| Ma 20 | 303°40.4<br>-17°43.8 | 318°10.4<br>-17°46.7 | 332°40.4<br>-17°49.4 | 347°10.3<br>-17°52.1 | 1°40.2<br>-17°54.7 | 16°10.1<br>-17°57.2 | 30°39.9<br>-17°59.6 | 45°09.7<br>-18°01.9 | 59°39.4<br>-18°04.1 | 74°09.1<br>-18°06.3 | 88°38.8<br>-18°08.3 | +29.8<br>-2.5 | 15.1<br>55.3 |
| ● Me 21 | 305°59.7<br>-18°27.9 | 320°28.8<br>-18°28.5 | 334°57.9<br>-18°29.0 | 349°27.0<br>-18°29.3 | 3°56.0<br>-18°29.6 | 18°25.1<br>-18°29.7 | 32°54.1<br>-18°29.8 | 47°23.1<br>-18°29.8 | 61°52.0<br>-18°29.6 | 76°20.9<br>-18°29.4 | 90°49.8<br>-18°29.1 | +29.0<br>-0.1 | 15.2<br>55.8 |
| Je 22 | 308°01.1<br>-18°12.3 | 322°29.7<br>-18°10.4 | 336°58.3<br>-18°08.4 | 351°26.9<br>-18°06.3 | 5°55.5<br>-18°04.1 | 20°24.1<br>-18°01.8 | 34°52.6<br>-17°59.4 | 49°21.2<br>-17°56.9 | 63°49.8<br>-17°54.3 | 78°18.3<br>-17°51.6 | 92°46.9<br>-17°48.7 | +28.6<br>+2.4 | 15.4<br>56.3 |
| Ve 23 | 309°54.6<br>-16°54.8 | 324°23.2<br>-16°50.5 | 338°51.7<br>-16°46.0 | 353°20.2<br>-16°41.5 | 7°48.8<br>-16°36.8 | 22°17.3<br>-16°32.0 | 36°45.9<br>-16°27.2 | 51°14.4<br>-16°22.3 | 65°43.0<br>-16°17.2 | 80°11.5<br>-16°12.1 | 94°40.1<br>-16°06.9 | +28.5<br>+4.8 | 15.5<br>56.8 |
| Sa 24 | 311°49.9<br>-14°37.9 | 326°18.7<br>-14°31.3 | 340°47.4<br>-14°24.6 | 355°16.2<br>-14°17.8 | 9°45.0<br>-14°10.9 | 24°13.8<br>-14°03.9 | 38°42.6<br>-13°56.9 | 53°11.5<br>-13°49.8 | 67°40.3<br>-13°42.6 | 82°09.2<br>-13°35.3 | 96°38.1<br>-13°27.9 | +28.8<br>+7.0 | 15.6<br>57.3 |
| Di 25 | 313°53.1<br>-11°28.5 | 328°22.2<br>-11°20.0 | 342°51.4<br>-11°11.4 | 357°20.5<br>-11°02.7 | 11°49.7<br>-10°54.0 | 26°18.9<br>-10°45.2 | 40°48.1<br>-10°36.3 | 55°17.3<br>-10°27.4 | 69°46.5<br>-10°18.5 | 84°15.7<br>-10°09.4 | 98°45.0<br>-10°00.3 | +29.2<br>+8.8 | 15.8<br>57.8 |
| Lu 26 | 316°05.3<br>-7°37.2 | 330°34.7<br>-7°27.2 | 345°04.2<br>-7°17.2 | 359°33.6<br>-7°07.2 | 14°03.1<br>-6°57.1 | 28°32.5<br>-6°47.0 | 43°02.0<br>-6°36.8 | 57°31.5<br>-6°26.6 | 72°01.0<br>-6°16.4 | 86°30.5<br>-6°06.1 | 101°00.0<br>-5°55.8 | +29.5<br>+10.1 | 15.9<br>58.2 |
| Ma 27 | 318°22.6<br>-3°16.9 | 332°52.1<br>-3°06.1 | 347°21.6<br>-2°55.3 | 1°51.1<br>-2°44.4 | 16°20.6<br>-2°33.6 | 30°50.1<br>-2°22.7 | 45°19.5<br>-2°11.8 | 59°49.0<br>-2°00.8 | 74°18.5<br>-1°49.9 | 88°47.9<br>-1°38.9 | 103°17.4<br>-1°28.0 | +29.5<br>+10.9 | 16.0<br>58.6 |
| Me 28 | 320°37.4<br>1°17.6 | 335°06.6<br>1°28.7 | 349°35.8<br>1°39.7 | 4°05.0<br>1°50.8 | 18°34.1<br>2°01.8 | 33°03.2<br>2°12.8 | 47°32.3<br>2°23.9 | 62°01.4<br>2°34.9 | 76°30.5<br>2°45.9 | 90°59.5<br>2°56.9 | 105°28.5<br>3°07.9 | +29.1<br>+11.0 | 16.1<br>59.0 |
| ◐ Je 29 | 322°40.1<br>5°50.5 | 337°08.6<br>6°01.1 | 351°37.1<br>6°11.8 | 6°05.6<br>6°22.3 | 20°34.0<br>6°32.9 | 35°02.3<br>6°43.4 | 49°30.7<br>6°53.9 | 63°59.0<br>7°04.3 | 78°27.2<br>7°14.7 | 92°55.5<br>7°25.1 | 107°23.7<br>7°35.4 | +28.4<br>+10.5 | 16.2<br>59.2 |
| Ve 30 | 324°21.5<br>10°04.7 | 338°49.0<br>10°14.3 | 353°16.5<br>10°23.7 | 7°43.9<br>10°33.2 | 22°11.3<br>10°42.5 | 36°38.6<br>10°51.8 | 51°05.9<br>11°01.0 | 65°33.2<br>11°10.2 | 80°00.4<br>11°19.3 | 94°27.5<br>11°28.3 | 108°54.6<br>11°37.2 | +27.3<br>+9.3 | 16.2<br>59.4 |
| Sa 31 | 325°35.7<br>13°42.6 | 340°02.1<br>13°50.3 | 354°28.5<br>13°57.9 | 8°54.7<br>14°05.5 | 23°21.0<br>14°12.9 | 37°47.2<br>14°20.3 | 52°13.4<br>14°27.5 | 66°39.5<br>14°34.7 | 81°05.6<br>14°41.8 | 95°31.6<br>14°48.8 | 109°57.6<br>14°55.7 | +26.2<br>+7.3 | 16.2<br>59.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 6 07h22 — DQ: 13 15h28 — NL: 21 18h46 — PQ: 29 00h20

# SOLEIL

## Janvier 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°08.3 | 284°08.1 | 299°07.8 | 314°07.5 | 329°07.2 | 344°06.9 | 359°06.6 | 14°06.3 | 29°06.0 | 44°05.7 | 59°05.4 | 74°05.1 | -0.3 |
| | -22°59.2 | -22°59.0 | -22°58.8 | -22°58.6 | -22°58.4 | -22°58.2 | -22°57.9 | -22°57.7 | -22°57.5 | -22°57.3 | -22°57.1 | -22°56.9 | +0.2 |
| Lu 2 | 269°01.3 | 284°01.1 | 299°00.8 | 314°00.5 | 329°00.2 | 343°59.9 | 358°59.6 | 13°59.3 | 28°59.0 | 43°58.7 | 58°58.4 | 73°58.2 | -0.3 |
| | -22°54.0 | -22°53.8 | -22°53.5 | -22°53.3 | -22°53.1 | -22°52.8 | -22°52.6 | -22°52.4 | -22°52.2 | -22°51.9 | -22°51.7 | -22°51.4 | +0.2 |
| Ma 3 | 268°54.4 | 283°54.1 | 298°53.9 | 313°53.6 | 328°53.3 | 343°53.0 | 358°52.7 | 13°52.4 | 28°52.1 | 43°51.9 | 58°51.6 | 73°51.3 | -0.3 |
| | -22°48.3 | -22°48.1 | -22°47.8 | -22°47.6 | -22°47.3 | -22°47.1 | -22°46.8 | -22°46.6 | -22°46.3 | -22°46.1 | -22°45.8 | -22°45.6 | +0.3 |
| Me 4 | 268°47.6 | 283°47.3 | 298°47.0 | 313°46.8 | 328°46.5 | 343°46.2 | 358°45.9 | 13°45.6 | 28°45.4 | 43°45.1 | 58°44.8 | 73°44.5 | -0.3 |
| | -22°42.2 | -22°41.9 | -22°41.7 | -22°41.4 | -22°41.1 | -22°40.9 | -22°40.6 | -22°40.3 | -22°40.1 | -22°39.8 | -22°39.5 | -22°39.2 | +0.3 |
| Je 5 | 268°40.9 | 283°40.6 | 298°40.3 | 313°40.1 | 328°39.8 | 343°39.5 | 358°39.2 | 13°39.0 | 28°38.7 | 43°38.4 | 58°38.1 | 73°37.9 | -0.3 |
| | -22°35.6 | -22°35.3 | -22°35.1 | -22°34.8 | -22°34.5 | -22°34.2 | -22°33.9 | -22°33.6 | -22°33.3 | -22°33.1 | -22°32.8 | -22°32.5 | +0.3 |
| Ve 6 | 268°34.3 | 283°34.0 | 298°33.7 | 313°33.5 | 328°33.2 | 343°32.9 | 358°32.7 | 13°32.4 | 28°32.1 | 43°31.8 | 58°31.6 | 73°31.3 | -0.3 |
| | -22°28.6 | -22°28.3 | -22°28.0 | -22°27.7 | -22°27.4 | -22°27.1 | -22°26.8 | -22°26.5 | -22°26.2 | -22°25.9 | -22°25.6 | -22°25.3 | +0.3 |
| Sa 7 | 268°27.8 | 283°27.5 | 298°27.3 | 313°27.0 | 328°26.7 | 343°26.5 | 358°26.2 | 13°25.9 | 28°25.7 | 43°25.4 | 58°25.1 | 73°24.9 | -0.3 |
| | -22°21.2 | -22°20.8 | -22°20.5 | -22°20.2 | -22°19.9 | -22°19.5 | -22°19.2 | -22°18.9 | -22°18.6 | -22°18.2 | -22°17.9 | -22°17.6 | +0.3 |
| Di 8 | 268°21.4 | 283°21.2 | 298°20.9 | 313°20.6 | 328°20.4 | 343°20.1 | 358°19.8 | 13°19.6 | 28°19.3 | 43°19.1 | 58°18.8 | 73°18.5 | -0.3 |
| | -22°13.3 | -22°12.9 | -22°12.6 | -22°12.2 | -22°11.9 | -22°11.6 | -22°11.2 | -22°10.9 | -22°10.5 | -22°10.2 | -22°09.8 | -22°09.5 | +0.3 |
| Lu 9 | 268°15.2 | 283°14.9 | 298°14.7 | 313°14.4 | 328°14.1 | 343°13.9 | 358°13.6 | 13°13.4 | 28°13.1 | 43°12.9 | 58°12.6 | 73°12.4 | -0.3 |
| | -22°04.9 | -22°04.6 | -22°04.2 | -22°03.8 | -22°03.5 | -22°03.1 | -22°02.8 | -22°02.4 | -22°02.0 | -22°01.7 | -22°01.3 | -22°00.9 | +0.4 |
| Ma 10 | 268°09.1 | 283°08.8 | 298°08.6 | 313°08.3 | 328°08.1 | 343°07.8 | 358°07.6 | 13°07.3 | 28°07.1 | 43°06.8 | 58°06.6 | 73°06.3 | -0.3 |
| | -21°56.1 | -21°55.8 | -21°55.4 | -21°55.0 | -21°54.6 | -21°54.3 | -21°53.9 | -21°53.5 | -21°53.1 | -21°52.7 | -21°52.4 | -21°52.0 | +0.4 |
| Me 11 | 268°03.1 | 283°02.8 | 298°02.6 | 313°02.3 | 328°02.1 | 343°01.9 | 358°01.6 | 13°01.4 | 28°01.1 | 43°00.9 | 58°00.6 | 73°00.4 | -0.2 |
| | -21°46.9 | -21°46.6 | -21°46.2 | -21°45.8 | -21°45.4 | -21°45.0 | -21°44.6 | -21°44.2 | -21°43.8 | -21°43.4 | -21°43.0 | -21°42.6 | +0.4 |
| Je 12 | 267°57.3 | 282°57.0 | 297°56.8 | 312°56.5 | 327°56.3 | 342°56.1 | 357°55.8 | 12°55.6 | 27°55.3 | 42°55.1 | 57°54.9 | 72°54.6 | -0.2 |
| | -21°37.3 | -21°36.9 | -21°36.5 | -21°36.1 | -21°35.7 | -21°35.3 | -21°34.8 | -21°34.4 | -21°34.0 | -21°33.6 | -21°33.2 | -21°32.8 | +0.4 |
| Ve 13 | 267°51.6 | 282°51.3 | 297°51.1 | 312°50.9 | 327°50.6 | 342°50.4 | 357°50.2 | 12°49.9 | 27°49.7 | 42°49.5 | 57°49.2 | 72°49.0 | -0.2 |
| | -21°27.3 | -21°26.9 | -21°26.4 | -21°26.0 | -21°25.6 | -21°25.1 | -21°24.7 | -21°24.3 | -21°23.8 | -21°23.4 | -21°23.0 | -21°22.5 | +0.4 |
| Sa 14 | 267°46.0 | 282°45.8 | 297°45.6 | 312°45.4 | 327°45.1 | 342°44.9 | 357°44.7 | 12°44.4 | 27°44.2 | 42°44.0 | 57°43.8 | 72°43.5 | -0.2 |
| | -21°16.8 | -21°16.4 | -21°15.9 | -21°15.5 | -21°15.0 | -21°14.6 | -21°14.1 | -21°13.7 | -21°13.2 | -21°12.8 | -21°12.3 | -21°11.9 | +0.4 |
| Di 15 | 267°40.7 | 282°40.4 | 297°40.2 | 312°40.0 | 327°39.8 | 342°39.6 | 357°39.3 | 12°39.1 | 27°38.9 | 42°38.7 | 57°38.5 | 72°38.2 | -0.2 |
| | -21°06.0 | -21°05.5 | -21°05.0 | -21°04.6 | -21°04.1 | -21°03.6 | -21°03.2 | -21°02.7 | -21°02.2 | -21°01.8 | -21°01.3 | -21°00.8 | +0.5 |
| Lu 16 | 267°35.4 | 282°35.2 | 297°35.0 | 312°34.8 | 327°34.6 | 342°34.4 | 357°34.2 | 12°34.0 | 27°33.7 | 42°33.5 | 57°33.3 | 72°33.1 | -0.2 |
| | -20°54.7 | -20°54.2 | -20°53.7 | -20°53.2 | -20°52.8 | -20°52.3 | -20°51.8 | -20°51.3 | -20°50.8 | -20°50.3 | -20°49.9 | -20°49.4 | +0.5 |
| Ma 17 | 267°30.4 | 282°30.2 | 297°30.0 | 312°29.8 | 327°29.6 | 342°29.4 | 357°29.2 | 12°29.0 | 27°28.8 | 42°28.6 | 57°28.3 | 72°28.1 | -0.2 |
| | -20°43.0 | -20°42.5 | -20°42.0 | -20°41.5 | -20°41.0 | -20°40.5 | -20°40.0 | -20°39.5 | -20°39.0 | -20°38.5 | -20°38.0 | -20°37.5 | +0.5 |
| Me 18 | 267°25.5 | 282°25.3 | 297°25.1 | 312°24.9 | 327°24.7 | 342°24.5 | 357°24.3 | 12°24.1 | 27°23.9 | 42°23.7 | 57°23.6 | 72°23.4 | -0.2 |
| | -20°30.9 | -20°30.4 | -20°29.9 | -20°29.4 | -20°28.9 | -20°28.4 | -20°27.9 | -20°27.3 | -20°26.8 | -20°26.3 | -20°25.8 | -20°25.3 | +0.5 |
| Je 19 | 267°20.8 | 282°20.6 | 297°20.5 | 312°20.3 | 327°20.1 | 342°19.9 | 357°19.7 | 12°19.5 | 27°19.3 | 42°19.1 | 57°18.9 | 72°18.7 | -0.2 |
| | -20°18.5 | -20°18.0 | -20°17.4 | -20°16.9 | -20°16.4 | -20°15.8 | -20°15.3 | -20°14.8 | -20°14.3 | -20°13.7 | -20°13.2 | -20°12.7 | +0.5 |
| Ve 20 | 267°16.3 | 282°16.1 | 297°16.0 | 312°15.8 | 327°15.6 | 342°15.4 | 357°15.2 | 12°15.0 | 27°14.9 | 42°14.7 | 57°14.5 | 72°14.3 | -0.2 |
| | -20°05.7 | -20°05.1 | -20°04.6 | -20°04.0 | -20°03.5 | -20°02.9 | -20°02.4 | -20°01.8 | -20°01.3 | -20°00.7 | -20°00.2 | -19°59.6 | +0.5 |
| Sa 21 | 267°12.0 | 282°11.8 | 297°11.6 | 312°11.5 | 327°11.3 | 342°11.1 | 357°10.9 | 12°10.8 | 27°10.6 | 42°10.4 | 57°10.3 | 72°10.1 | -0.2 |
| | -19°52.4 | -19°51.9 | -19°51.3 | -19°50.8 | -19°50.2 | -19°49.6 | -19°49.1 | -19°48.5 | -19°48.0 | -19°47.4 | -19°46.8 | -19°46.3 | +0.6 |
| Di 22 | 267°07.9 | 282°07.7 | 297°07.5 | 312°07.4 | 327°07.2 | 342°07.0 | 357°06.9 | 12°06.7 | 27°06.5 | 42°06.4 | 57°06.2 | 72°06.0 | -0.2 |
| | -19°38.9 | -19°38.3 | -19°37.7 | -19°37.1 | -19°36.6 | -19°36.0 | -19°35.4 | -19°34.8 | -19°34.2 | -19°33.7 | -19°33.1 | -19°32.5 | +0.6 |
| Lu 23 | 267°03.9 | 282°03.8 | 297°03.6 | 312°03.4 | 327°03.3 | 342°03.1 | 357°03.0 | 12°02.8 | 27°02.7 | 42°02.5 | 57°02.3 | 72°02.2 | -0.2 |
| | -19°24.9 | -19°24.3 | -19°23.7 | -19°23.1 | -19°22.6 | -19°22.0 | -19°21.4 | -19°20.8 | -19°20.2 | -19°19.6 | -19°19.0 | -19°18.4 | +0.6 |
| Ma 24 | 267°00.2 | 282°00.0 | 296°59.9 | 311°59.7 | 326°59.6 | 341°59.4 | 356°59.3 | 11°59.1 | 26°59.0 | 41°58.8 | 56°58.7 | 71°58.5 | -0.1 |
| | -19°10.6 | -19°10.0 | -19°09.4 | -19°08.8 | -19°08.2 | -19°07.6 | -19°07.0 | -19°06.4 | -19°05.8 | -19°05.1 | -19°04.5 | -19°03.9 | +0.6 |
| Me 25 | 266°56.6 | 281°56.5 | 296°56.4 | 311°56.2 | 326°56.1 | 341°55.9 | 356°55.8 | 11°55.6 | 26°55.5 | 41°55.4 | 56°55.2 | 71°55.1 | -0.1 |
| | -18°55.9 | -18°55.3 | -18°54.7 | -18°54.1 | -18°53.5 | -18°52.9 | -18°52.2 | -18°51.6 | -18°51.0 | -18°50.4 | -18°49.7 | -18°49.1 | +0.6 |
| Je 26 | 266°53.3 | 281°53.2 | 296°53.0 | 311°52.9 | 326°52.8 | 341°52.6 | 356°52.5 | 11°52.4 | 26°52.2 | 41°52.1 | 56°52.0 | 71°51.8 | -0.1 |
| | -18°40.9 | -18°40.3 | -18°39.7 | -18°39.0 | -18°38.4 | -18°37.8 | -18°37.1 | -18°36.5 | -18°35.9 | -18°35.2 | -18°34.6 | -18°34.0 | +0.6 |
| Ve 27 | 266°50.2 | 281°50.0 | 296°49.9 | 311°49.8 | 326°49.7 | 341°49.5 | 356°49.4 | 11°49.3 | 26°49.2 | 41°49.1 | 56°48.9 | 71°48.8 | -0.1 |
| | -18°25.6 | -18°25.0 | -18°24.3 | -18°23.7 | -18°23.0 | -18°22.4 | -18°21.7 | -18°21.1 | -18°20.4 | -18°19.8 | -18°19.1 | -18°18.5 | +0.6 |
| Sa 28 | 266°47.2 | 281°47.1 | 296°47.0 | 311°46.9 | 326°46.8 | 341°46.7 | 356°46.6 | 11°46.4 | 26°46.3 | 41°46.2 | 56°46.1 | 71°46.0 | -0.1 |
| | -18°09.9 | -18°09.3 | -18°08.6 | -18°07.9 | -18°07.3 | -18°06.6 | -18°06.0 | -18°05.3 | -18°04.6 | -18°04.0 | -18°03.3 | -18°02.6 | +0.7 |
| Di 29 | 266°44.5 | 281°44.4 | 296°44.3 | 311°44.2 | 326°44.1 | 341°44.0 | 356°43.9 | 11°43.8 | 26°43.7 | 41°43.6 | 56°43.5 | 71°43.4 | -0.1 |
| | -17°53.9 | -17°53.3 | -17°52.6 | -17°51.9 | -17°51.2 | -17°50.6 | -17°49.9 | -17°49.2 | -17°48.5 | -17°47.8 | -17°47.2 | -17°46.5 | +0.7 |
| Lu 30 | 266°42.0 | 281°41.9 | 296°41.8 | 311°41.7 | 326°41.6 | 341°41.5 | 356°41.4 | 11°41.3 | 26°41.2 | 41°41.1 | 56°41.0 | 71°40.9 | -0.1 |
| | -17°37.6 | -17°36.9 | -17°36.2 | -17°35.5 | -17°34.9 | -17°34.2 | -17°33.5 | -17°32.8 | -17°32.1 | -17°31.4 | -17°30.7 | -17°30.0 | +0.7 |
| Ma 31 | 266°39.7 | 281°39.6 | 296°39.5 | 311°39.4 | 326°39.4 | 341°39.3 | 356°39.2 | 11°39.1 | 26°39.0 | 41°38.9 | 56°38.8 | 71°38.7 | -0.1 |
| | -17°21.0 | -17°20.3 | -17°19.6 | -17°18.9 | -17°18.2 | -17°17.5 | -17°16.8 | -17°16.1 | -17°15.4 | -17°14.7 | -17°14.0 | -17°13.3 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2034

| J | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 254°15.5 | 268°41.1 | 283°06.6 | 297°32.2 | 311°57.7 | 326°23.1 | 340°48.5 | 355°13.9 | 9°39.3 | 24°04.7 | 38°30.0 | +25.4 | 16.2 |
| | 15°59.2 | 16°05.0 | 16°10.7 | 16°16.2 | 16°21.7 | 16°27.1 | 16°32.3 | 16°37.5 | 16°42.5 | 16°47.4 | 16°52.2 | +5.3 | 59.5 |
| Lu 2 | 254°47.2 | 269°12.2 | 283°37.2 | 298°02.2 | 312°27.2 | 326°52.2 | 341°17.2 | 355°42.2 | 10°07.2 | 24°32.2 | 38°57.2 | +25.0 | 16.2 |
| | 17°50.7 | 17°53.7 | 17°56.5 | 17°59.2 | 18°01.8 | 18°04.3 | 18°06.7 | 18°08.9 | 18°11.0 | 18°13.0 | 18°14.9 | +2.4 | 59.3 |
| Ma 3 | 255°12.9 | 269°38.1 | 284°03.3 | 298°28.5 | 312°53.8 | 327°19.0 | 341°44.3 | 356°09.7 | 10°35.0 | 25°00.4 | 39°25.8 | +25.3 | 16.1 |
| | 18°28.3 | 18°28.3 | 18°28.1 | 18°27.7 | 18°27.3 | 18°26.7 | 18°26.1 | 18°25.3 | 18°24.3 | 18°23.3 | 18°22.1 | -0.6 | 58.9 |
| ○ Me 4 | 255°51.8 | 270°17.9 | 284°44.0 | 299°10.2 | 313°36.5 | 328°02.8 | 342°29.1 | 356°55.5 | 11°22.0 | 25°48.5 | 40°15.1 | +26.3 | 15.9 |
| | 17°50.9 | 17°47.9 | 17°44.9 | 17°41.7 | 17°38.4 | 17°34.9 | 17°31.4 | 17°27.8 | 17°24.1 | 17°20.2 | 17°16.3 | -3.5 | 58.3 |
| Je 5 | 257°01.1 | 271°28.7 | 285°56.4 | 300°24.1 | 314°51.9 | 329°19.7 | 343°47.6 | 358°15.6 | 12°43.7 | 27°11.8 | 41°40.0 | +27.9 | 15.7 |
| | 16°05.5 | 16°00.1 | 15°54.5 | 15°48.9 | 15°43.2 | 15°37.4 | 15°31.5 | 15°25.5 | 15°19.5 | 15°13.3 | 15°07.1 | -5.8 | 57.6 |
| Ve 6 | 258°51.6 | 273°20.9 | 287°50.3 | 302°19.8 | 316°49.3 | 331°18.9 | 345°48.6 | 0°18.4 | 14°48.2 | 29°18.1 | 43°48.1 | +29.7 | 15.5 |
| | 13°25.0 | 13°17.7 | 13°10.3 | 13°02.8 | 12°55.3 | 12°47.7 | 12°40.0 | 12°32.3 | 12°24.5 | 12°16.7 | 12°08.8 | -7.6 | 56.9 |
| Sa 7 | 261°25.6 | 275°56.7 | 290°27.7 | 304°58.9 | 319°30.1 | 334°01.4 | 348°32.7 | 3°04.1 | 17°35.6 | 32°07.1 | 46°38.7 | +31.3 | 15.3 |
| | 10°04.7 | 9°56.1 | 9°47.5 | 9°38.8 | 9°30.0 | 9°21.3 | 9°12.4 | 9°03.6 | 8°54.7 | 8°45.8 | 8°36.9 | -8.8 | 56.2 |
| Di 8 | 264°39.0 | 279°11.4 | 293°43.9 | 308°16.4 | 322°49.0 | 337°21.6 | 351°54.3 | 6°27.0 | 20°59.8 | 35°32.6 | 50°05.4 | +32.6 | 15.1 |
| | 6°19.6 | 6°10.2 | 6°00.9 | 5°51.5 | 5°42.1 | 5°32.7 | 5°23.3 | 5°13.9 | 5°04.4 | 4°54.9 | 4°45.5 | -9.4 | 55.5 |
| Lu 9 | 268°22.8 | 282°56.2 | 297°29.7 | 312°03.2 | 326°36.7 | 341°10.3 | 355°43.9 | 10°17.5 | 24°51.1 | 39°24.8 | 53°58.5 | +33.6 | 15.0 |
| | 2°22.4 | 2°12.8 | 2°03.2 | 1°53.7 | 1°44.1 | 1°34.5 | 1°24.9 | 1°15.4 | 1°05.8 | 0°56.2 | 0°46.6 | -9.6 | 54.9 |
| Ma 10 | 272°26.2 | 287°00.2 | 301°34.1 | 316°08.1 | 330°42.2 | 345°16.2 | 359°50.2 | 14°24.2 | 28°58.3 | 43°32.3 | 58°06.4 | +34.0 | 14.9 |
| | -1°36.0 | -1°45.5 | -1°54.9 | -2°04.3 | -2°13.7 | -2°23.1 | -2°32.4 | -2°41.8 | -2°51.1 | -3°00.4 | -3°09.7 | -9.4 | 54.5 |
| Me 11 | 287°00.2 | 301°34.1 | 316°08.1 | 330°42.2 | 345°16.2 | 359°50.2 | 14°24.2 | 28°58.3 | 43°32.3 | 58°06.4 | 72°40.5 | +34.0 | 14.9 |
| | -1°45.5 | -1°54.9 | -2°04.3 | -2°13.7 | -2°23.1 | -2°32.4 | -2°41.8 | -2°51.1 | -3°00.4 | -3°09.7 | -3°19.0 | -9.4 | 54.5 |
| ◑ Je 12 | 291°11.5 | 305°45.5 | 320°19.6 | 334°53.6 | 349°27.6 | 4°01.6 | 18°35.6 | 33°09.6 | 47°43.6 | 62°17.6 | 76°51.5 | +34.0 | 14.8 |
| | -5°35.8 | -5°44.7 | -5°53.6 | -6°02.5 | -6°11.4 | -6°20.2 | -6°29.0 | -6°37.8 | -6°46.5 | -6°55.2 | -7°03.9 | -8.8 | 54.2 |
| Ve 13 | 295°18.9 | 309°52.5 | 324°26.2 | 338°59.8 | 353°33.4 | 8°06.9 | 22°40.5 | 37°14.0 | 51°47.5 | 66°20.9 | 80°54.3 | +33.5 | 14.8 |
| | -9°10.2 | -9°18.4 | -9°26.5 | -9°34.6 | -9°42.6 | -9°50.6 | -9°58.5 | -10°06.4 | -10°14.3 | -10°22.1 | -10°29.9 | -8.0 | 54.2 |
| Sa 14 | 299°12.0 | 313°44.9 | 328°17.7 | 342°50.5 | 357°23.3 | 11°56.1 | 26°28.8 | 41°01.4 | 55°34.1 | 70°06.7 | 84°39.2 | +32.7 | 14.8 |
| | -12°21.2 | -12°28.2 | -12°35.2 | -12°42.1 | -12°49.0 | -12°55.8 | -13°02.6 | -13°09.3 | -13°16.0 | -13°22.6 | -13°29.2 | -6.8 | 54.3 |
| Di 15 | 302°42.3 | 317°14.1 | 331°45.9 | 346°17.7 | 0°49.4 | 15°21.1 | 29°52.7 | 44°24.3 | 58°55.8 | 73°27.3 | 87°58.7 | +31.6 | 14.9 |
| | -15°00.5 | -15°06.1 | -15°11.6 | -15°17.1 | -15°22.5 | -15°27.8 | -15°33.1 | -15°38.3 | -15°43.4 | -15°48.5 | -15°53.5 | -5.3 | 54.7 |
| Lu 16 | 305°44.3 | 320°15.0 | 334°45.6 | 349°16.2 | 3°46.7 | 18°17.2 | 32°47.6 | 47°17.9 | 61°48.3 | 76°18.5 | 90°48.8 | +30.4 | 15.0 |
| | -16°59.6 | -17°03.4 | -17°07.1 | -17°10.7 | -17°14.3 | -17°17.8 | -17°21.2 | -17°24.5 | -17°27.7 | -17°30.9 | -17°33.9 | -3.4 | 55.1 |
| Ma 17 | 308°16.7 | 322°46.2 | 337°15.7 | 351°45.1 | 6°14.5 | 20°43.8 | 35°13.1 | 49°42.4 | 64°11.6 | 78°40.8 | 93°09.9 | +29.3 | 15.2 |
| | -18°09.6 | -18°11.2 | -18°12.8 | -18°14.3 | -18°15.7 | -18°16.9 | -18°18.1 | -18°19.3 | -18°20.3 | -18°21.2 | -18°22.0 | -1.2 | 55.7 |
| Me 18 | 310°22.7 | 324°51.3 | 339°19.9 | 353°48.4 | 8°16.9 | 22°45.4 | 37°13.9 | 51°42.3 | 66°10.7 | 80°39.1 | 95°07.4 | +28.5 | 15.4 |
| | -18°22.6 | -18°21.9 | -18°21.0 | -18°20.1 | -18°19.0 | -18°17.9 | -18°16.6 | -18°15.3 | -18°13.8 | -18°12.3 | -18°10.6 | +1.2 | 56.4 |
| Je 19 | 312°10.3 | 326°38.3 | 341°06.4 | 355°34.4 | 10°02.4 | 24°30.4 | 38°58.4 | 53°26.4 | 67°54.4 | 82°22.4 | 96°50.4 | +28.0 | 15.6 |
| | -17°33.5 | -17°30.2 | -17°26.8 | -17°23.4 | -17°19.8 | -17°16.1 | -17°12.3 | -17°08.4 | -17°04.4 | -17°00.3 | -16°56.1 | +3.7 | 57.0 |
| ● Ve 20 | 313°49.5 | 328°17.4 | 342°45.3 | 357°13.3 | 11°41.2 | 26°09.2 | 40°37.1 | 55°05.1 | 69°33.1 | 84°01.0 | 98°29.0 | +28.0 | 15.7 |
| | -15°41.3 | -15°35.5 | -15°29.7 | -15°23.7 | -15°17.7 | -15°11.5 | -15°05.3 | -14°59.0 | -14°52.6 | -14°46.1 | -14°39.5 | +6.2 | 57.7 |
| Sa 21 | 315°29.9 | 329°58.0 | 344°26.2 | 358°54.3 | 13°22.5 | 27°50.7 | 42°18.9 | 56°47.1 | 71°15.4 | 85°43.6 | 100°11.9 | +28.2 | 15.9 |
| | -12°50.3 | -12°42.3 | -12°34.3 | -12°26.2 | -12°18.0 | -12°09.8 | -12°01.4 | -11°53.0 | -11°44.6 | -11°36.0 | -11°27.4 | +8.3 | 58.2 |
| Di 22 | 317°17.5 | 331°46.0 | 346°14.5 | 0°43.1 | 15°11.6 | 29°40.1 | 44°08.7 | 58°37.3 | 73°05.9 | 87°34.5 | 102°03.1 | +28.6 | 16.0 |
| | -9°10.1 | -9°00.4 | -8°50.7 | -8°41.0 | -8°31.1 | -8°21.3 | -8°11.4 | -8°01.4 | -7°51.4 | -7°41.3 | -7°31.2 | +9.9 | 58.7 |
| Lu 23 | 319°13.7 | 333°42.5 | 348°11.2 | 2°40.0 | 17°08.9 | 31°37.7 | 46°06.5 | 60°35.3 | 75°04.2 | 89°33.0 | 104°01.8 | +28.8 | 16.1 |
| | -4°54.4 | -4°43.6 | -4°32.9 | -4°22.1 | -4°11.3 | -4°00.4 | -3°49.5 | -3°38.6 | -3°27.7 | -3°16.7 | -3°05.8 | +10.9 | 59.0 |
| Ma 24 | 321°14.7 | 335°43.6 | 350°12.5 | 4°41.3 | 19°10.2 | 33°39.0 | 48°07.8 | 62°36.7 | 77°05.5 | 91°34.3 | 106°03.1 | +28.8 | 16.1 |
| | -0°19.5 | -0°08.4 | 0°02.8 | 0°13.9 | 0°25.1 | 0°36.2 | 0°47.4 | 0°58.5 | 1°09.7 | 1°20.8 | 1°31.9 | +11.1 | 59.1 |
| Me 25 | 323°14.1 | 337°42.7 | 352°11.3 | 6°39.9 | 21°08.5 | 35°37.0 | 50°05.5 | 64°34.1 | 79°02.6 | 93°31.1 | 107°59.5 | +28.5 | 16.1 |
| | 4°17.2 | 4°28.0 | 4°38.9 | 4°49.7 | 5°00.4 | 5°11.2 | 5°21.9 | 5°32.6 | 5°43.2 | 5°53.8 | 6°04.4 | +10.7 | 59.2 |
| Je 26 | 325°03.8 | 339°31.9 | 353°59.9 | 8°28.0 | 22°56.0 | 37°24.0 | 51°51.9 | 66°19.8 | 80°47.7 | 95°15.6 | 109°43.4 | +28.0 | 16.1 |
| | 8°38.2 | 8°48.1 | 8°57.9 | 9°07.6 | 9°17.4 | 9°27.0 | 9°36.6 | 9°46.1 | 9°55.6 | 10°05.0 | 10°14.4 | +9.6 | 59.2 |
| ◐ Ve 27 | 326°37.4 | 341°04.8 | 355°32.1 | 9°59.4 | 24°26.7 | 38°53.9 | 53°21.1 | 67°48.3 | 82°15.4 | 96°42.5 | 111°09.6 | +27.2 | 16.1 |
| | 12°26.7 | 12°34.9 | 12°43.1 | 12°51.2 | 12°59.2 | 13°07.1 | 13°15.0 | 13°22.7 | 13°30.4 | 13°38.0 | 13°45.5 | +7.9 | 59.0 |
| Sa 28 | 327°52.2 | 342°18.8 | 356°45.4 | 11°12.0 | 25°38.5 | 40°05.0 | 54°31.5 | 68°58.0 | 83°24.4 | 97°50.9 | 112°17.3 | +26.5 | 16.0 |
| | 15°27.4 | 15°33.5 | 15°39.4 | 15°45.3 | 15°51.0 | 15°56.6 | 16°02.2 | 16°07.6 | 16°13.0 | 16°18.2 | 16°23.4 | +5.6 | 58.9 |
| Di 29 | 328°51.0 | 343°17.2 | 357°43.3 | 12°09.4 | 26°35.5 | 41°01.6 | 55°27.7 | 69°53.8 | 84°19.8 | 98°45.9 | 113°12.0 | +26.1 | 16.0 |
| | 17°27.7 | 17°31.1 | 17°34.4 | 17°37.6 | 17°40.7 | 17°43.7 | 17°46.5 | 17°49.3 | 17°51.9 | 17°54.4 | 17°56.8 | +2.9 | 58.6 |
| Lu 30 | 329°43.1 | 344°09.2 | 358°35.3 | 13°01.5 | 27°27.6 | 41°53.8 | 56°20.0 | 70°46.2 | 85°12.4 | 99°38.7 | 114°04.9 | +26.2 | 15.9 |
| | 18°19.2 | 18°19.8 | 18°20.2 | 18°20.6 | 18°20.8 | 18°20.9 | 18°20.9 | 18°20.8 | 18°20.6 | 18°20.3 | 18°19.8 | +0.1 | 58.3 |
| Ma 31 | 330°41.8 | 345°08.5 | 359°35.2 | 14°02.0 | 28°28.8 | 42°55.6 | 57°22.5 | 71°49.4 | 86°16.3 | 100°43.3 | 115°10.4 | +26.9 | 15.8 |
| | 17°59.6 | 17°57.4 | 17°55.1 | 17°52.6 | 17°50.1 | 17°47.4 | 17°44.7 | 17°41.8 | 17°38.9 | 17°35.8 | 17°32.6 | -2.7 | 57.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 4 19h47 — DQ: 12 13h17 — NL: 20 10h01 — PQ: 27 08h32

# SOLEIL

## Février 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 266°37.6 | 281°37.5 | 296°37.5 | 311°37.4 | 326°37.3 | 341°37.2 | 356°37.1 | 11°37.1 | 26°37.0 | 41°36.9 | 56°36.8 | 71°36.7 | -0.1 |
| | -17°04.0 | -17°03.3 | -17°02.6 | -17°01.9 | -17°01.2 | -17°00.5 | -16°59.8 | -16°59.0 | -16°58.3 | -16°57.6 | -16°56.9 | -16°56.2 | +0.7 |
| Je 2 | 266°35.7 | 281°35.7 | 296°35.6 | 311°35.5 | 326°35.4 | 341°35.4 | 356°35.3 | 11°35.2 | 26°35.2 | 41°35.1 | 56°35.0 | 71°34.9 | -0.1 |
| | -16°46.8 | -16°46.1 | -16°45.3 | -16°44.6 | -16°43.9 | -16°43.2 | -16°42.4 | -16°41.7 | -16°41.0 | -16°40.3 | -16°39.5 | -16°38.8 | +0.7 |
| Ve 3 | 266°34.1 | 281°34.0 | 296°33.9 | 311°33.9 | 326°33.8 | 341°33.7 | 356°33.7 | 11°33.6 | 26°33.5 | 41°33.5 | 56°33.4 | 71°33.4 | -0.1 |
| | -16°29.3 | -16°28.5 | -16°27.8 | -16°27.1 | -16°26.3 | -16°25.6 | -16°24.8 | -16°24.1 | -16°23.4 | -16°22.6 | -16°21.9 | -16°21.1 | +0.7 |
| Sa 4 | 266°32.6 | 281°32.5 | 296°32.5 | 311°32.4 | 326°32.3 | 341°32.3 | 356°32.2 | 11°32.2 | 26°32.1 | 41°32.1 | 56°32.0 | 71°32.0 | -0.1 |
| | -16°11.4 | -16°10.7 | -16°10.0 | -16°09.2 | -16°08.5 | -16°07.7 | -16°07.0 | -16°06.2 | -16°05.4 | -16°04.7 | -16°03.9 | -16°03.2 | +0.8 |
| Di 5 | 266°31.3 | 281°31.2 | 296°31.2 | 311°31.2 | 326°31.1 | 341°31.1 | 356°31.0 | 11°31.0 | 26°30.9 | 41°30.9 | 56°30.8 | 71°30.8 | -0.0 |
| | -15°53.3 | -15°52.6 | -15°51.8 | -15°51.1 | -15°50.3 | -15°49.5 | -15°48.8 | -15°48.0 | -15°47.3 | -15°46.5 | -15°45.7 | -15°45.0 | +0.8 |
| Lu 6 | 266°30.2 | 281°30.2 | 296°30.1 | 311°30.1 | 326°30.1 | 341°30.0 | 356°30.0 | 11°29.9 | 26°29.9 | 41°29.9 | 56°29.8 | 71°29.8 | -0.0 |
| | -15°35.0 | -15°34.2 | -15°33.4 | -15°32.7 | -15°31.9 | -15°31.1 | -15°30.3 | -15°29.6 | -15°28.8 | -15°28.0 | -15°27.2 | -15°26.5 | +0.8 |
| Ma 7 | 266°29.3 | 281°29.3 | 296°29.3 | 311°29.2 | 326°29.2 | 341°29.2 | 356°29.1 | 11°29.1 | 26°29.1 | 41°29.1 | 56°29.0 | 71°29.0 | -0.0 |
| | -15°16.3 | -15°15.6 | -15°14.8 | -15°14.0 | -15°13.2 | -15°12.4 | -15°11.6 | -15°10.9 | -15°10.1 | -15°09.3 | -15°08.5 | -15°07.7 | +0.8 |
| Me 8 | 266°28.7 | 281°28.6 | 296°28.6 | 311°28.6 | 326°28.6 | 341°28.5 | 356°28.5 | 11°28.5 | 26°28.5 | 41°28.4 | 56°28.4 | 71°28.4 | -0.0 |
| | -14°57.4 | -14°56.6 | -14°55.9 | -14°55.1 | -14°54.3 | -14°53.5 | -14°52.7 | -14°51.9 | -14°51.1 | -14°50.3 | -14°49.5 | -14°48.7 | +0.8 |
| Je 9 | 266°28.2 | 281°28.1 | 296°28.1 | 311°28.1 | 326°28.1 | 341°28.1 | 356°28.1 | 11°28.1 | 26°28.0 | 41°28.0 | 56°28.0 | 71°28.0 | -0.0 |
| | -14°38.3 | -14°37.5 | -14°36.7 | -14°35.9 | -14°35.1 | -14°34.3 | -14°33.5 | -14°32.7 | -14°31.8 | -14°31.0 | -14°30.2 | -14°29.4 | +0.8 |
| Ve 10 | 266°27.9 | 281°27.8 | 296°27.8 | 311°27.8 | 326°27.8 | 341°27.8 | 356°27.8 | 11°27.8 | 26°27.8 | 41°27.8 | 56°27.8 | 71°27.8 | -0.0 |
| | -14°18.9 | -14°18.1 | -14°17.3 | -14°16.4 | -14°15.6 | -14°14.8 | -14°14.0 | -14°13.2 | -14°12.4 | -14°11.5 | -14°10.7 | -14°09.9 | +0.8 |
| Sa 11 | 266°27.7 | 281°27.7 | 296°27.7 | 311°27.7 | 326°27.7 | 341°27.7 | 356°27.7 | 11°27.7 | 26°27.7 | 41°27.8 | 56°27.8 | 71°27.8 | +0.0 |
| | -13°59.2 | -13°58.4 | -13°57.6 | -13°56.8 | -13°55.9 | -13°55.1 | -13°54.3 | -13°53.5 | -13°52.6 | -13°51.8 | -13°51.0 | -13°50.2 | +0.8 |
| Di 12 | 266°27.8 | 281°27.8 | 296°27.8 | 311°27.8 | 326°27.9 | 341°27.9 | 356°27.9 | 11°27.9 | 26°27.9 | 41°27.9 | 56°27.9 | 71°27.9 | +0.0 |
| | -13°39.4 | -13°38.5 | -13°37.7 | -13°36.9 | -13°36.0 | -13°35.2 | -13°34.4 | -13°33.5 | -13°32.7 | -13°31.9 | -13°31.0 | -13°30.2 | +0.8 |
| Lu 13 | 266°28.1 | 281°28.1 | 296°28.1 | 311°28.1 | 326°28.1 | 341°28.2 | 356°28.2 | 11°28.2 | 26°28.2 | 41°28.2 | 56°28.2 | 71°28.3 | +0.0 |
| | -13°19.3 | -13°18.4 | -13°17.6 | -13°16.7 | -13°15.9 | -13°15.1 | -13°14.2 | -13°13.4 | -13°12.5 | -13°11.7 | -13°10.8 | -13°10.0 | +0.8 |
| Ma 14 | 266°28.5 | 281°28.5 | 296°28.6 | 311°28.6 | 326°28.6 | 341°28.6 | 356°28.7 | 11°28.7 | 26°28.7 | 41°28.7 | 56°28.8 | 71°28.8 | +0.0 |
| | -12°59.0 | -12°58.1 | -12°57.3 | -12°56.4 | -12°55.5 | -12°54.7 | -12°53.8 | -12°53.0 | -12°52.1 | -12°51.3 | -12°50.4 | -12°49.6 | +0.9 |
| Me 15 | 266°29.1 | 281°29.2 | 296°29.2 | 311°29.2 | 326°29.3 | 341°29.3 | 356°29.3 | 11°29.4 | 26°29.4 | 41°29.4 | 56°29.4 | 71°29.5 | +0.0 |
| | -12°38.4 | -12°37.6 | -12°36.7 | -12°35.8 | -12°35.0 | -12°34.1 | -12°33.3 | -12°32.4 | -12°31.5 | -12°30.7 | -12°29.8 | -12°29.0 | +0.9 |
| Je 16 | 266°29.9 | 281°30.0 | 296°30.0 | 311°30.0 | 326°30.1 | 341°30.1 | 356°30.2 | 11°30.2 | 26°30.2 | 41°30.3 | 56°30.3 | 71°30.4 | +0.0 |
| | -12°17.7 | -12°16.8 | -12°16.0 | -12°15.1 | -12°14.2 | -12°13.4 | -12°12.5 | -12°11.6 | -12°10.7 | -12°09.9 | -12°09.0 | -12°08.1 | +0.9 |
| Ve 17 | 266°30.9 | 281°30.9 | 296°31.0 | 311°31.0 | 326°31.1 | 341°31.1 | 356°31.2 | 11°31.2 | 26°31.3 | 41°31.3 | 56°31.4 | 71°31.4 | +0.0 |
| | -11°56.8 | -11°55.9 | -11°55.0 | -11°54.1 | -11°53.3 | -11°52.4 | -11°51.5 | -11°50.6 | -11°49.7 | -11°48.9 | -11°48.0 | -11°47.1 | +0.9 |
| Sa 18 | 266°32.0 | 281°32.1 | 296°32.1 | 311°32.2 | 326°32.3 | 341°32.3 | 356°32.4 | 11°32.4 | 26°32.5 | 41°32.5 | 56°32.6 | 71°32.6 | +0.1 |
| | -11°35.6 | -11°34.8 | -11°33.9 | -11°33.0 | -11°32.1 | -11°31.2 | -11°30.3 | -11°29.4 | -11°28.6 | -11°27.7 | -11°26.8 | -11°25.9 | +0.9 |
| Di 19 | 266°33.4 | 281°33.4 | 296°33.5 | 311°33.5 | 326°33.6 | 341°33.7 | 356°33.7 | 11°33.8 | 26°33.8 | 41°33.9 | 56°34.0 | 71°34.0 | +0.1 |
| | -11°14.3 | -11°13.4 | -11°12.6 | -11°11.7 | -11°10.8 | -11°09.9 | -11°09.0 | -11°08.1 | -11°07.2 | -11°06.3 | -11°05.4 | -11°04.5 | +0.9 |
| Lu 20 | 266°34.8 | 281°34.9 | 296°35.0 | 311°35.0 | 326°35.1 | 341°35.2 | 356°35.2 | 11°35.3 | 26°35.4 | 41°35.4 | 56°35.5 | 71°35.6 | +0.1 |
| | -10°52.9 | -10°52.0 | -10°51.1 | -10°50.2 | -10°49.3 | -10°48.4 | -10°47.5 | -10°46.6 | -10°45.7 | -10°44.8 | -10°43.9 | -10°43.0 | +0.9 |
| Ma 21 | 266°36.5 | 281°36.6 | 296°36.6 | 311°36.7 | 326°36.8 | 341°36.8 | 356°36.9 | 11°37.0 | 26°37.1 | 41°37.1 | 56°37.2 | 71°37.3 | +0.1 |
| | -10°31.2 | -10°30.3 | -10°29.4 | -10°28.5 | -10°27.6 | -10°26.7 | -10°25.8 | -10°24.9 | -10°24.0 | -10°23.1 | -10°22.1 | -10°21.2 | +0.9 |
| Me 22 | 266°38.3 | 281°38.4 | 296°38.4 | 311°38.5 | 326°38.6 | 341°38.7 | 356°38.8 | 11°38.8 | 26°38.9 | 41°39.0 | 56°39.1 | 71°39.2 | +0.1 |
| | -10°09.4 | -10°08.5 | -10°07.6 | -10°06.7 | -10°05.8 | -10°04.8 | -10°03.9 | -10°03.0 | -10°02.1 | -10°01.2 | -10°00.3 | -9°59.4 | +0.9 |
| Je 23 | 266°40.3 | 281°40.3 | 296°40.4 | 311°40.5 | 326°40.6 | 341°40.7 | 356°40.8 | 11°40.9 | 26°40.9 | 41°41.0 | 56°41.1 | 71°41.2 | +0.1 |
| | -9°47.4 | -9°46.5 | -9°45.6 | -9°44.7 | -9°43.8 | -9°42.8 | -9°41.9 | -9°41.0 | -9°40.1 | -9°39.2 | -9°38.2 | -9°37.3 | +0.9 |
| Ve 24 | 266°42.4 | 281°42.5 | 296°42.6 | 311°42.7 | 326°42.7 | 341°42.8 | 356°42.9 | 11°43.0 | 26°43.1 | 41°43.2 | 56°43.3 | 71°43.4 | +0.1 |
| | -9°25.3 | -9°24.4 | -9°23.5 | -9°22.6 | -9°21.6 | -9°20.7 | -9°19.8 | -9°18.8 | -9°17.9 | -9°17.0 | -9°16.1 | -9°15.1 | +0.9 |
| Sa 25 | 266°44.7 | 281°44.8 | 296°44.9 | 311°45.0 | 326°45.1 | 341°45.1 | 356°45.2 | 11°45.3 | 26°45.4 | 41°45.5 | 56°45.6 | 71°45.8 | +0.1 |
| | -9°03.1 | -9°02.1 | -9°01.2 | -9°00.3 | -8°59.3 | -8°58.4 | -8°57.5 | -8°56.6 | -8°55.6 | -8°54.7 | -8°53.8 | -8°52.8 | +0.9 |
| Di 26 | 266°47.1 | 281°47.2 | 296°47.3 | 311°47.4 | 326°47.5 | 341°47.6 | 356°47.7 | 11°47.8 | 26°47.9 | 41°48.0 | 56°48.1 | 71°48.2 | +0.1 |
| | -8°40.7 | -8°39.7 | -8°38.8 | -8°37.9 | -8°36.9 | -8°36.0 | -8°35.1 | -8°34.1 | -8°33.2 | -8°32.3 | -8°31.3 | -8°30.4 | +0.9 |
| Lu 27 | 266°49.7 | 281°49.8 | 296°49.9 | 311°50.0 | 326°50.1 | 341°50.2 | 356°50.3 | 11°50.4 | 26°50.5 | 41°50.7 | 56°50.8 | 71°50.9 | +0.1 |
| | -8°18.2 | -8°17.2 | -8°16.3 | -8°15.3 | -8°14.4 | -8°13.5 | -8°12.5 | -8°11.6 | -8°10.6 | -8°09.7 | -8°08.8 | -8°07.8 | +0.9 |
| Ma 28 | 266°52.4 | 281°52.5 | 296°52.6 | 311°52.7 | 326°52.8 | 341°52.9 | 356°53.1 | 11°53.2 | 26°53.3 | 41°53.4 | 56°53.5 | 71°53.6 | +0.1 |
| | -7°55.5 | -7°54.6 | -7°53.6 | -7°52.7 | -7°51.7 | -7°50.8 | -7°49.9 | -7°48.9 | -7°48.0 | -7°47.0 | -7°46.1 | -7°45.1 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2034

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 245°15.6 | 259°43.1 | 274°10.6 | 288°38.2 | 303°05.8 | 317°33.5 | 332°01.2 | 346°29.0 | 0°56.8 | 15°24.7 | 29°52.6 | +27.7 | 15.7 |
| | 16°59.5 | 16°55.3 | 16°51.1 | 16°46.7 | 16°42.2 | 16°37.7 | 16°33.0 | 16°28.3 | 16°23.5 | 16°18.6 | 16°13.6 | -4.6 | 57.5 |
| Je 2 | 246°58.1 | 261°26.9 | 275°55.8 | 290°24.7 | 304°53.7 | 319°22.8 | 333°51.9 | 348°21.1 | 2°50.3 | 17°19.6 | 31°48.9 | +29.1 | 15.5 |
| | 14°48.2 | 14°41.9 | 14°35.4 | 14°29.0 | 14°22.4 | 14°15.8 | 14°09.1 | 14°02.3 | 13°55.5 | 13°48.5 | 13°41.6 | -6.7 | 57.0 |
| ○ Ve 3 | 249°16.1 | 263°46.4 | 278°16.7 | 292°47.1 | 307°17.5 | 321°48.0 | 336°18.6 | 350°49.2 | 5°19.9 | 19°50.6 | 34°21.4 | +30.5 | 15.4 |
| | 11°49.2 | 11°41.3 | 11°33.3 | 11°25.2 | 11°17.1 | 11°09.0 | 11°00.8 | 10°52.5 | 10°44.2 | 10°35.9 | 10°27.5 | -8.2 | 56.4 |
| Sa 4 | 252°09.8 | 266°41.4 | 281°13.1 | 295°44.8 | 310°16.6 | 324°48.4 | 339°20.3 | 353°52.2 | 8°24.2 | 22°56.2 | 37°28.3 | +31.9 | 15.2 |
| | 8°16.8 | 8°07.8 | 7°58.7 | 7°49.7 | 7°40.6 | 7°31.5 | 7°22.3 | 7°13.2 | 7°04.0 | 6°54.8 | 6°45.5 | -9.1 | 55.8 |
| Di 5 | 255°34.5 | 270°07.3 | 284°40.0 | 299°12.8 | 313°45.7 | 328°18.6 | 342°51.5 | 357°24.4 | 11°57.4 | 26°30.4 | 41°03.5 | +32.9 | 15.1 |
| | 4°24.6 | 4°15.1 | 4°05.6 | 3°56.0 | 3°46.5 | 3°36.9 | 3°27.4 | 3°17.8 | 3°08.2 | 2°58.6 | 2°49.0 | -9.6 | 55.3 |
| Lu 6 | 259°22.7 | 273°56.1 | 288°29.6 | 303°03.2 | 317°36.7 | 332°10.3 | 346°43.9 | 1°17.5 | 15°51.1 | 30°24.7 | 44°58.4 | +33.6 | 14.9 |
| | 0°25.1 | 0°15.5 | 0°06.0 | -0°03.6 | -0°13.1 | -0°22.7 | -0°32.2 | -0°41.8 | -0°51.3 | -1°00.8 | -1°10.3 | -9.5 | 54.8 |
| Ma 7 | 263°24.8 | 277°58.6 | 292°32.5 | 307°06.3 | 321°40.2 | 336°14.0 | 350°47.9 | 5°21.8 | 19°55.6 | 34°29.5 | 49°03.4 | +33.9 | 14.8 |
| | -3°31.0 | -3°40.3 | -3°49.5 | -3°58.7 | -4°07.9 | -4°17.0 | -4°26.2 | -4°35.3 | -4°44.4 | -4°53.4 | -5°02.5 | -9.1 | 54.4 |
| Me 8 | 267°31.0 | 282°04.8 | 296°38.6 | 311°12.4 | 325°46.2 | 340°19.9 | 354°53.7 | 9°27.4 | 24°01.1 | 38°34.8 | 53°08.5 | +33.7 | 14.8 |
| | -7°14.8 | -7°23.3 | -7°31.9 | -7°40.4 | -7°48.9 | -7°57.3 | -8°05.7 | -8°14.1 | -8°22.4 | -8°30.7 | -8°39.0 | -8.4 | 54.2 |
| Je 9 | 271°31.7 | 286°05.1 | 300°38.4 | 315°11.8 | 329°45.1 | 344°18.4 | 358°51.6 | 13°24.8 | 27°58.1 | 42°31.2 | 57°04.4 | +33.3 | 14.8 |
| | -10°38.0 | -10°45.6 | -10°53.2 | -11°00.7 | -11°08.1 | -11°15.5 | -11°22.9 | -11°30.2 | -11°37.5 | -11°44.7 | -11°51.9 | -7.4 | 54.2 |
| Ve 10 | 286°05.1 | 300°38.4 | 315°11.8 | 329°45.1 | 344°18.4 | 358°51.6 | 13°24.8 | 27°58.1 | 42°31.2 | 57°04.4 | 71°37.5 | +33.2 | 14.8 |
| | -10°45.6 | -10°53.2 | -11°00.7 | -11°08.1 | -11°15.5 | -11°22.9 | -11°30.2 | -11°37.5 | -11°44.7 | -11°51.9 | -11°59.0 | -7.3 | 54.2 |
| ◑ Sa 11 | 289°50.6 | 304°23.2 | 318°55.8 | 333°28.4 | 348°00.9 | 2°33.3 | 17°05.8 | 31°38.1 | 46°10.5 | 60°42.8 | 75°15.1 | +32.4 | 14.8 |
| | -13°39.5 | -13°45.8 | -13°52.0 | -13°58.1 | -14°04.2 | -14°10.2 | -14°16.2 | -14°22.1 | -14°27.9 | -14°33.7 | -14°39.4 | -6.0 | 54.3 |
| Di 12 | 293°14.4 | 307°46.1 | 322°17.6 | 336°49.2 | 351°20.7 | 5°52.1 | 20°23.5 | 34°54.9 | 49°26.2 | 63°57.5 | 78°28.8 | +31.4 | 14.9 |
| | -15°57.3 | -16°02.0 | -16°06.6 | -16°11.1 | -16°15.5 | -16°19.9 | -16°24.2 | -16°28.4 | -16°32.6 | -16°36.6 | -16°40.6 | -4.3 | 54.7 |
| Lu 13 | 296°12.0 | 310°42.5 | 325°13.0 | 339°43.4 | 354°13.8 | 8°44.2 | 23°14.5 | 37°44.7 | 52°14.9 | 66°45.1 | 81°15.2 | +30.3 | 15.0 |
| | -17°31.3 | -17°34.1 | -17°36.7 | -17°39.3 | -17°41.8 | -17°44.2 | -17°46.5 | -17°48.7 | -17°50.9 | -17°52.9 | -17°54.9 | -2.4 | 55.2 |
| Ma 14 | 298°42.1 | 313°11.6 | 327°41.0 | 342°10.4 | 356°39.7 | 11°09.0 | 25°38.3 | 40°07.5 | 54°36.7 | 69°05.9 | 83°35.0 | +29.3 | 15.2 |
| | -18°13.8 | -18°14.4 | -18°14.8 | -18°15.1 | -18°15.4 | -18°15.5 | -18°15.6 | -18°15.6 | -18°15.4 | -18°15.2 | -18°14.9 | -0.1 | 55.8 |
| Me 15 | 300°47.6 | 315°16.2 | 329°44.7 | 344°13.3 | 358°41.8 | 13°10.2 | 27°38.7 | 42°07.1 | 56°35.5 | 71°03.8 | 85°32.2 | +28.5 | 15.4 |
| | -17°58.3 | -17°56.4 | -17°54.4 | -17°52.3 | -17°50.1 | -17°47.8 | -17°45.4 | -17°42.9 | -17°40.3 | -17°37.5 | -17°34.7 | +2.4 | 56.6 |
| Je 16 | 302°34.5 | 317°02.5 | 331°30.5 | 345°58.5 | 0°26.4 | 14°54.4 | 29°22.3 | 43°50.2 | 58°18.1 | 72°46.0 | 87°13.9 | +27.9 | 15.7 |
| | -16°40.5 | -16°36.1 | -16°31.6 | -16°27.0 | -16°22.3 | -16°17.5 | -16°12.5 | -16°07.5 | -16°02.4 | -15°57.2 | -15°51.9 | +4.9 | 57.5 |
| Ve 17 | 304°10.7 | 318°38.5 | 333°06.2 | 347°33.9 | 2°01.6 | 16°29.3 | 30°57.0 | 45°24.8 | 59°52.5 | 74°20.2 | 88°47.9 | +27.7 | 15.9 |
| | -14°20.7 | -14°13.8 | -14°06.9 | -13°59.9 | -13°52.8 | -13°45.6 | -13°38.3 | -13°30.9 | -13°23.5 | -13°15.9 | -13°08.3 | +7.2 | 58.3 |
| ● Sa 18 | 305°43.3 | 320°11.0 | 334°38.7 | 349°06.5 | 3°34.2 | 18°01.9 | 32°29.6 | 46°57.3 | 61°25.0 | 75°52.8 | 90°20.5 | +27.7 | 16.1 |
| | -11°03.9 | -10°54.9 | -10°45.9 | -10°36.9 | -10°27.7 | -10°18.5 | -10°09.2 | -9°59.9 | -9°50.5 | -9°41.0 | -9°31.4 | +9.2 | 59.0 |
| Di 19 | 307°16.8 | 321°44.6 | 336°12.4 | 350°40.1 | 5°07.9 | 19°35.7 | 34°03.5 | 48°31.3 | 62°59.1 | 77°26.9 | 91°54.7 | +27.8 | 16.2 |
| | -7°01.0 | -6°50.5 | -6°40.0 | -6°29.4 | -6°18.8 | -6°08.2 | -5°57.5 | -5°46.7 | -5°36.0 | -5°25.1 | -5°14.3 | +10.7 | 59.6 |
| Lu 20 | 308°51.8 | 323°19.6 | 337°47.4 | 352°15.2 | 6°43.0 | 21°10.8 | 35°38.6 | 50°06.4 | 64°34.2 | 79°02.0 | 93°29.8 | +27.8 | 16.3 |
| | -2°27.7 | -2°16.4 | -2°05.1 | -1°53.7 | -1°42.4 | -1°31.0 | -1°19.6 | -1°08.3 | -0°56.9 | -0°45.5 | -0°34.1 | +11.4 | 59.9 |
| Ma 21 | 310°25.8 | 324°53.5 | 339°21.2 | 353°48.9 | 8°16.5 | 22°44.1 | 37°11.8 | 51°39.4 | 66°07.0 | 80°34.6 | 95°02.2 | +27.6 | 16.4 |
| | 2°17.0 | 2°28.3 | 2°39.6 | 2°50.9 | 3°02.2 | 3°13.5 | 3°24.7 | 3°35.9 | 3°47.1 | 3°58.3 | 4°09.5 | +11.3 | 60.0 |
| Me 22 | 311°54.5 | 326°21.8 | 340°49.2 | 355°16.5 | 9°43.8 | 24°11.2 | 38°38.4 | 53°05.7 | 67°33.0 | 82°00.2 | 96°27.4 | +27.3 | 16.3 |
| | 6°52.7 | 7°03.3 | 7°13.8 | 7°24.2 | 7°34.6 | 7°45.0 | 7°55.3 | 8°05.6 | 8°15.8 | 8°25.9 | 8°36.0 | +10.3 | 59.9 |
| Je 23 | 313°13.6 | 327°40.6 | 342°07.5 | 356°34.4 | 11°01.3 | 25°28.1 | 39°55.0 | 54°21.8 | 68°48.6 | 83°15.4 | 97°42.2 | +26.9 | 16.3 |
| | 10°59.9 | 11°09.0 | 11°17.9 | 11°26.8 | 11°35.6 | 11°44.4 | 11°53.0 | 12°01.6 | 12°10.1 | 12°18.5 | 12°26.9 | +8.7 | 59.6 |
| Ve 24 | 314°21.8 | 328°48.3 | 343°14.8 | 357°41.3 | 12°07.8 | 26°34.2 | 41°00.7 | 55°27.1 | 69°53.6 | 84°20.0 | 98°46.4 | +26.5 | 16.1 |
| | 14°21.5 | 14°28.4 | 14°35.2 | 14°42.0 | 14°48.6 | 14°55.1 | 15°01.5 | 15°07.9 | 15°14.1 | 15°20.2 | 15°26.3 | +6.5 | 59.2 |
| ◐ Sa 25 | 315°21.5 | 329°47.8 | 344°14.1 | 358°40.4 | 13°06.7 | 27°33.0 | 41°59.3 | 56°25.6 | 70°51.9 | 85°18.2 | 99°44.5 | +26.3 | 16.0 |
| | 16°44.3 | 16°48.6 | 16°52.9 | 16°57.0 | 17°01.0 | 17°05.0 | 17°08.8 | 17°12.5 | 17°16.1 | 17°19.5 | 17°22.9 | +3.9 | 58.7 |
| Di 26 | 316°19.9 | 330°46.3 | 345°12.8 | 359°39.3 | 14°05.8 | 28°32.3 | 42°58.8 | 57°25.3 | 71°51.9 | 86°18.5 | 100°45.1 | +26.5 | 15.9 |
| | 18°00.0 | 18°01.6 | 18°03.1 | 18°04.4 | 18°05.7 | 18°06.8 | 18°07.8 | 18°08.8 | 18°09.6 | 18°10.2 | 18°10.8 | +1.1 | 58.2 |
| Lu 27 | 317°27.2 | 331°54.2 | 346°21.3 | 0°48.4 | 15°15.5 | 29°42.7 | 44°09.9 | 58°37.1 | 73°04.4 | 87°31.7 | 101°59.1 | +27.2 | 15.7 |
| | 18°06.2 | 18°05.1 | 18°03.8 | 18°02.4 | 18°00.9 | 17°59.3 | 17°57.6 | 17°55.8 | 17°53.9 | 17°51.9 | 17°49.7 | -1.7 | 57.6 |
| Ma 28 | 318°54.2 | 333°22.2 | 347°50.2 | 2°18.3 | 16°46.5 | 31°14.7 | 45°43.0 | 60°11.2 | 74°39.6 | 89°08.0 | 103°36.4 | +28.2 | 15.6 |
| | 17°05.9 | 17°02.2 | 16°58.4 | 16°54.5 | 16°50.5 | 16°46.4 | 16°42.3 | 16°38.0 | 16°33.7 | 16°29.2 | 16°24.7 | -4.1 | 57.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 10h04 — DQ: 11 11h09 — NL: 18 23h10 — PQ: 25 16h34

# SOLEIL

## Mars 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 266°55.2<br>-7°32.8 | 281°55.3<br>-7°31.8 | 296°55.4<br>-7°30.9 | 311°55.6<br>-7°29.9 | 326°55.7<br>-7°29.0 | 341°55.8<br>-7°28.0 | 356°55.9<br>-7°27.1 | 11°56.1<br>-7°26.1 | 26°56.2<br>-7°25.2 | 41°56.3<br>-7°24.2 | 56°56.4<br>-7°23.3 | 71°56.6<br>-7°22.3 | +0.1<br>+1.0 |
| Je 2 | 266°58.2<br>-7°09.9 | 281°58.3<br>-7°09.0 | 296°58.4<br>-7°08.0 | 311°58.6<br>-7°07.1 | 326°58.7<br>-7°06.1 | 341°58.8<br>-7°05.2 | 356°58.9<br>-7°04.2 | 11°59.1<br>-7°03.2 | 26°59.2<br>-7°02.3 | 41°59.3<br>-7°01.3 | 56°59.5<br>-7°00.4 | 71°59.6<br>-6°59.4 | +0.1<br>+1.0 |
| Ve 3 | 267°01.3<br>-6°47.0 | 282°01.4<br>-6°46.0 | 297°01.5<br>-6°45.1 | 312°01.7<br>-6°44.1 | 327°01.8<br>-6°43.1 | 342°01.9<br>-6°42.2 | 357°02.1<br>-6°41.2 | 12°02.2<br>-6°40.3 | 27°02.3<br>-6°39.3 | 42°02.5<br>-6°38.3 | 57°02.6<br>-6°37.4 | 72°02.7<br>-6°36.4 | +0.1<br>+1.0 |
| Sa 4 | 267°04.5<br>-6°23.9 | 282°04.6<br>-6°23.0 | 297°04.8<br>-6°22.0 | 312°04.9<br>-6°21.0 | 327°05.0<br>-6°20.1 | 342°05.2<br>-6°19.1 | 357°05.3<br>-6°18.1 | 12°05.5<br>-6°17.2 | 27°05.6<br>-6°16.2 | 42°05.7<br>-6°15.2 | 57°05.9<br>-6°14.3 | 72°06.0<br>-6°13.3 | +0.1<br>+1.0 |
| Di 5 | 267°07.8<br>-6°00.8 | 282°08.0<br>-5°59.8 | 297°08.1<br>-5°58.8 | 312°08.3<br>-5°57.9 | 327°08.4<br>-5°56.9 | 342°08.5<br>-5°55.9 | 357°08.7<br>-5°55.0 | 12°08.8<br>-5°54.0 | 27°09.0<br>-5°53.0 | 42°09.1<br>-5°52.1 | 57°09.2<br>-5°51.1 | 72°09.4<br>-5°50.1 | +0.1<br>+1.0 |
| Lu 6 | 267°11.3<br>-5°37.6 | 282°11.4<br>-5°36.6 | 297°11.6<br>-5°35.6 | 312°11.7<br>-5°34.6 | 327°11.8<br>-5°33.7 | 342°12.0<br>-5°32.7 | 357°12.1<br>-5°31.7 | 12°12.3<br>-5°30.8 | 27°12.4<br>-5°29.8 | 42°12.6<br>-5°28.8 | 57°12.7<br>-5°27.9 | 72°12.9<br>-5°26.9 | +0.1<br>+1.0 |
| Ma 7 | 267°14.8<br>-5°14.2 | 282°15.0<br>-5°13.3 | 297°15.1<br>-5°12.3 | 312°15.3<br>-5°11.3 | 327°15.4<br>-5°10.4 | 342°15.6<br>-5°09.4 | 357°15.7<br>-5°08.4 | 12°15.9<br>-5°07.4 | 27°16.0<br>-5°06.5 | 42°16.2<br>-5°05.5 | 57°16.3<br>-5°04.5 | 72°16.5<br>-5°03.5 | +0.2<br>+1.0 |
| Me 8 | 267°18.4<br>-4°50.9 | 282°18.6<br>-4°49.9 | 297°18.7<br>-4°48.9 | 312°18.9<br>-4°48.0 | 327°19.1<br>-4°47.0 | 342°19.2<br>-4°46.0 | 357°19.4<br>-4°45.0 | 12°19.5<br>-4°44.0 | 27°19.7<br>-4°43.1 | 42°19.8<br>-4°42.1 | 57°20.0<br>-4°41.1 | 72°20.1<br>-4°40.1 | +0.2<br>+1.0 |
| Je 9 | 267°22.2<br>-4°27.4 | 282°22.3<br>-4°26.5 | 297°22.5<br>-4°25.5 | 312°22.6<br>-4°24.5 | 327°22.8<br>-4°23.5 | 342°23.0<br>-4°22.6 | 357°23.1<br>-4°21.6 | 12°23.3<br>-4°20.6 | 27°23.4<br>-4°19.6 | 42°23.6<br>-4°18.6 | 57°23.7<br>-4°17.7 | 72°23.9<br>-4°16.7 | +0.2<br>+1.0 |
| Ve 10 | 267°26.0<br>-4°03.9 | 282°26.1<br>-4°03.0 | 297°26.3<br>-4°02.0 | 312°26.5<br>-4°01.0 | 327°26.6<br>-4°00.0 | 342°26.8<br>-3°59.0 | 357°26.9<br>-3°58.1 | 12°27.1<br>-3°57.1 | 27°27.3<br>-3°56.1 | 42°27.4<br>-3°55.1 | 57°27.6<br>-3°54.1 | 72°27.7<br>-3°53.2 | +0.2<br>+1.0 |
| Sa 11 | 267°29.9<br>-3°40.4 | 282°30.0<br>-3°39.4 | 297°30.2<br>-3°38.4 | 312°30.4<br>-3°37.5 | 327°30.5<br>-3°36.5 | 342°30.7<br>-3°35.5 | 357°30.8<br>-3°34.5 | 12°31.0<br>-3°33.5 | 27°31.2<br>-3°32.5 | 42°31.3<br>-3°31.6 | 57°31.5<br>-3°30.6 | 72°31.7<br>-3°29.6 | +0.2<br>+1.0 |
| Di 12 | 267°33.8<br>-3°16.8 | 282°34.0<br>-3°15.8 | 297°34.2<br>-3°14.8 | 312°34.3<br>-3°13.9 | 327°34.5<br>-3°12.9 | 342°34.7<br>-3°11.9 | 357°34.8<br>-3°10.9 | 12°35.0<br>-3°09.9 | 27°35.2<br>-3°08.9 | 42°35.3<br>-3°08.0 | 57°35.5<br>-3°07.0 | 72°35.7<br>-3°06.0 | +0.2<br>+1.0 |
| Lu 13 | 267°37.9<br>-2°53.2 | 282°38.0<br>-2°52.2 | 297°38.2<br>-2°51.2 | 312°38.4<br>-2°50.2 | 327°38.5<br>-2°49.2 | 342°38.7<br>-2°48.3 | 357°38.9<br>-2°47.3 | 12°39.1<br>-2°46.3 | 27°39.2<br>-2°45.3 | 42°39.4<br>-2°44.3 | 57°39.6<br>-2°43.3 | 72°39.7<br>-2°42.3 | +0.2<br>+1.0 |
| Ma 14 | 267°42.0<br>-2°29.5 | 282°42.1<br>-2°28.5 | 297°42.3<br>-2°27.5 | 312°42.5<br>-2°26.6 | 327°42.6<br>-2°25.6 | 342°42.8<br>-2°24.6 | 357°43.0<br>-2°23.6 | 12°43.2<br>-2°22.6 | 27°43.3<br>-2°21.6 | 42°43.5<br>-2°20.6 | 57°43.7<br>-2°19.7 | 72°43.9<br>-2°18.7 | +0.2<br>+1.0 |
| Me 15 | 267°46.1<br>-2°05.8 | 282°46.3<br>-2°04.8 | 297°46.5<br>-2°03.9 | 312°46.6<br>-2°02.9 | 327°46.8<br>-2°01.9 | 342°47.0<br>-2°00.9 | 357°47.2<br>-1°59.9 | 12°47.3<br>-1°58.9 | 27°47.5<br>-1°57.9 | 42°47.7<br>-1°56.9 | 57°47.9<br>-1°56.0 | 72°48.0<br>-1°55.0 | +0.2<br>+1.0 |
| Je 16 | 267°50.3<br>-1°42.1 | 282°50.5<br>-1°41.1 | 297°50.7<br>-1°40.1 | 312°50.9<br>-1°39.2 | 327°51.0<br>-1°38.2 | 342°51.2<br>-1°37.2 | 357°51.4<br>-1°36.2 | 12°51.6<br>-1°35.2 | 27°51.7<br>-1°34.2 | 42°51.9<br>-1°33.2 | 57°52.1<br>-1°32.2 | 72°52.3<br>-1°31.2 | +0.2<br>+1.0 |
| Ve 17 | 267°54.6<br>-1°18.4 | 282°54.8<br>-1°17.4 | 297°54.9<br>-1°16.4 | 312°55.1<br>-1°15.4 | 327°55.3<br>-1°14.4 | 342°55.5<br>-1°13.5 | 357°55.7<br>-1°12.5 | 12°55.8<br>-1°11.5 | 27°56.0<br>-1°10.5 | 42°56.2<br>-1°09.5 | 57°56.4<br>-1°08.5 | 72°56.5<br>-1°07.5 | +0.2<br>+1.0 |
| Sa 18 | 267°58.9<br>-0°54.7 | 282°59.1<br>-0°53.7 | 297°59.2<br>-0°52.7 | 312°59.4<br>-0°51.7 | 327°59.6<br>-0°50.7 | 342°59.8<br>-0°49.7 | 358°00.0<br>-0°48.7 | 13°00.1<br>-0°47.7 | 28°00.3<br>-0°46.8 | 43°00.5<br>-0°45.8 | 58°00.7<br>-0°44.8 | 73°00.9<br>-0°43.8 | +0.2<br>+1.0 |
| Di 19 | 268°03.2<br>-0°30.9 | 283°03.4<br>-0°29.9 | 298°03.6<br>-0°29.0 | 313°03.8<br>-0°28.0 | 328°03.9<br>-0°27.0 | 343°04.1<br>-0°26.0 | 358°04.3<br>-0°25.0 | 13°04.5<br>-0°24.0 | 28°04.7<br>-0°23.0 | 43°04.9<br>-0°22.0 | 58°05.0<br>-0°21.0 | 73°05.2<br>-0°20.1 | +0.2<br>+1.0 |
| Lu 20 | 268°07.6<br>-0°07.2 | 283°07.8<br>-0°06.2 | 298°08.0<br>-0°05.2 | 313°08.1<br>-0°04.2 | 328°08.3<br>-0°03.3 | 343°08.5<br>-0°02.3 | 358°08.7<br>-0°01.3 | 13°08.9<br>-0°00.3 | 28°09.1<br>0°00.7 | 43°09.2<br>0°01.7 | 58°09.4<br>0°02.7 | 73°09.6<br>0°03.7 | +0.2<br>+1.0 |
| Ma 21 | 268°12.0<br>0°16.5 | 283°12.2<br>0°17.5 | 298°12.4<br>0°18.5 | 313°12.6<br>0°19.5 | 328°12.7<br>0°20.5 | 343°12.9<br>0°21.4 | 358°13.1<br>0°22.4 | 13°13.3<br>0°23.4 | 28°13.5<br>0°24.4 | 43°13.7<br>0°25.4 | 58°13.9<br>0°26.4 | 73°14.0<br>0°27.4 | +0.2<br>+1.0 |
| Me 22 | 268°16.4<br>0°40.2 | 283°16.6<br>0°41.2 | 298°16.8<br>0°42.2 | 313°17.0<br>0°43.2 | 328°17.2<br>0°44.2 | 343°17.4<br>0°45.1 | 358°17.6<br>0°46.1 | 13°17.7<br>0°47.1 | 28°17.9<br>0°48.1 | 43°18.1<br>0°49.1 | 58°18.3<br>0°50.1 | 73°18.5<br>0°51.1 | +0.2<br>+1.0 |
| Je 23 | 268°20.9<br>1°03.9 | 283°21.1<br>1°04.9 | 298°21.3<br>1°05.9 | 313°21.5<br>1°06.8 | 328°21.7<br>1°07.8 | 343°21.8<br>1°08.8 | 358°22.0<br>1°09.8 | 13°22.2<br>1°10.8 | 28°22.4<br>1°11.8 | 43°22.6<br>1°12.8 | 58°22.8<br>1°13.7 | 73°23.0<br>1°14.7 | +0.2<br>+1.0 |
| Ve 24 | 268°25.4<br>1°27.5 | 283°25.6<br>1°28.5 | 298°25.8<br>1°29.5 | 313°26.0<br>1°30.5 | 328°26.1<br>1°31.5 | 343°26.3<br>1°32.5 | 358°26.5<br>1°33.4 | 13°26.7<br>1°34.4 | 28°26.9<br>1°35.4 | 43°27.1<br>1°36.4 | 58°27.3<br>1°37.4 | 73°27.4<br>1°38.4 | +0.2<br>+1.0 |
| Sa 25 | 268°29.9<br>1°51.1 | 283°30.1<br>1°52.1 | 298°30.3<br>1°53.1 | 313°30.4<br>1°54.1 | 328°30.6<br>1°55.1 | 343°30.8<br>1°56.0 | 358°31.0<br>1°57.0 | 13°31.2<br>1°58.0 | 28°31.4<br>1°59.0 | 43°31.6<br>2°00.0 | 58°31.8<br>2°01.0 | 73°32.0<br>2°01.9 | +0.2<br>+1.0 |
| Di 26 | 268°34.4<br>2°14.7 | 283°34.6<br>2°15.7 | 298°34.8<br>2°16.7 | 313°35.0<br>2°17.6 | 328°35.1<br>2°18.6 | 343°35.3<br>2°19.6 | 358°35.5<br>2°20.6 | 13°35.7<br>2°21.6 | 28°35.9<br>2°22.5 | 43°36.1<br>2°23.5 | 58°36.3<br>2°24.5 | 73°36.5<br>2°25.5 | +0.2<br>+1.0 |
| Lu 27 | 268°38.9<br>2°38.2 | 283°39.1<br>2°39.2 | 298°39.3<br>2°40.2 | 313°39.5<br>2°41.2 | 328°39.7<br>2°42.1 | 343°39.9<br>2°43.1 | 358°40.0<br>2°44.1 | 13°40.2<br>2°45.1 | 28°40.4<br>2°46.0 | 43°40.6<br>2°47.0 | 58°40.8<br>2°48.0 | 73°41.0<br>2°49.0 | +0.2<br>+1.0 |
| Ma 28 | 268°43.4<br>3°01.7 | 283°43.6<br>3°02.7 | 298°43.8<br>3°03.6 | 313°44.0<br>3°04.6 | 328°44.2<br>3°05.6 | 343°44.4<br>3°06.6 | 358°44.6<br>3°07.5 | 13°44.7<br>3°08.5 | 28°44.9<br>3°09.5 | 43°45.1<br>3°10.5 | 58°45.3<br>3°11.4 | 73°45.5<br>3°12.4 | +0.2<br>+1.0 |
| Me 29 | 268°47.9<br>3°25.1 | 283°48.1<br>3°26.1 | 298°48.3<br>3°27.0 | 313°48.5<br>3°28.0 | 328°48.7<br>3°29.0 | 343°48.9<br>3°29.9 | 358°49.1<br>3°30.9 | 13°49.3<br>3°31.9 | 28°49.4<br>3°32.9 | 43°49.6<br>3°33.8 | 58°49.8<br>3°34.8 | 73°50.0<br>3°35.8 | +0.2<br>+1.0 |
| Je 30 | 268°52.4<br>3°48.4 | 283°52.6<br>3°49.4 | 298°52.8<br>3°50.4 | 313°53.0<br>3°51.3 | 328°53.2<br>3°52.3 | 343°53.4<br>3°53.3 | 358°53.6<br>3°54.2 | 13°53.8<br>3°55.2 | 28°53.9<br>3°56.2 | 43°54.1<br>3°57.1 | 58°54.3<br>3°58.1 | 73°54.5<br>3°59.1 | +0.2<br>+1.0 |
| Ve 31 | 268°56.9<br>4°11.7 | 283°57.1<br>4°12.6 | 298°57.3<br>4°13.6 | 313°57.5<br>4°14.6 | 328°57.7<br>4°15.5 | 343°57.9<br>4°16.5 | 358°58.1<br>4°17.5 | 13°58.2<br>4°18.4 | 28°58.4<br>4°19.4 | 43°58.6<br>4°20.4 | 58°58.8<br>4°21.3 | 73°59.0<br>4°22.3 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2034

| J | 13h | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 248°23.6 | 262°52.6 | 277°21.6 | 291°50.7 | 306°19.9 | 320°49.1 | 335°18.3 | 349°47.6 | 4°17.0 | 18°46.4 | 33°15.8 | +29.2 | 15.5 |
| | 15°34.8 | 15°29.3 | 15°23.8 | 15°18.2 | 15°12.5 | 15°06.7 | 15°00.8 | 14°54.9 | 14°48.9 | 14°42.9 | 14°36.7 | -5.8 | 56.7 |
| Je 2 | 250°43.9 | 265°14.2 | 279°44.6 | 294°15.0 | 308°45.4 | 323°15.9 | 337°46.4 | 352°17.0 | 6°47.7 | 21°18.4 | 35°49.1 | +30.5 | 15.3 |
| | 12°56.2 | 12°49.0 | 12°41.7 | 12°34.3 | 12°27.0 | 12°19.5 | 12°12.0 | 12°04.4 | 11°56.8 | 11°49.1 | 11°41.4 | -7.5 | 56.2 |
| Ve 3 | 253°36.2 | 268°07.7 | 282°39.2 | 297°10.8 | 311°42.5 | 326°14.2 | 340°45.9 | 355°17.7 | 9°49.5 | 24°21.4 | 38°53.3 | +31.7 | 15.2 |
| | 9°39.5 | 9°31.0 | 9°22.5 | 9°13.9 | 9°05.3 | 8°56.7 | 8°48.0 | 8°39.3 | 8°30.6 | 8°21.8 | 8°13.0 | -8.7 | 55.7 |
| Sa 4 | 256°56.7 | 271°29.2 | 286°01.8 | 300°34.4 | 315°07.0 | 329°39.7 | 344°12.4 | 358°45.1 | 13°17.9 | 27°50.7 | 42°23.5 | +32.7 | 15.1 |
| | 5°57.4 | 5°48.1 | 5°38.9 | 5°29.6 | 5°20.3 | 5°11.0 | 5°01.7 | 4°52.3 | 4°43.0 | 4°34.2 | 4°24.2 | -9.3 | 55.2 |
| ○ Di 5 | 260°39.3 | 275°12.6 | 289°45.9 | 304°19.2 | 318°52.5 | 333°25.8 | 347°59.2 | 2°32.6 | 17°06.0 | 31°39.4 | 46°12.9 | +33.4 | 15.0 |
| | 2°02.1 | 1°52.5 | 1°43.0 | 1°33.5 | 1°24.0 | 1°14.4 | 1°04.9 | 0°55.4 | 0°45.8 | 0°36.3 | 0°26.8 | -9.5 | 54.8 |
| Lu 6 | 264°36.4 | 279°10.1 | 293°43.8 | 308°17.5 | 322°51.2 | 337°24.9 | 351°58.6 | 6°32.3 | 21°06.0 | 35°39.7 | 50°13.5 | +33.7 | 14.9 |
| | -1°55.2 | -2°04.6 | -2°13.9 | -2°23.3 | -2°32.6 | -2°42.0 | -2°51.3 | -3°00.6 | -3°09.8 | -3°19.1 | -3°28.3 | -9.3 | 54.5 |
| Ma 7 | 268°39.8 | 283°13.6 | 297°47.3 | 312°21.1 | 326°54.8 | 341°28.5 | 356°02.3 | 10°36.0 | 25°09.7 | 39°43.4 | 54°17.1 | +33.7 | 14.8 |
| | -5°44.3 | -5°53.1 | -6°02.0 | -6°10.8 | -6°19.6 | -6°28.3 | -6°37.0 | -6°45.7 | -6°54.4 | -7°03.0 | -7°11.6 | -8.7 | 54.2 |
| Me 8 | 272°41.4 | 287°15.0 | 301°48.5 | 316°22.0 | 330°55.4 | 345°28.9 | 0°02.3 | 14°35.8 | 29°09.2 | 43°42.5 | 58°15.9 | +33.4 | 14.7 |
| | -9°16.1 | -9°24.1 | -9°32.1 | -9°40.0 | -9°47.9 | -9°55.7 | -10°03.5 | -10°11.2 | -10°18.9 | -10°26.6 | -10°34.2 | -7.8 | 54.1 |
| Je 9 | 276°33.9 | 291°07.0 | 305°40.0 | 320°12.9 | 334°45.9 | 349°18.8 | 3°51.7 | 18°24.5 | 32°57.4 | 47°30.2 | 62°03.0 | +32.9 | 14.7 |
| | -12°22.5 | -12°29.4 | -12°36.1 | -12°42.8 | -12°49.5 | -12°56.1 | -13°02.6 | -13°09.1 | -13°15.5 | -13°21.9 | -13°28.2 | -6.6 | 54.1 |
| Ve 10 | 280°11.1 | 294°43.4 | 309°15.7 | 323°47.9 | 338°20.1 | 352°52.3 | 7°24.4 | 21°56.5 | 36°28.6 | 51°00.6 | 65°32.6 | +32.2 | 14.8 |
| | -14°55.8 | -15°01.1 | -15°06.4 | -15°11.6 | -15°16.8 | -15°21.8 | -15°26.8 | -15°31.8 | -15°36.6 | -15°41.5 | -15°46.2 | -5.0 | 54.2 |
| Sa 11 | 294°43.4 | 309°15.7 | 323°47.9 | 338°20.1 | 352°52.3 | 7°24.4 | 21°56.5 | 36°28.6 | 51°00.6 | 65°32.6 | 80°04.6 | +32.1 | 14.8 |
| | -15°01.1 | -15°06.4 | -15°11.6 | -15°16.8 | -15°21.8 | -15°26.8 | -15°31.8 | -15°36.6 | -15°41.5 | -15°46.2 | -15°50.9 | -5.0 | 54.2 |
| Di 12 | 297°59.9 | 312°31.4 | 327°02.7 | 341°34.1 | 356°05.4 | 10°36.6 | 25°07.9 | 39°39.0 | 54°10.2 | 68°41.3 | 83°12.4 | +31.2 | 14.9 |
| | -16°52.3 | -16°55.8 | -16°59.2 | -17°02.5 | -17°05.8 | -17°09.0 | -17°12.1 | -17°15.2 | -17°18.1 | -17°21.0 | -17°23.8 | -3.2 | 54.6 |
| ◑ Lu 13 | 300°54.3 | 315°24.8 | 329°55.3 | 344°25.8 | 358°56.2 | 13°26.5 | 27°56.9 | 42°27.2 | 56°57.4 | 71°27.7 | 85°57.9 | +30.4 | 15.0 |
| | -17°56.0 | -17°57.4 | -17°58.8 | -18°00.1 | -18°01.3 | -18°02.5 | -18°03.5 | -18°04.5 | -18°05.3 | -18°06.1 | -18°06.8 | -1.1 | 55.1 |
| Ma 14 | 303°26.9 | 317°56.5 | 332°26.2 | 346°55.8 | 1°25.4 | 15°54.9 | 30°24.5 | 44°54.0 | 59°23.4 | 73°52.9 | 88°22.3 | +29.5 | 15.2 |
| | -18°06.2 | -18°05.5 | -18°04.6 | -18°03.6 | -18°02.6 | -18°01.4 | -18°00.2 | -17°58.9 | -17°57.4 | -17°55.9 | -17°54.3 | +1.2 | 55.8 |
| Me 15 | 305°40.1 | 320°09.1 | 334°38.1 | 349°07.0 | 3°35.9 | 18°04.8 | 32°33.7 | 47°02.5 | 61°31.3 | 76°00.1 | 90°28.9 | +28.9 | 15.4 |
| | -17°18.6 | -17°15.4 | -17°12.1 | -17°08.8 | -17°05.4 | -17°01.8 | -16°58.2 | -16°54.5 | -16°50.6 | -16°46.7 | -16°42.7 | +3.6 | 56.6 |
| Je 16 | 307°38.1 | 322°06.6 | 336°35.0 | 351°03.5 | 5°31.9 | 20°00.3 | 34°28.7 | 48°57.0 | 63°25.4 | 77°53.7 | 92°22.0 | +28.4 | 15.7 |
| | -15°30.8 | -15°25.3 | -15°19.6 | -15°13.9 | -15°08.1 | -15°02.1 | -14°56.1 | -14°50.0 | -14°43.8 | -14°37.5 | -14°31.1 | +6.0 | 57.5 |
| Ve 17 | 309°25.0 | 323°53.1 | 338°21.2 | 352°49.3 | 7°17.3 | 21°45.4 | 36°13.4 | 50°41.4 | 65°09.4 | 79°37.4 | 94°05.4 | +28.0 | 15.9 |
| | -12°44.5 | -12°36.7 | -12°28.9 | -12°20.9 | -12°12.8 | -12°04.7 | -11°56.5 | -11°48.2 | -11°39.8 | -11°31.4 | -11°22.8 | +8.2 | 58.5 |
| Sa 18 | 311°03.7 | 325°31.5 | 339°59.3 | 354°27.0 | 8°54.8 | 23°22.5 | 37°50.2 | 52°18.0 | 66°45.7 | 81°13.4 | 95°41.0 | +27.7 | 16.2 |
| | -9°05.8 | -8°56.1 | -8°46.3 | -8°36.5 | -8°26.6 | -8°16.6 | -8°06.6 | -7°56.5 | -7°46.4 | -7°36.2 | -7°25.9 | +10.0 | 59.4 |
| Di 19 | 312°34.7 | 327°02.1 | 341°29.6 | 355°57.0 | 10°24.4 | 24°51.9 | 39°19.2 | 53°46.6 | 68°14.0 | 82°41.3 | 97°08.6 | +27.4 | 16.4 |
| | -4°45.9 | -4°34.8 | -4°23.7 | -4°12.6 | -4°01.5 | -3°50.3 | -3°39.1 | -3°27.8 | -3°16.6 | -3°05.2 | -2°53.9 | +11.2 | 60.1 |
| ● Lu 20 | 313°56.4 | 328°23.4 | 342°50.4 | 357°17.4 | 11°44.4 | 26°11.3 | 40°38.3 | 55°05.2 | 69°32.1 | 83°58.9 | 98°25.8 | +26.9 | 16.5 |
| | -0°01.3 | 0°10.3 | 0°21.9 | 0°33.5 | 0°45.2 | 0°56.8 | 1°08.4 | 1°20.0 | 1°31.6 | 1°43.3 | 1°54.9 | +11.6 | 60.6 |
| Ma 21 | 315°05.8 | 329°32.3 | 343°58.8 | 358°25.2 | 12°51.6 | 27°18.0 | 41°44.4 | 56°10.7 | 70°37.0 | 85°03.3 | 99°29.6 | +26.4 | 16.6 |
| | 4°47.2 | 4°58.5 | 5°09.7 | 5°21.0 | 5°32.2 | 5°43.3 | 5°54.5 | 6°05.6 | 6°16.6 | 6°27.6 | 6°38.6 | +11.1 | 60.8 |
| Me 22 | 316°00.7 | 330°26.6 | 344°52.5 | 359°18.3 | 13°44.2 | 28°10.0 | 42°35.7 | 57°01.5 | 71°27.2 | 85°52.9 | 100°18.6 | +25.8 | 16.6 |
| | 9°16.9 | 9°27.0 | 9°37.0 | 9°47.0 | 9°56.8 | 10°06.6 | 10°16.4 | 10°26.0 | 10°35.6 | 10°45.2 | 10°54.6 | +9.8 | 60.7 |
| Je 23 | 316°41.7 | 331°07.1 | 345°32.4 | 359°57.8 | 14°23.2 | 28°48.5 | 43°13.8 | 57°39.2 | 72°04.5 | 86°29.8 | 100°55.1 | +25.3 | 16.5 |
| | 13°06.2 | 13°14.3 | 13°22.2 | 13°30.1 | 13°37.9 | 13°45.6 | 13°53.1 | 14°00.6 | 14°08.0 | 14°15.3 | 14°22.4 | +7.6 | 60.3 |
| Ve 24 | 317°13.7 | 331°38.9 | 346°04.1 | 0°29.3 | 14°54.6 | 29°19.8 | 43°45.0 | 58°10.3 | 72°35.5 | 87°00.8 | 101°26.1 | +25.2 | 16.3 |
| | 15°57.4 | 16°02.9 | 16°08.2 | 16°13.4 | 16°18.6 | 16°23.6 | 16°28.4 | 16°33.2 | 16°37.9 | 16°42.4 | 16°46.9 | +4.9 | 59.7 |
| Sa 25 | 317°46.6 | 332°12.1 | 346°37.7 | 1°03.2 | 15°28.8 | 29°54.4 | 44°20.1 | 58°45.7 | 73°11.4 | 87°37.1 | 102°02.9 | +25.6 | 16.1 |
| | 17°39.3 | 17°41.9 | 17°44.3 | 17°46.7 | 17°48.9 | 17°51.0 | 17°52.9 | 17°54.8 | 17°56.5 | 17°58.1 | 17°59.6 | +2.0 | 59.0 |
| Di 26 | 318°33.2 | 332°59.5 | 347°25.8 | 1°52.3 | 16°18.7 | 30°45.2 | 45°11.7 | 59°38.3 | 74°05.0 | 88°31.6 | 102°58.4 | +26.5 | 15.9 |
| | 18°08.3 | 18°08.0 | 18°07.5 | 18°07.0 | 18°06.3 | 18°05.5 | 18°04.6 | 18°03.7 | 18°02.5 | 18°01.3 | 18°00.0 | -0.8 | 58.2 |
| ◐ Lu 27 | 319°45.3 | 334°12.8 | 348°40.4 | 3°08.1 | 17°35.8 | 32°03.6 | 46°31.4 | 60°59.3 | 75°27.3 | 89°55.3 | 104°23.3 | +27.8 | 15.7 |
| | 17°27.6 | 17°24.6 | 17°21.5 | 17°18.4 | 17°15.1 | 17°11.7 | 17°08.3 | 17°04.7 | 17°01.1 | 16°57.3 | 16°53.5 | -3.4 | 57.4 |
| Ma 28 | 321°31.2 | 336°00.2 | 350°29.3 | 4°58.4 | 19°27.6 | 33°56.8 | 48°26.1 | 62°55.5 | 77°24.9 | 91°54.4 | 106°23.9 | +29.3 | 15.5 |
| | 15°45.4 | 15°40.2 | 15°34.9 | 15°29.6 | 15°24.1 | 15°18.6 | 15°13.0 | 15°07.3 | 15°01.6 | 14°55.7 | 14°49.8 | -5.6 | 56.7 |
| Me 29 | 323°53.9 | 338°24.3 | 352°54.8 | 7°25.4 | 21°56.0 | 36°26.7 | 50°57.4 | 65°28.2 | 79°59.1 | 94°30.0 | 109°00.9 | +30.7 | 15.3 |
| | 13°13.0 | 13°06.1 | 12°59.0 | 12°52.0 | 12°44.8 | 12°37.6 | 12°30.3 | 12°23.0 | 12°15.7 | 12°08.2 | 12°00.7 | -7.2 | 56.1 |
| Je 30 | 326°51.2 | 341°23.0 | 355°54.8 | 10°26.6 | 24°58.5 | 39°30.4 | 54°02.4 | 68°34.4 | 83°06.5 | 97°38.6 | 112°10.7 | +32.0 | 15.1 |
| | 10°02.6 | 9°54.3 | 9°46.0 | 9°37.7 | 9°29.4 | 9°21.0 | 9°12.5 | 9°04.0 | 8°55.5 | 8°47.0 | 8°38.4 | -8.4 | 55.5 |
| Ve 31 | 330°17.7 | 344°50.5 | 359°23.3 | 13°56.1 | 28°29.0 | 43°01.9 | 57°34.8 | 72°07.7 | 86°40.7 | 101°13.8 | 115°46.8 | +32.9 | 15.0 |
| | 6°26.0 | 6°16.9 | 6°07.8 | 5°58.8 | 5°49.6 | 5°40.5 | 5°31.4 | 5°22.2 | 5°13.0 | 5°03.8 | 4°54.6 | -9.1 | 55.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 5 02h10 — DQ: 13 06h44 — NL: 20 10h14 — PQ: 27 01h18

# SOLEIL

## Avril 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°01.4 | 284°01.6 | 299°01.8 | 314°02.0 | 329°02.2 | 344°02.3 | 359°02.5 | 14°02.7 | 29°02.9 | 44°03.1 | 59°03.3 | 74°03.5 | +0.2 |
| | 4°34.9 | 4°35.8 | 4°36.8 | 4°37.8 | 4°38.7 | 4°39.7 | 4°40.6 | 4°41.6 | 4°42.6 | 4°43.5 | 4°44.5 | 4°45.5 | +1.0 |
| Di 2 | 269°05.9 | 284°06.0 | 299°06.2 | 314°06.4 | 329°06.6 | 344°06.8 | 359°07.0 | 14°07.1 | 29°07.3 | 44°07.5 | 59°07.7 | 74°07.9 | +0.2 |
| | 4°58.0 | 4°58.9 | 4°59.9 | 5°00.8 | 5°01.8 | 5°02.8 | 5°03.7 | 5°04.7 | 5°05.6 | 5°06.6 | 5°07.6 | 5°08.5 | +1.0 |
| Lu 3 | 269°10.3 | 284°10.5 | 299°10.6 | 314°10.8 | 329°11.0 | 344°11.2 | 359°11.4 | 14°11.6 | 29°11.7 | 44°11.9 | 59°12.1 | 74°12.3 | +0.2 |
| | 5°21.0 | 5°21.9 | 5°22.9 | 5°23.8 | 5°24.8 | 5°25.8 | 5°26.7 | 5°27.7 | 5°28.6 | 5°29.6 | 5°30.5 | 5°31.5 | +1.0 |
| Ma 4 | 269°14.6 | 284°14.8 | 299°15.0 | 314°15.2 | 329°15.4 | 344°15.6 | 359°15.7 | 14°15.9 | 29°16.1 | 44°16.3 | 59°16.5 | 74°16.6 | +0.2 |
| | 5°43.9 | 5°44.8 | 5°45.8 | 5°46.7 | 5°47.7 | 5°48.7 | 5°49.6 | 5°50.6 | 5°51.5 | 5°52.5 | 5°53.4 | 5°54.4 | +1.0 |
| Me 5 | 269°19.0 | 284°19.2 | 299°19.3 | 314°19.5 | 329°19.7 | 344°19.9 | 359°20.1 | 14°20.2 | 29°20.4 | 44°20.6 | 59°20.8 | 74°21.0 | +0.2 |
| | 6°06.7 | 6°07.7 | 6°08.6 | 6°09.6 | 6°10.5 | 6°11.4 | 6°12.4 | 6°13.3 | 6°14.3 | 6°15.2 | 6°16.2 | 6°17.1 | +0.9 |
| Je 6 | 269°23.3 | 284°23.5 | 299°23.6 | 314°23.8 | 329°24.0 | 344°24.2 | 359°24.3 | 14°24.5 | 29°24.7 | 44°24.9 | 59°25.0 | 74°25.2 | +0.2 |
| | 6°29.4 | 6°30.4 | 6°31.3 | 6°32.2 | 6°33.2 | 6°34.1 | 6°35.1 | 6°36.0 | 6°37.0 | 6°37.9 | 6°38.8 | 6°39.8 | +0.9 |
| Ve 7 | 269°27.5 | 284°27.7 | 299°27.9 | 314°28.0 | 329°28.2 | 344°28.4 | 359°28.6 | 14°28.7 | 29°28.9 | 44°29.1 | 59°29.3 | 74°29.4 | +0.2 |
| | 6°52.0 | 6°53.0 | 6°53.9 | 6°54.8 | 6°55.8 | 6°56.7 | 6°57.7 | 6°58.6 | 6°59.5 | 7°00.5 | 7°01.4 | 7°02.3 | +0.9 |
| Sa 8 | 269°31.7 | 284°31.9 | 299°32.0 | 314°32.2 | 329°32.4 | 344°32.5 | 359°32.7 | 14°32.9 | 29°33.1 | 44°33.2 | 59°33.4 | 74°33.6 | +0.2 |
| | 7°14.5 | 7°15.4 | 7°16.4 | 7°17.3 | 7°18.2 | 7°19.2 | 7°20.1 | 7°21.0 | 7°22.0 | 7°22.9 | 7°23.8 | 7°24.8 | +0.9 |
| Di 9 | 269°35.8 | 284°36.0 | 299°36.1 | 314°36.3 | 329°36.5 | 344°36.6 | 359°36.8 | 14°37.0 | 29°37.2 | 44°37.3 | 59°37.5 | 74°37.7 | +0.2 |
| | 7°36.9 | 7°37.8 | 7°38.7 | 7°39.7 | 7°40.6 | 7°41.5 | 7°42.4 | 7°43.4 | 7°44.3 | 7°45.2 | 7°46.1 | 7°47.1 | +0.9 |
| Lu 10 | 269°39.8 | 284°40.0 | 299°40.2 | 314°40.3 | 329°40.5 | 344°40.7 | 359°40.8 | 14°41.0 | 29°41.2 | 44°41.3 | 59°41.5 | 74°41.7 | +0.2 |
| | 7°59.1 | 8°00.0 | 8°01.0 | 8°01.9 | 8°02.8 | 8°03.7 | 8°04.6 | 8°05.6 | 8°06.5 | 8°07.4 | 8°08.3 | 8°09.3 | +0.9 |
| Ma 11 | 269°43.8 | 284°44.0 | 299°44.2 | 314°44.3 | 329°44.5 | 344°44.6 | 359°44.8 | 14°45.0 | 29°45.1 | 44°45.3 | 59°45.5 | 74°45.6 | +0.2 |
| | 8°21.2 | 8°22.1 | 8°23.0 | 8°24.0 | 8°24.9 | 8°25.8 | 8°26.7 | 8°27.6 | 8°28.5 | 8°29.5 | 8°30.4 | 8°31.3 | +0.9 |
| Me 12 | 269°47.7 | 284°47.9 | 299°48.0 | 314°48.2 | 329°48.4 | 344°48.5 | 359°48.7 | 14°48.8 | 29°49.0 | 44°49.2 | 59°49.3 | 74°49.5 | +0.2 |
| | 8°43.2 | 8°44.1 | 8°45.0 | 8°45.9 | 8°46.8 | 8°47.7 | 8°48.6 | 8°49.6 | 8°50.5 | 8°51.4 | 8°52.3 | 8°53.2 | +0.9 |
| Je 13 | 269°51.5 | 284°51.7 | 299°51.8 | 314°52.0 | 329°52.2 | 344°52.3 | 359°52.5 | 14°52.6 | 29°52.8 | 44°52.9 | 59°53.1 | 74°53.3 | +0.2 |
| | 9°05.0 | 9°05.9 | 9°06.8 | 9°07.7 | 9°08.6 | 9°09.5 | 9°10.4 | 9°11.3 | 9°12.2 | 9°13.1 | 9°14.0 | 9°14.9 | +0.9 |
| Ve 14 | 269°55.3 | 284°55.4 | 299°55.6 | 314°55.7 | 329°55.9 | 344°56.0 | 359°56.2 | 14°56.3 | 29°56.5 | 44°56.6 | 59°56.8 | 74°56.9 | +0.2 |
| | 9°26.7 | 9°27.6 | 9°28.5 | 9°29.4 | 9°30.3 | 9°31.2 | 9°32.1 | 9°33.0 | 9°33.9 | 9°34.7 | 9°35.6 | 9°36.5 | +0.9 |
| Sa 15 | 269°58.9 | 284°59.1 | 299°59.2 | 314°59.4 | 329°59.5 | 344°59.7 | 359°59.8 | 15°00.0 | 30°00.1 | 45°00.2 | 60°00.4 | 75°00.5 | +0.1 |
| | 9°48.2 | 9°49.1 | 9°50.0 | 9°50.9 | 9°51.7 | 9°52.6 | 9°53.5 | 9°54.4 | 9°55.3 | 9°56.2 | 9°57.1 | 9°58.0 | +0.9 |
| Di 16 | 270°02.5 | 285°02.6 | 300°02.7 | 315°02.9 | 330°03.0 | 345°03.2 | 0°03.3 | 15°03.5 | 30°03.6 | 45°03.8 | 60°03.9 | 75°04.1 | +0.1 |
| | 10°09.5 | 10°10.4 | 10°11.3 | 10°12.2 | 10°13.1 | 10°14.0 | 10°14.8 | 10°15.7 | 10°16.6 | 10°17.5 | 10°18.4 | 10°19.3 | +0.9 |
| Lu 17 | 270°05.9 | 285°06.1 | 300°06.2 | 315°06.3 | 330°06.5 | 345°06.6 | 0°06.8 | 15°06.9 | 30°07.0 | 45°07.2 | 60°07.3 | 75°07.5 | +0.1 |
| | 10°30.7 | 10°31.6 | 10°32.5 | 10°33.4 | 10°34.2 | 10°35.1 | 10°36.0 | 10°36.9 | 10°37.7 | 10°38.6 | 10°39.5 | 10°40.4 | +0.9 |
| Ma 18 | 270°09.3 | 285°09.4 | 300°09.5 | 315°09.7 | 330°09.8 | 345°10.0 | 0°10.1 | 15°10.2 | 30°10.4 | 45°10.5 | 60°10.6 | 75°10.8 | +0.1 |
| | 10°51.7 | 10°52.6 | 10°53.5 | 10°54.3 | 10°55.2 | 10°56.1 | 10°57.0 | 10°57.8 | 10°58.7 | 10°59.6 | 11°00.4 | 11°01.3 | +0.9 |
| Me 19 | 270°12.5 | 285°12.7 | 300°12.8 | 315°12.9 | 330°13.1 | 345°13.2 | 0°13.3 | 15°13.5 | 30°13.6 | 45°13.7 | 60°13.8 | 75°14.0 | +0.1 |
| | 11°12.6 | 11°13.4 | 11°14.3 | 11°15.2 | 11°16.0 | 11°16.9 | 11°17.7 | 11°18.6 | 11°19.5 | 11°20.3 | 11°21.2 | 11°22.0 | +0.9 |
| Je 20 | 270°15.7 | 285°15.8 | 300°15.9 | 315°16.1 | 330°16.2 | 345°16.3 | 0°16.4 | 15°16.6 | 30°16.7 | 45°16.8 | 60°17.0 | 75°17.1 | +0.1 |
| | 11°33.2 | 11°34.1 | 11°34.9 | 11°35.8 | 11°36.6 | 11°37.5 | 11°38.3 | 11°39.2 | 11°40.0 | 11°40.9 | 11°41.8 | 11°42.6 | +0.9 |
| Ve 21 | 270°18.7 | 285°18.8 | 300°19.0 | 315°19.1 | 330°19.2 | 345°19.3 | 0°19.5 | 15°19.6 | 30°19.7 | 45°19.8 | 60°20.0 | 75°20.1 | +0.1 |
| | 11°53.7 | 11°54.5 | 11°55.4 | 11°56.2 | 11°57.1 | 11°57.9 | 11°58.8 | 11°59.6 | 12°00.4 | 12°01.3 | 12°02.1 | 12°03.0 | +0.8 |
| Sa 22 | 270°21.7 | 285°21.8 | 300°21.9 | 315°22.0 | 330°22.1 | 345°22.3 | 0°22.4 | 15°22.5 | 30°22.6 | 45°22.7 | 60°22.9 | 75°23.0 | +0.1 |
| | 12°13.9 | 12°14.8 | 12°15.6 | 12°16.4 | 12°17.3 | 12°18.1 | 12°19.0 | 12°19.8 | 12°20.6 | 12°21.5 | 12°22.3 | 12°23.1 | +0.8 |
| Di 23 | 270°24.5 | 285°24.6 | 300°24.7 | 315°24.8 | 330°25.0 | 345°25.1 | 0°25.2 | 15°25.3 | 30°25.4 | 45°25.5 | 60°25.7 | 75°25.8 | +0.1 |
| | 12°34.0 | 12°34.8 | 12°35.6 | 12°36.5 | 12°37.3 | 12°38.1 | 12°39.0 | 12°39.8 | 12°40.6 | 12°41.5 | 12°42.3 | 12°43.1 | +0.8 |
| Lu 24 | 270°27.2 | 285°27.3 | 300°27.4 | 315°27.6 | 330°27.7 | 345°27.8 | 0°27.9 | 15°28.0 | 30°28.1 | 45°28.2 | 60°28.3 | 75°28.4 | +0.1 |
| | 12°53.8 | 12°54.7 | 12°55.5 | 12°56.3 | 12°57.1 | 12°57.9 | 12°58.8 | 12°59.6 | 13°00.4 | 13°01.2 | 13°02.0 | 13°02.9 | +0.8 |
| Ma 25 | 270°29.8 | 285°29.9 | 300°30.0 | 315°30.2 | 330°30.3 | 345°30.4 | 0°30.5 | 15°30.6 | 30°30.7 | 45°30.8 | 60°30.9 | 75°31.0 | +0.1 |
| | 13°13.5 | 13°14.3 | 13°15.1 | 13°15.9 | 13°16.7 | 13°17.5 | 13°18.4 | 13°19.2 | 13°20.0 | 13°20.8 | 13°21.6 | 13°22.4 | +0.8 |
| Me 26 | 270°32.3 | 285°32.4 | 300°32.5 | 315°32.6 | 330°32.7 | 345°32.8 | 0°32.9 | 15°33.0 | 30°33.1 | 45°33.2 | 60°33.3 | 75°33.4 | +0.1 |
| | 13°32.9 | 13°33.7 | 13°34.5 | 13°35.3 | 13°36.1 | 13°36.9 | 13°37.7 | 13°38.5 | 13°39.3 | 13°40.1 | 13°40.9 | 13°41.7 | +0.8 |
| Je 27 | 270°34.7 | 285°34.8 | 300°34.9 | 315°35.0 | 330°35.1 | 345°35.2 | 0°35.3 | 15°35.4 | 30°35.5 | 45°35.6 | 60°35.7 | 75°35.8 | +0.1 |
| | 13°52.1 | 13°52.9 | 13°53.7 | 13°54.5 | 13°55.3 | 13°56.1 | 13°56.9 | 13°57.6 | 13°58.4 | 13°59.2 | 14°00.0 | 14°00.8 | +0.8 |
| Ve 28 | 270°37.0 | 285°37.1 | 300°37.1 | 315°37.2 | 330°37.3 | 345°37.4 | 0°37.5 | 15°37.6 | 30°37.7 | 45°37.8 | 60°37.9 | 75°38.0 | +0.1 |
| | 14°11.1 | 14°11.8 | 14°12.6 | 14°13.4 | 14°14.2 | 14°15.0 | 14°15.8 | 14°16.5 | 14°17.3 | 14°18.1 | 14°18.9 | 14°19.7 | +0.8 |
| Sa 29 | 270°39.1 | 285°39.2 | 300°39.3 | 315°39.3 | 330°39.4 | 345°39.5 | 0°39.6 | 15°39.7 | 30°39.8 | 45°39.9 | 60°39.9 | 75°40.0 | +0.1 |
| | 14°29.8 | 14°30.6 | 14°31.3 | 14°32.1 | 14°32.9 | 14°33.7 | 14°34.4 | 14°35.2 | 14°36.0 | 14°36.7 | 14°37.5 | 14°38.3 | +0.8 |
| Di 30 | 270°41.1 | 285°41.2 | 300°41.3 | 315°41.3 | 330°41.4 | 345°41.5 | 0°41.6 | 15°41.7 | 30°41.7 | 45°41.8 | 60°41.9 | 75°42.0 | +0.1 |
| | 14°48.3 | 14°49.0 | 14°49.8 | 14°50.6 | 14°51.3 | 14°52.1 | 14°52.9 | 14°53.6 | 14°54.4 | 14°55.1 | 14°55.9 | 14°56.7 | +0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2034

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 246°45.5 | 261°18.8 | 275°52.1 | 290°25.5 | 304°58.9 | 319°32.3 | 334°05.7 | 348°39.2 | 3°12.6 | 17°46.1 | 32°19.6 | +33.4 | 14.9 |
| | 3°30.9 | 3°21.5 | 3°12.1 | 3°02.8 | 2°53.4 | 2°44.0 | 2°34.6 | 2°25.2 | 2°15.8 | 2°06.3 | 1°56.9 | -9.4 | 54.8 |
| Di 2 | 250°44.2 | 265°17.9 | 279°51.7 | 294°25.4 | 308°59.2 | 323°33.0 | 338°06.8 | 352°40.6 | 7°14.4 | 21°48.2 | 36°22.0 | +33.8 | 14.8 |
| | -0°24.6 | -0°34.0 | -0°43.4 | -0°52.8 | -1°02.2 | -1°11.6 | -1°21.0 | -1°30.3 | -1°39.7 | -1°49.0 | -1°58.4 | -9.4 | 54.4 |
| ○ Lu 3 | 254°49.6 | 269°23.5 | 283°57.3 | 298°31.2 | 313°05.0 | 327°38.8 | 342°12.7 | 356°46.5 | 11°20.3 | 25°54.1 | 40°27.9 | +33.8 | 14.8 |
| | -4°16.7 | -4°25.8 | -4°34.8 | -4°43.9 | -4°52.9 | -5°01.9 | -5°10.8 | -5°19.8 | -5°28.7 | -5°37.6 | -5°46.4 | -9.0 | 54.2 |
| Ma 4 | 258°54.0 | 273°27.7 | 288°01.3 | 302°34.9 | 317°08.5 | 331°42.1 | 346°15.7 | 0°49.3 | 15°22.8 | 29°56.4 | 44°29.9 | +33.6 | 14.7 |
| | -7°55.9 | -8°04.3 | -8°12.6 | -8°21.0 | -8°29.2 | -8°37.4 | -8°45.6 | -8°53.8 | -9°01.9 | -9°10.0 | -9°18.0 | -8.2 | 54.0 |
| Me 5 | 262°50.5 | 277°23.7 | 291°56.9 | 306°30.1 | 321°03.2 | 335°36.3 | 350°09.4 | 4°42.5 | 19°15.6 | 33°48.6 | 48°21.6 | +33.1 | 14.7 |
| | -11°13.4 | -11°20.8 | -11°28.0 | -11°35.3 | -11°42.4 | -11°49.6 | -11°56.7 | -12°03.7 | -12°10.7 | -12°17.6 | -12°24.4 | -7.1 | 53.9 |
| Je 6 | 266°33.8 | 281°06.4 | 295°39.0 | 310°11.5 | 324°44.0 | 339°16.5 | 353°49.0 | 8°21.4 | 22°53.8 | 37°26.2 | 51°58.6 | +32.5 | 14.7 |
| | -14°00.8 | -14°06.8 | -14°12.7 | -14°18.5 | -14°24.3 | -14°30.0 | -14°35.6 | -14°41.2 | -14°46.8 | -14°52.2 | -14°57.6 | -5.7 | 54.0 |
| Ve 7 | 270°00.5 | 284°32.4 | 299°04.2 | 313°36.1 | 328°07.9 | 342°39.6 | 357°11.4 | 11°43.1 | 26°14.8 | 40°46.5 | 55°18.1 | +31.8 | 14.8 |
| | -16°10.4 | -16°14.7 | -16°18.9 | -16°23.1 | -16°27.2 | -16°31.2 | -16°35.1 | -16°39.0 | -16°42.7 | -16°46.5 | -16°50.1 | -4.0 | 54.2 |
| Sa 8 | 273°09.2 | 287°40.3 | 302°11.5 | 316°42.6 | 331°13.7 | 345°44.8 | 0°15.8 | 14°46.8 | 29°17.8 | 43°48.8 | 58°19.7 | +31.1 | 14.9 |
| | -17°35.3 | -17°37.7 | -17°40.0 | -17°42.2 | -17°44.4 | -17°46.4 | -17°48.4 | -17°50.3 | -17°52.1 | -17°53.8 | -17°55.5 | -2.0 | 54.5 |
| Di 9 | 276°00.7 | 290°31.2 | 305°01.7 | 319°32.2 | 334°02.6 | 348°33.1 | 3°03.5 | 17°33.9 | 32°04.2 | 46°34.6 | 61°04.9 | +30.4 | 15.0 |
| | -18°09.9 | -18°10.2 | -18°10.3 | -18°10.4 | -18°10.4 | -18°10.4 | -18°10.2 | -18°09.9 | -18°09.6 | -18°09.1 | -18°08.6 | +0.1 | 54.9 |
| Lu 10 | 290°31.2 | 305°01.7 | 319°32.2 | 334°02.6 | 348°33.1 | 3°03.5 | 17°33.9 | 32°04.2 | 46°34.6 | 61°04.9 | 75°35.2 | +30.4 | 15.0 |
| | -18°10.2 | -18°10.3 | -18°10.4 | -18°10.4 | -18°10.4 | -18°10.2 | -18°09.9 | -18°09.6 | -18°09.1 | -18°08.6 | -18°08.0 | +0.2 | 55.0 |
| ◑ Ma 11 | 293°07.2 | 307°37.2 | 322°07.2 | 336°37.1 | 351°07.0 | 5°37.0 | 20°06.8 | 34°36.7 | 49°06.6 | 63°36.4 | 78°06.2 | +29.9 | 15.2 |
| | -17°47.9 | -17°45.9 | -17°43.7 | -17°41.5 | -17°39.1 | -17°36.7 | -17°34.2 | -17°31.6 | -17°28.9 | -17°26.1 | -17°23.2 | +2.5 | 55.6 |
| Me 12 | 295°31.6 | 310°01.1 | 324°30.7 | 339°00.2 | 353°29.8 | 7°59.3 | 22°28.8 | 36°58.3 | 51°27.7 | 65°57.2 | 80°26.6 | +29.5 | 15.4 |
| | -16°28.9 | -16°24.6 | -16°20.1 | -16°15.6 | -16°11.0 | -16°06.3 | -16°01.5 | -15°56.6 | -15°51.6 | -15°46.5 | -15°41.4 | +4.8 | 56.4 |
| Je 13 | 297°46.6 | 312°15.9 | 326°45.1 | 341°14.3 | 355°43.5 | 10°12.7 | 24°41.8 | 39°11.0 | 53°40.1 | 68°09.2 | 82°38.3 | +29.2 | 15.6 |
| | -14°13.5 | -14°06.9 | -14°00.3 | -13°53.5 | -13°46.7 | -13°39.8 | -13°32.9 | -13°25.8 | -13°18.7 | -13°11.4 | -13°04.1 | +6.9 | 57.3 |
| Ve 14 | 299°53.2 | 314°22.1 | 328°51.0 | 343°19.8 | 357°48.6 | 12°17.4 | 26°46.2 | 41°15.0 | 55°43.8 | 70°12.5 | 84°41.2 | +28.8 | 15.9 |
| | -11°04.9 | -10°56.4 | -10°47.8 | -10°39.0 | -10°30.3 | -10°21.4 | -10°12.5 | -10°03.5 | -9°54.4 | -9°45.3 | -9°36.1 | +8.9 | 58.3 |
| Sa 15 | 301°49.8 | 316°18.2 | 330°46.6 | 345°14.9 | 359°43.3 | 14°11.6 | 28°39.9 | 43°08.1 | 57°36.4 | 72°04.6 | 86°32.8 | +28.3 | 16.2 |
| | -7°10.4 | -7°00.2 | -6°50.0 | -6°39.6 | -6°29.3 | -6°18.9 | -6°08.4 | -5°57.9 | -5°47.3 | -5°36.7 | -5°26.1 | +10.4 | 59.3 |
| Di 16 | 303°32.4 | 318°00.2 | 332°27.9 | 346°55.5 | 1°23.2 | 15°50.8 | 30°18.4 | 44°45.9 | 59°13.5 | 73°40.9 | 88°08.4 | +27.6 | 16.4 |
| | -2°41.2 | -2°29.9 | -2°18.6 | -2°07.3 | -1°56.0 | -1°44.6 | -1°33.2 | -1°21.7 | -1°10.3 | -0°58.8 | -0°47.3 | +11.4 | 60.2 |
| Lu 17 | 304°55.8 | 319°22.6 | 333°49.5 | 348°16.2 | 2°43.0 | 17°09.7 | 31°36.3 | 46°03.0 | 60°29.5 | 74°56.1 | 89°22.6 | +26.7 | 16.6 |
| | 2°06.3 | 2°17.9 | 2°29.5 | 2°41.1 | 2°52.7 | 3°04.3 | 3°15.8 | 3°27.4 | 3°38.9 | 3°50.5 | 4°02.0 | +11.6 | 60.8 |
| ● Ma 18 | 305°55.0 | 320°20.8 | 334°46.5 | 349°12.3 | 3°38.0 | 18°03.6 | 32°29.2 | 46°54.8 | 61°20.3 | 75°45.8 | 90°11.2 | +25.6 | 16.7 |
| | 6°51.5 | 7°02.5 | 7°13.5 | 7°24.4 | 7°35.3 | 7°46.2 | 7°56.9 | 8°07.7 | 8°18.4 | 8°29.0 | 8°39.6 | +10.8 | 61.2 |
| Me 19 | 306°27.9 | 320°52.7 | 335°17.5 | 349°42.2 | 4°06.9 | 18°31.6 | 32°56.2 | 47°20.8 | 61°45.3 | 76°09.9 | 90°34.3 | +24.6 | 16.7 |
| | 11°10.6 | 11°20.1 | 11°29.5 | 11°38.8 | 11°48.0 | 11°57.2 | 12°06.3 | 12°15.2 | 12°24.1 | 12°32.9 | 12°41.7 | +9.1 | 61.3 |
| Je 20 | 306°38.4 | 321°02.5 | 335°26.6 | 349°50.7 | 4°14.7 | 18°38.7 | 33°02.7 | 47°26.7 | 61°50.7 | 76°14.7 | 90°38.6 | +24.0 | 16.6 |
| | 14°40.6 | 14°47.7 | 14°54.7 | 15°01.5 | 15°08.3 | 15°14.9 | 15°21.5 | 15°27.9 | 15°34.2 | 15°40.4 | 15°46.5 | +6.6 | 60.9 |
| Ve 21 | 306°37.7 | 321°01.7 | 335°25.7 | 349°49.7 | 4°13.7 | 18°37.7 | 33°01.7 | 47°25.7 | 61°49.8 | 76°13.9 | 90°38.0 | +24.0 | 16.5 |
| | 17°03.2 | 17°07.3 | 17°11.3 | 17°15.2 | 17°18.9 | 17°22.6 | 17°26.1 | 17°29.4 | 17°32.7 | 17°35.8 | 17°38.8 | +3.6 | 60.3 |
| Sa 22 | 306°42.8 | 321°07.4 | 335°32.1 | 349°56.7 | 4°21.5 | 18°46.2 | 33°11.0 | 47°35.9 | 62°00.8 | 76°25.7 | 90°50.7 | +24.8 | 16.2 |
| | 18°08.6 | 18°09.6 | 18°10.4 | 18°11.1 | 18°11.7 | 18°12.2 | 18°12.6 | 18°12.8 | 18°12.9 | 18°12.9 | 18°12.8 | +0.4 | 59.5 |
| Di 23 | 307°12.2 | 321°38.1 | 336°04.0 | 350°30.1 | 4°56.2 | 19°22.3 | 33°48.5 | 48°14.8 | 62°41.2 | 77°07.6 | 91°34.1 | +26.2 | 16.0 |
| | 17°56.7 | 17°54.7 | 17°52.6 | 17°50.4 | 17°48.1 | 17°45.7 | 17°43.1 | 17°40.5 | 17°37.8 | 17°34.9 | 17°31.9 | -2.5 | 58.6 |
| Lu 24 | 308°19.9 | 322°47.5 | 337°15.3 | 351°43.0 | 6°10.9 | 20°38.8 | 35°06.8 | 49°34.9 | 64°03.0 | 78°31.2 | 92°59.5 | +28.0 | 15.7 |
| | 16°35.6 | 16°31.1 | 16°26.5 | 16°21.8 | 16°17.0 | 16°12.1 | 16°07.2 | 16°02.1 | 15°57.0 | 15°51.8 | 15°46.5 | -4.9 | 57.6 |
| ◐ Ma 25 | 310°12.7 | 324°42.2 | 339°11.7 | 353°41.3 | 8°11.0 | 22°40.7 | 37°10.5 | 51°40.4 | 66°10.3 | 80°40.4 | 95°10.4 | +29.8 | 15.5 |
| | 14°17.8 | 14°11.3 | 14°04.7 | 13°58.1 | 13°51.4 | 13°44.6 | 13°37.8 | 13°30.9 | 13°24.0 | 13°17.0 | 13°09.9 | -6.8 | 56.7 |
| Me 26 | 312°49.7 | 327°20.8 | 341°52.0 | 356°23.2 | 10°54.5 | 25°25.9 | 39°57.3 | 54°28.8 | 69°00.3 | 83°31.9 | 98°03.5 | +31.4 | 15.3 |
| | 11°17.2 | 11°09.3 | 11°01.3 | 10°53.3 | 10°45.3 | 10°37.2 | 10°29.0 | 10°20.9 | 10°12.6 | 10°04.4 | 9°56.1 | -8.1 | 56.0 |
| Je 27 | 316°04.5 | 330°36.9 | 345°09.4 | 359°42.0 | 14°14.6 | 28°47.2 | 43°19.9 | 57°52.6 | 72°25.4 | 86°58.2 | 101°31.0 | +32.7 | 15.1 |
| | 7°47.2 | 7°38.4 | 7°29.5 | 7°20.6 | 7°11.7 | 7°02.8 | 6°53.8 | 6°44.8 | 6°35.8 | 6°26.7 | 6°17.7 | -9.0 | 55.3 |
| Ve 28 | 319°47.9 | 334°21.3 | 348°54.7 | 3°28.1 | 18°01.6 | 32°35.1 | 47°08.6 | 61°42.2 | 76°15.7 | 90°49.3 | 105°22.9 | +33.5 | 14.9 |
| | 3°59.6 | 3°50.2 | 3°40.9 | 3°31.6 | 3°22.2 | 3°12.9 | 3°03.5 | 2°54.1 | 2°44.7 | 2°35.3 | 2°25.9 | -9.4 | 54.8 |
| Sa 29 | 323°49.5 | 338°23.4 | 352°57.3 | 7°31.2 | 22°05.2 | 36°39.1 | 51°13.1 | 65°47.0 | 80°21.0 | 94°55.0 | 109°29.0 | +33.9 | 14.8 |
| | 0°04.7 | -0°04.7 | -0°14.2 | -0°23.6 | -0°33.0 | -0°42.3 | -0°51.7 | -1°01.1 | -1°10.5 | -1°19.8 | -1°29.2 | -9.4 | 54.4 |
| Di 30 | 327°59.2 | 342°33.2 | 357°07.2 | 11°41.2 | 26°15.2 | 40°49.3 | 55°23.3 | 69°57.3 | 84°31.2 | 99°05.2 | 113°39.2 | +34.0 | 14.8 |
| | -3°48.0 | -3°57.2 | -4°06.3 | -4°15.4 | -4°24.5 | -4°33.5 | -4°42.6 | -4°51.6 | -5°00.6 | -5°09.6 | -5°18.5 | -9.0 | 54.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 19h18 — DQ: 11 22h45 — NL: 18 19h25 — PQ: 25 11h34

# SOLEIL

## Mai 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 270° 43.0 | 285° 43.0 | 300° 43.1 | 315° 43.2 | 330° 43.3 | 345° 43.3 | 0° 43.4 | 15° 43.5 | 30° 43.6 | 45° 43.6 | 60° 43.7 | 75° 43.8 | +0.1 |
| | 15° 06.5 | 15° 07.3 | 15° 08.0 | 15° 08.8 | 15° 09.5 | 15° 10.3 | 15° 11.0 | 15° 11.8 | 15° 12.5 | 15° 13.3 | 15° 14.0 | 15° 14.8 | +0.8 |
| **Ma 2** | 270° 44.7 | 285° 44.8 | 300° 44.8 | 315° 44.9 | 330° 45.0 | 345° 45.0 | 0° 45.1 | 15° 45.2 | 30° 45.3 | 45° 45.3 | 60° 45.4 | 75° 45.5 | +0.1 |
| | 15° 24.5 | 15° 25.3 | 15° 26.0 | 15° 26.7 | 15° 27.5 | 15° 28.2 | 15° 29.0 | 15° 29.7 | 15° 30.5 | 15° 31.2 | 15° 31.9 | 15° 32.7 | +0.7 |
| **Me 3** | 270° 46.3 | 285° 46.4 | 300° 46.4 | 315° 46.5 | 330° 46.6 | 345° 46.6 | 0° 46.7 | 15° 46.8 | 30° 46.8 | 45° 46.9 | 60° 46.9 | 75° 47.0 | +0.1 |
| | 15° 42.2 | 15° 43.0 | 15° 43.7 | 15° 44.4 | 15° 45.2 | 15° 45.9 | 15° 46.6 | 15° 47.4 | 15° 48.1 | 15° 48.8 | 15° 49.6 | 15° 50.3 | +0.7 |
| **Je 4** | 270° 47.8 | 285° 47.8 | 300° 47.9 | 315° 47.9 | 330° 48.0 | 345° 48.1 | 0° 48.1 | 15° 48.2 | 30° 48.2 | 45° 48.3 | 60° 48.3 | 75° 48.4 | +0.1 |
| | 15° 59.7 | 16° 00.4 | 16° 01.2 | 16° 01.9 | 16° 02.6 | 16° 03.3 | 16° 04.1 | 16° 04.8 | 16° 05.5 | 16° 06.2 | 16° 06.9 | 16° 07.6 | +0.7 |
| **Ve 5** | 270° 49.1 | 285° 49.2 | 300° 49.2 | 315° 49.3 | 330° 49.3 | 345° 49.4 | 0° 49.4 | 15° 49.5 | 30° 49.5 | 45° 49.6 | 60° 49.6 | 75° 49.7 | +0.1 |
| | 16° 16.9 | 16° 17.6 | 16° 18.4 | 16° 19.1 | 16° 19.8 | 16° 20.5 | 16° 21.2 | 16° 21.9 | 16° 22.6 | 16° 23.3 | 16° 24.0 | 16° 24.7 | +0.7 |
| **Sa 6** | 270° 50.3 | 285° 50.3 | 300° 50.4 | 315° 50.4 | 330° 50.5 | 345° 50.5 | 0° 50.6 | 15° 50.6 | 30° 50.7 | 45° 50.7 | 60° 50.7 | 75° 50.8 | +0.0 |
| | 16° 33.9 | 16° 34.6 | 16° 35.3 | 16° 36.0 | 16° 36.7 | 16° 37.4 | 16° 38.1 | 16° 38.8 | 16° 39.5 | 16° 40.2 | 16° 40.9 | 16° 41.5 | +0.7 |
| **Di 7** | 270° 51.3 | 285° 51.4 | 300° 51.4 | 315° 51.5 | 330° 51.5 | 345° 51.5 | 0° 51.6 | 15° 51.6 | 30° 51.7 | 45° 51.7 | 60° 51.7 | 75° 51.8 | +0.0 |
| | 16° 50.5 | 16° 51.2 | 16° 51.9 | 16° 52.6 | 16° 53.3 | 16° 54.0 | 16° 54.7 | 16° 55.4 | 16° 56.0 | 16° 56.7 | 16° 57.4 | 16° 58.1 | +0.7 |
| **Lu 8** | 270° 52.2 | 285° 52.3 | 300° 52.3 | 315° 52.3 | 330° 52.4 | 345° 52.4 | 0° 52.4 | 15° 52.5 | 30° 52.5 | 45° 52.5 | 60° 52.6 | 75° 52.6 | +0.0 |
| | 17° 06.9 | 17° 07.6 | 17° 08.3 | 17° 09.0 | 17° 09.6 | 17° 10.3 | 17° 11.0 | 17° 11.7 | 17° 12.3 | 17° 13.0 | 17° 13.7 | 17° 14.3 | +0.7 |
| **Ma 9** | 270° 53.0 | 285° 53.0 | 300° 53.0 | 315° 53.1 | 330° 53.1 | 345° 53.1 | 0° 53.2 | 15° 53.2 | 30° 53.2 | 45° 53.2 | 60° 53.3 | 75° 53.3 | +0.0 |
| | 17° 23.0 | 17° 23.7 | 17° 24.4 | 17° 25.0 | 17° 25.7 | 17° 26.3 | 17° 27.0 | 17° 27.7 | 17° 28.3 | 17° 29.0 | 17° 29.7 | 17° 30.3 | +0.7 |
| **Me 10** | 270° 53.6 | 285° 53.6 | 300° 53.6 | 315° 53.7 | 330° 53.7 | 345° 53.7 | 0° 53.7 | 15° 53.7 | 30° 53.8 | 45° 53.8 | 60° 53.8 | 75° 53.8 | +0.0 |
| | 17° 38.8 | 17° 39.5 | 17° 40.1 | 17° 40.8 | 17° 41.4 | 17° 42.1 | 17° 42.7 | 17° 43.4 | 17° 44.0 | 17° 44.7 | 17° 45.3 | 17° 46.0 | +0.6 |
| **Je 11** | 270° 54.1 | 285° 54.1 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.1 | 15° 54.2 | 30° 54.2 | 45° 54.2 | 60° 54.2 | 75° 54.2 | +0.0 |
| | 17° 54.4 | 17° 55.0 | 17° 55.6 | 17° 56.3 | 17° 56.9 | 17° 57.5 | 17° 58.2 | 17° 58.8 | 17° 59.5 | 18° 00.1 | 18° 00.7 | 18° 01.4 | +0.6 |
| **Ve 12** | 270° 54.4 | 285° 54.4 | 300° 54.4 | 315° 54.4 | 330° 54.4 | 345° 54.4 | 0° 54.4 | 15° 54.4 | 30° 54.4 | 45° 54.4 | 60° 54.5 | 75° 54.5 | +0.0 |
| | 18° 09.6 | 18° 10.2 | 18° 10.8 | 18° 11.4 | 18° 12.1 | 18° 12.7 | 18° 13.3 | 18° 13.9 | 18° 14.6 | 18° 15.2 | 18° 15.8 | 18° 16.4 | +0.6 |
| **Sa 13** | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.6 | 30° 54.6 | 45° 54.6 | 60° 54.6 | 75° 54.6 | +0.0 |
| | 18° 24.5 | 18° 25.1 | 18° 25.7 | 18° 26.3 | 18° 26.9 | 18° 27.5 | 18° 28.2 | 18° 28.8 | 18° 29.4 | 18° 30.0 | 18° 30.6 | 18° 31.2 | +0.6 |
| **Di 14** | 270° 54.5 | 285° 54.5 | 300° 54.5 | 315° 54.5 | 330° 54.5 | 345° 54.5 | 0° 54.5 | 15° 54.5 | 30° 54.5 | 45° 54.5 | 60° 54.5 | 75° 54.5 | -0.0 |
| | 18° 39.1 | 18° 39.7 | 18° 40.3 | 18° 40.9 | 18° 41.5 | 18° 42.1 | 18° 42.7 | 18° 43.3 | 18° 43.9 | 18° 44.5 | 18° 45.1 | 18° 45.7 | +0.6 |
| **Lu 15** | 270° 54.4 | 285° 54.4 | 300° 54.4 | 315° 54.4 | 330° 54.4 | 345° 54.4 | 0° 54.4 | 15° 54.3 | 30° 54.3 | 45° 54.3 | 60° 54.3 | 75° 54.3 | -0.0 |
| | 18° 53.4 | 18° 54.0 | 18° 54.5 | 18° 55.1 | 18° 55.7 | 18° 56.3 | 18° 56.9 | 18° 57.5 | 18° 58.1 | 18° 58.6 | 18° 59.2 | 18° 59.8 | +0.6 |
| **Ma 16** | 270° 54.1 | 285° 54.1 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.0 | 15° 54.0 | 30° 54.0 | 45° 54.0 | 60° 54.0 | 75° 54.0 | -0.0 |
| | 19° 07.3 | 19° 07.9 | 19° 08.5 | 19° 09.1 | 19° 09.6 | 19° 10.2 | 19° 10.8 | 19° 11.3 | 19° 11.9 | 19° 12.5 | 19° 13.1 | 19° 13.6 | +0.6 |
| **Me 17** | 270° 53.7 | 285° 53.7 | 300° 53.7 | 315° 53.7 | 330° 53.6 | 345° 53.6 | 0° 53.6 | 15° 53.6 | 30° 53.5 | 45° 53.5 | 60° 53.5 | 75° 53.5 | -0.0 |
| | 19° 21.0 | 19° 21.5 | 19° 22.1 | 19° 22.7 | 19° 23.2 | 19° 23.8 | 19° 24.3 | 19° 24.9 | 19° 25.5 | 19° 26.0 | 19° 26.6 | 19° 27.1 | +0.6 |
| **Je 18** | 270° 53.2 | 285° 53.1 | 300° 53.1 | 315° 53.1 | 330° 53.1 | 345° 53.0 | 0° 53.0 | 15° 53.0 | 30° 52.9 | 45° 52.9 | 60° 52.9 | 75° 52.9 | -0.0 |
| | 19° 34.3 | 19° 34.8 | 19° 35.4 | 19° 35.9 | 19° 36.5 | 19° 37.0 | 19° 37.6 | 19° 38.1 | 19° 38.7 | 19° 39.2 | 19° 39.7 | 19° 40.3 | +0.5 |
| **Ve 19** | 270° 52.5 | 285° 52.4 | 300° 52.4 | 315° 52.4 | 330° 52.3 | 345° 52.3 | 0° 52.3 | 15° 52.2 | 30° 52.2 | 45° 52.2 | 60° 52.1 | 75° 52.1 | -0.0 |
| | 19° 47.3 | 19° 47.8 | 19° 48.3 | 19° 48.9 | 19° 49.4 | 19° 49.9 | 19° 50.5 | 19° 51.0 | 19° 51.5 | 19° 52.1 | 19° 52.6 | 19° 53.1 | +0.5 |
| **Sa 20** | 270° 51.6 | 285° 51.6 | 300° 51.6 | 315° 51.5 | 330° 51.5 | 345° 51.4 | 0° 51.4 | 15° 51.4 | 30° 51.3 | 45° 51.3 | 60° 51.2 | 75° 51.2 | -0.0 |
| | 19° 59.9 | 20° 00.4 | 20° 01.0 | 20° 01.5 | 20° 02.0 | 20° 02.5 | 20° 03.0 | 20° 03.5 | 20° 04.1 | 20° 04.6 | 20° 05.1 | 20° 05.6 | +0.5 |
| **Di 21** | 270° 50.7 | 285° 50.6 | 300° 50.6 | 315° 50.5 | 330° 50.5 | 345° 50.5 | 0° 50.4 | 15° 50.4 | 30° 50.3 | 45° 50.3 | 60° 50.2 | 75° 50.2 | -0.0 |
| | 20° 12.2 | 20° 12.7 | 20° 13.2 | 20° 13.7 | 20° 14.2 | 20° 14.7 | 20° 15.3 | 20° 15.8 | 20° 16.3 | 20° 16.8 | 20° 17.3 | 20° 17.8 | +0.5 |
| **Lu 22** | 270° 49.6 | 285° 49.5 | 300° 49.5 | 315° 49.4 | 330° 49.4 | 345° 49.3 | 0° 49.3 | 15° 49.2 | 30° 49.2 | 45° 49.1 | 60° 49.1 | 75° 49.0 | -0.0 |
| | 20° 24.2 | 20° 24.7 | 20° 25.2 | 20° 25.7 | 20° 26.1 | 20° 26.6 | 20° 27.1 | 20° 27.6 | 20° 28.1 | 20° 28.6 | 20° 29.1 | 20° 29.6 | +0.5 |
| **Ma 23** | 270° 48.4 | 285° 48.3 | 300° 48.2 | 315° 48.2 | 330° 48.1 | 345° 48.1 | 0° 48.0 | 15° 48.0 | 30° 47.9 | 45° 47.9 | 60° 47.8 | 75° 47.8 | -0.1 |
| | 20° 35.8 | 20° 36.3 | 20° 36.7 | 20° 37.2 | 20° 37.7 | 20° 38.2 | 20° 38.6 | 20° 39.1 | 20° 39.6 | 20° 40.1 | 20° 40.5 | 20° 41.0 | +0.5 |
| **Me 24** | 270° 47.0 | 285° 47.0 | 300° 46.9 | 315° 46.8 | 330° 46.8 | 345° 46.7 | 0° 46.7 | 15° 46.6 | 30° 46.5 | 45° 46.5 | 60° 46.4 | 75° 46.4 | -0.1 |
| | 20° 47.0 | 20° 47.5 | 20° 48.0 | 20° 48.4 | 20° 48.9 | 20° 49.3 | 20° 49.8 | 20° 50.3 | 20° 50.7 | 20° 51.2 | 20° 51.6 | 20° 52.1 | +0.5 |
| **Je 25** | 270° 45.6 | 285° 45.5 | 300° 45.4 | 315° 45.4 | 330° 45.3 | 345° 45.2 | 0° 45.2 | 15° 45.1 | 30° 45.0 | 45° 45.0 | 60° 44.9 | 75° 44.8 | -0.1 |
| | 20° 57.9 | 20° 58.4 | 20° 58.8 | 20° 59.3 | 20° 59.7 | 21° 00.2 | 21° 00.6 | 21° 01.1 | 21° 01.5 | 21° 01.9 | 21° 02.4 | 21° 02.8 | +0.4 |
| **Ve 26** | 270° 44.0 | 285° 43.9 | 300° 43.8 | 315° 43.8 | 330° 43.7 | 345° 43.6 | 0° 43.6 | 15° 43.5 | 30° 43.4 | 45° 43.3 | 60° 43.3 | 75° 43.2 | -0.1 |
| | 21° 08.5 | 21° 08.9 | 21° 09.3 | 21° 09.8 | 21° 10.2 | 21° 10.6 | 21° 11.1 | 21° 11.5 | 21° 11.9 | 21° 12.3 | 21° 12.8 | 21° 13.2 | +0.4 |
| **Sa 27** | 270° 42.3 | 285° 42.2 | 300° 42.1 | 315° 42.1 | 330° 42.0 | 345° 41.9 | 0° 41.8 | 15° 41.8 | 30° 41.7 | 45° 41.6 | 60° 41.5 | 75° 41.5 | -0.1 |
| | 21° 18.6 | 21° 19.1 | 21° 19.5 | 21° 19.9 | 21° 20.3 | 21° 20.7 | 21° 21.1 | 21° 21.5 | 21° 21.9 | 21° 22.4 | 21° 22.8 | 21° 23.2 | +0.4 |
| **Di 28** | 270° 40.5 | 285° 40.4 | 300° 40.3 | 315° 40.2 | 330° 40.2 | 345° 40.1 | 0° 40.0 | 15° 39.9 | 30° 39.8 | 45° 39.8 | 60° 39.7 | 75° 39.6 | -0.1 |
| | 21° 28.4 | 21° 28.8 | 21° 29.2 | 21° 29.6 | 21° 30.0 | 21° 30.4 | 21° 30.8 | 21° 31.2 | 21° 31.6 | 21° 32.0 | 21° 32.4 | 21° 32.8 | +0.4 |
| **Lu 29** | 270° 38.5 | 285° 38.5 | 300° 38.4 | 315° 38.3 | 330° 38.2 | 345° 38.1 | 0° 38.1 | 15° 38.0 | 30° 37.9 | 45° 37.8 | 60° 37.7 | 75° 37.6 | -0.1 |
| | 21° 37.9 | 21° 38.2 | 21° 38.6 | 21° 39.0 | 21° 39.4 | 21° 39.8 | 21° 40.2 | 21° 40.5 | 21° 40.9 | 21° 41.3 | 21° 41.7 | 21° 42.1 | +0.4 |
| **Ma 30** | 270° 36.5 | 285° 36.4 | 300° 36.3 | 315° 36.3 | 330° 36.2 | 345° 36.1 | 0° 36.0 | 15° 35.9 | 30° 35.8 | 45° 35.7 | 60° 35.6 | 75° 35.6 | -0.1 |
| | 21° 46.9 | 21° 47.3 | 21° 47.6 | 21° 48.0 | 21° 48.4 | 21° 48.7 | 21° 49.1 | 21° 49.5 | 21° 49.8 | 21° 50.2 | 21° 50.6 | 21° 50.9 | +0.4 |
| **Me 31** | 270° 34.4 | 285° 34.3 | 300° 34.2 | 315° 34.1 | 330° 34.0 | 345° 33.9 | 0° 33.8 | 15° 33.8 | 30° 33.7 | 45° 33.6 | 60° 33.5 | 75° 33.4 | -0.1 |
| | 21° 55.6 | 21° 55.9 | 21° 56.3 | 21° 56.6 | 21° 57.0 | 21° 57.3 | 21° 57.7 | 21° 58.0 | 21° 58.4 | 21° 58.7 | 21° 59.1 | 21° 59.4 | +0.3 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2034

| J | 14h | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lu 1 | 244°44.6<br>-6°37.9 | 259°18.5<br>-6°46.6 | 273°52.4<br>-6°55.3 | 288°26.2<br>-7°03.9 | 303°00.1<br>-7°12.5 | 317°33.9<br>-7°21.1 | 332°07.7<br>-7°29.6 | 346°41.5<br>-7°38.1 | 1°15.3<br>-7°46.6 | 15°49.1<br>-7°55.0 | 30°22.8<br>-8°03.4 | +33.8<br>-8.6 | 14.7<br>54.0 |
| Ma 2 | 248°47.0<br>-10°05.1 | 263°20.4<br>-10°12.9 | 277°53.8<br>-10°20.7 | 292°27.2<br>-10°28.4 | 307°00.6<br>-10°36.1 | 321°34.0<br>-10°43.7 | 336°07.3<br>-10°51.3 | 350°40.6<br>-10°58.8 | 5°13.9<br>-11°06.3 | 19°47.2<br>-11°13.7 | 34°20.4<br>-11°21.1 | +33.3<br>-7.6 | 14.7<br>53.9 |
| ○ Me 3 | 252°35.9<br>-13°05.9 | 267°08.7<br>-13°12.5 | 281°41.5<br>-13°19.0 | 296°14.3<br>-13°25.4 | 310°47.0<br>-13°31.8 | 325°19.7<br>-13°38.2 | 339°52.4<br>-13°44.4 | 354°25.0<br>-13°50.7 | 8°57.7<br>-13°56.8 | 23°30.2<br>-14°02.9 | 38°02.8<br>-14°09.0 | +32.7<br>-6.3 | 14.7<br>53.9 |
| Je 4 | 256°07.7<br>-15°31.9 | 270°39.7<br>-15°36.9 | 285°11.8<br>-15°41.9 | 299°43.8<br>-15°46.7 | 314°15.8<br>-15°51.5 | 328°47.8<br>-15°56.3 | 343°19.7<br>-16°00.9 | 357°51.6<br>-16°05.5 | 12°23.5<br>-16°10.0 | 26°55.4<br>-16°14.5 | 41°27.2<br>-16°18.8 | +32.0<br>-4.7 | 14.7<br>54.0 |
| Ve 5 | 259°21.1<br>-17°15.5 | 273°52.5<br>-17°18.7 | 288°23.8<br>-17°21.7 | 302°55.2<br>-17°24.7 | 317°26.4<br>-17°27.7 | 331°57.7<br>-17°30.5 | 346°29.0<br>-17°33.3 | 1°00.2<br>-17°36.0 | 15°31.4<br>-17°38.6 | 30°02.5<br>-17°41.1 | 44°33.7<br>-17°43.5 | +31.3<br>-2.8 | 14.8<br>54.2 |
| Sa 6 | 262°18.0<br>-18°10.2 | 276°48.8<br>-18°11.3 | 291°19.5<br>-18°12.3 | 305°50.3<br>-18°13.2 | 320°21.0<br>-18°14.1 | 334°51.7<br>-18°14.8 | 349°22.4<br>-18°15.5 | 3°53.0<br>-18°16.1 | 18°23.7<br>-18°16.6 | 32°54.3<br>-18°17.0 | 47°24.9<br>-18°17.3 | +30.7<br>-0.7 | 14.9<br>54.6 |
| Di 7 | 265°02.1<br>-18°11.5 | 279°32.4<br>-18°10.4 | 294°02.8<br>-18°09.3 | 308°33.1<br>-18°08.0 | 323°03.5<br>-18°06.6 | 337°33.8<br>-18°05.2 | 352°04.1<br>-18°03.6 | 6°34.4<br>-18°02.0 | 21°04.7<br>-18°00.3 | 35°35.0<br>-17°58.5 | 50°05.2<br>-17°56.6 | +30.3<br>+1.5 | 15.0<br>55.0 |
| Lu 8 | 267°38.1<br>-17°17.3 | 282°08.3<br>-17°14.0 | 296°38.4<br>-17°10.6 | 311°08.5<br>-17°07.1 | 325°38.7<br>-17°03.5 | 340°08.8<br>-16°59.8 | 354°38.9<br>-16°56.0 | 9°09.0<br>-16°52.1 | 23°39.1<br>-16°48.2 | 38°09.2<br>-16°44.2 | 52°39.3<br>-16°40.0 | +30.1<br>+3.7 | 15.1<br>55.5 |
| Ma 9 | 270°10.1<br>-15°27.9 | 284°40.2<br>-15°22.4 | 299°10.2<br>-15°16.8 | 313°40.2<br>-15°11.1 | 328°10.2<br>-15°05.4 | 342°40.2<br>-14°59.6 | 357°10.2<br>-14°53.7 | 11°40.3<br>-14°47.7 | 26°10.3<br>-14°41.6 | 40°40.3<br>-14°35.5 | 55°10.3<br>-14°29.2 | +30.0<br>+5.9 | 15.3<br>56.2 |
| Me 10 | 284°40.2<br>-15°22.4 | 299°10.2<br>-15°16.8 | 313°40.2<br>-15°11.1 | 328°10.2<br>-15°05.4 | 342°40.2<br>-14°59.6 | 357°10.2<br>-14°53.7 | 11°40.3<br>-14°47.7 | 26°10.3<br>-14°41.6 | 40°40.3<br>-14°35.5 | 55°10.3<br>-14°29.2 | 69°40.3<br>-14°22.9 | +30.0<br>+5.9 | 15.3<br>56.3 |
| ◑ Je 11 | 287°09.7<br>-12°38.8 | 301°39.6<br>-12°31.2 | 316°09.5<br>-12°23.6 | 330°39.4<br>-12°15.9 | 345°09.3<br>-12°08.1 | 359°39.2<br>-12°00.2 | 14°09.1<br>-11°52.3 | 28°39.0<br>-11°44.3 | 43°08.9<br>-11°36.3 | 57°38.8<br>-11°28.1 | 72°08.6<br>-11°19.9 | +29.9<br>+7.9 | 15.6<br>57.1 |
| Ve 12 | 289°35.3<br>-9°08.8 | 304°05.0<br>-8°59.6 | 318°34.7<br>-8°50.3 | 333°04.4<br>-8°40.9 | 347°34.0<br>-8°31.5 | 2°03.6<br>-8°22.0 | 16°33.2<br>-8°12.4 | 31°02.8<br>-8°02.8 | 45°32.4<br>-7°53.2 | 60°02.0<br>-7°43.5 | 74°31.5<br>-7°33.7 | +29.6<br>+9.5 | 15.8<br>57.9 |
| Sa 13 | 291°52.3<br>-5°01.1 | 306°21.5<br>-4°50.6 | 320°50.6<br>-4°40.0 | 335°19.8<br>-4°29.4 | 349°48.9<br>-4°18.7 | 4°18.0<br>-4°08.0 | 18°47.0<br>-3°57.3 | 33°16.1<br>-3°46.5 | 47°45.1<br>-3°35.7 | 62°14.1<br>-3°24.9 | 76°43.0<br>-3°14.0 | +29.1<br>+10.7 | 16.1<br>58.9 |
| Di 14 | 293°53.0<br>-0°27.5 | 308°21.4<br>-0°16.3 | 322°49.7<br>-0°05.0 | 337°18.0<br>0°06.3 | 351°46.3<br>0°17.6 | 6°14.5<br>0°29.0 | 20°42.6<br>0°40.3 | 35°10.8<br>0°51.6 | 49°38.8<br>1°03.0 | 64°06.9<br>1°14.4 | 78°34.9<br>1°25.7 | +28.2<br>+11.3 | 16.3<br>59.8 |
| Lu 15 | 295°29.0<br>4°16.1 | 309°56.2<br>4°27.4 | 324°23.3<br>4°38.7 | 338°50.4<br>4°49.9 | 353°17.5<br>5°01.2 | 7°44.5<br>5°12.4 | 22°11.4<br>5°23.6 | 36°38.3<br>5°34.7 | 51°05.1<br>5°45.9 | 65°31.9<br>5°57.0 | 79°58.6<br>6°08.1 | +27.0<br>+11.2 | 16.5<br>60.5 |
| Ma 16 | 296°32.6<br>8°49.9 | 310°58.4<br>9°00.4 | 325°24.2<br>9°10.7 | 339°49.9<br>9°21.1 | 354°15.5<br>9°31.3 | 8°41.1<br>9°41.5 | 23°06.6<br>9°51.7 | 37°32.1<br>10°01.8 | 51°57.5<br>10°11.8 | 66°22.8<br>10°21.7 | 80°48.1<br>10°31.6 | +25.5<br>+10.2 | 16.6<br>61.0 |
| Me 17 | 297°00.9<br>12°51.1 | 311°25.3<br>12°59.7 | 325°49.7<br>13°08.2 | 340°14.1<br>13°16.7 | 354°38.4<br>13°25.0 | 9°02.6<br>13°33.3 | 23°26.8<br>13°41.5 | 37°50.9<br>13°49.5 | 52°15.0<br>13°57.5 | 66°39.1<br>14°05.4 | 81°03.1<br>14°13.2 | +24.2<br>+8.2 | 16.7<br>61.2 |
| ● Je 18 | 298°58.8<br>15°56.8 | 311°22.3<br>16°02.8 | 325°45.7<br>16°08.7 | 340°09.1<br>16°14.4 | 354°32.5<br>16°20.0 | 8°55.9<br>16°25.6 | 23°19.2<br>16°31.0 | 37°42.6<br>16°36.2 | 52°05.9<br>16°41.4 | 66°29.2<br>16°46.4 | 80°52.5<br>16°51.3 | +23.4<br>+5.5 | 16.7<br>61.1 |
| Ve 19 | 296°41.0<br>17°49.3 | 311°04.3<br>17°52.1 | 325°27.5<br>17°54.8 | 339°50.8<br>17°57.3 | 354°14.1<br>17°59.7 | 8°37.4<br>18°02.0 | 23°00.8<br>18°04.2 | 37°24.1<br>18°06.2 | 51°47.5<br>18°08.1 | 66°10.9<br>18°09.9 | 80°34.3<br>18°11.5 | +23.3<br>+2.2 | 16.5<br>60.6 |
| Sa 20 | 296°29.5<br>18°20.1 | 310°53.6<br>18°19.6 | 325°17.6<br>18°19.0 | 339°41.7<br>18°18.3 | 354°05.9<br>18°17.5 | 8°30.1<br>18°16.5 | 22°54.4<br>18°15.4 | 37°18.7<br>18°14.2 | 51°43.0<br>18°12.8 | 66°07.5<br>18°11.4 | 80°32.0<br>18°09.8 | +24.2<br>-1.0 | 16.3<br>59.9 |
| Di 21 | 296°47.1<br>17°31.8 | 311°12.6<br>17°28.3 | 325°38.3<br>17°24.8 | 340°04.0<br>17°21.1 | 354°29.8<br>17°17.4 | 8°55.7<br>17°13.5 | 23°21.6<br>17°09.5 | 37°47.6<br>17°05.4 | 52°13.7<br>17°01.3 | 66°39.9<br>16°57.0 | 81°06.1<br>16°52.6 | +25.9<br>-3.9 | 16.1<br>58.9 |
| Lu 22 | 297°49.7<br>15°35.6 | 312°17.3<br>15°29.8 | 326°44.9<br>15°23.9 | 341°12.6<br>15°17.9 | 355°40.4<br>15°11.8 | 10°08.3<br>15°05.6 | 24°36.3<br>14°59.4 | 39°04.4<br>14°53.1 | 53°32.5<br>14°46.7 | 68°00.7<br>14°40.2 | 82°29.1<br>14°33.6 | +27.9<br>-6.2 | 15.8<br>57.9 |
| Ma 23 | 299°43.5<br>12°47.4 | 314°13.1<br>12°39.8 | 328°42.8<br>12°32.1 | 343°12.5<br>12°24.4 | 357°42.3<br>12°16.7 | 12°12.2<br>12°08.9 | 26°42.2<br>12°01.0 | 41°12.3<br>11°53.1 | 55°42.4<br>11°45.2 | 70°12.6<br>11°37.1 | 84°42.9<br>11°29.1 | +29.9<br>-7.8 | 15.5<br>57.0 |
| ◐ Me 24 | 302°25.6<br>9°23.0 | 316°56.9<br>9°14.3 | 331°28.4<br>9°05.5 | 345°59.9<br>8°56.7 | 0°31.4<br>8°47.9 | 15°03.1<br>8°39.1 | 29°34.7<br>8°30.2 | 44°06.5<br>8°21.3 | 58°38.3<br>8°12.3 | 73°10.2<br>8°03.4 | 87°42.1<br>7°54.4 | +31.7<br>-8.9 | 15.3<br>56.1 |
| Je 25 | 305°47.2<br>5°36.7 | 320°20.0<br>5°27.4 | 334°52.8<br>5°18.0 | 349°25.6<br>5°08.6 | 3°58.4<br>4°59.3 | 18°31.4<br>4°49.9 | 33°04.3<br>4°40.5 | 47°37.3<br>4°31.1 | 62°10.3<br>4°21.6 | 76°43.4<br>4°12.2 | 91°16.5<br>4°02.7 | +32.9<br>-9.4 | 15.1<br>55.4 |
| Ve 26 | 309°37.1<br>1°40.3 | 324°10.8<br>1°30.8 | 338°44.4<br>1°21.2 | 353°18.1<br>1°11.7 | 7°51.7<br>1°02.2 | 22°25.5<br>0°52.7 | 36°59.2<br>0°43.2 | 51°32.9<br>0°33.7 | 66°06.7<br>0°24.2 | 80°40.5<br>0°14.7 | 95°14.3<br>0°05.2 | +33.7<br>-9.5 | 14.9<br>54.8 |
| Sa 27 | 313°43.3<br>-2°16.4 | 328°17.3<br>-2°25.7 | 342°51.3<br>-2°35.0 | 357°25.3<br>-2°44.3 | 11°59.4<br>-2°53.6 | 26°33.4<br>-3°02.9 | 41°07.4<br>-3°12.2 | 55°41.5<br>-3°21.5 | 70°15.5<br>-3°30.7 | 84°49.6<br>-3°39.9 | 99°23.6<br>-3°49.1 | +34.0<br>-9.3 | 14.8<br>54.3 |
| Di 28 | 317°54.2<br>-6°04.5 | 332°28.1<br>-6°13.4 | 347°02.1<br>-6°22.2 | 1°36.1<br>-6°31.0 | 16°10.1<br>-6°39.7 | 30°44.0<br>-6°48.4 | 45°17.9<br>-6°57.1 | 59°51.9<br>-7°05.8 | 74°25.8<br>-7°14.4 | 88°59.7<br>-7°23.0 | 103°33.6<br>-7°31.6 | +33.9<br>-8.7 | 14.7<br>54.1 |
| Lu 29 | 321°59.8<br>-9°36.0 | 336°33.4<br>-9°44.0 | 351°07.0<br>-9°52.0 | 5°40.6<br>-9°59.9 | 20°14.1<br>-10°07.8 | 34°47.6<br>-10°15.6 | 49°21.1<br>-10°23.4 | 63°54.5<br>-10°31.1 | 78°28.0<br>-10°38.8 | 93°01.4<br>-10°46.5 | 107°34.8<br>-10°54.1 | +33.5<br>-7.8 | 14.7<br>54.0 |
| Ma 30 | 325°52.3<br>-12°42.6 | 340°25.2<br>-12°49.4 | 354°58.1<br>-12°56.2 | 9°31.0<br>-13°02.9 | 24°03.8<br>-13°09.6 | 38°36.7<br>-13°16.2 | 53°09.4<br>-13°22.8 | 67°42.2<br>-13°29.3 | 82°14.9<br>-13°35.7 | 96°47.6<br>-13°42.1 | 111°20.2<br>-13°48.4 | +32.8<br>-6.6 | 14.7<br>54.0 |
| Me 31 | 329°26.2<br>-15°16.0 | 343°58.3<br>-15°21.3 | 358°30.4<br>-15°26.6 | 13°02.4<br>-15°31.8 | 27°34.5<br>-15°36.9 | 42°06.5<br>-15°42.0 | 56°38.4<br>-15°46.9 | 71°10.3<br>-15°51.9 | 85°42.2<br>-15°56.7 | 100°14.1<br>-16°01.5 | 114°45.9<br>-16°06.2 | +32.0<br>-5.0 | 14.7<br>54.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 3 12h15 — DQ: 11 10h56 — NL: 18 03h12 — PQ: 24 23h57

# SOLEIL

## Juin 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 270°32.2 | 285°32.1 | 300°32.0 | 315°31.9 | 330°31.8 | 345°31.7 | 0°31.6 | 15°31.5 | 30°31.4 | 45°31.3 | 60°31.2 | 75°31.1 | -0.1 |
| | 22°03.9 | 22°04.2 | 22°04.5 | 22°04.9 | 22°05.2 | 22°05.5 | 22°05.9 | 22°06.2 | 22°06.5 | 22°06.9 | 22°07.2 | 22°07.5 | +0.3 |
| **Ve 2** | 270°29.8 | 285°29.7 | 300°29.6 | 315°29.5 | 330°29.4 | 345°29.3 | 0°29.2 | 15°29.1 | 30°29.0 | 45°28.9 | 60°28.8 | 75°28.7 | -0.1 |
| | 22°11.8 | 22°12.1 | 22°12.4 | 22°12.7 | 22°13.0 | 22°13.4 | 22°13.7 | 22°14.0 | 22°14.3 | 22°14.6 | 22°14.9 | 22°15.3 | +0.3 |
| **Sa 3** | 270°27.4 | 285°27.3 | 300°27.2 | 315°27.1 | 330°27.0 | 345°26.9 | 0°26.8 | 15°26.7 | 30°26.6 | 45°26.5 | 60°26.4 | 75°26.3 | -0.1 |
| | 22°19.3 | 22°19.6 | 22°19.9 | 22°20.2 | 22°20.5 | 22°20.8 | 22°21.1 | 22°21.4 | 22°21.7 | 22°22.0 | 22°22.3 | 22°22.6 | +0.3 |
| **Di 4** | 270°24.9 | 285°24.8 | 300°24.7 | 315°24.6 | 330°24.5 | 345°24.4 | 0°24.3 | 15°24.1 | 30°24.0 | 45°23.9 | 60°23.8 | 75°23.7 | -0.1 |
| | 22°26.4 | 22°26.7 | 22°27.0 | 22°27.3 | 22°27.6 | 22°27.8 | 22°28.1 | 22°28.4 | 22°28.7 | 22°29.0 | 22°29.3 | 22°29.5 | +0.3 |
| **Lu 5** | 270°22.3 | 285°22.2 | 300°22.1 | 315°22.0 | 330°21.9 | 345°21.7 | 0°21.6 | 15°21.5 | 30°21.4 | 45°21.3 | 60°21.2 | 75°21.1 | -0.1 |
| | 22°33.1 | 22°33.4 | 22°33.7 | 22°34.0 | 22°34.2 | 22°34.5 | 22°34.8 | 22°35.0 | 22°35.3 | 22°35.6 | 22°35.8 | 22°36.1 | +0.3 |
| **Ma 6** | 270°19.6 | 285°19.5 | 300°19.4 | 315°19.3 | 330°19.2 | 345°19.0 | 0°18.9 | 15°18.8 | 30°18.7 | 45°18.6 | 60°18.5 | 75°18.4 | -0.1 |
| | 22°39.5 | 22°39.7 | 22°40.0 | 22°40.2 | 22°40.5 | 22°40.7 | 22°41.0 | 22°41.2 | 22°41.5 | 22°41.7 | 22°42.0 | 22°42.2 | +0.3 |
| **Me 7** | 270°16.8 | 285°16.7 | 300°16.6 | 315°16.5 | 330°16.4 | 345°16.3 | 0°16.1 | 15°16.0 | 30°15.9 | 45°15.8 | 60°15.7 | 75°15.6 | -0.1 |
| | 22°45.4 | 22°45.7 | 22°45.9 | 22°46.1 | 22°46.4 | 22°46.6 | 22°46.8 | 22°47.1 | 22°47.3 | 22°47.5 | 22°47.8 | 22°48.0 | +0.2 |
| **Je 8** | 270°14.0 | 285°13.9 | 300°13.8 | 315°13.6 | 330°13.5 | 345°13.4 | 0°13.3 | 15°13.2 | 30°13.0 | 45°12.9 | 60°12.8 | 75°12.7 | -0.1 |
| | 22°51.0 | 22°51.2 | 22°51.4 | 22°51.6 | 22°51.8 | 22°52.1 | 22°52.3 | 22°52.5 | 22°52.7 | 22°52.9 | 22°53.1 | 22°53.4 | +0.2 |
| **Ve 9** | 270°11.1 | 285°11.0 | 300°10.9 | 315°10.7 | 330°10.6 | 345°10.5 | 0°10.4 | 15°10.2 | 30°10.1 | 45°10.0 | 60°09.9 | 75°09.7 | -0.1 |
| | 22°56.1 | 22°56.3 | 22°56.5 | 22°56.7 | 22°56.9 | 22°57.1 | 22°57.3 | 22°57.5 | 22°57.7 | 22°57.9 | 22°58.1 | 22°58.3 | +0.2 |
| **Sa 10** | 270°08.1 | 285°08.0 | 300°07.9 | 315°07.7 | 330°07.6 | 345°07.5 | 0°07.4 | 15°07.2 | 30°07.1 | 45°07.0 | 60°06.9 | 75°06.7 | -0.1 |
| | 23°00.8 | 23°01.0 | 23°01.2 | 23°01.4 | 23°01.6 | 23°01.8 | 23°01.9 | 23°02.1 | 23°02.3 | 23°02.5 | 23°02.7 | 23°02.9 | +0.2 |
| **Di 11** | 270°05.1 | 285°05.0 | 300°04.8 | 315°04.7 | 330°04.6 | 345°04.4 | 0°04.3 | 15°04.2 | 30°04.1 | 45°03.9 | 60°03.8 | 75°03.7 | -0.1 |
| | 23°05.2 | 23°05.3 | 23°05.5 | 23°05.7 | 23°05.8 | 23°06.0 | 23°06.2 | 23°06.3 | 23°06.5 | 23°06.7 | 23°06.8 | 23°07.0 | +0.2 |
| **Lu 12** | 270°02.0 | 285°01.9 | 300°01.7 | 315°01.6 | 330°01.5 | 345°01.3 | 0°01.2 | 15°01.1 | 30°01.0 | 45°00.8 | 60°00.7 | 75°00.6 | -0.1 |
| | 23°09.1 | 23°09.2 | 23°09.4 | 23°09.5 | 23°09.7 | 23°09.8 | 23°10.0 | 23°10.1 | 23°10.3 | 23°10.4 | 23°10.6 | 23°10.7 | +0.2 |
| **Ma 13** | 269°58.9 | 284°58.7 | 299°58.6 | 314°58.5 | 329°58.3 | 344°58.2 | 359°58.1 | 14°57.9 | 29°57.8 | 44°57.7 | 59°57.5 | 74°57.4 | -0.1 |
| | 23°12.6 | 23°12.7 | 23°12.9 | 23°13.0 | 23°13.1 | 23°13.3 | 23°13.4 | 23°13.5 | 23°13.7 | 23°13.8 | 23°13.9 | 23°14.1 | +0.1 |
| **Me 14** | 269°55.7 | 284°55.5 | 299°55.4 | 314°55.3 | 329°55.1 | 344°55.0 | 359°54.9 | 14°54.7 | 29°54.6 | 44°54.5 | 59°54.3 | 74°54.2 | -0.1 |
| | 23°15.7 | 23°15.8 | 23°15.9 | 23°16.1 | 23°16.2 | 23°16.3 | 23°16.4 | 23°16.5 | 23°16.6 | 23°16.8 | 23°16.9 | 23°17.0 | +0.1 |
| **Je 15** | 269°52.5 | 284°52.3 | 299°52.2 | 314°52.1 | 329°51.9 | 344°51.8 | 359°51.6 | 14°51.5 | 29°51.4 | 44°51.2 | 59°51.1 | 74°51.0 | -0.1 |
| | 23°18.4 | 23°18.5 | 23°18.6 | 23°18.7 | 23°18.8 | 23°18.9 | 23°19.0 | 23°19.1 | 23°19.2 | 23°19.3 | 23°19.4 | 23°19.5 | +0.1 |
| **Ve 16** | 269°49.2 | 284°49.1 | 299°48.9 | 314°48.8 | 329°48.7 | 344°48.5 | 359°48.4 | 14°48.3 | 29°48.1 | 44°48.0 | 59°47.8 | 74°47.7 | -0.1 |
| | 23°20.7 | 23°20.8 | 23°20.9 | 23°20.9 | 23°21.0 | 23°21.1 | 23°21.2 | 23°21.3 | 23°21.4 | 23°21.4 | 23°21.5 | 23°21.6 | +0.1 |
| **Sa 17** | 269°45.9 | 284°45.8 | 299°45.7 | 314°45.5 | 329°45.4 | 344°45.3 | 359°45.1 | 14°45.0 | 29°44.8 | 44°44.7 | 59°44.6 | 74°44.4 | -0.1 |
| | 23°22.6 | 23°22.6 | 23°22.7 | 23°22.8 | 23°22.8 | 23°22.9 | 23°23.0 | 23°23.0 | 23°23.1 | 23°23.2 | 23°23.2 | 23°23.3 | +0.1 |
| **Di 18** | 269°42.7 | 284°42.5 | 299°42.4 | 314°42.2 | 329°42.1 | 344°42.0 | 359°41.8 | 14°41.7 | 29°41.6 | 44°41.4 | 59°41.3 | 74°41.1 | -0.1 |
| | 23°24.0 | 23°24.1 | 23°24.1 | 23°24.2 | 23°24.2 | 23°24.3 | 23°24.3 | 23°24.4 | 23°24.4 | 23°24.5 | 23°24.5 | 23°24.5 | +0.0 |
| **Lu 19** | 269°39.4 | 284°39.2 | 299°39.1 | 314°38.9 | 329°38.8 | 344°38.7 | 359°38.5 | 14°38.4 | 29°38.3 | 44°38.1 | 59°38.0 | 74°37.9 | -0.1 |
| | 23°25.1 | 23°25.1 | 23°25.1 | 23°25.2 | 23°25.2 | 23°25.2 | 23°25.3 | 23°25.3 | 23°25.3 | 23°25.4 | 23°25.4 | 23°25.4 | +0.0 |
| **Ma 20** | 269°36.1 | 284°35.9 | 299°35.8 | 314°35.7 | 329°35.5 | 344°35.4 | 359°35.2 | 14°35.1 | 29°35.0 | 44°34.8 | 59°34.7 | 74°34.6 | -0.1 |
| | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.9 | +0.0 |
| **Me 21** | 269°32.8 | 284°32.6 | 299°32.5 | 314°32.4 | 329°32.2 | 344°32.1 | 359°32.0 | 14°31.8 | 29°31.7 | 44°31.6 | 59°31.4 | 74°31.3 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | -0.0 |
| **Je 22** | 269°29.5 | 284°29.4 | 299°29.2 | 314°29.1 | 329°29.0 | 344°28.8 | 359°28.7 | 14°28.6 | 29°28.4 | 44°28.3 | 59°28.2 | 74°28.0 | -0.1 |
| | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.5 | 23°25.5 | -0.0 |
| **Ve 23** | 269°26.3 | 284°26.1 | 299°26.0 | 314°25.9 | 329°25.7 | 344°25.6 | 359°25.4 | 14°25.3 | 29°25.2 | 44°25.0 | 59°24.9 | 74°24.8 | -0.1 |
| | 23°25.1 | 23°25.1 | 23°25.1 | 23°25.0 | 23°25.0 | 23°24.9 | 23°24.9 | 23°24.9 | 23°24.8 | 23°24.8 | 23°24.8 | 23°24.7 | -0.0 |
| **Sa 24** | 269°23.0 | 284°22.9 | 299°22.8 | 314°22.6 | 329°22.5 | 344°22.4 | 359°22.2 | 14°22.1 | 29°22.0 | 44°21.8 | 59°21.7 | 74°21.6 | -0.1 |
| | 23°24.1 | 23°24.1 | 23°24.0 | 23°24.0 | 23°23.9 | 23°23.8 | 23°23.8 | 23°23.7 | 23°23.7 | 23°23.6 | 23°23.6 | 23°23.5 | -0.1 |
| **Di 25** | 269°19.8 | 284°19.7 | 299°19.6 | 314°19.4 | 329°19.3 | 344°19.2 | 359°19.0 | 14°18.9 | 29°18.8 | 44°18.6 | 59°18.5 | 74°18.4 | -0.1 |
| | 23°22.7 | 23°22.6 | 23°22.5 | 23°22.5 | 23°22.4 | 23°22.3 | 23°22.3 | 23°22.2 | 23°22.1 | 23°22.0 | 23°22.0 | 23°21.9 | -0.1 |
| **Lu 26** | 269°16.7 | 284°16.5 | 299°16.4 | 314°16.3 | 329°16.1 | 344°16.0 | 359°15.9 | 14°15.8 | 29°15.6 | 44°15.5 | 59°15.4 | 74°15.2 | -0.1 |
| | 23°20.8 | 23°20.7 | 23°20.7 | 23°20.6 | 23°20.5 | 23°20.4 | 23°20.3 | 23°20.2 | 23°20.1 | 23°20.0 | 23°19.9 | 23°19.9 | -0.1 |
| **Ma 27** | 269°13.5 | 284°13.4 | 299°13.3 | 314°13.2 | 329°13.0 | 344°12.9 | 359°12.8 | 14°12.6 | 29°12.5 | 44°12.4 | 59°12.3 | 74°12.1 | -0.1 |
| | 23°18.6 | 23°18.5 | 23°18.4 | 23°18.3 | 23°18.2 | 23°18.1 | 23°18.0 | 23°17.8 | 23°17.7 | 23°17.6 | 23°17.5 | 23°17.4 | -0.1 |
| **Me 28** | 269°10.5 | 284°10.3 | 299°10.2 | 314°10.1 | 329°10.0 | 344°09.8 | 359°09.7 | 14°09.6 | 29°09.5 | 44°09.3 | 59°09.2 | 74°09.1 | -0.1 |
| | 23°15.9 | 23°15.8 | 23°15.7 | 23°15.6 | 23°15.4 | 23°15.3 | 23°15.2 | 23°15.1 | 23°14.9 | 23°14.8 | 23°14.7 | 23°14.6 | -0.1 |
| **Je 29** | 269°07.5 | 284°07.3 | 299°07.2 | 314°07.1 | 329°07.0 | 344°06.8 | 359°06.7 | 14°06.6 | 29°06.5 | 44°06.3 | 59°06.2 | 74°06.1 | -0.1 |
| | 23°12.9 | 23°12.7 | 23°12.6 | 23°12.4 | 23°12.3 | 23°12.2 | 23°12.0 | 23°11.9 | 23°11.7 | 23°11.6 | 23°11.5 | 23°11.3 | -0.1 |
| **Ve 30** | 269°04.5 | 284°04.4 | 299°04.2 | 314°04.1 | 329°04.0 | 344°03.9 | 359°03.8 | 14°03.6 | 29°03.5 | 44°03.4 | 59°03.3 | 74°03.1 | -0.1 |
| | 23°09.4 | 23°09.2 | 23°09.1 | 23°08.9 | 23°08.8 | 23°08.6 | 23°08.4 | 23°08.3 | 23°08.1 | 23°08.0 | 23°07.8 | 23°07.6 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2034

| J | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 245°30.9 | 260°02.4 | 274°33.9 | 289°05.3 | 303°36.7 | 318°08.1 | 332°39.4 | 347°10.7 | 1°42.0 | 16°13.3 | 30°44.5 | +31.4 | 14.8 |
| | -16°45.4 | -16°49.3 | -16°53.2 | -16°57.1 | -17°00.8 | -17°04.5 | -17°08.1 | -17°11.6 | -17°15.1 | -17°18.4 | -17°21.7 | -3.6 | 54.2 |
| ○ Ve 2 | 248°29.4 | 263°00.1 | 277°30.9 | 292°01.6 | 306°32.3 | 321°03.0 | 335°33.6 | 350°04.3 | 4°34.9 | 19°05.5 | 33°36.0 | +30.7 | 14.9 |
| | -18°01.2 | -18°03.2 | -18°05.1 | -18°06.9 | -18°08.6 | -18°10.2 | -18°11.8 | -18°13.2 | -18°14.6 | -18°15.9 | -18°17.1 | -1.6 | 54.5 |
| Sa 3 | 251°12.1 | 265°42.4 | 280°12.6 | 294°42.9 | 309°13.1 | 323°43.3 | 338°13.5 | 352°43.7 | 7°13.9 | 21°44.1 | 36°14.2 | +30.2 | 15.0 |
| | -18°24.4 | -18°24.2 | -18°23.9 | -18°23.5 | -18°23.0 | -18°22.4 | -18°21.7 | -18°21.0 | -18°20.1 | -18°19.2 | -18°18.1 | +0.6 | 54.9 |
| Di 4 | 253°45.5 | 268°15.5 | 282°45.6 | 297°15.6 | 311°45.6 | 326°15.7 | 340°45.7 | 355°15.7 | 9°45.7 | 24°15.7 | 38°45.7 | +30.0 | 15.1 |
| | -17°51.7 | -17°49.2 | -17°46.6 | -17°43.9 | -17°41.2 | -17°38.3 | -17°35.4 | -17°32.4 | -17°29.2 | -17°26.0 | -17°22.7 | +2.9 | 55.3 |
| Lu 5 | 256°16.1 | 270°46.1 | 285°16.2 | 299°46.2 | 314°16.3 | 328°46.4 | 343°16.4 | 357°46.5 | 12°16.6 | 26°46.7 | 41°16.7 | +30.1 | 15.2 |
| | -16°22.7 | -16°18.0 | -16°13.2 | -16°08.4 | -16°03.4 | -15°58.4 | -15°53.3 | -15°48.1 | -15°42.8 | -15°37.4 | -15°32.0 | +5.1 | 55.8 |
| Ma 6 | 258°48.7 | 273°18.9 | 287°49.1 | 302°19.2 | 316°49.4 | 331°19.6 | 345°49.8 | 0°20.1 | 14°50.3 | 29°20.5 | 43°50.7 | +30.2 | 15.4 |
| | -14°00.5 | -13°53.8 | -13°47.0 | -13°40.1 | -13°33.2 | -13°26.1 | -13°19.0 | -13°11.9 | -13°04.6 | -12°57.3 | -12°49.9 | +7.1 | 56.4 |
| Me 7 | 261°24.6 | 275°54.9 | 290°25.2 | 304°55.5 | 319°25.7 | 333°56.0 | 348°26.3 | 2°56.6 | 17°26.9 | 31°57.1 | 46°27.4 | +30.3 | 15.6 |
| | -10°50.8 | -10°42.4 | -10°33.9 | -10°25.3 | -10°16.6 | -10°07.9 | -9°59.1 | -9°50.3 | -9°41.4 | -9°32.5 | -9°23.5 | +8.7 | 57.0 |
| Je 8 | 264°01.1 | 278°31.3 | 293°01.5 | 307°31.6 | 322°01.8 | 336°31.9 | 351°02.1 | 5°32.2 | 20°02.3 | 34°32.4 | 49°02.5 | +30.1 | 15.7 |
| | -7°01.9 | -6°52.1 | -6°42.2 | -6°32.3 | -6°22.3 | -6°12.3 | -6°02.3 | -5°52.2 | -5°42.1 | -5°31.9 | -5°21.7 | +10.0 | 57.8 |
| ◑ Ve 9 | 278°31.3 | 293°01.5 | 307°31.6 | 322°01.8 | 336°31.9 | 351°02.1 | 5°32.2 | 20°02.3 | 34°32.4 | 49°02.5 | 63°32.6 | +30.1 | 15.8 |
| | -6°52.1 | -6°42.2 | -6°32.3 | -6°22.3 | -6°12.3 | -6°02.3 | -5°52.2 | -5°42.1 | -5°31.9 | -5°21.7 | -5°11.4 | +10.1 | 57.8 |
| Sa 10 | 281°01.4 | 295°31.1 | 310°00.9 | 324°30.6 | 339°00.2 | 353°29.9 | 7°59.5 | 22°29.1 | 36°58.6 | 51°28.1 | 65°57.6 | +29.6 | 16.0 |
| | -2°33.5 | -2°22.7 | -2°12.0 | -2°01.2 | -1°50.3 | -1°39.5 | -1°28.6 | -1°17.7 | -1°06.8 | -0°55.9 | -0°44.9 | +10.9 | 58.5 |
| Di 11 | 283°15.9 | 297°44.8 | 312°13.7 | 326°42.5 | 341°11.3 | 355°40.0 | 10°08.7 | 24°37.3 | 39°05.9 | 53°34.5 | 68°03.0 | +28.7 | 16.2 |
| | 2°00.5 | 2°11.6 | 2°22.7 | 2°33.7 | 2°44.8 | 2°55.9 | 3°06.9 | 3°18.0 | 3°29.0 | 3°40.0 | 3°51.0 | +11.1 | 59.3 |
| Lu 12 | 285°04.5 | 299°32.2 | 313°59.8 | 328°27.3 | 342°54.8 | 357°22.3 | 11°49.7 | 26°17.0 | 40°44.3 | 55°11.5 | 69°38.6 | +27.4 | 16.3 |
| | 6°34.2 | 6°44.9 | 6°55.6 | 7°06.2 | 7°16.8 | 7°27.4 | 7°37.9 | 7°48.3 | 7°58.8 | 8°09.2 | 8°19.5 | +10.5 | 59.9 |
| Ma 13 | 286°18.6 | 300°44.7 | 315°10.8 | 329°36.9 | 344°02.9 | 358°28.8 | 12°54.7 | 27°20.4 | 41°46.2 | 56°11.9 | 70°37.5 | +25.9 | 16.5 |
| | 10°48.9 | 10°58.4 | 11°07.8 | 11°17.2 | 11°26.5 | 11°35.7 | 11°44.9 | 11°54.0 | 12°03.0 | 12°11.9 | 12°20.8 | +9.2 | 60.4 |
| Me 14 | 286°54.5 | 301°19.2 | 315°43.9 | 330°08.4 | 344°33.0 | 358°57.4 | 13°21.8 | 27°46.2 | 42°10.5 | 56°34.8 | 70°59.1 | +24.4 | 16.6 |
| | 14°23.6 | 14°31.1 | 14°38.4 | 14°45.7 | 14°52.8 | 14°59.9 | 15°06.9 | 15°13.7 | 15°20.5 | 15°27.1 | 15°33.6 | +7.0 | 60.7 |
| Je 15 | 286°57.6 | 301°21.2 | 315°44.8 | 330°08.3 | 344°31.9 | 358°55.4 | 13°18.9 | 27°42.4 | 42°05.8 | 56°29.3 | 70°52.7 | +23.5 | 16.6 |
| | 16°58.0 | 17°02.7 | 17°07.3 | 17°11.7 | 17°16.0 | 17°20.2 | 17°24.2 | 17°28.2 | 17°32.0 | 17°35.6 | 17°39.2 | +4.1 | 60.7 |
| ● Ve 16 | 286°43.2 | 301°06.6 | 315°30.0 | 329°53.4 | 344°16.8 | 358°40.2 | 13°03.7 | 27°27.2 | 41°50.7 | 56°14.2 | 70°37.7 | +23.4 | 16.5 |
| | 18°16.7 | 18°18.2 | 18°19.5 | 18°20.7 | 18°21.7 | 18°22.6 | 18°23.4 | 18°24.1 | 18°24.6 | 18°25.0 | 18°25.2 | +0.8 | 60.4 |
| Sa 17 | 286°34.6 | 300°58.8 | 315°22.9 | 329°47.2 | 344°11.4 | 358°35.8 | 13°00.2 | 27°24.6 | 41°49.1 | 56°13.6 | 70°38.3 | +24.4 | 16.3 |
| | 18°13.4 | 18°11.6 | 18°09.7 | 18°07.6 | 18°05.5 | 18°03.2 | 18°00.7 | 17°58.2 | 17°55.5 | 17°52.7 | 17°49.8 | -2.4 | 59.8 |
| Di 18 | 286°55.2 | 301°20.9 | 315°46.7 | 330°12.5 | 344°38.5 | 359°04.4 | 13°30.5 | 27°56.7 | 42°22.9 | 56°49.2 | 71°15.6 | +26.0 | 16.1 |
| | 16°52.7 | 16°48.0 | 16°43.2 | 16°38.3 | 16°33.3 | 16°28.3 | 16°23.1 | 16°17.8 | 16°12.4 | 16°07.0 | 16°01.4 | -5.1 | 59.0 |
| Lu 19 | 288°01.1 | 302°28.8 | 316°56.6 | 331°24.5 | 345°52.4 | 0°20.4 | 14°48.5 | 29°16.7 | 43°45.0 | 58°13.4 | 72°41.8 | +28.1 | 15.8 |
| | 14°27.5 | 14°20.6 | 14°13.6 | 14°06.5 | 13°59.4 | 13°52.2 | 13°44.9 | 13°37.6 | 13°30.2 | 13°22.7 | 13°15.2 | -7.2 | 58.1 |
| Ma 20 | 289°58.0 | 304°27.8 | 318°57.5 | 333°27.4 | 347°57.4 | 2°27.4 | 16°57.5 | 31°27.6 | 45°57.9 | 60°28.2 | 74°58.6 | +30.1 | 15.6 |
| | 11°15.0 | 11°06.6 | 10°58.1 | 10°49.6 | 10°41.0 | 10°32.4 | 10°23.7 | 10°15.0 | 10°06.3 | 9°57.5 | 9°48.7 | -8.6 | 57.1 |
| Me 21 | 292°42.6 | 307°14.0 | 321°45.5 | 336°17.1 | 350°48.7 | 5°20.4 | 19°52.2 | 34°24.0 | 48°55.9 | 63°27.8 | 77°59.8 | +31.7 | 15.3 |
| | 7°32.3 | 7°23.0 | 7°13.7 | 7°04.3 | 6°54.9 | 6°45.5 | 6°36.1 | 6°26.6 | 6°17.2 | 6°07.7 | 5°58.2 | -9.4 | 56.3 |
| Je 22 | 296°05.5 | 310°38.2 | 325°11.0 | 339°43.9 | 354°16.7 | 8°49.7 | 23°22.6 | 37°55.6 | 52°28.6 | 67°01.7 | 81°34.8 | +32.9 | 15.1 |
| | 3°34.1 | 3°24.5 | 3°14.8 | 3°05.1 | 2°55.4 | 2°45.7 | 2°36.0 | 2°26.4 | 2°16.7 | 2°07.0 | 1°57.3 | -9.7 | 55.5 |
| ◐ Ve 23 | 299°55.0 | 314°28.6 | 329°02.1 | 343°35.7 | 358°09.4 | 12°43.0 | 27°16.7 | 41°50.3 | 56°24.0 | 70°57.7 | 85°31.5 | +33.7 | 15.0 |
| | -0°27.6 | -0°37.2 | -0°46.8 | -0°56.4 | -1°06.0 | -1°15.5 | -1°25.1 | -1°34.6 | -1°44.1 | -1°53.6 | -2°03.1 | -9.6 | 54.9 |
| Sa 24 | 303°58.7 | 318°32.6 | 333°06.5 | 347°40.4 | 2°14.3 | 16°48.2 | 31°22.0 | 45°55.9 | 60°29.8 | 75°03.7 | 89°37.6 | +33.9 | 14.8 |
| | -4°23.3 | -4°32.5 | -4°41.7 | -4°50.8 | -4°59.9 | -5°09.0 | -5°18.0 | -5°27.1 | -5°36.1 | -5°45.1 | -5°54.0 | -9.1 | 54.4 |
| Di 25 | 308°05.0 | 322°38.8 | 337°12.5 | 351°46.2 | 6°19.9 | 20°53.6 | 35°27.3 | 50°01.0 | 64°34.6 | 79°08.2 | 93°41.8 | +33.7 | 14.8 |
| | -8°04.6 | -8°13.1 | -8°21.5 | -8°29.9 | -8°38.2 | -8°46.5 | -8°54.8 | -9°03.0 | -9°11.2 | -9°19.3 | -9°27.4 | -8.3 | 54.2 |
| Lu 26 | 312°03.5 | 326°36.8 | 341°10.0 | 355°43.2 | 10°16.4 | 24°49.6 | 39°22.7 | 53°55.8 | 68°28.8 | 83°01.9 | 97°34.9 | +33.1 | 14.7 |
| | -11°23.9 | -11°31.3 | -11°38.6 | -11°45.9 | -11°53.2 | -12°00.4 | -12°07.5 | -12°14.6 | -12°21.7 | -12°28.7 | -12°35.6 | -7.2 | 54.1 |
| Ma 27 | 315°46.3 | 330°18.8 | 344°51.2 | 359°23.7 | 13°56.1 | 28°28.4 | 43°00.7 | 57°33.0 | 72°05.3 | 86°37.5 | 101°09.7 | +32.3 | 14.8 |
| | -14°13.2 | -14°19.3 | -14°25.3 | -14°31.2 | -14°37.0 | -14°42.8 | -14°48.6 | -14°54.2 | -14°59.8 | -15°05.4 | -15°10.9 | -5.8 | 54.1 |
| Me 28 | 319°08.2 | 333°39.8 | 348°11.3 | 2°42.9 | 17°14.4 | 31°45.8 | 46°17.3 | 60°48.7 | 75°20.0 | 89°51.3 | 104°22.6 | +31.4 | 14.8 |
| | -16°24.9 | -16°29.3 | -16°33.6 | -16°37.8 | -16°41.9 | -16°46.0 | -16°50.0 | -16°53.9 | -16°57.8 | -17°01.5 | -17°05.2 | -4.0 | 54.3 |
| Je 29 | 322°07.8 | 336°38.5 | 351°09.3 | 5°39.9 | 20°10.6 | 34°41.2 | 49°11.8 | 63°42.4 | 78°12.9 | 92°43.4 | 107°13.9 | +30.6 | 14.9 |
| | -17°51.1 | -17°53.5 | -17°55.9 | -17°58.1 | -18°00.2 | -18°02.3 | -18°04.3 | -18°06.2 | -18°08.0 | -18°09.7 | -18°11.4 | -2.0 | 54.6 |
| Ve 30 | 324°47.8 | 339°17.9 | 353°47.9 | 8°18.0 | 22°48.0 | 37°18.0 | 51°47.9 | 66°17.9 | 80°47.8 | 95°17.7 | 109°47.6 | +30.0 | 15.0 |
| | -18°25.3 | -18°25.5 | -18°25.7 | -18°25.7 | -18°25.6 | -18°25.5 | -18°25.2 | -18°24.9 | -18°24.5 | -18°23.9 | -18°23.3 | +0.2 | 55.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 2 03h54 — DQ: 9 19h43 — NL: 16 10h25 — PQ: 23 14h35

# SOLEIL

## Juillet 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°01.6<br>23°05.5 | 284°01.5<br>23°05.3 | 299°01.3<br>23°05.2 | 314°01.2<br>23°05.0 | 329°01.1<br>23°04.8 | 344°01.0<br>23°04.6 | 359°00.9<br>23°04.5 | 14°00.7<br>23°04.3 | 29°00.6<br>23°04.1 | 44°00.5<br>23°03.9 | 59°00.4<br>23°03.8 | 74°00.3<br>23°03.6 | -0.1<br>-0.2 |
| Di 2 | 268°58.7<br>23°01.2 | 283°58.6<br>23°01.0 | 298°58.5<br>23°00.8 | 313°58.4<br>23°00.6 | 328°58.3<br>23°00.5 | 343°58.2<br>23°00.3 | 358°58.0<br>23°00.1 | 13°57.9<br>22°59.9 | 28°57.8<br>22°59.7 | 43°57.7<br>22°59.5 | 58°57.6<br>22°59.3 | 73°57.5<br>22°59.1 | -0.1<br>-0.2 |
| Lu 3 | 268°56.0<br>22°56.5 | 283°55.9<br>22°56.3 | 298°55.7<br>22°56.1 | 313°55.6<br>22°55.9 | 328°55.5<br>22°55.7 | 343°55.4<br>22°55.5 | 358°55.3<br>22°55.3 | 13°55.2<br>22°55.1 | 28°55.1<br>22°54.9 | 43°55.0<br>22°54.7 | 58°54.8<br>22°54.4 | 73°54.7<br>22°54.2 | -0.1<br>-0.2 |
| Ma 4 | 268°53.3<br>22°51.4 | 283°53.2<br>22°51.2 | 298°53.1<br>22°51.0 | 313°52.9<br>22°50.8 | 328°52.8<br>22°50.5 | 343°52.7<br>22°50.3 | 358°52.6<br>22°50.1 | 13°52.5<br>22°49.9 | 28°52.4<br>22°49.6 | 43°52.3<br>22°49.4 | 58°52.2<br>22°49.2 | 73°52.1<br>22°49.0 | -0.1<br>-0.2 |
| Me 5 | 268°50.7<br>22°45.9 | 283°50.6<br>22°45.7 | 298°50.5<br>22°45.5 | 313°50.3<br>22°45.2 | 328°50.2<br>22°45.0 | 343°50.1<br>22°44.8 | 358°50.0<br>22°44.5 | 13°49.9<br>22°44.3 | 28°49.8<br>22°44.0 | 43°49.7<br>22°43.8 | 58°49.6<br>22°43.5 | 73°49.5<br>22°43.3 | -0.1<br>-0.2 |
| Je 6 | 268°48.1<br>22°40.1 | 283°48.0<br>22°39.8 | 298°47.9<br>22°39.6 | 313°47.8<br>22°39.3 | 328°47.7<br>22°39.0 | 343°47.6<br>22°38.8 | 358°47.5<br>22°38.5 | 13°47.4<br>22°38.3 | 28°47.3<br>22°38.0 | 43°47.2<br>22°37.8 | 58°47.1<br>22°37.5 | 73°47.0<br>22°37.2 | -0.1<br>-0.3 |
| Ve 7 | 268°45.7<br>22°33.8 | 283°45.6<br>22°33.5 | 298°45.5<br>22°33.3 | 313°45.4<br>22°33.0 | 328°45.3<br>22°32.7 | 343°45.2<br>22°32.4 | 358°45.1<br>22°32.2 | 13°45.0<br>22°31.9 | 28°44.9<br>22°31.6 | 43°44.8<br>22°31.3 | 58°44.7<br>22°31.1 | 73°44.6<br>22°30.8 | -0.1<br>-0.3 |
| Sa 8 | 268°43.3<br>22°27.1 | 283°43.2<br>22°26.8 | 298°43.1<br>22°26.6 | 313°43.0<br>22°26.3 | 328°42.9<br>22°26.0 | 343°42.9<br>22°25.7 | 358°42.8<br>22°25.4 | 13°42.7<br>22°25.1 | 28°42.6<br>22°24.8 | 43°42.5<br>22°24.5 | 58°42.4<br>22°24.2 | 73°42.3<br>22°23.9 | -0.1<br>-0.3 |
| Di 9 | 268°41.1<br>22°20.1 | 283°41.0<br>22°19.8 | 298°40.9<br>22°19.5 | 313°40.8<br>22°19.2 | 328°40.7<br>22°18.9 | 343°40.6<br>22°18.6 | 358°40.5<br>22°18.2 | 13°40.4<br>22°17.9 | 28°40.3<br>22°17.6 | 43°40.2<br>22°17.3 | 58°40.2<br>22°17.0 | 73°40.1<br>22°16.7 | -0.1<br>-0.3 |
| Lu 10 | 268°38.9<br>22°12.6 | 283°38.8<br>22°12.3 | 298°38.7<br>22°12.0 | 313°38.6<br>22°11.7 | 328°38.6<br>22°11.4 | 343°38.5<br>22°11.0 | 358°38.4<br>22°10.7 | 13°38.3<br>22°10.4 | 28°38.2<br>22°10.1 | 43°38.1<br>22°09.7 | 58°38.0<br>22°09.4 | 73°37.9<br>22°09.1 | -0.1<br>-0.3 |
| Ma 11 | 268°36.8<br>22°04.8 | 283°36.8<br>22°04.5 | 298°36.7<br>22°04.1 | 313°36.6<br>22°03.8 | 328°36.5<br>22°03.5 | 343°36.4<br>22°03.1 | 358°36.3<br>22°02.8 | 13°36.3<br>22°02.5 | 28°36.2<br>22°02.1 | 43°36.1<br>22°01.8 | 58°36.0<br>22°01.4 | 73°35.9<br>22°01.1 | -0.1<br>-0.3 |
| Me 12 | 268°34.9<br>21°56.6 | 283°34.8<br>21°56.3 | 298°34.7<br>21°55.9 | 313°34.7<br>21°55.6 | 328°34.6<br>21°55.2 | 343°34.5<br>21°54.8 | 358°34.4<br>21°54.5 | 13°34.3<br>21°54.1 | 28°34.3<br>21°53.8 | 43°34.2<br>21°53.4 | 58°34.1<br>21°53.1 | 73°34.0<br>21°52.7 | -0.1<br>-0.4 |
| Je 13 | 268°33.0<br>21°48.0 | 283°33.0<br>21°47.7 | 298°32.9<br>21°47.3 | 313°32.8<br>21°46.9 | 328°32.8<br>21°46.6 | 343°32.7<br>21°46.2 | 358°32.6<br>21°45.8 | 13°32.5<br>21°45.5 | 28°32.5<br>21°45.1 | 43°32.4<br>21°44.7 | 58°32.3<br>21°44.3 | 73°32.2<br>21°44.0 | -0.1<br>-0.4 |
| Ve 14 | 268°31.3<br>21°39.1 | 283°31.3<br>21°38.7 | 298°31.2<br>21°38.3 | 313°31.1<br>21°37.9 | 328°31.0<br>21°37.5 | 343°31.0<br>21°37.2 | 358°30.9<br>21°36.8 | 13°30.8<br>21°36.4 | 28°30.8<br>21°36.0 | 43°30.7<br>21°35.6 | 58°30.6<br>21°35.2 | 73°30.6<br>21°34.8 | -0.1<br>-0.4 |
| Sa 15 | 268°29.7<br>21°29.8 | 283°29.7<br>21°29.4 | 298°29.6<br>21°29.0 | 313°29.5<br>21°28.6 | 328°29.5<br>21°28.2 | 343°29.4<br>21°27.8 | 358°29.3<br>21°27.4 | 13°29.3<br>21°27.0 | 28°29.2<br>21°26.6 | 43°29.2<br>21°26.2 | 58°29.1<br>21°25.8 | 73°29.0<br>21°25.4 | -0.1<br>-0.4 |
| Di 16 | 268°28.2<br>21°20.1 | 283°28.2<br>21°19.7 | 298°28.1<br>21°19.2 | 313°28.1<br>21°18.8 | 328°28.0<br>21°18.4 | 343°28.0<br>21°18.0 | 358°27.9<br>21°17.6 | 13°27.8<br>21°17.2 | 28°27.8<br>21°16.8 | 43°27.7<br>21°16.3 | 58°27.7<br>21°15.9 | 73°27.6<br>21°15.5 | -0.1<br>-0.4 |
| Lu 17 | 268°26.9<br>21°10.0 | 283°26.8<br>21°09.6 | 298°26.8<br>21°09.2 | 313°26.7<br>21°08.7 | 328°26.7<br>21°08.3 | 343°26.6<br>21°07.9 | 358°26.6<br>21°07.5 | 13°26.5<br>21°07.0 | 28°26.5<br>21°06.6 | 43°26.4<br>21°06.2 | 58°26.4<br>21°05.7 | 73°26.3<br>21°05.3 | -0.1<br>-0.4 |
| Ma 18 | 268°25.7<br>20°59.6 | 283°25.6<br>20°59.2 | 298°25.6<br>20°58.7 | 313°25.5<br>20°58.3 | 328°25.5<br>20°57.8 | 343°25.4<br>20°57.4 | 358°25.4<br>20°57.0 | 13°25.4<br>20°56.5 | 28°25.3<br>20°56.1 | 43°25.3<br>20°55.6 | 58°25.2<br>20°55.2 | 73°25.2<br>20°54.7 | -0.0<br>-0.4 |
| Me 19 | 268°24.6<br>20°48.9 | 283°24.6<br>20°48.4 | 298°24.5<br>20°47.9 | 313°24.5<br>20°47.5 | 328°24.4<br>20°47.0 | 343°24.4<br>20°46.6 | 358°24.4<br>20°46.1 | 13°24.3<br>20°45.7 | 28°24.3<br>20°45.2 | 43°24.2<br>20°44.7 | 58°24.2<br>20°44.3 | 73°24.2<br>20°43.8 | -0.0<br>-0.5 |
| Je 20 | 268°23.7<br>20°37.7 | 283°23.6<br>20°37.3 | 298°23.6<br>20°36.8 | 313°23.6<br>20°36.3 | 328°23.5<br>20°35.9 | 343°23.5<br>20°35.4 | 358°23.5<br>20°34.9 | 13°23.4<br>20°34.4 | 28°23.4<br>20°34.0 | 43°23.4<br>20°33.5 | 58°23.3<br>20°33.0 | 73°23.3<br>20°32.5 | -0.0<br>-0.5 |
| Ve 21 | 268°22.9<br>20°26.3 | 283°22.9<br>20°25.8 | 298°22.8<br>20°25.3 | 313°22.8<br>20°24.8 | 328°22.8<br>20°24.3 | 343°22.7<br>20°23.9 | 358°22.7<br>20°23.4 | 13°22.7<br>20°22.9 | 28°22.7<br>20°22.4 | 43°22.6<br>20°21.9 | 58°22.6<br>20°21.4 | 73°22.6<br>20°20.9 | -0.0<br>-0.5 |
| Sa 22 | 268°22.2<br>20°14.5 | 283°22.2<br>20°14.0 | 298°22.2<br>20°13.5 | 313°22.2<br>20°13.0 | 328°22.1<br>20°12.5 | 343°22.1<br>20°12.0 | 358°22.1<br>20°11.5 | 13°22.1<br>20°11.0 | 28°22.1<br>20°10.5 | 43°22.0<br>20°10.0 | 58°22.0<br>20°09.5 | 73°22.0<br>20°09.0 | -0.0<br>-0.5 |
| Di 23 | 268°21.7<br>20°02.4 | 283°21.7<br>20°01.8 | 298°21.7<br>20°01.3 | 313°21.7<br>20°00.8 | 328°21.7<br>20°00.3 | 343°21.7<br>19°59.8 | 358°21.6<br>19°59.3 | 13°21.6<br>19°58.8 | 28°21.6<br>19°58.2 | 43°21.6<br>19°57.7 | 58°21.6<br>19°57.2 | 73°21.6<br>19°56.7 | -0.0<br>-0.5 |
| Lu 24 | 268°21.4<br>19°49.9 | 283°21.4<br>19°49.4 | 298°21.4<br>19°48.8 | 313°21.4<br>19°48.3 | 328°21.4<br>19°47.8 | 343°21.3<br>19°47.2 | 358°21.3<br>19°46.7 | 13°21.3<br>19°46.2 | 28°21.3<br>19°45.7 | 43°21.3<br>19°45.1 | 58°21.3<br>19°44.6 | 73°21.3<br>19°44.1 | -0.0<br>-0.5 |
| Ma 25 | 268°21.2<br>19°37.1 | 283°21.2<br>19°36.5 | 298°21.2<br>19°36.0 | 313°21.2<br>19°35.5 | 328°21.2<br>19°34.9 | 343°21.2<br>19°34.4 | 358°21.2<br>19°33.8 | 13°21.2<br>19°33.3 | 28°21.2<br>19°32.7 | 43°21.2<br>19°32.2 | 58°21.2<br>19°31.7 | 73°21.2<br>19°31.1 | -0.0<br>-0.5 |
| Me 26 | 268°21.2<br>19°24.0 | 283°21.2<br>19°23.4 | 298°21.2<br>19°22.9 | 313°21.2<br>19°22.3 | 328°21.2<br>19°21.7 | 343°21.2<br>19°21.2 | 358°21.2<br>19°20.6 | 13°21.2<br>19°20.1 | 28°21.2<br>19°19.5 | 43°21.2<br>19°19.0 | 58°21.2<br>19°18.4 | 73°21.2<br>19°17.8 | +0.0<br>-0.6 |
| Je 27 | 268°21.3<br>19°10.5 | 283°21.3<br>19°10.0 | 298°21.3<br>19°09.4 | 313°21.3<br>19°08.8 | 328°21.3<br>19°08.2 | 343°21.3<br>19°07.7 | 358°21.3<br>19°07.1 | 13°21.3<br>19°06.5 | 28°21.4<br>19°06.0 | 43°21.4<br>19°05.4 | 58°21.4<br>19°04.8 | 73°21.4<br>19°04.3 | +0.0<br>-0.6 |
| Ve 28 | 268°21.5<br>18°56.8 | 283°21.6<br>18°56.2 | 298°21.6<br>18°55.6 | 313°21.6<br>18°55.0 | 328°21.6<br>18°54.4 | 343°21.6<br>18°53.9 | 358°21.6<br>18°53.3 | 13°21.7<br>18°52.7 | 28°21.7<br>18°52.1 | 43°21.7<br>18°51.5 | 58°21.7<br>18°50.9 | 73°21.7<br>18°50.3 | +0.0<br>-0.6 |
| Sa 29 | 268°22.0<br>18°42.7 | 283°22.0<br>18°42.1 | 298°22.0<br>18°41.5 | 313°22.0<br>18°40.9 | 328°22.1<br>18°40.3 | 343°22.1<br>18°39.7 | 358°22.1<br>18°39.1 | 13°22.1<br>18°38.5 | 28°22.1<br>18°37.9 | 43°22.2<br>18°37.3 | 58°22.2<br>18°36.7 | 73°22.2<br>18°36.1 | +0.0<br>-0.6 |
| Di 30 | 268°22.5<br>18°28.3 | 283°22.6<br>18°27.7 | 298°22.6<br>18°27.1 | 313°22.6<br>18°26.5 | 328°22.7<br>18°25.9 | 343°22.7<br>18°25.3 | 358°22.7<br>18°24.7 | 13°22.7<br>18°24.1 | 28°22.8<br>18°23.4 | 43°22.8<br>18°22.8 | 58°22.8<br>18°22.2 | 73°22.9<br>18°21.6 | +0.0<br>-0.6 |
| Lu 31 | 268°23.3<br>18°13.6 | 283°23.3<br>18°13.0 | 298°23.3<br>18°12.4 | 313°23.4<br>18°11.8 | 328°23.4<br>18°11.2 | 343°23.4<br>18°10.5 | 358°23.5<br>18°09.9 | 13°23.5<br>18°09.3 | 28°23.5<br>18°08.7 | 43°23.6<br>18°08.0 | 58°23.6<br>18°07.4 | 73°23.7<br>18°06.8 | +0.0<br>-0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2034

| | J | 15h | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ○ | Sa 1 | 240°16.0 | 254°45.7 | 269°15.5 | 283°45.2 | 298°14.9 | 312°44.6 | 327°14.3 | 341°44.0 | 356°13.7 | 10°43.4 | 25°13.0 | +29.7 | 15.1 |
| | | -18°13.6 | -18°12.1 | -18°10.5 | -18°08.7 | -18°06.9 | -18°05.0 | -18°03.0 | -18°00.9 | -17°58.7 | -17°56.4 | -17°54.0 | +2.0 | 55.4 |
| | Di 2 | 242°37.4 | 257°07.0 | 271°36.6 | 286°06.2 | 300°35.9 | 315°05.5 | 329°35.1 | 344°04.7 | 358°34.3 | 13°03.9 | 27°33.6 | +29.6 | 15.2 |
| | | -17°07.3 | -17°03.5 | -16°59.5 | -16°55.5 | -16°51.4 | -16°47.2 | -16°42.9 | -16°38.5 | -16°34.0 | -16°29.5 | -16°24.8 | +4.3 | 55.8 |
| | Lu 3 | 244°58.7 | 259°28.4 | 273°58.1 | 288°27.9 | 302°57.7 | 317°27.4 | 331°57.2 | 346°27.0 | 0°56.8 | 15°26.6 | 29°56.4 | +29.8 | 15.4 |
| | | -15°04.7 | -14°58.7 | -14°52.6 | -14°46.5 | -14°40.2 | -14°33.9 | -14°27.5 | -14°21.0 | -14°14.4 | -14°07.7 | -14°01.0 | +6.4 | 56.3 |
| | Ma 4 | 247°24.8 | 261°54.8 | 276°24.8 | 290°54.8 | 305°24.8 | 319°54.8 | 334°24.9 | 348°54.9 | 3°24.9 | 17°55.0 | 32°25.1 | +30.0 | 15.5 |
| | | -12°11.2 | -12°03.3 | -11°55.3 | -11°47.3 | -11°39.2 | -11°31.1 | -11°22.8 | -11°14.6 | -11°06.2 | -10°57.8 | -10°49.3 | +8.2 | 56.9 |
| | Me 5 | 249°56.9 | 264°27.1 | 278°57.3 | 293°27.5 | 307°57.7 | 322°27.9 | 336°58.0 | 351°28.2 | 5°58.4 | 20°28.6 | 34°58.8 | +30.2 | 15.7 |
| | | -8°35.1 | -8°25.8 | -8°16.3 | -8°06.9 | -7°57.3 | -7°47.8 | -7°38.1 | -7°28.5 | -7°18.8 | -7°09.0 | -6°59.2 | +9.6 | 57.4 |
| | Je 6 | 252°31.7 | 267°01.8 | 281°32.0 | 296°02.1 | 310°32.2 | 325°02.4 | 339°32.5 | 354°02.6 | 8°32.7 | 23°02.7 | 37°32.8 | +30.1 | 15.8 |
| | | -4°27.5 | -4°17.1 | -4°06.7 | -3°56.2 | -3°45.8 | -3°35.3 | -3°24.7 | -3°14.2 | -3°03.6 | -2°53.0 | -2°42.4 | +10.5 | 57.9 |
| | Ve 7 | 255°02.0 | 269°31.8 | 284°01.5 | 298°31.3 | 313°01.0 | 327°30.7 | 342°00.4 | 356°30.0 | 10°59.6 | 25°29.2 | 39°58.8 | +29.7 | 15.9 |
| | | -0°01.0 | 0°09.8 | 0°20.7 | 0°31.6 | 0°42.4 | 0°53.3 | 1°04.2 | 1°15.1 | 1°25.9 | 1°36.8 | 1°47.7 | +10.9 | 58.5 |
| | Sa 8 | 257°18.5 | 271°47.5 | 286°16.5 | 300°45.4 | 315°14.3 | 329°43.2 | 344°12.0 | 358°40.8 | 13°09.6 | 27°38.3 | 42°06.9 | +28.8 | 16.1 |
| | | 4°29.9 | 4°40.6 | 4°51.3 | 5°02.0 | 5°12.6 | 5°23.3 | 5°33.9 | 5°44.4 | 5°55.0 | 6°05.5 | 6°16.0 | +10.6 | 59.0 |
| ◑ | Di 9 | 271°47.5 | 286°16.5 | 300°45.4 | 315°14.3 | 329°43.2 | 344°12.0 | 358°40.8 | 13°09.6 | 27°38.3 | 42°06.9 | 56°35.5 | +28.8 | 16.1 |
| | | 4°40.6 | 4°51.3 | 5°02.0 | 5°12.6 | 5°23.3 | 5°33.9 | 5°44.4 | 5°55.0 | 6°05.5 | 6°16.0 | 6°26.4 | +10.6 | 59.0 |
| | Lu 10 | 273°39.1 | 288°07.0 | 302°34.8 | 317°02.5 | 331°30.2 | 345°57.8 | 0°25.4 | 14°52.9 | 29°20.4 | 43°47.8 | 58°15.2 | +27.6 | 16.2 |
| | | 8°59.1 | 9°08.9 | 9°18.7 | 9°28.4 | 9°38.1 | 9°47.8 | 9°57.3 | 10°06.9 | 10°16.3 | 10°25.7 | 10°35.1 | +9.6 | 59.4 |
| | Ma 11 | 274°59.1 | 289°25.5 | 303°52.0 | 318°18.3 | 332°44.7 | 347°10.9 | 1°37.1 | 16°03.3 | 30°29.4 | 44°55.4 | 59°21.4 | +26.2 | 16.3 |
| | | 12°47.5 | 12°55.8 | 13°04.0 | 13°12.1 | 13°20.1 | 13°28.0 | 13°35.9 | 13°43.6 | 13°51.3 | 13°58.9 | 14°06.4 | +7.9 | 59.7 |
| | Me 12 | 275°45.0 | 290°10.2 | 304°35.4 | 319°00.5 | 333°25.5 | 347°50.5 | 2°15.5 | 16°40.4 | 31°05.3 | 45°30.2 | 59°55.0 | +25.0 | 16.3 |
| | | 15°47.8 | 15°53.8 | 15°59.7 | 16°05.4 | 16°11.1 | 16°16.6 | 16°22.0 | 16°27.3 | 16°32.6 | 16°37.7 | 16°42.6 | +5.5 | 59.9 |
| | Je 13 | 276°03.2 | 290°27.5 | 304°51.8 | 319°16.1 | 333°40.4 | 348°04.6 | 2°28.9 | 16°53.1 | 31°17.3 | 45°41.5 | 60°05.7 | +24.3 | 16.3 |
| | | 17°43.5 | 17°46.6 | 17°49.6 | 17°52.5 | 17°55.2 | 17°57.8 | 18°00.3 | 18°02.6 | 18°04.9 | 18°07.0 | 18°09.0 | +2.5 | 59.9 |
| | Ve 14 | 276°08.5 | 290°32.8 | 304°57.0 | 319°21.3 | 333°45.6 | 348°09.9 | 2°34.2 | 16°58.5 | 31°22.9 | 45°47.3 | 60°11.7 | +24.3 | 16.3 |
| | | 18°23.5 | 18°23.4 | 18°23.3 | 18°23.0 | 18°22.5 | 18°22.0 | 18°21.3 | 18°20.5 | 18°19.5 | 18°18.5 | 18°17.3 | -0.6 | 59.7 |
| ● | Sa 15 | 276°22.0 | 290°47.0 | 305°12.0 | 319°37.1 | 334°02.3 | 348°27.5 | 2°52.7 | 17°18.0 | 31°43.4 | 46°08.8 | 60°34.3 | +25.2 | 16.2 |
| | | 17°44.9 | 17°41.8 | 17°38.6 | 17°35.2 | 17°31.8 | 17°28.2 | 17°24.5 | 17°20.7 | 17°16.8 | 17°12.8 | 17°08.7 | -3.6 | 59.3 |
| | Di 16 | 277°03.5 | 291°30.0 | 305°56.6 | 320°23.2 | 334°49.8 | 349°16.6 | 3°43.4 | 18°10.3 | 32°37.2 | 47°04.3 | 61°31.4 | +26.8 | 16.0 |
| | | 15°54.3 | 15°48.6 | 15°42.7 | 15°36.8 | 15°30.8 | 15°24.7 | 15°18.5 | 15°12.2 | 15°05.8 | 14°59.3 | 14°52.8 | -6.2 | 58.6 |
| | Lu 17 | 278°26.6 | 292°54.9 | 307°23.2 | 321°51.6 | 336°20.1 | 350°48.7 | 5°17.3 | 19°46.1 | 34°14.8 | 48°43.7 | 63°12.6 | +28.6 | 15.8 |
| | | 13°05.3 | 12°57.6 | 12°49.8 | 12°41.9 | 12°34.0 | 12°26.0 | 12°18.0 | 12°09.9 | 12°01.7 | 11°53.5 | 11°45.2 | -8.0 | 57.9 |
| | Ma 18 | 280°35.3 | 295°05.4 | 309°35.5 | 324°05.7 | 338°36.0 | 353°06.3 | 7°36.7 | 22°07.2 | 36°37.7 | 51°08.3 | 65°39.0 | +30.4 | 15.6 |
| | | 9°35.0 | 9°26.0 | 9°16.9 | 9°07.8 | 8°58.6 | 8°49.5 | 8°40.3 | 8°31.0 | 8°21.7 | 8°12.4 | 8°03.1 | -9.2 | 57.1 |
| | Me 19 | 283°26.1 | 297°57.7 | 312°29.3 | 327°01.0 | 341°32.8 | 356°04.6 | 10°36.5 | 25°08.4 | 39°40.3 | 54°12.3 | 68°44.4 | +31.8 | 15.3 |
| | | 5°40.1 | 5°30.4 | 5°20.7 | 5°11.0 | 5°01.2 | 4°51.5 | 4°41.8 | 4°32.0 | 4°22.2 | 4°12.4 | 4°02.6 | -9.7 | 56.3 |
| | Je 20 | 286°50.5 | 301°23.2 | 315°55.9 | 330°28.7 | 345°01.6 | 359°34.4 | 14°07.3 | 28°40.2 | 43°13.2 | 57°46.2 | 72°19.2 | +32.9 | 15.1 |
| | | 1°35.3 | 1°25.5 | 1°15.6 | 1°05.8 | 0°56.0 | 0°46.2 | 0°36.4 | 0°26.6 | 0°16.9 | 0°07.1 | -0°02.7 | -9.8 | 55.5 |
| | Ve 21 | 290°37.5 | 305°10.9 | 319°44.3 | 334°17.8 | 348°51.2 | 3°24.7 | 17°58.1 | 32°31.6 | 47°05.1 | 61°38.6 | 76°12.2 | +33.5 | 15.0 |
| | | -2°27.5 | -2°37.0 | -2°46.6 | -2°56.0 | -3°05.5 | -3°15.0 | -3°24.4 | -3°33.8 | -3°43.2 | -3°52.5 | -4°01.9 | -9.4 | 54.9 |
| | Sa 22 | 294°35.9 | 309°09.5 | 323°43.1 | 338°16.7 | 352°50.3 | 7°23.9 | 21°57.5 | 36°31.1 | 51°04.7 | 65°38.3 | 80°11.9 | +33.6 | 14.9 |
| | | -6°18.7 | -6°27.6 | -6°36.4 | -6°45.2 | -6°54.0 | -7°02.8 | -7°11.5 | -7°20.2 | -7°28.8 | -7°37.4 | -7°46.0 | -8.7 | 54.5 |
| ◐ | Di 23 | 298°34.6 | 313°08.0 | 327°41.4 | 342°14.8 | 356°48.2 | 11°21.5 | 25°54.9 | 40°28.2 | 55°01.5 | 69°34.8 | 84°08.0 | +33.3 | 14.8 |
| | | -9°50.0 | -9°58.0 | -10°05.9 | -10°13.7 | -10°21.5 | -10°29.3 | -10°37.0 | -10°44.6 | -10°52.3 | -10°59.8 | -11°07.4 | -7.7 | 54.2 |
| | Lu 24 | 302°24.2 | 316°57.1 | 331°29.9 | 346°02.7 | 0°35.5 | 15°08.3 | 29°41.0 | 44°13.7 | 58°46.4 | 73°19.1 | 87°51.7 | +32.8 | 14.8 |
| | | -12°54.2 | -13°00.9 | -13°07.5 | -13°14.1 | -13°20.6 | -13°27.1 | -13°33.5 | -13°39.9 | -13°46.2 | -13°52.4 | -13°58.6 | -6.4 | 54.2 |
| | Ma 25 | 305°57.1 | 320°29.2 | 335°01.3 | 349°33.3 | 4°05.3 | 18°37.3 | 33°09.2 | 47°41.1 | 62°12.9 | 76°44.8 | 91°16.5 | +31.9 | 14.8 |
| | | -15°23.8 | -15°29.0 | -15°34.1 | -15°39.1 | -15°44.1 | -15°49.0 | -15°53.8 | -15°58.6 | -16°03.3 | -16°07.9 | -16°12.4 | -4.9 | 54.3 |
| | Me 26 | 309°08.9 | 323°40.1 | 338°11.3 | 352°42.4 | 7°13.5 | 21°44.6 | 36°15.6 | 50°46.6 | 65°17.6 | 79°48.5 | 94°19.4 | +31.0 | 14.9 |
| | | -17°11.7 | -17°15.1 | -17°18.3 | -17°21.5 | -17°24.6 | -17°27.7 | -17°30.6 | -17°33.5 | -17°36.3 | -17°39.0 | -17°41.6 | -3.0 | 54.5 |
| | Je 27 | 311°58.6 | 326°28.9 | 340°59.2 | 355°29.5 | 9°59.8 | 24°30.0 | 39°00.2 | 53°30.4 | 68°00.5 | 82°30.7 | 97°00.7 | +30.2 | 15.0 |
| | | -18°10.9 | -18°12.1 | -18°13.3 | -18°14.4 | -18°15.4 | -18°16.3 | -18°17.1 | -18°17.8 | -18°18.5 | -18°19.0 | -18°19.5 | -0.9 | 54.9 |
| | Ve 28 | 314°28.9 | 328°58.6 | 343°28.3 | 357°57.9 | 12°27.6 | 26°57.2 | 41°26.8 | 55°56.3 | 70°25.9 | 84°55.4 | 99°24.9 | +29.6 | 15.1 |
| | | -18°15.4 | -18°14.4 | -18°13.3 | -18°12.1 | -18°10.8 | -18°09.4 | -18°08.0 | -18°06.4 | -18°04.7 | -18°02.9 | -18°01.1 | +1.4 | 55.5 |
| | Sa 29 | 316°46.0 | 331°15.3 | 345°44.6 | 0°13.9 | 14°43.2 | 29°12.5 | 43°41.7 | 58°11.0 | 72°40.3 | 87°09.5 | 101°38.8 | +29.3 | 15.3 |
| | | -17°21.9 | -17°18.5 | -17°15.1 | -17°11.5 | -17°07.9 | -17°04.2 | -17°00.3 | -16°56.4 | -16°52.4 | -16°48.3 | -16°44.1 | +3.8 | 56.0 |
| | Di 30 | 318°57.2 | 333°26.4 | 347°55.6 | 2°24.9 | 16°54.1 | 31°23.3 | 45°52.6 | 60°21.8 | 74°51.1 | 89°20.3 | 103°49.6 | +29.2 | 15.4 |
| | | -15°30.2 | -15°24.6 | -15°18.8 | -15°13.0 | -15°07.1 | -15°01.2 | -14°55.1 | -14°48.9 | -14°42.7 | -14°36.4 | -14°30.0 | +6.0 | 56.6 |
| ○ | Lu 31 | 321°09.0 | 335°38.4 | 350°07.7 | 4°37.1 | 19°06.5 | 33°35.9 | 48°05.3 | 62°34.6 | 77°04.1 | 91°33.5 | 106°02.9 | +29.4 | 15.6 |
| | | -12°44.3 | -12°36.6 | -12°28.9 | -12°21.1 | -12°13.2 | -12°05.3 | -11°57.2 | -11°49.2 | -11°41.0 | -11°32.8 | -11°24.5 | +8.0 | 57.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PL: 1 17h44 — DQ: 9 01h59 — NL: 15 18h15 — PQ: 23 07h05 — PL: 31 05h54

# SOLEIL

## Août 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 268° 24.1 | 283° 24.2 | 298° 24.2 | 313° 24.3 | 328° 24.3 | 343° 24.3 | 358° 24.4 | 13° 24.4 | 28° 24.5 | 43° 24.5 | 58° 24.6 | 73° 24.6 | +0.0 |
| | 17° 58.6 | 17° 58.0 | 17° 57.4 | 17° 56.8 | 17° 56.1 | 17° 55.5 | 17° 54.9 | 17° 54.2 | 17° 53.6 | 17° 53.0 | 17° 52.3 | 17° 51.7 | -0.6 |
| Me 2 | 268° 25.2 | 283° 25.2 | 298° 25.3 | 313° 25.3 | 328° 25.4 | 343° 25.4 | 358° 25.5 | 13° 25.5 | 28° 25.6 | 43° 25.6 | 58° 25.7 | 73° 25.7 | +0.0 |
| | 17° 43.4 | 17° 42.7 | 17° 42.1 | 17° 41.4 | 17° 40.8 | 17° 40.2 | 17° 39.5 | 17° 38.9 | 17° 38.2 | 17° 37.6 | 17° 36.9 | 17° 36.3 | -0.6 |
| Je 3 | 268° 26.4 | 283° 26.4 | 298° 26.5 | 313° 26.5 | 328° 26.6 | 343° 26.6 | 358° 26.7 | 13° 26.7 | 28° 26.8 | 43° 26.8 | 58° 26.9 | 73° 26.9 | +0.1 |
| | 17° 27.8 | 17° 27.2 | 17° 26.5 | 17° 25.9 | 17° 25.2 | 17° 24.5 | 17° 23.9 | 17° 23.2 | 17° 22.6 | 17° 21.9 | 17° 21.3 | 17° 20.6 | -0.7 |
| Ve 4 | 268° 27.7 | 283° 27.7 | 298° 27.8 | 313° 27.9 | 328° 27.9 | 343° 28.0 | 358° 28.0 | 13° 28.1 | 28° 28.2 | 43° 28.2 | 58° 28.3 | 73° 28.3 | +0.1 |
| | 17° 12.0 | 17° 11.3 | 17° 10.6 | 17° 10.0 | 17° 09.3 | 17° 08.6 | 17° 08.0 | 17° 07.3 | 17° 06.6 | 17° 06.0 | 17° 05.3 | 17° 04.6 | -0.7 |
| Sa 5 | 268° 29.2 | 283° 29.2 | 298° 29.3 | 313° 29.4 | 328° 29.4 | 343° 29.5 | 358° 29.6 | 13° 29.6 | 28° 29.7 | 43° 29.8 | 58° 29.8 | 73° 29.9 | +0.1 |
| | 16° 55.8 | 16° 55.2 | 16° 54.5 | 16° 53.8 | 16° 53.1 | 16° 52.5 | 16° 51.8 | 16° 51.1 | 16° 50.4 | 16° 49.7 | 16° 49.0 | 16° 48.4 | -0.7 |
| Di 6 | 268° 30.8 | 283° 30.9 | 298° 30.9 | 313° 31.0 | 328° 31.1 | 343° 31.1 | 358° 31.2 | 13° 31.3 | 28° 31.4 | 43° 31.4 | 58° 31.5 | 73° 31.6 | +0.1 |
| | 16° 39.5 | 16° 38.8 | 16° 38.1 | 16° 37.4 | 16° 36.7 | 16° 36.0 | 16° 35.3 | 16° 34.6 | 16° 33.9 | 16° 33.2 | 16° 32.5 | 16° 31.8 | -0.7 |
| Lu 7 | 268° 32.5 | 283° 32.6 | 298° 32.7 | 313° 32.8 | 328° 32.9 | 343° 32.9 | 358° 33.0 | 13° 33.1 | 28° 33.2 | 43° 33.2 | 58° 33.3 | 73° 33.4 | +0.1 |
| | 16° 22.8 | 16° 22.1 | 16° 21.4 | 16° 20.7 | 16° 20.0 | 16° 19.3 | 16° 18.6 | 16° 17.9 | 16° 17.2 | 16° 16.5 | 16° 15.8 | 16° 15.1 | -0.7 |
| Ma 8 | 268° 34.5 | 283° 34.5 | 298° 34.6 | 313° 34.7 | 328° 34.8 | 343° 34.9 | 358° 35.0 | 13° 35.0 | 28° 35.1 | 43° 35.2 | 58° 35.3 | 73° 35.4 | +0.1 |
| | 16° 05.8 | 16° 05.1 | 16° 04.4 | 16° 03.7 | 16° 03.0 | 16° 02.3 | 16° 01.6 | 16° 00.9 | 16° 00.1 | 15° 59.4 | 15° 58.7 | 15° 58.0 | -0.7 |
| Me 9 | 268° 36.5 | 283° 36.6 | 298° 36.7 | 313° 36.8 | 328° 36.9 | 343° 36.9 | 358° 37.0 | 13° 37.1 | 28° 37.2 | 43° 37.3 | 58° 37.4 | 73° 37.5 | +0.1 |
| | 15° 48.7 | 15° 47.9 | 15° 47.2 | 15° 46.5 | 15° 45.8 | 15° 45.0 | 15° 44.3 | 15° 43.6 | 15° 42.9 | 15° 42.1 | 15° 41.4 | 15° 40.7 | -0.7 |
| Je 10 | 268° 38.7 | 283° 38.8 | 298° 38.9 | 313° 39.0 | 328° 39.1 | 343° 39.2 | 358° 39.3 | 13° 39.4 | 28° 39.4 | 43° 39.5 | 58° 39.6 | 73° 39.7 | +0.1 |
| | 15° 31.2 | 15° 30.5 | 15° 29.7 | 15° 29.0 | 15° 28.3 | 15° 27.5 | 15° 26.8 | 15° 26.1 | 15° 25.3 | 15° 24.6 | 15° 23.9 | 15° 23.1 | -0.7 |
| Ve 11 | 268° 41.0 | 283° 41.1 | 298° 41.2 | 313° 41.3 | 328° 41.4 | 343° 41.5 | 358° 41.6 | 13° 41.7 | 28° 41.8 | 43° 41.9 | 58° 42.0 | 73° 42.1 | +0.1 |
| | 15° 13.5 | 15° 12.8 | 15° 12.0 | 15° 11.3 | 15° 10.5 | 15° 09.8 | 15° 09.1 | 15° 08.3 | 15° 07.6 | 15° 06.8 | 15° 06.1 | 15° 05.3 | -0.7 |
| Sa 12 | 268° 43.5 | 283° 43.6 | 298° 43.7 | 313° 43.8 | 328° 43.9 | 343° 44.0 | 358° 44.1 | 13° 44.2 | 28° 44.3 | 43° 44.4 | 58° 44.5 | 73° 44.7 | +0.1 |
| | 14° 55.6 | 14° 54.8 | 14° 54.1 | 14° 53.3 | 14° 52.6 | 14° 51.8 | 14° 51.1 | 14° 50.3 | 14° 49.5 | 14° 48.8 | 14° 48.0 | 14° 47.3 | -0.8 |
| Di 13 | 268° 46.1 | 283° 46.2 | 298° 46.3 | 313° 46.4 | 328° 46.5 | 343° 46.6 | 358° 46.8 | 13° 46.9 | 28° 47.0 | 43° 47.1 | 58° 47.2 | 73° 47.3 | +0.1 |
| | 14° 37.4 | 14° 36.6 | 14° 35.9 | 14° 35.1 | 14° 34.3 | 14° 33.6 | 14° 32.8 | 14° 32.1 | 14° 31.3 | 14° 30.5 | 14° 29.8 | 14° 29.0 | -0.8 |
| Lu 14 | 268° 48.8 | 283° 48.9 | 298° 49.1 | 313° 49.2 | 328° 49.3 | 343° 49.4 | 358° 49.5 | 13° 49.6 | 28° 49.8 | 43° 49.9 | 58° 50.0 | 73° 50.1 | +0.1 |
| | 14° 19.0 | 14° 18.2 | 14° 17.4 | 14° 16.7 | 14° 15.9 | 14° 15.1 | 14° 14.4 | 14° 13.6 | 14° 12.8 | 14° 12.0 | 14° 11.3 | 14° 10.5 | -0.8 |
| Ma 15 | 268° 51.7 | 283° 51.8 | 298° 51.9 | 313° 52.1 | 328° 52.2 | 343° 52.3 | 358° 52.4 | 13° 52.6 | 28° 52.7 | 43° 52.8 | 58° 52.9 | 73° 53.1 | +0.1 |
| | 14° 00.4 | 13° 59.6 | 13° 58.8 | 13° 58.0 | 13° 57.2 | 13° 56.4 | 13° 55.7 | 13° 54.9 | 13° 54.1 | 13° 53.3 | 13° 52.5 | 13° 51.7 | -0.8 |
| Me 16 | 268° 54.7 | 283° 54.8 | 298° 55.0 | 313° 55.1 | 328° 55.2 | 343° 55.3 | 358° 55.5 | 13° 55.6 | 28° 55.7 | 43° 55.9 | 58° 56.0 | 73° 56.1 | +0.1 |
| | 13° 41.5 | 13° 40.7 | 13° 39.9 | 13° 39.1 | 13° 38.3 | 13° 37.5 | 13° 36.7 | 13° 36.0 | 13° 35.2 | 13° 34.4 | 13° 33.6 | 13° 32.8 | -0.8 |
| Je 17 | 268° 57.8 | 283° 58.0 | 298° 58.1 | 313° 58.2 | 328° 58.4 | 343° 58.5 | 358° 58.6 | 13° 58.8 | 28° 58.9 | 43° 59.1 | 58° 59.2 | 73° 59.3 | +0.1 |
| | 13° 22.4 | 13° 21.6 | 13° 20.8 | 13° 20.0 | 13° 19.2 | 13° 18.4 | 13° 17.6 | 13° 16.8 | 13° 16.0 | 13° 15.2 | 13° 14.4 | 13° 13.6 | -0.8 |
| Ve 18 | 269° 01.1 | 284° 01.3 | 299° 01.4 | 314° 01.5 | 329° 01.7 | 344° 01.8 | 359° 02.0 | 14° 02.1 | 29° 02.2 | 44° 02.4 | 59° 02.5 | 74° 02.7 | +0.1 |
| | 13° 03.1 | 13° 02.3 | 13° 01.5 | 13° 00.7 | 12° 59.9 | 12° 59.1 | 12° 58.3 | 12° 57.5 | 12° 56.7 | 12° 55.8 | 12° 55.0 | 12° 54.2 | -0.8 |
| Sa 19 | 269° 04.5 | 284° 04.7 | 299° 04.8 | 314° 04.9 | 329° 05.1 | 344° 05.2 | 359° 05.4 | 14° 05.5 | 29° 05.7 | 44° 05.8 | 59° 06.0 | 74° 06.1 | +0.1 |
| | 12° 43.6 | 12° 42.8 | 12° 42.0 | 12° 41.2 | 12° 40.4 | 12° 39.6 | 12° 38.7 | 12° 37.9 | 12° 37.1 | 12° 36.3 | 12° 35.5 | 12° 34.6 | -0.8 |
| Di 20 | 269° 08.0 | 284° 08.2 | 299° 08.3 | 314° 08.5 | 329° 08.6 | 344° 08.8 | 359° 08.9 | 14° 09.1 | 29° 09.2 | 44° 09.4 | 59° 09.5 | 74° 09.7 | +0.2 |
| | 12° 23.9 | 12° 23.1 | 12° 22.3 | 12° 21.5 | 12° 20.6 | 12° 19.8 | 12° 19.0 | 12° 18.2 | 12° 17.3 | 12° 16.5 | 12° 15.7 | 12° 14.9 | -0.8 |
| Lu 21 | 269° 11.7 | 284° 11.8 | 299° 12.0 | 314° 12.2 | 329° 12.3 | 344° 12.5 | 359° 12.6 | 14° 12.8 | 29° 12.9 | 44° 13.1 | 59° 13.2 | 74° 13.4 | +0.2 |
| | 12° 04.1 | 12° 03.2 | 12° 02.4 | 12° 01.6 | 12° 00.7 | 11° 59.9 | 11° 59.1 | 11° 58.2 | 11° 57.4 | 11° 56.6 | 11° 55.7 | 11° 54.9 | -0.8 |
| Ma 22 | 269° 15.5 | 284° 15.6 | 299° 15.8 | 314° 15.9 | 329° 16.1 | 344° 16.3 | 359° 16.4 | 14° 16.6 | 29° 16.7 | 44° 16.9 | 59° 17.1 | 74° 17.2 | +0.2 |
| | 11° 44.0 | 11° 43.1 | 11° 42.3 | 11° 41.5 | 11° 40.6 | 11° 39.8 | 11° 38.9 | 11° 38.1 | 11° 37.3 | 11° 36.4 | 11° 35.6 | 11° 34.7 | -0.8 |
| Me 23 | 269° 19.3 | 284° 19.5 | 299° 19.7 | 314° 19.8 | 329° 20.0 | 344° 20.2 | 359° 20.3 | 14° 20.5 | 29° 20.7 | 44° 20.8 | 59° 21.0 | 74° 21.2 | +0.2 |
| | 11° 23.7 | 11° 22.9 | 11° 22.0 | 11° 21.2 | 11° 20.3 | 11° 19.5 | 11° 18.6 | 11° 17.8 | 11° 16.9 | 11° 16.1 | 11° 15.2 | 11° 14.4 | -0.8 |
| Je 24 | 269° 23.3 | 284° 23.5 | 299° 23.7 | 314° 23.8 | 329° 24.0 | 344° 24.2 | 359° 24.4 | 14° 24.5 | 29° 24.7 | 44° 24.9 | 59° 25.0 | 74° 25.2 | +0.2 |
| | 11° 03.3 | 11° 02.4 | 11° 01.6 | 11° 00.7 | 10° 59.9 | 10° 59.0 | 10° 58.1 | 10° 57.3 | 10° 56.4 | 10° 55.6 | 10° 54.7 | 10° 53.9 | -0.9 |
| Ve 25 | 269° 27.4 | 284° 27.6 | 299° 27.8 | 314° 28.0 | 329° 28.1 | 344° 28.3 | 359° 28.5 | 14° 28.7 | 29° 28.8 | 44° 29.0 | 59° 29.2 | 74° 29.4 | +0.2 |
| | 10° 42.7 | 10° 41.8 | 10° 40.9 | 10° 40.1 | 10° 39.2 | 10° 38.4 | 10° 37.5 | 10° 36.6 | 10° 35.8 | 10° 34.9 | 10° 34.0 | 10° 33.2 | -0.9 |
| Sa 26 | 269° 31.7 | 284° 31.8 | 299° 32.0 | 314° 32.2 | 329° 32.4 | 344° 32.5 | 359° 32.7 | 14° 32.9 | 29° 33.1 | 44° 33.3 | 59° 33.4 | 74° 33.6 | +0.2 |
| | 10° 21.9 | 10° 21.0 | 10° 20.1 | 10° 19.3 | 10° 18.4 | 10° 17.5 | 10° 16.7 | 10° 15.8 | 10° 14.9 | 10° 14.1 | 10° 13.2 | 10° 12.3 | -0.9 |
| Di 27 | 269° 36.0 | 284° 36.2 | 299° 36.3 | 314° 36.5 | 329° 36.7 | 344° 36.9 | 359° 37.1 | 14° 37.2 | 29° 37.4 | 44° 37.6 | 59° 37.8 | 74° 38.0 | +0.2 |
| | 10° 00.9 | 10° 00.1 | 9° 59.2 | 9° 58.3 | 9° 57.4 | 9° 56.6 | 9° 55.7 | 9° 54.8 | 9° 53.9 | 9° 53.0 | 9° 52.2 | 9° 51.3 | -0.9 |
| Lu 28 | 269° 40.4 | 284° 40.6 | 299° 40.8 | 314° 40.9 | 329° 41.1 | 344° 41.3 | 359° 41.5 | 14° 41.7 | 29° 41.9 | 44° 42.1 | 59° 42.2 | 74° 42.4 | +0.2 |
| | 9° 39.8 | 9° 39.0 | 9° 38.1 | 9° 37.2 | 9° 36.3 | 9° 35.4 | 9° 34.5 | 9° 33.7 | 9° 32.8 | 9° 31.9 | 9° 31.0 | 9° 30.1 | -0.9 |
| Ma 29 | 269° 44.9 | 284° 45.1 | 299° 45.3 | 314° 45.5 | 329° 45.6 | 344° 45.8 | 359° 46.0 | 14° 46.2 | 29° 46.4 | 44° 46.6 | 59° 46.8 | 74° 47.0 | +0.2 |
| | 9° 18.6 | 9° 17.7 | 9° 16.8 | 9° 15.9 | 9° 15.0 | 9° 14.1 | 9° 13.2 | 9° 12.4 | 9° 11.5 | 9° 10.6 | 9° 09.7 | 9° 08.8 | -0.9 |
| Me 30 | 269° 49.5 | 284° 49.7 | 299° 49.9 | 314° 50.1 | 329° 50.2 | 344° 50.4 | 359° 50.6 | 14° 50.8 | 29° 51.0 | 44° 51.2 | 59° 51.4 | 74° 51.6 | +0.2 |
| | 8° 57.2 | 8° 56.3 | 8° 55.4 | 8° 54.5 | 8° 53.6 | 8° 52.7 | 8° 51.8 | 8° 50.9 | 8° 50.0 | 8° 49.1 | 8° 48.2 | 8° 47.3 | -0.9 |
| Je 31 | 269° 54.1 | 284° 54.3 | 299° 54.5 | 314° 54.7 | 329° 54.9 | 344° 55.1 | 359° 55.3 | 14° 55.5 | 29° 55.7 | 44° 55.9 | 59° 56.1 | 74° 56.3 | +0.2 |
| | 8° 35.6 | 8° 34.7 | 8° 33.8 | 8° 32.9 | 8° 32.0 | 8° 31.1 | 8° 30.2 | 8° 29.3 | 8° 28.4 | 8° 27.5 | 8° 26.6 | 8° 25.7 | -0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2034

| J | 16h | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 236°28.0<br>-10°06.8 | 250°57.5<br>-9°57.9 | 265°27.0<br>-9°48.9 | 279°56.5<br>-9°39.8 | 294°26.1<br>-9°30.7 | 308°55.6<br>-9°21.5 | 323°25.1<br>-9°12.3 | 337°54.7<br>-9°03.0 | 352°24.2<br>-8°53.7 | 6°53.8<br>-8°44.3 | 21°23.3<br>-8°34.8 | +29.5<br>+9.2 | 15.7<br>57.6 |
| Me 2 | 238°47.3<br>-6°07.3 | 253°17.0<br>-5°57.2 | 267°46.6<br>-5°46.9 | 282°16.2<br>-5°36.7 | 296°45.9<br>-5°26.4 | 311°15.5<br>-5°16.1 | 325°45.1<br>-5°05.7 | 340°14.8<br>-4°55.3 | 354°44.4<br>-4°44.9 | 9°14.0<br>-4°34.5 | 23°43.6<br>-4°24.0 | +29.6<br>+10.3 | 15.8<br>58.1 |
| Je 3 | 241°07.7<br>-1°43.8 | 255°37.2<br>-1°32.9 | 270°06.8<br>-1°22.1 | 284°36.3<br>-1°11.2 | 299°05.8<br>-1°00.4 | 313°35.3<br>-0°49.5 | 328°04.8<br>-0°38.6 | 342°34.3<br>-0°27.7 | 357°03.8<br>-0°16.8 | 11°33.3<br>-0°05.9 | 26°02.7<br>0°05.0 | +29.5<br>+10.9 | 16.0<br>58.5 |
| Ve 4 | 243°22.6<br>2°48.5 | 257°51.8<br>2°59.4 | 272°20.9<br>3°10.2 | 286°50.0<br>3°21.0 | 301°19.1<br>3°31.8 | 315°48.2<br>3°42.6 | 330°17.3<br>3°53.4 | 344°46.3<br>4°04.1 | 359°15.3<br>4°14.8 | 13°44.3<br>4°25.6 | 28°13.3<br>4°36.2 | +29.1<br>+10.8 | 16.0<br>58.8 |
| Sa 5 | 245°24.1<br>7°13.1 | 259°52.6<br>7°23.3 | 274°21.0<br>7°33.4 | 288°49.4<br>7°43.5 | 303°17.8<br>7°53.6 | 317°46.1<br>8°03.6 | 332°14.4<br>8°13.6 | 346°42.7<br>8°23.5 | 1°10.9<br>8°33.4 | 15°39.1<br>8°43.2 | 30°07.3<br>8°53.0 | +28.3<br>+10.0 | 16.1<br>59.1 |
| Di 6 | 247°04.8<br>11°13.0 | 261°32.3<br>11°21.9 | 275°59.8<br>11°30.6 | 290°27.2<br>11°39.3 | 304°54.6<br>11°48.0 | 319°22.0<br>11°56.5 | 333°49.3<br>12°05.0 | 348°16.6<br>12°13.5 | 2°43.8<br>12°21.8 | 17°11.0<br>12°30.1 | 31°38.1<br>12°38.3 | +27.3<br>+8.5 | 16.1<br>59.2 |
| ◑ Lu 7 | 248°20.2<br>14°31.6 | 262°46.7<br>14°38.4 | 277°13.1<br>14°45.2 | 291°39.5<br>14°51.9 | 306°05.8<br>14°58.5 | 320°32.2<br>15°04.9 | 334°58.5<br>15°11.3 | 349°24.7<br>15°17.6 | 3°50.9<br>15°23.8 | 18°17.1<br>15°29.9 | 32°43.2<br>15°35.9 | +26.3<br>+6.4 | 16.2<br>59.3 |
| Ma 8 | 262°46.7<br>14°38.4 | 277°13.1<br>14°45.2 | 291°39.5<br>14°51.9 | 306°05.8<br>14°58.5 | 320°32.2<br>15°04.9 | 334°58.5<br>15°11.3 | 349°24.7<br>15°17.6 | 3°50.9<br>15°23.8 | 18°17.1<br>15°29.9 | 32°43.2<br>15°35.9 | 47°09.3<br>15°41.8 | +26.3<br>+6.3 | 16.2<br>59.3 |
| Me 9 | 263°36.8<br>16°58.0 | 278°02.3<br>17°02.2 | 292°27.9<br>17°06.3 | 306°53.5<br>17°10.3 | 321°19.0<br>17°14.2 | 335°44.5<br>17°17.9 | 350°09.9<br>17°21.6 | 4°35.4<br>17°25.1 | 19°00.8<br>17°28.6 | 33°26.2<br>17°31.9 | 47°51.6<br>17°35.1 | +25.5<br>+3.7 | 16.2<br>59.2 |
| Je 10 | 264°10.8<br>18°09.0 | 278°36.1<br>18°10.4 | 293°01.3<br>18°11.6 | 307°26.5<br>18°12.6 | 321°51.7<br>18°13.6 | 336°16.9<br>18°14.4 | 350°42.1<br>18°15.1 | 5°07.4<br>18°15.7 | 19°32.6<br>18°16.2 | 33°57.8<br>18°16.6 | 48°23.0<br>18°16.8 | +25.2<br>+0.8 | 16.1<br>59.1 |
| Ve 11 | 264°43.1<br>18°06.0 | 279°08.6<br>18°04.4 | 293°34.2<br>18°02.6 | 307°59.7<br>18°00.7 | 322°25.3<br>17°58.7 | 336°50.9<br>17°56.6 | 351°16.5<br>17°54.3 | 5°42.2<br>17°52.0 | 20°07.8<br>17°49.5 | 34°33.6<br>17°46.9 | 48°59.3<br>17°44.2 | +25.6<br>-2.2 | 16.0<br>58.8 |
| Sa 12 | 265°30.3<br>16°50.7 | 279°56.7<br>16°46.3 | 294°23.1<br>16°41.7 | 308°49.6<br>16°37.1 | 323°16.2<br>16°32.4 | 337°42.8<br>16°27.6 | 352°09.4<br>16°22.7 | 6°36.1<br>16°17.7 | 21°02.9<br>16°12.6 | 35°29.7<br>16°07.3 | 49°56.6<br>16°02.0 | +26.6<br>-4.9 | 15.9<br>58.4 |
| Di 13 | 266°46.2<br>14°31.7 | 281°14.0<br>14°25.0 | 295°41.8<br>14°18.2 | 310°09.7<br>14°11.4 | 324°37.6<br>14°04.4 | 339°05.6<br>13°57.4 | 353°33.7<br>13°50.4 | 8°01.9<br>13°43.2 | 22°30.1<br>13°36.0 | 36°58.3<br>13°28.7 | 51°26.6<br>13°21.3 | +28.0<br>-7.0 | 15.8<br>57.9 |
| ● Lu 14 | 268°38.9<br>11°22.8 | 283°08.2<br>11°14.5 | 297°37.5<br>11°06.0 | 312°07.0<br>10°57.6 | 326°36.5<br>10°49.0 | 341°06.0<br>10°40.5 | 355°35.6<br>10°31.8 | 10°05.3<br>10°23.2 | 24°35.0<br>10°14.4 | 39°04.8<br>10°05.7 | 53°34.7<br>9°56.9 | +29.6<br>-8.6 | 15.6<br>57.3 |
| Ma 15 | 271°09.4<br>7°39.9 | 285°40.2<br>7°30.5 | 300°11.0<br>7°21.1 | 314°41.9<br>7°11.6 | 329°12.8<br>7°02.1 | 343°43.8<br>6°52.6 | 358°14.8<br>6°43.1 | 12°45.9<br>6°33.5 | 27°17.0<br>6°24.0 | 41°48.2<br>6°14.4 | 56°19.4<br>6°04.7 | +31.0<br>-9.5 | 15.4<br>56.7 |
| Me 16 | 274°13.6<br>3°38.5 | 288°45.5<br>3°28.6 | 303°17.5<br>3°18.8 | 317°49.6<br>3°08.9 | 332°21.7<br>2°59.1 | 346°53.8<br>2°49.2 | 1°25.9<br>2°39.4 | 15°58.1<br>2°29.5 | 30°30.4<br>2°19.6 | 45°02.6<br>2°09.8 | 59°34.9<br>1°59.9 | +32.1<br>-9.9 | 15.3<br>56.0 |
| Je 17 | 277°43.5<br>-0°27.6 | 292°16.3<br>-0°37.4 | 306°49.1<br>-0°47.2 | 321°22.0<br>-0°56.9 | 335°54.9<br>-1°06.6 | 350°27.8<br>-1°16.4 | 5°00.7<br>-1°26.1 | 19°33.6<br>-1°35.7 | 34°06.6<br>-1°45.4 | 48°39.6<br>-1°55.1 | 63°12.6<br>-2°04.7 | +32.9<br>-9.7 | 15.1<br>55.4 |
| Ve 18 | 281°29.9<br>-4°26.8 | 296°03.1<br>-4°36.1 | 310°36.4<br>-4°45.3 | 325°09.7<br>-4°54.6 | 339°43.0<br>-5°03.7 | 354°16.3<br>-5°12.9 | 8°49.6<br>-5°22.1 | 23°22.9<br>-5°31.2 | 37°56.2<br>-5°40.2 | 52°29.5<br>-5°49.3 | 67°02.9<br>-5°58.3 | +33.3<br>-9.2 | 15.0<br>54.9 |
| Sa 19 | 285°23.1<br>-8°09.4 | 299°56.4<br>-8°17.8 | 314°29.8<br>-8°26.2 | 329°03.1<br>-8°34.6 | 343°36.4<br>-8°42.9 | 358°09.7<br>-8°51.2 | 12°43.0<br>-8°59.4 | 27°16.3<br>-9°07.6 | 41°49.6<br>-9°15.8 | 56°22.9<br>-9°23.9 | 70°56.2<br>-9°31.9 | +33.3<br>-8.3 | 14.9<br>54.5 |
| Di 20 | 289°14.1<br>-11°27.3 | 303°47.1<br>-11°34.6 | 318°20.2<br>-11°41.8 | 332°53.2<br>-11°49.0 | 347°26.3<br>-11°56.2 | 1°59.3<br>-12°03.3 | 16°32.3<br>-12°10.3 | 31°05.2<br>-12°17.3 | 45°38.2<br>-12°24.2 | 60°11.1<br>-12°31.1 | 74°44.0<br>-12°37.9 | +33.0<br>-7.1 | 14.8<br>54.2 |
| Lu 21 | 292°55.0<br>-14°13.2 | 307°27.5<br>-14°19.1 | 322°00.0<br>-14°24.9 | 336°32.5<br>-14°30.7 | 351°05.0<br>-14°36.4 | 5°37.4<br>-14°42.0 | 20°09.8<br>-14°47.5 | 34°42.2<br>-14°53.0 | 49°14.5<br>-14°58.5 | 63°46.9<br>-15°03.8 | 78°19.1<br>-15°09.1 | +32.4<br>-5.6 | 14.8<br>54.2 |
| ◐ Ma 22 | 296°19.9<br>-16°20.4 | 310°51.8<br>-16°24.6 | 325°23.5<br>-16°28.7 | 339°55.3<br>-16°32.8 | 354°27.0<br>-16°36.8 | 8°58.7<br>-16°40.6 | 23°30.3<br>-16°44.5 | 38°01.9<br>-16°48.2 | 52°33.5<br>-16°51.9 | 67°05.1<br>-16°55.5 | 81°36.6<br>-16°59.0 | +31.7<br>-3.9 | 14.8<br>54.3 |
| Me 23 | 299°25.5<br>-17°42.4 | 313°56.5<br>-17°44.7 | 328°27.5<br>-17°46.8 | 342°58.4<br>-17°48.9 | 357°29.3<br>-17°50.9 | 12°00.2<br>-17°52.8 | 26°31.0<br>-17°54.7 | 41°01.8<br>-17°56.4 | 55°32.6<br>-17°58.1 | 70°03.4<br>-17°59.7 | 84°34.1<br>-18°01.2 | +30.9<br>-1.9 | 14.9<br>54.6 |
| Je 24 | 302°11.2<br>-18°13.3 | 316°41.4<br>-18°13.4 | 331°11.7<br>-18°13.4 | 345°41.8<br>-18°13.3 | 0°12.0<br>-18°13.2 | 14°42.1<br>-18°12.9 | 29°12.2<br>-18°12.5 | 43°42.3<br>-18°12.1 | 58°12.4<br>-18°11.6 | 72°42.4<br>-18°11.0 | 87°12.4<br>-18°10.2 | +30.1<br>+0.3 | 15.0<br>55.1 |
| Ve 25 | 304°39.5<br>-17°48.5 | 319°09.1<br>-17°46.3 | 333°38.8<br>-17°44.0 | 348°08.3<br>-17°41.6 | 2°37.9<br>-17°39.1 | 17°07.5<br>-17°36.6 | 31°37.0<br>-17°33.9 | 46°06.5<br>-17°31.1 | 60°36.0<br>-17°28.3 | 75°05.5<br>-17°25.4 | 89°35.0<br>-17°22.3 | +29.5<br>+2.6 | 15.2<br>55.8 |
| Sa 26 | 306°55.1<br>-16°25.6 | 321°24.3<br>-16°21.1 | 335°53.6<br>-16°16.5 | 350°22.8<br>-16°11.8 | 4°52.0<br>-16°07.0 | 19°21.2<br>-16°02.1 | 33°50.4<br>-15°57.1 | 48°19.5<br>-15°52.0 | 62°48.7<br>-15°46.9 | 77°17.9<br>-15°41.6 | 91°47.0<br>-15°36.3 | +29.2<br>+4.9 | 15.4<br>56.5 |
| Di 27 | 309°03.4<br>-14°05.6 | 323°32.4<br>-13°58.9 | 338°01.5<br>-13°52.0 | 352°30.5<br>-13°45.2 | 6°59.5<br>-13°38.2 | 21°28.6<br>-13°31.1 | 35°57.6<br>-13°24.0 | 50°26.6<br>-13°16.7 | 64°55.6<br>-13°09.4 | 79°24.6<br>-13°02.0 | 93°53.7<br>-12°54.6 | +29.0<br>+7.1 | 15.6<br>57.2 |
| Lu 28 | 311°08.6<br>-10°53.5 | 325°37.6<br>-10°44.8 | 340°06.6<br>-10°36.1 | 354°35.6<br>-10°27.3 | 9°04.5<br>-10°18.5 | 23°33.5<br>-10°09.5 | 38°02.5<br>-10°00.5 | 52°31.5<br>-9°51.5 | 67°00.4<br>-9°42.4 | 81°29.4<br>-9°33.2 | 95°58.4<br>-9°24.0 | +29.0<br>+9.0 | 15.8<br>57.9 |
| ○ Ma 29 | 313°12.7<br>-6°58.5 | 327°41.6<br>-6°48.4 | 342°10.6<br>-6°38.3 | 356°39.5<br>-6°28.1 | 11°08.4<br>-6°17.8 | 25°37.3<br>-6°07.5 | 40°06.2<br>-5°57.2 | 54°35.1<br>-5°46.8 | 69°04.1<br>-5°36.4 | 83°32.9<br>-5°25.9 | 98°01.8<br>-5°15.5 | +28.9<br>+10.3 | 16.0<br>58.6 |
| Me 30 | 315°14.4<br>-2°34.2 | 329°43.2<br>-2°23.2 | 344°11.9<br>-2°12.2 | 358°40.7<br>-2°01.2 | 13°09.4<br>-1°50.2 | 27°38.2<br>-1°39.2 | 42°06.9<br>-1°28.1 | 56°35.6<br>-1°17.0 | 71°04.3<br>-1°06.0 | 85°33.0<br>-0°54.9 | 100°01.6<br>-0°43.8 | +28.7<br>+11.0 | 16.1<br>59.1 |
| Je 31 | 317°09.9<br>2°03.2 | 331°38.3<br>2°14.3 | 346°06.7<br>2°25.4 | 0°35.0<br>2°36.5 | 15°03.4<br>2°47.5 | 29°31.7<br>2°58.6 | 44°00.0<br>3°09.6 | 58°28.3<br>3°20.7 | 72°56.6<br>3°31.7 | 87°24.9<br>3°42.7 | 101°53.1<br>3°53.6 | +28.3<br>+11.1 | 16.2<br>59.4 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 7 06h50 — NL: 14 03h53 — PQ: 22 00h43 — PL: 29 16h49

# SOLEIL

## Septembre 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ve 1** | 269°58.9 | 284°59.1 | 299°59.3 | 314°59.5 | 329°59.7 | 344°59.9 | 0°00.1 | 15°00.3 | 30°00.5 | 45°00.7 | 60°00.9 | 75°01.1 | +0.2 |
| | 8°13.9 | 8°13.0 | 8°12.1 | 8°11.2 | 8°10.3 | 8°09.4 | 8°08.5 | 8°07.6 | 8°06.7 | 8°05.8 | 8°04.9 | 8°04.0 | -0.9 |
| **Sa 2** | 270°03.7 | 285°03.9 | 300°04.1 | 315°04.3 | 330°04.5 | 345°04.7 | 0°04.9 | 15°05.1 | 30°05.3 | 45°05.5 | 60°05.7 | 75°05.9 | +0.2 |
| | 7°52.1 | 7°51.2 | 7°50.3 | 7°49.4 | 7°48.5 | 7°47.6 | 7°46.7 | 7°45.7 | 7°44.8 | 7°43.9 | 7°43.0 | 7°42.1 | -0.9 |
| **Di 3** | 270°08.6 | 285°08.8 | 300°09.0 | 315°09.2 | 330°09.4 | 345°09.6 | 0°09.8 | 15°10.0 | 30°10.2 | 45°10.4 | 60°10.6 | 75°10.9 | +0.2 |
| | 7°30.2 | 7°29.3 | 7°28.3 | 7°27.4 | 7°26.5 | 7°25.6 | 7°24.7 | 7°23.8 | 7°22.8 | 7°21.9 | 7°21.0 | 7°20.1 | -0.9 |
| **Lu 4** | 270°13.5 | 285°13.7 | 300°14.0 | 315°14.2 | 330°14.4 | 345°14.6 | 0°14.8 | 15°15.0 | 30°15.2 | 45°15.4 | 60°15.6 | 75°15.8 | +0.2 |
| | 7°08.1 | 7°07.2 | 7°06.3 | 7°05.3 | 7°04.4 | 7°03.5 | 7°02.6 | 7°01.6 | 7°00.7 | 6°59.8 | 6°58.9 | 6°58.0 | -0.9 |
| **Ma 5** | 270°18.5 | 285°18.8 | 300°19.0 | 315°19.2 | 330°19.4 | 345°19.6 | 0°19.8 | 15°20.0 | 30°20.2 | 45°20.4 | 60°20.6 | 75°20.9 | +0.2 |
| | 6°45.9 | 6°45.0 | 6°44.1 | 6°43.1 | 6°42.2 | 6°41.3 | 6°40.4 | 6°39.4 | 6°38.5 | 6°37.6 | 6°36.6 | 6°35.7 | -0.9 |
| **Me 6** | 270°23.6 | 285°23.8 | 300°24.0 | 315°24.2 | 330°24.4 | 345°24.7 | 0°24.9 | 15°25.1 | 30°25.3 | 45°25.5 | 60°25.7 | 75°25.9 | +0.2 |
| | 6°23.6 | 6°22.7 | 6°21.8 | 6°20.8 | 6°19.9 | 6°19.0 | 6°18.0 | 6°17.1 | 6°16.2 | 6°15.2 | 6°14.3 | 6°13.4 | -0.9 |
| **Je 7** | 270°28.7 | 285°28.9 | 300°29.1 | 315°29.3 | 330°29.6 | 345°29.8 | 0°30.0 | 15°30.2 | 30°30.4 | 45°30.6 | 60°30.8 | 75°31.1 | +0.2 |
| | 6°01.2 | 6°00.3 | 5°59.3 | 5°58.4 | 5°57.5 | 5°56.5 | 5°55.6 | 5°54.7 | 5°53.7 | 5°52.8 | 5°51.9 | 5°50.9 | -0.9 |
| **Ve 8** | 270°33.8 | 285°34.1 | 300°34.3 | 315°34.5 | 330°34.7 | 345°34.9 | 0°35.1 | 15°35.4 | 30°35.6 | 45°35.8 | 60°36.0 | 75°36.2 | +0.2 |
| | 5°38.7 | 5°37.8 | 5°36.8 | 5°35.9 | 5°35.0 | 5°34.0 | 5°33.1 | 5°32.1 | 5°31.2 | 5°30.2 | 5°29.3 | 5°28.4 | -0.9 |
| **Sa 9** | 270°39.0 | 285°39.2 | 300°39.5 | 315°39.7 | 330°39.9 | 345°40.1 | 0°40.3 | 15°40.5 | 30°40.8 | 45°41.0 | 60°41.2 | 75°41.4 | +0.2 |
| | 5°16.1 | 5°15.2 | 5°14.2 | 5°13.3 | 5°12.3 | 5°11.4 | 5°10.4 | 5°09.5 | 5°08.6 | 5°07.6 | 5°06.7 | 5°05.7 | -0.9 |
| **Di 10** | 270°44.2 | 285°44.5 | 300°44.7 | 315°44.9 | 330°45.1 | 345°45.3 | 0°45.6 | 15°45.8 | 30°46.0 | 45°46.2 | 60°46.4 | 75°46.6 | +0.2 |
| | 4°53.4 | 4°52.5 | 4°51.5 | 4°50.6 | 4°49.6 | 4°48.7 | 4°47.7 | 4°46.8 | 4°45.8 | 4°44.9 | 4°43.9 | 4°43.0 | -0.9 |
| **Lu 11** | 270°49.5 | 285°49.7 | 300°49.9 | 315°50.1 | 330°50.4 | 345°50.6 | 0°50.8 | 15°51.0 | 30°51.2 | 45°51.5 | 60°51.7 | 75°51.9 | +0.2 |
| | 4°30.6 | 4°29.7 | 4°28.7 | 4°27.8 | 4°26.8 | 4°25.9 | 4°24.9 | 4°24.0 | 4°23.0 | 4°22.1 | 4°21.1 | 4°20.2 | -1.0 |
| **Ma 12** | 270°54.8 | 285°55.0 | 300°55.2 | 315°55.4 | 330°55.6 | 345°55.9 | 0°56.1 | 15°56.3 | 30°56.5 | 45°56.8 | 60°57.0 | 75°57.2 | +0.2 |
| | 4°07.8 | 4°06.8 | 4°05.9 | 4°04.9 | 4°04.0 | 4°03.0 | 4°02.1 | 4°01.1 | 4°00.2 | 3°59.2 | 3°58.2 | 3°57.3 | -1.0 |
| **Me 13** | 271°00.1 | 286°00.3 | 301°00.5 | 316°00.7 | 331°01.0 | 346°01.2 | 1°01.4 | 16°01.6 | 31°01.8 | 46°02.1 | 61°02.3 | 76°02.5 | +0.2 |
| | 3°44.9 | 3°43.9 | 3°43.0 | 3°42.0 | 3°41.0 | 3°40.1 | 3°39.1 | 3°38.2 | 3°37.2 | 3°36.2 | 3°35.3 | 3°34.3 | -1.0 |
| **Je 14** | 271°05.4 | 286°05.6 | 301°05.8 | 316°06.1 | 331°06.3 | 346°06.5 | 1°06.7 | 16°06.9 | 31°07.2 | 46°07.4 | 61°07.6 | 76°07.8 | +0.2 |
| | 3°21.9 | 3°20.9 | 3°20.0 | 3°19.0 | 3°18.0 | 3°17.1 | 3°16.1 | 3°15.2 | 3°14.2 | 3°13.2 | 3°12.3 | 3°11.3 | -1.0 |
| **Ve 15** | 271°10.7 | 286°10.9 | 301°11.2 | 316°11.4 | 331°11.6 | 346°11.8 | 1°12.1 | 16°12.3 | 31°12.5 | 46°12.7 | 61°12.9 | 76°13.2 | +0.2 |
| | 2°58.8 | 2°57.9 | 2°56.9 | 2°55.9 | 2°55.0 | 2°54.0 | 2°53.0 | 2°52.1 | 2°51.1 | 2°50.2 | 2°49.2 | 2°48.2 | -1.0 |
| **Sa 16** | 271°16.1 | 286°16.3 | 301°16.5 | 316°16.7 | 331°17.0 | 346°17.2 | 1°17.4 | 16°17.6 | 31°17.8 | 46°18.1 | 61°18.3 | 76°18.5 | +0.2 |
| | 2°35.7 | 2°34.7 | 2°33.8 | 2°32.8 | 2°31.9 | 2°30.9 | 2°29.9 | 2°29.0 | 2°28.0 | 2°27.0 | 2°26.1 | 2°25.1 | -1.0 |
| **Di 17** | 271°21.4 | 286°21.6 | 301°21.9 | 316°22.1 | 331°22.3 | 346°22.5 | 1°22.8 | 16°23.0 | 31°23.2 | 46°23.4 | 61°23.6 | 76°23.9 | +0.2 |
| | 2°12.5 | 2°11.6 | 2°10.6 | 2°09.7 | 2°08.7 | 2°07.7 | 2°06.8 | 2°05.8 | 2°04.8 | 2°03.9 | 2°02.9 | 2°01.9 | -1.0 |
| **Lu 18** | 271°26.8 | 286°27.0 | 301°27.2 | 316°27.4 | 331°27.7 | 346°27.9 | 1°28.1 | 16°28.3 | 31°28.6 | 46°28.8 | 61°29.0 | 76°29.2 | +0.2 |
| | 1°49.3 | 1°48.4 | 1°47.4 | 1°46.4 | 1°45.5 | 1°44.5 | 1°43.5 | 1°42.6 | 1°41.6 | 1°40.6 | 1°39.7 | 1°38.7 | -1.0 |
| **Ma 19** | 271°32.1 | 286°32.3 | 301°32.6 | 316°32.8 | 331°33.0 | 346°33.2 | 1°33.5 | 16°33.7 | 31°33.9 | 46°34.1 | 61°34.4 | 76°34.6 | +0.2 |
| | 1°26.1 | 1°25.1 | 1°24.2 | 1°23.2 | 1°22.2 | 1°21.3 | 1°20.3 | 1°19.3 | 1°18.3 | 1°17.4 | 1°16.4 | 1°15.4 | -1.0 |
| **Me 20** | 271°37.5 | 286°37.7 | 301°37.9 | 316°38.1 | 331°38.4 | 346°38.6 | 1°38.8 | 16°39.0 | 31°39.2 | 46°39.5 | 61°39.7 | 76°39.9 | +0.2 |
| | 1°02.8 | 1°01.9 | 1°00.9 | 0°59.9 | 0°58.9 | 0°58.0 | 0°57.0 | 0°56.0 | 0°55.1 | 0°54.1 | 0°53.1 | 0°52.2 | -1.0 |
| **Je 21** | 271°42.8 | 286°43.0 | 301°43.2 | 316°43.5 | 331°43.7 | 346°43.9 | 1°44.1 | 16°44.4 | 31°44.6 | 46°44.8 | 61°45.0 | 76°45.2 | +0.2 |
| | 0°39.5 | 0°38.6 | 0°37.6 | 0°36.6 | 0°35.6 | 0°34.7 | 0°33.7 | 0°32.7 | 0°31.8 | 0°30.8 | 0°29.8 | 0°28.8 | -1.0 |
| **Ve 22** | 271°48.1 | 286°48.3 | 301°48.6 | 316°48.8 | 331°49.0 | 346°49.2 | 1°49.4 | 16°49.7 | 31°49.9 | 46°50.1 | 61°50.3 | 76°50.5 | +0.2 |
| | 0°16.2 | 0°15.2 | 0°14.3 | 0°13.3 | 0°12.3 | 0°11.3 | 0°10.4 | 0°09.4 | 0°08.4 | 0°07.5 | 0°06.5 | 0°05.5 | -1.0 |
| **Sa 23** | 271°53.4 | 286°53.6 | 301°53.8 | 316°54.1 | 331°54.3 | 346°54.5 | 1°54.7 | 16°54.9 | 31°55.2 | 46°55.4 | 61°55.6 | 76°55.8 | +0.2 |
| | -0°07.1 | -0°08.1 | -0°09.1 | -0°10.0 | -0°11.0 | -0°12.0 | -0°13.0 | -0°13.9 | -0°14.9 | -0°15.9 | -0°16.9 | -0°17.8 | -1.0 |
| **Di 24** | 271°58.7 | 286°58.9 | 301°59.1 | 316°59.3 | 331°59.6 | 346°59.8 | 2°00.0 | 17°00.2 | 32°00.4 | 47°00.6 | 62°00.9 | 77°01.1 | +0.2 |
| | -0°30.5 | -0°31.5 | -0°32.4 | -0°33.4 | -0°34.4 | -0°35.3 | -0°36.3 | -0°37.3 | -0°38.3 | -0°39.2 | -0°40.2 | -0°41.2 | -1.0 |
| **Lu 25** | 272°03.9 | 287°04.1 | 302°04.3 | 317°04.6 | 332°04.8 | 347°05.0 | 2°05.2 | 17°05.4 | 32°05.6 | 47°05.9 | 62°06.1 | 77°06.3 | +0.2 |
| | -0°53.8 | -0°54.8 | -0°55.8 | -0°56.7 | -0°57.7 | -0°58.7 | -0°59.7 | -1°00.6 | -1°01.6 | -1°02.6 | -1°03.6 | -1°04.5 | -1.0 |
| **Ma 26** | 272°09.1 | 287°09.3 | 302°09.5 | 317°09.7 | 332°10.0 | 347°10.2 | 2°10.4 | 17°10.6 | 32°10.8 | 47°11.0 | 62°11.3 | 77°11.5 | +0.2 |
| | -1°17.2 | -1°18.2 | -1°19.1 | -1°20.1 | -1°21.1 | -1°22.0 | -1°23.0 | -1°24.0 | -1°25.0 | -1°25.9 | -1°26.9 | -1°27.9 | -1.0 |
| **Me 27** | 272°14.3 | 287°14.5 | 302°14.7 | 317°14.9 | 332°15.1 | 347°15.3 | 2°15.5 | 17°15.7 | 32°16.0 | 47°16.2 | 62°16.4 | 77°16.6 | +0.2 |
| | -1°40.5 | -1°41.5 | -1°42.5 | -1°43.4 | -1°44.4 | -1°45.4 | -1°46.4 | -1°47.3 | -1°48.3 | -1°49.3 | -1°50.2 | -1°51.2 | -1.0 |
| **Je 28** | 272°19.4 | 287°19.6 | 302°19.8 | 317°20.0 | 332°20.2 | 347°20.4 | 2°20.6 | 17°20.8 | 32°21.0 | 47°21.2 | 62°21.5 | 77°21.7 | +0.2 |
| | -2°03.9 | -2°04.8 | -2°05.8 | -2°06.8 | -2°07.7 | -2°08.7 | -2°09.7 | -2°10.7 | -2°11.6 | -2°12.6 | -2°13.6 | -2°14.5 | -1.0 |
| **Ve 29** | 272°24.4 | 287°24.6 | 302°24.8 | 317°25.0 | 332°25.2 | 347°25.4 | 2°25.6 | 17°25.9 | 32°26.1 | 47°26.3 | 62°26.5 | 77°26.7 | +0.2 |
| | -2°27.2 | -2°28.1 | -2°29.1 | -2°30.1 | -2°31.1 | -2°32.0 | -2°33.0 | -2°34.0 | -2°34.9 | -2°35.9 | -2°36.9 | -2°37.8 | -1.0 |
| **Sa 30** | 272°29.4 | 287°29.6 | 302°29.8 | 317°30.0 | 332°30.2 | 347°30.4 | 2°30.6 | 17°30.8 | 32°31.0 | 47°31.2 | 62°31.4 | 77°31.6 | +0.2 |
| | -2°50.5 | -2°51.4 | -2°52.4 | -2°53.4 | -2°54.3 | -2°55.3 | -2°56.3 | -2°57.2 | -2°58.2 | -2°59.2 | -3°00.2 | -3°01.1 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2034

| J | 17h | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 232°06.1 | 246°34.1 | 261°02.1 | 275°30.0 | 289°58.0 | 304°25.8 | 318°53.7 | 333°21.6 | 347°49.4 | 2°17.1 | 16°44.9 | +27.9 | 16.2 |
| | 5°31.3 | 5°42.0 | 5°52.7 | 6°03.3 | 6°13.9 | 6°24.5 | 6°35.0 | 6°45.5 | 6°56.0 | 7°06.4 | 7°16.8 | +10.6 | 59.5 |
| Sa 2 | 233°37.8 | 248°05.1 | 262°32.4 | 276°59.6 | 291°26.8 | 305°54.0 | 320°21.1 | 334°48.2 | 349°15.3 | 3°42.3 | 18°09.4 | +27.2 | 16.2 |
| | 9°46.4 | 9°55.9 | 10°05.4 | 10°14.8 | 10°24.1 | 10°33.4 | 10°42.6 | 10°51.7 | 11°00.8 | 11°09.8 | 11°18.7 | +9.2 | 59.6 |
| Di 3 | 234°50.9 | 249°17.5 | 263°44.0 | 278°10.5 | 292°36.9 | 307°03.3 | 321°29.7 | 335°56.1 | 350°22.4 | 4°48.8 | 19°15.1 | +26.4 | 16.2 |
| | 13°23.4 | 13°31.1 | 13°38.6 | 13°46.1 | 13°53.5 | 14°00.8 | 14°08.0 | 14°15.1 | 14°22.1 | 14°29.1 | 14°35.9 | +7.3 | 59.5 |
| Lu 4 | 235°46.5 | 250°12.4 | 264°38.3 | 279°04.2 | 293°30.1 | 307°56.0 | 322°21.8 | 336°47.6 | 351°13.5 | 5°39.3 | 20°05.0 | +25.9 | 16.1 |
| | 16°06.7 | 16°11.9 | 16°17.0 | 16°22.0 | 16°26.9 | 16°31.7 | 16°36.4 | 16°41.0 | 16°45.5 | 16°49.9 | 16°54.1 | +4.7 | 59.2 |
| ◑ Ma 5 | 236°30.8 | 250°56.5 | 265°22.1 | 279°47.8 | 294°13.5 | 308°39.2 | 323°04.9 | 337°30.6 | 351°56.3 | 6°22.0 | 20°47.7 | +25.7 | 16.1 |
| | 17°44.5 | 17°46.9 | 17°49.2 | 17°51.5 | 17°53.6 | 17°55.5 | 17°57.4 | 17°59.1 | 18°00.8 | 18°02.3 | 18°03.7 | +1.9 | 58.9 |
| Me 6 | 237°14.8 | 251°40.7 | 266°06.7 | 280°32.7 | 294°58.7 | 309°24.7 | 323°50.8 | 338°16.9 | 352°43.0 | 7°09.1 | 21°35.3 | +26.0 | 16.0 |
| | 18°10.7 | 18°10.3 | 18°09.7 | 18°09.0 | 18°08.2 | 18°07.3 | 18°06.3 | 18°05.2 | 18°03.9 | 18°02.5 | 18°01.1 | -1.0 | 58.5 |
| Je 7 | 251°40.7 | 266°06.7 | 280°32.7 | 294°58.7 | 309°24.7 | 323°50.8 | 338°16.9 | 352°43.0 | 7°09.1 | 21°35.3 | 36°01.5 | +26.1 | 16.0 |
| | 18°10.3 | 18°09.7 | 18°09.0 | 18°08.2 | 18°07.3 | 18°06.3 | 18°05.2 | 18°03.9 | 18°02.5 | 18°01.1 | 17°59.5 | -1.1 | 58.5 |
| Ve 8 | 252°38.4 | 267°05.1 | 281°31.9 | 295°58.8 | 310°25.6 | 324°52.6 | 339°19.5 | 353°46.6 | 8°13.6 | 22°40.7 | 37°07.9 | +26.9 | 15.8 |
| | 17°22.5 | 17°19.2 | 17°15.8 | 17°12.3 | 17°08.7 | 17°04.9 | 17°01.1 | 16°57.2 | 16°53.1 | 16°49.0 | 16°44.8 | -3.8 | 58.1 |
| Sa 9 | 254°00.8 | 268°28.8 | 282°56.8 | 297°24.8 | 311°52.9 | 326°21.0 | 340°49.2 | 355°17.5 | 9°45.8 | 24°14.1 | 38°42.5 | +28.2 | 15.7 |
| | 15°30.1 | 15°24.4 | 15°18.7 | 15°12.8 | 15°06.9 | 15°00.8 | 14°54.7 | 14°48.5 | 14°42.2 | 14°35.9 | 14°29.5 | -6.1 | 57.6 |
| Di 10 | 255°55.2 | 270°24.5 | 284°53.8 | 299°23.2 | 313°52.6 | 328°22.1 | 342°51.7 | 357°21.3 | 11°50.9 | 26°20.6 | 40°50.4 | +29.5 | 15.6 |
| | 12°44.1 | 12°36.6 | 12°28.9 | 12°21.3 | 12°13.5 | 12°05.7 | 11°57.8 | 11°49.9 | 11°41.9 | 11°33.8 | 11°25.7 | -7.8 | 57.1 |
| Lu 11 | 258°23.0 | 272°53.6 | 287°24.2 | 301°54.9 | 316°25.7 | 330°56.4 | 345°27.3 | 359°58.1 | 14°29.0 | 29°00.0 | 43°31.0 | +30.8 | 15.4 |
| | 9°18.1 | 9°09.3 | 9°00.3 | 8°51.4 | 8°42.4 | 8°33.4 | 8°24.3 | 8°15.2 | 8°06.1 | 7°56.9 | 7°47.7 | -9.0 | 56.6 |
| ● Ma 12 | 261°21.4 | 275°53.1 | 290°24.9 | 304°56.6 | 319°28.5 | 334°00.3 | 348°32.2 | 3°04.1 | 17°36.1 | 32°08.1 | 46°40.1 | +31.9 | 15.3 |
| | 5°26.4 | 5°16.8 | 5°07.2 | 4°57.6 | 4°47.9 | 4°38.3 | 4°28.6 | 4°18.9 | 4°09.2 | 3°59.4 | 3°49.7 | -9.7 | 56.0 |
| Me 13 | 264°44.4 | 279°16.9 | 293°49.4 | 308°22.0 | 322°54.6 | 337°27.2 | 351°59.9 | 6°32.5 | 21°05.2 | 35°38.0 | 50°10.7 | +32.6 | 15.1 |
| | 1°22.9 | 1°13.1 | 1°03.3 | 0°53.5 | 0°43.7 | 0°33.9 | 0°24.1 | 0°14.3 | 0°04.5 | -0°05.2 | -0°15.0 | -9.8 | 55.5 |
| Je 14 | 268°24.1 | 282°57.2 | 297°30.2 | 312°03.3 | 326°36.3 | 341°09.4 | 355°42.5 | 10°15.6 | 24°48.7 | 39°21.8 | 53°55.0 | +33.1 | 15.0 |
| | -2°40.0 | -2°49.6 | -2°59.1 | -3°08.6 | -3°18.1 | -3°27.5 | -3°37.0 | -3°46.4 | -3°55.8 | -4°05.1 | -4°14.5 | -9.5 | 55.0 |
| Ve 15 | 272°12.7 | 286°45.9 | 301°19.2 | 315°52.4 | 330°25.6 | 344°58.8 | 359°32.0 | 14°05.2 | 28°38.4 | 43°11.7 | 57°44.9 | +33.2 | 14.9 |
| | -6°31.3 | -6°40.2 | -6°49.0 | -6°57.8 | -7°06.6 | -7°15.3 | -7°24.0 | -7°32.7 | -7°41.3 | -7°49.9 | -7°58.4 | -8.7 | 54.6 |
| Sa 16 | 276°02.4 | 290°35.5 | 305°08.6 | 319°41.7 | 334°14.8 | 348°47.9 | 3°20.9 | 17°54.0 | 32°27.0 | 47°00.0 | 61°33.1 | +33.1 | 14.8 |
| | -10°01.6 | -10°09.4 | -10°17.2 | -10°25.0 | -10°32.7 | -10°40.4 | -10°48.0 | -10°55.5 | -11°03.1 | -11°10.5 | -11°17.9 | -7.6 | 54.3 |
| Di 17 | 279°46.5 | 294°19.3 | 308°52.0 | 323°24.7 | 337°57.4 | 352°30.1 | 7°02.8 | 21°35.5 | 36°08.1 | 50°40.7 | 65°13.3 | +32.7 | 14.8 |
| | -13°02.6 | -13°09.2 | -13°15.6 | -13°22.0 | -13°28.4 | -13°34.7 | -13°40.9 | -13°47.1 | -13°53.2 | -13°59.3 | -14°05.2 | -6.3 | 54.1 |
| Lu 18 | 283°19.7 | 297°51.9 | 312°24.1 | 326°56.3 | 341°28.5 | 356°00.6 | 10°32.8 | 25°04.9 | 39°36.9 | 54°09.0 | 68°41.0 | +32.1 | 14.8 |
| | -15°27.3 | -15°32.3 | -15°37.1 | -15°41.9 | -15°46.7 | -15°51.3 | -15°55.9 | -16°00.5 | -16°04.9 | -16°09.3 | -16°13.6 | -4.6 | 54.1 |
| Ma 19 | 286°38.4 | 301°10.1 | 315°41.6 | 330°13.2 | 344°44.8 | 359°16.3 | 13°47.8 | 28°19.3 | 42°50.7 | 57°22.1 | 71°53.5 | +31.5 | 14.8 |
| | -17°09.4 | -17°12.5 | -17°15.6 | -17°18.5 | -17°21.4 | -17°24.2 | -17°26.9 | -17°29.6 | -17°32.1 | -17°34.6 | -17°37.0 | -2.8 | 54.2 |
| ◐ Me 20 | 289°41.3 | 304°12.3 | 318°43.3 | 333°14.2 | 347°45.1 | 2°16.0 | 16°46.9 | 31°17.7 | 45°48.6 | 60°19.4 | 74°50.1 | +30.9 | 14.9 |
| | -18°03.4 | -18°04.5 | -18°05.5 | -18°06.4 | -18°07.2 | -18°08.0 | -18°08.7 | -18°09.2 | -18°09.7 | -18°10.2 | -18°10.5 | -0.7 | 54.6 |
| Je 21 | 292°28.9 | 306°59.3 | 321°29.7 | 336°00.1 | 350°30.5 | 5°00.8 | 19°31.1 | 34°01.4 | 48°31.6 | 63°01.9 | 77°32.1 | +30.3 | 15.0 |
| | -18°04.8 | -18°03.8 | -18°02.6 | -18°01.3 | -18°00.0 | -17°58.5 | -17°57.0 | -17°55.4 | -17°53.7 | -17°51.9 | -17°50.0 | +1.5 | 55.1 |
| Ve 22 | 295°03.3 | 309°33.3 | 324°03.2 | 338°33.1 | 353°03.0 | 7°32.8 | 22°02.7 | 36°32.5 | 51°02.4 | 65°32.2 | 80°02.0 | +29.9 | 15.2 |
| | -17°10.9 | -17°07.5 | -17°04.1 | -17°00.6 | -16°57.0 | -16°53.3 | -16°49.5 | -16°45.6 | -16°41.7 | -16°37.6 | -16°33.5 | +3.7 | 55.8 |
| Sa 23 | 297°27.2 | 311°56.8 | 326°26.3 | 340°55.9 | 355°25.4 | 9°54.9 | 24°24.5 | 38°54.0 | 53°23.4 | 67°52.9 | 82°22.4 | +29.5 | 15.4 |
| | -15°20.6 | -15°15.0 | -15°09.4 | -15°03.6 | -14°57.8 | -14°51.9 | -14°45.9 | -14°39.8 | -14°33.6 | -14°27.4 | -14°21.0 | +6.0 | 56.6 |
| Di 24 | 299°42.9 | 314°12.2 | 328°41.4 | 343°10.7 | 357°39.9 | 12°09.1 | 26°38.3 | 41°07.5 | 55°36.7 | 70°05.9 | 84°35.1 | +29.2 | 15.7 |
| | -12°36.0 | -12°28.4 | -12°20.6 | -12°12.8 | -12°05.0 | -11°57.0 | -11°49.0 | -11°40.9 | -11°32.7 | -11°24.4 | -11°16.1 | +8.0 | 57.5 |
| Lu 25 | 301°51.1 | 316°20.0 | 330°49.0 | 345°17.9 | 359°46.8 | 14°15.7 | 28°44.6 | 43°13.5 | 57°42.4 | 72°11.2 | 86°40.0 | +28.9 | 15.9 |
| | -9°02.8 | -8°53.3 | -8°43.9 | -8°34.3 | -8°24.7 | -8°15.1 | -8°05.3 | -7°55.6 | -7°45.7 | -7°35.8 | -7°25.9 | +9.7 | 58.4 |
| Ma 26 | 303°50.5 | 318°19.0 | 332°47.5 | 347°16.0 | 1°44.5 | 16°13.0 | 30°41.5 | 45°09.9 | 59°38.3 | 74°06.7 | 88°35.0 | +28.5 | 16.1 |
| | -4°50.7 | -4°40.0 | -4°29.2 | -4°18.4 | -4°07.6 | -3°56.8 | -3°45.9 | -3°34.9 | -3°24.0 | -3°13.0 | -3°02.0 | +10.9 | 59.2 |
| Me 27 | 305°37.6 | 320°05.6 | 334°33.6 | 349°01.5 | 3°29.4 | 17°57.2 | 32°25.1 | 46°52.9 | 61°20.6 | 75°48.4 | 90°16.1 | +27.8 | 16.3 |
| | -0°13.9 | -0°02.6 | 0°08.7 | 0°20.1 | 0°31.5 | 0°42.8 | 0°54.2 | 1°05.6 | 1°16.9 | 1°28.3 | 1°39.7 | +11.4 | 59.9 |
| ○ Je 28 | 307°08.2 | 321°35.4 | 336°02.6 | 350°29.7 | 4°56.9 | 19°23.9 | 33°51.0 | 48°18.0 | 62°45.0 | 77°11.9 | 91°38.8 | +27.1 | 16.4 |
| | 4°29.2 | 4°40.3 | 4°51.5 | 5°02.6 | 5°13.7 | 5°24.7 | 5°35.7 | 5°46.7 | 5°57.7 | 6°08.6 | 6°19.5 | +11.0 | 60.3 |
| Ve 29 | 308°18.3 | 322°44.7 | 337°11.0 | 351°37.3 | 6°03.5 | 20°29.8 | 34°55.9 | 49°22.1 | 63°48.2 | 78°14.3 | 92°40.3 | +26.2 | 16.5 |
| | 8°57.7 | 9°07.8 | 9°17.9 | 9°27.9 | 9°37.8 | 9°47.7 | 9°57.5 | 10°07.3 | 10°17.0 | 10°26.6 | 10°36.1 | +9.9 | 60.4 |
| Sa 30 | 309°07.1 | 323°32.6 | 337°58.2 | 352°23.6 | 6°49.1 | 21°14.5 | 35°39.9 | 50°05.3 | 64°30.7 | 78°56.0 | 93°21.3 | +25.4 | 16.4 |
| | 12°50.2 | 12°58.5 | 13°06.7 | 13°14.8 | 13°22.8 | 13°30.7 | 13°38.5 | 13°46.2 | 13°53.8 | 14°01.4 | 14°08.8 | +7.9 | 60.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 5 11h41 — NL: 12 16h13 — PQ: 20 18h39 — PL: 28 02h56

# SOLEIL

## Octobre 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Di 1** | 272°34.3 | 287°34.5 | 302°34.7 | 317°34.9 | 332°35.1 | 347°35.3 | 2°35.5 | 17°35.7 | 32°35.9 | 47°36.1 | 62°36.3 | 77°36.5 | +0.2 |
| | -3°13.7 | -3°14.7 | -3°15.7 | -3°16.6 | -3°17.6 | -3°18.6 | -3°19.5 | -3°20.5 | -3°21.5 | -3°22.4 | -3°23.4 | -3°24.4 | -1.0 |
| **Lu 2** | 272°39.1 | 287°39.3 | 302°39.5 | 317°39.7 | 332°39.9 | 347°40.1 | 2°40.3 | 17°40.5 | 32°40.7 | 47°40.9 | 62°41.1 | 77°41.3 | +0.2 |
| | -3°37.0 | -3°37.9 | -3°38.9 | -3°39.9 | -3°40.8 | -3°41.8 | -3°42.8 | -3°43.7 | -3°44.7 | -3°45.7 | -3°46.6 | -3°47.6 | -1.0 |
| **Ma 3** | 272°43.9 | 287°44.1 | 302°44.3 | 317°44.4 | 332°44.6 | 347°44.8 | 2°45.0 | 17°45.2 | 32°45.4 | 47°45.6 | 62°45.8 | 77°46.0 | +0.2 |
| | -4°00.1 | -4°01.1 | -4°02.1 | -4°03.0 | -4°04.0 | -4°05.0 | -4°05.9 | -4°06.9 | -4°07.9 | -4°08.8 | -4°09.8 | -4°10.8 | -1.0 |
| **Me 4** | 272°48.5 | 287°48.7 | 302°48.9 | 317°49.1 | 332°49.3 | 347°49.5 | 2°49.7 | 17°49.9 | 32°50.1 | 47°50.2 | 62°50.4 | 77°50.6 | +0.2 |
| | -4°23.3 | -4°24.3 | -4°25.2 | -4°26.2 | -4°27.1 | -4°28.1 | -4°29.1 | -4°30.0 | -4°31.0 | -4°32.0 | -4°32.9 | -4°33.9 | -1.0 |
| **Je 5** | 272°53.1 | 287°53.3 | 302°53.5 | 317°53.7 | 332°53.8 | 347°54.0 | 2°54.2 | 17°54.4 | 32°54.6 | 47°54.8 | 62°55.0 | 77°55.2 | +0.2 |
| | -4°46.4 | -4°47.3 | -4°48.3 | -4°49.3 | -4°50.2 | -4°51.2 | -4°52.1 | -4°53.1 | -4°54.1 | -4°55.0 | -4°56.0 | -4°56.9 | -1.0 |
| **Ve 6** | 272°57.6 | 287°57.7 | 302°57.9 | 317°58.1 | 332°58.3 | 347°58.5 | 2°58.7 | 17°58.9 | 32°59.0 | 47°59.2 | 62°59.4 | 77°59.6 | +0.2 |
| | -5°09.4 | -5°10.4 | -5°11.3 | -5°12.3 | -5°13.3 | -5°14.2 | -5°15.2 | -5°16.1 | -5°17.1 | -5°18.0 | -5°19.0 | -5°20.0 | -1.0 |
| **Sa 7** | 273°01.9 | 288°02.1 | 303°02.3 | 318°02.5 | 333°02.7 | 348°02.8 | 3°03.0 | 18°03.2 | 33°03.4 | 48°03.5 | 63°03.7 | 78°03.9 | +0.2 |
| | -5°32.4 | -5°33.3 | -5°34.3 | -5°35.3 | -5°36.2 | -5°37.2 | -5°38.1 | -5°39.1 | -5°40.0 | -5°41.0 | -5°41.9 | -5°42.9 | -1.0 |
| **Di 8** | 273°06.2 | 288°06.4 | 303°06.6 | 318°06.7 | 333°06.9 | 348°07.1 | 3°07.2 | 18°07.4 | 33°07.6 | 48°07.8 | 63°07.9 | 78°08.1 | +0.2 |
| | -5°55.3 | -5°56.2 | -5°57.2 | -5°58.2 | -5°59.1 | -6°00.1 | -6°01.0 | -6°02.0 | -6°02.9 | -6°03.9 | -6°04.8 | -6°05.8 | -1.0 |
| **Lu 9** | 273°10.4 | 288°10.5 | 303°10.7 | 318°10.9 | 333°11.0 | 348°11.2 | 3°11.4 | 18°11.5 | 33°11.7 | 48°11.9 | 63°12.1 | 78°12.2 | +0.2 |
| | -6°18.1 | -6°19.1 | -6°20.0 | -6°21.0 | -6°21.9 | -6°22.9 | -6°23.8 | -6°24.8 | -6°25.7 | -6°26.7 | -6°27.6 | -6°28.6 | -0.9 |
| **Ma 10** | 273°14.4 | 288°14.6 | 303°14.7 | 318°14.9 | 333°15.1 | 348°15.2 | 3°15.4 | 18°15.5 | 33°15.7 | 48°15.9 | 63°16.0 | 78°16.2 | +0.2 |
| | -6°40.9 | -6°41.8 | -6°42.8 | -6°43.7 | -6°44.7 | -6°45.6 | -6°46.5 | -6°47.5 | -6°48.4 | -6°49.4 | -6°50.3 | -6°51.3 | -0.9 |
| **Me 11** | 273°18.3 | 288°18.5 | 303°18.6 | 318°18.8 | 333°19.0 | 348°19.1 | 3°19.3 | 18°19.4 | 33°19.6 | 48°19.8 | 63°19.9 | 78°20.1 | +0.2 |
| | -7°03.5 | -7°04.5 | -7°05.4 | -7°06.3 | -7°07.3 | -7°08.2 | -7°09.2 | -7°10.1 | -7°11.1 | -7°12.0 | -7°12.9 | -7°13.9 | -0.9 |
| **Je 12** | 273°22.1 | 288°22.3 | 303°22.4 | 318°22.6 | 333°22.7 | 348°22.9 | 3°23.0 | 18°23.2 | 33°23.3 | 48°23.5 | 63°23.7 | 78°23.8 | +0.2 |
| | -7°26.1 | -7°27.0 | -7°28.0 | -7°28.9 | -7°29.8 | -7°30.8 | -7°31.7 | -7°32.6 | -7°33.6 | -7°34.5 | -7°35.5 | -7°36.4 | -0.9 |
| **Ve 13** | 273°25.8 | 288°25.9 | 303°26.1 | 318°26.2 | 333°26.4 | 348°26.5 | 3°26.7 | 18°26.8 | 33°27.0 | 48°27.1 | 63°27.3 | 78°27.4 | +0.1 |
| | -7°48.5 | -7°49.5 | -7°50.4 | -7°51.3 | -7°52.3 | -7°53.2 | -7°54.1 | -7°55.1 | -7°56.0 | -7°56.9 | -7°57.9 | -7°58.8 | -0.9 |
| **Sa 14** | 273°29.3 | 288°29.5 | 303°29.6 | 318°29.8 | 333°29.9 | 348°30.0 | 3°30.2 | 18°30.3 | 33°30.5 | 48°30.6 | 63°30.8 | 78°30.9 | +0.1 |
| | -8°10.9 | -8°11.8 | -8°12.8 | -8°13.7 | -8°14.6 | -8°15.5 | -8°16.5 | -8°17.4 | -8°18.3 | -8°19.2 | -8°20.2 | -8°21.1 | -0.9 |
| **Di 15** | 273°32.7 | 288°32.9 | 303°33.0 | 318°33.1 | 333°33.3 | 348°33.4 | 3°33.6 | 18°33.7 | 33°33.8 | 48°34.0 | 63°34.1 | 78°34.2 | +0.1 |
| | -8°33.1 | -8°34.1 | -8°35.0 | -8°35.9 | -8°36.8 | -8°37.8 | -8°38.7 | -8°39.6 | -8°40.5 | -8°41.4 | -8°42.4 | -8°43.3 | -0.9 |
| **Lu 16** | 273°36.0 | 288°36.1 | 303°36.3 | 318°36.4 | 333°36.5 | 348°36.7 | 3°36.8 | 18°36.9 | 33°37.1 | 48°37.2 | 63°37.3 | 78°37.5 | +0.1 |
| | -8°55.3 | -8°56.2 | -8°57.1 | -8°58.0 | -8°58.9 | -8°59.8 | -9°00.8 | -9°01.7 | -9°02.6 | -9°03.5 | -9°04.4 | -9°05.3 | -0.9 |
| **Ma 17** | 273°39.1 | 288°39.3 | 303°39.4 | 318°39.5 | 333°39.6 | 348°39.8 | 3°39.9 | 18°40.0 | 33°40.1 | 48°40.3 | 63°40.4 | 78°40.5 | +0.1 |
| | -9°17.2 | -9°18.2 | -9°19.1 | -9°20.0 | -9°20.9 | -9°21.8 | -9°22.7 | -9°23.6 | -9°24.5 | -9°25.5 | -9°26.4 | -9°27.3 | -0.9 |
| **Me 18** | 273°42.1 | 288°42.2 | 303°42.4 | 318°42.5 | 333°42.6 | 348°42.7 | 3°42.8 | 18°43.0 | 33°43.1 | 48°43.2 | 63°43.3 | 78°43.4 | +0.1 |
| | -9°39.1 | -9°40.0 | -9°40.9 | -9°41.8 | -9°42.7 | -9°43.6 | -9°44.5 | -9°45.4 | -9°46.3 | -9°47.3 | -9°48.2 | -9°49.1 | -0.9 |
| **Je 19** | 273°44.9 | 288°45.1 | 303°45.2 | 318°45.3 | 333°45.4 | 348°45.5 | 3°45.6 | 18°45.7 | 33°45.9 | 48°46.0 | 63°46.1 | 78°46.2 | +0.1 |
| | -10°00.8 | -10°01.7 | -10°02.6 | -10°03.5 | -10°04.4 | -10°05.3 | -10°06.2 | -10°07.1 | -10°08.0 | -10°08.9 | -10°09.8 | -10°10.7 | -0.9 |
| **Ve 20** | 273°47.6 | 288°47.7 | 303°47.8 | 318°48.0 | 333°48.1 | 348°48.2 | 3°48.3 | 18°48.4 | 33°48.5 | 48°48.6 | 63°48.7 | 78°48.8 | +0.1 |
| | -10°22.4 | -10°23.3 | -10°24.2 | -10°25.1 | -10°26.0 | -10°26.9 | -10°27.7 | -10°28.6 | -10°29.5 | -10°30.4 | -10°31.3 | -10°32.2 | -0.9 |
| **Sa 21** | 273°50.2 | 288°50.3 | 303°50.4 | 318°50.5 | 333°50.6 | 348°50.7 | 3°50.8 | 18°50.9 | 33°51.0 | 48°51.1 | 63°51.2 | 78°51.3 | +0.1 |
| | -10°43.8 | -10°44.7 | -10°45.6 | -10°46.5 | -10°47.3 | -10°48.2 | -10°49.1 | -10°50.0 | -10°50.9 | -10°51.8 | -10°52.7 | -10°53.6 | -0.9 |
| **Di 22** | 273°52.5 | 288°52.6 | 303°52.7 | 318°52.8 | 333°52.9 | 348°53.0 | 3°53.1 | 18°53.2 | 33°53.3 | 48°53.4 | 63°53.5 | 78°53.5 | +0.1 |
| | -11°05.0 | -11°05.9 | -11°06.8 | -11°07.7 | -11°08.6 | -11°09.5 | -11°10.3 | -11°11.2 | -11°12.1 | -11°13.0 | -11°13.8 | -11°14.7 | -0.9 |
| **Lu 23** | 273°54.7 | 288°54.8 | 303°54.9 | 318°55.0 | 333°55.1 | 348°55.2 | 3°55.2 | 18°55.3 | 33°55.4 | 48°55.5 | 63°55.6 | 78°55.7 | +0.1 |
| | -11°26.1 | -11°27.0 | -11°27.9 | -11°28.8 | -11°29.6 | -11°30.5 | -11°31.4 | -11°32.2 | -11°33.1 | -11°34.0 | -11°34.9 | -11°35.7 | -0.9 |
| **Ma 24** | 273°56.7 | 288°56.8 | 303°56.9 | 318°57.0 | 333°57.1 | 348°57.2 | 3°57.2 | 18°57.3 | 33°57.4 | 48°57.5 | 63°57.5 | 78°57.6 | +0.1 |
| | -11°47.0 | -11°47.9 | -11°48.8 | -11°49.6 | -11°50.5 | -11°51.4 | -11°52.2 | -11°53.1 | -11°54.0 | -11°54.8 | -11°55.7 | -11°56.6 | -0.9 |
| **Me 25** | 273°58.6 | 288°58.7 | 303°58.8 | 318°58.8 | 333°58.9 | 348°59.0 | 3°59.0 | 18°59.1 | 33°59.2 | 48°59.3 | 63°59.3 | 78°59.4 | +0.1 |
| | -12°07.8 | -12°08.6 | -12°09.5 | -12°10.4 | -12°11.2 | -12°12.1 | -12°12.9 | -12°13.8 | -12°14.6 | -12°15.5 | -12°16.4 | -12°17.2 | -0.9 |
| **Je 26** | 274°00.3 | 289°00.4 | 304°00.4 | 319°00.5 | 334°00.6 | 349°00.6 | 4°00.7 | 19°00.7 | 34°00.8 | 49°00.9 | 64°00.9 | 79°01.0 | +0.1 |
| | -12°28.3 | -12°29.2 | -12°30.0 | -12°30.9 | -12°31.7 | -12°32.6 | -12°33.4 | -12°34.3 | -12°35.1 | -12°36.0 | -12°36.8 | -12°37.7 | -0.9 |
| **Ve 27** | 274°01.8 | 289°01.8 | 304°01.9 | 319°02.0 | 334°02.0 | 349°02.1 | 4°02.1 | 19°02.2 | 34°02.3 | 49°02.3 | 64°02.4 | 79°02.4 | +0.1 |
| | -12°48.7 | -12°49.5 | -12°50.4 | -12°51.2 | -12°52.0 | -12°52.9 | -12°53.7 | -12°54.6 | -12°55.4 | -12°56.3 | -12°57.1 | -12°57.9 | -0.8 |
| **Sa 28** | 274°03.1 | 289°03.2 | 304°03.2 | 319°03.3 | 334°03.3 | 349°03.4 | 4°03.4 | 19°03.5 | 34°03.5 | 49°03.6 | 64°03.6 | 79°03.6 | +0.0 |
| | -13°08.8 | -13°09.7 | -13°10.5 | -13°11.3 | -13°12.2 | -13°13.0 | -13°13.8 | -13°14.7 | -13°15.5 | -13°16.3 | -13°17.2 | -13°18.0 | -0.8 |
| **Di 29** | 274°04.2 | 289°04.3 | 304°04.3 | 319°04.4 | 334°04.4 | 349°04.4 | 4°04.5 | 19°04.5 | 34°04.6 | 49°04.6 | 64°04.6 | 79°04.7 | +0.0 |
| | -13°28.8 | -13°29.6 | -13°30.4 | -13°31.2 | -13°32.1 | -13°32.9 | -13°33.7 | -13°34.5 | -13°35.4 | -13°36.2 | -13°37.0 | -13°37.8 | -0.8 |
| **Lu 30** | 274°05.2 | 289°05.2 | 304°05.2 | 319°05.3 | 334°05.3 | 349°05.3 | 4°05.4 | 19°05.4 | 34°05.4 | 49°05.5 | 64°05.5 | 79°05.5 | +0.0 |
| | -13°48.5 | -13°49.3 | -13°50.1 | -13°51.0 | -13°51.8 | -13°52.6 | -13°53.4 | -13°54.2 | -13°55.0 | -13°55.9 | -13°56.7 | -13°57.5 | -0.8 |
| **Ma 31** | 274°05.9 | 289°05.9 | 304°05.9 | 319°06.0 | 334°06.0 | 349°06.0 | 4°06.0 | 19°06.1 | 34°06.1 | 49°06.1 | 64°06.1 | 79°06.2 | +0.0 |
| | -14°08.0 | -14°08.8 | -14°09.6 | -14°10.5 | -14°11.3 | -14°12.1 | -14°12.9 | -14°13.7 | -14°14.5 | -14°15.3 | -14°16.1 | -14°16.9 | -0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2034

| J | 18h | 19h | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 237°33.2 | 251°58.2 | 266°23.3 | 280°48.4 | 295°13.4 | 309°38.4 | 324°03.4 | 338°28.4 | 352°53.4 | 7°18.4 | 21°43.3 | +25.0 | 16.4 |
| | 15°17.5 | 15°23.8 | 15°30.0 | 15°36.1 | 15°42.1 | 15°48.0 | 15°53.7 | 15°59.4 | 16°04.9 | 16°10.3 | 16°15.6 | +5.8 | 60.1 |
| Lu 2 | 237°57.2 | 252°22.2 | 266°47.1 | 281°12.0 | 295°37.0 | 310°01.9 | 324°26.9 | 338°51.9 | 353°16.9 | 7°41.9 | 22°06.9 | +25.0 | 16.2 |
| | 17°21.4 | 17°24.8 | 17°28.1 | 17°31.3 | 17°34.4 | 17°37.4 | 17°40.2 | 17°42.9 | 17°45.5 | 17°48.0 | 17°50.4 | +2.9 | 59.6 |
| Ma 3 | 238°24.4 | 252°49.8 | 267°15.2 | 281°40.6 | 296°06.0 | 310°31.5 | 324°57.0 | 339°22.6 | 353°48.2 | 8°13.8 | 22°39.5 | +25.5 | 16.1 |
| | 18°11.3 | 18°11.7 | 18°12.0 | 18°12.2 | 18°12.3 | 18°12.2 | 18°12.1 | 18°11.8 | 18°11.4 | 18°10.9 | 18°10.3 | -0.1 | 59.0 |
| ◑ Me 4 | 239°09.3 | 253°35.6 | 268°02.0 | 282°28.5 | 296°55.0 | 311°21.5 | 325°48.1 | 340°14.8 | 354°41.5 | 9°08.2 | 23°35.0 | +26.6 | 15.9 |
| | 17°47.2 | 17°44.8 | 17°42.3 | 17°39.6 | 17°36.9 | 17°34.0 | 17°31.1 | 17°28.0 | 17°24.8 | 17°21.6 | 17°18.2 | -2.9 | 58.3 |
| Je 5 | 240°23.8 | 254°51.5 | 269°19.3 | 283°47.1 | 298°15.0 | 312°42.9 | 327°11.0 | 341°39.0 | 356°07.1 | 10°35.3 | 25°03.6 | +28.0 | 15.7 |
| | 16°15.8 | 16°10.9 | 16°05.9 | 16°00.8 | 15°55.6 | 15°50.3 | 15°45.0 | 15°39.5 | 15°34.0 | 15°28.4 | 15°22.7 | -5.3 | 57.7 |
| Ve 6 | 254°51.5 | 269°19.3 | 283°47.1 | 298°15.0 | 312°42.9 | 327°11.0 | 341°39.0 | 356°07.1 | 10°35.3 | 25°03.6 | 39°31.9 | +28.0 | 15.7 |
| | 16°10.9 | 16°05.9 | 16°00.8 | 15°55.6 | 15°50.3 | 15°45.0 | 15°39.5 | 15°34.0 | 15°28.4 | 15°22.7 | 15°16.9 | -5.4 | 57.7 |
| Sa 7 | 256°43.7 | 271°12.9 | 285°42.2 | 300°11.6 | 314°41.1 | 329°10.6 | 343°40.1 | 358°09.7 | 12°39.4 | 27°09.1 | 41°38.9 | +29.5 | 15.6 |
| | 13°41.1 | 13°34.1 | 13°27.1 | 13°19.9 | 13°12.8 | 13°05.5 | 12°58.2 | 12°50.9 | 12°43.5 | 12°36.0 | 12°28.4 | -7.3 | 57.0 |
| Di 8 | 259°12.3 | 273°43.0 | 288°13.7 | 302°44.5 | 317°15.3 | 331°46.1 | 346°17.0 | 0°48.0 | 15°19.0 | 29°50.1 | 44°21.2 | +30.9 | 15.4 |
| | 10°28.5 | 10°20.1 | 10°11.7 | 10°03.2 | 9°54.7 | 9°46.1 | 9°37.5 | 9°28.8 | 9°20.1 | 9°11.4 | 9°02.6 | -8.6 | 56.4 |
| Lu 9 | 262°13.2 | 276°45.0 | 291°16.9 | 305°48.7 | 320°20.7 | 334°52.6 | 349°24.6 | 3°56.7 | 18°28.7 | 33°00.9 | 47°33.0 | +32.0 | 15.2 |
| | 6°46.7 | 6°37.4 | 6°28.1 | 6°18.8 | 6°09.4 | 6°00.0 | 5°50.6 | 5°41.2 | 5°31.7 | 5°22.3 | 5°12.8 | -9.4 | 55.9 |
| Ma 10 | 265°39.1 | 280°11.7 | 294°44.4 | 309°17.1 | 323°49.8 | 338°22.6 | 352°55.3 | 7°28.1 | 22°00.9 | 36°33.8 | 51°06.6 | +32.8 | 15.1 |
| | 2°48.6 | 2°38.9 | 2°29.2 | 2°19.5 | 2°09.8 | 2°00.1 | 1°50.4 | 1°40.7 | 1°30.9 | 1°21.2 | 1°11.5 | -9.7 | 55.4 |
| Me 11 | 269°21.7 | 283°54.8 | 298°28.0 | 313°01.2 | 327°34.3 | 342°07.5 | 356°40.7 | 11°13.9 | 25°47.1 | 40°20.3 | 54°53.6 | +33.2 | 15.0 |
| | -1°13.9 | -1°23.5 | -1°33.2 | -1°42.8 | -1°52.4 | -2°01.9 | -2°11.5 | -2°21.1 | -2°30.6 | -2°40.1 | -2°49.6 | -9.6 | 55.0 |
| ● Je 12 | 273°12.7 | 287°46.0 | 302°19.4 | 316°52.7 | 331°26.0 | 345°59.3 | 0°32.6 | 15°05.9 | 29°39.2 | 44°12.5 | 58°45.8 | +33.3 | 14.9 |
| | -5°09.8 | -5°18.9 | -5°28.1 | -5°37.2 | -5°46.2 | -5°55.3 | -6°04.3 | -6°13.3 | -6°22.2 | -6°31.1 | -6°40.0 | -9.0 | 54.6 |
| Ve 13 | 277°04.7 | 291°37.9 | 306°11.1 | 320°44.3 | 335°17.4 | 349°50.6 | 4°23.7 | 18°56.9 | 33°30.0 | 48°03.1 | 62°36.3 | +33.2 | 14.8 |
| | -8°49.0 | -8°57.3 | -9°05.6 | -9°13.8 | -9°21.9 | -9°30.1 | -9°38.1 | -9°46.2 | -9°54.2 | -10°02.1 | -10°10.0 | -8.1 | 54.3 |
| Sa 14 | 280°51.3 | 295°24.2 | 309°57.1 | 324°29.9 | 339°02.8 | 353°35.6 | 8°08.4 | 22°41.2 | 37°14.0 | 51°46.7 | 66°19.5 | +32.8 | 14.7 |
| | -12°02.6 | -12°09.6 | -12°16.7 | -12°23.7 | -12°30.6 | -12°37.4 | -12°44.3 | -12°51.0 | -12°57.7 | -13°04.3 | -13°10.9 | -6.8 | 54.1 |
| Di 15 | 284°28.3 | 299°00.7 | 313°33.1 | 328°05.5 | 342°37.9 | 357°10.3 | 11°42.6 | 26°14.9 | 40°47.2 | 55°19.5 | 69°51.7 | +32.3 | 14.7 |
| | -14°42.3 | -14°47.9 | -14°53.4 | -14°58.9 | -15°04.3 | -15°09.6 | -15°14.8 | -15°20.0 | -15°25.1 | -15°30.2 | -15°35.2 | -5.3 | 54.0 |
| Lu 16 | 287°53.1 | 302°25.0 | 316°56.9 | 331°28.8 | 346°00.7 | 0°32.6 | 15°04.4 | 29°36.2 | 44°08.0 | 58°39.7 | 73°11.5 | +31.8 | 14.7 |
| | -16°41.4 | -16°45.2 | -16°49.0 | -16°52.6 | -16°56.3 | -16°59.8 | -17°03.2 | -17°06.6 | -17°09.9 | -17°13.1 | -17°16.3 | -3.5 | 54.0 |
| Ma 17 | 291°05.4 | 305°36.8 | 320°08.2 | 334°39.6 | 349°11.0 | 3°42.4 | 18°13.8 | 32°45.1 | 47°16.4 | 61°47.7 | 76°19.0 | +31.4 | 14.8 |
| | -17°54.0 | -17°55.9 | -17°57.7 | -17°59.4 | -18°01.1 | -18°02.6 | -18°04.1 | -18°05.5 | -18°06.8 | -18°08.0 | -18°09.1 | -1.5 | 54.1 |
| Me 18 | 294°06.3 | 308°37.3 | 323°08.4 | 337°39.4 | 352°10.4 | 6°41.3 | 21°12.3 | 35°43.2 | 50°14.2 | 64°45.1 | 79°16.0 | +31.0 | 14.9 |
| | -18°16.1 | -18°15.8 | -18°15.5 | -18°15.1 | -18°14.7 | -18°14.1 | -18°13.5 | -18°12.7 | -18°11.9 | -18°11.0 | -18°10.0 | +0.6 | 54.5 |
| Je 19 | 296°58.1 | 311°28.8 | 325°59.6 | 340°30.2 | 355°00.9 | 9°31.6 | 24°02.3 | 38°32.9 | 53°03.6 | 67°34.2 | 82°04.8 | +30.7 | 15.0 |
| | -17°44.8 | -17°42.4 | -17°39.9 | -17°37.4 | -17°34.7 | -17°32.0 | -17°29.2 | -17°26.3 | -17°23.3 | -17°20.3 | -17°17.1 | +2.8 | 55.0 |
| ◐ Ve 20 | 299°43.0 | 314°13.5 | 328°43.9 | 343°14.4 | 357°44.8 | 12°15.2 | 26°45.7 | 41°16.1 | 55°46.5 | 70°16.9 | 84°47.3 | +30.4 | 15.2 |
| | -16°19.4 | -16°14.9 | -16°10.2 | -16°05.5 | -16°00.7 | -15°55.9 | -15°50.9 | -15°45.9 | -15°40.8 | -15°35.5 | -15°30.3 | +4.9 | 55.6 |
| Sa 21 | 302°21.9 | 316°52.1 | 331°22.4 | 345°52.6 | 0°22.8 | 14°52.9 | 29°23.1 | 43°53.3 | 58°23.4 | 72°53.6 | 87°23.7 | +30.2 | 15.4 |
| | -14°01.0 | -13°54.4 | -13°47.8 | -13°41.0 | -13°34.2 | -13°27.3 | -13°20.3 | -13°13.2 | -13°06.1 | -12°58.9 | -12°51.6 | +6.9 | 56.5 |
| Di 22 | 304°54.0 | 319°23.9 | 333°53.8 | 348°23.7 | 2°53.5 | 17°23.4 | 31°53.2 | 46°23.0 | 60°52.8 | 75°22.6 | 89°52.3 | +29.8 | 15.7 |
| | -10°53.3 | -10°44.8 | -10°36.3 | -10°27.7 | -10°19.0 | -10°10.3 | -10°01.5 | -9°52.6 | -9°43.7 | -9°34.7 | -9°25.6 | +8.8 | 57.4 |
| Lu 23 | 307°16.0 | 321°45.4 | 336°14.8 | 350°44.2 | 5°13.5 | 19°42.8 | 34°12.1 | 48°41.3 | 63°10.5 | 77°39.7 | 92°08.9 | +29.3 | 15.9 |
| | -7°02.5 | -6°52.5 | -6°42.4 | -6°32.3 | -6°22.2 | -6°11.9 | -6°01.7 | -5°51.4 | -5°41.0 | -5°30.6 | -5°20.2 | +10.2 | 58.4 |
| Ma 24 | 309°22.5 | 323°51.2 | 338°19.8 | 352°48.4 | 7°16.9 | 21°45.4 | 36°13.9 | 50°42.3 | 65°10.7 | 79°39.0 | 94°07.3 | +28.5 | 16.2 |
| | -2°38.6 | -2°27.6 | -2°16.5 | -2°05.4 | -1°54.2 | -1°43.1 | -1°31.9 | -1°20.7 | -1°09.4 | -0°58.2 | -0°46.9 | +11.2 | 59.4 |
| Me 25 | 311°06.7 | 325°34.3 | 340°01.9 | 354°29.4 | 8°56.9 | 23°24.3 | 37°51.7 | 52°19.0 | 66°46.2 | 81°13.5 | 95°40.6 | +27.4 | 16.4 |
| | 2°03.9 | 2°15.3 | 2°26.7 | 2°38.2 | 2°49.6 | 3°01.0 | 3°12.4 | 3°23.8 | 3°35.2 | 3°46.6 | 3°58.0 | +11.4 | 60.2 |
| Je 26 | 312°22.1 | 326°48.4 | 341°14.7 | 355°41.0 | 10°07.2 | 24°33.3 | 38°59.4 | 53°25.4 | 67°51.4 | 82°17.3 | 96°43.2 | +26.1 | 16.6 |
| | 6°46.1 | 6°57.1 | 7°08.0 | 7°18.9 | 7°29.8 | 7°40.6 | 7°51.4 | 8°02.1 | 8°12.8 | 8°23.4 | 8°34.0 | +10.8 | 60.9 |
| ○ Ve 27 | 313°05.0 | 327°30.0 | 341°55.0 | 356°20.0 | 10°44.9 | 25°09.7 | 39°34.5 | 53°59.3 | 68°24.0 | 82°48.6 | 97°13.3 | +24.8 | 16.7 |
| | 11°05.6 | 11°15.2 | 11°24.7 | 11°34.1 | 11°43.4 | 11°52.7 | 12°01.8 | 12°10.9 | 12°19.9 | 12°28.9 | 12°37.7 | +9.2 | 61.1 |
| Sa 28 | 313°17.6 | 327°41.6 | 342°05.6 | 356°29.5 | 10°53.4 | 25°17.3 | 39°41.1 | 54°04.9 | 68°28.7 | 82°52.5 | 97°16.2 | +23.9 | 16.7 |
| | 14°38.9 | 14°46.2 | 14°53.4 | 15°00.4 | 15°07.3 | 15°14.2 | 15°20.9 | 15°27.5 | 15°34.0 | 15°40.4 | 15°46.6 | +6.8 | 61.1 |
| Di 29 | 313°10.4 | 327°33.9 | 341°57.5 | 356°21.0 | 10°44.5 | 25°08.0 | 39°31.6 | 53°55.1 | 68°18.7 | 82°42.2 | 97°05.8 | +23.5 | 16.6 |
| | 17°06.2 | 17°10.5 | 17°14.6 | 17°18.7 | 17°22.6 | 17°26.4 | 17°30.1 | 17°33.6 | 17°37.0 | 17°40.3 | 17°43.5 | +3.7 | 60.7 |
| Lu 30 | 327°33.9 | 341°57.5 | 356°21.0 | 10°44.5 | 25°08.0 | 39°31.6 | 53°55.1 | 68°18.7 | 82°42.2 | 97°05.8 | 111°29.4 | +23.5 | 16.5 |
| | 17°10.5 | 17°14.6 | 17°18.7 | 17°22.6 | 17°26.4 | 17°30.1 | 17°33.6 | 17°37.0 | 17°40.3 | 17°43.5 | 17°46.5 | +3.6 | 60.7 |
| Ma 31 | 327°25.1 | 341°49.0 | 356°12.9 | 10°36.9 | 25°01.0 | 39°25.0 | 53°49.1 | 68°13.3 | 82°37.4 | 97°01.7 | 111°25.9 | +24.1 | 16.4 |
| | 18°16.2 | 18°17.1 | 18°17.9 | 18°18.6 | 18°19.2 | 18°19.6 | 18°19.9 | 18°20.0 | 18°20.1 | 18°20.0 | 18°19.8 | +0.4 | 60.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 4 18h04 — NL: 12 07h32 — PQ: 20 12h03 — PL: 27 12h42

# SOLEIL

## Novembre 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 274°06.4 | 289°06.4 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.5 | 19°06.5 | 34°06.6 | 49°06.6 | 64°06.6 | 79°06.6 | +0.0 |
| | -14°27.3 | -14°28.1 | -14°28.9 | -14°29.7 | -14°30.5 | -14°31.3 | -14°32.1 | -14°32.9 | -14°33.7 | -14°34.5 | -14°35.3 | -14°36.1 | -0.8 |
| Je 2 | 274°06.8 | 289°06.8 | 304°06.8 | 319°06.8 | 334°06.8 | 349°06.8 | 4°06.8 | 19°06.8 | 34°06.8 | 49°06.8 | 64°06.8 | 79°06.8 | +0.0 |
| | -14°46.4 | -14°47.2 | -14°48.0 | -14°48.7 | -14°49.5 | -14°50.3 | -14°51.1 | -14°51.9 | -14°52.7 | -14°53.5 | -14°54.3 | -14°55.0 | -0.8 |
| Ve 3 | 274°06.9 | 289°06.9 | 304°06.9 | 319°06.9 | 334°06.9 | 349°06.9 | 4°06.9 | 19°06.9 | 34°06.9 | 49°06.9 | 64°06.9 | 79°06.9 | -0.0 |
| | -15°05.2 | -15°06.0 | -15°06.8 | -15°07.5 | -15°08.3 | -15°09.1 | -15°09.9 | -15°10.7 | -15°11.4 | -15°12.2 | -15°13.0 | -15°13.8 | -0.8 |
| Sa 4 | 274°06.8 | 289°06.8 | 304°06.8 | 319°06.8 | 334°06.8 | 349°06.7 | 4°06.7 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | -0.0 |
| | -15°23.8 | -15°24.6 | -15°25.3 | -15°26.1 | -15°26.9 | -15°27.6 | -15°28.4 | -15°29.2 | -15°29.9 | -15°30.7 | -15°31.5 | -15°32.2 | -0.8 |
| Di 5 | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.4 | 334°06.4 | 349°06.4 | 4°06.4 | 19°06.4 | 34°06.3 | 49°06.3 | 64°06.3 | 79°06.3 | -0.0 |
| | -15°42.1 | -15°42.9 | -15°43.6 | -15°44.4 | -15°45.1 | -15°45.9 | -15°46.7 | -15°47.4 | -15°48.2 | -15°48.9 | -15°49.7 | -15°50.4 | -0.8 |
| Lu 6 | 274°06.0 | 289°06.0 | 304°05.9 | 319°05.9 | 334°05.9 | 349°05.8 | 4°05.8 | 19°05.8 | 34°05.8 | 49°05.7 | 64°05.7 | 79°05.7 | -0.0 |
| | -16°00.2 | -16°00.9 | -16°01.7 | -16°02.4 | -16°03.2 | -16°03.9 | -16°04.7 | -16°05.4 | -16°06.2 | -16°06.9 | -16°07.6 | -16°08.4 | -0.7 |
| Ma 7 | 274°05.3 | 289°05.2 | 304°05.2 | 319°05.1 | 334°05.1 | 349°05.1 | 4°05.0 | 19°05.0 | 34°05.0 | 49°04.9 | 64°04.9 | 79°04.9 | -0.0 |
| | -16°18.0 | -16°18.7 | -16°19.5 | -16°20.2 | -16°20.9 | -16°21.7 | -16°22.4 | -16°23.1 | -16°23.9 | -16°24.6 | -16°25.3 | -16°26.1 | -0.7 |
| Me 8 | 274°04.3 | 289°04.3 | 304°04.2 | 319°04.2 | 334°04.1 | 349°04.1 | 4°04.1 | 19°04.0 | 34°04.0 | 49°03.9 | 64°03.9 | 79°03.8 | -0.0 |
| | -16°35.5 | -16°36.2 | -16°37.0 | -16°37.7 | -16°38.4 | -16°39.1 | -16°39.9 | -16°40.6 | -16°41.3 | -16°42.0 | -16°42.7 | -16°43.5 | -0.7 |
| Je 9 | 274°03.2 | 289°03.1 | 304°03.1 | 319°03.0 | 334°03.0 | 349°02.9 | 4°02.8 | 19°02.8 | 34°02.7 | 49°02.7 | 64°02.6 | 79°02.6 | -0.1 |
| | -16°52.8 | -16°53.5 | -16°54.2 | -16°54.9 | -16°55.6 | -16°56.3 | -16°57.0 | -16°57.8 | -16°58.5 | -16°59.2 | -16°59.9 | -17°00.6 | -0.7 |
| Ve 10 | 274°01.8 | 289°01.7 | 304°01.7 | 319°01.6 | 334°01.6 | 349°01.5 | 4°01.4 | 19°01.4 | 34°01.3 | 49°01.2 | 64°01.2 | 79°01.1 | -0.1 |
| | -17°09.7 | -17°10.4 | -17°11.1 | -17°11.8 | -17°12.5 | -17°13.2 | -17°13.9 | -17°14.6 | -17°15.3 | -17°16.0 | -17°16.7 | -17°17.4 | -0.7 |
| Sa 11 | 274°00.2 | 289°00.2 | 304°00.1 | 319°00.0 | 333°59.9 | 348°59.9 | 3°59.8 | 18°59.7 | 33°59.7 | 48°59.6 | 63°59.5 | 78°59.4 | -0.1 |
| | -17°26.4 | -17°27.1 | -17°27.8 | -17°28.5 | -17°29.2 | -17°29.9 | -17°30.5 | -17°31.2 | -17°31.9 | -17°32.6 | -17°33.3 | -17°34.0 | -0.7 |
| Di 12 | 273°58.4 | 288°58.4 | 303°58.3 | 318°58.2 | 333°58.1 | 348°58.0 | 3°58.0 | 18°57.9 | 33°57.8 | 48°57.7 | 63°57.6 | 78°57.6 | -0.1 |
| | -17°42.8 | -17°43.5 | -17°44.1 | -17°44.8 | -17°45.5 | -17°46.2 | -17°46.8 | -17°47.5 | -17°48.2 | -17°48.9 | -17°49.5 | -17°50.2 | -0.7 |
| Lu 13 | 273°56.4 | 288°56.4 | 303°56.3 | 318°56.2 | 333°56.1 | 348°56.0 | 3°55.9 | 18°55.8 | 33°55.7 | 48°55.6 | 63°55.6 | 78°55.5 | -0.1 |
| | -17°58.9 | -17°59.5 | -18°00.2 | -18°00.8 | -18°01.5 | -18°02.2 | -18°02.8 | -18°03.5 | -18°04.1 | -18°04.8 | -18°05.5 | -18°06.1 | -0.7 |
| Ma 14 | 273°54.2 | 288°54.1 | 303°54.0 | 318°53.9 | 333°53.8 | 348°53.8 | 3°53.7 | 18°53.6 | 33°53.5 | 48°53.4 | 63°53.3 | 78°53.2 | -0.1 |
| | -18°14.6 | -18°15.3 | -18°15.9 | -18°16.6 | -18°17.2 | -18°17.9 | -18°18.5 | -18°19.2 | -18°19.8 | -18°20.4 | -18°21.1 | -18°21.7 | -0.6 |
| Me 15 | 273°51.8 | 288°51.7 | 303°51.6 | 318°51.5 | 333°51.4 | 348°51.3 | 3°51.2 | 18°51.1 | 33°51.0 | 48°50.9 | 63°50.8 | 78°50.6 | -0.1 |
| | -18°30.1 | -18°30.7 | -18°31.3 | -18°32.0 | -18°32.6 | -18°33.2 | -18°33.9 | -18°34.5 | -18°35.1 | -18°35.8 | -18°36.4 | -18°37.0 | -0.6 |
| Je 16 | 273°49.2 | 288°49.1 | 303°49.0 | 318°48.9 | 333°48.7 | 348°48.6 | 3°48.5 | 18°48.4 | 33°48.3 | 48°48.2 | 63°48.0 | 78°47.9 | -0.1 |
| | -18°45.2 | -18°45.8 | -18°46.4 | -18°47.0 | -18°47.7 | -18°48.3 | -18°48.9 | -18°49.5 | -18°50.1 | -18°50.7 | -18°51.4 | -18°52.0 | -0.6 |
| Ve 17 | 273°46.4 | 288°46.2 | 303°46.1 | 318°46.0 | 333°45.9 | 348°45.7 | 3°45.6 | 18°45.5 | 33°45.4 | 48°45.2 | 63°45.1 | 78°45.0 | -0.1 |
| | -18°59.9 | -19°00.6 | -19°01.2 | -19°01.8 | -19°02.4 | -19°03.0 | -19°03.6 | -19°04.2 | -19°04.8 | -19°05.4 | -19°06.0 | -19°06.6 | -0.6 |
| Sa 18 | 273°43.3 | 288°43.2 | 303°43.1 | 318°42.9 | 333°42.8 | 348°42.7 | 3°42.5 | 18°42.4 | 33°42.3 | 48°42.1 | 63°42.0 | 78°41.9 | -0.1 |
| | -19°14.4 | -19°15.0 | -19°15.6 | -19°16.2 | -19°16.8 | -19°17.3 | -19°17.9 | -19°18.5 | -19°19.1 | -19°19.7 | -19°20.3 | -19°20.9 | -0.6 |
| Di 19 | 273°40.1 | 288°39.9 | 303°39.8 | 318°39.7 | 333°39.5 | 348°39.4 | 3°39.2 | 18°39.1 | 33°39.0 | 48°38.8 | 63°38.7 | 78°38.5 | -0.1 |
| | -19°28.5 | -19°29.1 | -19°29.6 | -19°30.2 | -19°30.8 | -19°31.4 | -19°31.9 | -19°32.5 | -19°33.1 | -19°33.7 | -19°34.2 | -19°34.8 | -0.6 |
| Lu 20 | 273°36.7 | 288°36.5 | 303°36.4 | 318°36.2 | 333°36.1 | 348°35.9 | 3°35.8 | 18°35.6 | 33°35.5 | 48°35.3 | 63°35.2 | 78°35.0 | -0.1 |
| | -19°42.2 | -19°42.8 | -19°43.3 | -19°43.9 | -19°44.5 | -19°45.0 | -19°45.6 | -19°46.2 | -19°46.7 | -19°47.3 | -19°47.8 | -19°48.4 | -0.6 |
| Ma 21 | 273°33.0 | 288°32.9 | 303°32.7 | 318°32.5 | 333°32.4 | 348°32.2 | 3°32.1 | 18°31.9 | 33°31.8 | 48°31.6 | 63°31.4 | 78°31.3 | -0.2 |
| | -19°55.6 | -19°56.1 | -19°56.7 | -19°57.2 | -19°57.8 | -19°58.3 | -19°58.9 | -19°59.4 | -20°00.0 | -20°00.5 | -20°01.1 | -20°01.6 | -0.5 |
| Me 22 | 273°29.2 | 288°29.0 | 303°28.9 | 318°28.7 | 333°28.5 | 348°28.4 | 3°28.2 | 18°28.0 | 33°27.9 | 48°27.7 | 63°27.5 | 78°27.4 | -0.2 |
| | -20°08.6 | -20°09.1 | -20°09.7 | -20°10.2 | -20°10.7 | -20°11.3 | -20°11.8 | -20°12.3 | -20°12.9 | -20°13.4 | -20°13.9 | -20°14.5 | -0.5 |
| Je 23 | 273°25.2 | 288°25.0 | 303°24.8 | 318°24.6 | 333°24.5 | 348°24.3 | 3°24.1 | 18°23.9 | 33°23.8 | 48°23.6 | 63°23.4 | 78°23.2 | -0.2 |
| | -20°21.3 | -20°21.8 | -20°22.3 | -20°22.8 | -20°23.3 | -20°23.8 | -20°24.4 | -20°24.9 | -20°25.4 | -20°25.9 | -20°26.4 | -20°26.9 | -0.5 |
| Ve 24 | 273°20.9 | 288°20.8 | 303°20.6 | 318°20.4 | 333°20.2 | 348°20.0 | 3°19.9 | 18°19.7 | 33°19.5 | 48°19.3 | 63°19.1 | 78°18.9 | -0.2 |
| | -20°33.5 | -20°34.0 | -20°34.5 | -20°35.0 | -20°35.5 | -20°36.0 | -20°36.5 | -20°37.0 | -20°37.5 | -20°38.0 | -20°38.5 | -20°39.0 | -0.5 |
| Sa 25 | 273°16.5 | 288°16.3 | 303°16.2 | 318°16.0 | 333°15.8 | 348°15.6 | 3°15.4 | 18°15.2 | 33°15.0 | 48°14.8 | 63°14.6 | 78°14.5 | -0.2 |
| | -20°45.4 | -20°45.9 | -20°46.4 | -20°46.9 | -20°47.4 | -20°47.9 | -20°48.3 | -20°48.8 | -20°49.3 | -20°49.8 | -20°50.3 | -20°50.7 | -0.5 |
| Di 26 | 273°11.9 | 288°11.7 | 303°11.5 | 318°11.4 | 333°11.2 | 348°11.0 | 3°10.8 | 18°10.6 | 33°10.4 | 48°10.2 | 63°10.0 | 78°09.8 | -0.2 |
| | -20°56.9 | -20°57.4 | -20°57.9 | -20°58.3 | -20°58.8 | -20°59.3 | -20°59.7 | -21°00.2 | -21°00.7 | -21°01.1 | -21°01.6 | -21°02.1 | -0.5 |
| Lu 27 | 273°07.2 | 288°07.0 | 303°06.8 | 318°06.6 | 333°06.3 | 348°06.1 | 3°05.9 | 18°05.7 | 33°05.5 | 48°05.3 | 63°05.1 | 78°04.9 | -0.2 |
| | -21°08.0 | -21°08.5 | -21°08.9 | -21°09.4 | -21°09.9 | -21°10.3 | -21°10.8 | -21°11.2 | -21°11.7 | -21°12.1 | -21°12.6 | -21°13.0 | -0.5 |
| Ma 28 | 273°02.2 | 288°02.0 | 303°01.8 | 318°01.6 | 333°01.4 | 348°01.1 | 3°00.9 | 18°00.7 | 33°00.5 | 48°00.3 | 63°00.1 | 77°59.9 | -0.2 |
| | -21°18.8 | -21°19.2 | -21°19.6 | -21°20.1 | -21°20.5 | -21°20.9 | -21°21.4 | -21°21.8 | -21°22.2 | -21°22.7 | -21°23.1 | -21°23.5 | -0.4 |
| Me 29 | 272°57.1 | 287°56.8 | 302°56.6 | 317°56.4 | 332°56.2 | 347°56.0 | 2°55.7 | 17°55.5 | 32°55.3 | 47°55.1 | 62°54.9 | 77°54.6 | -0.2 |
| | -21°29.1 | -21°29.5 | -21°29.9 | -21°30.3 | -21°30.8 | -21°31.2 | -21°31.6 | -21°32.0 | -21°32.4 | -21°32.8 | -21°33.2 | -21°33.7 | -0.4 |
| Je 30 | 272°51.7 | 287°51.5 | 302°51.3 | 317°51.1 | 332°50.8 | 347°50.6 | 2°50.4 | 17°50.2 | 32°49.9 | 47°49.7 | 62°49.5 | 77°49.2 | -0.2 |
| | -21°39.0 | -21°39.4 | -21°39.8 | -21°40.2 | -21°40.6 | -21°41.0 | -21°41.4 | -21°41.8 | -21°42.2 | -21°42.6 | -21°43.0 | -21°43.4 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2034

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 241°43.8 | 256°10.1 | 270°36.6 | 285°03.1 | 299°29.7 | 313°56.3 | 328°23.1 | 342°49.9 | 357°16.8 | 11°43.7 | 26°10.7 | +26.7 | 16.0 |
| | 17°01.5 | 16°57.2 | 16°52.9 | 16°48.5 | 16°43.9 | 16°39.3 | 16°34.6 | 16°29.8 | 16°24.8 | 16°19.8 | 16°14.7 | -4.7 | 58.6 |
| Je 2 | 243°05.2 | 257°33.4 | 272°01.7 | 286°30.1 | 300°58.6 | 315°27.1 | 329°55.7 | 344°24.4 | 358°53.2 | 13°22.0 | 27°50.9 | +28.6 | 15.7 |
| | 14°47.8 | 14°41.4 | 14°34.8 | 14°28.2 | 14°21.6 | 14°14.8 | 14°08.0 | 14°01.1 | 13°54.2 | 13°47.2 | 13°40.1 | -6.8 | 57.7 |
| ◑ Ve 3 | 245°13.0 | 259°43.0 | 274°13.1 | 288°43.3 | 303°13.5 | 317°43.8 | 332°14.1 | 346°44.5 | 1°15.0 | 15°45.6 | 30°16.2 | +30.3 | 15.5 |
| | 11°46.2 | 11°38.2 | 11°30.1 | 11°22.0 | 11°13.8 | 11°05.5 | 10°57.2 | 10°48.9 | 10°40.5 | 10°32.1 | 10°23.6 | -8.3 | 56.9 |
| Sa 4 | 259°43.0 | 274°13.1 | 288°43.3 | 303°13.5 | 317°43.8 | 332°14.1 | 346°44.5 | 1°15.0 | 15°45.6 | 30°16.2 | 44°46.8 | +30.4 | 15.5 |
| | 11°38.2 | 11°30.1 | 11°22.0 | 11°13.8 | 11°05.5 | 10°57.2 | 10°48.9 | 10°40.5 | 10°32.1 | 10°23.6 | 10°15.1 | -8.3 | 56.8 |
| Di 5 | 262°33.9 | 277°05.5 | 291°37.1 | 306°08.8 | 320°40.5 | 335°12.3 | 349°44.1 | 4°16.0 | 18°47.9 | 33°19.8 | 47°51.9 | +31.8 | 15.3 |
| | 8°02.6 | 7°53.5 | 7°44.4 | 7°35.2 | 7°26.0 | 7°16.8 | 7°07.6 | 6°58.3 | 6°49.0 | 6°39.7 | 6°30.4 | -9.2 | 56.1 |
| Lu 6 | 265°57.1 | 280°29.8 | 295°02.5 | 309°35.2 | 324°07.9 | 338°40.7 | 353°13.5 | 7°46.4 | 22°19.3 | 36°52.2 | 51°25.1 | +32.8 | 15.1 |
| | 4°08.0 | 3°58.4 | 3°48.8 | 3°39.2 | 3°29.6 | 3°19.9 | 3°10.3 | 3°00.6 | 2°50.9 | 2°41.2 | 2°31.6 | -9.7 | 55.5 |
| Ma 7 | 269°42.2 | 284°15.5 | 298°48.8 | 313°22.2 | 327°55.5 | 342°28.9 | 357°02.3 | 11°35.7 | 26°09.1 | 40°42.5 | 55°16.0 | +33.4 | 15.0 |
| | 0°06.2 | -0°03.5 | -0°13.1 | -0°22.8 | -0°32.5 | -0°42.1 | -0°51.7 | -1°01.4 | -1°11.0 | -1°20.6 | -1°30.2 | -9.6 | 55.0 |
| Me 8 | 273°38.7 | 288°12.3 | 302°45.8 | 317°19.4 | 331°53.0 | 346°26.5 | 1°00.1 | 15°33.7 | 30°07.2 | 44°40.8 | 59°14.4 | +33.6 | 14.9 |
| | -3°52.5 | -4°01.8 | -4°11.1 | -4°20.4 | -4°29.7 | -4°39.0 | -4°48.2 | -4°57.4 | -5°06.6 | -5°15.8 | -5°24.9 | -9.2 | 54.6 |
| Je 9 | 277°37.3 | 292°10.8 | 306°44.3 | 321°17.7 | 335°51.1 | 350°24.6 | 4°58.0 | 19°31.4 | 34°04.8 | 48°38.2 | 63°11.6 | +33.4 | 14.8 |
| | -7°38.4 | -7°47.0 | -7°55.6 | -8°04.2 | -8°12.8 | -8°21.2 | -8°29.7 | -8°38.1 | -8°46.5 | -8°54.9 | -9°03.2 | -8.5 | 54.2 |
| Ve 10 | 281°30.4 | 296°03.5 | 310°36.6 | 325°09.7 | 339°42.8 | 354°15.8 | 8°48.9 | 23°21.9 | 37°54.9 | 52°27.9 | 67°00.8 | +33.0 | 14.7 |
| | -11°02.5 | -11°10.1 | -11°17.6 | -11°25.1 | -11°32.6 | -11°40.0 | -11°47.3 | -11°54.6 | -12°01.8 | -12°09.0 | -12°16.1 | -7.4 | 54.0 |
| ● Sa 11 | 285°12.6 | 299°45.3 | 314°17.8 | 328°50.4 | 343°23.0 | 357°55.5 | 12°28.0 | 27°00.5 | 41°32.9 | 56°05.4 | 70°37.8 | +32.5 | 14.7 |
| | -13°56.3 | -14°02.5 | -14°08.7 | -14°14.7 | -14°20.8 | -14°26.7 | -14°32.6 | -14°38.5 | -14°44.2 | -14°49.9 | -14°55.6 | -5.9 | 53.9 |
| Di 12 | 288°41.3 | 303°13.4 | 317°45.4 | 332°17.5 | 346°49.4 | 1°21.4 | 15°53.4 | 30°25.3 | 44°57.2 | 59°29.1 | 74°01.0 | +32.0 | 14.7 |
| | -16°12.0 | -16°16.5 | -16°21.0 | -16°25.4 | -16°29.7 | -16°33.9 | -16°38.1 | -16°42.2 | -16°46.2 | -16°50.2 | -16°54.0 | -4.2 | 53.9 |
| Lu 13 | 291°56.6 | 306°28.2 | 320°59.7 | 335°31.3 | 350°02.8 | 4°34.3 | 19°05.7 | 33°37.2 | 48°08.6 | 62°40.1 | 77°11.5 | +31.5 | 14.7 |
| | -17°42.9 | -17°45.5 | -17°48.1 | -17°50.5 | -17°52.9 | -17°55.2 | -17°57.4 | -17°59.6 | -18°01.7 | -18°03.6 | -18°05.5 | -2.3 | 53.9 |
| Ma 14 | 295°01.0 | 309°32.2 | 324°03.4 | 338°34.6 | 353°05.8 | 7°37.0 | 22°08.1 | 36°39.2 | 51°10.4 | 65°41.5 | 80°12.6 | +31.2 | 14.8 |
| | -18°24.0 | -18°24.6 | -18°25.1 | -18°25.5 | -18°25.8 | -18°26.0 | -18°26.1 | -18°26.2 | -18°26.1 | -18°26.0 | -18°25.8 | -0.2 | 54.1 |
| Me 15 | 297°58.6 | 312°29.6 | 327°00.6 | 341°31.6 | 356°02.6 | 10°33.6 | 25°04.6 | 39°35.6 | 54°06.6 | 68°37.6 | 83°08.6 | +31.0 | 14.8 |
| | -18°12.5 | -18°10.9 | -18°09.2 | -18°07.5 | -18°05.7 | -18°03.7 | -18°01.7 | -17°59.6 | -17°57.5 | -17°55.2 | -17°52.9 | +2.0 | 54.4 |
| Je 16 | 300°53.3 | 315°24.3 | 329°55.2 | 344°26.2 | 358°57.2 | 13°28.2 | 27°59.2 | 42°30.1 | 57°01.1 | 71°32.1 | 86°03.1 | +31.0 | 15.0 |
| | -17°07.5 | -17°03.8 | -17°00.0 | -16°56.2 | -16°52.2 | -16°48.2 | -16°44.1 | -16°39.9 | -16°35.6 | -16°31.3 | -16°26.8 | +4.1 | 54.9 |
| Ve 17 | 303°47.8 | 318°18.8 | 332°49.8 | 347°20.8 | 1°51.8 | 16°22.8 | 30°53.8 | 45°24.7 | 59°55.7 | 74°26.7 | 88°57.7 | +31.0 | 15.1 |
| | -15°10.6 | -15°04.9 | -14°59.1 | -14°53.3 | -14°47.3 | -14°41.3 | -14°35.2 | -14°29.0 | -14°22.8 | -14°16.5 | -14°10.1 | +6.1 | 55.5 |
| Sa 18 | 306°42.2 | 321°13.1 | 335°44.0 | 350°15.0 | 4°45.9 | 19°16.8 | 33°47.7 | 48°18.6 | 62°49.5 | 77°20.4 | 91°51.2 | +30.9 | 15.3 |
| | -12°25.3 | -12°17.8 | -12°10.2 | -12°02.5 | -11°54.7 | -11°46.9 | -11°39.0 | -11°31.1 | -11°23.0 | -11°14.9 | -11°06.8 | +7.9 | 56.2 |
| ◐ Di 19 | 309°33.1 | 324°03.8 | 338°34.5 | 353°05.1 | 7°35.7 | 22°06.4 | 36°37.0 | 51°07.6 | 65°38.1 | 80°08.7 | 94°39.2 | +30.6 | 15.6 |
| | -8°57.0 | -8°47.9 | -8°38.7 | -8°29.4 | -8°20.1 | -8°10.8 | -8°01.4 | -7°51.9 | -7°42.4 | -7°32.8 | -7°23.2 | +9.4 | 57.1 |
| Lu 20 | 312°14.3 | 326°44.4 | 341°14.5 | 355°44.6 | 10°14.6 | 24°44.6 | 39°14.6 | 53°44.5 | 68°14.4 | 82°44.3 | 97°14.1 | +30.0 | 15.8 |
| | -4°53.2 | -4°42.8 | -4°32.4 | -4°22.0 | -4°11.5 | -4°01.0 | -3°50.5 | -3°39.9 | -3°29.3 | -3°18.6 | -3°07.9 | +10.5 | 58.1 |
| Ma 21 | 314°36.9 | 329°06.1 | 343°35.2 | 358°04.3 | 12°33.3 | 27°02.3 | 41°31.2 | 56°00.1 | 70°29.0 | 84°57.7 | 99°26.5 | +29.0 | 16.1 |
| | -0°24.3 | -0°13.2 | -0°02.1 | 0°09.1 | 0°20.2 | 0°31.4 | 0°42.6 | 0°53.7 | 1°04.9 | 1°16.1 | 1°27.3 | +11.2 | 59.1 |
| Me 22 | 316°30.8 | 330°58.7 | 345°26.4 | 359°54.1 | 14°21.8 | 28°49.3 | 43°16.8 | 57°44.3 | 72°11.7 | 86°39.0 | 101°06.2 | +27.5 | 16.4 |
| | 4°15.8 | 4°26.9 | 4°38.1 | 4°49.3 | 5°00.4 | 5°11.5 | 5°22.7 | 5°33.7 | 5°44.8 | 5°55.9 | 6°06.9 | +11.1 | 60.1 |
| Je 23 | 317°46.9 | 332°13.1 | 346°39.2 | 1°05.2 | 15°31.2 | 29°57.0 | 44°22.9 | 58°48.6 | 73°14.3 | 87°39.9 | 102°05.4 | +25.8 | 16.6 |
| | 8°48.4 | 8°58.9 | 9°09.3 | 9°19.6 | 9°29.9 | 9°40.2 | 9°50.4 | 10°00.5 | 10°10.6 | 10°20.6 | 10°30.6 | +10.2 | 60.8 |
| Ve 24 | 318°20.1 | 332°44.6 | 347°09.0 | 1°33.3 | 15°57.5 | 30°21.7 | 44°45.9 | 59°09.9 | 73°33.9 | 87°57.9 | 102°21.8 | +24.2 | 16.7 |
| | 12°51.5 | 13°00.2 | 13°08.9 | 13°17.5 | 13°26.0 | 13°34.4 | 13°42.7 | 13°50.9 | 13°59.1 | 14°07.1 | 14°15.0 | +8.4 | 61.3 |
| ○ Sa 25 | 318°13.7 | 332°36.8 | 346°59.8 | 1°22.9 | 15°45.8 | 30°08.7 | 44°31.6 | 58°54.5 | 73°17.3 | 87°40.1 | 102°02.9 | +22.9 | 16.8 |
| | 16°01.1 | 16°07.3 | 16°13.3 | 16°19.3 | 16°25.1 | 16°30.7 | 16°36.3 | 16°41.7 | 16°47.0 | 16°52.2 | 16°57.3 | +5.6 | 61.4 |
| Di 26 | 317°42.1 | 332°04.6 | 346°27.1 | 0°49.6 | 15°12.2 | 29°34.7 | 43°57.2 | 58°19.8 | 72°42.3 | 87°04.9 | 101°27.5 | +22.5 | 16.7 |
| | 17°57.2 | 18°00.1 | 18°02.9 | 18°05.6 | 18°08.1 | 18°10.4 | 18°12.7 | 18°14.8 | 18°16.7 | 18°18.5 | 18°20.2 | +2.3 | 61.2 |
| Lu 27 | 317°09.0 | 331°32.1 | 345°55.2 | 0°18.3 | 14°41.4 | 29°04.7 | 43°27.9 | 57°51.2 | 72°14.6 | 86°38.0 | 101°01.5 | +23.2 | 16.5 |
| | 18°28.7 | 18°28.2 | 18°27.5 | 18°26.7 | 18°25.8 | 18°24.7 | 18°23.5 | 18°22.2 | 18°20.8 | 18°19.2 | 18°17.4 | -1.1 | 60.6 |
| Ma 28 | 331°32.1 | 345°55.2 | 0°18.3 | 14°41.4 | 29°04.7 | 43°27.9 | 57°51.2 | 72°14.6 | 86°38.0 | 101°01.5 | 115°25.0 | +23.3 | 16.5 |
| | 18°28.2 | 18°27.5 | 18°26.7 | 18°25.8 | 18°24.7 | 18°23.5 | 18°22.2 | 18°20.8 | 18°19.2 | 18°17.4 | 18°15.6 | -1.3 | 60.6 |
| Me 29 | 331°25.5 | 345°50.1 | 0°14.8 | 14°39.5 | 29°04.4 | 43°29.3 | 57°54.2 | 72°19.3 | 86°44.4 | 101°09.6 | 115°34.9 | +24.9 | 16.3 |
| | 17°32.9 | 17°29.1 | 17°25.2 | 17°21.2 | 17°17.0 | 17°12.8 | 17°08.4 | 17°03.9 | 16°59.4 | 16°54.7 | 16°49.9 | -4.3 | 59.7 |
| Je 30 | 332°04.5 | 346°31.1 | 0°57.9 | 15°24.7 | 29°51.6 | 44°18.6 | 58°45.7 | 73°12.9 | 87°40.2 | 102°07.6 | 116°35.0 | +27.1 | 16.0 |
| | 15°26.2 | 15°19.8 | 15°13.4 | 15°06.9 | 15°00.4 | 14°53.7 | 14°47.0 | 14°40.2 | 14°33.3 | 14°26.3 | 14°19.3 | -6.7 | 58.8 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 3 03h27 — NL: 11 01h16 — PQ: 19 04h01 — PL: 25 22h32

# SOLEIL

## Décembre 2034

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 272°46.3 | 287°46.0 | 302°45.8 | 317°45.6 | 332°45.3 | 347°45.1 | 2°44.9 | 17°44.6 | 32°44.4 | 47°44.2 | 62°43.9 | 77°43.7 | -0.2 |
| | -21°48.5 | -21°48.9 | -21°49.2 | -21°49.6 | -21°50.0 | -21°50.4 | -21°50.8 | -21°51.2 | -21°51.5 | -21°51.9 | -21°52.3 | -21°52.7 | -0.4 |
| Sa 2 | 272°40.6 | 287°40.4 | 302°40.1 | 317°39.9 | 332°39.6 | 347°39.4 | 2°39.2 | 17°38.9 | 32°38.7 | 47°38.4 | 62°38.2 | 77°38.0 | -0.2 |
| | -21°57.6 | -21°57.9 | -21°58.3 | -21°58.7 | -21°59.0 | -21°59.4 | -21°59.8 | -22°00.1 | -22°00.5 | -22°00.8 | -22°01.2 | -22°01.6 | -0.4 |
| Di 3 | 272°34.8 | 287°34.5 | 302°34.3 | 317°34.1 | 332°33.8 | 347°33.6 | 2°33.3 | 17°33.1 | 32°32.8 | 47°32.6 | 62°32.3 | 77°32.1 | -0.2 |
| | -22°06.2 | -22°06.6 | -22°06.9 | -22°07.3 | -22°07.6 | -22°08.0 | -22°08.3 | -22°08.7 | -22°09.0 | -22°09.3 | -22°09.7 | -22°10.0 | -0.3 |
| Lu 4 | 272°28.8 | 287°28.6 | 302°28.3 | 317°28.1 | 332°27.8 | 347°27.6 | 2°27.3 | 17°27.0 | 32°26.8 | 47°26.5 | 62°26.3 | 77°26.0 | -0.3 |
| | -22°14.4 | -22°14.8 | -22°15.1 | -22°15.4 | -22°15.8 | -22°16.1 | -22°16.4 | -22°16.8 | -22°17.1 | -22°17.4 | -22°17.7 | -22°18.1 | -0.3 |
| Ma 5 | 272°22.7 | 287°22.4 | 302°22.2 | 317°21.9 | 332°21.7 | 347°21.4 | 2°21.1 | 17°20.9 | 32°20.6 | 47°20.4 | 62°20.1 | 77°19.8 | -0.3 |
| | -22°22.2 | -22°22.6 | -22°22.9 | -22°23.2 | -22°23.5 | -22°23.8 | -22°24.1 | -22°24.4 | -22°24.7 | -22°25.1 | -22°25.4 | -22°25.7 | -0.3 |
| Me 6 | 272°16.4 | 287°16.2 | 302°15.9 | 317°15.6 | 332°15.4 | 347°15.1 | 2°14.9 | 17°14.6 | 32°14.3 | 47°14.1 | 62°13.8 | 77°13.5 | -0.3 |
| | -22°29.6 | -22°29.9 | -22°30.2 | -22°30.5 | -22°30.8 | -22°31.1 | -22°31.4 | -22°31.7 | -22°32.0 | -22°32.3 | -22°32.5 | -22°32.8 | -0.3 |
| Je 7 | 272°10.0 | 287°09.8 | 302°09.5 | 317°09.2 | 332°09.0 | 347°08.7 | 2°08.4 | 17°08.2 | 32°07.9 | 47°07.6 | 62°07.3 | 77°07.1 | -0.3 |
| | -22°36.5 | -22°36.8 | -22°37.1 | -22°37.4 | -22°37.6 | -22°37.9 | -22°38.2 | -22°38.5 | -22°38.7 | -22°39.0 | -22°39.3 | -22°39.6 | -0.3 |
| Ve 8 | 272°03.5 | 287°03.2 | 302°03.0 | 317°02.7 | 332°02.4 | 347°02.1 | 2°01.9 | 17°01.6 | 32°01.3 | 47°01.0 | 62°00.8 | 77°00.5 | -0.3 |
| | -22°43.0 | -22°43.3 | -22°43.5 | -22°43.8 | -22°44.1 | -22°44.3 | -22°44.6 | -22°44.8 | -22°45.1 | -22°45.3 | -22°45.6 | -22°45.8 | -0.3 |
| Sa 9 | 271°56.9 | 286°56.6 | 301°56.3 | 316°56.0 | 331°55.8 | 346°55.5 | 1°55.2 | 16°54.9 | 31°54.6 | 46°54.4 | 61°54.1 | 76°53.8 | -0.3 |
| | -22°49.1 | -22°49.3 | -22°49.6 | -22°49.8 | -22°50.0 | -22°50.3 | -22°50.5 | -22°50.7 | -22°51.0 | -22°51.2 | -22°51.5 | -22°51.7 | -0.2 |
| Di 10 | 271°50.1 | 286°49.8 | 301°49.6 | 316°49.3 | 331°49.0 | 346°48.7 | 1°48.4 | 16°48.1 | 31°47.8 | 46°47.6 | 61°47.3 | 76°47.0 | -0.3 |
| | -22°54.7 | -22°54.9 | -22°55.1 | -22°55.3 | -22°55.5 | -22°55.8 | -22°56.0 | -22°56.2 | -22°56.4 | -22°56.6 | -22°56.9 | -22°57.1 | -0.2 |
| Lu 11 | 271°43.3 | 286°43.0 | 301°42.7 | 316°42.4 | 331°42.1 | 346°41.8 | 1°41.5 | 16°41.2 | 31°41.0 | 46°40.7 | 61°40.4 | 76°40.1 | -0.3 |
| | -22°59.8 | -23°00.0 | -23°00.2 | -23°00.4 | -23°00.6 | -23°00.8 | -23°01.0 | -23°01.2 | -23°01.4 | -23°01.6 | -23°01.8 | -23°02.0 | -0.2 |
| Ma 12 | 271°36.3 | 286°36.0 | 301°35.7 | 316°35.4 | 331°35.1 | 346°34.8 | 1°34.6 | 16°34.3 | 31°34.0 | 46°33.7 | 61°33.4 | 76°33.1 | -0.3 |
| | -23°04.5 | -23°04.7 | -23°04.9 | -23°05.0 | -23°05.2 | -23°05.4 | -23°05.6 | -23°05.8 | -23°05.9 | -23°06.1 | -23°06.3 | -23°06.5 | -0.2 |
| Me 13 | 271°29.3 | 286°29.0 | 301°28.7 | 316°28.4 | 331°28.1 | 346°27.8 | 1°27.5 | 16°27.2 | 31°26.9 | 46°26.6 | 61°26.3 | 76°26.0 | -0.3 |
| | -23°08.7 | -23°08.9 | -23°09.1 | -23°09.2 | -23°09.4 | -23°09.5 | -23°09.7 | -23°09.9 | -23°10.0 | -23°10.2 | -23°10.3 | -23°10.5 | -0.2 |
| Je 14 | 271°22.1 | 286°21.8 | 301°21.5 | 316°21.2 | 331°20.9 | 346°20.6 | 1°20.3 | 16°20.0 | 31°19.7 | 46°19.4 | 61°19.2 | 76°18.9 | -0.3 |
| | -23°12.5 | -23°12.6 | -23°12.8 | -23°12.9 | -23°13.1 | -23°13.2 | -23°13.4 | -23°13.5 | -23°13.6 | -23°13.8 | -23°13.9 | -23°14.1 | -0.1 |
| Ve 15 | 271°14.9 | 286°14.6 | 301°14.3 | 316°14.0 | 331°13.7 | 346°13.4 | 1°13.1 | 16°12.8 | 31°12.5 | 46°12.2 | 61°11.9 | 76°11.6 | -0.3 |
| | -23°15.8 | -23°15.9 | -23°16.1 | -23°16.2 | -23°16.3 | -23°16.4 | -23°16.6 | -23°16.7 | -23°16.8 | -23°16.9 | -23°17.0 | -23°17.2 | -0.1 |
| Sa 16 | 271°07.7 | 286°07.4 | 301°07.1 | 316°06.8 | 331°06.5 | 346°06.2 | 1°05.9 | 16°05.6 | 31°05.3 | 46°05.0 | 61°04.7 | 76°04.4 | -0.3 |
| | -23°18.6 | -23°18.8 | -23°18.9 | -23°19.0 | -23°19.1 | -23°19.2 | -23°19.3 | -23°19.4 | -23°19.5 | -23°19.6 | -23°19.7 | -23°19.8 | -0.1 |
| Di 17 | 271°00.4 | 286°00.1 | 300°59.8 | 315°59.5 | 330°59.2 | 345°58.9 | 0°58.6 | 15°58.3 | 30°57.9 | 45°57.6 | 60°57.3 | 75°57.0 | -0.3 |
| | -23°21.0 | -23°21.1 | -23°21.2 | -23°21.3 | -23°21.4 | -23°21.5 | -23°21.5 | -23°21.6 | -23°21.7 | -23°21.8 | -23°21.9 | -23°22.0 | -0.1 |
| Lu 18 | 270°53.0 | 285°52.7 | 300°52.4 | 315°52.1 | 330°51.8 | 345°51.5 | 0°51.2 | 15°50.9 | 30°50.6 | 45°50.3 | 60°50.0 | 75°49.7 | -0.3 |
| | -23°22.9 | -23°23.0 | -23°23.1 | -23°23.1 | -23°23.2 | -23°23.3 | -23°23.3 | -23°23.4 | -23°23.5 | -23°23.5 | -23°23.6 | -23°23.7 | -0.1 |
| Ma 19 | 270°45.7 | 285°45.4 | 300°45.1 | 315°44.7 | 330°44.4 | 345°44.1 | 0°43.8 | 15°43.5 | 30°43.2 | 45°42.9 | 60°42.6 | 75°42.3 | -0.3 |
| | -23°24.4 | -23°24.4 | -23°24.5 | -23°24.5 | -23°24.6 | -23°24.6 | -23°24.7 | -23°24.7 | -23°24.7 | -23°24.8 | -23°24.8 | -23°24.9 | -0.0 |
| Me 20 | 270°38.3 | 285°38.0 | 300°37.6 | 315°37.3 | 330°37.0 | 345°36.7 | 0°36.4 | 15°36.1 | 30°35.8 | 45°35.5 | 60°35.2 | 75°34.9 | -0.3 |
| | -23°25.3 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.6 | -23°25.6 | -23°25.6 | -23°25.6 | -0.0 |
| Je 21 | 270°30.8 | 285°30.5 | 300°30.2 | 315°29.9 | 330°29.6 | 345°29.3 | 0°29.0 | 15°28.7 | 30°28.4 | 45°28.1 | 60°27.7 | 75°27.4 | -0.3 |
| | -23°25.8 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -0.0 |
| Ve 22 | 270°23.4 | 285°23.1 | 300°22.8 | 315°22.5 | 330°22.2 | 345°21.9 | 0°21.5 | 15°21.2 | 30°20.9 | 45°20.6 | 60°20.3 | 75°20.0 | -0.3 |
| | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.7 | +0.0 |
| Sa 23 | 270°16.0 | 285°15.7 | 300°15.4 | 315°15.0 | 330°14.7 | 345°14.4 | 0°14.1 | 15°13.8 | 30°13.5 | 45°13.2 | 60°12.9 | 75°12.6 | -0.3 |
| | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.2 | -23°25.2 | -23°25.2 | -23°25.1 | -23°25.1 | +0.0 |
| Di 24 | 270°08.5 | 285°08.2 | 300°07.9 | 315°07.6 | 330°07.3 | 345°07.0 | 0°06.7 | 15°06.4 | 30°06.1 | 45°05.8 | 60°05.5 | 75°05.1 | -0.3 |
| | -23°24.5 | -23°24.5 | -23°24.4 | -23°24.4 | -23°24.3 | -23°24.3 | -23°24.2 | -23°24.2 | -23°24.1 | -23°24.1 | -23°24.0 | -23°24.0 | +0.1 |
| Lu 25 | 270°01.1 | 285°00.8 | 300°00.5 | 315°00.2 | 329°59.9 | 344°59.6 | 359°59.3 | 14°59.0 | 29°58.7 | 44°58.4 | 59°58.0 | 74°57.7 | -0.3 |
| | -23°23.1 | -23°23.1 | -23°23.0 | -23°22.9 | -23°22.9 | -23°22.8 | -23°22.7 | -23°22.7 | -23°22.6 | -23°22.5 | -23°22.4 | -23°22.4 | +0.1 |
| Ma 26 | 269°53.7 | 284°53.4 | 299°53.1 | 314°52.8 | 329°52.5 | 344°52.2 | 359°51.9 | 14°51.6 | 29°51.3 | 44°51.0 | 59°50.7 | 74°50.4 | -0.3 |
| | -23°21.3 | -23°21.2 | -23°21.1 | -23°21.0 | -23°20.9 | -23°20.9 | -23°20.8 | -23°20.7 | -23°20.6 | -23°20.5 | -23°20.4 | -23°20.3 | +0.1 |
| Me 27 | 269°46.4 | 284°46.1 | 299°45.8 | 314°45.5 | 329°45.1 | 344°44.8 | 359°44.5 | 14°44.2 | 29°43.9 | 44°43.6 | 59°43.3 | 74°43.0 | -0.3 |
| | -23°19.0 | -23°18.9 | -23°18.8 | -23°18.7 | -23°18.5 | -23°18.4 | -23°18.3 | -23°18.2 | -23°18.1 | -23°18.0 | -23°17.9 | -23°17.8 | +0.1 |
| Je 28 | 269°39.0 | 284°38.7 | 299°38.4 | 314°38.1 | 329°37.8 | 344°37.5 | 359°37.2 | 14°36.9 | 29°36.6 | 44°36.3 | 59°36.0 | 74°35.7 | -0.3 |
| | -23°16.2 | -23°16.1 | -23°15.9 | -23°15.8 | -23°15.7 | -23°15.6 | -23°15.4 | -23°15.3 | -23°15.2 | -23°15.0 | -23°14.9 | -23°14.8 | +0.1 |
| Ve 29 | 269°31.8 | 284°31.5 | 299°31.1 | 314°30.8 | 329°30.5 | 344°30.2 | 359°29.9 | 14°29.6 | 29°29.3 | 44°29.0 | 59°28.7 | 74°28.4 | -0.3 |
| | -23°12.9 | -23°12.8 | -23°12.6 | -23°12.5 | -23°12.4 | -23°12.2 | -23°12.1 | -23°11.9 | -23°11.8 | -23°11.6 | -23°11.4 | -23°11.3 | +0.2 |
| Sa 30 | 269°24.5 | 284°24.2 | 299°23.9 | 314°23.6 | 329°23.3 | 344°23.0 | 359°22.7 | 14°22.4 | 29°22.1 | 44°21.8 | 59°21.5 | 74°21.2 | -0.3 |
| | -23°09.2 | -23°09.1 | -23°08.9 | -23°08.7 | -23°08.6 | -23°08.4 | -23°08.2 | -23°08.0 | -23°07.9 | -23°07.7 | -23°07.5 | -23°07.4 | +0.2 |
| Di 31 | 269°17.3 | 284°17.0 | 299°16.7 | 314°16.4 | 329°16.1 | 344°15.8 | 359°15.5 | 14°15.2 | 29°14.9 | 44°14.7 | 59°14.4 | 74°14.1 | -0.3 |
| | -23°05.0 | -23°04.9 | -23°04.7 | -23°04.5 | -23°04.3 | -23°04.1 | -23°03.9 | -23°03.7 | -23°03.5 | -23°03.4 | -23°03.2 | -23°03.0 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Décembre 2034

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 234°28.0 | 248°58.3 | 263°28.6 | 277°58.9 | 292°29.4 | 306°59.9 | 321°30.5 | 336°01.1 | 350°31.8 | 5°02.6 | 19°33.5 | +30.5 | 15.6 |
| | 9°51.6 | 9°42.6 | 9°33.6 | 9°24.6 | 9°15.5 | 9°06.4 | 8°57.3 | 8°48.1 | 8°38.9 | 8°29.7 | 8°20.4 | -9.1 | 57.1 |
| ◑ Sa 2 | 237°23.8 | 251°55.6 | 266°27.5 | 280°59.4 | 295°31.4 | 310°03.4 | 324°35.5 | 339°07.6 | 353°39.8 | 8°12.0 | 22°44.3 | +32.1 | 15.3 |
| | 5°58.4 | 5°48.7 | 5°39.1 | 5°29.4 | 5°19.7 | 5°10.0 | 5°00.3 | 4°50.6 | 4°40.9 | 4°31.1 | 4°21.4 | -9.7 | 56.2 |
| Di 3 | 240°53.5 | 255°26.5 | 269°59.4 | 284°32.4 | 299°05.4 | 313°38.5 | 328°11.6 | 342°44.7 | 357°17.8 | 11°51.0 | 26°24.2 | +33.1 | 15.1 |
| | 1°54.4 | 1°44.6 | 1°34.8 | 1°24.9 | 1°15.1 | 1°05.3 | 0°55.5 | 0°45.7 | 0°35.9 | 0°26.1 | 0°16.4 | -9.8 | 55.4 |
| Lu 4 | 255°26.5 | 269°59.4 | 284°32.4 | 299°05.4 | 313°38.5 | 328°11.6 | 342°44.7 | 357°17.8 | 11°51.0 | 26°24.2 | 40°57.4 | +33.1 | 15.1 |
| | 1°44.6 | 1°34.8 | 1°24.9 | 1°15.1 | 1°05.3 | 0°55.5 | 0°45.7 | 0°35.9 | 0°26.1 | 0°16.4 | 0°06.6 | -9.8 | 55.4 |
| Ma 5 | 259°18.3 | 273°51.9 | 288°25.4 | 302°59.0 | 317°32.6 | 332°06.2 | 346°39.8 | 1°13.4 | 15°47.0 | 30°20.6 | 44°54.2 | +33.6 | 14.9 |
| | -2°18.7 | -2°28.3 | -2°37.9 | -2°47.4 | -2°57.0 | -3°06.5 | -3°15.9 | -3°25.4 | -3°34.9 | -3°44.3 | -3°53.7 | -9.5 | 54.8 |
| Me 6 | 263°19.3 | 277°53.0 | 292°26.6 | 307°00.3 | 321°34.0 | 336°07.6 | 350°41.3 | 5°14.9 | 19°48.6 | 34°22.2 | 48°55.8 | +33.7 | 14.8 |
| | -6°11.8 | -6°20.8 | -6°29.8 | -6°38.7 | -6°47.6 | -6°56.5 | -7°05.3 | -7°14.1 | -7°22.8 | -7°31.6 | -7°40.3 | -8.8 | 54.4 |
| Je 7 | 267°19.0 | 281°52.5 | 296°25.9 | 310°59.3 | 325°32.7 | 340°06.1 | 354°39.4 | 9°12.8 | 23°46.1 | 38°19.4 | 52°52.7 | +33.4 | 14.7 |
| | -9°46.2 | -9°54.3 | -10°02.3 | -10°10.3 | -10°18.2 | -10°26.1 | -10°33.9 | -10°41.8 | -10°49.5 | -10°57.2 | -11°04.9 | -7.9 | 54.1 |
| Ve 8 | 271°09.5 | 285°42.5 | 300°15.4 | 314°48.3 | 329°21.1 | 343°54.0 | 358°26.8 | 12°59.6 | 27°32.4 | 42°05.1 | 56°37.8 | +32.8 | 14.7 |
| | -12°53.8 | -13°00.6 | -13°07.4 | -13°14.1 | -13°20.8 | -13°27.4 | -13°33.9 | -13°40.4 | -13°46.8 | -13°53.2 | -13°59.5 | -6.6 | 53.9 |
| Sa 9 | 274°45.6 | 289°17.9 | 303°50.1 | 318°22.4 | 332°54.6 | 347°26.8 | 1°59.0 | 16°31.1 | 31°03.3 | 45°35.4 | 60°07.4 | +32.2 | 14.7 |
| | -15°26.7 | -15°32.0 | -15°37.2 | -15°42.4 | -15°47.5 | -15°52.5 | -15°57.4 | -16°02.3 | -16°07.1 | -16°11.9 | -16°16.5 | -5.0 | 53.9 |
| ● Di 10 | 278°05.4 | 292°37.1 | 307°08.7 | 321°40.3 | 336°11.9 | 350°43.5 | 5°15.0 | 19°46.6 | 34°18.1 | 48°49.6 | 63°21.0 | +31.6 | 14.7 |
| | -17°17.7 | -17°21.2 | -17°24.6 | -17°27.9 | -17°31.1 | -17°34.3 | -17°37.4 | -17°40.4 | -17°43.3 | -17°46.1 | -17°48.9 | -3.1 | 53.9 |
| Lu 11 | 281°10.7 | 295°41.8 | 310°13.0 | 324°44.1 | 339°15.2 | 353°46.3 | 8°17.4 | 22°48.5 | 37°19.6 | 51°50.6 | 66°21.7 | +31.1 | 14.7 |
| | -18°20.5 | -18°22.0 | -18°23.3 | -18°24.6 | -18°25.8 | -18°26.9 | -18°27.9 | -18°28.9 | -18°29.7 | -18°30.5 | -18°31.1 | -1.1 | 54.1 |
| Ma 12 | 284°06.0 | 298°36.9 | 313°07.8 | 327°38.6 | 342°09.5 | 356°40.4 | 11°11.2 | 25°42.1 | 40°13.0 | 54°43.8 | 69°14.7 | +30.9 | 14.8 |
| | -18°30.9 | -18°30.2 | -18°29.4 | -18°28.5 | -18°27.6 | -18°26.5 | -18°25.4 | -18°24.1 | -18°22.8 | -18°21.4 | -18°19.9 | +1.1 | 54.3 |
| Me 13 | 286°57.4 | 301°28.2 | 315°59.1 | 330°30.0 | 345°00.8 | 359°31.7 | 14°02.6 | 28°33.5 | 43°04.4 | 57°35.3 | 72°06.2 | +30.9 | 14.9 |
| | -17°47.2 | -17°44.3 | -17°41.3 | -17°38.3 | -17°35.2 | -17°31.9 | -17°28.6 | -17°25.3 | -17°21.8 | -17°18.3 | -17°14.6 | +3.3 | 54.6 |
| Je 14 | 289°50.5 | 304°21.5 | 318°52.5 | 333°23.5 | 347°54.6 | 2°25.6 | 16°56.7 | 31°27.7 | 45°58.8 | 60°29.9 | 75°01.0 | +31.1 | 15.0 |
| | -16°10.3 | -16°05.3 | -16°00.3 | -15°55.2 | -15°50.1 | -15°44.8 | -15°39.5 | -15°34.1 | -15°28.6 | -15°23.0 | -15°17.4 | +5.3 | 55.0 |
| Ve 15 | 292°48.4 | 307°19.6 | 321°50.9 | 336°22.1 | 350°53.4 | 5°24.6 | 19°55.9 | 34°27.2 | 48°58.4 | 63°29.7 | 78°01.0 | +31.3 | 15.1 |
| | -13°44.0 | -13°37.2 | -13°30.3 | -13°23.4 | -13°16.4 | -13°09.3 | -13°02.1 | -12°54.9 | -12°47.6 | -12°40.3 | -12°32.9 | +7.1 | 55.5 |
| Sa 16 | 295°50.9 | 310°22.3 | 324°53.6 | 339°25.0 | 353°56.3 | 8°27.7 | 22°59.0 | 37°30.4 | 52°01.7 | 66°33.1 | 81°04.4 | +31.3 | 15.3 |
| | -10°34.1 | -10°25.7 | -10°17.2 | -10°08.7 | -10°00.1 | -9°51.5 | -9°42.8 | -9°34.1 | -9°25.3 | -9°16.5 | -9°07.6 | +8.7 | 56.2 |
| Di 17 | 298°53.8 | 313°25.0 | 327°56.2 | 342°27.4 | 356°58.6 | 11°29.8 | 26°00.9 | 40°32.1 | 55°03.2 | 69°34.3 | 84°05.4 | +31.2 | 15.5 |
| | -6°48.2 | -6°38.5 | -6°28.8 | -6°19.0 | -6°09.3 | -5°59.4 | -5°49.6 | -5°39.6 | -5°29.7 | -5°19.7 | -5°09.7 | +9.8 | 56.9 |
| ◐ Lu 18 | 301°49.3 | 316°20.0 | 330°50.7 | 345°21.3 | 359°52.0 | 14°22.6 | 28°53.1 | 43°23.7 | 57°54.2 | 72°24.7 | 86°55.1 | +30.6 | 15.7 |
| | -2°35.4 | -2°24.8 | -2°14.3 | -2°03.7 | -1°53.1 | -1°42.5 | -1°31.9 | -1°21.2 | -1°10.5 | -0°59.8 | -0°49.1 | +10.6 | 57.7 |
| Ma 19 | 304°26.9 | 318°56.7 | 333°26.4 | 347°56.1 | 2°25.7 | 16°55.3 | 31°24.8 | 45°54.3 | 60°23.7 | 74°53.0 | 89°22.4 | +29.5 | 16.0 |
| | 1°53.1 | 2°04.0 | 2°14.9 | 2°25.8 | 2°36.7 | 2°47.6 | 2°58.5 | 3°09.3 | 3°20.2 | 3°31.1 | 3°41.9 | +10.9 | 58.6 |
| Me 20 | 306°35.1 | 321°03.4 | 335°31.7 | 350°00.0 | 4°28.1 | 18°56.2 | 33°24.2 | 47°52.2 | 62°20.1 | 76°47.9 | 91°15.6 | +28.1 | 16.2 |
| | 6°23.5 | 6°34.1 | 6°44.7 | 6°55.2 | 7°05.8 | 7°16.3 | 7°26.8 | 7°37.2 | 7°47.6 | 7°58.0 | 8°08.3 | +10.5 | 59.5 |
| Je 21 | 308°03.2 | 322°29.8 | 336°56.3 | 351°22.7 | 5°49.1 | 20°15.3 | 34°41.5 | 49°07.7 | 63°33.7 | 77°59.7 | 92°25.6 | +26.2 | 16.4 |
| | 10°38.3 | 10°47.8 | 10°57.4 | 11°06.8 | 11°16.3 | 11°25.6 | 11°34.9 | 11°44.1 | 11°53.2 | 12°02.3 | 12°11.3 | +9.3 | 60.2 |
| Ve 22 | 308°45.1 | 323°09.8 | 337°34.4 | 351°59.0 | 6°23.5 | 20°47.9 | 35°12.3 | 49°36.6 | 64°00.8 | 78°25.0 | 92°49.1 | +24.4 | 16.6 |
| | 14°17.0 | 14°24.7 | 14°32.3 | 14°39.8 | 14°47.2 | 14°54.5 | 15°01.7 | 15°08.8 | 15°15.8 | 15°22.7 | 15°29.5 | +7.3 | 60.8 |
| Sa 23 | 308°43.4 | 323°06.5 | 337°29.7 | 351°52.8 | 6°15.8 | 20°38.8 | 35°01.8 | 49°24.7 | 63°47.6 | 78°10.5 | 92°33.3 | +23.0 | 16.7 |
| | 16°58.1 | 17°03.0 | 17°07.9 | 17°12.6 | 17°17.2 | 17°21.6 | 17°26.0 | 17°30.2 | 17°34.2 | 17°38.2 | 17°42.0 | +4.4 | 61.1 |
| Di 24 | 308°12.6 | 322°35.1 | 336°57.6 | 351°20.1 | 5°42.6 | 20°05.0 | 34°27.5 | 48°50.0 | 63°12.5 | 77°35.0 | 91°57.5 | +22.5 | 16.7 |
| | 18°23.0 | 18°24.7 | 18°26.2 | 18°27.5 | 18°28.7 | 18°29.8 | 18°30.8 | 18°31.6 | 18°32.2 | 18°32.7 | 18°33.1 | +1.0 | 61.1 |
| ○ Lu 25 | 307°37.7 | 322°00.6 | 336°23.6 | 350°46.6 | 5°09.6 | 19°32.7 | 33°55.9 | 48°19.1 | 62°42.3 | 77°05.6 | 91°28.9 | +23.1 | 16.6 |
| | 18°22.2 | 18°20.4 | 18°18.5 | 18°16.4 | 18°14.2 | 18°11.8 | 18°09.3 | 18°06.7 | 18°04.0 | 18°01.1 | 17°58.1 | -2.4 | 60.7 |
| Ma 26 | 307°26.4 | 321°50.8 | 336°15.2 | 350°39.7 | 5°04.3 | 19°29.0 | 33°53.7 | 48°18.6 | 62°43.5 | 77°08.5 | 91°33.5 | +24.7 | 16.4 |
| | 16°58.3 | 16°53.4 | 16°48.3 | 16°43.2 | 16°37.9 | 16°32.5 | 16°27.1 | 16°21.5 | 16°15.8 | 16°10.0 | 16°04.1 | -5.4 | 60.1 |
| Me 27 | 307°59.6 | 322°26.0 | 336°52.6 | 351°19.2 | 5°45.9 | 20°12.6 | 34°39.5 | 49°06.5 | 63°33.5 | 78°00.6 | 92°27.8 | +26.8 | 16.1 |
| | 14°24.5 | 14°17.1 | 14°09.7 | 14°02.2 | 13°54.6 | 13°47.0 | 13°39.3 | 13°31.5 | 13°23.6 | 13°15.6 | 13°07.6 | -7.7 | 59.2 |
| Je 28 | 322°26.0 | 336°52.6 | 351°19.2 | 5°45.9 | 20°12.6 | 34°39.5 | 49°06.5 | 63°33.5 | 78°00.6 | 92°27.8 | 106°55.1 | +26.9 | 16.1 |
| | 14°17.1 | 14°09.7 | 14°02.2 | 13°54.6 | 13°47.0 | 13°39.3 | 13°31.5 | 13°23.6 | 13°15.6 | 13°07.6 | 12°59.6 | -7.8 | 59.1 |
| Ve 29 | 323°55.2 | 338°23.8 | 352°52.6 | 7°21.4 | 21°50.4 | 36°19.4 | 50°48.5 | 65°17.7 | 79°46.9 | 94°16.2 | 108°45.6 | +29.1 | 15.9 |
| | 10°51.0 | 10°42.0 | 10°33.0 | 10°23.9 | 10°14.8 | 10°05.6 | 9°56.4 | 9°47.1 | 9°37.8 | 9°28.5 | 9°19.1 | -9.2 | 58.1 |
| Sa 30 | 326°15.9 | 340°46.4 | 355°17.1 | 9°47.8 | 24°18.6 | 38°49.5 | 53°20.4 | 67°51.4 | 82°22.4 | 96°53.5 | 111°24.7 | +30.9 | 15.6 |
| | 6°54.6 | 6°44.8 | 6°34.9 | 6°25.1 | 6°15.2 | 6°05.3 | 5°55.3 | 5°45.4 | 5°35.4 | 5°25.5 | 5°15.5 | -9.9 | 57.1 |
| Di 31 | 329°19.0 | 343°51.0 | 358°23.1 | 12°55.3 | 27°27.4 | 41°59.7 | 56°31.9 | 71°04.2 | 85°36.6 | 100°09.0 | 114°41.4 | +32.2 | 15.3 |
| | 2°44.8 | 2°34.8 | 2°24.7 | 2°14.6 | 2°04.6 | 1°54.5 | 1°44.4 | 1°34.4 | 1°24.3 | 1°14.3 | 1°04.3 | -10.1 | 56.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 2 16h46 — NL: 10 20h14 — PQ: 18 17h44 — PL: 25 08h54

# SOLEIL

## Janvier 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 269° 10.2 | 284° 09.9 | 299° 09.6 | 314° 09.3 | 329° 09.0 | 344° 08.7 | 359° 08.4 | 14° 08.1 | 29° 07.9 | 44° 07.6 | 59° 07.3 | 74° 07.0 | -0.3 |
| | -23° 00.4 | -23° 00.2 | -23° 00.0 | -22° 59.8 | -22° 59.6 | -22° 59.4 | -22° 59.2 | -22° 59.0 | -22° 58.7 | -22° 58.5 | -22° 58.3 | -22° 58.1 | +0.2 |
| **Ma 2** | 269° 03.2 | 284° 02.9 | 299° 02.6 | 314° 02.3 | 329° 02.0 | 344° 01.7 | 359° 01.4 | 14° 01.1 | 29° 00.8 | 44° 00.5 | 59° 00.3 | 74° 00.0 | -0.3 |
| | -22° 55.3 | -22° 55.1 | -22° 54.8 | -22° 54.6 | -22° 54.4 | -22° 54.2 | -22° 53.9 | -22° 53.7 | -22° 53.5 | -22° 53.3 | -22° 53.0 | -22° 52.8 | +0.2 |
| **Me 3** | 268° 56.2 | 283° 55.9 | 298° 55.6 | 313° 55.3 | 328° 55.0 | 343° 54.8 | 358° 54.5 | 13° 54.2 | 28° 53.9 | 43° 53.6 | 58° 53.3 | 73° 53.0 | -0.3 |
| | -22° 49.7 | -22° 49.5 | -22° 49.2 | -22° 49.0 | -22° 48.8 | -22° 48.5 | -22° 48.3 | -22° 48.0 | -22° 47.8 | -22° 47.5 | -22° 47.3 | -22° 47.0 | +0.2 |
| **Je 4** | 268° 49.3 | 283° 49.0 | 298° 48.8 | 313° 48.5 | 328° 48.2 | 343° 47.9 | 358° 47.6 | 13° 47.3 | 28° 47.1 | 43° 46.8 | 58° 46.5 | 73° 46.2 | -0.3 |
| | -22° 43.7 | -22° 43.5 | -22° 43.2 | -22° 42.9 | -22° 42.7 | -22° 42.4 | -22° 42.1 | -22° 41.9 | -22° 41.6 | -22° 41.3 | -22° 41.1 | -22° 40.8 | +0.3 |
| **Ve 5** | 268° 42.5 | 283° 42.3 | 298° 42.0 | 313° 41.7 | 328° 41.4 | 343° 41.1 | 358° 40.9 | 13° 40.6 | 28° 40.3 | 43° 40.0 | 58° 39.7 | 73° 39.5 | -0.3 |
| | -22° 37.2 | -22° 37.0 | -22° 36.7 | -22° 36.4 | -22° 36.1 | -22° 35.8 | -22° 35.6 | -22° 35.3 | -22° 35.0 | -22° 34.7 | -22° 34.4 | -22° 34.1 | +0.3 |
| **Sa 6** | 268° 35.9 | 283° 35.6 | 298° 35.3 | 313° 35.0 | 328° 34.8 | 343° 34.5 | 358° 34.2 | 13° 33.9 | 28° 33.7 | 43° 33.4 | 58° 33.1 | 73° 32.8 | -0.3 |
| | -22° 30.3 | -22° 30.0 | -22° 29.7 | -22° 29.4 | -22° 29.1 | -22° 28.8 | -22° 28.5 | -22° 28.2 | -22° 27.9 | -22° 27.6 | -22° 27.3 | -22° 27.0 | +0.3 |
| **Di 7** | 268° 29.3 | 283° 29.0 | 298° 28.8 | 313° 28.5 | 328° 28.2 | 343° 27.9 | 358° 27.7 | 13° 27.4 | 28° 27.1 | 43° 26.9 | 58° 26.6 | 73° 26.3 | -0.3 |
| | -22° 23.0 | -22° 22.7 | -22° 22.3 | -22° 22.0 | -22° 21.7 | -22° 21.4 | -22° 21.1 | -22° 20.7 | -22° 20.4 | -22° 20.1 | -22° 19.8 | -22° 19.5 | +0.3 |
| **Lu 8** | 268° 22.9 | 283° 22.6 | 298° 22.3 | 313° 22.1 | 328° 21.8 | 343° 21.5 | 358° 21.3 | 13° 21.0 | 28° 20.7 | 43° 20.5 | 58° 20.2 | 73° 19.9 | -0.3 |
| | -22° 15.2 | -22° 14.8 | -22° 14.5 | -22° 14.2 | -22° 13.8 | -22° 13.5 | -22° 13.2 | -22° 12.8 | -22° 12.5 | -22° 12.1 | -22° 11.8 | -22° 11.5 | +0.3 |
| **Ma 9** | 268° 16.5 | 283° 16.3 | 298° 16.0 | 313° 15.8 | 328° 15.5 | 343° 15.2 | 358° 15.0 | 13° 14.7 | 28° 14.5 | 43° 14.2 | 58° 13.9 | 73° 13.7 | -0.3 |
| | -22° 06.9 | -22° 06.6 | -22° 06.2 | -22° 05.9 | -22° 05.5 | -22° 05.2 | -22° 04.8 | -22° 04.5 | -22° 04.1 | -22° 03.7 | -22° 03.4 | -22° 03.0 | +0.4 |
| **Me 10** | 268° 10.3 | 283° 10.1 | 298° 09.8 | 313° 09.6 | 328° 09.3 | 343° 09.1 | 358° 08.8 | 13° 08.6 | 28° 08.3 | 43° 08.1 | 58° 07.8 | 73° 07.6 | -0.3 |
| | -21° 58.3 | -21° 57.9 | -21° 57.5 | -21° 57.2 | -21° 56.8 | -21° 56.4 | -21° 56.0 | -21° 55.7 | -21° 55.3 | -21° 54.9 | -21° 54.5 | -21° 54.2 | +0.4 |
| **Je 11** | 268° 04.3 | 283° 04.1 | 298° 03.8 | 313° 03.6 | 328° 03.3 | 343° 03.1 | 358° 02.8 | 13° 02.6 | 28° 02.3 | 43° 02.1 | 58° 01.8 | 73° 01.6 | -0.2 |
| | -21° 49.2 | -21° 48.8 | -21° 48.4 | -21° 48.0 | -21° 47.6 | -21° 47.2 | -21° 46.8 | -21° 46.4 | -21° 46.0 | -21° 45.7 | -21° 45.3 | -21° 44.9 | +0.4 |
| **Ve 12** | 267° 58.4 | 282° 58.2 | 297° 57.9 | 312° 57.7 | 327° 57.4 | 342° 57.2 | 357° 57.0 | 12° 56.7 | 27° 56.5 | 42° 56.2 | 57° 56.0 | 72° 55.8 | -0.2 |
| | -21° 39.7 | -21° 39.2 | -21° 38.8 | -21° 38.4 | -21° 38.0 | -21° 37.6 | -21° 37.2 | -21° 36.8 | -21° 36.4 | -21° 36.0 | -21° 35.6 | -21° 35.1 | +0.4 |
| **Sa 13** | 267° 52.7 | 282° 52.4 | 297° 52.2 | 312° 52.0 | 327° 51.7 | 342° 51.5 | 357° 51.2 | 12° 51.0 | 27° 50.8 | 42° 50.5 | 57° 50.3 | 72° 50.1 | -0.2 |
| | -21° 29.7 | -21° 29.3 | -21° 28.9 | -21° 28.4 | -21° 28.0 | -21° 27.6 | -21° 27.2 | -21° 26.7 | -21° 26.3 | -21° 25.9 | -21° 25.4 | -21° 25.0 | +0.4 |
| **Di 14** | 267° 47.1 | 282° 46.8 | 297° 46.6 | 312° 46.4 | 327° 46.2 | 342° 45.9 | 357° 45.7 | 12° 45.5 | 27° 45.2 | 42° 45.0 | 57° 44.8 | 72° 44.6 | -0.2 |
| | -21° 19.4 | -21° 18.9 | -21° 18.5 | -21° 18.0 | -21° 17.6 | -21° 17.1 | -21° 16.7 | -21° 16.3 | -21° 15.8 | -21° 15.4 | -21° 14.9 | -21° 14.5 | +0.4 |
| **Lu 15** | 267° 41.7 | 282° 41.4 | 297° 41.2 | 312° 41.0 | 327° 40.8 | 342° 40.5 | 357° 40.3 | 12° 40.1 | 27° 39.9 | 42° 39.7 | 57° 39.4 | 72° 39.2 | -0.2 |
| | -21° 08.6 | -21° 08.1 | -21° 07.7 | -21° 07.2 | -21° 06.8 | -21° 06.3 | -21° 05.8 | -21° 05.4 | -21° 04.9 | -21° 04.4 | -21° 04.0 | -21° 03.5 | +0.5 |
| **Ma 16** | 267° 36.4 | 282° 36.2 | 297° 36.0 | 312° 35.8 | 327° 35.6 | 342° 35.3 | 357° 35.1 | 12° 34.9 | 27° 34.7 | 42° 34.5 | 57° 34.3 | 72° 34.1 | -0.2 |
| | -20° 57.4 | -20° 56.9 | -20° 56.5 | -20° 56.0 | -20° 55.5 | -20° 55.0 | -20° 54.6 | -20° 54.1 | -20° 53.6 | -20° 53.1 | -20° 52.6 | -20° 52.2 | +0.5 |
| **Me 17** | 267° 31.3 | 282° 31.1 | 297° 30.9 | 312° 30.7 | 327° 30.5 | 342° 30.3 | 357° 30.1 | 12° 29.9 | 27° 29.7 | 42° 29.5 | 57° 29.3 | 72° 29.1 | -0.2 |
| | -20° 45.8 | -20° 45.4 | -20° 44.9 | -20° 44.4 | -20° 43.9 | -20° 43.4 | -20° 42.9 | -20° 42.4 | -20° 41.9 | -20° 41.4 | -20° 40.9 | -20° 40.4 | +0.5 |
| **Je 18** | 267° 26.4 | 282° 26.2 | 297° 26.0 | 312° 25.9 | 327° 25.7 | 342° 25.5 | 357° 25.3 | 12° 25.1 | 27° 24.9 | 42° 24.7 | 57° 24.5 | 72° 24.3 | -0.2 |
| | -20° 33.9 | -20° 33.4 | -20° 32.9 | -20° 32.4 | -20° 31.8 | -20° 31.3 | -20° 30.8 | -20° 30.3 | -20° 29.8 | -20° 29.3 | -20° 28.8 | -20° 28.3 | +0.5 |
| **Ve 19** | 267° 21.7 | 282° 21.6 | 297° 21.4 | 312° 21.2 | 327° 21.0 | 342° 20.8 | 357° 20.6 | 12° 20.4 | 27° 20.2 | 42° 20.0 | 57° 19.8 | 72° 19.6 | -0.2 |
| | -20° 21.5 | -20° 21.0 | -20° 20.5 | -20° 20.0 | -20° 19.4 | -20° 18.9 | -20° 18.4 | -20° 17.8 | -20° 17.3 | -20° 16.8 | -20° 16.3 | -20° 15.7 | +0.5 |
| **Sa 20** | 267° 17.2 | 282° 17.0 | 297° 16.9 | 312° 16.7 | 327° 16.5 | 342° 16.3 | 357° 16.1 | 12° 15.9 | 27° 15.8 | 42° 15.6 | 57° 15.4 | 72° 15.2 | -0.2 |
| | -20° 08.8 | -20° 08.2 | -20° 07.7 | -20° 07.2 | -20° 06.6 | -20° 06.1 | -20° 05.5 | -20° 05.0 | -20° 04.5 | -20° 03.9 | -20° 03.4 | -20° 02.8 | +0.5 |
| **Di 21** | 267° 12.9 | 282° 12.7 | 297° 12.5 | 312° 12.4 | 327° 12.2 | 342° 12.0 | 357° 11.8 | 12° 11.7 | 27° 11.5 | 42° 11.3 | 57° 11.2 | 72° 11.0 | -0.2 |
| | -19° 55.7 | -19° 55.1 | -19° 54.6 | -19° 54.0 | -19° 53.4 | -19° 52.9 | -19° 52.3 | -19° 51.8 | -19° 51.2 | -19° 50.7 | -19° 50.1 | -19° 49.5 | +0.6 |
| **Lu 22** | 267° 08.8 | 282° 08.6 | 297° 08.4 | 312° 08.3 | 327° 08.1 | 342° 07.9 | 357° 07.8 | 12° 07.6 | 27° 07.4 | 42° 07.3 | 57° 07.1 | 72° 06.9 | -0.2 |
| | -19° 42.2 | -19° 41.6 | -19° 41.0 | -19° 40.5 | -19° 39.9 | -19° 39.3 | -19° 38.8 | -19° 38.2 | -19° 37.6 | -19° 37.0 | -19° 36.5 | -19° 35.9 | +0.6 |
| **Ma 23** | 267° 04.8 | 282° 04.7 | 297° 04.5 | 312° 04.3 | 327° 04.2 | 342° 04.0 | 357° 03.9 | 12° 03.7 | 27° 03.5 | 42° 03.4 | 57° 03.2 | 72° 03.1 | -0.2 |
| | -19° 28.3 | -19° 27.7 | -19° 27.2 | -19° 26.6 | -19° 26.0 | -19° 25.4 | -19° 24.8 | -19° 24.2 | -19° 23.6 | -19° 23.0 | -19° 22.5 | -19° 21.9 | +0.6 |
| **Me 24** | 267° 01.1 | 282° 00.9 | 297° 00.8 | 312° 00.6 | 327° 00.5 | 342° 00.3 | 357° 00.2 | 12° 00.0 | 26° 59.9 | 41° 59.7 | 56° 59.6 | 71° 59.4 | -0.2 |
| | -19° 14.1 | -19° 13.5 | -19° 12.9 | -19° 12.3 | -19° 11.7 | -19° 11.1 | -19° 10.5 | -19° 09.9 | -19° 09.3 | -19° 08.7 | -19° 08.1 | -19° 07.5 | +0.6 |
| **Je 25** | 266° 57.5 | 281° 57.4 | 296° 57.2 | 311° 57.1 | 326° 56.9 | 341° 56.8 | 356° 56.7 | 11° 56.5 | 26° 56.4 | 41° 56.2 | 56° 56.1 | 71° 56.0 | -0.1 |
| | -18° 59.6 | -18° 58.9 | -18° 58.3 | -18° 57.7 | -18° 57.1 | -18° 56.5 | -18° 55.9 | -18° 55.2 | -18° 54.6 | -18° 54.0 | -18° 53.4 | -18° 52.8 | +0.6 |
| **Ve 26** | 266° 54.2 | 281° 54.0 | 296° 53.9 | 311° 53.8 | 326° 53.6 | 341° 53.5 | 356° 53.4 | 11° 53.2 | 26° 53.1 | 41° 53.0 | 56° 52.8 | 71° 52.7 | -0.1 |
| | -18° 44.6 | -18° 44.0 | -18° 43.4 | -18° 42.7 | -18° 42.1 | -18° 41.5 | -18° 40.9 | -18° 40.2 | -18° 39.6 | -18° 39.0 | -18° 38.3 | -18° 37.7 | +0.6 |
| **Sa 27** | 266° 51.0 | 281° 50.9 | 296° 50.8 | 311° 50.6 | 326° 50.5 | 341° 50.4 | 356° 50.2 | 11° 50.1 | 26° 50.0 | 41° 49.9 | 56° 49.8 | 71° 49.6 | -0.1 |
| | -18° 29.4 | -18° 28.7 | -18° 28.1 | -18° 27.4 | -18° 26.8 | -18° 26.2 | -18° 25.5 | -18° 24.9 | -18° 24.2 | -18° 23.6 | -18° 22.9 | -18° 22.3 | +0.6 |
| **Di 28** | 266° 48.0 | 281° 47.9 | 296° 47.8 | 311° 47.7 | 326° 47.6 | 341° 47.5 | 356° 47.3 | 11° 47.2 | 26° 47.1 | 41° 47.0 | 56° 46.9 | 71° 46.8 | -0.1 |
| | -18° 13.8 | -18° 13.1 | -18° 12.5 | -18° 11.8 | -18° 11.2 | -18° 10.5 | -18° 09.8 | -18° 09.2 | -18° 08.5 | -18° 07.9 | -18° 07.2 | -18° 06.5 | +0.7 |
| **Lu 29** | 266° 45.3 | 281° 45.2 | 296° 45.1 | 311° 45.0 | 326° 44.8 | 341° 44.7 | 356° 44.6 | 11° 44.5 | 26° 44.4 | 41° 44.3 | 56° 44.2 | 71° 44.1 | -0.1 |
| | -17° 57.9 | -17° 57.2 | -17° 56.5 | -17° 55.9 | -17° 55.2 | -17° 54.5 | -17° 53.8 | -17° 53.2 | -17° 52.5 | -17° 51.8 | -17° 51.1 | -17° 50.5 | +0.7 |
| **Ma 30** | 266° 42.7 | 281° 42.6 | 296° 42.5 | 311° 42.4 | 326° 42.3 | 341° 42.2 | 356° 42.1 | 11° 42.0 | 26° 41.9 | 41° 41.8 | 56° 41.7 | 71° 41.6 | -0.1 |
| | -17° 41.6 | -17° 40.9 | -17° 40.3 | -17° 39.6 | -17° 38.9 | -17° 38.2 | -17° 37.5 | -17° 36.8 | -17° 36.1 | -17° 35.4 | -17° 34.8 | -17° 34.1 | +0.7 |
| **Me 31** | 266° 40.4 | 281° 40.3 | 296° 40.2 | 311° 40.1 | 326° 40.0 | 341° 39.9 | 356° 39.8 | 11° 39.7 | 26° 39.6 | 41° 39.5 | 56° 39.4 | 71° 39.3 | -0.1 |
| | -17° 25.1 | -17° 24.4 | -17° 23.7 | -17° 23.0 | -17° 22.3 | -17° 21.6 | -17° 20.9 | -17° 20.2 | -17° 19.5 | -17° 18.8 | -17° 18.1 | -17° 17.4 | +0.7 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.3'

# LUNE

## Janvier 2035

| | J | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ◑ | Lu 1 | 234°49.4 | 249°22.8 | 263°56.1 | 278°29.5 | 293°02.9 | 307°36.3 | 322°09.7 | 336°43.1 | 351°16.5 | 5°49.9 | 20°23.4 | +33.4 | 15.0 |
| | | -4°18.9 | -4°28.3 | -4°37.7 | -4°47.1 | -4°56.5 | -5°05.8 | -5°15.1 | -5°24.4 | -5°33.6 | -5°42.8 | -5°52.0 | -9.3 | 54.9 |
| | Ma 2 | 238°45.3 | 253°18.8 | 267°52.3 | 282°25.7 | 296°59.2 | 311°32.6 | 326°06.0 | 340°39.5 | 355°12.9 | 9°46.3 | 24°19.7 | +33.4 | 14.8 |
| | | -8°05.4 | -8°14.0 | -8°22.6 | -8°31.1 | -8°39.6 | -8°48.0 | -8°56.4 | -9°04.8 | -9°13.1 | -9°21.4 | -9°29.6 | -8.4 | 54.4 |
| | Me 3 | 253°18.8 | 267°52.3 | 282°25.7 | 296°59.2 | 311°32.6 | 326°06.0 | 340°39.5 | 355°12.9 | 9°46.3 | 24°19.7 | 38°53.1 | +33.4 | 14.8 |
| | | -8°14.0 | -8°22.6 | -8°31.1 | -8°39.6 | -8°48.0 | -8°56.4 | -9°04.8 | -9°13.1 | -9°21.4 | -9°29.6 | -9°37.8 | -8.4 | 54.4 |
| | Je 4 | 257°12.6 | 271°45.8 | 286°19.0 | 300°52.1 | 315°25.3 | 329°58.4 | 344°31.5 | 359°04.5 | 13°37.6 | 28°10.6 | 42°43.6 | +33.1 | 14.8 |
| | | -11°35.0 | -11°42.4 | -11°49.8 | -11°57.1 | -12°04.4 | -12°11.6 | -12°18.8 | -12°25.9 | -12°32.9 | -12°39.9 | -12°46.8 | -7.2 | 54.1 |
| | Ve 5 | 260°56.1 | 275°28.8 | 290°01.4 | 304°34.0 | 319°06.6 | 333°39.1 | 348°11.6 | 2°44.1 | 17°16.6 | 31°49.0 | 46°21.4 | +32.5 | 14.7 |
| | | -14°24.0 | -14°30.0 | -14°36.0 | -14°41.8 | -14°47.7 | -14°53.4 | -14°59.1 | -15°04.7 | -15°10.2 | -15°15.7 | -15°21.1 | -5.7 | 54.0 |
| | Sa 6 | 264°24.2 | 278°56.2 | 293°28.1 | 308°00.0 | 322°31.9 | 337°03.8 | 351°35.6 | 6°07.4 | 20°39.2 | 35°10.9 | 49°42.7 | +31.8 | 14.7 |
| | | -16°34.2 | -16°38.5 | -16°42.7 | -16°46.8 | -16°50.9 | -16°54.9 | -16°58.9 | -17°02.7 | -17°06.5 | -17°10.2 | -17°13.8 | -4.0 | 54.0 |
| | Di 7 | 267°35.3 | 282°06.6 | 296°37.9 | 311°09.2 | 325°40.4 | 340°11.7 | 354°42.8 | 9°14.0 | 23°45.2 | 38°16.3 | 52°47.4 | +31.2 | 14.8 |
| | | -17°58.8 | -18°01.2 | -18°03.5 | -18°05.7 | -18°07.8 | -18°09.8 | -18°11.8 | -18°13.6 | -18°15.4 | -18°17.1 | -18°18.7 | -2.0 | 54.1 |
| | Lu 8 | 270°31.7 | 285°02.5 | 299°33.0 | 314°04.1 | 328°34.8 | 343°05.6 | 357°36.3 | 12°07.1 | 26°37.8 | 41°08.5 | 55°39.2 | +30.7 | 14.8 |
| | | -18°32.6 | -18°32.9 | -18°33.0 | -18°33.1 | -18°33.0 | -18°32.9 | -18°32.7 | -18°32.4 | -18°32.1 | -18°31.6 | -18°31.0 | +0.2 | 54.3 |
| ● | Ma 9 | 273°18.5 | 287°49.0 | 302°19.6 | 316°50.2 | 331°20.7 | 345°51.3 | 0°21.8 | 14°52.4 | 29°22.9 | 43°53.5 | 58°24.0 | +30.6 | 14.9 |
| | | -18°12.1 | -18°10.1 | -18°08.1 | -18°05.9 | -18°03.7 | -18°01.4 | -17°58.9 | -17°56.4 | -17°53.9 | -17°51.2 | -17°48.4 | +2.4 | 54.7 |
| | Me 10 | 276°02.3 | 290°32.9 | 305°03.5 | 319°34.1 | 334°04.7 | 348°35.3 | 3°05.9 | 17°36.6 | 32°07.2 | 46°37.8 | 61°08.5 | +30.6 | 15.0 |
| | | -16°56.6 | -16°52.4 | -16°48.2 | -16°43.9 | -16°39.5 | -16°35.1 | -16°30.5 | -16°25.9 | -16°21.1 | -16°16.3 | -16°11.5 | +4.5 | 55.0 |
| | Je 11 | 278°49.3 | 293°20.1 | 307°50.9 | 322°21.7 | 336°52.5 | 351°23.4 | 5°54.2 | 20°25.1 | 34°56.0 | 49°26.9 | 63°57.8 | +30.9 | 15.1 |
| | | -14°48.6 | -14°42.5 | -14°36.3 | -14°30.0 | -14°23.6 | -14°17.2 | -14°10.7 | -14°04.1 | -13°57.5 | -13°50.7 | -13°43.9 | +6.5 | 55.5 |
| | Ve 12 | 281°42.6 | 296°13.7 | 310°44.8 | 325°15.9 | 339°47.0 | 354°18.1 | 8°49.2 | 23°20.4 | 37°51.5 | 52°22.7 | 66°53.8 | +31.1 | 15.3 |
| | | -11°53.8 | -11°45.9 | -11°38.0 | -11°30.0 | -11°22.0 | -11°13.9 | -11°05.7 | -10°57.5 | -10°49.2 | -10°40.9 | -10°32.5 | +8.1 | 55.9 |
| | Sa 13 | 284°42.0 | 299°13.3 | 313°44.5 | 328°15.8 | 342°47.0 | 357°18.3 | 11°49.6 | 26°20.8 | 40°52.1 | 55°23.4 | 69°54.6 | +31.3 | 15.4 |
| | | -8°20.1 | -8°10.9 | -8°01.6 | -7°52.3 | -7°42.9 | -7°33.5 | -7°24.1 | -7°14.6 | -7°05.1 | -6°55.5 | -6°45.9 | +9.4 | 56.5 |
| | Di 14 | 287°43.1 | 302°14.3 | 316°45.4 | 331°16.6 | 345°47.7 | 0°18.9 | 14°50.0 | 29°21.1 | 43°52.2 | 58°23.3 | 72°54.3 | +31.1 | 15.6 |
| | | -4°17.3 | -4°07.2 | -3°57.0 | -3°46.8 | -3°36.6 | -3°26.3 | -3°16.0 | -3°05.7 | -2°55.3 | -2°45.0 | -2°34.6 | +10.3 | 57.0 |
| | Lu 15 | 290°38.1 | 305°08.8 | 319°39.5 | 334°10.2 | 348°40.8 | 3°11.5 | 17°42.1 | 32°12.6 | 46°43.2 | 61°13.7 | 75°44.1 | +30.6 | 15.7 |
| | | 0°03.1 | 0°13.7 | 0°24.4 | 0°35.0 | 0°45.6 | 0°56.2 | 1°06.9 | 1°17.5 | 1°28.2 | 1°38.8 | 1°49.5 | +10.6 | 57.7 |
| | Ma 16 | 293°16.8 | 307°46.7 | 322°16.5 | 336°46.3 | 351°16.0 | 5°45.7 | 20°15.3 | 34°44.9 | 49°14.4 | 63°43.9 | 78°13.3 | +29.7 | 15.9 |
| | | 4°28.5 | 4°39.1 | 4°49.6 | 5°00.1 | 5°10.5 | 5°21.0 | 5°31.4 | 5°41.8 | 5°52.2 | 6°02.6 | 6°12.9 | +10.4 | 58.3 |
| ◐ | Me 17 | 295°28.5 | 309°57.0 | 324°25.5 | 338°54.0 | 353°22.4 | 7°50.7 | 22°18.9 | 36°47.1 | 51°15.2 | 65°43.3 | 80°11.3 | +28.3 | 16.1 |
| | | 8°44.4 | 8°54.2 | 9°03.9 | 9°13.7 | 9°23.3 | 9°33.0 | 9°42.6 | 9°52.1 | 10°01.6 | 10°11.0 | 10°20.4 | +9.6 | 58.9 |
| | Je 18 | 297°03.6 | 311°30.5 | 325°57.4 | 340°24.2 | 354°51.0 | 9°17.6 | 23°44.2 | 38°10.8 | 52°37.3 | 67°03.7 | 81°30.0 | +26.6 | 16.2 |
| | | 12°34.1 | 12°42.5 | 12°50.8 | 12°59.0 | 13°07.2 | 13°15.3 | 13°23.3 | 13°31.2 | 13°39.1 | 13°46.9 | 13°54.6 | +8.1 | 59.5 |
| | Ve 19 | 297°57.2 | 312°22.5 | 326°47.7 | 341°12.9 | 355°38.0 | 10°03.1 | 24°28.1 | 38°53.0 | 53°17.9 | 67°42.7 | 82°07.5 | +25.0 | 16.4 |
| | | 15°39.5 | 15°45.7 | 15°51.9 | 15°57.9 | 16°03.8 | 16°09.6 | 16°15.4 | 16°21.0 | 16°26.5 | 16°31.9 | 16°37.2 | +5.8 | 60.0 |
| | Sa 20 | 298°12.8 | 312°36.8 | 327°00.7 | 341°24.6 | 355°48.5 | 10°12.3 | 24°36.1 | 38°59.9 | 53°23.7 | 67°47.4 | 82°11.1 | +23.8 | 16.4 |
| | | 17°42.7 | 17°46.2 | 17°49.5 | 17°52.6 | 17°55.7 | 17°58.6 | 18°01.4 | 18°04.0 | 18°06.6 | 18°09.0 | 18°11.3 | +2.9 | 60.3 |
| | Di 21 | 298°03.9 | 312°27.3 | 326°50.8 | 341°14.2 | 355°37.6 | 10°01.0 | 24°24.5 | 38°47.9 | 53°11.4 | 67°34.8 | 81°58.3 | +23.4 | 16.5 |
| | | 18°29.8 | 18°30.0 | 18°30.0 | 18°29.9 | 18°29.7 | 18°29.4 | 18°28.9 | 18°28.3 | 18°27.5 | 18°26.6 | 18°25.6 | -0.4 | 60.4 |
| | Lu 22 | 297°52.5 | 312°16.3 | 326°40.2 | 341°04.1 | 355°28.0 | 9°52.0 | 24°16.1 | 38°40.1 | 53°04.3 | 67°28.4 | 81°52.6 | +24.0 | 16.4 |
| | | 17°54.6 | 17°51.6 | 17°48.3 | 17°45.0 | 17°41.5 | 17°38.0 | 17°34.2 | 17°30.4 | 17°26.5 | 17°22.4 | 17°18.2 | -3.6 | 60.2 |
| ○ | Ma 23 | 298°02.1 | 312°27.2 | 326°52.4 | 341°17.6 | 355°42.9 | 10°08.3 | 24°33.7 | 38°59.2 | 53°24.8 | 67°50.5 | 82°16.2 | +25.4 | 16.3 |
| | | 16°01.7 | 15°55.7 | 15°49.6 | 15°43.4 | 15°37.2 | 15°30.8 | 15°24.3 | 15°17.8 | 15°11.1 | 15°04.3 | 14°57.5 | -6.4 | 59.7 |
| | Me 24 | 298°50.5 | 313°17.4 | 327°44.4 | 342°11.4 | 356°38.6 | 11°05.7 | 25°33.0 | 40°00.4 | 54°27.8 | 68°55.3 | 83°22.9 | +27.2 | 16.1 |
| | | 13°04.5 | 12°56.3 | 12°48.1 | 12°39.8 | 12°31.4 | 12°23.0 | 12°14.5 | 12°05.9 | 11°57.3 | 11°48.6 | 11°39.8 | -8.5 | 59.1 |
| | Je 25 | 300°25.5 | 314°54.3 | 329°23.2 | 343°52.1 | 358°21.1 | 12°50.1 | 27°19.3 | 41°48.5 | 56°17.8 | 70°47.1 | 85°16.5 | +29.1 | 15.9 |
| | | 9°22.0 | 9°12.4 | 9°02.8 | 8°53.2 | 8°43.5 | 8°33.8 | 8°24.0 | 8°14.2 | 8°04.4 | 7°54.6 | 7°44.7 | -9.7 | 58.2 |
| | Ve 26 | 302°45.7 | 317°16.1 | 331°46.6 | 346°17.2 | 0°47.8 | 15°18.5 | 29°49.3 | 44°20.1 | 58°50.9 | 73°21.8 | 87°52.8 | +30.7 | 15.6 |
| | | 5°13.7 | 5°03.5 | 4°53.2 | 4°43.0 | 4°32.8 | 4°22.5 | 4°12.2 | 4°02.0 | 3°51.7 | 3°41.4 | 3°31.1 | -10.3 | 57.3 |
| | Sa 27 | 317°16.1 | 331°46.6 | 346°17.2 | 0°47.8 | 15°18.5 | 29°49.3 | 44°20.1 | 58°50.9 | 73°21.8 | 87°52.8 | 102°23.8 | +30.8 | 15.6 |
| | | 5°03.5 | 4°53.2 | 4°43.0 | 4°32.8 | 4°22.5 | 4°12.2 | 4°02.0 | 3°51.7 | 3°41.4 | 3°31.1 | 3°20.8 | -10.3 | 57.3 |
| | Di 28 | 320°15.1 | 334°46.9 | 349°18.7 | 3°50.6 | 18°22.5 | 32°54.4 | 47°26.4 | 61°58.4 | 76°30.5 | 91°02.6 | 105°34.7 | +32.0 | 15.4 |
| | | 0°46.6 | 0°36.4 | 0°26.2 | 0°16.0 | 0°05.8 | -0°04.4 | -0°14.6 | -0°24.8 | -0°34.9 | -0°45.0 | -0°55.1 | -10.2 | 56.4 |
| | Lu 29 | 323°40.5 | 338°13.1 | 352°45.8 | 7°18.4 | 21°51.1 | 36°23.8 | 50°56.5 | 65°29.3 | 80°02.0 | 94°34.8 | 109°07.6 | +32.7 | 15.2 |
| | | -3°24.4 | -3°34.1 | -3°43.9 | -3°53.6 | -4°03.2 | -4°12.9 | -4°22.5 | -4°32.1 | -4°41.6 | -4°51.1 | -5°00.6 | -9.6 | 55.6 |
| | Ma 30 | 327°21.2 | 341°54.2 | 356°27.2 | 11°00.2 | 25°33.2 | 40°06.2 | 54°39.3 | 69°12.3 | 83°45.3 | 98°18.3 | 112°51.4 | +33.0 | 15.0 |
| | | -7°18.8 | -7°27.7 | -7°36.6 | -7°45.4 | -7°54.2 | -8°02.9 | -8°11.6 | -8°20.3 | -8°28.9 | -8°37.5 | -8°46.0 | -8.7 | 55.0 |
| ◑ | Me 31 | 331°06.6 | 345°39.6 | 0°12.6 | 14°45.5 | 29°18.5 | 43°51.4 | 58°24.4 | 72°57.3 | 87°30.2 | 102°03.1 | 116°36.0 | +32.9 | 14.9 |
| | | -10°48.3 | -10°56.0 | -11°03.7 | -11°11.4 | -11°19.0 | -11°26.5 | -11°34.0 | -11°41.4 | -11°48.8 | -11°56.2 | -12°03.4 | -7.5 | 54.5 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 1 10h01 — NL: 9 15h03 — PQ: 17 04h45 — PL: 23 20h16 — DQ: 31 06h02

# SOLEIL

## Février 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 266°38.2 | 281°38.1 | 296°38.0 | 311°37.9 | 326°37.8 | 341°37.8 | 356°37.7 | 11°37.6 | 26°37.5 | 41°37.4 | 56°37.3 | 71°37.3 | -0.1 |
| | -17°08.2 | -17°07.5 | -17°06.8 | -17°06.1 | -17°05.3 | -17°04.6 | -17°03.9 | -17°03.2 | -17°02.5 | -17°01.8 | -17°01.1 | -17°00.4 | +0.7 |
| Ve 2 | 266°36.2 | 281°36.1 | 296°36.1 | 311°36.0 | 326°35.9 | 341°35.8 | 356°35.8 | 11°35.7 | 26°35.6 | 41°35.5 | 56°35.5 | 71°35.4 | -0.1 |
| | -16°51.0 | -16°50.3 | -16°49.6 | -16°48.8 | -16°48.1 | -16°47.4 | -16°46.7 | -16°45.9 | -16°45.2 | -16°44.5 | -16°43.8 | -16°43.0 | +0.7 |
| Sa 3 | 266°34.5 | 281°34.4 | 296°34.3 | 311°34.3 | 326°34.2 | 341°34.1 | 356°34.0 | 11°34.0 | 26°33.9 | 41°33.8 | 56°33.8 | 71°33.7 | -0.1 |
| | -16°33.5 | -16°32.8 | -16°32.1 | -16°31.3 | -16°30.6 | -16°29.9 | -16°29.1 | -16°28.4 | -16°27.7 | -16°26.9 | -16°26.2 | -16°25.4 | +0.7 |
| Di 4 | 266°32.9 | 281°32.8 | 296°32.8 | 311°32.7 | 326°32.6 | 341°32.6 | 356°32.5 | 11°32.5 | 26°32.4 | 41°32.4 | 56°32.3 | 71°32.2 | -0.1 |
| | -16°15.8 | -16°15.0 | -16°14.3 | -16°13.5 | -16°12.8 | -16°12.0 | -16°11.3 | -16°10.5 | -16°09.8 | -16°09.0 | -16°08.3 | -16°07.5 | +0.7 |
| Lu 5 | 266°31.5 | 281°31.5 | 296°31.4 | 311°31.4 | 326°31.3 | 341°31.3 | 356°31.2 | 11°31.2 | 26°31.1 | 41°31.1 | 56°31.0 | 71°31.0 | -0.1 |
| | -15°57.7 | -15°57.0 | -15°56.2 | -15°55.5 | -15°54.7 | -15°53.9 | -15°53.2 | -15°52.4 | -15°51.7 | -15°50.9 | -15°50.1 | -15°49.4 | +0.8 |
| Ma 6 | 266°30.4 | 281°30.3 | 296°30.3 | 311°30.2 | 326°30.2 | 341°30.1 | 356°30.1 | 11°30.0 | 26°30.0 | 41°30.0 | 56°29.9 | 71°29.9 | -0.0 |
| | -15°39.4 | -15°38.7 | -15°37.9 | -15°37.1 | -15°36.3 | -15°35.6 | -15°34.8 | -15°34.0 | -15°33.3 | -15°32.5 | -15°31.7 | -15°30.9 | +0.8 |
| Me 7 | 266°29.4 | 281°29.3 | 296°29.3 | 311°29.3 | 326°29.2 | 341°29.2 | 356°29.2 | 11°29.1 | 26°29.1 | 41°29.1 | 56°29.0 | 71°29.0 | -0.0 |
| | -15°20.8 | -15°20.1 | -15°19.3 | -15°18.5 | -15°17.7 | -15°16.9 | -15°16.2 | -15°15.4 | -15°14.6 | -15°13.8 | -15°13.0 | -15°12.2 | +0.8 |
| Je 8 | 266°28.6 | 281°28.6 | 296°28.6 | 311°28.5 | 326°28.5 | 341°28.5 | 356°28.4 | 11°28.4 | 26°28.4 | 41°28.4 | 56°28.3 | 71°28.3 | -0.0 |
| | -15°02.0 | -15°01.2 | -15°00.4 | -14°59.6 | -14°58.8 | -14°58.0 | -14°57.2 | -14°56.4 | -14°55.7 | -14°54.9 | -14°54.1 | -14°53.3 | +0.8 |
| Ve 9 | 266°28.0 | 281°28.0 | 296°28.0 | 311°28.0 | 326°28.0 | 341°27.9 | 356°27.9 | 11°27.9 | 26°27.9 | 41°27.9 | 56°27.9 | 71°27.8 | -0.0 |
| | -14°42.9 | -14°42.1 | -14°41.3 | -14°40.5 | -14°39.7 | -14°38.9 | -14°38.1 | -14°37.3 | -14°36.5 | -14°35.7 | -14°34.9 | -14°34.1 | +0.8 |
| Sa 10 | 266°27.7 | 281°27.6 | 296°27.6 | 311°27.6 | 326°27.6 | 341°27.6 | 356°27.6 | 11°27.6 | 26°27.6 | 41°27.6 | 56°27.6 | 71°27.5 | -0.0 |
| | -14°23.5 | -14°22.7 | -14°21.9 | -14°21.1 | -14°20.3 | -14°19.5 | -14°18.7 | -14°17.9 | -14°17.0 | -14°16.2 | -14°15.4 | -14°14.6 | +0.8 |
| Di 11 | 266°27.5 | 281°27.5 | 296°27.5 | 311°27.5 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.5 | 41°27.5 | 56°27.5 | 71°27.5 | -0.0 |
| | -14°04.0 | -14°03.1 | -14°02.3 | -14°01.5 | -14°00.7 | -13°59.8 | -13°59.0 | -13°58.2 | -13°57.4 | -13°56.6 | -13°55.7 | -13°54.9 | +0.8 |
| Lu 12 | 266°27.5 | 281°27.5 | 296°27.5 | 311°27.5 | 326°27.5 | 341°27.5 | 356°27.5 | 11°27.5 | 26°27.5 | 41°27.5 | 56°27.5 | 71°27.6 | +0.0 |
| | -13°44.1 | -13°43.3 | -13°42.5 | -13°41.6 | -13°40.8 | -13°40.0 | -13°39.1 | -13°38.3 | -13°37.5 | -13°36.6 | -13°35.8 | -13°35.0 | +0.8 |
| Ma 13 | 266°27.7 | 281°27.7 | 296°27.7 | 311°27.7 | 326°27.7 | 341°27.8 | 356°27.8 | 11°27.8 | 26°27.8 | 41°27.8 | 56°27.8 | 71°27.8 | +0.0 |
| | -13°24.1 | -13°23.3 | -13°22.4 | -13°21.6 | -13°20.7 | -13°19.9 | -13°19.0 | -13°18.2 | -13°17.4 | -13°16.5 | -13°15.7 | -13°14.8 | +0.8 |
| Me 14 | 266°28.1 | 281°28.1 | 296°28.1 | 311°28.1 | 326°28.2 | 341°28.2 | 356°28.2 | 11°28.2 | 26°28.3 | 41°28.3 | 56°28.3 | 71°28.3 | +0.0 |
| | -13°03.8 | -13°03.0 | -13°02.1 | -13°01.3 | -13°00.4 | -12°59.6 | -12°58.7 | -12°57.9 | -12°57.0 | -12°56.2 | -12°55.3 | -12°54.5 | +0.9 |
| Je 15 | 266°28.7 | 281°28.7 | 296°28.7 | 311°28.8 | 326°28.8 | 341°28.8 | 356°28.8 | 11°28.9 | 26°28.9 | 41°28.9 | 56°29.0 | 71°29.0 | +0.0 |
| | -12°43.4 | -12°42.5 | -12°41.6 | -12°40.8 | -12°39.9 | -12°39.1 | -12°38.2 | -12°37.3 | -12°36.5 | -12°35.6 | -12°34.8 | -12°33.9 | +0.9 |
| Ve 16 | 266°29.4 | 281°29.5 | 296°29.5 | 311°29.5 | 326°29.6 | 341°29.6 | 356°29.7 | 11°29.7 | 26°29.7 | 41°29.8 | 56°29.8 | 71°29.9 | +0.0 |
| | -12°22.7 | -12°21.8 | -12°20.9 | -12°20.1 | -12°19.2 | -12°18.3 | -12°17.5 | -12°16.6 | -12°15.7 | -12°14.9 | -12°14.0 | -12°13.1 | +0.9 |
| Sa 17 | 266°30.4 | 281°30.4 | 296°30.5 | 311°30.5 | 326°30.6 | 341°30.6 | 356°30.7 | 11°30.7 | 26°30.8 | 41°30.8 | 56°30.8 | 71°30.9 | +0.0 |
| | -12°01.8 | -12°00.9 | -12°00.1 | -11°59.2 | -11°58.3 | -11°57.4 | -11°56.6 | -11°55.7 | -11°54.8 | -11°53.9 | -11°53.0 | -11°52.2 | +0.9 |
| Di 18 | 266°31.5 | 281°31.6 | 296°31.6 | 311°31.7 | 326°31.7 | 341°31.8 | 356°31.8 | 11°31.9 | 26°31.9 | 41°32.0 | 56°32.1 | 71°32.1 | +0.1 |
| | -11°40.7 | -11°39.9 | -11°39.0 | -11°38.1 | -11°37.2 | -11°36.3 | -11°35.4 | -11°34.6 | -11°33.7 | -11°32.8 | -11°31.9 | -11°31.0 | +0.9 |
| Lu 19 | 266°32.8 | 281°32.9 | 296°33.0 | 311°33.0 | 326°33.1 | 341°33.1 | 356°33.2 | 11°33.2 | 26°33.3 | 41°33.4 | 56°33.4 | 71°33.5 | +0.1 |
| | -11°19.5 | -11°18.6 | -11°17.7 | -11°16.8 | -11°15.9 | -11°15.0 | -11°14.1 | -11°13.3 | -11°12.4 | -11°11.5 | -11°10.6 | -11°09.7 | +0.9 |
| Ma 20 | 266°34.3 | 281°34.4 | 296°34.4 | 311°34.5 | 326°34.6 | 341°34.6 | 356°34.7 | 11°34.8 | 26°34.8 | 41°34.9 | 56°35.0 | 71°35.1 | +0.1 |
| | -10°58.1 | -10°57.2 | -10°56.3 | -10°55.4 | -10°54.5 | -10°53.6 | -10°52.7 | -10°51.8 | -10°50.9 | -10°50.0 | -10°49.1 | -10°48.2 | +0.9 |
| Me 21 | 266°36.0 | 281°36.0 | 296°36.1 | 311°36.2 | 326°36.3 | 341°36.3 | 356°36.4 | 11°36.5 | 26°36.5 | 41°36.6 | 56°36.7 | 71°36.8 | +0.1 |
| | -10°36.5 | -10°35.6 | -10°34.7 | -10°33.7 | -10°32.8 | -10°31.9 | -10°31.0 | -10°30.1 | -10°29.2 | -10°28.3 | -10°27.4 | -10°26.5 | +0.9 |
| Je 22 | 266°37.8 | 281°37.9 | 296°37.9 | 311°38.0 | 326°38.1 | 341°38.2 | 356°38.3 | 11°38.3 | 26°38.4 | 41°38.5 | 56°38.6 | 71°38.7 | +0.1 |
| | -10°14.7 | -10°13.8 | -10°12.9 | -10°12.0 | -10°11.1 | -10°10.1 | -10°09.2 | -10°08.3 | -10°07.4 | -10°06.5 | -10°05.6 | -10°04.7 | +0.9 |
| Ve 23 | 266°39.7 | 281°39.8 | 296°39.9 | 311°40.0 | 326°40.1 | 341°40.2 | 356°40.3 | 11°40.3 | 26°40.4 | 41°40.5 | 56°40.6 | 71°40.7 | +0.1 |
| | -9°52.8 | -9°51.9 | -9°50.9 | -9°50.0 | -9°49.1 | -9°48.2 | -9°47.3 | -9°46.4 | -9°45.4 | -9°44.5 | -9°43.6 | -9°42.7 | +0.9 |
| Sa 24 | 266°41.9 | 281°41.9 | 296°42.0 | 311°42.1 | 326°42.2 | 341°42.3 | 356°42.4 | 11°42.5 | 26°42.6 | 41°42.7 | 56°42.8 | 71°42.9 | +0.1 |
| | -9°30.7 | -9°29.8 | -9°28.9 | -9°27.9 | -9°27.0 | -9°26.1 | -9°25.2 | -9°24.2 | -9°23.3 | -9°22.4 | -9°21.5 | -9°20.6 | +0.9 |
| Di 25 | 266°44.1 | 281°44.2 | 296°44.3 | 311°44.4 | 326°44.5 | 341°44.6 | 356°44.7 | 11°44.8 | 26°44.9 | 41°45.0 | 56°45.1 | 71°45.2 | +0.1 |
| | -9°08.5 | -9°07.6 | -9°06.6 | -9°05.7 | -9°04.8 | -9°03.9 | -9°02.9 | -9°02.0 | -9°01.1 | -9°00.1 | -8°59.2 | -8°58.3 | +0.9 |
| Lu 26 | 266°46.5 | 281°46.6 | 296°46.7 | 311°46.8 | 326°46.9 | 341°47.1 | 356°47.2 | 11°47.3 | 26°47.4 | 41°47.5 | 56°47.6 | 71°47.7 | +0.1 |
| | -8°46.2 | -8°45.2 | -8°44.3 | -8°43.3 | -8°42.4 | -8°41.5 | -8°40.5 | -8°39.6 | -8°38.7 | -8°37.7 | -8°36.8 | -8°35.9 | +0.9 |
| Ma 27 | 266°49.1 | 281°49.2 | 296°49.3 | 311°49.4 | 326°49.5 | 341°49.6 | 356°49.7 | 11°49.8 | 26°50.0 | 41°50.1 | 56°50.2 | 71°50.3 | +0.1 |
| | -8°23.7 | -8°22.7 | -8°21.8 | -8°20.8 | -8°19.9 | -8°19.0 | -8°18.0 | -8°17.1 | -8°16.1 | -8°15.2 | -8°14.3 | -8°13.3 | +0.9 |
| Me 28 | 266°51.8 | 281°51.9 | 296°52.0 | 311°52.1 | 326°52.2 | 341°52.3 | 356°52.4 | 11°52.6 | 26°52.7 | 41°52.8 | 56°52.9 | 71°53.0 | +0.1 |
| | -8°01.1 | -8°00.1 | -7°59.2 | -7°58.2 | -7°57.3 | -7°56.3 | -7°55.4 | -7°54.4 | -7°53.5 | -7°52.6 | -7°51.6 | -7°50.7 | +0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Février 2035

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 236°32.7 | 251°05.0 | 265°37.2 | 280°09.5 | 294°41.7 | 309°13.9 | 323°46.1 | 338°18.2 | 352°50.4 | 7°22.5 | 21°54.6 | +32.2 | 14.8 |
| | -15°29.9 | -15°35.0 | -15°40.1 | -15°45.1 | -15°50.1 | -15°55.0 | -15°59.8 | -16°04.5 | -16°09.2 | -16°13.8 | -16°18.3 | -4.8 | 54.1 |
| Ve 2 | 251°05.0 | 265°37.2 | 280°09.5 | 294°41.7 | 309°13.9 | 323°46.1 | 338°18.2 | 352°50.4 | 7°22.5 | 21°54.6 | 36°26.6 | +32.2 | 14.8 |
| | -15°35.0 | -15°40.1 | -15°45.1 | -15°50.1 | -15°55.0 | -15°59.8 | -16°04.5 | -16°09.2 | -16°13.8 | -16°18.3 | -16°22.8 | -4.8 | 54.1 |
| Sa 3 | 254°24.5 | 268°56.2 | 283°27.8 | 297°59.4 | 312°31.0 | 327°02.6 | 341°34.1 | 356°05.6 | 10°37.1 | 25°08.6 | 39°40.0 | +31.6 | 14.8 |
| | -17°20.7 | -17°23.9 | -17°27.1 | -17°30.2 | -17°33.2 | -17°36.2 | -17°39.0 | -17°41.8 | -17°44.5 | -17°47.1 | -17°49.7 | -2.9 | 54.1 |
| Di 4 | 257°28.9 | 272°00.0 | 286°31.0 | 301°02.1 | 315°33.1 | 330°04.1 | 344°35.0 | 359°06.0 | 13°36.9 | 28°07.8 | 42°38.7 | +31.0 | 14.8 |
| | -18°17.9 | -18°19.1 | -18°20.3 | -18°21.3 | -18°22.3 | -18°23.1 | -18°23.9 | -18°24.6 | -18°25.2 | -18°25.8 | -18°26.2 | -0.8 | 54.3 |
| Lu 5 | 260°20.0 | 274°50.6 | 289°21.2 | 303°51.8 | 318°22.4 | 332°53.0 | 347°23.5 | 1°54.1 | 16°24.6 | 30°55.1 | 45°25.7 | +30.6 | 14.9 |
| | -18°22.4 | -18°21.4 | -18°20.4 | -18°19.2 | -18°18.0 | -18°16.7 | -18°15.3 | -18°13.8 | -18°12.2 | -18°10.6 | -18°08.8 | +1.4 | 54.6 |
| Ma 6 | 263°02.3 | 277°32.7 | 292°03.0 | 306°33.4 | 321°03.8 | 335°34.1 | 350°04.5 | 4°34.9 | 19°05.2 | 33°35.6 | 48°05.9 | +30.4 | 15.0 |
| | -17°31.7 | -17°28.6 | -17°25.3 | -17°22.0 | -17°18.5 | -17°15.0 | -17°11.4 | -17°07.7 | -17°03.9 | -17°00.0 | -16°56.0 | +3.6 | 55.1 |
| Me 7 | 265°41.2 | 280°11.6 | 294°41.9 | 309°12.3 | 323°42.7 | 338°13.0 | 352°43.4 | 7°13.8 | 21°44.2 | 36°14.6 | 50°45.0 | +30.4 | 15.2 |
| | -15°46.3 | -15°41.0 | -15°35.6 | -15°30.2 | -15°24.6 | -15°19.0 | -15°13.2 | -15°07.4 | -15°01.5 | -14°55.6 | -14°49.5 | +5.7 | 55.6 |
| ● Je 8 | 268°21.5 | 282°52.0 | 297°22.5 | 311°53.0 | 326°23.5 | 340°54.0 | 355°24.5 | 9°55.0 | 24°25.6 | 38°56.1 | 53°26.7 | +30.5 | 15.3 |
| | -13°09.7 | -13°02.5 | -12°55.2 | -12°47.8 | -12°40.4 | -12°32.8 | -12°25.2 | -12°17.6 | -12°09.9 | -12°02.1 | -11°54.2 | +7.6 | 56.1 |
| Ve 9 | 271°05.6 | 285°36.2 | 300°06.9 | 314°37.5 | 329°08.2 | 343°38.8 | 358°09.5 | 12°40.2 | 27°10.8 | 41°41.5 | 56°12.2 | +30.7 | 15.4 |
| | -9°48.8 | -9°40.0 | -9°31.1 | -9°22.1 | -9°13.1 | -9°04.1 | -8°55.0 | -8°45.8 | -8°36.6 | -8°27.4 | -8°18.1 | +9.1 | 56.7 |
| Sa 10 | 273°52.5 | 288°23.2 | 302°53.9 | 317°24.6 | 331°55.3 | 346°26.0 | 0°56.6 | 15°27.3 | 29°58.0 | 44°28.6 | 58°59.3 | +30.7 | 15.6 |
| | -5°53.2 | -5°43.3 | -5°33.2 | -5°23.2 | -5°13.1 | -5°03.0 | -4°52.9 | -4°42.7 | -4°32.5 | -4°22.2 | -4°12.0 | +10.1 | 57.2 |
| Di 11 | 276°38.1 | 291°08.6 | 305°39.1 | 320°09.6 | 334°40.1 | 349°10.5 | 3°41.0 | 18°11.4 | 32°41.8 | 47°12.2 | 61°42.5 | +30.4 | 15.7 |
| | -1°35.1 | -1°24.5 | -1°13.9 | -1°03.3 | -0°52.7 | -0°42.0 | -0°31.4 | -0°20.7 | -0°10.0 | 0°00.7 | 0°11.4 | +10.7 | 57.7 |
| Lu 12 | 279°15.5 | 293°45.5 | 308°15.5 | 322°45.5 | 337°15.4 | 351°45.3 | 6°15.1 | 20°45.0 | 35°14.8 | 49°44.6 | 64°14.3 | +29.9 | 15.8 |
| | 2°51.7 | 3°02.3 | 3°13.0 | 3°23.6 | 3°34.2 | 3°44.8 | 3°55.4 | 4°05.9 | 4°16.5 | 4°27.0 | 4°37.5 | +10.6 | 58.1 |
| Ma 13 | 281°36.3 | 296°05.5 | 310°34.6 | 325°03.7 | 339°32.7 | 354°01.7 | 8°30.7 | 22°59.6 | 37°28.5 | 51°57.3 | 66°26.1 | +29.0 | 15.9 |
| | 7°12.2 | 7°22.3 | 7°32.3 | 7°42.3 | 7°52.3 | 8°02.2 | 8°12.1 | 8°21.9 | 8°31.7 | 8°41.4 | 8°51.1 | +9.9 | 58.5 |
| Me 14 | 283°32.3 | 298°00.4 | 312°28.3 | 326°56.3 | 341°24.2 | 355°52.0 | 10°19.8 | 24°47.5 | 39°15.2 | 53°42.8 | 68°10.4 | +27.8 | 16.0 |
| | 11°10.5 | 11°19.3 | 11°28.1 | 11°36.8 | 11°45.5 | 11°54.1 | 12°02.6 | 12°11.0 | 12°19.4 | 12°27.7 | 12°35.9 | +8.5 | 58.8 |
| ◐ Je 15 | 284°58.0 | 299°24.7 | 313°51.4 | 328°18.1 | 342°44.7 | 357°11.3 | 11°37.8 | 26°04.2 | 40°30.7 | 54°57.0 | 69°23.3 | +26.5 | 16.1 |
| | 14°30.2 | 14°37.1 | 14°44.0 | 14°50.8 | 14°57.5 | 15°04.1 | 15°10.6 | 15°17.0 | 15°23.3 | 15°29.5 | 15°35.7 | +6.6 | 59.1 |
| Ve 16 | 285°52.6 | 300°18.2 | 314°43.7 | 329°09.3 | 343°34.8 | 358°00.2 | 12°25.6 | 26°51.0 | 41°16.3 | 55°41.6 | 70°06.9 | +25.4 | 16.2 |
| | 16°55.6 | 17°00.0 | 17°04.4 | 17°08.7 | 17°12.8 | 17°16.9 | 17°20.8 | 17°24.6 | 17°28.3 | 17°31.9 | 17°35.4 | +4.0 | 59.3 |
| Sa 17 | 286°22.6 | 300°47.5 | 315°12.4 | 329°37.2 | 344°02.0 | 358°26.8 | 12°51.6 | 27°16.4 | 41°41.2 | 56°05.9 | 70°30.7 | +24.8 | 16.2 |
| | 18°13.5 | 18°15.1 | 18°16.5 | 18°17.8 | 18°19.1 | 18°20.1 | 18°21.1 | 18°21.9 | 18°22.7 | 18°23.3 | 18°23.7 | +1.0 | 59.5 |
| Di 18 | 286°41.8 | 301°06.5 | 315°31.3 | 329°56.1 | 344°21.0 | 358°45.8 | 13°10.6 | 27°35.5 | 42°00.4 | 56°25.3 | 70°50.2 | +24.8 | 16.2 |
| | 18°15.9 | 18°14.4 | 18°12.8 | 18°11.0 | 18°09.2 | 18°07.2 | 18°05.0 | 18°02.8 | 18°00.4 | 17°58.0 | 17°55.4 | -2.1 | 59.4 |
| Lu 19 | 287°07.5 | 301°32.9 | 315°58.3 | 330°23.8 | 344°49.3 | 359°14.9 | 13°40.5 | 28°06.2 | 42°31.9 | 56°57.6 | 71°23.4 | +25.6 | 16.2 |
| | 17°02.3 | 16°57.8 | 16°53.3 | 16°48.6 | 16°43.8 | 16°38.9 | 16°33.9 | 16°28.8 | 16°23.6 | 16°18.3 | 16°12.9 | -4.9 | 59.3 |
| Ma 20 | 287°56.2 | 302°22.8 | 316°49.4 | 331°16.1 | 345°42.9 | 0°09.7 | 14°36.6 | 29°03.6 | 43°30.6 | 57°57.6 | 72°24.7 | +26.9 | 16.1 |
| | 14°39.9 | 14°32.9 | 14°25.9 | 14°18.8 | 14°11.6 | 14°04.3 | 13°56.9 | 13°49.5 | 13°41.9 | 13°34.3 | 13°26.6 | -7.3 | 58.9 |
| Me 21 | 289°18.6 | 303°46.7 | 318°14.8 | 332°43.0 | 347°11.3 | 1°39.6 | 16°07.9 | 30°36.4 | 45°04.9 | 59°33.4 | 74°02.0 | +28.3 | 15.9 |
| | 11°22.6 | 11°13.8 | 11°04.9 | 10°56.0 | 10°47.1 | 10°38.0 | 10°29.0 | 10°19.8 | 10°10.6 | 10°01.4 | 9°52.1 | -9.1 | 58.4 |
| ○ Je 22 | 291°18.3 | 305°47.8 | 320°17.4 | 334°47.1 | 349°16.8 | 3°46.6 | 18°16.4 | 32°46.2 | 47°16.2 | 61°46.1 | 76°16.2 | +29.8 | 15.8 |
| | 7°27.7 | 7°17.8 | 7°07.8 | 6°57.9 | 6°47.9 | 6°37.8 | 6°27.8 | 6°17.7 | 6°07.6 | 5°57.4 | 5°47.3 | -10.0 | 57.8 |
| Ve 23 | 293°52.5 | 308°23.3 | 322°54.1 | 337°25.0 | 351°56.0 | 6°26.9 | 20°58.0 | 35°29.0 | 50°00.1 | 64°31.2 | 79°02.4 | +31.0 | 15.6 |
| | 3°13.1 | 3°02.8 | 2°52.4 | 2°42.1 | 2°31.7 | 2°21.3 | 2°11.0 | 2°00.6 | 1°50.2 | 1°39.9 | 1°29.5 | -10.4 | 57.1 |
| Sa 24 | 296°54.5 | 311°26.2 | 325°58.0 | 340°29.8 | 355°01.6 | 9°33.5 | 24°05.4 | 38°37.3 | 53°09.2 | 67°41.2 | 82°13.2 | +31.9 | 15.4 |
| | -1°04.9 | -1°15.1 | -1°25.3 | -1°35.4 | -1°45.6 | -1°55.7 | -2°05.8 | -2°15.9 | -2°25.9 | -2°35.9 | -2°46.0 | -10.1 | 56.3 |
| Di 25 | 300°15.7 | 314°48.0 | 329°20.3 | 343°52.7 | 358°25.1 | 12°57.4 | 27°29.8 | 42°02.2 | 56°34.7 | 71°07.1 | 85°39.5 | +32.4 | 15.2 |
| | -5°12.8 | -5°22.4 | -5°31.9 | -5°41.3 | -5°50.8 | -6°00.2 | -6°09.5 | -6°18.9 | -6°28.1 | -6°37.4 | -6°46.6 | -9.4 | 55.6 |
| Lu 26 | 314°48.0 | 329°20.3 | 343°52.7 | 358°25.1 | 12°57.4 | 27°29.8 | 42°02.2 | 56°34.7 | 71°07.1 | 85°39.5 | 100°12.0 | +32.4 | 15.2 |
| | -5°22.4 | -5°31.9 | -5°41.3 | -5°50.8 | -6°00.2 | -6°09.5 | -6°18.9 | -6°28.1 | -6°37.4 | -6°46.6 | -6°55.8 | -9.3 | 55.6 |
| Ma 27 | 318°19.8 | 332°52.4 | 347°24.9 | 1°57.5 | 16°30.1 | 31°02.7 | 45°35.2 | 60°07.8 | 74°40.4 | 89°12.9 | 103°45.5 | +32.6 | 15.0 |
| | -9°08.1 | -9°16.6 | -9°25.0 | -9°33.3 | -9°41.6 | -9°49.9 | -9°58.1 | -10°06.3 | -10°14.4 | -10°22.4 | -10°30.4 | -8.2 | 55.0 |
| Me 28 | 321°53.7 | 336°26.2 | 350°58.6 | 5°31.1 | 20°03.6 | 34°36.1 | 49°08.5 | 63°41.0 | 78°13.4 | 92°45.8 | 107°18.2 | +32.5 | 14.9 |
| | -12°23.8 | -12°30.9 | -12°37.9 | -12°44.9 | -12°51.8 | -12°58.7 | -13°05.4 | -13°12.2 | -13°18.8 | -13°25.5 | -13°32.0 | -6.8 | 54.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 8 08h22 — PQ: 15 13h17 — PL: 22 08h53

# SOLEIL

## Mars 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 266°54.6<br>-7°38.3 | 281°54.7<br>-7°37.4 | 296°54.8<br>-7°36.4 | 311°54.9<br>-7°35.5 | 326°55.0<br>-7°34.5 | 341°55.2<br>-7°33.6 | 356°55.3<br>-7°32.6 | 11°55.4<br>-7°31.7 | 26°55.5<br>-7°30.7 | 41°55.6<br>-7°29.8 | 56°55.8<br>-7°28.8 | 71°55.9<br>-7°27.9 | +0.1<br>+1.0 |
| Ve 2 | 266°57.5<br>-7°15.5 | 281°57.6<br>-7°14.5 | 296°57.7<br>-7°13.6 | 311°57.9<br>-7°12.6 | 326°58.0<br>-7°11.7 | 341°58.1<br>-7°10.7 | 356°58.2<br>-7°09.8 | 11°58.4<br>-7°08.8 | 26°58.5<br>-7°07.9 | 41°58.6<br>-7°06.9 | 56°58.7<br>-7°06.0 | 71°58.9<br>-7°05.0 | +0.1<br>+1.0 |
| Sa 3 | 267°00.5<br>-6°52.6 | 282°00.7<br>-6°51.6 | 297°00.8<br>-6°50.6 | 312°00.9<br>-6°49.7 | 327°01.1<br>-6°48.7 | 342°01.2<br>-6°47.8 | 357°01.3<br>-6°46.8 | 12°01.4<br>-6°45.8 | 27°01.6<br>-6°44.9 | 42°01.7<br>-6°43.9 | 57°01.8<br>-6°43.0 | 72°02.0<br>-6°42.0 | +0.1<br>+1.0 |
| Di 4 | 267°03.7<br>-6°29.5 | 282°03.8<br>-6°28.6 | 297°04.0<br>-6°27.6 | 312°04.1<br>-6°26.6 | 327°04.2<br>-6°25.7 | 342°04.4<br>-6°24.7 | 357°04.5<br>-6°23.7 | 12°04.6<br>-6°22.8 | 27°04.8<br>-6°21.8 | 42°04.9<br>-6°20.9 | 57°05.0<br>-6°19.9 | 72°05.2<br>-6°18.9 | +0.1<br>+1.0 |
| Lu 5 | 267°07.0<br>-6°06.4 | 282°07.1<br>-6°05.4 | 297°07.2<br>-6°04.5 | 312°07.4<br>-6°03.5 | 327°07.5<br>-6°02.5 | 342°07.7<br>-6°01.6 | 357°07.8<br>-6°00.6 | 12°07.9<br>-5°59.6 | 27°08.1<br>-5°58.7 | 42°08.2<br>-5°57.7 | 57°08.4<br>-5°56.7 | 72°08.5<br>-5°55.8 | +0.1<br>+1.0 |
| Ma 6 | 267°10.3<br>-5°43.2 | 282°10.5<br>-5°42.2 | 297°10.6<br>-5°41.2 | 312°10.8<br>-5°40.3 | 327°10.9<br>-5°39.3 | 342°11.1<br>-5°38.3 | 357°11.2<br>-5°37.4 | 12°11.3<br>-5°36.4 | 27°11.5<br>-5°35.4 | 42°11.6<br>-5°34.4 | 57°11.8<br>-5°33.5 | 72°11.9<br>-5°32.5 | +0.1<br>+1.0 |
| Me 7 | 267°13.8<br>-5°19.9 | 282°14.0<br>-5°18.9 | 297°14.1<br>-5°17.9 | 312°14.3<br>-5°17.0 | 327°14.4<br>-5°16.0 | 342°14.6<br>-5°15.0 | 357°14.7<br>-5°14.0 | 12°14.8<br>-5°13.1 | 27°15.0<br>-5°12.1 | 42°15.1<br>-5°11.1 | 57°15.3<br>-5°10.1 | 72°15.4<br>-5°09.2 | +0.1<br>+1.0 |
| Je 8 | 267°17.4<br>-4°56.5 | 282°17.5<br>-4°55.5 | 297°17.7<br>-4°54.6 | 312°17.8<br>-4°53.6 | 327°18.0<br>-4°52.6 | 342°18.1<br>-4°51.6 | 357°18.3<br>-4°50.7 | 12°18.4<br>-4°49.7 | 27°18.6<br>-4°48.7 | 42°18.7<br>-4°47.7 | 57°18.9<br>-4°46.8 | 72°19.1<br>-4°45.8 | +0.2<br>+1.0 |
| Ve 9 | 267°21.1<br>-4°33.1 | 282°21.2<br>-4°32.1 | 297°21.4<br>-4°31.1 | 312°21.5<br>-4°30.1 | 327°21.7<br>-4°29.2 | 342°21.8<br>-4°28.2 | 357°22.0<br>-4°27.2 | 12°22.1<br>-4°26.2 | 27°22.3<br>-4°25.2 | 42°22.4<br>-4°24.3 | 57°22.6<br>-4°23.3 | 72°22.8<br>-4°22.3 | +0.2<br>+1.0 |
| Sa 10 | 267°24.8<br>-4°09.6 | 282°25.0<br>-4°08.6 | 297°25.1<br>-4°07.6 | 312°25.3<br>-4°06.6 | 327°25.4<br>-4°05.7 | 342°25.6<br>-4°04.7 | 357°25.8<br>-4°03.7 | 12°25.9<br>-4°02.7 | 27°26.1<br>-4°01.7 | 42°26.2<br>-4°00.8 | 57°26.4<br>-3°59.8 | 72°26.6<br>-3°58.8 | +0.2<br>+1.0 |
| Di 11 | 267°28.6<br>-3°46.0 | 282°28.8<br>-3°45.1 | 297°29.0<br>-3°44.1 | 312°29.1<br>-3°43.1 | 327°29.3<br>-3°42.1 | 342°29.5<br>-3°41.1 | 357°29.6<br>-3°40.1 | 12°29.8<br>-3°39.2 | 27°29.9<br>-3°38.2 | 42°30.1<br>-3°37.2 | 57°30.3<br>-3°36.2 | 72°30.4<br>-3°35.2 | +0.2<br>+1.0 |
| Lu 12 | 267°32.6<br>-3°22.5 | 282°32.7<br>-3°21.5 | 297°32.9<br>-3°20.5 | 312°33.1<br>-3°19.5 | 327°33.2<br>-3°18.5 | 342°33.4<br>-3°17.5 | 357°33.6<br>-3°16.5 | 12°33.7<br>-3°15.6 | 27°33.9<br>-3°14.6 | 42°34.1<br>-3°13.6 | 57°34.2<br>-3°12.6 | 72°34.4<br>-3°11.6 | +0.2<br>+1.0 |
| Ma 13 | 267°36.6<br>-2°58.8 | 282°36.7<br>-2°57.8 | 297°36.9<br>-2°56.9 | 312°37.1<br>-2°55.9 | 327°37.2<br>-2°54.9 | 342°37.4<br>-2°53.9 | 357°37.6<br>-2°52.9 | 12°37.7<br>-2°51.9 | 27°37.9<br>-2°50.9 | 42°38.1<br>-2°50.0 | 57°38.2<br>-2°49.0 | 72°38.4<br>-2°48.0 | +0.2<br>+1.0 |
| Me 14 | 267°40.6<br>-2°35.2 | 282°40.8<br>-2°34.2 | 297°41.0<br>-2°33.2 | 312°41.1<br>-2°32.2 | 327°41.3<br>-2°31.2 | 342°41.5<br>-2°30.2 | 357°41.7<br>-2°29.2 | 12°41.8<br>-2°28.3 | 27°42.0<br>-2°27.3 | 42°42.2<br>-2°26.3 | 57°42.3<br>-2°25.3 | 72°42.5<br>-2°24.3 | +0.2<br>+1.0 |
| Je 15 | 267°44.8<br>-2°11.5 | 282°44.9<br>-2°10.5 | 297°45.1<br>-2°09.5 | 312°45.3<br>-2°08.5 | 327°45.5<br>-2°07.5 | 342°45.6<br>-2°06.5 | 357°45.8<br>-2°05.6 | 12°46.0<br>-2°04.6 | 27°46.2<br>-2°03.6 | 42°46.3<br>-2°02.6 | 57°46.5<br>-2°01.6 | 72°46.7<br>-2°00.6 | +0.2<br>+1.0 |
| Ve 16 | 267°49.0<br>-1°47.8 | 282°49.1<br>-1°46.8 | 297°49.3<br>-1°45.8 | 312°49.5<br>-1°44.8 | 327°49.7<br>-1°43.8 | 342°49.8<br>-1°42.8 | 357°50.0<br>-1°41.8 | 12°50.2<br>-1°40.9 | 27°50.4<br>-1°39.9 | 42°50.5<br>-1°38.9 | 57°50.7<br>-1°37.9 | 72°50.9<br>-1°36.9 | +0.2<br>+1.0 |
| Sa 17 | 267°53.2<br>-1°24.1 | 282°53.4<br>-1°23.1 | 297°53.6<br>-1°22.1 | 312°53.8<br>-1°21.1 | 327°53.9<br>-1°20.1 | 342°54.1<br>-1°19.1 | 357°54.3<br>-1°18.1 | 12°54.5<br>-1°17.1 | 27°54.6<br>-1°16.1 | 42°54.8<br>-1°15.2 | 57°55.0<br>-1°14.2 | 72°55.2<br>-1°13.2 | +0.2<br>+1.0 |
| Di 18 | 267°57.5<br>-1°00.3 | 282°57.7<br>-0°59.3 | 297°57.9<br>-0°58.4 | 312°58.1<br>-0°57.4 | 327°58.3<br>-0°56.4 | 342°58.4<br>-0°55.4 | 357°58.6<br>-0°54.4 | 12°58.8<br>-0°53.4 | 27°59.0<br>-0°52.4 | 42°59.2<br>-0°51.4 | 57°59.3<br>-0°50.4 | 72°59.5<br>-0°49.5 | +0.2<br>+1.0 |
| Lu 19 | 268°01.9<br>-0°36.6 | 283°02.1<br>-0°35.6 | 298°02.3<br>-0°34.6 | 313°02.4<br>-0°33.6 | 328°02.6<br>-0°32.7 | 343°02.8<br>-0°31.7 | 358°03.0<br>-0°30.7 | 13°03.2<br>-0°29.7 | 28°03.4<br>-0°28.7 | 43°03.5<br>-0°27.7 | 58°03.7<br>-0°26.7 | 73°03.9<br>-0°25.7 | +0.2<br>+1.0 |
| Ma 20 | 268°06.3<br>-0°12.9 | 283°06.5<br>-0°11.9 | 298°06.7<br>-0°10.9 | 313°06.8<br>-0°09.9 | 328°07.0<br>-0°08.9 | 343°07.2<br>-0°07.9 | 358°07.4<br>-0°07.0 | 13°07.6<br>-0°06.0 | 28°07.8<br>-0°05.0 | 43°08.0<br>-0°04.0 | 58°08.1<br>-0°03.0 | 73°08.3<br>-0°02.0 | +0.2<br>+1.0 |
| Me 21 | 268°10.7<br>0°10.8 | 283°10.9<br>0°11.8 | 298°11.1<br>0°12.8 | 313°11.3<br>0°13.8 | 328°11.5<br>0°14.8 | 343°11.7<br>0°15.8 | 358°11.9<br>0°16.7 | 13°12.0<br>0°17.7 | 28°12.2<br>0°18.7 | 43°12.4<br>0°19.7 | 58°12.6<br>0°20.7 | 73°12.8<br>0°21.7 | +0.2<br>+1.0 |
| Je 22 | 268°15.2<br>0°34.5 | 283°15.4<br>0°35.5 | 298°15.6<br>0°36.5 | 313°15.8<br>0°37.5 | 328°16.0<br>0°38.5 | 343°16.1<br>0°39.4 | 358°16.3<br>0°40.4 | 13°16.5<br>0°41.4 | 28°16.7<br>0°42.4 | 43°16.9<br>0°43.4 | 58°17.1<br>0°44.4 | 73°17.3<br>0°45.4 | +0.2<br>+1.0 |
| Ve 23 | 268°19.7<br>0°58.2 | 283°19.9<br>0°59.2 | 298°20.1<br>1°00.2 | 313°20.3<br>1°01.1 | 328°20.5<br>1°02.1 | 343°20.6<br>1°03.1 | 358°20.8<br>1°04.1 | 13°21.0<br>1°05.1 | 28°21.2<br>1°06.1 | 43°21.4<br>1°07.0 | 58°21.6<br>1°08.0 | 73°21.8<br>1°09.0 | +0.2<br>+1.0 |
| Sa 24 | 268°24.2<br>1°21.8 | 283°24.4<br>1°22.8 | 298°24.6<br>1°23.8 | 313°24.8<br>1°24.8 | 328°25.0<br>1°25.8 | 343°25.2<br>1°26.7 | 358°25.3<br>1°27.7 | 13°25.5<br>1°28.7 | 28°25.7<br>1°29.7 | 43°25.9<br>1°30.7 | 58°26.1<br>1°31.7 | 73°26.3<br>1°32.6 | +0.2<br>+1.0 |
| Di 25 | 268°28.7<br>1°45.4 | 283°28.9<br>1°46.4 | 298°29.1<br>1°47.4 | 313°29.3<br>1°48.4 | 328°29.5<br>1°49.4 | 343°29.7<br>1°50.3 | 358°29.9<br>1°51.3 | 13°30.1<br>1°52.3 | 28°30.3<br>1°53.3 | 43°30.4<br>1°54.3 | 58°30.6<br>1°55.2 | 73°30.8<br>1°56.2 | +0.2<br>+1.0 |
| Lu 26 | 268°33.3<br>2°09.0 | 283°33.5<br>2°10.0 | 298°33.7<br>2°11.0 | 313°33.8<br>2°11.9 | 328°34.0<br>2°12.9 | 343°34.2<br>2°13.9 | 358°34.4<br>2°14.9 | 13°34.6<br>2°15.9 | 28°34.8<br>2°16.8 | 43°35.0<br>2°17.8 | 58°35.2<br>2°18.8 | 73°35.4<br>2°19.8 | +0.2<br>+1.0 |
| Ma 27 | 268°37.8<br>2°32.5 | 283°38.0<br>2°33.5 | 298°38.2<br>2°34.5 | 313°38.4<br>2°35.4 | 328°38.6<br>2°36.4 | 343°38.8<br>2°37.4 | 358°39.0<br>2°38.4 | 13°39.1<br>2°39.4 | 28°39.3<br>2°40.3 | 43°39.5<br>2°41.3 | 58°39.7<br>2°42.3 | 73°39.9<br>2°43.3 | +0.2<br>+1.0 |
| Me 28 | 268°42.3<br>2°56.0 | 283°42.5<br>2°57.0 | 298°42.7<br>2°57.9 | 313°42.9<br>2°58.9 | 328°43.1<br>2°59.9 | 343°43.3<br>3°00.9 | 358°43.5<br>3°01.8 | 13°43.7<br>3°02.8 | 28°43.9<br>3°03.8 | 43°44.0<br>3°04.8 | 58°44.2<br>3°05.7 | 73°44.4<br>3°06.7 | +0.2<br>+1.0 |
| Je 29 | 268°46.9<br>3°19.4 | 283°47.1<br>3°20.4 | 298°47.2<br>3°21.3 | 313°47.4<br>3°22.3 | 328°47.6<br>3°23.3 | 343°47.8<br>3°24.3 | 358°48.0<br>3°25.2 | 13°48.2<br>3°26.2 | 28°48.4<br>3°27.2 | 43°48.6<br>3°28.2 | 58°48.7<br>3°29.1 | 73°48.9<br>3°30.1 | +0.2<br>+1.0 |
| Ve 30 | 268°51.4<br>3°42.7 | 283°51.6<br>3°43.7 | 298°51.7<br>3°44.7 | 313°51.9<br>3°45.7 | 328°52.1<br>3°46.6 | 343°52.3<br>3°47.6 | 358°52.5<br>3°48.6 | 13°52.7<br>3°49.5 | 28°52.9<br>3°50.5 | 43°53.1<br>3°51.5 | 58°53.2<br>3°52.5 | 73°53.4<br>3°53.4 | +0.2<br>+1.0 |
| Sa 31 | 268°55.9<br>4°06.0 | 283°56.0<br>4°07.0 | 298°56.2<br>4°08.0 | 313°56.4<br>4°08.9 | 328°56.6<br>4°09.9 | 343°56.8<br>4°10.9 | 358°57.0<br>4°11.8 | 13°57.2<br>4°12.8 | 28°57.3<br>4°13.8 | 43°57.5<br>4°14.7 | 58°57.7<br>4°15.7 | 73°57.9<br>4°16.7 | +0.2<br>+1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.1'

# LUNE

## Mars 2035

| J | 20h | 21h | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 227°00.4 | 241°32.3 | 256°04.2 | 270°36.1 | 285°07.9 | 299°39.8 | 314°11.6 | 328°43.4 | 343°15.2 | 357°47.0 | 12°18.7 | +31.8 | 14.8 |
| | -16°30.2 | -16°34.4 | -16°38.5 | -16°42.6 | -16°46.5 | -16°50.4 | -16°54.3 | -16°58.0 | -17°01.7 | -17°05.2 | -17°08.7 | -3.9 | 54.2 |
| ◑ Ve 2 | 230°12.8 | 244°44.2 | 259°15.7 | 273°47.1 | 288°18.5 | 302°49.9 | 317°21.2 | 331°52.6 | 346°23.9 | 0°55.2 | 15°26.5 | +31.4 | 14.8 |
| | -17°51.9 | -17°54.2 | -17°56.3 | -17°58.4 | -18°00.4 | -18°02.3 | -18°04.1 | -18°05.9 | -18°07.5 | -18°09.1 | -18°10.6 | -1.9 | 54.2 |
| Sa 3 | 233°13.8 | 247°44.9 | 262°15.9 | 276°46.9 | 291°17.8 | 305°48.8 | 320°19.7 | 334°50.7 | 349°21.6 | 3°52.5 | 18°23.4 | +31.0 | 14.8 |
| | -18°22.9 | -18°23.1 | -18°23.1 | -18°23.1 | -18°23.0 | -18°22.8 | -18°22.5 | -18°22.1 | -18°21.6 | -18°21.1 | -18°20.5 | +0.2 | 54.4 |
| Di 4 | 247°44.9 | 262°15.9 | 276°46.9 | 291°17.8 | 305°48.8 | 320°19.7 | 334°50.7 | 349°21.6 | 3°52.5 | 18°23.4 | 32°54.3 | +30.9 | 14.8 |
| | -18°23.1 | -18°23.1 | -18°23.1 | -18°23.0 | -18°22.8 | -18°22.5 | -18°22.1 | -18°21.6 | -18°21.1 | -18°20.5 | -18°19.7 | +0.3 | 54.5 |
| Lu 5 | 250°35.8 | 265°06.5 | 279°37.2 | 294°07.8 | 308°38.5 | 323°09.1 | 337°39.7 | 352°10.3 | 6°40.9 | 21°11.5 | 35°42.1 | +30.6 | 15.0 |
| | -17°58.4 | -17°56.2 | -17°54.0 | -17°51.7 | -17°49.3 | -17°46.9 | -17°44.3 | -17°41.6 | -17°38.9 | -17°36.1 | -17°33.2 | +2.5 | 54.9 |
| Ma 6 | 253°20.0 | 267°50.5 | 282°20.9 | 296°51.4 | 311°21.9 | 325°52.3 | 340°22.8 | 354°53.2 | 9°23.6 | 23°54.1 | 38°24.5 | +30.4 | 15.1 |
| | -16°39.0 | -16°34.7 | -16°30.3 | -16°25.8 | -16°21.3 | -16°16.6 | -16°11.9 | -16°07.1 | -16°02.2 | -15°57.2 | -15°52.2 | +4.7 | 55.4 |
| Me 7 | 256°00.5 | 270°30.9 | 285°01.2 | 299°31.6 | 314°02.0 | 328°32.3 | 343°02.7 | 357°33.1 | 12°03.4 | 26°33.8 | 41°04.1 | +30.4 | 15.3 |
| | -14°26.3 | -14°20.0 | -14°13.5 | -14°07.0 | -14°00.4 | -13°53.7 | -13°47.0 | -13°40.2 | -13°33.3 | -13°26.3 | -13°19.2 | +6.7 | 56.0 |
| Je 8 | 258°39.2 | 273°09.5 | 287°39.8 | 302°10.1 | 316°40.4 | 331°10.8 | 345°41.1 | 0°11.4 | 14°41.7 | 29°12.0 | 43°42.2 | +30.3 | 15.5 |
| | -11°24.7 | -11°16.5 | -11°08.3 | -10°59.9 | -10°51.5 | -10°43.1 | -10°34.6 | -10°26.0 | -10°17.4 | -10°08.7 | -9°59.9 | +8.5 | 56.7 |
| ● Ve 9 | 261°16.0 | 275°46.3 | 290°16.5 | 304°46.7 | 319°16.8 | 333°47.0 | 348°17.2 | 2°47.4 | 17°17.5 | 31°47.7 | 46°17.8 | +30.2 | 15.7 |
| | -7°41.6 | -7°31.9 | -7°22.2 | -7°12.5 | -7°02.7 | -6°52.9 | -6°43.0 | -6°33.1 | -6°23.1 | -6°13.1 | -6°03.0 | +9.9 | 57.4 |
| Sa 10 | 263°48.5 | 278°18.5 | 292°48.4 | 307°18.3 | 321°48.2 | 336°18.1 | 350°48.0 | 5°17.8 | 19°47.7 | 34°17.5 | 48°47.3 | +29.9 | 15.8 |
| | -3°27.8 | -3°17.2 | -3°06.6 | -2°55.9 | -2°45.3 | -2°34.6 | -2°23.8 | -2°13.1 | -2°02.3 | -1°51.5 | -1°40.7 | +10.7 | 58.0 |
| Di 11 | 266°11.9 | 280°41.4 | 295°10.8 | 309°40.2 | 324°09.6 | 338°39.0 | 353°08.3 | 7°37.6 | 22°06.9 | 36°36.2 | 51°05.4 | +29.3 | 16.0 |
| | 1°02.7 | 1°13.7 | 1°24.6 | 1°35.6 | 1°46.5 | 1°57.5 | 2°08.4 | 2°19.3 | 2°30.3 | 2°41.2 | 2°52.1 | +10.9 | 58.5 |
| Lu 12 | 268°20.2 | 282°48.9 | 297°17.6 | 311°46.3 | 326°14.9 | 340°43.5 | 355°12.1 | 9°40.6 | 24°09.1 | 38°37.5 | 53°05.9 | +28.6 | 16.1 |
| | 5°33.8 | 5°44.4 | 5°55.0 | 6°05.5 | 6°16.1 | 6°26.5 | 6°37.0 | 6°47.4 | 6°57.8 | 7°08.1 | 7°18.4 | +10.5 | 58.9 |
| Ma 13 | 270°07.5 | 284°35.3 | 299°03.1 | 313°30.8 | 327°58.5 | 342°26.1 | 356°53.7 | 11°21.2 | 25°48.8 | 40°16.2 | 54°43.6 | +27.6 | 16.1 |
| | 9°47.6 | 9°57.2 | 10°06.6 | 10°16.1 | 10°25.4 | 10°34.7 | 10°43.9 | 10°53.1 | 11°02.2 | 11°11.3 | 11°20.2 | +9.3 | 59.2 |
| Me 14 | 271°30.1 | 285°56.9 | 300°23.7 | 314°50.4 | 329°17.0 | 343°43.6 | 358°10.2 | 12°36.8 | 27°03.3 | 41°29.7 | 55°56.2 | +26.6 | 16.2 |
| | 13°26.2 | 13°33.9 | 13°41.6 | 13°49.2 | 13°56.7 | 14°04.1 | 14°11.5 | 14°18.7 | 14°25.9 | 14°32.9 | 14°39.9 | +7.4 | 59.3 |
| Je 15 | 272°28.4 | 286°54.3 | 301°20.1 | 315°46.0 | 330°11.8 | 344°37.6 | 359°03.3 | 13°29.0 | 27°54.7 | 42°20.4 | 56°46.0 | +25.8 | 16.2 |
| | 16°12.9 | 16°18.3 | 16°23.6 | 16°28.7 | 16°33.8 | 16°38.8 | 16°43.6 | 16°48.4 | 16°53.0 | 16°57.5 | 17°01.9 | +4.9 | 59.3 |
| ◐ Ve 16 | 273°08.3 | 287°33.7 | 301°59.0 | 316°24.4 | 330°49.7 | 345°15.0 | 359°40.4 | 14°05.7 | 28°31.0 | 42°56.3 | 57°21.6 | +25.3 | 16.1 |
| | 17°54.6 | 17°57.2 | 17°59.6 | 18°02.0 | 18°04.2 | 18°06.3 | 18°08.3 | 18°10.2 | 18°11.9 | 18°13.5 | 18°15.1 | +2.0 | 59.2 |
| Sa 17 | 273°41.4 | 288°06.7 | 302°32.1 | 316°57.5 | 331°23.0 | 345°48.4 | 0°13.8 | 14°39.3 | 29°04.8 | 43°30.3 | 57°55.8 | +25.4 | 16.1 |
| | 18°23.3 | 18°22.9 | 18°22.4 | 18°21.7 | 18°21.0 | 18°20.1 | 18°19.1 | 18°18.0 | 18°16.7 | 18°15.4 | 18°13.9 | -0.9 | 59.0 |
| Di 18 | 274°21.8 | 288°47.8 | 303°13.8 | 317°39.8 | 332°05.9 | 346°32.0 | 0°58.2 | 15°24.4 | 29°50.6 | 44°16.9 | 58°43.2 | +26.1 | 16.0 |
| | 17°37.8 | 17°34.5 | 17°31.1 | 17°27.6 | 17°23.9 | 17°20.2 | 17°16.3 | 17°12.4 | 17°08.3 | 17°04.1 | 16°59.8 | -3.8 | 58.7 |
| Lu 19 | 275°23.0 | 289°50.0 | 304°17.1 | 318°44.2 | 333°11.3 | 347°38.6 | 2°05.8 | 16°33.1 | 31°00.5 | 45°27.9 | 59°55.4 | +27.2 | 15.9 |
| | 15°43.5 | 15°37.6 | 15°31.6 | 15°25.6 | 15°19.4 | 15°13.2 | 15°06.9 | 15°00.5 | 14°54.0 | 14°47.4 | 14°40.7 | -6.3 | 58.4 |
| Ma 20 | 276°53.6 | 291°21.9 | 305°50.3 | 320°18.7 | 334°47.1 | 349°15.7 | 3°44.2 | 18°12.8 | 32°41.5 | 47°10.2 | 61°39.0 | +28.5 | 15.8 |
| | 12°51.1 | 12°43.2 | 12°35.3 | 12°27.2 | 12°19.1 | 12°10.9 | 12°02.7 | 11°54.4 | 11°46.0 | 11°37.6 | 11°29.1 | -8.2 | 58.0 |
| Me 21 | 278°56.7 | 293°26.3 | 307°56.0 | 322°25.6 | 336°55.4 | 351°25.2 | 5°55.0 | 20°24.8 | 34°54.8 | 49°24.7 | 63°54.7 | +29.8 | 15.7 |
| | 9°15.2 | 9°05.9 | 8°56.5 | 8°47.1 | 8°37.7 | 8°28.2 | 8°18.7 | 8°09.1 | 7°59.5 | 7°49.8 | 7°40.2 | -9.5 | 57.5 |
| Je 22 | 281°30.2 | 296°00.9 | 310°31.6 | 325°02.4 | 339°33.2 | 354°04.0 | 8°34.9 | 23°05.8 | 37°36.8 | 52°07.8 | 66°38.8 | +30.9 | 15.5 |
| | 5°11.5 | 5°01.4 | 4°51.2 | 4°41.1 | 4°31.0 | 4°20.8 | 4°10.6 | 4°00.4 | 3°50.2 | 3°39.9 | 3°29.7 | -10.2 | 57.0 |
| ○ Ve 23 | 284°28.3 | 298°59.8 | 313°31.4 | 328°02.9 | 342°34.6 | 357°06.2 | 11°37.9 | 26°09.6 | 40°41.3 | 55°13.0 | 69°44.8 | +31.7 | 15.4 |
| | 0°55.5 | 0°45.2 | 0°34.9 | 0°24.6 | 0°14.4 | 0°04.1 | -0°06.1 | -0°16.4 | -0°26.6 | -0°36.9 | -0°47.1 | -10.3 | 56.5 |
| Sa 24 | 287°43.7 | 302°15.8 | 316°47.9 | 331°20.0 | 345°52.1 | 0°24.2 | 14°56.4 | 29°28.5 | 44°00.7 | 58°32.9 | 73°05.0 | +32.1 | 15.2 |
| | -3°18.4 | -3°28.3 | -3°38.2 | -3°48.1 | -3°58.0 | -4°07.8 | -4°17.6 | -4°27.4 | -4°37.1 | -4°46.8 | -4°56.5 | -9.8 | 55.9 |
| Di 25 | 291°09.0 | 305°41.3 | 320°13.6 | 334°45.9 | 349°18.3 | 3°50.6 | 18°22.9 | 32°55.3 | 47°27.6 | 61°59.9 | 76°32.3 | +32.3 | 15.1 |
| | -7°17.6 | -7°26.7 | -7°35.8 | -7°44.8 | -7°53.8 | -8°02.7 | -8°11.6 | -8°20.5 | -8°29.3 | -8°38.0 | -8°46.8 | -8.9 | 55.3 |
| Lu 26 | 294°37.3 | 309°09.6 | 323°41.9 | 338°14.2 | 352°46.5 | 7°18.8 | 21°51.1 | 36°23.4 | 50°55.7 | 65°27.9 | 80°00.2 | +32.3 | 15.0 |
| | -10°51.5 | -10°59.4 | -11°07.3 | -11°15.1 | -11°22.8 | -11°30.5 | -11°38.1 | -11°45.7 | -11°53.2 | -12°00.6 | -12°08.0 | -7.6 | 54.9 |
| Ma 27 | 298°03.3 | 312°35.4 | 327°07.5 | 341°39.6 | 356°11.7 | 10°43.8 | 25°15.9 | 39°48.0 | 54°20.0 | 68°52.1 | 83°24.1 | +32.1 | 14.9 |
| | -13°51.4 | -13°57.8 | -14°04.1 | -14°10.3 | -14°16.5 | -14°22.6 | -14°28.7 | -14°34.6 | -14°40.5 | -14°46.4 | -14°52.2 | -6.1 | 54.5 |
| Me 28 | 312°35.4 | 327°07.5 | 341°39.6 | 356°11.7 | 10°43.8 | 25°15.9 | 39°48.0 | 54°20.0 | 68°52.1 | 83°24.1 | 97°56.1 | +32.1 | 14.9 |
| | -13°57.8 | -14°04.1 | -14°10.3 | -14°16.5 | -14°22.6 | -14°28.7 | -14°34.6 | -14°40.5 | -14°46.4 | -14°52.2 | -14°57.9 | -6.0 | 54.5 |
| Je 29 | 315°55.1 | 330°27.0 | 344°58.8 | 359°30.6 | 14°02.4 | 28°34.2 | 43°06.0 | 57°37.7 | 72°09.5 | 86°41.2 | 101°12.9 | +31.8 | 14.8 |
| | -16°14.8 | -16°19.3 | -16°23.8 | -16°28.2 | -16°32.5 | -16°36.7 | -16°40.9 | -16°45.0 | -16°49.0 | -16°52.9 | -16°56.8 | -4.2 | 54.2 |
| Ve 30 | 319°07.2 | 333°38.8 | 348°10.3 | 2°41.8 | 17°13.3 | 31°44.7 | 46°16.2 | 60°47.6 | 75°19.1 | 89°50.5 | 104°21.9 | +31.5 | 14.8 |
| | -17°45.1 | -17°47.7 | -17°50.2 | -17°52.6 | -17°55.0 | -17°57.2 | -17°59.4 | -18°01.5 | -18°03.5 | -18°05.5 | -18°07.3 | -2.2 | 54.1 |
| ◑ Sa 31 | 322°11.9 | 336°43.1 | 351°14.4 | 5°45.6 | 20°16.8 | 34°48.0 | 49°19.2 | 63°50.4 | 78°21.6 | 92°52.8 | 107°23.9 | +31.2 | 14.8 |
| | -18°25.0 | -18°25.5 | -18°25.9 | -18°26.2 | -18°26.5 | -18°26.7 | -18°26.7 | -18°26.7 | -18°26.6 | -18°26.5 | -18°26.2 | -0.1 | 54.2 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
DQ: 2 03h01 — NL: 9 23h09 — PQ: 16 20h15 — PL: 23 22h42 — DQ: 31 23h06

# SOLEIL

## Avril 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°00.3 | 284°00.5 | 299°00.7 | 314°00.9 | 329°01.1 | 344°01.2 | 359°01.4 | 14°01.6 | 29°01.8 | 44°02.0 | 59°02.2 | 74°02.4 | +0.2 |
| | 4°29.2 | 4°30.2 | 4°31.2 | 4°32.1 | 4°33.1 | 4°34.1 | 4°35.0 | 4°36.0 | 4°37.0 | 4°37.9 | 4°38.9 | 4°39.8 | +1.0 |
| Lu 2 | 269°04.7 | 284°04.9 | 299°05.1 | 314°05.3 | 329°05.5 | 344°05.7 | 359°05.8 | 14°06.0 | 29°06.2 | 44°06.4 | 59°06.6 | 74°06.8 | +0.2 |
| | 4°52.4 | 4°53.3 | 4°54.3 | 4°55.2 | 4°56.2 | 4°57.2 | 4°58.1 | 4°59.1 | 5°00.1 | 5°01.0 | 5°02.0 | 5°02.9 | +1.0 |
| Ma 3 | 269°09.1 | 284°09.3 | 299°09.5 | 314°09.7 | 329°09.9 | 344°10.0 | 359°10.2 | 14°10.4 | 29°10.6 | 44°10.8 | 59°11.0 | 74°11.1 | +0.2 |
| | 5°15.4 | 5°16.4 | 5°17.3 | 5°18.3 | 5°19.2 | 5°20.2 | 5°21.2 | 5°22.1 | 5°23.1 | 5°24.0 | 5°25.0 | 5°25.9 | +1.0 |
| Me 4 | 269°13.5 | 284°13.7 | 299°13.9 | 314°14.0 | 329°14.2 | 344°14.4 | 359°14.6 | 14°14.8 | 29°14.9 | 44°15.1 | 59°15.3 | 74°15.5 | +0.2 |
| | 5°38.4 | 5°39.3 | 5°40.3 | 5°41.2 | 5°42.2 | 5°43.1 | 5°44.1 | 5°45.0 | 5°46.0 | 5°46.9 | 5°47.9 | 5°48.8 | +1.0 |
| Je 5 | 269°17.8 | 284°18.0 | 299°18.2 | 314°18.3 | 329°18.5 | 344°18.7 | 359°18.9 | 14°19.0 | 29°19.2 | 44°19.4 | 59°19.6 | 74°19.8 | +0.2 |
| | 6°01.2 | 6°02.2 | 6°03.1 | 6°04.1 | 6°05.0 | 6°06.0 | 6°06.9 | 6°07.9 | 6°08.8 | 6°09.8 | 6°10.7 | 6°11.7 | +0.9 |
| Ve 6 | 269°22.1 | 284°22.2 | 299°22.4 | 314°22.6 | 329°22.8 | 344°22.9 | 359°23.1 | 14°23.3 | 29°23.5 | 44°23.6 | 59°23.8 | 74°24.0 | +0.2 |
| | 6°24.0 | 6°24.9 | 6°25.9 | 6°26.8 | 6°27.7 | 6°28.7 | 6°29.6 | 6°30.6 | 6°31.5 | 6°32.5 | 6°33.4 | 6°34.4 | +0.9 |
| Sa 7 | 269°26.3 | 284°26.4 | 299°26.6 | 314°26.8 | 329°27.0 | 344°27.1 | 359°27.3 | 14°27.5 | 29°27.7 | 44°27.8 | 59°28.0 | 74°28.2 | +0.2 |
| | 6°46.6 | 6°47.5 | 6°48.5 | 6°49.4 | 6°50.4 | 6°51.3 | 6°52.2 | 6°53.2 | 6°54.1 | 6°55.1 | 6°56.0 | 6°56.9 | +0.9 |
| Di 8 | 269°30.4 | 284°30.6 | 299°30.8 | 314°30.9 | 329°31.1 | 344°31.3 | 359°31.4 | 14°31.6 | 29°31.8 | 44°32.0 | 59°32.1 | 74°32.3 | +0.2 |
| | 7°09.1 | 7°10.1 | 7°11.0 | 7°11.9 | 7°12.9 | 7°13.8 | 7°14.7 | 7°15.7 | 7°16.6 | 7°17.5 | 7°18.5 | 7°19.4 | +0.9 |
| Lu 9 | 269°34.5 | 284°34.7 | 299°34.9 | 314°35.0 | 329°35.2 | 344°35.4 | 359°35.5 | 14°35.7 | 29°35.9 | 44°36.0 | 59°36.2 | 74°36.4 | +0.2 |
| | 7°31.5 | 7°32.5 | 7°33.4 | 7°34.3 | 7°35.3 | 7°36.2 | 7°37.1 | 7°38.0 | 7°39.0 | 7°39.9 | 7°40.8 | 7°41.8 | +0.9 |
| Ma 10 | 269°38.5 | 284°38.7 | 299°38.9 | 314°39.0 | 329°39.2 | 344°39.4 | 359°39.5 | 14°39.7 | 29°39.9 | 44°40.0 | 59°40.2 | 74°40.4 | +0.2 |
| | 7°53.8 | 7°54.7 | 7°55.7 | 7°56.6 | 7°57.5 | 7°58.4 | 7°59.4 | 8°00.3 | 8°01.2 | 8°02.1 | 8°03.1 | 8°04.0 | +0.9 |
| Me 11 | 269°42.5 | 284°42.7 | 299°42.8 | 314°43.0 | 329°43.2 | 344°43.3 | 359°43.5 | 14°43.7 | 29°43.8 | 44°44.0 | 59°44.1 | 74°44.3 | +0.2 |
| | 8°16.0 | 8°16.9 | 8°17.8 | 8°18.7 | 8°19.6 | 8°20.5 | 8°21.5 | 8°22.4 | 8°23.3 | 8°24.2 | 8°25.1 | 8°26.1 | +0.9 |
| Je 12 | 269°46.4 | 284°46.6 | 299°46.7 | 314°46.9 | 329°47.1 | 344°47.2 | 359°47.4 | 14°47.5 | 29°47.7 | 44°47.9 | 59°48.0 | 74°48.2 | +0.2 |
| | 8°38.0 | 8°38.9 | 8°39.8 | 8°40.7 | 8°41.6 | 8°42.5 | 8°43.4 | 8°44.3 | 8°45.3 | 8°46.2 | 8°47.1 | 8°48.0 | +0.9 |
| Ve 13 | 269°50.2 | 284°50.4 | 299°50.6 | 314°50.7 | 329°50.9 | 344°51.0 | 359°51.2 | 14°51.3 | 29°51.5 | 44°51.7 | 59°51.8 | 74°52.0 | +0.2 |
| | 8°59.8 | 9°00.7 | 9°01.6 | 9°02.5 | 9°03.4 | 9°04.4 | 9°05.3 | 9°06.2 | 9°07.1 | 9°08.0 | 9°08.9 | 9°09.8 | +0.9 |
| Sa 14 | 269°54.0 | 284°54.1 | 299°54.3 | 314°54.4 | 329°54.6 | 344°54.8 | 359°54.9 | 14°55.1 | 29°55.2 | 44°55.4 | 59°55.5 | 74°55.7 | +0.2 |
| | 9°21.5 | 9°22.4 | 9°23.3 | 9°24.2 | 9°25.1 | 9°26.0 | 9°26.9 | 9°27.8 | 9°28.7 | 9°29.6 | 9°30.5 | 9°31.4 | +0.9 |
| Di 15 | 269°57.7 | 284°57.8 | 299°58.0 | 314°58.1 | 329°58.3 | 344°58.4 | 359°58.6 | 14°58.7 | 29°58.9 | 44°59.0 | 59°59.2 | 74°59.3 | +0.2 |
| | 9°43.1 | 9°44.0 | 9°44.9 | 9°45.8 | 9°46.7 | 9°47.5 | 9°48.4 | 9°49.3 | 9°50.2 | 9°51.1 | 9°52.0 | 9°52.9 | +0.9 |
| Lu 16 | 270°01.2 | 285°01.4 | 300°01.5 | 315°01.7 | 330°01.8 | 345°02.0 | 0°02.1 | 15°02.3 | 30°02.4 | 45°02.6 | 60°02.7 | 75°02.9 | +0.1 |
| | 10°04.5 | 10°05.4 | 10°06.2 | 10°07.1 | 10°08.0 | 10°08.9 | 10°09.8 | 10°10.7 | 10°11.6 | 10°12.4 | 10°13.3 | 10°14.2 | +0.9 |
| Ma 17 | 270°04.8 | 285°04.9 | 300°05.0 | 315°05.2 | 330°05.3 | 345°05.5 | 0°05.6 | 15°05.8 | 30°05.9 | 45°06.0 | 60°06.2 | 75°06.3 | +0.1 |
| | 10°25.7 | 10°26.6 | 10°27.4 | 10°28.3 | 10°29.2 | 10°30.1 | 10°31.0 | 10°31.8 | 10°32.7 | 10°33.6 | 10°34.5 | 10°35.4 | +0.9 |
| Me 18 | 270°08.2 | 285°08.3 | 300°08.4 | 315°08.6 | 330°08.7 | 345°08.9 | 0°09.0 | 15°09.1 | 30°09.3 | 45°09.4 | 60°09.6 | 75°09.7 | +0.1 |
| | 10°46.7 | 10°47.6 | 10°48.5 | 10°49.4 | 10°50.2 | 10°51.1 | 10°52.0 | 10°52.8 | 10°53.7 | 10°54.6 | 10°55.5 | 10°56.3 | +0.9 |
| Je 19 | 270°11.5 | 285°11.6 | 300°11.8 | 315°11.9 | 330°12.0 | 345°12.2 | 0°12.3 | 15°12.4 | 30°12.6 | 45°12.7 | 60°12.8 | 75°13.0 | +0.1 |
| | 11°07.6 | 11°08.5 | 11°09.3 | 11°10.2 | 11°11.1 | 11°11.9 | 11°12.8 | 11°13.7 | 11°14.5 | 11°15.4 | 11°16.2 | 11°17.1 | +0.9 |
| Ve 20 | 270°14.7 | 285°14.8 | 300°15.0 | 315°15.1 | 330°15.2 | 345°15.4 | 0°15.5 | 15°15.6 | 30°15.8 | 45°15.9 | 60°16.0 | 75°16.1 | +0.1 |
| | 11°28.3 | 11°29.1 | 11°30.0 | 11°30.9 | 11°31.7 | 11°32.6 | 11°33.4 | 11°34.3 | 11°35.1 | 11°36.0 | 11°36.8 | 11°37.7 | +0.9 |
| Sa 21 | 270°17.8 | 285°17.9 | 300°18.1 | 315°18.2 | 330°18.3 | 345°18.5 | 0°18.6 | 15°18.7 | 30°18.8 | 45°19.0 | 60°19.1 | 75°19.2 | +0.1 |
| | 11°48.8 | 11°49.6 | 11°50.5 | 11°51.3 | 11°52.2 | 11°53.0 | 11°53.9 | 11°54.7 | 11°55.6 | 11°56.4 | 11°57.3 | 11°58.1 | +0.8 |
| Di 22 | 270°20.8 | 285°21.0 | 300°21.1 | 315°21.2 | 330°21.3 | 345°21.4 | 0°21.6 | 15°21.7 | 30°21.8 | 45°21.9 | 60°22.0 | 75°22.2 | +0.1 |
| | 12°09.1 | 12°09.9 | 12°10.8 | 12°11.6 | 12°12.4 | 12°13.3 | 12°14.1 | 12°15.0 | 12°15.8 | 12°16.6 | 12°17.5 | 12°18.3 | +0.8 |
| Lu 23 | 270°23.7 | 285°23.8 | 300°24.0 | 315°24.1 | 330°24.2 | 345°24.3 | 0°24.4 | 15°24.5 | 30°24.7 | 45°24.8 | 60°24.9 | 75°25.0 | +0.1 |
| | 12°29.2 | 12°30.0 | 12°30.8 | 12°31.7 | 12°32.5 | 12°33.3 | 12°34.2 | 12°35.0 | 12°35.8 | 12°36.7 | 12°37.5 | 12°38.3 | +0.8 |
| Ma 24 | 270°26.5 | 285°26.6 | 300°26.7 | 315°26.8 | 330°27.0 | 345°27.1 | 0°27.2 | 15°27.3 | 30°27.4 | 45°27.5 | 60°27.6 | 75°27.7 | +0.1 |
| | 12°49.1 | 12°49.9 | 12°50.7 | 12°51.5 | 12°52.4 | 12°53.2 | 12°54.0 | 12°54.8 | 12°55.6 | 12°56.5 | 12°57.3 | 12°58.1 | +0.8 |
| Me 25 | 270°29.2 | 285°29.3 | 300°29.4 | 315°29.5 | 330°29.6 | 345°29.7 | 0°29.8 | 15°29.9 | 30°30.0 | 45°30.1 | 60°30.2 | 75°30.3 | +0.1 |
| | 13°08.7 | 13°09.6 | 13°10.4 | 13°11.2 | 13°12.0 | 13°12.8 | 13°13.6 | 13°14.4 | 13°15.3 | 13°16.1 | 13°16.9 | 13°17.7 | +0.8 |
| Je 26 | 270°31.7 | 285°31.8 | 300°31.9 | 315°32.0 | 330°32.1 | 345°32.2 | 0°32.3 | 15°32.4 | 30°32.5 | 45°32.6 | 60°32.7 | 75°32.8 | +0.1 |
| | 13°28.2 | 13°29.0 | 13°29.8 | 13°30.6 | 13°31.4 | 13°32.2 | 13°33.0 | 13°33.8 | 13°34.6 | 13°35.5 | 13°36.3 | 13°37.1 | +0.8 |
| Ve 27 | 270°34.1 | 285°34.2 | 300°34.3 | 315°34.4 | 330°34.5 | 345°34.6 | 0°34.7 | 15°34.8 | 30°34.9 | 45°35.0 | 60°35.1 | 75°35.2 | +0.1 |
| | 13°47.5 | 13°48.3 | 13°49.0 | 13°49.8 | 13°50.6 | 13°51.4 | 13°52.2 | 13°53.0 | 13°53.8 | 13°54.6 | 13°55.4 | 13°56.2 | +0.8 |
| Sa 28 | 270°36.4 | 285°36.5 | 300°36.6 | 315°36.7 | 330°36.8 | 345°36.9 | 0°37.0 | 15°37.0 | 30°37.1 | 45°37.2 | 60°37.3 | 75°37.4 | +0.1 |
| | 14°06.5 | 14°07.3 | 14°08.0 | 14°08.8 | 14°09.6 | 14°10.4 | 14°11.2 | 14°12.0 | 14°12.8 | 14°13.5 | 14°14.3 | 14°15.1 | +0.8 |
| Di 29 | 270°38.6 | 285°38.6 | 300°38.7 | 315°38.8 | 330°38.9 | 345°39.0 | 0°39.1 | 15°39.2 | 30°39.2 | 45°39.3 | 60°39.4 | 75°39.5 | +0.1 |
| | 14°25.3 | 14°26.0 | 14°26.8 | 14°27.6 | 14°28.4 | 14°29.1 | 14°29.9 | 14°30.7 | 14°31.5 | 14°32.2 | 14°33.0 | 14°33.8 | +0.8 |
| Lu 30 | 270°40.6 | 285°40.7 | 300°40.7 | 315°40.8 | 330°40.9 | 345°41.0 | 0°41.1 | 15°41.1 | 30°41.2 | 45°41.3 | 60°41.4 | 75°41.5 | +0.1 |
| | 14°43.8 | 14°44.6 | 14°45.3 | 14°46.1 | 14°46.9 | 14°47.6 | 14°48.4 | 14°49.2 | 14°49.9 | 14°50.7 | 14°51.5 | 14°52.2 | +0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Avril 2035

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 240°59.4 | 255°30.3 | 270°01.2 | 284°32.2 | 299°03.1 | 313°34.0 | 328°04.9 | 342°35.9 | 357°06.8 | 11°37.7 | 26°08.6 | +30.9 | 15.0 |
| | -17°26.2 | -17°22.9 | -17°19.6 | -17°16.2 | -17°12.6 | -17°09.0 | -17°05.3 | -17°01.6 | -16°57.7 | -16°53.8 | -16°49.8 | +3.6 | 54.9 |
| Lu 2 | 255°30.3 | 270°01.2 | 284°32.2 | 299°03.1 | 313°34.0 | 328°04.9 | 342°35.9 | 357°06.8 | 11°37.7 | 26°08.6 | 40°39.5 | +30.9 | 15.0 |
| | -17°22.9 | -17°19.6 | -17°16.2 | -17°12.6 | -17°09.0 | -17°05.3 | -17°01.6 | -16°57.7 | -16°53.8 | -16°49.8 | -16°45.6 | +3.7 | 54.9 |
| Ma 3 | 258°22.4 | 272°53.3 | 287°24.1 | 301°54.9 | 316°25.7 | 330°56.6 | 345°27.4 | 359°58.2 | 14°29.0 | 28°59.8 | 43°30.6 | +30.8 | 15.1 |
| | -15°34.1 | -15°28.7 | -15°23.2 | -15°17.6 | -15°11.9 | -15°06.2 | -15°00.3 | -14°54.4 | -14°48.5 | -14°42.4 | -14°36.2 | +5.8 | 55.5 |
| Me 4 | 261°11.8 | 275°42.5 | 290°13.2 | 304°43.9 | 319°14.6 | 333°45.3 | 348°16.0 | 2°46.6 | 17°17.3 | 31°47.9 | 46°18.6 | +30.7 | 15.3 |
| | -12°55.0 | -12°47.6 | -12°40.2 | -12°32.7 | -12°25.2 | -12°17.5 | -12°09.8 | -12°02.0 | -11°54.2 | -11°46.3 | -11°38.3 | +7.7 | 56.2 |
| Je 5 | 263°56.9 | 278°27.4 | 292°57.9 | 307°28.3 | 321°58.8 | 336°29.2 | 350°59.6 | 5°30.0 | 20°00.3 | 34°30.7 | 49°01.0 | +30.4 | 15.6 |
| | -9°30.7 | -9°21.7 | -9°12.6 | -9°03.5 | -8°54.3 | -8°45.0 | -8°35.7 | -8°26.4 | -8°17.0 | -8°07.5 | -7°58.0 | +9.3 | 57.1 |
| Ve 6 | 266°34.1 | 281°04.2 | 295°34.2 | 310°04.2 | 324°34.2 | 339°04.1 | 353°34.1 | 8°04.0 | 22°33.9 | 37°03.7 | 51°33.6 | +29.9 | 15.8 |
| | -5°29.1 | -5°18.8 | -5°08.5 | -4°58.1 | -4°47.7 | -4°37.3 | -4°26.8 | -4°16.3 | -4°05.7 | -3°55.1 | -3°44.5 | +10.5 | 57.9 |
| Sa 7 | 268°57.8 | 283°27.2 | 297°56.5 | 312°25.9 | 326°55.1 | 341°24.4 | 355°53.6 | 10°22.8 | 24°51.9 | 39°21.0 | 53°50.1 | +29.2 | 16.0 |
| | -1°01.6 | -0°50.6 | -0°39.6 | -0°28.5 | -0°17.4 | -0°06.3 | 0°04.8 | 0°15.9 | 0°27.1 | 0°38.2 | 0°49.4 | +11.1 | 58.7 |
| ● Di 8 | 271°01.6 | 285°30.0 | 299°58.4 | 314°26.8 | 328°55.1 | 343°23.3 | 357°51.6 | 12°19.8 | 26°47.9 | 41°16.0 | 55°44.0 | +28.2 | 16.2 |
| | 3°36.7 | 3°47.8 | 3°58.9 | 4°10.0 | 4°21.1 | 4°32.1 | 4°43.2 | 4°54.2 | 5°05.2 | 5°16.2 | 5°27.1 | +11.0 | 59.4 |
| Lu 9 | 272°39.2 | 287°06.5 | 301°33.8 | 316°01.0 | 330°28.1 | 344°55.2 | 359°22.3 | 13°49.3 | 28°16.2 | 42°43.2 | 57°10.0 | +27.1 | 16.3 |
| | 8°07.6 | 8°18.0 | 8°28.4 | 8°38.7 | 8°48.9 | 8°59.1 | 9°09.3 | 9°19.4 | 9°29.4 | 9°39.4 | 9°49.3 | +10.2 | 59.8 |
| Ma 10 | 273°47.2 | 288°13.3 | 302°39.3 | 317°05.3 | 331°31.3 | 345°57.2 | 0°23.1 | 14°48.9 | 29°14.7 | 43°40.5 | 58°06.2 | +25.9 | 16.4 |
| | 12°10.6 | 12°19.4 | 12°28.2 | 12°36.9 | 12°45.5 | 12°54.0 | 13°02.4 | 13°10.8 | 13°19.1 | 13°27.2 | 13°35.3 | +8.5 | 60.1 |
| Me 11 | 274°26.9 | 288°51.9 | 303°17.0 | 317°42.0 | 332°07.0 | 346°32.0 | 0°56.9 | 15°21.8 | 29°46.7 | 44°11.6 | 58°36.4 | +24.9 | 16.4 |
| | 15°25.4 | 15°31.9 | 15°38.3 | 15°44.6 | 15°50.8 | 15°56.9 | 16°02.9 | 16°08.8 | 16°14.6 | 16°20.3 | 16°25.8 | +6.0 | 60.1 |
| Je 12 | 274°46.3 | 289°10.9 | 303°35.4 | 317°59.9 | 332°24.4 | 346°49.0 | 1°13.5 | 15°38.0 | 30°02.5 | 44°27.0 | 58°51.5 | +24.5 | 16.3 |
| | 17°35.1 | 17°38.7 | 17°42.3 | 17°45.7 | 17°49.0 | 17°52.2 | 17°55.2 | 17°58.1 | 18°00.9 | 18°03.6 | 18°06.2 | +3.1 | 59.9 |
| Ve 13 | 274°59.9 | 289°24.6 | 303°49.3 | 318°14.0 | 332°38.7 | 347°03.5 | 1°28.2 | 15°53.0 | 30°17.9 | 44°42.7 | 59°07.6 | +24.8 | 16.2 |
| | 18°29.4 | 18°29.9 | 18°30.3 | 18°30.6 | 18°30.8 | 18°30.8 | 18°30.7 | 18°30.5 | 18°30.2 | 18°29.7 | 18°29.2 | -0.0 | 59.5 |
| Sa 14 | 275°24.9 | 289°50.4 | 304°15.9 | 318°41.4 | 333°07.1 | 347°32.7 | 1°58.4 | 16°24.1 | 30°49.9 | 45°15.8 | 59°41.7 | +25.7 | 16.1 |
| | 18°06.0 | 18°03.5 | 18°00.9 | 17°58.2 | 17°55.3 | 17°52.4 | 17°49.3 | 17°46.1 | 17°42.9 | 17°39.5 | 17°35.9 | -3.0 | 59.0 |
| ◐ Di 15 | 276°16.4 | 290°43.2 | 305°10.0 | 319°36.9 | 334°03.8 | 348°30.8 | 2°57.9 | 17°25.0 | 31°52.2 | 46°19.4 | 60°46.7 | +27.0 | 15.9 |
| | 16°30.6 | 16°25.5 | 16°20.2 | 16°14.9 | 16°09.4 | 16°03.9 | 15°58.2 | 15°52.5 | 15°46.7 | 15°40.8 | 15°34.8 | -5.6 | 58.5 |
| Lu 16 | 277°43.5 | 292°11.8 | 306°40.1 | 321°08.5 | 335°37.0 | 350°05.5 | 4°34.1 | 19°02.7 | 33°31.4 | 48°00.2 | 62°29.0 | +28.5 | 15.8 |
| | 13°54.6 | 13°47.3 | 13°40.0 | 13°32.5 | 13°25.0 | 13°17.4 | 13°09.7 | 13°02.0 | 12°54.2 | 12°46.3 | 12°38.4 | -7.6 | 57.9 |
| Ma 17 | 279°48.2 | 294°17.9 | 308°47.7 | 323°17.5 | 337°47.4 | 352°17.4 | 6°47.4 | 21°17.4 | 35°47.5 | 50°17.7 | 64°47.9 | +30.0 | 15.6 |
| | 10°32.3 | 10°23.4 | 10°14.5 | 10°05.6 | 9°56.6 | 9°47.6 | 9°38.5 | 9°29.3 | 9°20.2 | 9°11.0 | 9°01.7 | -9.1 | 57.3 |
| Me 18 | 282°26.6 | 296°57.6 | 311°28.6 | 325°59.6 | 340°30.7 | 355°01.8 | 9°32.9 | 24°04.1 | 38°35.3 | 53°06.6 | 67°37.9 | +31.1 | 15.5 |
| | 6°38.6 | 6°28.8 | 6°18.9 | 6°09.1 | 5°59.2 | 5°49.3 | 5°39.4 | 5°29.5 | 5°19.5 | 5°09.6 | 4°59.6 | -9.9 | 56.8 |
| Je 19 | 285°31.5 | 300°03.3 | 314°35.2 | 329°07.0 | 343°38.9 | 358°10.9 | 12°42.8 | 27°14.8 | 41°46.8 | 56°18.8 | 70°50.9 | +31.9 | 15.3 |
| | 2°28.0 | 2°17.8 | 2°07.6 | 1°57.4 | 1°47.3 | 1°37.1 | 1°26.9 | 1°16.7 | 1°06.5 | 0°56.3 | 0°46.1 | -10.2 | 56.3 |
| Ve 20 | 288°54.0 | 303°26.4 | 317°58.7 | 332°31.1 | 347°03.5 | 1°35.9 | 16°08.3 | 30°40.7 | 45°13.1 | 59°45.5 | 74°18.0 | +32.4 | 15.2 |
| | -1°46.0 | -1°56.0 | -2°06.0 | -2°16.1 | -2°26.1 | -2°36.1 | -2°46.0 | -2°56.0 | -3°05.9 | -3°15.8 | -3°25.7 | -10.0 | 55.8 |
| Sa 21 | 292°25.5 | 306°58.1 | 321°30.6 | 336°03.1 | 350°35.7 | 5°08.2 | 19°40.7 | 34°13.3 | 48°45.8 | 63°18.4 | 77°50.9 | +32.5 | 15.1 |
| | -5°51.0 | -6°00.5 | -6°09.9 | -6°19.3 | -6°28.7 | -6°38.0 | -6°47.3 | -6°56.5 | -7°05.7 | -7°14.9 | -7°24.1 | -9.3 | 55.3 |
| ○ Di 22 | 295°58.5 | 310°31.0 | 325°03.4 | 339°35.9 | 354°08.3 | 8°40.8 | 23°13.2 | 37°45.6 | 52°18.0 | 66°50.4 | 81°22.8 | +32.4 | 15.0 |
| | -9°36.2 | -9°44.6 | -9°53.0 | -10°01.3 | -10°09.6 | -10°17.9 | -10°26.1 | -10°34.2 | -10°42.3 | -10°50.4 | -10°58.4 | -8.2 | 54.9 |
| Lu 23 | 299°27.4 | 313°59.6 | 328°31.8 | 343°04.0 | 357°36.2 | 12°08.4 | 26°40.5 | 41°12.7 | 55°44.8 | 70°16.9 | 84°49.0 | +32.2 | 14.9 |
| | -12°51.5 | -12°58.6 | -13°05.6 | -13°12.6 | -13°19.4 | -13°26.3 | -13°33.0 | -13°39.7 | -13°46.3 | -13°52.9 | -13°59.4 | -6.8 | 54.5 |
| Ma 24 | 302°48.9 | 317°20.8 | 331°52.7 | 346°24.5 | 0°56.4 | 15°28.2 | 30°00.0 | 44°31.8 | 59°03.6 | 73°35.4 | 88°07.2 | +31.8 | 14.8 |
| | -15°28.8 | -15°34.2 | -15°39.5 | -15°44.7 | -15°49.9 | -15°55.0 | -16°00.1 | -16°05.0 | -16°09.9 | -16°14.7 | -16°19.4 | -5.1 | 54.2 |
| Me 25 | 306°02.1 | 320°33.7 | 335°05.3 | 349°36.8 | 4°08.4 | 18°39.9 | 33°11.4 | 47°42.9 | 62°14.4 | 76°45.9 | 91°17.4 | +31.5 | 14.7 |
| | -17°21.2 | -17°24.7 | -17°28.1 | -17°31.4 | -17°34.7 | -17°37.8 | -17°40.9 | -17°43.9 | -17°46.9 | -17°49.7 | -17°52.5 | -3.1 | 54.1 |
| Je 26 | 320°33.7 | 335°05.3 | 349°36.8 | 4°08.4 | 18°39.9 | 33°11.4 | 47°42.9 | 62°14.4 | 76°45.9 | 91°17.4 | 105°48.8 | +31.5 | 14.7 |
| | -17°24.7 | -17°28.1 | -17°31.4 | -17°34.7 | -17°37.8 | -17°40.9 | -17°43.9 | -17°46.9 | -17°49.7 | -17°52.5 | -17°55.1 | -3.0 | 54.1 |
| Ve 27 | 323°39.8 | 338°11.2 | 352°42.5 | 7°13.9 | 21°45.2 | 36°16.5 | 50°47.8 | 65°19.1 | 79°50.4 | 94°21.7 | 108°53.0 | +31.3 | 14.7 |
| | -18°25.4 | -18°26.8 | -18°28.0 | -18°29.2 | -18°30.3 | -18°31.3 | -18°32.2 | -18°33.1 | -18°33.8 | -18°34.5 | -18°35.1 | -1.0 | 54.0 |
| Sa 28 | 326°42.0 | 341°13.3 | 355°44.5 | 10°15.8 | 24°47.0 | 39°18.3 | 53°49.5 | 68°20.8 | 82°52.0 | 97°23.2 | 111°54.5 | +31.2 | 14.8 |
| | -18°33.6 | -18°32.8 | -18°32.0 | -18°31.0 | -18°30.0 | -18°28.8 | -18°27.6 | -18°26.3 | -18°25.0 | -18°23.5 | -18°21.9 | +1.2 | 54.2 |
| Di 29 | 329°43.3 | 344°14.6 | 358°45.9 | 13°17.1 | 27°48.4 | 42°19.7 | 56°51.0 | 71°22.3 | 85°53.5 | 100°24.8 | 114°56.1 | +31.3 | 14.9 |
| | -17°48.5 | -17°45.6 | -17°42.7 | -17°39.6 | -17°36.4 | -17°33.2 | -17°29.9 | -17°26.5 | -17°23.0 | -17°19.4 | -17°15.8 | +3.3 | 54.5 |
| ◑ Lu 30 | 332°45.8 | 347°17.2 | 1°48.5 | 16°19.8 | 30°51.2 | 45°22.5 | 59°53.9 | 74°25.2 | 88°56.6 | 103°27.9 | 117°59.3 | +31.3 | 15.0 |
| | -16°11.3 | -16°06.4 | -16°01.4 | -15°56.3 | -15°51.1 | -15°45.9 | -15°40.5 | -15°35.1 | -15°29.6 | -15°24.1 | -15°18.4 | +5.3 | 54.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 8 10h57 — PQ: 15 02h54 — PL: 22 13h20 — DQ: 30 16h53

# SOLEIL

## Mai 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 270° 42.5 | 285° 42.5 | 300° 42.6 | 315° 42.7 | 330° 42.8 | 345° 42.8 | 0° 42.9 | 15° 43.0 | 30° 43.1 | 45° 43.1 | 60° 43.2 | 75° 43.3 | +0.1 |
| | 15° 02.1 | 15° 02.9 | 15° 03.6 | 15° 04.4 | 15° 05.1 | 15° 05.9 | 15° 06.7 | 15° 07.4 | 15° 08.2 | 15° 08.9 | 15° 09.7 | 15° 10.4 | +0.8 |
| Me 2 | 270° 44.2 | 285° 44.3 | 300° 44.3 | 315° 44.4 | 330° 44.5 | 345° 44.6 | 0° 44.6 | 15° 44.7 | 30° 44.8 | 45° 44.8 | 60° 44.9 | 75° 45.0 | +0.1 |
| | 15° 20.2 | 15° 20.9 | 15° 21.7 | 15° 22.4 | 15° 23.2 | 15° 23.9 | 15° 24.6 | 15° 25.4 | 15° 26.1 | 15° 26.9 | 15° 27.6 | 15° 28.4 | +0.7 |
| Je 3 | 270° 45.8 | 285° 45.9 | 300° 45.9 | 315° 46.0 | 330° 46.1 | 345° 46.1 | 0° 46.2 | 15° 46.3 | 30° 46.3 | 45° 46.4 | 60° 46.4 | 75° 46.5 | +0.1 |
| | 15° 38.0 | 15° 38.7 | 15° 39.4 | 15° 40.2 | 15° 40.9 | 15° 41.7 | 15° 42.4 | 15° 43.1 | 15° 43.9 | 15° 44.6 | 15° 45.3 | 15° 46.1 | +0.7 |
| Ve 4 | 270° 47.3 | 285° 47.3 | 300° 47.4 | 315° 47.5 | 330° 47.5 | 345° 47.6 | 0° 47.6 | 15° 47.7 | 30° 47.7 | 45° 47.8 | 60° 47.8 | 75° 47.9 | +0.1 |
| | 15° 55.5 | 15° 56.3 | 15° 57.0 | 15° 57.7 | 15° 58.4 | 15° 59.1 | 15° 59.9 | 16° 00.6 | 16° 01.3 | 16° 02.0 | 16° 02.8 | 16° 03.5 | +0.7 |
| Sa 5 | 270° 48.6 | 285° 48.7 | 300° 48.7 | 315° 48.8 | 330° 48.8 | 345° 48.9 | 0° 48.9 | 15° 49.0 | 30° 49.0 | 45° 49.1 | 60° 49.1 | 75° 49.2 | +0.1 |
| | 16° 12.8 | 16° 13.5 | 16° 14.2 | 16° 15.0 | 16° 15.7 | 16° 16.4 | 16° 17.1 | 16° 17.8 | 16° 18.5 | 16° 19.2 | 16° 19.9 | 16° 20.6 | +0.7 |
| Di 6 | 270° 49.8 | 285° 49.8 | 300° 49.9 | 315° 49.9 | 330° 50.0 | 345° 50.0 | 0° 50.1 | 15° 50.1 | 30° 50.1 | 45° 50.2 | 60° 50.2 | 75° 50.3 | +0.0 |
| | 16° 29.8 | 16° 30.5 | 16° 31.2 | 16° 31.9 | 16° 32.6 | 16° 33.3 | 16° 34.0 | 16° 34.7 | 16° 35.4 | 16° 36.1 | 16° 36.8 | 16° 37.5 | +0.7 |
| Lu 7 | 270° 50.8 | 285° 50.9 | 300° 50.9 | 315° 50.9 | 330° 51.0 | 345° 51.0 | 0° 51.1 | 15° 51.1 | 30° 51.1 | 45° 51.2 | 60° 51.2 | 75° 51.2 | +0.0 |
| | 16° 46.6 | 16° 47.3 | 16° 48.0 | 16° 48.6 | 16° 49.3 | 16° 50.0 | 16° 50.7 | 16° 51.4 | 16° 52.1 | 16° 52.8 | 16° 53.5 | 16° 54.1 | +0.7 |
| Ma 8 | 270° 51.7 | 285° 51.7 | 300° 51.8 | 315° 51.8 | 330° 51.8 | 345° 51.9 | 0° 51.9 | 15° 51.9 | 30° 52.0 | 45° 52.0 | 60° 52.0 | 75° 52.1 | +0.0 |
| | 17° 03.0 | 17° 03.7 | 17° 04.4 | 17° 05.1 | 17° 05.7 | 17° 06.4 | 17° 07.1 | 17° 07.8 | 17° 08.5 | 17° 09.1 | 17° 09.8 | 17° 10.5 | +0.7 |
| Me 9 | 270° 52.5 | 285° 52.5 | 300° 52.5 | 315° 52.5 | 330° 52.6 | 345° 52.6 | 0° 52.6 | 15° 52.7 | 30° 52.7 | 45° 52.7 | 60° 52.7 | 75° 52.8 | +0.0 |
| | 17° 19.2 | 17° 19.9 | 17° 20.5 | 17° 21.2 | 17° 21.9 | 17° 22.5 | 17° 23.2 | 17° 23.9 | 17° 24.5 | 17° 25.2 | 17° 25.9 | 17° 26.5 | +0.7 |
| Je 10 | 270° 53.1 | 285° 53.1 | 300° 53.1 | 315° 53.1 | 330° 53.2 | 345° 53.2 | 0° 53.2 | 15° 53.2 | 30° 53.2 | 45° 53.3 | 60° 53.3 | 75° 53.3 | +0.0 |
| | 17° 35.1 | 17° 35.8 | 17° 36.4 | 17° 37.1 | 17° 37.7 | 17° 38.4 | 17° 39.0 | 17° 39.7 | 17° 40.3 | 17° 41.0 | 17° 41.6 | 17° 42.3 | +0.7 |
| Ve 11 | 270° 53.5 | 285° 53.6 | 300° 53.6 | 315° 53.6 | 330° 53.6 | 345° 53.6 | 0° 53.6 | 15° 53.7 | 30° 53.7 | 45° 53.7 | 60° 53.7 | 75° 53.7 | +0.0 |
| | 17° 50.7 | 17° 51.3 | 17° 52.0 | 17° 52.6 | 17° 53.3 | 17° 53.9 | 17° 54.5 | 17° 55.2 | 17° 55.8 | 17° 56.5 | 17° 57.1 | 17° 57.7 | +0.6 |
| Sa 12 | 270° 53.9 | 285° 53.9 | 300° 53.9 | 315° 53.9 | 330° 53.9 | 345° 53.9 | 0° 53.9 | 15° 54.0 | 30° 54.0 | 45° 54.0 | 60° 54.0 | 75° 54.0 | +0.0 |
| | 18° 06.0 | 18° 06.6 | 18° 07.2 | 18° 07.9 | 18° 08.5 | 18° 09.1 | 18° 09.8 | 18° 10.4 | 18° 11.0 | 18° 11.6 | 18° 12.3 | 18° 12.9 | +0.6 |
| Di 13 | 270° 54.1 | 285° 54.1 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.1 | 15° 54.1 | 30° 54.1 | 45° 54.1 | 60° 54.1 | 75° 54.1 | +0.0 |
| | 18° 21.0 | 18° 21.6 | 18° 22.2 | 18° 22.8 | 18° 23.4 | 18° 24.1 | 18° 24.7 | 18° 25.3 | 18° 25.9 | 18° 26.5 | 18° 27.1 | 18° 27.7 | +0.6 |
| Lu 14 | 270° 54.1 | 285° 54.1 | 300° 54.1 | 315° 54.1 | 330° 54.1 | 345° 54.1 | 0° 54.1 | 15° 54.1 | 30° 54.1 | 45° 54.1 | 60° 54.1 | 75° 54.1 | -0.0 |
| | 18° 35.6 | 18° 36.3 | 18° 36.9 | 18° 37.5 | 18° 38.1 | 18° 38.7 | 18° 39.3 | 18° 39.9 | 18° 40.5 | 18° 41.1 | 18° 41.7 | 18° 42.3 | +0.6 |
| Ma 15 | 270° 54.1 | 285° 54.0 | 300° 54.0 | 315° 54.0 | 330° 54.0 | 345° 54.0 | 0° 54.0 | 15° 54.0 | 30° 54.0 | 45° 54.0 | 60° 54.0 | 75° 54.0 | -0.0 |
| | 18° 50.0 | 18° 50.6 | 18° 51.2 | 18° 51.8 | 18° 52.4 | 18° 53.0 | 18° 53.6 | 18° 54.1 | 18° 54.7 | 18° 55.3 | 18° 55.9 | 18° 56.5 | +0.6 |
| Me 16 | 270° 53.8 | 285° 53.8 | 300° 53.8 | 315° 53.8 | 330° 53.8 | 345° 53.8 | 0° 53.8 | 15° 53.8 | 30° 53.7 | 45° 53.7 | 60° 53.7 | 75° 53.7 | -0.0 |
| | 19° 04.1 | 19° 04.6 | 19° 05.2 | 19° 05.8 | 19° 06.4 | 19° 06.9 | 19° 07.5 | 19° 08.1 | 19° 08.7 | 19° 09.2 | 19° 09.8 | 19° 10.4 | +0.6 |
| Je 17 | 270° 53.5 | 285° 53.5 | 300° 53.5 | 315° 53.4 | 330° 53.4 | 345° 53.4 | 0° 53.4 | 15° 53.4 | 30° 53.3 | 45° 53.3 | 60° 53.3 | 75° 53.3 | -0.0 |
| | 19° 17.8 | 19° 18.3 | 19° 18.9 | 19° 19.5 | 19° 20.0 | 19° 20.6 | 19° 21.2 | 19° 21.7 | 19° 22.3 | 19° 22.8 | 19° 23.4 | 19° 23.9 | +0.6 |
| Ve 18 | 270° 53.0 | 285° 53.0 | 300° 53.0 | 315° 52.9 | 330° 52.9 | 345° 52.9 | 0° 52.9 | 15° 52.8 | 30° 52.8 | 45° 52.8 | 60° 52.8 | 75° 52.7 | -0.0 |
| | 19° 31.2 | 19° 31.7 | 19° 32.3 | 19° 32.8 | 19° 33.4 | 19° 33.9 | 19° 34.5 | 19° 35.0 | 19° 35.6 | 19° 36.1 | 19° 36.6 | 19° 37.2 | +0.5 |
| Sa 19 | 270° 52.4 | 285° 52.4 | 300° 52.3 | 315° 52.3 | 330° 52.3 | 345° 52.2 | 0° 52.2 | 15° 52.2 | 30° 52.1 | 45° 52.1 | 60° 52.1 | 75° 52.1 | -0.0 |
| | 19° 44.2 | 19° 44.8 | 19° 45.3 | 19° 45.8 | 19° 46.4 | 19° 46.9 | 19° 47.4 | 19° 48.0 | 19° 48.5 | 19° 49.0 | 19° 49.6 | 19° 50.1 | +0.5 |
| Di 20 | 270° 51.6 | 285° 51.6 | 300° 51.6 | 315° 51.5 | 330° 51.5 | 345° 51.5 | 0° 51.4 | 15° 51.4 | 30° 51.3 | 45° 51.3 | 60° 51.3 | 75° 51.2 | -0.0 |
| | 19° 56.9 | 19° 57.5 | 19° 58.0 | 19° 58.5 | 19° 59.0 | 19° 59.5 | 20° 00.1 | 20° 00.6 | 20° 01.1 | 20° 01.6 | 20° 02.1 | 20° 02.7 | +0.5 |
| Lu 21 | 270° 50.7 | 285° 50.7 | 300° 50.7 | 315° 50.6 | 330° 50.6 | 345° 50.5 | 0° 50.5 | 15° 50.5 | 30° 50.4 | 45° 50.4 | 60° 50.3 | 75° 50.3 | -0.0 |
| | 20° 09.3 | 20° 09.8 | 20° 10.3 | 20° 10.8 | 20° 11.3 | 20° 11.9 | 20° 12.4 | 20° 12.9 | 20° 13.4 | 20° 13.9 | 20° 14.4 | 20° 14.9 | +0.5 |
| Ma 22 | 270° 49.7 | 285° 49.7 | 300° 49.6 | 315° 49.6 | 330° 49.5 | 345° 49.5 | 0° 49.4 | 15° 49.4 | 30° 49.3 | 45° 49.3 | 60° 49.2 | 75° 49.2 | -0.0 |
| | 20° 21.3 | 20° 21.8 | 20° 22.3 | 20° 22.8 | 20° 23.3 | 20° 23.8 | 20° 24.3 | 20° 24.8 | 20° 25.3 | 20° 25.8 | 20° 26.3 | 20° 26.7 | +0.5 |
| Me 23 | 270° 48.6 | 285° 48.5 | 300° 48.5 | 315° 48.4 | 330° 48.4 | 345° 48.3 | 0° 48.3 | 15° 48.2 | 30° 48.1 | 45° 48.1 | 60° 48.0 | 75° 48.0 | -0.1 |
| | 20° 33.0 | 20° 33.5 | 20° 34.0 | 20° 34.5 | 20° 34.9 | 20° 35.4 | 20° 35.9 | 20° 36.4 | 20° 36.8 | 20° 37.3 | 20° 37.8 | 20° 38.3 | +0.5 |
| Je 24 | 270° 47.3 | 285° 47.2 | 300° 47.2 | 315° 47.1 | 330° 47.1 | 345° 47.0 | 0° 46.9 | 15° 46.9 | 30° 46.8 | 45° 46.8 | 60° 46.7 | 75° 46.6 | -0.1 |
| | 20° 44.4 | 20° 44.8 | 20° 45.3 | 20° 45.8 | 20° 46.2 | 20° 46.7 | 20° 47.1 | 20° 47.6 | 20° 48.1 | 20° 48.5 | 20° 49.0 | 20° 49.4 | +0.5 |
| Ve 25 | 270° 45.9 | 285° 45.8 | 300° 45.7 | 315° 45.7 | 330° 45.6 | 345° 45.6 | 0° 45.5 | 15° 45.4 | 30° 45.4 | 45° 45.3 | 60° 45.2 | 75° 45.2 | -0.1 |
| | 20° 55.3 | 20° 55.8 | 20° 56.2 | 20° 56.7 | 20° 57.1 | 20° 57.6 | 20° 58.0 | 20° 58.5 | 20° 58.9 | 20° 59.4 | 20° 59.8 | 21° 00.2 | +0.4 |
| Sa 26 | 270° 44.3 | 285° 44.3 | 300° 44.2 | 315° 44.1 | 330° 44.1 | 345° 44.0 | 0° 43.9 | 15° 43.9 | 30° 43.8 | 45° 43.7 | 60° 43.7 | 75° 43.6 | -0.1 |
| | 21° 06.0 | 21° 06.4 | 21° 06.8 | 21° 07.3 | 21° 07.7 | 21° 08.1 | 21° 08.6 | 21° 09.0 | 21° 09.4 | 21° 09.8 | 21° 10.3 | 21° 10.7 | +0.4 |
| Di 27 | 270° 42.7 | 285° 42.6 | 300° 42.5 | 315° 42.5 | 330° 42.4 | 345° 42.3 | 0° 42.2 | 15° 42.2 | 30° 42.1 | 45° 42.0 | 60° 41.9 | 75° 41.9 | -0.1 |
| | 21° 16.2 | 21° 16.6 | 21° 17.0 | 21° 17.5 | 21° 17.9 | 21° 18.3 | 21° 18.7 | 21° 19.1 | 21° 19.5 | 21° 20.0 | 21° 20.4 | 21° 20.8 | +0.4 |
| Lu 28 | 270° 40.9 | 285° 40.8 | 300° 40.7 | 315° 40.7 | 330° 40.6 | 345° 40.5 | 0° 40.4 | 15° 40.3 | 30° 40.3 | 45° 40.2 | 60° 40.1 | 75° 40.0 | -0.1 |
| | 21° 26.1 | 21° 26.5 | 21° 26.9 | 21° 27.3 | 21° 27.7 | 21° 28.1 | 21° 28.5 | 21° 28.9 | 21° 29.3 | 21° 29.7 | 21° 30.1 | 21° 30.5 | +0.4 |
| Ma 29 | 270° 39.0 | 285° 38.9 | 300° 38.8 | 315° 38.7 | 330° 38.7 | 345° 38.6 | 0° 38.5 | 15° 38.4 | 30° 38.3 | 45° 38.2 | 60° 38.2 | 75° 38.1 | -0.1 |
| | 21° 35.6 | 21° 36.0 | 21° 36.4 | 21° 36.8 | 21° 37.2 | 21° 37.5 | 21° 37.9 | 21° 38.3 | 21° 38.7 | 21° 39.1 | 21° 39.5 | 21° 39.8 | +0.4 |
| Me 30 | 270° 37.0 | 285° 36.9 | 300° 36.8 | 315° 36.7 | 330° 36.6 | 345° 36.5 | 0° 36.5 | 15° 36.4 | 30° 36.3 | 45° 36.2 | 60° 36.1 | 75° 36.0 | -0.1 |
| | 21° 44.7 | 21° 45.1 | 21° 45.5 | 21° 45.9 | 21° 46.2 | 21° 46.6 | 21° 47.0 | 21° 47.3 | 21° 47.7 | 21° 48.1 | 21° 48.4 | 21° 48.8 | +0.4 |
| Je 31 | 270° 34.8 | 285° 34.8 | 300° 34.7 | 315° 34.6 | 330° 34.5 | 345° 34.4 | 0° 34.3 | 15° 34.2 | 30° 34.1 | 45° 34.0 | 60° 33.9 | 75° 33.8 | -0.1 |
| | 21° 53.5 | 21° 53.9 | 21° 54.2 | 21° 54.6 | 21° 54.9 | 21° 55.3 | 21° 55.6 | 21° 56.0 | 21° 56.3 | 21° 56.7 | 21° 57.0 | 21° 57.4 | +0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Mai 2035

| J | 22h | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ma 1 | 237°13.4 | 251°44.6 | 266°15.9 | 280°47.1 | 295°18.4 | 309°49.6 | 324°20.9 | 338°52.1 | 353°23.3 | 7°54.5 | 22°25.7 | +31.2 | 15.3 |
| | -11°31.2 | -11°23.2 | -11°15.1 | -11°06.9 | -10°58.6 | -10°50.3 | -10°41.9 | -10°33.5 | -10°25.0 | -10°16.4 | -10°07.8 | +8.3 | 56.2 |
| Me 2 | 251°44.6 | 266°15.9 | 280°47.1 | 295°18.4 | 309°49.6 | 324°20.9 | 338°52.1 | 353°23.3 | 7°54.5 | 22°25.7 | 36°56.8 | +31.2 | 15.3 |
| | -11°23.2 | -11°15.1 | -11°06.9 | -10°58.6 | -10°50.3 | -10°41.9 | -10°33.5 | -10°25.0 | -10°16.4 | -10°07.8 | -9°59.1 | +8.4 | 56.2 |
| Je 3 | 254°42.8 | 269°13.7 | 283°44.6 | 298°15.5 | 312°46.4 | 327°17.2 | 341°48.1 | 356°18.9 | 10°49.6 | 25°20.4 | 39°51.1 | +30.8 | 15.6 |
| | -7°41.9 | -7°32.3 | -7°22.7 | -7°13.0 | -7°03.3 | -6°53.5 | -6°43.7 | -6°33.8 | -6°23.9 | -6°13.9 | -6°03.9 | +9.8 | 57.1 |
| Ve 4 | 257°28.9 | 271°59.2 | 286°29.4 | 300°59.6 | 315°29.8 | 329°59.9 | 344°30.0 | 359°00.1 | 13°30.1 | 28°00.1 | 42°30.0 | +30.1 | 15.8 |
| | -3°28.7 | -3°18.1 | -3°07.4 | -2°56.7 | -2°46.0 | -2°35.2 | -2°24.4 | -2°13.6 | -2°02.7 | -1°51.8 | -1°40.9 | +10.8 | 58.0 |
| Sa 5 | 259°54.2 | 274°23.4 | 288°52.6 | 303°21.7 | 317°50.8 | 332°19.9 | 346°48.9 | 1°17.8 | 15°46.7 | 30°15.6 | 44°44.3 | +29.0 | 16.1 |
| | 1°05.1 | 1°16.2 | 1°27.4 | 1°38.6 | 1°49.8 | 2°01.0 | 2°12.2 | 2°23.5 | 2°34.7 | 2°45.9 | 2°57.1 | +11.2 | 59.0 |
| Di 6 | 261°49.4 | 276°17.3 | 290°45.1 | 305°12.8 | 319°40.5 | 334°08.1 | 348°35.7 | 3°03.2 | 17°30.6 | 31°58.0 | 46°25.3 | +27.6 | 16.3 |
| | 5°44.2 | 5°55.2 | 6°06.2 | 6°17.2 | 6°28.1 | 6°39.1 | 6°49.9 | 7°00.8 | 7°11.6 | 7°22.4 | 7°33.2 | +10.9 | 59.8 |
| ● Lu 7 | 263°07.1 | 277°33.4 | 291°59.6 | 306°25.7 | 320°51.8 | 335°17.8 | 349°43.7 | 4°09.6 | 18°35.4 | 33°01.1 | 47°26.8 | +26.0 | 16.5 |
| | 10°09.4 | 10°19.4 | 10°29.4 | 10°39.2 | 10°49.1 | 10°58.8 | 11°08.5 | 11°18.2 | 11°27.7 | 11°37.2 | 11°46.6 | +9.7 | 60.5 |
| Ma 8 | 263°44.5 | 278°09.2 | 292°33.9 | 306°58.5 | 321°23.0 | 335°47.5 | 350°11.9 | 4°36.3 | 19°00.6 | 33°24.9 | 47°49.1 | +24.5 | 16.6 |
| | 13°58.4 | 14°06.5 | 14°14.5 | 14°22.3 | 14°30.1 | 14°37.8 | 14°45.4 | 14°52.9 | 15°00.3 | 15°07.6 | 15°14.8 | +7.6 | 60.8 |
| Me 9 | 263°47.0 | 278°10.6 | 292°34.1 | 306°57.6 | 321°21.1 | 335°44.5 | 350°07.9 | 4°31.3 | 18°54.7 | 33°18.0 | 47°41.4 | +23.4 | 16.6 |
| | 16°49.1 | 16°54.4 | 16°59.7 | 17°04.8 | 17°09.7 | 17°14.6 | 17°19.3 | 17°23.9 | 17°28.4 | 17°32.7 | 17°36.9 | +4.8 | 60.9 |
| Je 10 | 263°29.8 | 277°53.0 | 292°16.2 | 306°39.4 | 321°02.7 | 335°25.9 | 349°49.1 | 4°12.4 | 18°35.7 | 32°59.0 | 47°22.3 | +23.2 | 16.5 |
| | 18°24.3 | 18°26.4 | 18°28.4 | 18°30.2 | 18°31.9 | 18°33.4 | 18°34.8 | 18°36.1 | 18°37.2 | 18°38.2 | 18°39.1 | +1.5 | 60.6 |
| Ve 11 | 263°15.1 | 277°38.9 | 292°02.8 | 306°26.6 | 320°50.6 | 335°14.6 | 349°38.6 | 4°02.7 | 18°26.8 | 32°51.0 | 47°15.2 | +24.0 | 16.4 |
| | 18°36.0 | 18°34.8 | 18°33.4 | 18°31.9 | 18°30.2 | 18°28.4 | 18°26.5 | 18°24.5 | 18°22.3 | 18°20.0 | 18°17.6 | -1.8 | 60.1 |
| Sa 12 | 263°25.6 | 277°50.8 | 292°16.1 | 306°41.4 | 321°06.8 | 335°32.3 | 349°57.9 | 4°23.5 | 18°49.2 | 33°14.9 | 47°40.8 | +25.5 | 16.2 |
| | 17°27.1 | 17°22.8 | 17°18.4 | 17°13.8 | 17°09.2 | 17°04.5 | 16°59.7 | 16°54.7 | 16°49.7 | 16°44.5 | 16°39.3 | -4.8 | 59.4 |
| Di 13 | 264°17.3 | 278°44.3 | 293°11.4 | 307°38.6 | 322°05.9 | 336°33.2 | 351°00.7 | 5°28.2 | 19°55.8 | 34°23.4 | 48°51.1 | +27.4 | 16.0 |
| | 15°09.0 | 15°02.2 | 14°55.4 | 14°48.5 | 14°41.5 | 14°34.4 | 14°27.3 | 14°20.1 | 14°12.8 | 14°05.4 | 13°57.9 | -7.1 | 58.6 |
| ◐ Lu 14 | 265°56.1 | 280°25.0 | 294°54.0 | 309°23.0 | 323°52.2 | 338°21.4 | 352°50.6 | 7°20.0 | 21°49.4 | 36°18.8 | 50°48.4 | +29.2 | 15.8 |
| | 11°57.9 | 11°49.4 | 11°40.9 | 11°32.3 | 11°23.6 | 11°14.9 | 11°06.1 | 10°57.3 | 10°48.4 | 10°39.5 | 10°30.5 | -8.7 | 57.8 |
| Ma 15 | 268°19.2 | 282°49.7 | 297°20.3 | 311°51.0 | 326°21.7 | 340°52.4 | 355°23.3 | 9°54.1 | 24°25.0 | 38°56.0 | 53°27.1 | +30.8 | 15.6 |
| | 8°10.9 | 8°01.3 | 7°51.7 | 7°42.0 | 7°32.3 | 7°22.6 | 7°12.9 | 7°03.1 | 6°53.3 | 6°43.5 | 6°33.6 | -9.7 | 57.1 |
| Me 16 | 271°18.2 | 285°49.9 | 300°21.7 | 314°53.6 | 329°25.4 | 343°57.3 | 358°29.3 | 13°01.3 | 27°33.3 | 42°05.3 | 56°37.4 | +31.9 | 15.4 |
| | 4°03.5 | 3°53.4 | 3°43.3 | 3°33.1 | 3°23.0 | 3°12.8 | 3°02.7 | 2°52.5 | 2°42.3 | 2°32.2 | 2°22.0 | -10.2 | 56.4 |
| Je 17 | 274°42.2 | 289°14.7 | 303°47.3 | 318°19.8 | 332°52.4 | 347°25.0 | 1°57.6 | 16°30.3 | 31°02.9 | 45°35.6 | 60°08.3 | +32.6 | 15.2 |
| | -0°10.6 | -0°20.8 | -0°30.9 | -0°41.0 | -0°51.1 | -1°01.2 | -1°11.3 | -1°21.4 | -1°31.4 | -1°41.5 | -1°51.5 | -10.1 | 55.8 |
| Ve 18 | 278°20.2 | 292°53.1 | 307°25.9 | 321°58.8 | 336°31.7 | 351°04.6 | 5°37.5 | 20°10.4 | 34°43.3 | 49°16.2 | 63°49.0 | +32.9 | 15.1 |
| | -4°19.8 | -4°29.5 | -4°39.2 | -4°48.8 | -4°58.4 | -5°08.0 | -5°17.6 | -5°27.2 | -5°36.7 | -5°46.2 | -5°55.6 | -9.6 | 55.2 |
| Sa 19 | 282°02.3 | 296°35.1 | 311°08.0 | 325°40.8 | 340°13.7 | 354°46.5 | 9°19.3 | 23°52.1 | 38°24.9 | 52°57.7 | 67°30.4 | +32.8 | 14.9 |
| | -8°13.3 | -8°22.2 | -8°31.0 | -8°39.8 | -8°48.6 | -8°57.3 | -9°06.0 | -9°14.6 | -9°23.2 | -9°31.7 | -9°40.2 | -8.7 | 54.8 |
| Di 20 | 285°40.6 | 300°13.2 | 314°45.7 | 329°18.3 | 343°50.8 | 358°23.3 | 12°55.8 | 27°28.3 | 42°00.8 | 56°33.2 | 71°05.6 | +32.5 | 14.9 |
| | -11°41.7 | -11°49.3 | -11°57.0 | -12°04.5 | -12°12.1 | -12°19.5 | -12°26.9 | -12°34.3 | -12°41.6 | -12°48.8 | -12°55.9 | -7.4 | 54.5 |
| Lu 21 | 289°10.0 | 303°42.2 | 318°14.3 | 332°46.4 | 347°18.5 | 1°50.6 | 16°22.7 | 30°54.7 | 45°26.8 | 59°58.8 | 74°30.8 | +32.1 | 14.8 |
| | -14°36.0 | -14°42.2 | -14°48.3 | -14°54.3 | -15°00.2 | -15°06.1 | -15°11.9 | -15°17.7 | -15°23.4 | -15°29.0 | -15°34.5 | -5.8 | 54.2 |
| ○ Ma 22 | 292°28.5 | 307°00.3 | 321°32.0 | 336°03.6 | 350°35.3 | 5°07.0 | 19°38.6 | 34°10.2 | 48°41.8 | 63°13.4 | 77°45.0 | +31.6 | 14.7 |
| | -16°48.7 | -16°53.1 | -16°57.4 | -17°01.5 | -17°05.7 | -17°09.7 | -17°13.7 | -17°17.5 | -17°21.3 | -17°25.1 | -17°28.7 | -4.0 | 54.0 |
| Me 23 | 295°37.2 | 310°08.6 | 324°40.0 | 339°11.3 | 353°42.7 | 8°14.1 | 22°45.4 | 37°16.7 | 51°48.1 | 66°19.4 | 80°50.7 | +31.3 | 14.7 |
| | -18°13.6 | -18°16.0 | -18°18.2 | -18°20.4 | -18°22.5 | -18°24.5 | -18°26.4 | -18°28.2 | -18°30.0 | -18°31.6 | -18°33.2 | -2.0 | 53.9 |
| Je 24 | 298°39.7 | 313°10.9 | 327°42.2 | 342°13.4 | 356°44.7 | 11°15.9 | 25°47.1 | 40°18.4 | 54°49.6 | 69°20.8 | 83°52.1 | +31.2 | 14.7 |
| | -18°46.7 | -18°46.9 | -18°47.0 | -18°47.0 | -18°47.0 | -18°46.9 | -18°46.6 | -18°46.3 | -18°45.9 | -18°45.5 | -18°44.9 | +0.2 | 54.0 |
| Ve 25 | 301°40.9 | 316°12.2 | 330°43.5 | 345°14.8 | 359°46.1 | 14°17.4 | 28°48.8 | 43°20.1 | 57°51.4 | 72°22.8 | 86°54.1 | +31.3 | 14.8 |
| | -18°26.1 | -18°24.2 | -18°22.2 | -18°20.1 | -18°17.9 | -18°15.6 | -18°13.3 | -18°10.8 | -18°08.3 | -18°05.7 | -18°03.0 | +2.3 | 54.1 |
| Sa 26 | 316°12.2 | 330°43.5 | 345°14.8 | 359°46.1 | 14°17.4 | 28°48.8 | 43°20.1 | 57°51.4 | 72°22.8 | 86°54.1 | 101°25.5 | +31.3 | 14.8 |
| | -18°24.2 | -18°22.2 | -18°20.1 | -18°17.9 | -18°15.6 | -18°13.3 | -18°10.8 | -18°08.3 | -18°05.7 | -18°03.0 | -18°00.2 | +2.4 | 54.1 |
| Di 27 | 319°16.8 | 333°48.3 | 348°19.8 | 2°51.4 | 17°22.9 | 31°54.4 | 46°26.0 | 60°57.5 | 75°29.1 | 90°00.7 | 104°32.3 | +31.5 | 14.8 |
| | -17°08.7 | -17°04.6 | -17°00.5 | -16°56.2 | -16°51.9 | -16°47.5 | -16°43.0 | -16°38.5 | -16°33.9 | -16°29.1 | -16°24.4 | +4.4 | 54.4 |
| Lu 28 | 322°27.2 | 336°58.9 | 351°30.7 | 6°02.4 | 20°34.2 | 35°05.9 | 49°37.7 | 64°09.5 | 78°41.3 | 93°13.1 | 107°44.9 | +31.8 | 15.0 |
| | -15°03.4 | -14°57.4 | -14°51.3 | -14°45.2 | -14°39.0 | -14°32.7 | -14°26.4 | -14°19.9 | -14°13.5 | -14°06.9 | -14°00.3 | +6.3 | 54.9 |
| Ma 29 | 325°42.5 | 340°14.4 | 354°46.3 | 9°18.2 | 23°50.0 | 38°21.9 | 52°53.8 | 67°25.7 | 81°57.5 | 96°29.4 | 111°01.3 | +31.9 | 15.1 |
| | -12°12.8 | -12°05.1 | -11°57.3 | -11°49.5 | -11°41.6 | -11°33.7 | -11°25.7 | -11°17.7 | -11°09.5 | -11°01.4 | -10°53.1 | +8.0 | 55.5 |
| ◑ Me 30 | 328°58.8 | 343°30.6 | 358°02.3 | 12°34.1 | 27°05.8 | 41°37.6 | 56°09.3 | 70°41.0 | 85°12.7 | 99°44.3 | 114°16.0 | +31.7 | 15.3 |
| | -8°42.8 | -8°33.7 | -8°24.5 | -8°15.3 | -8°06.1 | -7°56.7 | -7°47.4 | -7°38.0 | -7°28.5 | -7°19.0 | -7°09.4 | +9.3 | 56.2 |
| Je 31 | 332°08.6 | 346°39.9 | 1°11.2 | 15°42.5 | 30°13.7 | 44°44.9 | 59°16.1 | 73°47.3 | 88°18.4 | 102°49.5 | 117°20.6 | +31.2 | 15.6 |
| | -4°41.0 | -4°30.7 | -4°20.5 | -4°10.2 | -3°59.9 | -3°49.5 | -3°39.1 | -3°28.7 | -3°18.3 | -3°07.8 | -2°57.3 | +10.4 | 57.1 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 7 20h03 — PQ: 14 10h28 — PL: 22 04h25 — DQ: 30 07h30

# SOLEIL

## Juin 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 270°32.6 | 285°32.5 | 300°32.4 | 315°32.3 | 330°32.2 | 345°32.1 | 0°32.0 | 15°31.9 | 30°31.8 | 45°31.7 | 60°31.6 | 75°31.5 | -0.1 |
| | 22°01.9 | 22°02.2 | 22°02.6 | 22°02.9 | 22°03.2 | 22°03.6 | 22°03.9 | 22°04.3 | 22°04.6 | 22°04.9 | 22°05.3 | 22°05.6 | +0.3 |
| Sa 2 | 270°30.3 | 285°30.2 | 300°30.1 | 315°30.0 | 330°29.9 | 345°29.8 | 0°29.7 | 15°29.6 | 30°29.5 | 45°29.4 | 60°29.3 | 75°29.2 | -0.1 |
| | 22°09.9 | 22°10.2 | 22°10.5 | 22°10.9 | 22°11.2 | 22°11.5 | 22°11.8 | 22°12.1 | 22°12.5 | 22°12.8 | 22°13.1 | 22°13.4 | +0.3 |
| Di 3 | 270°27.8 | 285°27.7 | 300°27.6 | 315°27.5 | 330°27.4 | 345°27.3 | 0°27.2 | 15°27.1 | 30°27.0 | 45°26.9 | 60°26.8 | 75°26.7 | -0.1 |
| | 22°17.5 | 22°17.8 | 22°18.1 | 22°18.4 | 22°18.7 | 22°19.0 | 22°19.3 | 22°19.6 | 22°19.9 | 22°20.2 | 22°20.5 | 22°20.8 | +0.3 |
| Lu 4 | 270°25.3 | 285°25.2 | 300°25.1 | 315°25.0 | 330°24.9 | 345°24.8 | 0°24.6 | 15°24.5 | 30°24.4 | 45°24.3 | 60°24.2 | 75°24.1 | -0.1 |
| | 22°24.7 | 22°25.0 | 22°25.3 | 22°25.6 | 22°25.9 | 22°26.2 | 22°26.5 | 22°26.7 | 22°27.0 | 22°27.3 | 22°27.6 | 22°27.9 | +0.3 |
| Ma 5 | 270°22.7 | 285°22.6 | 300°22.4 | 315°22.3 | 330°22.2 | 345°22.1 | 0°22.0 | 15°21.9 | 30°21.8 | 45°21.7 | 60°21.5 | 75°21.4 | -0.1 |
| | 22°31.5 | 22°31.8 | 22°32.1 | 22°32.4 | 22°32.6 | 22°32.9 | 22°33.2 | 22°33.5 | 22°33.7 | 22°34.0 | 22°34.3 | 22°34.5 | +0.3 |
| Me 6 | 270°20.0 | 285°19.8 | 300°19.7 | 315°19.6 | 330°19.5 | 345°19.4 | 0°19.3 | 15°19.2 | 30°19.0 | 45°18.9 | 60°18.8 | 75°18.7 | -0.1 |
| | 22°38.0 | 22°38.2 | 22°38.5 | 22°38.8 | 22°39.0 | 22°39.3 | 22°39.5 | 22°39.8 | 22°40.0 | 22°40.3 | 22°40.5 | 22°40.8 | +0.3 |
| Je 7 | 270°17.2 | 285°17.1 | 300°16.9 | 315°16.8 | 330°16.7 | 345°16.6 | 0°16.5 | 15°16.3 | 30°16.2 | 45°16.1 | 60°16.0 | 75°15.9 | -0.1 |
| | 22°44.0 | 22°44.3 | 22°44.5 | 22°44.7 | 22°45.0 | 22°45.2 | 22°45.5 | 22°45.7 | 22°45.9 | 22°46.2 | 22°46.4 | 22°46.7 | +0.2 |
| Ve 8 | 270°14.3 | 285°14.2 | 300°14.1 | 315°14.0 | 330°13.8 | 345°13.7 | 0°13.6 | 15°13.5 | 30°13.4 | 45°13.2 | 60°13.1 | 75°13.0 | -0.1 |
| | 22°49.7 | 22°49.9 | 22°50.1 | 22°50.3 | 22°50.6 | 22°50.8 | 22°51.0 | 22°51.2 | 22°51.4 | 22°51.7 | 22°51.9 | 22°52.1 | +0.2 |
| Sa 9 | 270°11.4 | 285°11.3 | 300°11.2 | 315°11.0 | 330°10.9 | 345°10.8 | 0°10.7 | 15°10.5 | 30°10.4 | 45°10.3 | 60°10.2 | 75°10.0 | -0.1 |
| | 22°54.9 | 22°55.1 | 22°55.3 | 22°55.5 | 22°55.7 | 22°55.9 | 22°56.1 | 22°56.4 | 22°56.6 | 22°56.8 | 22°57.0 | 22°57.2 | +0.2 |
| Di 10 | 270°08.4 | 285°08.3 | 300°08.2 | 315°08.0 | 330°07.9 | 345°07.8 | 0°07.7 | 15°07.5 | 30°07.4 | 45°07.3 | 60°07.2 | 75°07.0 | -0.1 |
| | 22°59.7 | 22°59.9 | 23°00.1 | 23°00.3 | 23°00.5 | 23°00.7 | 23°00.9 | 23°01.1 | 23°01.3 | 23°01.4 | 23°01.6 | 23°01.8 | +0.2 |
| Lu 11 | 270°05.4 | 285°05.3 | 300°05.1 | 315°05.0 | 330°04.9 | 345°04.8 | 0°04.6 | 15°04.5 | 30°04.4 | 45°04.2 | 60°04.1 | 75°04.0 | -0.1 |
| | 23°04.2 | 23°04.3 | 23°04.5 | 23°04.7 | 23°04.9 | 23°05.0 | 23°05.2 | 23°05.4 | 23°05.6 | 23°05.7 | 23°05.9 | 23°06.1 | +0.2 |
| Ma 12 | 270°02.3 | 285°02.2 | 300°02.1 | 315°01.9 | 330°01.8 | 345°01.7 | 0°01.5 | 15°01.4 | 30°01.3 | 45°01.2 | 60°01.0 | 75°00.9 | -0.1 |
| | 23°08.2 | 23°08.3 | 23°08.5 | 23°08.7 | 23°08.8 | 23°09.0 | 23°09.1 | 23°09.3 | 23°09.4 | 23°09.6 | 23°09.7 | 23°09.9 | +0.2 |
| Me 13 | 269°59.2 | 284°59.1 | 299°58.9 | 314°58.8 | 329°58.7 | 344°58.6 | 359°58.4 | 14°58.3 | 29°58.2 | 44°58.0 | 59°57.9 | 74°57.8 | -0.1 |
| | 23°11.8 | 23°11.9 | 23°12.1 | 23°12.2 | 23°12.4 | 23°12.5 | 23°12.6 | 23°12.8 | 23°12.9 | 23°13.1 | 23°13.2 | 23°13.3 | +0.1 |
| Je 14 | 269°56.1 | 284°55.9 | 299°55.8 | 314°55.7 | 329°55.5 | 344°55.4 | 359°55.3 | 14°55.1 | 29°55.0 | 44°54.9 | 59°54.7 | 74°54.6 | -0.1 |
| | 23°15.0 | 23°15.1 | 23°15.3 | 23°15.4 | 23°15.5 | 23°15.6 | 23°15.7 | 23°15.9 | 23°16.0 | 23°16.1 | 23°16.2 | 23°16.3 | +0.1 |
| Ve 15 | 269°52.9 | 284°52.7 | 299°52.6 | 314°52.5 | 329°52.4 | 344°52.2 | 359°52.1 | 14°52.0 | 29°51.8 | 44°51.7 | 59°51.6 | 74°51.4 | -0.1 |
| | 23°17.8 | 23°17.9 | 23°18.0 | 23°18.1 | 23°18.2 | 23°18.3 | 23°18.4 | 23°18.5 | 23°18.6 | 23°18.7 | 23°18.8 | 23°18.9 | +0.1 |
| Sa 16 | 269°49.7 | 284°49.5 | 299°49.4 | 314°49.3 | 329°49.1 | 344°49.0 | 359°48.9 | 14°48.7 | 29°48.6 | 44°48.5 | 59°48.3 | 74°48.2 | -0.1 |
| | 23°20.2 | 23°20.3 | 23°20.4 | 23°20.5 | 23°20.5 | 23°20.6 | 23°20.7 | 23°20.8 | 23°20.9 | 23°21.0 | 23°21.1 | 23°21.1 | +0.1 |
| Di 17 | 269°46.5 | 284°46.3 | 299°46.2 | 314°46.1 | 329°45.9 | 344°45.8 | 359°45.7 | 14°45.5 | 29°45.4 | 44°45.2 | 59°45.1 | 74°45.0 | -0.1 |
| | 23°22.2 | 23°22.2 | 23°22.3 | 23°22.4 | 23°22.4 | 23°22.5 | 23°22.6 | 23°22.7 | 23°22.7 | 23°22.8 | 23°22.9 | 23°22.9 | +0.1 |
| Lu 18 | 269°43.2 | 284°43.1 | 299°43.0 | 314°42.8 | 329°42.7 | 344°42.5 | 359°42.4 | 14°42.3 | 29°42.1 | 44°42.0 | 59°41.9 | 74°41.7 | -0.1 |
| | 23°23.7 | 23°23.8 | 23°23.8 | 23°23.9 | 23°23.9 | 23°24.0 | 23°24.0 | 23°24.1 | 23°24.1 | 23°24.2 | 23°24.2 | 23°24.3 | +0.1 |
| Ma 19 | 269°40.0 | 284°39.8 | 299°39.7 | 314°39.6 | 329°39.4 | 344°39.3 | 359°39.2 | 14°39.0 | 29°38.9 | 44°38.8 | 59°38.6 | 74°38.5 | -0.1 |
| | 23°24.9 | 23°24.9 | 23°24.9 | 23°25.0 | 23°25.0 | 23°25.0 | 23°25.1 | 23°25.1 | 23°25.2 | 23°25.2 | 23°25.2 | 23°25.2 | +0.0 |
| Me 20 | 269°36.7 | 284°36.6 | 299°36.5 | 314°36.3 | 329°36.2 | 344°36.1 | 359°35.9 | 14°35.8 | 29°35.6 | 44°35.5 | 59°35.4 | 74°35.2 | -0.1 |
| | 23°25.6 | 23°25.6 | 23°25.6 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.8 | 23°25.8 | 23°25.8 | +0.0 |
| Je 21 | 269°33.5 | 284°33.3 | 299°33.2 | 314°33.1 | 329°32.9 | 344°32.8 | 359°32.7 | 14°32.5 | 29°32.4 | 44°32.3 | 59°32.1 | 74°32.0 | -0.1 |
| | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | 23°25.9 | +0.0 |
| Ve 22 | 269°30.2 | 284°30.1 | 299°30.0 | 314°29.8 | 329°29.7 | 344°29.6 | 359°29.4 | 14°29.3 | 29°29.2 | 44°29.0 | 59°28.9 | 74°28.8 | -0.1 |
| | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.8 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.7 | 23°25.6 | -0.0 |
| Sa 23 | 269°27.0 | 284°26.9 | 299°26.7 | 314°26.6 | 329°26.5 | 344°26.3 | 359°26.2 | 14°26.1 | 29°25.9 | 44°25.8 | 59°25.7 | 74°25.5 | -0.1 |
| | 23°25.3 | 23°25.3 | 23°25.2 | 23°25.2 | 23°25.2 | 23°25.2 | 23°25.1 | 23°25.1 | 23°25.0 | 23°25.0 | 23°25.0 | 23°24.9 | -0.0 |
| Di 24 | 269°23.8 | 284°23.7 | 299°23.5 | 314°23.4 | 329°23.3 | 344°23.1 | 359°23.0 | 14°22.9 | 29°22.7 | 44°22.6 | 59°22.5 | 74°22.3 | -0.1 |
| | 23°24.4 | 23°24.3 | 23°24.3 | 23°24.2 | 23°24.2 | 23°24.1 | 23°24.1 | 23°24.0 | 23°24.0 | 23°23.9 | 23°23.9 | 23°23.8 | -0.1 |
| Lu 25 | 269°20.6 | 284°20.5 | 299°20.3 | 314°20.2 | 329°20.1 | 344°20.0 | 359°19.8 | 14°19.7 | 29°19.6 | 44°19.4 | 59°19.3 | 74°19.2 | -0.1 |
| | 23°23.1 | 23°23.0 | 23°22.9 | 23°22.9 | 23°22.8 | 23°22.7 | 23°22.7 | 23°22.6 | 23°22.5 | 23°22.5 | 23°22.4 | 23°22.3 | -0.1 |
| Ma 26 | 269°17.4 | 284°17.3 | 299°17.2 | 314°17.1 | 329°16.9 | 344°16.8 | 359°16.7 | 14°16.5 | 29°16.4 | 44°16.3 | 59°16.1 | 74°16.0 | -0.1 |
| | 23°21.3 | 23°21.2 | 23°21.1 | 23°21.1 | 23°21.0 | 23°20.9 | 23°20.8 | 23°20.7 | 23°20.6 | 23°20.6 | 23°20.5 | 23°20.4 | -0.1 |
| Me 27 | 269°14.3 | 284°14.2 | 299°14.1 | 314°13.9 | 329°13.8 | 344°13.7 | 359°13.5 | 14°13.4 | 29°13.3 | 44°13.2 | 59°13.0 | 74°12.9 | -0.1 |
| | 23°19.2 | 23°19.1 | 23°19.0 | 23°18.9 | 23°18.8 | 23°18.7 | 23°18.6 | 23°18.5 | 23°18.3 | 23°18.2 | 23°18.1 | 23°18.0 | -0.1 |
| Je 28 | 269°11.2 | 284°11.1 | 299°11.0 | 314°10.8 | 329°10.7 | 344°10.6 | 359°10.5 | 14°10.3 | 29°10.2 | 44°10.1 | 59°09.9 | 74°09.8 | -0.1 |
| | 23°16.6 | 23°16.5 | 23°16.4 | 23°16.2 | 23°16.1 | 23°16.0 | 23°15.9 | 23°15.8 | 23°15.6 | 23°15.5 | 23°15.4 | 23°15.3 | -0.1 |
| Ve 29 | 269°08.2 | 284°08.0 | 299°07.9 | 314°07.8 | 329°07.7 | 344°07.5 | 359°07.4 | 14°07.3 | 29°07.2 | 44°07.0 | 59°06.9 | 74°06.8 | -0.1 |
| | 23°13.6 | 23°13.5 | 23°13.4 | 23°13.2 | 23°13.1 | 23°12.9 | 23°12.8 | 23°12.7 | 23°12.5 | 23°12.4 | 23°12.3 | 23°12.1 | -0.1 |
| Sa 30 | 269°05.2 | 284°05.0 | 299°04.9 | 314°04.8 | 329°04.7 | 344°04.5 | 359°04.4 | 14°04.3 | 29°04.2 | 44°04.1 | 59°03.9 | 74°03.8 | -0.1 |
| | 23°10.2 | 23°10.1 | 23°09.9 | 23°09.8 | 23°09.6 | 23°09.5 | 23°09.3 | 23°09.2 | 23°09.0 | 23°08.9 | 23°08.7 | 23°08.6 | -0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juin 2035

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ve 1 | 247°58.5 | 262°29.2 | 276°59.8 | 291°30.5 | 306°01.0 | 320°31.6 | 335°02.0 | 349°32.5 | 4°02.9 | 18°33.2 | 33°03.5 | +30.5 | 15.8 |
| | -1°21.5 | -1°10.7 | -0°59.9 | -0°49.1 | -0°38.3 | -0°27.4 | -0°16.5 | -0°05.7 | 0°05.3 | 0°16.2 | 0°27.1 | +10.9 | 57.8 |
| Sa 2 | 250°31.9 | 265°01.3 | 279°30.7 | 294°00.1 | 308°29.3 | 322°58.5 | 337°27.7 | 351°56.8 | 6°25.8 | 20°54.8 | 35°23.6 | +29.2 | 16.0 |
| | 3°12.1 | 3°23.2 | 3°34.2 | 3°45.2 | 3°56.2 | 4°07.2 | 4°18.2 | 4°29.2 | 4°40.2 | 4°51.2 | 5°02.1 | +11.0 | 58.8 |
| Di 3 | 252°28.8 | 266°56.6 | 281°24.3 | 295°51.9 | 310°19.5 | 324°47.0 | 339°14.4 | 353°41.7 | 8°08.9 | 22°36.1 | 37°03.2 | +27.4 | 16.3 |
| | 7°44.3 | 7°54.9 | 8°05.4 | 8°15.9 | 8°26.4 | 8°36.9 | 8°47.3 | 8°57.7 | 9°08.0 | 9°18.3 | 9°28.5 | +10.4 | 59.8 |
| Lu 4 | 253°40.1 | 268°06.0 | 282°31.7 | 296°57.4 | 311°23.0 | 325°48.5 | 340°13.9 | 354°39.3 | 9°04.6 | 23°29.8 | 37°54.9 | +25.5 | 16.5 |
| | 11°55.7 | 12°05.1 | 12°14.3 | 12°23.5 | 12°32.6 | 12°41.6 | 12°50.6 | 12°59.4 | 13°08.2 | 13°16.9 | 13°25.6 | +9.0 | 60.6 |
| Ma 5 | 254°02.8 | 268°26.7 | 282°50.6 | 297°14.5 | 311°38.2 | 326°01.9 | 340°25.6 | 354°49.1 | 9°12.6 | 23°36.1 | 37°59.5 | +23.7 | 16.7 |
| | 15°24.2 | 15°31.3 | 15°38.3 | 15°45.2 | 15°52.0 | 15°58.6 | 16°05.2 | 16°11.7 | 16°18.0 | 16°24.2 | 16°30.3 | +6.6 | 61.1 |
| ● Me 6 | 253°44.3 | 268°06.9 | 282°29.5 | 296°52.1 | 311°14.6 | 325°37.2 | 339°59.6 | 354°22.1 | 8°44.6 | 23°07.0 | 37°29.4 | +22.5 | 16.7 |
| | 17°47.1 | 17°51.2 | 17°55.2 | 17°59.0 | 18°02.7 | 18°06.2 | 18°09.6 | 18°12.9 | 18°16.1 | 18°19.1 | 18°21.9 | +3.5 | 61.3 |
| Je 7 | 253°04.2 | 267°26.5 | 281°48.9 | 296°11.2 | 310°33.6 | 324°56.0 | 339°18.4 | 353°40.8 | 8°03.3 | 22°25.7 | 36°48.2 | +22.4 | 16.7 |
| | 18°47.9 | 18°48.5 | 18°48.9 | 18°49.2 | 18°49.4 | 18°49.4 | 18°49.3 | 18°49.0 | 18°48.6 | 18°48.1 | 18°47.4 | -0.0 | 61.1 |
| Ve 8 | 252°30.2 | 266°53.3 | 281°16.5 | 295°39.8 | 310°03.2 | 324°26.5 | 338°50.0 | 353°13.5 | 7°37.1 | 22°00.7 | 36°24.4 | +23.4 | 16.5 |
| | 18°20.5 | 18°17.6 | 18°14.6 | 18°11.5 | 18°08.2 | 18°04.8 | 18°01.3 | 17°57.6 | 17°53.9 | 17°50.0 | 17°45.9 | -3.5 | 60.6 |
| Sa 9 | 252°28.6 | 266°53.5 | 281°18.4 | 295°43.5 | 310°08.6 | 324°33.8 | 338°59.1 | 353°24.5 | 7°50.0 | 22°15.5 | 36°41.2 | +25.3 | 16.3 |
| | 16°31.6 | 16°25.7 | 16°19.8 | 16°13.7 | 16°07.5 | 16°01.3 | 15°54.9 | 15°48.5 | 15°41.9 | 15°35.3 | 15°28.5 | -6.3 | 59.9 |
| Di 10 | 253°16.0 | 267°43.1 | 282°10.2 | 296°37.4 | 311°04.6 | 325°32.0 | 339°59.4 | 354°27.0 | 8°54.6 | 23°22.3 | 37°50.1 | +27.4 | 16.1 |
| | 13°37.1 | 13°29.0 | 13°20.9 | 13°12.7 | 13°04.4 | 12°56.1 | 12°47.6 | 12°39.2 | 12°30.6 | 12°22.0 | 12°13.4 | -8.4 | 59.0 |
| Lu 11 | 254°56.8 | 269°25.9 | 283°55.0 | 298°24.3 | 312°53.6 | 327°23.0 | 341°52.4 | 356°22.0 | 10°51.6 | 25°21.3 | 39°51.0 | +29.4 | 15.8 |
| | 9°56.8 | 9°47.3 | 9°37.8 | 9°28.3 | 9°18.6 | 9°09.0 | 8°59.3 | 8°49.6 | 8°39.9 | 8°30.1 | 8°20.3 | -9.7 | 58.1 |
| ◐ Ma 12 | 257°25.4 | 271°56.2 | 286°27.0 | 300°57.9 | 315°28.9 | 329°59.9 | 344°31.0 | 359°02.1 | 13°33.3 | 28°04.6 | 42°35.9 | +31.1 | 15.6 |
| | 5°49.8 | 5°39.6 | 5°29.4 | 5°19.2 | 5°08.9 | 4°58.7 | 4°48.4 | 4°38.1 | 4°27.8 | 4°17.5 | 4°07.2 | -10.3 | 57.1 |
| Me 13 | 260°31.0 | 275°03.0 | 289°35.1 | 304°07.1 | 318°39.3 | 333°11.4 | 347°43.6 | 2°15.9 | 16°48.1 | 31°20.4 | 45°52.8 | +32.2 | 15.4 |
| | 1°32.2 | 1°21.9 | 1°11.5 | 1°01.2 | 0°50.9 | 0°40.6 | 0°30.3 | 0°20.0 | 0°09.7 | -0°00.6 | -0°10.8 | -10.3 | 56.3 |
| Je 14 | 264°01.0 | 278°33.8 | 293°06.5 | 307°39.3 | 322°12.1 | 336°44.9 | 351°17.7 | 5°50.5 | 20°23.4 | 34°56.3 | 49°29.1 | +32.8 | 15.2 |
| | -2°43.0 | -2°53.0 | -3°02.9 | -3°12.9 | -3°22.8 | -3°32.7 | -3°42.6 | -3°52.5 | -4°02.3 | -4°12.1 | -4°21.9 | -9.9 | 55.6 |
| Ve 15 | 267°43.4 | 282°16.3 | 296°49.3 | 311°22.3 | 325°55.3 | 340°28.3 | 355°01.3 | 9°34.3 | 24°07.3 | 38°40.3 | 53°13.3 | +33.0 | 15.0 |
| | -6°44.9 | -6°54.2 | -7°03.4 | -7°12.6 | -7°21.8 | -7°30.9 | -7°40.0 | -7°49.0 | -7°58.0 | -8°07.0 | -8°15.9 | -9.1 | 55.0 |
| Sa 16 | 271°27.4 | 286°00.3 | 300°33.2 | 315°06.0 | 329°38.9 | 344°11.7 | 358°44.5 | 13°17.3 | 27°50.1 | 42°22.9 | 56°55.7 | +32.8 | 14.9 |
| | -10°24.5 | -10°32.7 | -10°40.8 | -10°48.9 | -10°57.0 | -11°05.0 | -11°12.9 | -11°20.8 | -11°28.6 | -11°36.4 | -11°44.1 | -8.0 | 54.5 |
| Di 17 | 275°05.3 | 289°37.8 | 304°10.3 | 318°42.8 | 333°15.2 | 347°47.6 | 2°20.0 | 16°52.4 | 31°24.8 | 45°57.2 | 60°29.5 | +32.4 | 14.8 |
| | -13°33.3 | -13°40.1 | -13°46.8 | -13°53.5 | -14°00.1 | -14°06.7 | -14°13.2 | -14°19.6 | -14°25.9 | -14°32.2 | -14°38.5 | -6.5 | 54.2 |
| Lu 18 | 278°32.1 | 293°04.1 | 307°36.1 | 322°08.1 | 336°40.1 | 351°12.0 | 5°43.9 | 20°15.8 | 34°47.7 | 49°19.5 | 63°51.4 | +31.9 | 14.7 |
| | -16°03.7 | -16°08.8 | -16°13.9 | -16°18.9 | -16°23.8 | -16°28.6 | -16°33.3 | -16°38.0 | -16°42.6 | -16°47.2 | -16°51.6 | -4.8 | 54.0 |
| Ma 19 | 281°46.7 | 296°18.3 | 310°49.8 | 325°21.3 | 339°52.8 | 354°24.3 | 8°55.8 | 23°27.3 | 37°58.7 | 52°30.1 | 67°01.5 | +31.5 | 14.7 |
| | -17°49.1 | -17°52.3 | -17°55.4 | -17°58.4 | -18°01.4 | -18°04.2 | -18°07.0 | -18°09.7 | -18°12.4 | -18°14.9 | -18°17.4 | -2.8 | 53.9 |
| ○ Me 20 | 284°51.3 | 299°22.6 | 313°53.8 | 328°25.0 | 342°56.3 | 357°27.5 | 11°58.7 | 26°29.9 | 41°01.1 | 55°32.2 | 70°03.4 | +31.2 | 14.7 |
| | -18°44.1 | -18°45.2 | -18°46.2 | -18°47.2 | -18°48.0 | -18°48.8 | -18°49.5 | -18°50.0 | -18°50.5 | -18°51.0 | -18°51.3 | -0.7 | 53.9 |
| Je 21 | 287°50.9 | 302°22.0 | 316°53.2 | 331°24.4 | 345°55.5 | 0°26.7 | 14°57.9 | 29°29.1 | 44°00.2 | 58°31.4 | 73°02.6 | +31.2 | 14.7 |
| | -18°45.8 | -18°44.7 | -18°43.6 | -18°42.3 | -18°41.0 | -18°39.6 | -18°38.1 | -18°36.5 | -18°34.9 | -18°33.1 | -18°31.3 | +1.4 | 54.0 |
| Ve 22 | 290°51.3 | 305°22.6 | 319°54.0 | 334°25.3 | 348°56.6 | 3°28.0 | 17°59.4 | 32°30.7 | 47°02.1 | 61°33.5 | 76°05.0 | +31.4 | 14.8 |
| | -17°53.5 | -17°50.4 | -17°47.1 | -17°43.7 | -17°40.3 | -17°36.8 | -17°33.2 | -17°29.5 | -17°25.7 | -17°21.9 | -17°18.0 | +3.6 | 54.2 |
| Sa 23 | 293°57.7 | 308°29.3 | 323°01.0 | 337°32.6 | 352°04.3 | 6°36.0 | 21°07.7 | 35°39.4 | 50°11.1 | 64°42.9 | 79°14.6 | +31.7 | 14.9 |
| | -16°09.6 | -16°04.4 | -15°59.2 | -15°53.9 | -15°48.5 | -15°43.0 | -15°37.4 | -15°31.8 | -15°26.1 | -15°20.4 | -15°14.5 | +5.5 | 54.5 |
| Di 24 | 297°12.5 | 311°44.5 | 326°16.5 | 340°48.5 | 355°20.5 | 9°52.5 | 24°24.5 | 38°56.5 | 53°28.6 | 68°00.6 | 82°32.7 | +32.0 | 15.0 |
| | -13°38.5 | -13°31.5 | -13°24.5 | -13°17.4 | -13°10.3 | -13°03.1 | -12°55.8 | -12°48.5 | -12°41.1 | -12°33.7 | -12°26.1 | +7.2 | 54.9 |
| Lu 25 | 311°44.5 | 326°16.5 | 340°48.5 | 355°20.5 | 9°52.5 | 24°24.5 | 38°56.5 | 53°28.6 | 68°00.6 | 82°32.7 | 97°04.8 | +32.0 | 15.0 |
| | -13°31.5 | -13°24.5 | -13°17.4 | -13°10.3 | -13°03.1 | -12°55.8 | -12°48.5 | -12°41.1 | -12°33.7 | -12°26.1 | -12°18.6 | +7.3 | 54.9 |
| Ma 26 | 315°06.8 | 329°39.0 | 344°11.2 | 358°43.4 | 13°15.6 | 27°47.8 | 42°20.0 | 56°52.2 | 71°24.4 | 85°56.6 | 100°28.8 | +32.2 | 15.1 |
| | -10°17.9 | -10°09.4 | -10°00.9 | -9°52.3 | -9°43.6 | -9°35.0 | -9°26.2 | -9°17.4 | -9°08.6 | -8°59.7 | -8°50.7 | +8.7 | 55.5 |
| Me 27 | 318°31.3 | 333°03.4 | 347°35.5 | 2°07.6 | 16°39.7 | 31°11.8 | 45°43.8 | 60°15.9 | 74°47.9 | 89°19.9 | 103°51.9 | +32.1 | 15.3 |
| | -6°31.2 | -6°21.5 | -6°11.8 | -6°02.1 | -5°52.4 | -5°42.6 | -5°32.7 | -5°22.9 | -5°13.0 | -5°03.1 | -4°53.1 | +9.8 | 56.1 |
| ◑ Je 28 | 321°49.6 | 336°21.3 | 350°52.9 | 5°24.5 | 19°56.1 | 34°27.6 | 48°59.2 | 63°30.6 | 78°02.1 | 92°33.5 | 107°04.9 | +31.5 | 15.5 |
| | -2°20.0 | -2°09.6 | -1°59.2 | -1°48.7 | -1°38.2 | -1°27.7 | -1°17.2 | -1°06.7 | -0°56.1 | -0°45.5 | -0°34.9 | +10.5 | 56.9 |
| Ve 29 | 324°50.9 | 339°21.7 | 353°52.3 | 8°23.0 | 22°53.5 | 37°24.1 | 51°54.5 | 66°25.0 | 80°55.3 | 95°25.7 | 109°55.9 | +30.5 | 15.8 |
| | 2°05.3 | 2°16.0 | 2°26.7 | 2°37.5 | 2°48.2 | 2°58.9 | 3°09.7 | 3°20.4 | 3°31.1 | 3°41.9 | 3°52.6 | +10.7 | 57.8 |
| Sa 30 | 327°22.9 | 341°52.2 | 356°21.4 | 10°50.5 | 25°19.6 | 39°48.6 | 54°17.6 | 68°46.5 | 83°15.3 | 97°44.0 | 112°12.7 | +29.0 | 16.0 |
| | 6°32.0 | 6°42.5 | 6°53.0 | 7°03.4 | 7°13.8 | 7°24.2 | 7°34.6 | 7°44.9 | 7°55.2 | 8°05.5 | 8°15.7 | +10.4 | 58.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 6 03h20 — PQ: 12 19h50 — PL: 20 19h37 — DQ: 28 18h42

# SOLEIL

## Juillet 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 269°02.2 | 284°02.1 | 299°02.0 | 314°01.8 | 329°01.7 | 344°01.6 | 359°01.5 | 14°01.4 | 29°01.2 | 44°01.1 | 59°01.0 | 74°00.9 | -0.1 |
| | 23°06.5 | 23°06.3 | 23°06.1 | 23°05.9 | 23°05.8 | 23°05.6 | 23°05.4 | 23°05.3 | 23°05.1 | 23°04.9 | 23°04.8 | 23°04.6 | -0.2 |
| Lu 2 | 268°59.3 | 283°59.2 | 298°59.1 | 313°59.0 | 328°58.8 | 343°58.7 | 358°58.6 | 13°58.5 | 28°58.4 | 43°58.3 | 58°58.1 | 73°58.0 | -0.1 |
| | 23°02.3 | 23°02.1 | 23°01.9 | 23°01.7 | 23°01.5 | 23°01.3 | 23°01.1 | 23°01.0 | 23°00.8 | 23°00.6 | 23°00.4 | 23°00.2 | -0.2 |
| Ma 3 | 268°56.5 | 283°56.4 | 298°56.3 | 313°56.1 | 328°56.0 | 343°55.9 | 358°55.8 | 13°55.7 | 28°55.6 | 43°55.5 | 58°55.3 | 73°55.2 | -0.1 |
| | 22°57.7 | 22°57.5 | 22°57.3 | 22°57.1 | 22°56.9 | 22°56.7 | 22°56.5 | 22°56.3 | 22°56.0 | 22°55.8 | 22°55.6 | 22°55.4 | -0.2 |
| Me 4 | 268°53.7 | 283°53.6 | 298°53.5 | 313°53.4 | 328°53.3 | 343°53.2 | 358°53.1 | 13°52.9 | 28°52.8 | 43°52.7 | 58°52.6 | 73°52.5 | -0.1 |
| | 22°52.7 | 22°52.5 | 22°52.2 | 22°52.0 | 22°51.8 | 22°51.6 | 22°51.4 | 22°51.1 | 22°50.9 | 22°50.7 | 22°50.5 | 22°50.3 | -0.2 |
| Je 5 | 268°51.1 | 283°50.9 | 298°50.8 | 313°50.7 | 328°50.6 | 343°50.5 | 358°50.4 | 13°50.3 | 28°50.2 | 43°50.1 | 58°50.0 | 73°49.9 | -0.1 |
| | 22°47.3 | 22°47.0 | 22°46.8 | 22°46.6 | 22°46.3 | 22°46.1 | 22°45.9 | 22°45.6 | 22°45.4 | 22°45.2 | 22°44.9 | 22°44.7 | -0.2 |
| Ve 6 | 268°48.5 | 283°48.4 | 298°48.3 | 313°48.1 | 328°48.0 | 343°47.9 | 358°47.8 | 13°47.7 | 28°47.6 | 43°47.5 | 58°47.4 | 73°47.3 | -0.1 |
| | 22°41.5 | 22°41.2 | 22°41.0 | 22°40.7 | 22°40.5 | 22°40.2 | 22°40.0 | 22°39.7 | 22°39.5 | 22°39.2 | 22°39.0 | 22°38.7 | -0.3 |
| Sa 7 | 268°46.0 | 283°45.9 | 298°45.8 | 313°45.7 | 328°45.6 | 343°45.5 | 358°45.4 | 13°45.3 | 28°45.2 | 43°45.0 | 58°44.9 | 73°44.8 | -0.1 |
| | 22°35.3 | 22°35.0 | 22°34.8 | 22°34.5 | 22°34.2 | 22°34.0 | 22°33.7 | 22°33.4 | 22°33.2 | 22°32.9 | 22°32.6 | 22°32.4 | -0.3 |
| Di 8 | 268°43.6 | 283°43.5 | 298°43.4 | 313°43.3 | 328°43.2 | 343°43.1 | 358°43.0 | 13°42.9 | 28°42.8 | 43°42.7 | 58°42.6 | 73°42.5 | -0.1 |
| | 22°28.7 | 22°28.5 | 22°28.2 | 22°27.9 | 22°27.6 | 22°27.3 | 22°27.0 | 22°26.8 | 22°26.5 | 22°26.2 | 22°25.9 | 22°25.6 | -0.3 |
| Lu 9 | 268°41.3 | 283°41.2 | 298°41.1 | 313°41.0 | 328°40.9 | 343°40.8 | 358°40.7 | 13°40.6 | 28°40.5 | 43°40.4 | 58°40.3 | 73°40.2 | -0.1 |
| | 22°21.8 | 22°21.5 | 22°21.2 | 22°20.9 | 22°20.6 | 22°20.3 | 22°20.0 | 22°19.7 | 22°19.4 | 22°19.1 | 22°18.8 | 22°18.5 | -0.3 |
| Ma 10 | 268°39.1 | 283°39.0 | 298°38.9 | 313°38.8 | 328°38.7 | 343°38.6 | 358°38.5 | 13°38.4 | 28°38.4 | 43°38.3 | 58°38.2 | 73°38.1 | -0.1 |
| | 22°14.4 | 22°14.1 | 22°13.8 | 22°13.5 | 22°13.2 | 22°12.9 | 22°12.5 | 22°12.2 | 22°11.9 | 22°11.6 | 22°11.3 | 22°10.9 | -0.3 |
| Me 11 | 268°37.0 | 283°36.9 | 298°36.8 | 313°36.7 | 328°36.6 | 343°36.6 | 358°36.5 | 13°36.4 | 28°36.3 | 43°36.2 | 58°36.1 | 73°36.1 | -0.1 |
| | 22°06.7 | 22°06.4 | 22°06.1 | 22°05.7 | 22°05.4 | 22°05.1 | 22°04.7 | 22°04.4 | 22°04.1 | 22°03.7 | 22°03.4 | 22°03.0 | -0.3 |
| Je 12 | 268°35.0 | 283°34.9 | 298°34.9 | 313°34.8 | 328°34.7 | 343°34.6 | 358°34.5 | 13°34.5 | 28°34.4 | 43°34.3 | 58°34.2 | 73°34.1 | -0.1 |
| | 21°58.6 | 21°58.3 | 21°57.9 | 21°57.6 | 21°57.2 | 21°56.9 | 21°56.5 | 21°56.2 | 21°55.8 | 21°55.5 | 21°55.1 | 21°54.8 | -0.3 |
| Ve 13 | 268°33.2 | 283°33.1 | 298°33.0 | 313°32.9 | 328°32.9 | 343°32.8 | 358°32.7 | 13°32.6 | 28°32.6 | 43°32.5 | 58°32.4 | 73°32.4 | -0.1 |
| | 21°50.1 | 21°49.8 | 21°49.4 | 21°49.0 | 21°48.7 | 21°48.3 | 21°47.9 | 21°47.6 | 21°47.2 | 21°46.8 | 21°46.5 | 21°46.1 | -0.4 |
| Sa 14 | 268°31.4 | 283°31.4 | 298°31.3 | 313°31.2 | 328°31.2 | 343°31.1 | 358°31.0 | 13°31.0 | 28°30.9 | 43°30.8 | 58°30.8 | 73°30.7 | -0.1 |
| | 21°41.3 | 21°40.9 | 21°40.5 | 21°40.1 | 21°39.8 | 21°39.4 | 21°39.0 | 21°38.6 | 21°38.2 | 21°37.8 | 21°37.5 | 21°37.1 | -0.4 |
| Di 15 | 268°29.8 | 283°29.8 | 298°29.7 | 313°29.7 | 328°29.6 | 343°29.5 | 358°29.5 | 13°29.4 | 28°29.3 | 43°29.3 | 58°29.2 | 73°29.2 | -0.1 |
| | 21°32.0 | 21°31.6 | 21°31.3 | 21°30.9 | 21°30.5 | 21°30.1 | 21°29.7 | 21°29.3 | 21°28.9 | 21°28.5 | 21°28.1 | 21°27.7 | -0.4 |
| Lu 16 | 268°28.4 | 283°28.3 | 298°28.3 | 313°28.2 | 328°28.1 | 343°28.1 | 358°28.0 | 13°28.0 | 28°27.9 | 43°27.9 | 58°27.8 | 73°27.8 | -0.1 |
| | 21°22.4 | 21°22.0 | 21°21.6 | 21°21.2 | 21°20.8 | 21°20.4 | 21°20.0 | 21°19.6 | 21°19.2 | 21°18.8 | 21°18.3 | 21°17.9 | -0.4 |
| Ma 17 | 268°27.0 | 283°27.0 | 298°26.9 | 313°26.9 | 328°26.8 | 343°26.8 | 358°26.7 | 13°26.7 | 28°26.6 | 43°26.6 | 58°26.5 | 73°26.5 | -0.1 |
| | 21°12.5 | 21°12.1 | 21°11.6 | 21°11.2 | 21°10.8 | 21°10.4 | 21°09.9 | 21°09.5 | 21°09.1 | 21°08.7 | 21°08.2 | 21°07.8 | -0.4 |
| Me 18 | 268°25.8 | 283°25.8 | 298°25.8 | 313°25.7 | 328°25.7 | 343°25.6 | 358°25.6 | 13°25.5 | 28°25.5 | 43°25.4 | 58°25.4 | 73°25.3 | -0.0 |
| | 21°02.2 | 21°01.7 | 21°01.3 | 21°00.9 | 21°00.4 | 21°00.0 | 20°59.5 | 20°59.1 | 20°58.7 | 20°58.2 | 20°57.8 | 20°57.3 | -0.4 |
| Je 19 | 268°24.8 | 283°24.7 | 298°24.7 | 313°24.7 | 328°24.6 | 343°24.6 | 358°24.5 | 13°24.5 | 28°24.5 | 43°24.4 | 58°24.4 | 73°24.3 | -0.0 |
| | 20°51.5 | 20°51.1 | 20°50.6 | 20°50.1 | 20°49.7 | 20°49.2 | 20°48.8 | 20°48.3 | 20°47.9 | 20°47.4 | 20°47.0 | 20°46.5 | -0.5 |
| Ve 20 | 268°23.9 | 283°23.8 | 298°23.8 | 313°23.7 | 328°23.7 | 343°23.7 | 358°23.6 | 13°23.6 | 28°23.6 | 43°23.5 | 58°23.5 | 73°23.5 | -0.0 |
| | 20°40.5 | 20°40.0 | 20°39.5 | 20°39.1 | 20°38.6 | 20°38.1 | 20°37.7 | 20°37.2 | 20°36.7 | 20°36.3 | 20°35.8 | 20°35.3 | -0.5 |
| Sa 21 | 268°23.1 | 283°23.0 | 298°23.0 | 313°23.0 | 328°23.0 | 343°22.9 | 358°22.9 | 13°22.9 | 28°22.8 | 43°22.8 | 58°22.8 | 73°22.8 | -0.0 |
| | 20°29.1 | 20°28.6 | 20°28.1 | 20°27.7 | 20°27.2 | 20°26.7 | 20°26.2 | 20°25.7 | 20°25.2 | 20°24.8 | 20°24.3 | 20°23.8 | -0.5 |
| Di 22 | 268°22.4 | 283°22.4 | 298°22.4 | 313°22.4 | 328°22.3 | 343°22.3 | 358°22.3 | 13°22.3 | 28°22.2 | 43°22.2 | 58°22.2 | 73°22.2 | -0.0 |
| | 20°17.4 | 20°16.9 | 20°16.4 | 20°15.9 | 20°15.4 | 20°14.9 | 20°14.4 | 20°13.9 | 20°13.4 | 20°12.9 | 20°12.4 | 20°11.9 | -0.5 |
| Lu 23 | 268°21.9 | 283°21.9 | 298°21.9 | 313°21.9 | 328°21.9 | 343°21.8 | 358°21.8 | 13°21.8 | 28°21.8 | 43°21.8 | 58°21.8 | 73°21.7 | -0.0 |
| | 20°05.3 | 20°04.8 | 20°04.3 | 20°03.8 | 20°03.3 | 20°02.8 | 20°02.3 | 20°01.8 | 20°01.3 | 20°00.7 | 20°00.2 | 19°59.7 | -0.5 |
| Ma 24 | 268°21.6 | 283°21.5 | 298°21.5 | 313°21.5 | 328°21.5 | 343°21.5 | 358°21.5 | 13°21.5 | 28°21.5 | 43°21.5 | 58°21.5 | 73°21.4 | -0.0 |
| | 19°53.0 | 19°52.4 | 19°51.9 | 19°51.4 | 19°50.9 | 19°50.3 | 19°49.8 | 19°49.3 | 19°48.8 | 19°48.2 | 19°47.7 | 19°47.2 | -0.5 |
| Me 25 | 268°21.3 | 283°21.3 | 298°21.3 | 313°21.3 | 328°21.3 | 343°21.3 | 358°21.3 | 13°21.3 | 28°21.3 | 43°21.3 | 58°21.3 | 73°21.3 | -0.0 |
| | 19°40.2 | 19°39.7 | 19°39.2 | 19°38.6 | 19°38.1 | 19°37.6 | 19°37.0 | 19°36.5 | 19°35.9 | 19°35.4 | 19°34.8 | 19°34.3 | -0.5 |
| Je 26 | 268°21.3 | 283°21.3 | 298°21.3 | 313°21.3 | 328°21.3 | 343°21.3 | 358°21.3 | 13°21.3 | 28°21.3 | 43°21.3 | 58°21.3 | 73°21.3 | +0.0 |
| | 19°27.2 | 19°26.6 | 19°26.1 | 19°25.5 | 19°25.0 | 19°24.4 | 19°23.9 | 19°23.3 | 19°22.8 | 19°22.2 | 19°21.7 | 19°21.1 | -0.6 |
| Ve 27 | 268°21.3 | 283°21.4 | 298°21.4 | 313°21.4 | 328°21.4 | 343°21.4 | 358°21.4 | 13°21.4 | 28°21.4 | 43°21.4 | 58°21.4 | 73°21.4 | +0.0 |
| | 19°13.8 | 19°13.3 | 19°12.7 | 19°12.1 | 19°11.6 | 19°11.0 | 19°10.4 | 19°09.9 | 19°09.3 | 19°08.7 | 19°08.2 | 19°07.6 | -0.6 |
| Sa 28 | 268°21.6 | 283°21.6 | 298°21.6 | 313°21.6 | 328°21.6 | 343°21.6 | 358°21.6 | 13°21.7 | 28°21.7 | 43°21.7 | 58°21.7 | 73°21.7 | +0.0 |
| | 19°00.1 | 18°59.6 | 18°59.0 | 18°58.4 | 18°57.8 | 18°57.3 | 18°56.7 | 18°56.1 | 18°55.5 | 18°54.9 | 18°54.3 | 18°53.8 | -0.6 |
| Di 29 | 268°21.9 | 283°21.9 | 298°22.0 | 313°22.0 | 328°22.0 | 343°22.0 | 358°22.0 | 13°22.1 | 28°22.1 | 43°22.1 | 58°22.1 | 73°22.1 | +0.0 |
| | 18°46.1 | 18°45.6 | 18°45.0 | 18°44.4 | 18°43.8 | 18°43.2 | 18°42.6 | 18°42.0 | 18°41.4 | 18°40.8 | 18°40.2 | 18°39.6 | -0.6 |
| Lu 30 | 268°22.4 | 283°22.5 | 298°22.5 | 313°22.5 | 328°22.5 | 343°22.6 | 358°22.6 | 13°22.6 | 28°22.6 | 43°22.7 | 58°22.7 | 73°22.7 | +0.0 |
| | 18°31.8 | 18°31.2 | 18°30.6 | 18°30.0 | 18°29.4 | 18°28.8 | 18°28.2 | 18°27.6 | 18°27.0 | 18°26.4 | 18°25.8 | 18°25.2 | -0.6 |
| Ma 31 | 268°23.1 | 283°23.1 | 298°23.2 | 313°23.2 | 328°23.2 | 343°23.2 | 358°23.3 | 13°23.3 | 28°23.3 | 43°23.4 | 58°23.4 | 73°23.4 | +0.0 |
| | 18°17.2 | 18°16.6 | 18°16.0 | 18°15.4 | 18°14.8 | 18°14.1 | 18°13.5 | 18°12.9 | 18°12.3 | 18°11.7 | 18°11.0 | 18°10.4 | -0.6 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.7'

# LUNE

## Juillet 2035

| J | 23h | 0h | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Di 1 | 242°27.3 | 256°55.2 | 271°23.1 | 285°50.8 | 300°18.5 | 314°46.1 | 329°13.6 | 343°41.0 | 358°08.4 | 12°35.6 | 27°02.8 | +27.6 | 16.2 |
| | 9°46.2 | 9°56.1 | 10°05.9 | 10°15.6 | 10°25.3 | 10°35.0 | 10°44.6 | 10°54.1 | 11°03.6 | 11°13.0 | 11°22.4 | +9.6 | 59.4 |
| Lu 2 | 243°40.8 | 258°06.7 | 272°32.5 | 286°58.2 | 301°23.8 | 315°49.3 | 330°14.8 | 344°40.2 | 359°05.5 | 13°30.7 | 27°55.8 | +25.5 | 16.4 |
| | 13°35.2 | 13°43.5 | 13°51.7 | 13°59.8 | 14°07.8 | 14°15.8 | 14°23.6 | 14°31.4 | 14°39.1 | 14°46.7 | 14°54.2 | +7.9 | 60.2 |
| Ma 3 | 244°03.5 | 258°27.4 | 272°51.2 | 287°15.0 | 301°38.7 | 316°02.4 | 330°26.0 | 344°49.5 | 359°13.0 | 13°36.4 | 27°59.7 | +23.6 | 16.6 |
| | 16°34.7 | 16°40.5 | 16°46.3 | 16°51.9 | 16°57.4 | 17°02.7 | 17°08.0 | 17°13.1 | 17°18.2 | 17°23.1 | 17°27.8 | +5.3 | 60.8 |
| Me 4 | 243°43.6 | 258°06.2 | 272°28.7 | 286°51.2 | 301°13.7 | 315°36.1 | 329°58.6 | 344°21.0 | 358°43.3 | 13°05.7 | 27°28.0 | +22.4 | 16.7 |
| | 18°24.0 | 18°29.2 | 18°31.6 | 18°33.9 | 18°36.0 | 18°38.0 | 18°38.0 | 18°39.8 | 18°41.5 | 18°43.1 | 18°44.5 | +2.1 | 61.2 |
| ● Je 5 | 243°02.0 | 257°24.2 | 271°46.5 | 286°08.8 | 300°31.2 | 314°53.5 | 329°15.9 | 343°38.3 | 358°00.7 | 12°23.1 | 26°45.6 | +22.4 | 16.7 |
| | 18°48.6 | 18°47.7 | 18°46.7 | 18°45.5 | 18°44.2 | 18°42.8 | 18°41.2 | 18°39.5 | 18°37.6 | 18°35.6 | 18°33.5 | -1.5 | 61.2 |
| Ve 6 | 242°27.2 | 256°50.3 | 271°13.5 | 285°36.8 | 300°00.1 | 314°23.5 | 328°46.9 | 343°10.4 | 357°34.0 | 11°57.7 | 26°21.4 | +23.4 | 16.6 |
| | 17°44.9 | 17°40.7 | 17°36.2 | 17°31.7 | 17°27.0 | 17°22.2 | 17°17.3 | 17°12.3 | 17°07.1 | 17°01.9 | 16°56.5 | -4.9 | 60.8 |
| Sa 7 | 242°25.6 | 256°50.5 | 271°15.5 | 285°40.5 | 300°05.7 | 314°30.9 | 328°56.2 | 343°21.6 | 357°47.1 | 12°12.6 | 26°38.3 | +25.3 | 16.4 |
| | 15°22.2 | 15°15.1 | 15°07.9 | 15°00.6 | 14°53.2 | 14°45.7 | 14°38.1 | 14°30.5 | 14°22.7 | 14°14.8 | 14°06.9 | -7.5 | 60.2 |
| Di 8 | 243°13.2 | 257°40.2 | 272°07.3 | 286°34.5 | 301°01.8 | 315°29.1 | 329°56.6 | 344°24.1 | 358°51.7 | 13°19.4 | 27°47.2 | +27.4 | 16.2 |
| | 11°58.7 | 11°49.6 | 11°40.5 | 11°31.2 | 11°22.0 | 11°12.6 | 11°03.2 | 10°53.8 | 10°44.3 | 10°34.7 | 10°25.1 | -9.4 | 59.3 |
| Lu 9 | 244°53.5 | 259°22.5 | 273°51.6 | 288°20.8 | 302°50.1 | 317°19.4 | 331°48.9 | 346°18.3 | 0°47.9 | 15°17.5 | 29°47.2 | +29.4 | 15.9 |
| | 7°56.0 | 7°45.8 | 7°35.6 | 7°25.3 | 7°15.0 | 7°04.6 | 6°54.3 | 6°43.9 | 6°33.5 | 6°23.1 | 6°12.6 | -10.3 | 58.4 |
| Ma 10 | 247°20.4 | 261°51.1 | 276°21.9 | 290°52.7 | 305°23.5 | 319°54.5 | 334°25.4 | 348°56.5 | 3°27.5 | 17°58.7 | 32°29.8 | +30.9 | 15.6 |
| | 3°34.4 | 3°23.8 | 3°13.2 | 3°02.6 | 2°52.0 | 2°41.4 | 2°30.8 | 2°20.1 | 2°09.5 | 1°58.9 | 1°48.3 | -10.6 | 57.4 |
| Me 11 | 250°22.9 | 264°54.8 | 279°26.7 | 293°58.6 | 308°30.6 | 323°02.6 | 337°34.7 | 352°06.7 | 6°38.8 | 21°11.0 | 35°43.1 | +32.0 | 15.4 |
| | -0°49.5 | -0°59.9 | -1°10.3 | -1°20.7 | -1°31.0 | -1°41.3 | -1°51.6 | -2°01.9 | -2°12.2 | -2°22.5 | -2°32.7 | -10.3 | 56.5 |
| ◐ Je 12 | 253°48.6 | 268°21.1 | 282°53.7 | 297°26.2 | 311°58.8 | 326°31.4 | 341°04.0 | 355°36.6 | 10°09.3 | 24°41.9 | 39°14.6 | +32.6 | 15.2 |
| | -5°02.7 | -5°12.5 | -5°22.2 | -5°31.9 | -5°41.5 | -5°51.2 | -6°00.7 | -6°10.3 | -6°19.8 | -6°29.3 | -6°38.7 | -9.6 | 55.6 |
| Ve 13 | 257°25.4 | 271°58.1 | 286°30.9 | 301°03.6 | 315°36.4 | 330°09.1 | 344°41.9 | 359°14.6 | 13°47.4 | 28°20.1 | 42°52.9 | +32.8 | 15.0 |
| | -8°55.2 | -9°03.9 | -9°12.6 | -9°21.3 | -9°29.9 | -9°38.4 | -9°46.9 | -9°55.4 | -10°03.8 | -10°12.1 | -10°20.4 | -8.5 | 55.0 |
| Sa 14 | 261°03.2 | 275°35.8 | 290°08.4 | 304°41.0 | 319°13.6 | 333°46.2 | 348°18.7 | 2°51.3 | 17°23.8 | 31°56.3 | 46°28.8 | +32.6 | 14.9 |
| | -12°18.6 | -12°26.0 | -12°33.4 | -12°40.7 | -12°47.9 | -12°55.1 | -13°02.2 | -13°09.3 | -13°16.3 | -13°23.3 | -13°30.1 | -7.2 | 54.5 |
| Di 15 | 264°34.6 | 279°06.8 | 293°39.1 | 308°11.3 | 322°43.5 | 337°15.7 | 351°47.8 | 6°20.0 | 20°52.1 | 35°24.2 | 49°56.3 | +32.2 | 14.8 |
| | -15°05.6 | -15°11.5 | -15°17.2 | -15°22.9 | -15°28.6 | -15°34.1 | -15°39.6 | -15°45.0 | -15°50.4 | -15°55.6 | -16°00.8 | -5.5 | 54.2 |
| Lu 16 | 267°55.3 | 282°27.1 | 296°58.9 | 311°30.6 | 326°02.3 | 340°34.1 | 355°05.7 | 9°37.4 | 24°09.1 | 38°40.7 | 53°12.3 | +31.7 | 14.7 |
| | -17°10.0 | -17°14.0 | -17°17.9 | -17°21.7 | -17°25.5 | -17°29.2 | -17°32.8 | -17°36.3 | -17°39.8 | -17°43.2 | -17°46.4 | -3.6 | 54.0 |
| Ma 17 | 271°04.7 | 285°36.1 | 300°07.4 | 314°38.8 | 329°10.1 | 343°41.4 | 358°12.7 | 12°44.0 | 27°15.3 | 41°46.6 | 56°17.8 | +31.3 | 14.7 |
| | -18°26.0 | -18°28.0 | -18°29.9 | -18°31.7 | -18°33.4 | -18°35.1 | -18°36.6 | -18°38.1 | -18°39.5 | -18°40.8 | -18°42.0 | -1.6 | 53.9 |
| Me 18 | 274°05.5 | 288°36.6 | 303°07.7 | 317°38.9 | 332°10.0 | 346°41.1 | 1°12.2 | 15°43.2 | 30°14.3 | 44°45.4 | 59°16.5 | +31.1 | 14.7 |
| | -18°49.8 | -18°49.6 | -18°49.4 | -18°49.0 | -18°48.6 | -18°48.1 | -18°47.5 | -18°46.8 | -18°46.0 | -18°45.1 | -18°44.2 | +0.6 | 54.0 |
| Je 19 | 277°02.8 | 291°33.9 | 306°05.0 | 320°36.1 | 335°07.2 | 349°38.3 | 4°09.5 | 18°40.6 | 33°11.7 | 47°42.9 | 62°14.0 | +31.1 | 14.8 |
| | -18°19.4 | -18°17.0 | -18°14.6 | -18°12.1 | -18°09.5 | -18°06.8 | -18°04.0 | -18°01.2 | -17°58.3 | -17°55.2 | -17°52.1 | +2.7 | 54.2 |
| ○ Ve 20 | 280°02.3 | 294°33.6 | 309°04.9 | 323°36.2 | 338°07.6 | 352°38.9 | 7°10.3 | 21°41.7 | 36°13.0 | 50°44.4 | 65°15.8 | +31.4 | 14.9 |
| | -16°55.5 | -16°51.1 | -16°46.6 | -16°42.0 | -16°37.4 | -16°32.6 | -16°27.8 | -16°22.9 | -16°17.9 | -16°12.9 | -16°07.7 | +4.8 | 54.5 |
| Sa 21 | 283°08.6 | 297°40.3 | 312°11.9 | 326°43.6 | 341°15.3 | 355°47.0 | 10°18.7 | 24°50.4 | 39°22.1 | 53°53.9 | 68°25.6 | +31.7 | 14.9 |
| | -14°41.8 | -14°35.4 | -14°29.1 | -14°22.6 | -14°16.1 | -14°09.5 | -14°02.8 | -13°56.1 | -13°49.3 | -13°42.4 | -13°35.5 | +6.6 | 54.8 |
| Di 22 | 286°23.6 | 300°55.6 | 315°27.6 | 329°59.6 | 344°31.6 | 359°03.6 | 13°35.6 | 28°07.6 | 42°39.7 | 57°11.7 | 71°43.8 | +32.0 | 15.1 |
| | -11°43.9 | -11°36.0 | -11°28.0 | -11°20.0 | -11°11.9 | -11°03.7 | -10°55.5 | -10°47.3 | -10°38.9 | -10°30.6 | -10°22.1 | +8.2 | 55.2 |
| Lu 23 | 289°45.5 | 304°17.7 | 318°49.8 | 333°22.0 | 347°54.1 | 2°26.3 | 16°58.5 | 31°30.6 | 46°02.8 | 60°35.0 | 75°07.1 | +32.2 | 15.2 |
| | -8°09.8 | -8°00.6 | -7°51.4 | -7°42.1 | -7°32.8 | -7°23.5 | -7°14.1 | -7°04.6 | -6°55.1 | -6°45.6 | -6°36.1 | +9.4 | 55.7 |
| Ma 24 | 293°09.0 | 307°41.1 | 322°13.2 | 336°45.2 | 351°17.2 | 5°49.2 | 20°21.3 | 34°53.2 | 49°25.2 | 63°57.2 | 78°29.1 | +32.0 | 15.3 |
| | -4°08.7 | -3°58.6 | -3°48.5 | -3°38.4 | -3°28.3 | -3°18.1 | -3°07.9 | -2°57.7 | -2°47.5 | -2°37.2 | -2°26.9 | +10.2 | 56.3 |
| Me 25 | 307°41.1 | 322°13.2 | 336°45.2 | 351°17.2 | 5°49.2 | 20°21.3 | 34°53.2 | 49°25.2 | 63°57.2 | 78°29.1 | 93°01.0 | +32.0 | 15.4 |
| | -3°58.6 | -3°48.5 | -3°38.4 | -3°28.3 | -3°18.1 | -3°07.9 | -2°57.7 | -2°47.5 | -2°37.2 | -2°26.9 | -2°16.6 | +10.2 | 56.3 |
| Je 26 | 310°57.5 | 325°29.0 | 340°00.6 | 354°32.1 | 9°03.5 | 23°35.0 | 38°06.4 | 52°37.8 | 67°09.1 | 81°40.4 | 96°11.7 | +31.4 | 15.5 |
| | 0°19.7 | 0°30.2 | 0°40.7 | 0°51.2 | 1°01.8 | 1°12.3 | 1°22.8 | 1°33.4 | 1°43.9 | 1°54.4 | 2°05.0 | +10.5 | 57.0 |
| Ve 27 | 313°56.1 | 328°26.8 | 342°57.3 | 357°27.8 | 11°58.3 | 26°28.7 | 40°59.1 | 55°29.4 | 69°59.7 | 84°29.9 | 99°00.1 | +30.4 | 15.7 |
| | 4°42.5 | 4°52.9 | 5°03.4 | 5°13.7 | 5°24.1 | 5°34.5 | 5°44.8 | 5°55.1 | 6°05.4 | 6°15.7 | 6°26.0 | +10.3 | 57.7 |
| ◑ Sa 28 | 316°25.7 | 330°54.9 | 345°24.0 | 359°53.1 | 14°22.1 | 28°51.1 | 43°20.0 | 57°48.8 | 72°17.6 | 86°46.2 | 101°14.9 | +28.9 | 15.9 |
| | 8°56.4 | 9°06.1 | 9°15.9 | 9°25.5 | 9°35.2 | 9°44.7 | 9°54.3 | 10°03.8 | 10°13.2 | 10°22.6 | 10°32.0 | +9.6 | 58.4 |
| Di 29 | 318°15.6 | 332°43.1 | 347°10.4 | 1°37.8 | 16°05.0 | 30°32.2 | 44°59.2 | 59°26.3 | 73°53.2 | 88°20.1 | 102°46.8 | +27.1 | 16.1 |
| | 12°45.6 | 12°54.0 | 13°02.3 | 13°10.6 | 13°18.8 | 13°26.9 | 13°34.9 | 13°42.9 | 13°50.8 | 13°58.6 | 14°06.4 | +8.1 | 59.1 |
| Lu 30 | 319°19.6 | 333°45.2 | 348°10.7 | 2°36.2 | 17°01.5 | 31°26.8 | 45°52.1 | 60°17.2 | 74°42.3 | 89°07.4 | 103°32.3 | +25.3 | 16.3 |
| | 15°52.2 | 15°58.5 | 16°04.7 | 16°10.9 | 16°16.9 | 16°22.8 | 16°28.6 | 16°34.3 | 16°39.9 | 16°45.4 | 16°50.8 | +5.9 | 59.8 |
| Ma 31 | 319°39.2 | 334°03.2 | 348°27.1 | 2°51.0 | 17°14.8 | 31°38.6 | 46°02.4 | 60°26.1 | 74°49.7 | 89°13.3 | 103°36.9 | +23.8 | 16.5 |
| | 17°57.9 | 18°01.4 | 18°04.8 | 18°08.1 | 18°11.2 | 18°14.2 | 18°17.1 | 18°19.9 | 18°22.5 | 18°25.0 | 18°27.4 | +3.0 | 60.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 5 09h59 — PQ: 12 07h32 — PL: 20 10h36 — DQ: 28 02h55

# SOLEIL

## Août 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 268°23.9<br>18°02.3 | 283°23.9<br>18°01.7 | 298°24.0<br>18°01.0 | 313°24.0<br>18°00.4 | 328°24.0<br>17°59.8 | 343°24.1<br>17°59.2 | 358°24.1<br>17°58.5 | 13°24.2<br>17°57.9 | 28°24.2<br>17°57.3 | 43°24.2<br>17°56.6 | 58°24.3<br>17°56.0 | 73°24.3<br>17°55.4 | +0.0<br>-0.6 |
| Je 2 | 268°24.9<br>17°47.1 | 283°24.9<br>17°46.5 | 298°24.9<br>17°45.8 | 313°25.0<br>17°45.2 | 328°25.0<br>17°44.5 | 343°25.1<br>17°43.9 | 358°25.1<br>17°43.2 | 13°25.2<br>17°42.6 | 28°25.2<br>17°42.0 | 43°25.2<br>17°41.3 | 58°25.3<br>17°40.7 | 73°25.3<br>17°40.0 | +0.0<br>-0.6 |
| Ve 3 | 268°26.0<br>17°31.6 | 283°26.0<br>17°30.9 | 298°26.1<br>17°30.3 | 313°26.1<br>17°29.6 | 328°26.2<br>17°29.0 | 343°26.2<br>17°28.3 | 358°26.3<br>17°27.7 | 13°26.3<br>17°27.0 | 28°26.4<br>17°26.4 | 43°26.4<br>17°25.7 | 58°26.5<br>17°25.1 | 73°26.5<br>17°24.4 | +0.1<br>-0.7 |
| Sa 4 | 268°27.2<br>17°15.8 | 283°27.3<br>17°15.1 | 298°27.3<br>17°14.5 | 313°27.4<br>17°13.8 | 328°27.4<br>17°13.2 | 343°27.5<br>17°12.5 | 358°27.5<br>17°11.8 | 13°27.6<br>17°11.2 | 28°27.7<br>17°10.5 | 43°27.7<br>17°09.8 | 58°27.8<br>17°09.2 | 73°27.8<br>17°08.5 | +0.1<br>-0.7 |
| Di 5 | 268°28.6<br>16°59.8 | 283°28.7<br>16°59.1 | 298°28.7<br>16°58.4 | 313°28.8<br>16°57.7 | 328°28.9<br>16°57.0 | 343°28.9<br>16°56.4 | 358°29.0<br>16°55.7 | 13°29.1<br>16°55.0 | 28°29.1<br>16°54.3 | 43°29.2<br>16°53.7 | 58°29.2<br>16°53.0 | 73°29.3<br>16°52.3 | +0.1<br>-0.7 |
| Lu 6 | 268°30.2<br>16°43.4 | 283°30.2<br>16°42.7 | 298°30.3<br>16°42.0 | 313°30.4<br>16°41.4 | 328°30.4<br>16°40.7 | 343°30.5<br>16°40.0 | 358°30.6<br>16°39.3 | 13°30.7<br>16°38.6 | 28°30.7<br>16°37.9 | 43°30.8<br>16°37.2 | 58°30.9<br>16°36.5 | 73°30.9<br>16°35.8 | +0.1<br>-0.7 |
| Ma 7 | 268°31.9<br>16°26.8 | 283°32.0<br>16°26.1 | 298°32.0<br>16°25.4 | 313°32.1<br>16°24.7 | 328°32.2<br>16°24.0 | 343°32.3<br>16°23.3 | 358°32.3<br>16°22.6 | 13°32.4<br>16°21.9 | 28°32.5<br>16°21.2 | 43°32.6<br>16°20.5 | 58°32.6<br>16°19.8 | 73°32.7<br>16°19.1 | +0.1<br>-0.7 |
| Me 8 | 268°33.7<br>16°09.9 | 283°33.8<br>16°09.2 | 298°33.9<br>16°08.5 | 313°34.0<br>16°07.8 | 328°34.1<br>16°07.1 | 343°34.2<br>16°06.4 | 358°34.2<br>16°05.7 | 13°34.3<br>16°05.0 | 28°34.4<br>16°04.3 | 43°34.5<br>16°03.5 | 58°34.6<br>16°02.8 | 73°34.6<br>16°02.1 | +0.1<br>-0.7 |
| Je 9 | 268°35.8<br>15°52.8 | 283°35.8<br>15°52.1 | 298°35.9<br>15°51.4 | 313°36.0<br>15°50.7 | 328°36.1<br>15°49.9 | 343°36.2<br>15°49.2 | 358°36.3<br>15°48.5 | 13°36.4<br>15°47.8 | 28°36.5<br>15°47.0 | 43°36.6<br>15°46.3 | 58°36.6<br>15°45.6 | 73°36.7<br>15°44.9 | +0.1<br>-0.7 |
| Ve 10 | 268°37.9<br>15°35.4 | 283°38.0<br>15°34.7 | 298°38.1<br>15°34.0 | 313°38.2<br>15°33.2 | 328°38.3<br>15°32.5 | 343°38.4<br>15°31.8 | 358°38.5<br>15°31.0 | 13°38.6<br>15°30.3 | 28°38.7<br>15°29.6 | 43°38.8<br>15°28.9 | 58°38.9<br>15°28.1 | 73°39.0<br>15°27.4 | +0.1<br>-0.7 |
| Sa 11 | 268°40.2<br>15°17.8 | 283°40.3<br>15°17.1 | 298°40.4<br>15°16.3 | 313°40.5<br>15°15.6 | 328°40.6<br>15°14.8 | 343°40.7<br>15°14.1 | 358°40.8<br>15°13.4 | 13°40.9<br>15°12.6 | 28°41.0<br>15°11.9 | 43°41.1<br>15°11.1 | 58°41.2<br>15°10.4 | 73°41.3<br>15°09.6 | +0.1<br>-0.7 |
| Di 12 | 268°42.7<br>14°59.9 | 283°42.8<br>14°59.2 | 298°42.9<br>14°58.4 | 313°43.0<br>14°57.7 | 328°43.1<br>14°56.9 | 343°43.2<br>14°56.2 | 358°43.3<br>14°55.4 | 13°43.4<br>14°54.7 | 28°43.5<br>14°53.9 | 43°43.7<br>14°53.2 | 58°43.8<br>14°52.4 | 73°43.9<br>14°51.7 | +0.1<br>-0.8 |
| Lu 13 | 268°45.3<br>14°41.8 | 283°45.4<br>14°41.1 | 298°45.5<br>14°40.3 | 313°45.6<br>14°39.5 | 328°45.7<br>14°38.8 | 343°45.9<br>14°38.0 | 358°46.0<br>14°37.3 | 13°46.1<br>14°36.5 | 28°46.2<br>14°35.7 | 43°46.3<br>14°35.0 | 58°46.4<br>14°34.2 | 73°46.5<br>14°33.4 | +0.1<br>-0.8 |
| Ma 14 | 268°48.0<br>14°23.5 | 283°48.2<br>14°22.7 | 298°48.3<br>14°21.9 | 313°48.4<br>14°21.2 | 328°48.5<br>14°20.4 | 343°48.6<br>14°19.6 | 358°48.7<br>14°18.9 | 13°48.9<br>14°18.1 | 28°49.0<br>14°17.3 | 43°49.1<br>14°16.5 | 58°49.2<br>14°15.8 | 73°49.3<br>14°15.0 | +0.1<br>-0.8 |
| Me 15 | 268°50.9<br>14°04.9 | 283°51.0<br>14°04.1 | 298°51.2<br>14°03.3 | 313°51.3<br>14°02.6 | 328°51.4<br>14°01.8 | 343°51.5<br>14°01.0 | 358°51.7<br>14°00.2 | 13°51.8<br>13°59.4 | 28°51.9<br>13°58.7 | 43°52.0<br>13°57.9 | 58°52.2<br>13°57.1 | 73°52.3<br>13°56.3 | +0.1<br>-0.8 |
| Je 16 | 268°53.9<br>13°46.1 | 283°54.1<br>13°45.3 | 298°54.2<br>13°44.5 | 313°54.3<br>13°43.7 | 328°54.5<br>13°43.0 | 343°54.6<br>13°42.2 | 358°54.7<br>13°41.4 | 13°54.8<br>13°40.6 | 28°55.0<br>13°39.8 | 43°55.1<br>13°39.0 | 58°55.2<br>13°38.2 | 73°55.4<br>13°37.4 | +0.1<br>-0.8 |
| Ve 17 | 268°57.1<br>13°27.1 | 283°57.2<br>13°26.3 | 298°57.4<br>13°25.5 | 313°57.5<br>13°24.7 | 328°57.6<br>13°23.9 | 343°57.8<br>13°23.1 | 358°57.9<br>13°22.3 | 13°58.0<br>13°21.5 | 28°58.2<br>13°20.7 | 43°58.3<br>13°19.9 | 58°58.4<br>13°19.1 | 73°58.6<br>13°18.3 | +0.1<br>-0.8 |
| Sa 18 | 269°00.4<br>13°07.9 | 284°00.5<br>13°07.1 | 299°00.7<br>13°06.3 | 314°00.8<br>13°05.5 | 329°00.9<br>13°04.6 | 344°01.1<br>13°03.8 | 359°01.2<br>13°03.0 | 14°01.4<br>13°02.2 | 29°01.5<br>13°01.4 | 44°01.6<br>13°00.6 | 59°01.8<br>12°59.8 | 74°01.9<br>12°59.0 | +0.1<br>-0.8 |
| Di 19 | 269°03.8<br>12°48.4 | 284°03.9<br>12°47.6 | 299°04.1<br>12°46.8 | 314°04.2<br>12°46.0 | 329°04.4<br>12°45.2 | 344°04.5<br>12°44.4 | 359°04.7<br>12°43.5 | 14°04.8<br>12°42.7 | 29°04.9<br>12°41.9 | 44°05.1<br>12°41.1 | 59°05.2<br>12°40.3 | 74°05.4<br>12°39.5 | +0.1<br>-0.8 |
| Lu 20 | 269°07.3<br>12°28.8 | 284°07.5<br>12°28.0 | 299°07.6<br>12°27.2 | 314°07.8<br>12°26.3 | 329°07.9<br>12°25.5 | 344°08.1<br>12°24.7 | 359°08.2<br>12°23.9 | 14°08.4<br>12°23.0 | 29°08.5<br>12°22.2 | 44°08.7<br>12°21.4 | 59°08.8<br>12°20.6 | 74°09.0<br>12°19.7 | +0.2<br>-0.8 |
| Ma 21 | 269°11.0<br>12°09.0 | 284°11.1<br>12°08.1 | 299°11.3<br>12°07.3 | 314°11.4<br>12°06.5 | 329°11.6<br>12°05.6 | 344°11.7<br>12°04.8 | 359°11.9<br>12°04.0 | 14°12.0<br>12°03.2 | 29°12.2<br>12°02.3 | 44°12.4<br>12°01.5 | 59°12.5<br>12°00.7 | 74°12.7<br>11°59.8 | +0.2<br>-0.8 |
| Me 22 | 269°14.7<br>11°48.9 | 284°14.9<br>11°48.1 | 299°15.0<br>11°47.3 | 314°15.2<br>11°46.4 | 329°15.4<br>11°45.6 | 344°15.5<br>11°44.8 | 359°15.7<br>11°43.9 | 14°15.8<br>11°43.1 | 29°16.0<br>11°42.2 | 44°16.2<br>11°41.4 | 59°16.3<br>11°40.5 | 74°16.5<br>11°39.7 | +0.2<br>-0.8 |
| Je 23 | 269°18.6<br>11°28.7 | 284°18.8<br>11°27.9 | 299°18.9<br>11°27.0 | 314°19.1<br>11°26.2 | 329°19.3<br>11°25.3 | 344°19.4<br>11°24.5 | 359°19.6<br>11°23.7 | 14°19.8<br>11°22.8 | 29°19.9<br>11°22.0 | 44°20.1<br>11°21.1 | 59°20.2<br>11°20.3 | 74°20.4<br>11°19.4 | +0.2<br>-0.8 |
| Ve 24 | 269°22.6<br>11°08.3 | 284°22.7<br>11°07.5 | 299°22.9<br>11°06.6 | 314°23.1<br>11°05.8 | 329°23.3<br>11°04.9 | 344°23.4<br>11°04.1 | 359°23.6<br>11°03.2 | 14°23.8<br>11°02.4 | 29°23.9<br>11°01.5 | 44°24.1<br>11°00.6 | 59°24.3<br>10°59.8 | 74°24.4<br>10°58.9 | +0.2<br>-0.9 |
| Sa 25 | 269°26.7<br>10°47.8 | 284°26.8<br>10°46.9 | 299°27.0<br>10°46.0 | 314°27.2<br>10°45.2 | 329°27.4<br>10°44.3 | 344°27.5<br>10°43.5 | 359°27.7<br>10°42.6 | 14°27.9<br>10°41.7 | 29°28.0<br>10°40.9 | 44°28.2<br>10°40.0 | 59°28.4<br>10°39.1 | 74°28.6<br>10°38.3 | +0.2<br>-0.9 |
| Di 26 | 269°30.8<br>10°27.0 | 284°31.0<br>10°26.2 | 299°31.2<br>10°25.3 | 314°31.4<br>10°24.4 | 329°31.5<br>10°23.6 | 344°31.7<br>10°22.7 | 359°31.9<br>10°21.8 | 14°32.1<br>10°20.9 | 29°32.3<br>10°20.1 | 44°32.4<br>10°19.2 | 59°32.6<br>10°18.3 | 74°32.8<br>10°17.5 | +0.2<br>-0.9 |
| Lu 27 | 269°35.1<br>10°06.1 | 284°35.3<br>10°05.2 | 299°35.5<br>10°04.4 | 314°35.7<br>10°03.5 | 329°35.8<br>10°02.6 | 344°36.0<br>10°01.7 | 359°36.2<br>10°00.9 | 14°36.4<br>10°00.0 | 29°36.6<br>9°59.1 | 44°36.7<br>9°58.2 | 59°36.9<br>9°57.4 | 74°37.1<br>9°56.5 | +0.2<br>-0.9 |
| Ma 28 | 269°39.5<br>9°45.0 | 284°39.7<br>9°44.2 | 299°39.8<br>9°43.3 | 314°40.0<br>9°42.4 | 329°40.2<br>9°41.5 | 344°40.4<br>9°40.6 | 359°40.6<br>9°39.7 | 14°40.8<br>9°38.9 | 29°41.0<br>9°38.0 | 44°41.1<br>9°37.1 | 59°41.3<br>9°36.2 | 74°41.5<br>9°35.3 | +0.2<br>-0.9 |
| Me 29 | 269°43.9<br>9°23.8 | 284°44.1<br>9°22.9 | 299°44.3<br>9°22.0 | 314°44.5<br>9°21.1 | 329°44.7<br>9°20.3 | 344°44.9<br>9°19.4 | 359°45.1<br>9°18.5 | 14°45.2<br>9°17.6 | 29°45.4<br>9°16.7 | 44°45.6<br>9°15.8 | 59°45.8<br>9°14.9 | 74°46.0<br>9°14.0 | +0.2<br>-0.9 |
| Je 30 | 269°48.5<br>9°02.4 | 284°48.7<br>9°01.5 | 299°48.8<br>9°00.6 | 314°49.0<br>8°59.8 | 329°49.2<br>8°58.9 | 344°49.4<br>8°58.0 | 359°49.6<br>8°57.1 | 14°49.8<br>8°56.2 | 29°50.0<br>8°55.3 | 44°50.2<br>8°54.4 | 59°50.4<br>8°53.5 | 74°50.6<br>8°52.6 | +0.2<br>-0.9 |
| Ve 31 | 269°53.1<br>8°40.9 | 284°53.3<br>8°40.0 | 299°53.5<br>8°39.1 | 314°53.7<br>8°38.2 | 329°53.8<br>8°37.3 | 344°54.0<br>8°36.4 | 359°54.2<br>8°35.5 | 14°54.4<br>8°34.6 | 29°54.6<br>8°33.7 | 44°54.8<br>8°32.8 | 59°55.0<br>8°31.9 | 74°55.2<br>8°31.0 | +0.2<br>-0.9 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.8'

# LUNE

## Août 2035

| J | 1h | 2h | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Me 1 | 247°30.6 | 261°53.8 | 276°17.0 | 290°40.2 | 305°03.3 | 319°26.4 | 333°49.5 | 348°12.6 | 2°35.7 | 16°58.8 | 31°21.8 | +23.1 | 16.5 |
| | 18°43.9 | 18°44.8 | 18°45.6 | 18°46.2 | 18°46.7 | 18°47.0 | 18°47.3 | 18°47.4 | 18°47.3 | 18°47.1 | 18°46.8 | +0.3 | 60.6 |
| Je 2 | 247°07.4 | 261°30.5 | 275°53.7 | 290°16.8 | 304°40.0 | 319°03.2 | 333°26.4 | 347°49.6 | 2°12.9 | 16°36.2 | 30°59.5 | +23.2 | 16.6 |
| | 18°25.4 | 18°22.9 | 18°20.2 | 18°17.5 | 18°14.5 | 18°11.5 | 18°08.3 | 18°05.0 | 18°01.5 | 17°58.0 | 17°54.2 | -3.1 | 60.7 |
| ● Ve 3 | 246°54.0 | 261°18.0 | 275°42.0 | 290°06.1 | 304°30.3 | 318°54.5 | 333°18.8 | 347°43.1 | 2°07.5 | 16°32.0 | 30°56.5 | +24.2 | 16.5 |
| | 16°43.5 | 16°37.8 | 16°32.0 | 16°26.1 | 16°20.0 | 16°13.9 | 16°07.6 | 16°01.3 | 15°54.8 | 15°48.2 | 15°41.5 | -6.2 | 60.5 |
| Sa 4 | 247°12.0 | 261°37.6 | 276°03.3 | 290°29.0 | 304°54.8 | 319°20.7 | 333°46.7 | 348°12.7 | 2°38.8 | 17°05.0 | 31°31.2 | +25.9 | 16.4 |
| | 13°49.3 | 13°41.1 | 13°32.8 | 13°24.4 | 13°16.0 | 13°07.4 | 12°58.8 | 12°50.1 | 12°41.3 | 12°32.5 | 12°23.6 | -8.6 | 60.0 |
| Di 5 | 248°13.9 | 262°41.4 | 277°08.9 | 291°36.5 | 306°04.2 | 320°31.9 | 334°59.7 | 349°27.6 | 3°55.6 | 18°23.6 | 32°51.7 | +27.8 | 16.2 |
| | 10°02.0 | 9°52.1 | 9°42.2 | 9°32.2 | 9°22.1 | 9°12.1 | 9°01.9 | 8°51.8 | 8°41.6 | 8°31.3 | 8°21.0 | -10.1 | 59.3 |
| Lu 6 | 250°01.5 | 264°30.7 | 279°00.0 | 293°29.3 | 307°58.7 | 322°28.1 | 336°57.6 | 351°27.2 | 5°56.8 | 20°26.5 | 34°56.2 | +29.5 | 15.9 |
| | 5°43.1 | 5°32.4 | 5°21.6 | 5°10.9 | 5°00.1 | 4°49.3 | 4°38.5 | 4°27.7 | 4°16.9 | 4°06.1 | 3°55.3 | -10.8 | 58.4 |
| Ma 7 | 252°29.0 | 266°59.6 | 281°30.2 | 296°00.9 | 310°31.7 | 325°02.4 | 339°33.3 | 354°04.1 | 8°35.1 | 23°06.0 | 37°37.0 | +30.8 | 15.7 |
| | 1°12.7 | 1°01.9 | 0°51.1 | 0°40.3 | 0°29.5 | 0°18.8 | 0°08.0 | -0°02.7 | -0°13.4 | -0°24.1 | -0°34.8 | -10.8 | 57.5 |
| Me 8 | 255°26.6 | 269°58.1 | 284°29.7 | 299°01.4 | 313°33.0 | 328°04.7 | 342°36.4 | 357°08.2 | 11°40.0 | 26°11.7 | 40°43.6 | +31.7 | 15.4 |
| | -3°12.5 | -3°22.8 | -3°33.1 | -3°43.3 | -3°53.6 | -4°03.7 | -4°13.9 | -4°24.0 | -4°34.1 | -4°44.1 | -4°54.2 | -10.2 | 56.6 |
| Je 9 | 258°43.3 | 273°15.4 | 287°47.6 | 302°19.7 | 316°51.9 | 331°24.0 | 345°56.2 | 0°28.4 | 15°00.6 | 29°32.8 | 44°05.1 | +32.2 | 15.2 |
| | -7°19.7 | -7°29.0 | -7°38.3 | -7°47.6 | -7°56.8 | -8°06.0 | -8°15.2 | -8°24.2 | -8°33.3 | -8°42.3 | -8°51.2 | -9.2 | 55.8 |
| ◐ Ve 10 | 262°09.0 | 276°41.3 | 291°13.6 | 305°45.9 | 320°18.2 | 334°50.5 | 349°22.7 | 3°55.0 | 18°27.3 | 32°59.6 | 47°31.9 | +32.3 | 15.0 |
| | -10°58.9 | -11°07.0 | -11°15.0 | -11°23.0 | -11°30.9 | -11°38.7 | -11°46.5 | -11°54.3 | -12°01.9 | -12°09.5 | -12°17.1 | -7.8 | 55.1 |
| Sa 11 | 265°35.2 | 280°07.4 | 294°39.6 | 309°11.7 | 323°43.8 | 338°16.0 | 352°48.1 | 7°20.2 | 21°52.3 | 36°24.4 | 50°56.4 | +32.1 | 14.9 |
| | -14°02.6 | -14°09.2 | -14°15.6 | -14°22.0 | -14°28.3 | -14°34.5 | -14°40.7 | -14°46.8 | -14°52.9 | -14°58.8 | -15°04.7 | -6.2 | 54.6 |
| Di 12 | 268°56.0 | 283°27.8 | 297°59.7 | 312°31.5 | 327°03.3 | 341°35.2 | 356°06.9 | 10°38.7 | 25°10.5 | 39°42.2 | 54°14.0 | +31.8 | 14.8 |
| | -16°24.5 | -16°29.2 | -16°33.9 | -16°38.4 | -16°42.9 | -16°47.4 | -16°51.7 | -16°56.0 | -17°00.2 | -17°04.3 | -17°08.3 | -4.4 | 54.2 |
| Lu 13 | 272°08.3 | 286°39.8 | 301°11.3 | 315°42.7 | 330°14.2 | 344°45.7 | 359°17.1 | 13°48.5 | 28°19.9 | 42°51.3 | 57°22.7 | +31.4 | 14.7 |
| | -17°59.3 | -18°02.0 | -18°04.7 | -18°07.3 | -18°09.8 | -18°12.2 | -18°14.5 | -18°16.8 | -18°19.0 | -18°21.1 | -18°23.1 | -2.4 | 54.1 |
| Ma 14 | 275°12.1 | 289°43.4 | 304°14.6 | 318°45.8 | 333°16.9 | 347°48.1 | 2°19.3 | 16°50.4 | 31°21.6 | 45°52.7 | 60°23.9 | +31.2 | 14.7 |
| | -18°42.9 | -18°43.6 | -18°44.1 | -18°44.6 | -18°45.0 | -18°45.3 | -18°45.5 | -18°45.6 | -18°45.6 | -18°45.4 | -18°45.4 | -0.3 | 54.1 |
| Me 15 | 278°10.3 | 292°41.4 | 307°12.4 | 321°43.5 | 336°14.6 | 350°45.6 | 5°16.7 | 19°47.8 | 34°18.8 | 48°49.9 | 63°20.9 | +31.1 | 14.8 |
| | -18°32.9 | -18°31.4 | -18°29.8 | -18°28.1 | -18°26.3 | -18°24.4 | -18°22.4 | -18°20.4 | -18°18.2 | -18°16.0 | -18°13.7 | +1.9 | 54.2 |
| Je 16 | 281°07.0 | 295°38.1 | 310°09.3 | 324°40.4 | 339°11.5 | 353°42.6 | 8°13.7 | 22°44.9 | 37°16.0 | 51°47.2 | 66°18.3 | +31.1 | 14.9 |
| | -17°28.8 | -17°25.1 | -17°21.4 | -17°17.5 | -17°13.6 | -17°09.6 | -17°05.5 | -17°01.3 | -16°57.1 | -16°52.7 | -16°48.3 | +4.0 | 54.5 |
| Ve 17 | 284°06.6 | 298°37.9 | 313°09.2 | 327°40.5 | 342°11.9 | 356°43.2 | 11°14.5 | 25°45.9 | 40°17.2 | 54°48.6 | 69°20.0 | +31.3 | 15.0 |
| | -15°32.5 | -15°26.8 | -15°21.1 | -15°15.3 | -15°09.4 | -15°03.4 | -14°57.3 | -14°51.2 | -14°45.0 | -14°38.7 | -14°32.4 | +6.0 | 54.9 |
| Sa 18 | 287°11.9 | 301°43.5 | 316°15.0 | 330°46.6 | 345°18.2 | 359°49.7 | 14°21.3 | 28°52.9 | 43°24.6 | 57°56.2 | 72°27.8 | +31.6 | 15.1 |
| | -12°48.8 | -12°41.3 | -12°33.8 | -12°26.2 | -12°18.6 | -12°10.9 | -12°03.1 | -11°55.3 | -11°47.4 | -11°39.5 | -11°31.5 | +7.7 | 55.3 |
| ○ Di 19 | 290°23.2 | 304°54.9 | 319°26.7 | 333°58.4 | 348°30.2 | 3°02.0 | 17°33.7 | 32°05.5 | 46°37.3 | 61°09.1 | 75°40.9 | +31.8 | 15.2 |
| | -9°24.6 | -9°15.7 | -9°06.7 | -8°57.8 | -8°48.7 | -8°39.7 | -8°30.5 | -8°21.4 | -8°12.1 | -8°02.9 | -7°53.6 | +9.1 | 55.8 |
| Lu 20 | 293°37.6 | 308°09.4 | 322°41.2 | 337°13.0 | 351°44.7 | 6°16.5 | 20°48.2 | 35°20.0 | 49°51.7 | 64°23.4 | 78°55.1 | +31.8 | 15.3 |
| | -5°29.2 | -5°19.2 | -5°09.3 | -4°59.3 | -4°49.3 | -4°39.3 | -4°29.2 | -4°19.1 | -4°09.0 | -3°58.8 | -3°48.6 | +10.1 | 56.3 |
| Ma 21 | 296°49.6 | 311°21.1 | 325°52.6 | 340°24.1 | 354°55.6 | 9°27.0 | 23°58.5 | 38°29.9 | 53°01.3 | 67°32.6 | 82°04.0 | +31.4 | 15.5 |
| | -1°13.4 | -1°03.0 | -0°52.5 | -0°42.0 | -0°31.4 | -0°20.9 | -0°10.4 | 0°00.1 | 0°10.7 | 0°21.2 | 0°31.8 | +10.5 | 56.8 |
| Me 22 | 299°51.1 | 314°22.0 | 328°52.9 | 343°23.8 | 357°54.6 | 12°25.4 | 26°56.1 | 41°26.8 | 55°57.5 | 70°28.1 | 84°58.7 | +30.8 | 15.6 |
| | 3°10.2 | 3°20.7 | 3°31.2 | 3°41.7 | 3°52.2 | 4°02.7 | 4°13.2 | 4°23.6 | 4°34.0 | 4°44.5 | 4°54.9 | +10.5 | 57.3 |
| Je 23 | 314°22.0 | 328°52.9 | 343°23.8 | 357°54.6 | 12°25.4 | 26°56.1 | 41°26.8 | 55°57.5 | 70°28.1 | 84°58.7 | 99°29.3 | +30.7 | 15.6 |
| | 3°20.7 | 3°31.2 | 3°41.7 | 3°52.2 | 4°02.7 | 4°13.2 | 4°23.6 | 4°34.0 | 4°44.5 | 4°54.9 | 5°05.2 | +10.5 | 57.4 |
| Ve 24 | 317°02.9 | 331°32.7 | 346°02.6 | 0°32.4 | 15°02.1 | 29°31.8 | 44°01.4 | 58°31.0 | 73°00.6 | 87°30.0 | 101°59.5 | +29.7 | 15.8 |
| | 7°38.1 | 7°48.0 | 7°57.9 | 8°07.8 | 8°17.7 | 8°27.5 | 8°37.3 | 8°47.0 | 8°56.7 | 9°06.3 | 9°15.9 | +9.8 | 57.9 |
| Sa 25 | 319°14.5 | 333°43.1 | 348°11.6 | 2°40.0 | 17°08.4 | 31°36.7 | 46°05.0 | 60°33.2 | 75°01.3 | 89°29.4 | 103°57.4 | +28.3 | 15.9 |
| | 11°34.1 | 11°42.8 | 11°51.6 | 12°00.2 | 12°08.8 | 12°17.3 | 12°25.8 | 12°34.2 | 12°42.5 | 12°50.7 | 12°58.9 | +8.5 | 58.4 |
| ◑ Di 26 | 320°50.4 | 335°17.4 | 349°44.4 | 4°11.3 | 18°38.2 | 33°05.0 | 47°31.7 | 61°58.4 | 76°25.0 | 90°51.6 | 105°18.1 | +26.8 | 16.1 |
| | 14°52.7 | 14°59.6 | 15°06.5 | 15°13.2 | 15°19.9 | 15°26.5 | 15°33.0 | 15°39.4 | 15°45.7 | 15°51.9 | 15°58.0 | +6.5 | 58.9 |
| Lu 27 | 321°48.7 | 336°14.3 | 350°39.9 | 5°05.4 | 19°30.8 | 33°56.2 | 48°21.6 | 62°46.9 | 77°12.2 | 91°37.4 | 106°02.6 | +25.4 | 16.2 |
| | 17°17.8 | 17°22.2 | 17°26.6 | 17°30.8 | 17°35.0 | 17°39.0 | 17°42.9 | 17°46.7 | 17°50.4 | 17°54.0 | 17°57.4 | +4.0 | 59.3 |
| Ma 28 | 322°15.3 | 336°39.9 | 351°04.5 | 5°29.0 | 19°53.5 | 34°17.9 | 48°42.4 | 63°06.8 | 77°31.2 | 91°55.6 | 106°19.9 | +24.5 | 16.3 |
| | 18°34.9 | 18°36.4 | 18°37.8 | 18°39.0 | 18°40.2 | 18°41.2 | 18°42.0 | 18°42.8 | 18°43.4 | 18°43.9 | 18°44.3 | +0.9 | 59.7 |
| Me 29 | 322°24.0 | 336°48.2 | 351°12.4 | 5°36.7 | 20°00.9 | 34°25.2 | 48°49.4 | 63°13.7 | 77°38.0 | 92°02.3 | 106°26.6 | +24.3 | 16.3 |
| | 18°34.3 | 18°32.6 | 18°30.8 | 18°28.9 | 18°26.8 | 18°24.6 | 18°22.2 | 18°19.8 | 18°17.2 | 18°14.4 | 18°11.6 | -2.3 | 59.9 |
| Je 30 | 322°33.5 | 336°58.2 | 351°22.9 | 5°47.6 | 20°12.4 | 34°37.2 | 49°02.0 | 63°26.9 | 77°51.8 | 92°16.8 | 106°41.8 | +24.8 | 16.3 |
| | 17°14.0 | 17°09.2 | 17°04.3 | 16°59.3 | 16°54.1 | 16°48.9 | 16°43.5 | 16°38.0 | 16°32.4 | 16°26.7 | 16°20.8 | -5.3 | 59.9 |
| Ve 31 | 323°02.3 | 337°28.0 | 351°53.8 | 6°19.7 | 20°45.6 | 35°11.6 | 49°37.6 | 64°03.7 | 78°29.8 | 92°56.0 | 107°22.3 | +26.0 | 16.3 |
| | 14°40.8 | 14°33.4 | 14°25.8 | 14°18.2 | 14°10.4 | 14°02.6 | 13°54.7 | 13°46.7 | 13°38.6 | 13°30.4 | 13°22.2 | -7.9 | 59.7 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 3 17h11 — PQ: 10 21h52 — PL: 19 01h00 — DQ: 26 09h08

# SOLEIL

## Septembre 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 269°57.8 | 284°58.0 | 299°58.2 | 314°58.4 | 329°58.6 | 344°58.8 | 359°58.9 | 14°59.1 | 29°59.3 | 44°59.5 | 59°59.7 | 74°59.9 | +0.2 |
| | 8°19.2 | 8°18.3 | 8°17.4 | 8°16.5 | 8°15.6 | 8°14.7 | 8°13.8 | 8°12.9 | 8°12.0 | 8°11.1 | 8°10.2 | 8°09.3 | -0.9 |
| Di 2 | 270°02.5 | 285°02.7 | 300°02.9 | 315°03.1 | 330°03.3 | 345°03.5 | 0°03.7 | 15°03.9 | 30°04.1 | 45°04.3 | 60°04.5 | 75°04.7 | +0.2 |
| | 7°57.5 | 7°56.5 | 7°55.6 | 7°54.7 | 7°53.8 | 7°52.9 | 7°52.0 | 7°51.1 | 7°50.2 | 7°49.2 | 7°48.3 | 7°47.4 | -0.9 |
| Lu 3 | 270°07.4 | 285°07.6 | 300°07.8 | 315°08.0 | 330°08.2 | 345°08.4 | 0°08.6 | 15°08.8 | 30°09.0 | 45°09.2 | 60°09.4 | 75°09.6 | +0.2 |
| | 7°35.5 | 7°34.6 | 7°33.7 | 7°32.8 | 7°31.9 | 7°30.9 | 7°30.0 | 7°29.1 | 7°28.2 | 7°27.3 | 7°26.4 | 7°25.4 | -0.9 |
| Ma 4 | 270°12.3 | 285°12.5 | 300°12.7 | 315°12.9 | 330°13.1 | 345°13.3 | 0°13.5 | 15°13.7 | 30°13.9 | 45°14.1 | 60°14.3 | 75°14.5 | +0.2 |
| | 7°13.5 | 7°12.6 | 7°11.6 | 7°10.7 | 7°09.8 | 7°08.9 | 7°08.0 | 7°07.0 | 7°06.1 | 7°05.2 | 7°04.3 | 7°03.3 | -0.9 |
| Me 5 | 270°17.2 | 285°17.4 | 300°17.7 | 315°17.9 | 330°18.1 | 345°18.3 | 0°18.5 | 15°18.7 | 30°18.9 | 45°19.1 | 60°19.3 | 75°19.5 | +0.2 |
| | 6°51.3 | 6°50.4 | 6°49.5 | 6°48.5 | 6°47.6 | 6°46.7 | 6°45.8 | 6°44.8 | 6°43.9 | 6°43.0 | 6°42.0 | 6°41.1 | -0.9 |
| Je 6 | 270°22.3 | 285°22.5 | 300°22.7 | 315°22.9 | 330°23.1 | 345°23.3 | 0°23.5 | 15°23.7 | 30°24.0 | 45°24.2 | 60°24.4 | 75°24.6 | +0.2 |
| | 6°29.0 | 6°28.1 | 6°27.2 | 6°26.3 | 6°25.3 | 6°24.4 | 6°23.5 | 6°22.5 | 6°21.6 | 6°20.7 | 6°19.7 | 6°18.8 | -0.9 |
| Ve 7 | 270°27.4 | 285°27.6 | 300°27.8 | 315°28.0 | 330°28.2 | 345°28.4 | 0°28.6 | 15°28.8 | 30°29.1 | 45°29.3 | 60°29.5 | 75°29.7 | +0.2 |
| | 6°06.7 | 6°05.7 | 6°04.8 | 6°03.9 | 6°02.9 | 6°02.0 | 6°01.1 | 6°00.1 | 5°59.2 | 5°58.2 | 5°57.3 | 5°56.4 | -0.9 |
| Sa 8 | 270°32.5 | 285°32.7 | 300°32.9 | 315°33.1 | 330°33.4 | 345°33.6 | 0°33.8 | 15°34.0 | 30°34.2 | 45°34.4 | 60°34.6 | 75°34.9 | +0.2 |
| | 5°44.2 | 5°43.2 | 5°42.3 | 5°41.4 | 5°40.4 | 5°39.5 | 5°38.5 | 5°37.6 | 5°36.7 | 5°35.7 | 5°34.8 | 5°33.8 | -0.9 |
| Di 9 | 270°37.7 | 285°37.9 | 300°38.1 | 315°38.3 | 330°38.5 | 345°38.8 | 0°39.0 | 15°39.2 | 30°39.4 | 45°39.6 | 60°39.9 | 75°40.1 | +0.2 |
| | 5°21.6 | 5°20.7 | 5°19.7 | 5°18.8 | 5°17.8 | 5°16.9 | 5°15.9 | 5°15.0 | 5°14.1 | 5°13.1 | 5°12.2 | 5°11.2 | -0.9 |
| Lu 10 | 270°42.9 | 285°43.1 | 300°43.3 | 315°43.6 | 330°43.8 | 345°44.0 | 0°44.2 | 15°44.4 | 30°44.7 | 45°44.9 | 60°45.1 | 75°45.3 | +0.2 |
| | 4°58.9 | 4°58.0 | 4°57.0 | 4°56.1 | 4°55.2 | 4°54.2 | 4°53.3 | 4°52.3 | 4°51.4 | 4°50.4 | 4°49.5 | 4°48.5 | -0.9 |
| Ma 11 | 270°48.2 | 285°48.4 | 300°48.6 | 315°48.8 | 330°49.1 | 345°49.3 | 0°49.5 | 15°49.7 | 30°49.9 | 45°50.2 | 60°50.4 | 75°50.6 | +0.2 |
| | 4°36.2 | 4°35.2 | 4°34.3 | 4°33.3 | 4°32.4 | 4°31.4 | 4°30.5 | 4°29.5 | 4°28.6 | 4°27.6 | 4°26.7 | 4°25.7 | -1.0 |
| Me 12 | 270°53.5 | 285°53.7 | 300°53.9 | 315°54.1 | 330°54.4 | 345°54.6 | 0°54.8 | 15°55.0 | 30°55.3 | 45°55.5 | 60°55.7 | 75°55.9 | +0.2 |
| | 4°13.4 | 4°12.4 | 4°11.5 | 4°10.5 | 4°09.6 | 4°08.6 | 4°07.7 | 4°06.7 | 4°05.7 | 4°04.8 | 4°03.8 | 4°02.9 | -1.0 |
| Je 13 | 270°58.8 | 285°59.0 | 300°59.3 | 315°59.5 | 330°59.7 | 345°59.9 | 1°00.1 | 16°00.4 | 31°00.6 | 46°00.8 | 61°01.0 | 76°01.3 | +0.2 |
| | 3°50.5 | 3°49.5 | 3°48.6 | 3°47.6 | 3°46.6 | 3°45.7 | 3°44.7 | 3°43.8 | 3°42.8 | 3°41.9 | 3°40.9 | 3°40.0 | -1.0 |
| Ve 14 | 271°04.2 | 286°04.4 | 301°04.6 | 316°04.8 | 331°05.1 | 346°05.3 | 1°05.5 | 16°05.7 | 31°06.0 | 46°06.2 | 61°06.4 | 76°06.6 | +0.2 |
| | 3°27.5 | 3°26.5 | 3°25.6 | 3°24.6 | 3°23.7 | 3°22.7 | 3°21.8 | 3°20.8 | 3°19.8 | 3°18.9 | 3°17.9 | 3°17.0 | -1.0 |
| Sa 15 | 271°09.5 | 286°09.8 | 301°10.0 | 316°10.2 | 331°10.4 | 346°10.7 | 1°10.9 | 16°11.1 | 31°11.3 | 46°11.6 | 61°11.8 | 76°12.0 | +0.2 |
| | 3°04.5 | 3°03.5 | 3°02.6 | 3°01.6 | 3°00.6 | 2°59.7 | 2°58.7 | 2°57.8 | 2°56.8 | 2°55.8 | 2°54.9 | 2°53.9 | -1.0 |
| Di 16 | 271°14.9 | 286°15.1 | 301°15.4 | 316°15.6 | 331°15.8 | 346°16.0 | 1°16.3 | 16°16.5 | 31°16.7 | 46°16.9 | 61°17.2 | 76°17.4 | +0.2 |
| | 2°41.4 | 2°40.4 | 2°39.5 | 2°38.5 | 2°37.5 | 2°36.6 | 2°35.6 | 2°34.7 | 2°33.7 | 2°32.7 | 2°31.8 | 2°30.8 | -1.0 |
| Lu 17 | 271°20.3 | 286°20.5 | 301°20.8 | 316°21.0 | 331°21.2 | 346°21.4 | 1°21.7 | 16°21.9 | 31°22.1 | 46°22.3 | 61°22.6 | 76°22.8 | +0.2 |
| | 2°18.3 | 2°17.3 | 2°16.3 | 2°15.4 | 2°14.4 | 2°13.4 | 2°12.5 | 2°11.5 | 2°10.5 | 2°09.6 | 2°08.6 | 2°07.6 | -1.0 |
| Ma 18 | 271°25.7 | 286°25.9 | 301°26.1 | 316°26.4 | 331°26.6 | 346°26.8 | 1°27.0 | 16°27.3 | 31°27.5 | 46°27.7 | 61°27.9 | 76°28.2 | +0.2 |
| | 1°55.1 | 1°54.1 | 1°53.1 | 1°52.2 | 1°51.2 | 1°50.2 | 1°49.3 | 1°48.3 | 1°47.3 | 1°46.4 | 1°45.4 | 1°44.4 | -1.0 |
| Me 19 | 271°31.1 | 286°31.3 | 301°31.5 | 316°31.8 | 331°32.0 | 346°32.2 | 1°32.4 | 16°32.7 | 31°32.9 | 46°33.1 | 61°33.3 | 76°33.5 | +0.2 |
| | 1°31.9 | 1°30.9 | 1°29.9 | 1°29.0 | 1°28.0 | 1°27.0 | 1°26.0 | 1°25.1 | 1°24.1 | 1°23.1 | 1°22.2 | 1°21.2 | -1.0 |
| Je 20 | 271°36.5 | 286°36.7 | 301°36.9 | 316°37.1 | 331°37.4 | 346°37.6 | 1°37.8 | 16°38.0 | 31°38.2 | 46°38.5 | 61°38.7 | 76°38.9 | +0.2 |
| | 1°08.6 | 1°07.6 | 1°06.7 | 1°05.7 | 1°04.7 | 1°03.8 | 1°02.8 | 1°01.8 | 1°00.8 | 0°59.9 | 0°58.9 | 0°57.9 | -1.0 |
| Ve 21 | 271°41.8 | 286°42.0 | 301°42.3 | 316°42.5 | 331°42.7 | 346°42.9 | 1°43.1 | 16°43.4 | 31°43.6 | 46°43.8 | 61°44.0 | 76°44.3 | +0.2 |
| | 0°45.3 | 0°44.3 | 0°43.4 | 0°42.4 | 0°41.4 | 0°40.5 | 0°39.5 | 0°38.5 | 0°37.5 | 0°36.6 | 0°35.6 | 0°34.6 | -1.0 |
| Sa 22 | 271°47.1 | 286°47.4 | 301°47.6 | 316°47.8 | 331°48.0 | 346°48.3 | 1°48.5 | 16°48.7 | 31°48.9 | 46°49.1 | 61°49.4 | 76°49.6 | +0.2 |
| | 0°22.0 | 0°21.0 | 0°20.1 | 0°19.1 | 0°18.1 | 0°17.1 | 0°16.2 | 0°15.2 | 0°14.2 | 0°13.3 | 0°12.3 | 0°11.3 | -1.0 |
| Di 23 | 271°52.4 | 286°52.7 | 301°52.9 | 316°53.1 | 331°53.3 | 346°53.5 | 1°53.8 | 16°54.0 | 31°54.2 | 46°54.4 | 61°54.6 | 76°54.9 | +0.2 |
| | -0°01.3 | -0°02.3 | -0°03.3 | -0°04.2 | -0°05.2 | -0°06.2 | -0°07.2 | -0°08.1 | -0°09.1 | -0°10.1 | -0°11.1 | -0°12.0 | -1.0 |
| Lu 24 | 271°57.7 | 286°57.9 | 301°58.2 | 316°58.4 | 331°58.6 | 346°58.8 | 1°59.0 | 16°59.2 | 31°59.5 | 46°59.7 | 61°59.9 | 77°00.1 | +0.2 |
| | -0°24.7 | -0°25.6 | -0°26.6 | -0°27.6 | -0°28.6 | -0°29.5 | -0°30.5 | -0°31.5 | -0°32.5 | -0°33.4 | -0°34.4 | -0°35.4 | -1.0 |
| Ma 25 | 272°02.9 | 287°03.2 | 302°03.4 | 317°03.6 | 332°03.8 | 347°04.0 | 2°04.2 | 17°04.5 | 32°04.7 | 47°04.9 | 62°05.1 | 77°05.3 | +0.2 |
| | -0°48.0 | -0°49.0 | -0°50.0 | -0°50.9 | -0°51.9 | -0°52.9 | -0°53.9 | -0°54.8 | -0°55.8 | -0°56.8 | -0°57.8 | -0°58.7 | -1.0 |
| Me 26 | 272°08.1 | 287°08.3 | 302°08.6 | 317°08.8 | 332°09.0 | 347°09.2 | 2°09.4 | 17°09.6 | 32°09.8 | 47°10.1 | 62°10.3 | 77°10.5 | +0.2 |
| | -1°11.4 | -1°12.4 | -1°13.3 | -1°14.3 | -1°15.3 | -1°16.3 | -1°17.2 | -1°18.2 | -1°19.2 | -1°20.1 | -1°21.1 | -1°22.1 | -1.0 |
| Je 27 | 272°13.3 | 287°13.5 | 302°13.7 | 317°13.9 | 332°14.1 | 347°14.3 | 2°14.5 | 17°14.7 | 32°15.0 | 47°15.2 | 62°15.4 | 77°15.6 | +0.2 |
| | -1°34.7 | -1°35.7 | -1°36.7 | -1°37.7 | -1°38.6 | -1°39.6 | -1°40.6 | -1°41.6 | -1°42.5 | -1°43.5 | -1°44.5 | -1°45.4 | -1.0 |
| Ve 28 | 272°18.3 | 287°18.5 | 302°18.7 | 317°19.0 | 332°19.2 | 347°19.4 | 2°19.6 | 17°19.8 | 32°20.0 | 47°20.2 | 62°20.4 | 77°20.6 | +0.2 |
| | -1°58.1 | -1°59.1 | -2°00.0 | -2°01.0 | -2°02.0 | -2°03.0 | -2°03.9 | -2°04.9 | -2°05.9 | -2°06.8 | -2°07.8 | -2°08.8 | -1.0 |
| Sa 29 | 272°23.3 | 287°23.6 | 302°23.8 | 317°24.0 | 332°24.2 | 347°24.4 | 2°24.6 | 17°24.8 | 32°25.0 | 47°25.2 | 62°25.4 | 77°25.6 | +0.2 |
| | -2°21.4 | -2°22.4 | -2°23.4 | -2°24.3 | -2°25.3 | -2°26.3 | -2°27.2 | -2°28.2 | -2°29.2 | -2°30.2 | -2°31.1 | -2°32.1 | -1.0 |
| Di 30 | 272°28.3 | 287°28.5 | 302°28.7 | 317°28.9 | 332°29.1 | 347°29.3 | 2°29.5 | 17°29.7 | 32°29.9 | 47°30.1 | 62°30.3 | 77°30.5 | +0.2 |
| | -2°44.7 | -2°45.7 | -2°46.7 | -2°47.6 | -2°48.6 | -2°49.6 | -2°50.6 | -2°51.5 | -2°52.5 | -2°53.5 | -2°54.4 | -2°55.4 | -1.0 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 15.9'

# LUNE

## Septembre 2035

| J | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 251°47.9 | 266°14.8 | 280°41.7 | 295°08.7 | 309°35.8 | 324°02.9 | 338°30.1 | 352°57.3 | 7°24.6 | 21°52.0 | 36°19.4 | +27.2 | 16.2 |
| | 11°55.3 | 11°46.2 | 11°37.0 | 11°27.8 | 11°18.5 | 11°09.2 | 10°59.7 | 10°50.3 | 10°40.7 | 10°31.1 | 10°21.5 | -9.4 | 59.4 |
| ● Di 2 | 253°17.8 | 267°46.2 | 282°14.6 | 296°43.1 | 311°11.6 | 325°40.2 | 340°08.8 | 354°37.5 | 9°06.2 | 23°35.1 | 38°03.9 | +28.6 | 16.0 |
| | 7°50.5 | 7°40.1 | 7°29.6 | 7°19.2 | 7°08.6 | 6°58.1 | 6°47.5 | 6°36.9 | 6°26.3 | 6°15.6 | 6°04.9 | -10.6 | 58.8 |
| Lu 3 | 255°23.0 | 269°52.7 | 284°22.4 | 298°52.2 | 313°22.0 | 327°51.8 | 342°21.7 | 356°51.7 | 11°21.7 | 25°51.7 | 40°21.8 | +29.9 | 15.9 |
| | 3°22.4 | 3°11.5 | 3°00.5 | 2°49.6 | 2°38.6 | 2°27.7 | 2°16.7 | 2°05.8 | 1°54.8 | 1°43.9 | 1°32.9 | -11.0 | 58.1 |
| Ma 4 | 257°57.6 | 272°28.3 | 286°59.0 | 301°29.8 | 316°00.6 | 330°31.4 | 345°02.2 | 359°33.1 | 14°04.0 | 28°34.9 | 43°05.9 | +30.8 | 15.6 |
| | -1°10.2 | -1°21.0 | -1°31.7 | -1°42.4 | -1°53.1 | -2°03.8 | -2°14.4 | -2°25.1 | -2°35.7 | -2°46.3 | -2°56.8 | -10.7 | 57.3 |
| Me 5 | 260°53.5 | 275°24.8 | 289°56.2 | 304°27.6 | 318°59.0 | 333°30.4 | 348°01.9 | 2°33.3 | 17°04.8 | 31°36.3 | 46°07.8 | +31.4 | 15.4 |
| | -5°31.3 | -5°41.3 | -5°51.3 | -6°01.2 | -6°11.1 | -6°21.0 | -6°30.8 | -6°40.5 | -6°50.2 | -6°59.9 | -7°09.6 | -9.8 | 56.5 |
| Je 6 | 264°02.1 | 278°33.8 | 293°05.5 | 307°37.2 | 322°08.9 | 336°40.6 | 351°12.4 | 5°44.1 | 20°15.9 | 34°47.6 | 49°19.4 | +31.7 | 15.2 |
| | -9°28.2 | -9°37.0 | -9°45.8 | -9°54.5 | -10°03.1 | -10°11.7 | -10°20.3 | -10°28.8 | -10°37.2 | -10°45.6 | -10°53.9 | -8.6 | 55.8 |
| Ve 7 | 267°15.9 | 281°47.7 | 296°19.5 | 310°51.3 | 325°23.0 | 339°54.8 | 354°26.6 | 8°58.3 | 23°30.1 | 38°01.9 | 52°33.6 | +31.8 | 15.0 |
| | -12°51.1 | -12°58.4 | -13°05.7 | -13°12.8 | -13°19.9 | -13°27.0 | -13°33.9 | -13°40.8 | -13°47.6 | -13°54.4 | -14°01.1 | -7.0 | 55.1 |
| Sa 8 | 270°29.4 | 285°01.0 | 299°32.7 | 314°04.4 | 328°36.0 | 343°07.7 | 357°39.3 | 12°10.9 | 26°42.6 | 41°14.2 | 55°45.8 | +31.6 | 14.9 |
| | -15°32.8 | -15°38.3 | -15°43.8 | -15°49.2 | -15°54.5 | -15°59.7 | -16°04.8 | -16°09.9 | -16°14.9 | -16°19.8 | -16°24.6 | -5.2 | 54.6 |
| ◐ Di 9 | 273°38.9 | 288°10.4 | 302°41.9 | 317°13.3 | 331°44.8 | 346°16.2 | 0°47.7 | 15°19.1 | 29°50.5 | 44°21.9 | 58°53.3 | +31.4 | 14.8 |
| | -17°27.7 | -17°31.3 | -17°34.8 | -17°38.2 | -17°41.5 | -17°44.7 | -17°47.9 | -17°50.9 | -17°53.9 | -17°56.8 | -17°59.7 | -3.2 | 54.3 |
| Lu 10 | 276°43.5 | 291°14.8 | 305°46.1 | 320°17.3 | 334°48.6 | 349°19.9 | 3°51.1 | 18°22.4 | 32°53.6 | 47°24.9 | 61°56.1 | +31.3 | 14.8 |
| | -18°31.9 | -18°33.4 | -18°34.8 | -18°36.1 | -18°37.3 | -18°38.4 | -18°39.5 | -18°40.4 | -18°41.3 | -18°42.1 | -18°42.8 | -1.1 | 54.2 |
| Ma 11 | 279°44.1 | 294°15.2 | 308°46.4 | 323°17.6 | 337°48.7 | 352°19.9 | 6°51.0 | 21°22.2 | 35°53.3 | 50°24.5 | 64°55.6 | +31.2 | 14.8 |
| | -18°42.9 | -18°42.2 | -18°41.5 | -18°40.6 | -18°39.7 | -18°38.6 | -18°37.5 | -18°36.3 | -18°35.0 | -18°33.6 | -18°32.2 | +1.1 | 54.2 |
| Me 12 | 282°42.9 | 297°14.1 | 311°45.2 | 326°16.4 | 340°47.6 | 355°18.7 | 9°49.9 | 24°21.1 | 38°52.3 | 53°23.4 | 67°54.6 | +31.2 | 14.8 |
| | -17°59.9 | -17°57.0 | -17°54.1 | -17°51.1 | -17°48.0 | -17°44.8 | -17°41.6 | -17°38.2 | -17°34.8 | -17°31.3 | -17°27.7 | +3.2 | 54.4 |
| Je 13 | 285°42.8 | 300°14.0 | 314°45.3 | 329°16.5 | 343°47.8 | 358°19.0 | 12°50.3 | 27°21.6 | 41°52.9 | 56°24.1 | 70°55.4 | +31.3 | 14.9 |
| | -16°23.8 | -16°18.8 | -16°13.9 | -16°08.8 | -16°03.6 | -15°58.4 | -15°53.1 | -15°47.7 | -15°42.2 | -15°36.7 | -15°31.1 | +5.3 | 54.8 |
| Ve 14 | 288°45.4 | 303°16.8 | 317°48.2 | 332°19.5 | 346°50.9 | 1°22.3 | 15°53.7 | 30°25.1 | 44°56.5 | 59°27.9 | 73°59.3 | +31.4 | 15.1 |
| | -13°57.7 | -13°50.9 | -13°44.0 | -13°37.1 | -13°30.0 | -13°22.9 | -13°15.8 | -13°08.6 | -13°01.3 | -12°53.9 | -12°46.4 | +7.1 | 55.3 |
| Sa 15 | 291°50.9 | 306°22.4 | 320°53.9 | 335°25.3 | 349°56.8 | 4°28.2 | 18°59.7 | 33°31.2 | 48°02.6 | 62°34.1 | 77°05.6 | +31.5 | 15.2 |
| | -10°47.2 | -10°38.7 | -10°30.2 | -10°21.7 | -10°13.0 | -10°04.4 | -9°55.6 | -9°46.8 | -9°38.0 | -9°29.1 | -9°20.2 | +8.7 | 55.9 |
| Di 16 | 294°57.2 | 309°28.6 | 324°00.0 | 338°31.4 | 353°02.8 | 7°34.2 | 22°05.5 | 36°36.9 | 51°08.3 | 65°39.6 | 80°11.0 | +31.4 | 15.4 |
| | -6°59.9 | -6°50.2 | -6°40.5 | -6°30.7 | -6°20.8 | -6°10.9 | -6°01.0 | -5°51.1 | -5°41.1 | -5°31.1 | -5°21.0 | +9.9 | 56.5 |
| ○ Lu 17 | 297°59.7 | 312°30.8 | 327°01.9 | 341°33.0 | 356°04.1 | 10°35.2 | 25°06.2 | 39°37.2 | 54°08.3 | 68°39.2 | 83°10.2 | +31.1 | 15.6 |
| | -2°46.3 | -2°35.8 | -2°25.2 | -2°14.6 | -2°04.1 | -1°53.5 | -1°42.8 | -1°32.2 | -1°21.5 | -1°10.9 | -1°00.2 | +10.6 | 57.0 |
| Ma 18 | 300°52.0 | 315°22.6 | 329°53.1 | 344°23.6 | 358°54.1 | 13°24.6 | 27°55.0 | 42°25.4 | 56°55.8 | 71°26.1 | 85°56.4 | +30.4 | 15.7 |
| | 1°41.2 | 1°52.0 | 2°02.8 | 2°13.6 | 2°24.4 | 2°35.1 | 2°45.9 | 2°56.7 | 3°07.4 | 3°18.2 | 3°28.9 | +10.8 | 57.6 |
| Me 19 | 303°26.7 | 317°56.5 | 332°26.1 | 346°55.8 | 1°25.4 | 15°54.9 | 30°24.4 | 44°53.9 | 59°23.3 | 73°52.7 | 88°22.0 | +29.5 | 15.8 |
| | 6°08.0 | 6°18.4 | 6°28.8 | 6°39.2 | 6°49.5 | 6°59.8 | 7°10.1 | 7°20.4 | 7°30.6 | 7°40.8 | 7°50.9 | +10.3 | 58.1 |
| Je 20 | 305°36.7 | 320°05.3 | 334°33.8 | 349°02.3 | 3°30.8 | 17°59.2 | 32°27.5 | 46°55.9 | 61°24.1 | 75°52.3 | 90°20.5 | +28.4 | 15.9 |
| | 10°17.8 | 10°27.2 | 10°36.5 | 10°45.8 | 10°55.1 | 11°04.2 | 11°13.3 | 11°22.4 | 11°31.4 | 11°40.3 | 11°49.2 | +9.1 | 58.5 |
| Ve 21 | 320°05.3 | 334°33.8 | 349°02.3 | 3°30.8 | 17°59.2 | 32°27.5 | 46°55.9 | 61°24.1 | 75°52.3 | 90°20.5 | 104°48.6 | +28.3 | 16.0 |
| | 10°27.2 | 10°36.5 | 10°45.8 | 10°55.1 | 11°04.2 | 11°13.3 | 11°22.4 | 11°31.4 | 11°40.3 | 11°49.2 | 11°58.0 | +9.1 | 58.5 |
| Sa 22 | 321°44.0 | 336°11.3 | 350°38.6 | 5°05.8 | 19°32.9 | 34°00.0 | 48°27.1 | 62°54.1 | 77°21.0 | 91°47.9 | 106°14.8 | +27.1 | 16.0 |
| | 14°01.4 | 14°09.0 | 14°16.5 | 14°23.9 | 14°31.3 | 14°38.6 | 14°45.8 | 14°52.9 | 14°59.9 | 15°06.8 | 15°13.6 | +7.2 | 58.8 |
| Di 23 | 322°51.9 | 337°18.0 | 351°44.1 | 6°10.2 | 20°36.2 | 35°02.1 | 49°28.1 | 63°54.0 | 78°19.8 | 92°45.6 | 107°11.4 | +25.9 | 16.1 |
| | 16°44.5 | 16°49.8 | 16°54.9 | 17°00.0 | 17°04.9 | 17°09.8 | 17°14.5 | 17°19.1 | 17°23.6 | 17°28.0 | 17°32.3 | +4.8 | 59.0 |
| ◑ Lu 24 | 323°34.2 | 337°59.5 | 352°24.8 | 6°50.0 | 21°15.3 | 35°40.5 | 50°05.7 | 64°30.9 | 78°56.0 | 93°21.2 | 107°46.3 | +25.2 | 16.1 |
| | 18°22.7 | 18°25.2 | 18°27.5 | 18°29.6 | 18°31.7 | 18°33.6 | 18°35.5 | 18°37.2 | 18°38.7 | 18°40.2 | 18°41.5 | +1.9 | 59.2 |
| Ma 25 | 324°02.3 | 338°27.3 | 352°52.3 | 7°17.4 | 21°42.4 | 36°07.5 | 50°32.6 | 64°57.6 | 79°22.7 | 93°47.8 | 108°12.9 | +25.1 | 16.2 |
| | 18°46.6 | 18°46.0 | 18°45.2 | 18°44.3 | 18°43.3 | 18°42.1 | 18°40.9 | 18°39.5 | 18°38.0 | 18°36.3 | 18°34.6 | -1.2 | 59.2 |
| Me 26 | 324°31.5 | 338°56.9 | 353°22.4 | 7°47.8 | 22°13.3 | 36°38.9 | 51°04.4 | 65°30.0 | 79°55.6 | 94°21.3 | 108°47.0 | +25.5 | 16.1 |
| | 17°53.5 | 17°49.9 | 17°46.1 | 17°42.1 | 17°38.1 | 17°34.0 | 17°29.7 | 17°25.3 | 17°20.8 | 17°16.2 | 17°11.5 | -4.2 | 59.2 |
| Je 27 | 325°16.8 | 339°43.1 | 354°09.5 | 8°35.9 | 23°02.4 | 37°28.8 | 51°55.4 | 66°22.0 | 80°48.6 | 95°15.3 | 109°42.0 | +26.5 | 16.1 |
| | 15°48.0 | 15°41.6 | 15°35.1 | 15°28.5 | 15°21.9 | 15°15.1 | 15°08.2 | 15°01.2 | 14°54.2 | 14°47.0 | 14°39.8 | -6.8 | 59.1 |
| Ve 28 | 326°28.7 | 340°56.2 | 355°23.8 | 9°51.4 | 24°19.1 | 38°46.8 | 53°14.5 | 67°42.3 | 82°10.2 | 96°38.1 | 111°06.1 | +27.7 | 16.0 |
| | 12°41.1 | 12°32.5 | 12°23.9 | 12°15.2 | 12°06.4 | 11°57.6 | 11°48.7 | 11°39.7 | 11°30.7 | 11°21.6 | 11°12.5 | -8.9 | 58.8 |
| Sa 29 | 328°11.4 | 342°40.1 | 357°08.9 | 11°37.8 | 26°06.6 | 40°35.6 | 55°04.5 | 69°33.6 | 84°02.6 | 98°31.7 | 113°00.9 | +29.0 | 15.9 |
| | 8°48.2 | 8°38.2 | 8°28.1 | 8°18.0 | 8°07.8 | 7°57.6 | 7°47.4 | 7°37.1 | 7°26.8 | 7°16.5 | 7°06.1 | -10.2 | 58.4 |
| Di 30 | 330°23.3 | 344°53.1 | 359°23.0 | 13°52.8 | 28°22.8 | 42°52.7 | 57°22.7 | 71°52.8 | 86°22.8 | 100°53.0 | 115°23.1 | +30.0 | 15.8 |
| | 4°27.0 | 4°16.2 | 4°05.4 | 3°54.6 | 3°43.8 | 3°32.9 | 3°22.1 | 3°11.2 | 3°00.3 | 2°49.5 | 2°38.6 | -10.8 | 58.0 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 2 01h59 — PQ: 9 14h47 — PL: 17 14h23 — DQ: 24 14h39

# SOLEIL

## Octobre 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lu 1** | 272°33.2<br>-3°08.0 | 287°33.4<br>-3°09.0 | 302°33.6<br>-3°10.0 | 317°33.8<br>-3°10.9 | 332°34.0<br>-3°11.9 | 347°34.2<br>-3°12.9 | 2°34.4<br>-3°13.8 | 17°34.6<br>-3°14.8 | 32°34.8<br>-3°15.8 | 47°35.0<br>-3°16.7 | 62°35.2<br>-3°17.7 | 77°35.4<br>-3°18.7 | +0.2<br>-1.0 |
| **Ma 2** | 272°38.0<br>-3°31.3 | 287°38.2<br>-3°32.2 | 302°38.4<br>-3°33.2 | 317°38.6<br>-3°34.2 | 332°38.8<br>-3°35.1 | 347°39.0<br>-3°36.1 | 2°39.2<br>-3°37.1 | 17°39.4<br>-3°38.0 | 32°39.6<br>-3°39.0 | 47°39.8<br>-3°40.0 | 62°40.0<br>-3°40.9 | 77°40.2<br>-3°41.9 | +0.2<br>-1.0 |
| **Me 3** | 272°42.7<br>-3°54.5 | 287°42.9<br>-3°55.4 | 302°43.1<br>-3°56.4 | 317°43.3<br>-3°57.4 | 332°43.5<br>-3°58.3 | 347°43.7<br>-3°59.3 | 2°43.9<br>-4°00.3 | 17°44.1<br>-4°01.2 | 32°44.3<br>-4°02.2 | 47°44.5<br>-4°03.2 | 62°44.7<br>-4°04.1 | 77°44.9<br>-4°05.1 | +0.2<br>-1.0 |
| **Je 4** | 272°47.4<br>-4°17.6 | 287°47.6<br>-4°18.6 | 302°47.8<br>-4°19.6 | 317°48.0<br>-4°20.5 | 332°48.2<br>-4°21.5 | 347°48.4<br>-4°22.5 | 2°48.5<br>-4°23.4 | 17°48.7<br>-4°24.4 | 32°48.9<br>-4°25.3 | 47°49.1<br>-4°26.3 | 62°49.3<br>-4°27.3 | 77°49.5<br>-4°28.2 | +0.2<br>-1.0 |
| **Ve 5** | 272°52.0<br>-4°40.8 | 287°52.2<br>-4°41.7 | 302°52.4<br>-4°42.7 | 317°52.5<br>-4°43.6 | 332°52.7<br>-4°44.6 | 347°52.9<br>-4°45.6 | 2°53.1<br>-4°46.5 | 17°53.3<br>-4°47.5 | 32°53.5<br>-4°48.4 | 47°53.7<br>-4°49.4 | 62°53.9<br>-4°50.4 | 77°54.0<br>-4°51.3 | +0.2<br>-1.0 |
| **Sa 6** | 272°56.5<br>-5°03.8 | 287°56.6<br>-5°04.8 | 302°56.8<br>-5°05.7 | 317°57.0<br>-5°06.7 | 332°57.2<br>-5°07.6 | 347°57.4<br>-5°08.6 | 2°57.6<br>-5°09.6 | 17°57.8<br>-5°10.5 | 32°57.9<br>-5°11.5 | 47°58.1<br>-5°12.4 | 62°58.3<br>-5°13.4 | 77°58.5<br>-5°14.4 | +0.2<br>-1.0 |
| **Di 7** | 273°00.9<br>-5°26.8 | 288°01.0<br>-5°27.8 | 303°01.2<br>-5°28.7 | 318°01.4<br>-5°29.7 | 333°01.6<br>-5°30.6 | 348°01.8<br>-5°31.6 | 3°01.9<br>-5°32.5 | 18°02.1<br>-5°33.5 | 33°02.3<br>-5°34.4 | 48°02.5<br>-5°35.4 | 63°02.7<br>-5°36.4 | 78°02.8<br>-5°37.3 | +0.2<br>-1.0 |
| **Lu 8** | 273°05.2<br>-5°49.7 | 288°05.3<br>-5°50.7 | 303°05.5<br>-5°51.6 | 318°05.7<br>-5°52.6 | 333°05.9<br>-5°53.5 | 348°06.0<br>-5°54.5 | 3°06.2<br>-5°55.4 | 18°06.4<br>-5°56.4 | 33°06.6<br>-5°57.3 | 48°06.7<br>-5°58.3 | 63°06.9<br>-5°59.2 | 78°07.1<br>-6°00.2 | +0.2<br>-1.0 |
| **Ma 9** | 273°09.3<br>-6°12.6 | 288°09.5<br>-6°13.5 | 303°09.7<br>-6°14.5 | 318°09.9<br>-6°15.4 | 333°10.0<br>-6°16.4 | 348°10.2<br>-6°17.3 | 3°10.4<br>-6°18.3 | 18°10.5<br>-6°19.2 | 33°10.7<br>-6°20.2 | 48°10.9<br>-6°21.1 | 63°11.1<br>-6°22.1 | 78°11.2<br>-6°23.0 | +0.2<br>-0.9 |
| **Me 10** | 273°13.4<br>-6°35.3 | 288°13.6<br>-6°36.3 | 303°13.8<br>-6°37.2 | 318°13.9<br>-6°38.2 | 333°14.1<br>-6°39.1 | 348°14.3<br>-6°40.1 | 3°14.4<br>-6°41.0 | 18°14.6<br>-6°41.9 | 33°14.8<br>-6°42.9 | 48°14.9<br>-6°43.8 | 63°15.1<br>-6°44.8 | 78°15.3<br>-6°45.7 | +0.2<br>-0.9 |
| **Je 11** | 273°17.4<br>-6°58.0 | 288°17.6<br>-6°58.9 | 303°17.7<br>-6°59.9 | 318°17.9<br>-7°00.8 | 333°18.1<br>-7°01.8 | 348°18.2<br>-7°02.7 | 3°18.4<br>-7°03.7 | 18°18.5<br>-7°04.6 | 33°18.7<br>-7°05.5 | 48°18.9<br>-7°06.5 | 63°19.0<br>-7°07.4 | 78°19.2<br>-7°08.4 | +0.2<br>-0.9 |
| **Ve 12** | 273°21.3<br>-7°20.6 | 288°21.4<br>-7°21.5 | 303°21.6<br>-7°22.5 | 318°21.7<br>-7°23.4 | 333°21.9<br>-7°24.3 | 348°22.1<br>-7°25.3 | 3°22.2<br>-7°26.2 | 18°22.4<br>-7°27.1 | 33°22.5<br>-7°28.1 | 48°22.7<br>-7°29.0 | 63°22.8<br>-7°30.0 | 78°23.0<br>-7°30.9 | +0.2<br>-0.9 |
| **Sa 13** | 273°25.0<br>-7°43.1 | 288°25.2<br>-7°44.0 | 303°25.3<br>-7°44.9 | 318°25.5<br>-7°45.9 | 333°25.6<br>-7°46.8 | 348°25.8<br>-7°47.7 | 3°25.9<br>-7°48.7 | 18°26.1<br>-7°49.6 | 33°26.2<br>-7°50.5 | 48°26.4<br>-7°51.5 | 63°26.5<br>-7°52.4 | 78°26.7<br>-7°53.3 | +0.2<br>-0.9 |
| **Di 14** | 273°28.6<br>-8°05.4 | 288°28.8<br>-8°06.4 | 303°28.9<br>-8°07.3 | 318°29.1<br>-8°08.2 | 333°29.2<br>-8°09.1 | 348°29.4<br>-8°10.1 | 3°29.5<br>-8°11.0 | 18°29.6<br>-8°11.9 | 33°29.8<br>-8°12.9 | 48°29.9<br>-8°13.8 | 63°30.1<br>-8°14.7 | 78°30.2<br>-8°15.6 | +0.1<br>-0.9 |
| **Lu 15** | 273°32.1<br>-8°27.7 | 288°32.2<br>-8°28.6 | 303°32.4<br>-8°29.5 | 318°32.5<br>-8°30.4 | 333°32.7<br>-8°31.4 | 348°32.8<br>-8°32.3 | 3°32.9<br>-8°33.2 | 18°33.1<br>-8°34.1 | 33°33.2<br>-8°35.1 | 48°33.4<br>-8°36.0 | 63°33.5<br>-8°36.9 | 78°33.7<br>-8°37.8 | +0.1<br>-0.9 |
| **Ma 16** | 273°35.4<br>-8°49.8 | 288°35.6<br>-8°50.7 | 303°35.7<br>-8°51.6 | 318°35.9<br>-8°52.6 | 333°36.0<br>-8°53.5 | 348°36.1<br>-8°54.4 | 3°36.3<br>-8°55.3 | 18°36.4<br>-8°56.2 | 33°36.5<br>-8°57.2 | 48°36.7<br>-8°58.1 | 63°36.8<br>-8°59.0 | 78°36.9<br>-8°59.9 | +0.1<br>-0.9 |
| **Me 17** | 273°38.6<br>-9°11.8 | 288°38.8<br>-9°12.7 | 303°38.9<br>-9°13.6 | 318°39.0<br>-9°14.6 | 333°39.2<br>-9°15.5 | 348°39.3<br>-9°16.4 | 3°39.4<br>-9°17.3 | 18°39.6<br>-9°18.2 | 33°39.7<br>-9°19.1 | 48°39.8<br>-9°20.0 | 63°39.9<br>-9°21.0 | 78°40.1<br>-9°21.9 | +0.1<br>-0.9 |
| **Je 18** | 273°41.7<br>-9°33.7 | 288°41.8<br>-9°34.6 | 303°41.9<br>-9°35.5 | 318°42.1<br>-9°36.4 | 333°42.2<br>-9°37.3 | 348°42.3<br>-9°38.2 | 3°42.4<br>-9°39.1 | 18°42.6<br>-9°40.1 | 33°42.7<br>-9°41.0 | 48°42.8<br>-9°41.9 | 63°42.9<br>-9°42.8 | 78°43.0<br>-9°43.7 | +0.1<br>-0.9 |
| **Ve 19** | 273°44.6<br>-9°55.4 | 288°44.7<br>-9°56.3 | 303°44.8<br>-9°57.2 | 318°44.9<br>-9°58.1 | 333°45.1<br>-9°59.0 | 348°45.2<br>-9°59.9 | 3°45.3<br>-10°00.8 | 18°45.4<br>-10°01.7 | 33°45.5<br>-10°02.6 | 48°45.6<br>-10°03.6 | 63°45.8<br>-10°04.5 | 78°45.9<br>-10°05.4 | +0.1<br>-0.9 |
| **Sa 20** | 273°47.3<br>-10°17.0 | 288°47.4<br>-10°17.9 | 303°47.6<br>-10°18.8 | 318°47.7<br>-10°19.7 | 333°47.8<br>-10°20.6 | 348°47.9<br>-10°21.5 | 3°48.0<br>-10°22.4 | 18°48.1<br>-10°23.3 | 33°48.2<br>-10°24.2 | 48°48.3<br>-10°25.1 | 63°48.4<br>-10°26.0 | 78°48.5<br>-10°26.9 | +0.1<br>-0.9 |
| **Di 21** | 273°49.9<br>-10°38.5 | 288°50.0<br>-10°39.4 | 303°50.1<br>-10°40.3 | 318°50.2<br>-10°41.1 | 333°50.3<br>-10°42.0 | 348°50.4<br>-10°42.9 | 3°50.5<br>-10°43.8 | 18°50.6<br>-10°44.7 | 33°50.7<br>-10°45.6 | 48°50.8<br>-10°46.5 | 63°50.9<br>-10°47.4 | 78°51.0<br>-10°48.3 | +0.1<br>-0.9 |
| **Lu 22** | 273°52.3<br>-10°59.8 | 288°52.4<br>-11°00.6 | 303°52.5<br>-11°01.5 | 318°52.6<br>-11°02.4 | 333°52.7<br>-11°03.3 | 348°52.8<br>-11°04.2 | 3°52.9<br>-11°05.1 | 18°53.0<br>-11°05.9 | 33°53.1<br>-11°06.8 | 48°53.2<br>-11°07.7 | 63°53.3<br>-11°08.6 | 78°53.4<br>-11°09.5 | +0.1<br>-0.9 |
| **Ma 23** | 273°54.6<br>-11°20.9 | 288°54.6<br>-11°21.8 | 303°54.7<br>-11°22.6 | 318°54.8<br>-11°23.5 | 333°54.9<br>-11°24.4 | 348°55.0<br>-11°25.3 | 3°55.1<br>-11°26.1 | 18°55.2<br>-11°27.0 | 33°55.3<br>-11°27.9 | 48°55.4<br>-11°28.8 | 63°55.4<br>-11°29.6 | 78°55.5<br>-11°30.5 | +0.1<br>-0.9 |
| **Me 24** | 273°56.6<br>-11°41.9 | 288°56.7<br>-11°42.7 | 303°56.8<br>-11°43.6 | 318°56.9<br>-11°44.5 | 333°56.9<br>-11°45.3 | 348°57.0<br>-11°46.2 | 3°57.1<br>-11°47.1 | 18°57.2<br>-11°47.9 | 33°57.3<br>-11°48.8 | 48°57.3<br>-11°49.7 | 63°57.4<br>-11°50.5 | 78°57.5<br>-11°51.4 | +0.1<br>-0.9 |
| **Je 25** | 273°58.5<br>-12°02.6 | 288°58.6<br>-12°03.5 | 303°58.6<br>-12°04.4 | 318°58.7<br>-12°05.2 | 333°58.8<br>-12°06.1 | 348°58.9<br>-12°06.9 | 3°58.9<br>-12°07.8 | 18°59.0<br>-12°08.7 | 33°59.1<br>-12°09.5 | 48°59.2<br>-12°10.4 | 63°59.2<br>-12°11.2 | 78°59.3<br>-12°12.1 | +0.1<br>-0.9 |
| **Ve 26** | 274°00.2<br>-12°23.2 | 289°00.3<br>-12°24.1 | 304°00.3<br>-12°24.9 | 319°00.4<br>-12°25.8 | 334°00.5<br>-12°26.6 | 349°00.5<br>-12°27.5 | 4°00.6<br>-12°28.4 | 19°00.7<br>-12°29.2 | 34°00.7<br>-12°30.1 | 49°00.8<br>-12°30.9 | 64°00.8<br>-12°31.8 | 79°00.9<br>-12°32.6 | +0.1<br>-0.9 |
| **Sa 27** | 274°01.7<br>-12°43.6 | 289°01.8<br>-12°44.5 | 304°01.8<br>-12°45.3 | 319°01.9<br>-12°46.2 | 334°01.9<br>-12°47.0 | 349°02.0<br>-12°47.9 | 4°02.0<br>-12°48.7 | 19°02.1<br>-12°49.6 | 34°02.2<br>-12°50.4 | 49°02.2<br>-12°51.2 | 64°02.3<br>-12°52.1 | 79°02.3<br>-12°52.9 | +0.1<br>-0.8 |
| **Di 28** | 274°03.0<br>-13°03.9 | 289°03.1<br>-13°04.7 | 304°03.1<br>-13°05.5 | 319°03.2<br>-13°06.4 | 334°03.2<br>-13°07.2 | 349°03.3<br>-13°08.0 | 4°03.3<br>-13°08.9 | 19°03.4<br>-13°09.7 | 34°03.4<br>-13°10.5 | 49°03.5<br>-13°11.4 | 64°03.5<br>-13°12.2 | 79°03.6<br>-13°13.1 | +0.0<br>-0.8 |
| **Lu 29** | 274°04.1<br>-13°23.9 | 289°04.2<br>-13°24.7 | 304°04.2<br>-13°25.5 | 319°04.3<br>-13°26.4 | 334°04.3<br>-13°27.2 | 349°04.4<br>-13°28.0 | 4°04.4<br>-13°28.8 | 19°04.4<br>-13°29.7 | 34°04.5<br>-13°30.5 | 49°04.5<br>-13°31.3 | 64°04.6<br>-13°32.1 | 79°04.6<br>-13°33.0 | +0.0<br>-0.8 |
| **Ma 30** | 274°05.1<br>-13°43.7 | 289°05.1<br>-13°44.5 | 304°05.2<br>-13°45.3 | 319°05.2<br>-13°46.1 | 334°05.2<br>-13°46.9 | 349°05.3<br>-13°47.8 | 4°05.3<br>-13°48.6 | 19°05.3<br>-13°49.4 | 34°05.4<br>-13°50.2 | 49°05.4<br>-13°51.0 | 64°05.4<br>-13°51.9 | 79°05.4<br>-13°52.7 | +0.0<br>-0.8 |
| **Me 31** | 274°05.8<br>-14°03.3 | 289°05.8<br>-14°04.1 | 304°05.9<br>-14°04.9 | 319°05.9<br>-14°05.7 | 334°05.9<br>-14°06.5 | 349°06.0<br>-14°07.3 | 4°06.0<br>-14°08.1 | 19°06.0<br>-14°08.9 | 34°06.0<br>-14°09.7 | 49°06.0<br>-14°10.5 | 64°06.1<br>-14°11.3 | 79°06.1<br>-14°12.2 | +0.0<br>-0.8 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.0'

# LUNE

## Octobre 2035

| J | 3h | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ● Lu 1 | 245°55.8 | 260°26.3 | 274°56.8 | 289°27.3 | 303°57.8 | 318°28.4 | 332°59.0 | 347°29.6 | 2°00.3 | 16°30.9 | 31°01.7 | +30.6 | 15.7 |
| | 1°00.4 | 0°49.5 | 0°38.6 | 0°27.7 | 0°16.9 | 0°06.0 | -0°04.9 | -0°15.7 | -0°26.6 | -0°37.4 | -0°48.3 | -10.9 | 57.5 |
| Ma 2 | 248°44.9 | 263°15.9 | 277°47.0 | 292°18.1 | 306°49.2 | 321°20.3 | 335°51.4 | 350°22.5 | 4°53.7 | 19°24.9 | 33°56.1 | +31.1 | 15.5 |
| | -3°28.5 | -3°39.0 | -3°49.5 | -3°59.9 | -4°10.3 | -4°20.7 | -4°31.1 | -4°41.4 | -4°51.7 | -5°02.0 | -5°12.2 | -10.4 | 56.9 |
| Me 3 | 251°45.2 | 266°16.5 | 280°47.9 | 295°19.3 | 309°50.6 | 324°22.0 | 338°53.4 | 353°24.8 | 7°56.2 | 22°27.6 | 36°59.0 | +31.4 | 15.3 |
| | -7°40.8 | -7°50.4 | -7°59.9 | -8°09.4 | -8°18.8 | -8°28.2 | -8°37.5 | -8°46.7 | -8°56.0 | -9°05.1 | -9°14.2 | -9.3 | 56.2 |
| Je 4 | 254°50.3 | 269°21.8 | 283°53.2 | 298°24.7 | 312°56.1 | 327°27.5 | 341°59.0 | 356°30.4 | 11°01.8 | 25°33.2 | 40°04.7 | +31.4 | 15.2 |
| | -11°24.2 | -11°32.4 | -11°40.5 | -11°48.6 | -11°56.6 | -12°04.5 | -12°12.4 | -12°20.2 | -12°28.0 | -12°35.6 | -12°43.2 | -7.9 | 55.6 |
| Ve 5 | 257°55.8 | 272°27.2 | 286°58.5 | 301°29.9 | 316°01.3 | 330°32.6 | 345°04.0 | 359°35.4 | 14°06.7 | 28°38.1 | 43°09.4 | +31.4 | 15.0 |
| | -14°29.1 | -14°35.6 | -14°42.0 | -14°48.3 | -14°54.6 | -15°00.8 | -15°06.9 | -15°12.9 | -15°18.9 | -15°24.7 | -15°30.6 | -6.1 | 55.0 |
| Sa 6 | 260°59.0 | 275°30.3 | 290°01.6 | 304°32.9 | 319°04.1 | 333°35.4 | 348°06.6 | 2°37.9 | 17°09.1 | 31°40.4 | 46°11.6 | +31.3 | 14.9 |
| | -16°48.2 | -16°52.8 | -16°57.2 | -17°01.6 | -17°05.9 | -17°10.1 | -17°14.2 | -17°18.3 | -17°22.3 | -17°26.1 | -17°29.9 | -4.2 | 54.6 |
| Di 7 | 263°59.8 | 278°31.0 | 293°02.2 | 307°33.4 | 322°04.6 | 336°35.8 | 351°07.0 | 5°38.1 | 20°09.3 | 34°40.5 | 49°11.7 | +31.2 | 14.8 |
| | -18°16.8 | -18°19.2 | -18°21.6 | -18°23.9 | -18°26.1 | -18°28.2 | -18°30.2 | -18°32.1 | -18°34.0 | -18°35.7 | -18°37.4 | -2.1 | 54.3 |
| Lu 8 | 266°59.5 | 281°30.7 | 296°01.9 | 310°33.0 | 325°04.2 | 339°35.5 | 354°06.7 | 8°37.9 | 23°09.1 | 37°40.3 | 52°11.5 | +31.2 | 14.8 |
| | -18°52.0 | -18°52.3 | -18°52.5 | -18°52.6 | -18°52.6 | -18°52.5 | -18°52.4 | -18°52.1 | -18°51.8 | -18°51.4 | -18°50.9 | +0.1 | 54.2 |
| ◐ Ma 9 | 270°00.2 | 284°31.5 | 299°02.8 | 313°34.1 | 328°05.4 | 342°36.7 | 357°08.0 | 11°39.3 | 26°10.6 | 40°41.9 | 55°13.3 | +31.3 | 14.8 |
| | -18°33.0 | -18°31.1 | -18°29.1 | -18°27.1 | -18°24.9 | -18°22.7 | -18°20.4 | -18°18.0 | -18°15.5 | -18°12.9 | -18°10.3 | +2.3 | 54.2 |
| Me 10 | 273°04.1 | 287°35.5 | 302°06.9 | 316°38.4 | 331°09.8 | 345°41.3 | 0°12.8 | 14°44.3 | 29°15.7 | 43°47.2 | 58°18.7 | +31.5 | 14.9 |
| | -17°20.5 | -17°16.5 | -17°12.5 | -17°08.3 | -17°04.1 | -16°59.8 | -16°55.4 | -16°51.0 | -16°46.4 | -16°41.8 | -16°37.1 | +4.3 | 54.5 |
| Je 11 | 276°11.9 | 290°43.5 | 305°15.1 | 319°46.7 | 334°18.3 | 348°49.9 | 3°21.5 | 17°53.2 | 32°24.8 | 46°56.4 | 61°28.0 | +31.6 | 15.0 |
| | -15°17.1 | -15°11.2 | -15°05.1 | -14°59.1 | -14°52.9 | -14°46.6 | -14°40.3 | -14°33.9 | -14°27.5 | -14°20.9 | -14°14.3 | +6.3 | 54.9 |
| Ve 12 | 279°22.8 | 293°54.5 | 308°26.1 | 322°57.8 | 337°29.5 | 352°01.1 | 6°32.8 | 21°04.4 | 35°36.1 | 50°07.8 | 64°39.4 | +31.7 | 15.1 |
| | -12°26.8 | -12°19.1 | -12°11.4 | -12°03.5 | -11°55.6 | -11°47.7 | -11°39.6 | -11°31.5 | -11°23.4 | -11°15.2 | -11°06.9 | +8.0 | 55.5 |
| Sa 13 | 282°33.6 | 297°05.2 | 311°36.7 | 326°08.3 | 340°39.8 | 355°11.3 | 9°42.8 | 24°14.3 | 38°45.8 | 53°17.3 | 67°48.8 | +31.5 | 15.3 |
| | -8°55.6 | -8°46.4 | -8°37.2 | -8°27.9 | -8°18.5 | -8°09.1 | -7°59.7 | -7°50.2 | -7°40.6 | -7°31.0 | -7°21.4 | +9.4 | 56.2 |
| Di 14 | 285°38.9 | 300°10.2 | 314°41.3 | 329°12.5 | 343°43.6 | 358°14.8 | 12°45.9 | 27°16.9 | 41°48.0 | 56°19.0 | 70°50.0 | +31.1 | 15.5 |
| | -4°51.5 | -4°41.1 | -4°30.8 | -4°20.4 | -4°10.0 | -3°59.6 | -3°49.1 | -3°38.6 | -3°28.0 | -3°17.5 | -3°06.9 | +10.5 | 57.0 |
| Lu 15 | 288°31.8 | 303°02.4 | 317°32.9 | 332°03.4 | 346°33.8 | 1°04.2 | 15°34.6 | 30°05.0 | 44°35.3 | 59°05.5 | 73°35.8 | +30.4 | 15.7 |
| | -0°25.0 | -0°14.1 | -0°03.1 | 0°07.8 | 0°18.8 | 0°29.8 | 0°40.8 | 0°51.8 | 1°02.8 | 1°13.8 | 1°24.8 | +11.0 | 57.7 |
| Ma 16 | 291°04.4 | 305°33.9 | 320°03.5 | 334°32.9 | 349°02.4 | 3°31.7 | 18°01.1 | 32°30.4 | 46°59.6 | 61°28.8 | 75°57.9 | +29.4 | 15.9 |
| | 4°10.0 | 4°21.0 | 4°31.9 | 4°42.8 | 4°53.7 | 5°04.6 | 5°15.5 | 5°26.4 | 5°37.2 | 5°48.0 | 5°58.8 | +10.9 | 58.4 |
| ○ Me 17 | 293°09.0 | 307°37.3 | 322°05.5 | 336°33.7 | 351°01.9 | 5°30.0 | 19°58.0 | 34°26.0 | 48°54.0 | 63°21.8 | 77°49.7 | +28.1 | 16.1 |
| | 8°37.0 | 8°47.3 | 8°57.5 | 9°07.7 | 9°17.8 | 9°27.8 | 9°37.9 | 9°47.8 | 9°57.7 | 10°07.6 | 10°17.4 | +10.0 | 59.0 |
| Je 18 | 294°40.4 | 309°07.3 | 323°34.2 | 338°01.0 | 352°27.8 | 6°54.5 | 21°21.2 | 35°47.8 | 50°14.3 | 64°40.8 | 79°07.3 | +26.7 | 16.2 |
| | 12°37.2 | 12°46.0 | 12°54.6 | 13°03.3 | 13°11.8 | 13°20.3 | 13°28.6 | 13°36.9 | 13°45.2 | 13°53.3 | 14°01.3 | +8.4 | 59.4 |
| Ve 19 | 295°38.1 | 310°03.8 | 324°29.4 | 338°55.0 | 353°20.5 | 7°46.0 | 22°11.5 | 36°36.9 | 51°02.3 | 65°27.6 | 79°52.9 | +25.5 | 16.2 |
| | 15°51.1 | 15°57.6 | 16°04.0 | 16°10.4 | 16°16.6 | 16°22.7 | 16°28.7 | 16°34.6 | 16°40.4 | 16°46.1 | 16°51.7 | +6.1 | 59.6 |
| Sa 20 | 296°08.4 | 310°33.3 | 324°58.0 | 339°22.8 | 353°47.6 | 8°12.3 | 22°37.0 | 37°01.7 | 51°26.4 | 65°51.1 | 80°15.7 | +24.7 | 16.3 |
| | 18°01.5 | 18°05.3 | 18°08.8 | 18°12.3 | 18°15.7 | 18°18.9 | 18°22.0 | 18°24.9 | 18°27.8 | 18°30.5 | 18°33.1 | +3.2 | 59.6 |
| Di 21 | 310°33.3 | 324°58.0 | 339°22.8 | 353°47.6 | 8°12.3 | 22°37.0 | 37°01.7 | 51°26.4 | 65°51.1 | 80°15.7 | 94°40.4 | +24.7 | 16.3 |
| | 18°05.3 | 18°08.8 | 18°12.3 | 18°15.7 | 18°18.9 | 18°22.0 | 18°24.9 | 18°27.8 | 18°30.5 | 18°33.1 | 18°35.6 | +3.0 | 59.6 |
| Lu 22 | 310°49.4 | 325°14.0 | 339°38.6 | 354°03.3 | 8°27.9 | 22°52.6 | 37°17.2 | 51°41.9 | 66°06.6 | 80°31.3 | 94°56.0 | +24.7 | 16.2 |
| | 18°57.4 | 18°57.8 | 18°58.1 | 18°58.3 | 18°58.3 | 18°58.2 | 18°58.0 | 18°57.7 | 18°57.2 | 18°56.7 | 18°55.9 | -0.1 | 59.5 |
| ◑ Ma 23 | 311°09.8 | 325°35.0 | 340°00.2 | 354°25.4 | 8°50.6 | 23°15.9 | 37°41.3 | 52°06.7 | 66°32.1 | 80°57.5 | 95°23.0 | +25.3 | 16.2 |
| | 18°30.2 | 18°27.5 | 18°24.6 | 18°21.7 | 18°18.6 | 18°15.5 | 18°12.2 | 18°08.7 | 18°05.2 | 18°01.6 | 17°57.8 | -3.2 | 59.2 |
| Me 24 | 311°51.0 | 326°17.3 | 340°43.6 | 355°10.0 | 9°36.4 | 24°02.8 | 38°29.4 | 52°55.9 | 67°22.6 | 81°49.3 | 96°16.0 | +26.5 | 16.1 |
| | 16°48.0 | 16°42.5 | 16°36.8 | 16°31.1 | 16°25.3 | 16°19.4 | 16°13.4 | 16°07.3 | 16°01.1 | 15°54.8 | 15°48.4 | -6.0 | 58.9 |
| Je 25 | 313°03.9 | 327°31.5 | 341°59.2 | 356°27.0 | 10°54.8 | 25°22.6 | 39°50.6 | 54°18.5 | 68°46.6 | 83°14.7 | 97°42.8 | +27.9 | 16.0 |
| | 14°01.6 | 13°53.9 | 13°46.0 | 13°38.0 | 13°30.0 | 13°21.9 | 13°13.8 | 13°05.5 | 12°57.2 | 12°48.8 | 12°40.4 | -8.1 | 58.5 |
| Ve 26 | 314°51.7 | 329°20.7 | 343°49.8 | 358°18.9 | 12°48.1 | 27°17.3 | 41°46.6 | 56°15.9 | 70°45.2 | 85°14.7 | 99°44.1 | +29.2 | 15.8 |
| | 10°25.9 | 10°16.5 | 10°07.0 | 9°57.4 | 9°47.9 | 9°38.2 | 9°28.5 | 9°18.8 | 9°09.0 | 8°59.2 | 8°49.4 | -9.7 | 58.1 |
| Sa 27 | 317°11.5 | 331°41.7 | 346°11.9 | 0°42.2 | 15°12.4 | 29°42.8 | 44°13.1 | 58°43.5 | 73°14.0 | 87°44.4 | 102°14.9 | +30.3 | 15.7 |
| | 6°16.9 | 6°06.4 | 5°56.0 | 5°45.5 | 5°35.0 | 5°24.5 | 5°14.0 | 5°03.4 | 4°52.8 | 4°42.2 | 4°31.6 | -10.5 | 57.6 |
| Di 28 | 319°56.3 | 334°27.3 | 348°58.3 | 3°29.4 | 18°00.4 | 32°31.5 | 47°02.6 | 61°33.8 | 76°04.9 | 90°36.1 | 105°07.3 | +31.1 | 15.6 |
| | 1°50.7 | 1°39.9 | 1°29.1 | 1°18.3 | 1°07.5 | 0°56.8 | 0°46.0 | 0°35.2 | 0°24.4 | 0°13.6 | 0°02.9 | -10.8 | 57.1 |
| Lu 29 | 322°57.4 | 337°28.9 | 352°00.4 | 6°31.9 | 21°03.4 | 35°34.9 | 50°06.4 | 64°37.9 | 79°09.4 | 93°41.0 | 108°12.5 | +31.5 | 15.4 |
| | -2°37.4 | -2°48.0 | -2°58.5 | -3°09.0 | -3°19.5 | -3°30.0 | -3°40.5 | -3°50.9 | -4°01.3 | -4°11.7 | -4°22.0 | -10.5 | 56.6 |
| Ma 30 | 326°06.4 | 340°38.0 | 355°09.6 | 9°41.3 | 24°12.9 | 38°44.5 | 53°16.1 | 67°47.7 | 82°19.3 | 96°51.0 | 111°22.6 | +31.6 | 15.3 |
| | -6°53.4 | -7°03.2 | -7°13.0 | -7°22.7 | -7°32.4 | -7°42.0 | -7°51.6 | -8°01.2 | -8°10.7 | -8°20.1 | -8°29.5 | -9.6 | 56.1 |
| ● Me 31 | 329°16.3 | 343°47.8 | 358°19.4 | 12°50.9 | 27°22.4 | 41°53.9 | 56°25.5 | 70°57.0 | 85°28.4 | 99°59.9 | 114°31.4 | +31.5 | 15.2 |
| | -10°44.7 | -10°53.3 | -11°01.8 | -11°10.3 | -11°18.7 | -11°27.1 | -11°35.4 | -11°43.6 | -11°51.7 | -11°59.8 | -12°07.9 | -8.3 | 55.6 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
NL: 1 13h06 — PQ: 9 09h49 — PL: 17 02h35 — DQ: 23 20h56 — NL: 31 02h58

# SOLEIL

## Novembre 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Je 1** | 274°06.4 | 289°06.4 | 304°06.4 | 319°06.4 | 334°06.4 | 349°06.5 | 4°06.5 | 19°06.5 | 34°06.5 | 49°06.5 | 64°06.5 | 79°06.5 | +0.0 |
| | -14°22.6 | -14°23.4 | -14°24.2 | -14°25.0 | -14°25.8 | -14°26.6 | -14°27.4 | -14°28.2 | -14°29.0 | -14°29.8 | -14°30.6 | -14°31.4 | -0.8 |
| **Ve 2** | 274°06.7 | 289°06.7 | 304°06.7 | 319°06.7 | 334°06.7 | 349°06.8 | 4°06.8 | 19°06.8 | 34°06.8 | 49°06.8 | 64°06.8 | 79°06.8 | +0.0 |
| | -14°41.7 | -14°42.5 | -14°43.3 | -14°44.1 | -14°44.9 | -14°45.7 | -14°46.5 | -14°47.3 | -14°48.1 | -14°48.9 | -14°49.6 | -14°50.4 | -0.8 |
| **Sa 3** | 274°06.9 | 289°06.9 | 304°06.9 | 319°06.9 | 334°06.9 | 349°06.9 | 4°06.9 | 19°06.9 | 34°06.9 | 49°06.9 | 64°06.9 | 79°06.9 | -0.0 |
| | -15°00.6 | -15°01.4 | -15°02.2 | -15°03.0 | -15°03.8 | -15°04.5 | -15°05.3 | -15°06.1 | -15°06.9 | -15°07.7 | -15°08.4 | -15°09.2 | -0.8 |
| **Di 4** | 274°06.8 | 289°06.8 | 304°06.8 | 319°06.8 | 334°06.8 | 349°06.8 | 4°06.8 | 19°06.7 | 34°06.7 | 49°06.7 | 64°06.7 | 79°06.7 | -0.0 |
| | -15°19.3 | -15°20.1 | -15°20.8 | -15°21.6 | -15°22.4 | -15°23.1 | -15°23.9 | -15°24.7 | -15°25.4 | -15°26.2 | -15°27.0 | -15°27.7 | -0.8 |
| **Lu 5** | 274°06.5 | 289°06.5 | 304°06.5 | 319°06.5 | 334°06.5 | 349°06.5 | 4°06.5 | 19°06.4 | 34°06.4 | 49°06.4 | 64°06.4 | 79°06.4 | -0.0 |
| | -15°37.7 | -15°38.4 | -15°39.2 | -15°40.0 | -15°40.7 | -15°41.5 | -15°42.2 | -15°43.0 | -15°43.8 | -15°44.5 | -15°45.3 | -15°46.0 | -0.8 |
| **Ma 6** | 274°06.1 | 289°06.1 | 304°06.0 | 319°06.0 | 334°06.0 | 349°06.0 | 4°05.9 | 19°05.9 | 34°05.9 | 49°05.9 | 64°05.8 | 79°05.8 | -0.0 |
| | -15°55.8 | -15°56.6 | -15°57.3 | -15°58.1 | -15°58.8 | -15°59.6 | -16°00.3 | -16°01.1 | -16°01.8 | -16°02.6 | -16°03.3 | -16°04.0 | -0.7 |
| **Me 7** | 274°05.4 | 289°05.4 | 304°05.4 | 319°05.3 | 334°05.3 | 349°05.3 | 4°05.2 | 19°05.2 | 34°05.2 | 49°05.1 | 64°05.1 | 79°05.0 | -0.0 |
| | -16°13.7 | -16°14.4 | -16°15.2 | -16°15.9 | -16°16.6 | -16°17.4 | -16°18.1 | -16°18.9 | -16°19.6 | -16°20.3 | -16°21.1 | -16°21.8 | -0.7 |
| **Je 8** | 274°04.6 | 289°04.5 | 304°04.5 | 319°04.4 | 334°04.4 | 349°04.3 | 4°04.3 | 19°04.3 | 34°04.2 | 49°04.2 | 64°04.1 | 79°04.1 | -0.0 |
| | -16°31.3 | -16°32.0 | -16°32.7 | -16°33.5 | -16°34.2 | -16°34.9 | -16°35.6 | -16°36.4 | -16°37.1 | -16°37.8 | -16°38.5 | -16°39.3 | -0.7 |
| **Ve 9** | 274°03.5 | 289°03.4 | 304°03.4 | 319°03.3 | 334°03.3 | 349°03.2 | 4°03.2 | 19°03.1 | 34°03.1 | 49°03.0 | 64°03.0 | 79°02.9 | -0.1 |
| | -16°48.6 | -16°49.3 | -16°50.0 | -16°50.8 | -16°51.5 | -16°52.2 | -16°52.9 | -16°53.6 | -16°54.3 | -16°55.0 | -16°55.7 | -16°56.5 | -0.7 |
| **Sa 10** | 274°02.2 | 289°02.1 | 304°02.1 | 319°02.0 | 334°02.0 | 349°01.9 | 4°01.8 | 19°01.8 | 34°01.7 | 49°01.7 | 64°01.6 | 79°01.5 | -0.1 |
| | -17°05.6 | -17°06.3 | -17°07.1 | -17°07.8 | -17°08.5 | -17°09.2 | -17°09.9 | -17°10.6 | -17°11.3 | -17°12.0 | -17°12.7 | -17°13.4 | -0.7 |
| **Di 11** | 274°00.7 | 289°00.6 | 304°00.6 | 319°00.5 | 334°00.4 | 349°00.4 | 4°00.3 | 19°00.2 | 34°00.2 | 49°00.1 | 64°00.0 | 79°00.0 | -0.1 |
| | -17°22.4 | -17°23.1 | -17°23.8 | -17°24.5 | -17°25.1 | -17°25.8 | -17°26.5 | -17°27.2 | -17°27.9 | -17°28.6 | -17°29.3 | -17°30.0 | -0.7 |
| **Lu 12** | 273°59.0 | 288°58.9 | 303°58.9 | 318°58.8 | 333°58.7 | 348°58.6 | 3°58.5 | 18°58.5 | 33°58.4 | 48°58.3 | 63°58.2 | 78°58.2 | -0.1 |
| | -17°38.8 | -17°39.5 | -17°40.2 | -17°40.9 | -17°41.5 | -17°42.2 | -17°42.9 | -17°43.6 | -17°44.2 | -17°44.9 | -17°45.6 | -17°46.3 | -0.7 |
| **Ma 13** | 273°57.1 | 288°57.0 | 303°56.9 | 318°56.8 | 333°56.8 | 348°56.7 | 3°56.6 | 18°56.5 | 33°56.4 | 48°56.3 | 63°56.2 | 78°56.2 | -0.1 |
| | -17°55.0 | -17°55.6 | -17°56.3 | -17°57.0 | -17°57.6 | -17°58.3 | -17°59.0 | -17°59.6 | -18°00.3 | -18°00.9 | -18°01.6 | -18°02.3 | -0.7 |
| **Me 14** | 273°55.0 | 288°54.9 | 303°54.8 | 318°54.7 | 333°54.6 | 348°54.5 | 3°54.4 | 18°54.3 | 33°54.2 | 48°54.1 | 63°54.0 | 78°53.9 | -0.1 |
| | -18°10.8 | -18°11.4 | -18°12.1 | -18°12.7 | -18°13.4 | -18°14.0 | -18°14.7 | -18°15.3 | -18°16.0 | -18°16.6 | -18°17.3 | -18°17.9 | -0.6 |
| **Je 15** | 273°52.7 | 288°52.6 | 303°52.5 | 318°52.3 | 333°52.2 | 348°52.1 | 3°52.0 | 18°51.9 | 33°51.8 | 48°51.7 | 63°51.6 | 78°51.5 | -0.1 |
| | -18°26.3 | -18°26.9 | -18°27.6 | -18°28.2 | -18°28.8 | -18°29.5 | -18°30.1 | -18°30.8 | -18°31.4 | -18°32.0 | -18°32.7 | -18°33.3 | -0.6 |
| **Ve 16** | 273°50.1 | 288°50.0 | 303°49.9 | 318°49.8 | 333°49.7 | 348°49.6 | 3°49.5 | 18°49.3 | 33°49.2 | 48°49.1 | 63°49.0 | 78°48.9 | -0.1 |
| | -18°41.5 | -18°42.1 | -18°42.7 | -18°43.4 | -18°44.0 | -18°44.6 | -18°45.2 | -18°45.8 | -18°46.5 | -18°47.1 | -18°47.7 | -18°48.3 | -0.6 |
| **Sa 17** | 273°47.4 | 288°47.2 | 303°47.1 | 318°47.0 | 333°46.9 | 348°46.8 | 3°46.6 | 18°46.5 | 33°46.4 | 48°46.3 | 63°46.2 | 78°46.0 | -0.1 |
| | -18°56.3 | -18°56.9 | -18°57.6 | -18°58.2 | -18°58.8 | -18°59.4 | -19°00.0 | -19°00.6 | -19°01.2 | -19°01.8 | -19°02.4 | -19°03.0 | -0.6 |
| **Di 18** | 273°44.4 | 288°44.3 | 303°44.2 | 318°44.0 | 333°43.9 | 348°43.8 | 3°43.6 | 18°43.5 | 33°43.4 | 48°43.2 | 63°43.1 | 78°43.0 | -0.1 |
| | -19°10.8 | -19°11.4 | -19°12.0 | -19°12.6 | -19°13.2 | -19°13.8 | -19°14.4 | -19°15.0 | -19°15.6 | -19°16.2 | -19°16.8 | -19°17.4 | -0.6 |
| **Lu 19** | 273°41.2 | 288°41.1 | 303°41.0 | 318°40.8 | 333°40.7 | 348°40.6 | 3°40.4 | 18°40.3 | 33°40.1 | 48°40.0 | 63°39.9 | 78°39.7 | -0.1 |
| | -19°25.0 | -19°25.6 | -19°26.2 | -19°26.8 | -19°27.3 | -19°27.9 | -19°28.5 | -19°29.1 | -19°29.7 | -19°30.2 | -19°30.8 | -19°31.4 | -0.6 |
| **Ma 20** | 273°37.9 | 288°37.7 | 303°37.6 | 318°37.4 | 333°37.3 | 348°37.1 | 3°37.0 | 18°36.8 | 33°36.7 | 48°36.5 | 63°36.4 | 78°36.2 | -0.1 |
| | -19°38.8 | -19°39.4 | -19°40.0 | -19°40.5 | -19°41.1 | -19°41.7 | -19°42.2 | -19°42.8 | -19°43.4 | -19°43.9 | -19°44.5 | -19°45.1 | -0.6 |
| **Me 21** | 273°34.3 | 288°34.1 | 303°34.0 | 318°33.8 | 333°33.6 | 348°33.5 | 3°33.3 | 18°33.2 | 33°33.0 | 48°32.9 | 63°32.7 | 78°32.6 | -0.2 |
| | -19°52.3 | -19°52.9 | -19°53.4 | -19°54.0 | -19°54.5 | -19°55.1 | -19°55.6 | -19°56.2 | -19°56.7 | -19°57.3 | -19°57.8 | -19°58.4 | -0.5 |
| **Je 22** | 273°30.5 | 288°30.3 | 303°30.1 | 318°30.0 | 333°29.8 | 348°29.7 | 3°29.5 | 18°29.3 | 33°29.2 | 48°29.0 | 63°28.8 | 78°28.7 | -0.2 |
| | -20°05.4 | -20°06.0 | -20°06.5 | -20°07.0 | -20°07.6 | -20°08.1 | -20°08.6 | -20°09.2 | -20°09.7 | -20°10.2 | -20°10.8 | -20°11.3 | -0.5 |
| **Ve 23** | 273°26.5 | 288°26.3 | 303°26.1 | 318°26.0 | 333°25.8 | 348°25.6 | 3°25.4 | 18°25.3 | 33°25.1 | 48°24.9 | 63°24.7 | 78°24.6 | -0.2 |
| | -20°18.2 | -20°18.7 | -20°19.2 | -20°19.7 | -20°20.2 | -20°20.8 | -20°21.3 | -20°21.8 | -20°22.3 | -20°22.8 | -20°23.4 | -20°23.9 | -0.5 |
| **Sa 24** | 273°22.3 | 288°22.1 | 303°21.9 | 318°21.7 | 333°21.6 | 348°21.4 | 3°21.2 | 18°21.0 | 33°20.8 | 48°20.6 | 63°20.5 | 78°20.3 | -0.2 |
| | -20°30.5 | -20°31.0 | -20°31.5 | -20°32.0 | -20°32.6 | -20°33.1 | -20°33.6 | -20°34.1 | -20°34.6 | -20°35.1 | -20°35.6 | -20°36.1 | -0.5 |
| **Di 25** | 273°17.9 | 288°17.7 | 303°17.5 | 318°17.3 | 333°17.1 | 348°16.9 | 3°16.7 | 18°16.6 | 33°16.4 | 48°16.2 | 63°16.0 | 78°15.8 | -0.2 |
| | -20°42.5 | -20°43.0 | -20°43.5 | -20°44.0 | -20°44.5 | -20°45.0 | -20°45.5 | -20°45.9 | -20°46.4 | -20°46.9 | -20°47.4 | -20°47.9 | -0.5 |
| **Lu 26** | 273°13.3 | 288°13.1 | 303°12.9 | 318°12.7 | 333°12.5 | 348°12.3 | 3°12.1 | 18°11.9 | 33°11.7 | 48°11.5 | 63°11.3 | 78°11.1 | -0.2 |
| | -20°54.1 | -20°54.6 | -20°55.1 | -20°55.5 | -20°56.0 | -20°56.5 | -20°57.0 | -20°57.4 | -20°57.9 | -20°58.4 | -20°58.8 | -20°59.3 | -0.5 |
| **Ma 27** | 273°08.5 | 288°08.3 | 303°08.1 | 318°07.9 | 333°07.7 | 348°07.5 | 3°07.3 | 18°07.1 | 33°06.9 | 48°06.7 | 63°06.5 | 78°06.2 | -0.2 |
| | -21°05.3 | -21°05.8 | -21°06.3 | -21°06.7 | -21°07.2 | -21°07.6 | -21°08.1 | -21°08.5 | -21°09.0 | -21°09.4 | -21°09.9 | -21°10.3 | -0.5 |
| **Me 28** | 273°03.5 | 288°03.3 | 303°03.1 | 318°02.9 | 333°02.7 | 348°02.5 | 3°02.3 | 18°02.1 | 33°01.8 | 48°01.6 | 63°01.4 | 78°01.2 | -0.2 |
| | -21°16.2 | -21°16.6 | -21°17.0 | -21°17.5 | -21°17.9 | -21°18.4 | -21°18.8 | -21°19.2 | -21°19.7 | -21°20.1 | -21°20.6 | -21°21.0 | -0.4 |
| **Je 29** | 272°58.4 | 287°58.2 | 302°58.0 | 317°57.7 | 332°57.5 | 347°57.3 | 2°57.1 | 17°56.9 | 32°56.6 | 47°56.4 | 62°56.2 | 77°56.0 | -0.2 |
| | -21°26.6 | -21°27.0 | -21°27.4 | -21°27.9 | -21°28.3 | -21°28.7 | -21°29.1 | -21°29.5 | -21°30.0 | -21°30.4 | -21°30.8 | -21°31.2 | -0.4 |
| **Ve 30** | 272°53.1 | 287°52.8 | 302°52.6 | 317°52.4 | 332°52.2 | 347°51.9 | 2°51.7 | 17°51.5 | 32°51.3 | 47°51.0 | 62°50.8 | 77°50.6 | -0.2 |
| | -21°36.6 | -21°37.0 | -21°37.4 | -21°37.8 | -21°38.2 | -21°38.6 | -21°39.0 | -21°39.4 | -21°39.8 | -21°40.2 | -21°40.6 | -21°41.0 | -0.4 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Novembre 2035

| J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Je 1 | 245°14.3 | 259°45.7 | 274°17.1 | 288°48.5 | 303°19.9 | 317°51.2 | 332°22.6 | 346°53.9 | 1°25.3 | 15°56.6 | 30°27.9 | +31.4 | 15.1 |
| | -13°17.4 | -13°24.8 | -13°32.1 | -13°39.3 | -13°46.5 | -13°53.6 | -14°00.7 | -14°07.6 | -14°14.5 | -14°21.3 | -14°28.1 | -7.1 | 55.2 |
| Ve 2 | 248°16.6 | 262°47.8 | 277°19.0 | 291°50.1 | 306°21.3 | 320°52.4 | 335°23.6 | 349°54.7 | 4°25.9 | 18°57.0 | 33°28.1 | +31.1 | 14.9 |
| | -16°00.4 | -16°06.0 | -16°11.4 | -16°16.8 | -16°22.1 | -16°27.3 | -16°32.5 | -16°37.5 | -16°42.5 | -16°47.4 | -16°52.2 | -5.2 | 54.8 |
| Sa 3 | 251°14.2 | 265°45.3 | 280°16.3 | 294°47.3 | 309°18.4 | 323°49.4 | 338°20.4 | 352°51.5 | 7°22.5 | 21°53.5 | 36°24.5 | +31.0 | 14.8 |
| | -17°54.4 | -17°57.9 | -18°01.3 | -18°04.6 | -18°07.8 | -18°10.9 | -18°14.0 | -18°16.9 | -18°19.8 | -18°22.6 | -18°25.3 | -3.1 | 54.4 |
| Di 4 | 254°10.0 | 268°41.1 | 283°12.1 | 297°43.2 | 312°14.2 | 326°45.3 | 341°16.4 | 355°47.4 | 10°18.5 | 24°49.6 | 39°20.7 | +31.1 | 14.8 |
| | -18°55.2 | -18°56.4 | -18°57.6 | -18°58.7 | -18°59.8 | -19°00.7 | -19°01.6 | -19°02.3 | -19°03.0 | -19°03.6 | -19°04.1 | -0.9 | 54.2 |
| Lu 5 | 257°08.0 | 271°39.2 | 286°10.5 | 300°41.7 | 315°13.0 | 329°44.2 | 344°15.5 | 358°46.8 | 13°18.1 | 27°49.4 | 42°20.7 | +31.3 | 14.7 |
| | -19°00.9 | -19°00.0 | -18°59.0 | -18°57.9 | -18°56.7 | -18°55.5 | -18°54.1 | -18°52.7 | -18°51.2 | -18°49.6 | -18°47.9 | +1.3 | 54.1 |
| Ma 6 | 260°12.0 | 274°43.5 | 289°15.1 | 303°46.6 | 318°18.2 | 332°49.8 | 347°21.3 | 1°53.0 | 16°24.6 | 30°56.2 | 45°27.8 | +31.6 | 14.8 |
| | -18°12.3 | -18°09.3 | -18°06.2 | -18°03.0 | -17°59.7 | -17°56.3 | -17°52.8 | -17°49.3 | -17°45.7 | -17°42.0 | -17°38.2 | +3.4 | 54.1 |
| Me 7 | 263°24.2 | 277°56.0 | 292°27.9 | 306°59.8 | 321°31.7 | 336°03.6 | 350°35.5 | 5°07.5 | 19°39.4 | 34°11.4 | 48°43.3 | +31.9 | 14.8 |
| | -16°32.0 | -16°27.0 | -16°21.9 | -16°16.7 | -16°11.4 | -16°06.1 | -16°00.7 | -15°55.2 | -15°49.6 | -15°44.0 | -15°38.3 | +5.4 | 54.4 |
| ◐ Je 8 | 266°44.1 | 281°16.2 | 295°48.3 | 310°20.5 | 324°52.6 | 339°24.7 | 353°56.9 | 8°29.1 | 23°01.2 | 37°33.4 | 52°05.6 | +32.1 | 15.0 |
| | -14°04.0 | -13°57.2 | -13°50.3 | -13°43.3 | -13°36.2 | -13°29.1 | -13°21.9 | -13°14.7 | -13°07.4 | -13°00.0 | -12°52.6 | +7.1 | 54.9 |
| Ve 9 | 270°08.4 | 284°40.6 | 299°12.8 | 313°44.9 | 328°17.1 | 342°49.3 | 357°21.5 | 11°53.6 | 26°25.8 | 40°57.9 | 55°30.1 | +32.2 | 15.1 |
| | -10°53.4 | -10°45.0 | -10°36.5 | -10°28.0 | -10°19.4 | -10°10.7 | -10°02.0 | -9°53.3 | -9°44.5 | -9°35.6 | -9°26.7 | +8.7 | 55.5 |
| Sa 10 | 273°31.0 | 288°02.9 | 302°34.9 | 317°06.8 | 331°38.7 | 346°10.6 | 0°42.5 | 15°14.3 | 29°46.1 | 44°17.9 | 58°49.7 | +31.9 | 15.3 |
| | -7°06.6 | -6°56.9 | -6°47.1 | -6°37.3 | -6°27.5 | -6°17.6 | -6°07.7 | -5°57.7 | -5°47.7 | -5°37.6 | -5°27.5 | +9.9 | 56.3 |
| Di 11 | 276°43.4 | 291°14.8 | 305°46.1 | 320°17.4 | 334°48.6 | 349°19.8 | 3°51.0 | 18°22.1 | 32°53.2 | 47°24.3 | 61°55.3 | +31.2 | 15.6 |
| | -2°51.7 | -2°41.0 | -2°30.3 | -2°19.6 | -2°08.9 | -1°58.2 | -1°47.4 | -1°36.6 | -1°25.8 | -1°14.9 | -1°04.1 | +10.8 | 57.2 |
| Lu 12 | 279°35.6 | 294°05.9 | 308°36.2 | 323°06.4 | 337°36.6 | 352°06.7 | 6°36.8 | 21°06.8 | 35°36.7 | 50°06.6 | 64°36.5 | +30.1 | 15.8 |
| | 1°40.9 | 1°52.0 | 2°03.1 | 2°14.2 | 2°25.3 | 2°36.4 | 2°47.5 | 2°58.6 | 3°09.7 | 3°20.8 | 3°31.9 | +11.1 | 58.1 |
| Ma 13 | 281°57.1 | 296°26.0 | 310°54.8 | 325°23.6 | 339°52.3 | 354°20.9 | 8°49.5 | 23°18.0 | 37°46.4 | 52°14.7 | 66°43.0 | +28.6 | 16.1 |
| | 6°17.2 | 6°28.1 | 6°39.0 | 6°49.8 | 7°00.7 | 7°11.4 | 7°22.2 | 7°32.9 | 7°43.6 | 7°54.3 | 8°04.9 | +10.8 | 59.0 |
| Me 14 | 283°38.9 | 298°06.1 | 312°33.2 | 327°00.2 | 341°27.1 | 355°54.0 | 10°20.8 | 24°47.5 | 39°14.2 | 53°40.8 | 68°07.3 | +26.8 | 16.3 |
| | 10°39.5 | 10°49.4 | 10°59.3 | 11°09.1 | 11°18.8 | 11°28.5 | 11°38.1 | 11°47.6 | 11°57.1 | 12°06.5 | 12°15.9 | +9.6 | 59.7 |
| ○ Je 15 | 284°36.4 | 299°01.8 | 313°27.2 | 327°52.4 | 342°17.6 | 356°42.7 | 11°07.8 | 25°32.8 | 39°57.7 | 54°22.6 | 68°47.4 | +25.1 | 16.4 |
| | 14°26.8 | 14°34.9 | 14°42.8 | 14°50.7 | 14°58.5 | 15°06.2 | 15°13.7 | 15°21.2 | 15°28.6 | 15°35.9 | 15°43.0 | +7.6 | 60.2 |
| Ve 16 | 284°52.9 | 299°16.9 | 313°40.8 | 328°04.7 | 342°28.5 | 356°52.3 | 11°16.1 | 25°39.8 | 40°03.5 | 54°27.2 | 68°50.8 | +23.8 | 16.5 |
| | 17°17.5 | 17°22.9 | 17°28.1 | 17°33.2 | 17°38.2 | 17°43.1 | 17°47.9 | 17°52.5 | 17°57.0 | 18°01.4 | 18°05.6 | +4.8 | 60.5 |
| Sa 17 | 284°42.0 | 299°05.3 | 313°28.5 | 327°51.8 | 342°15.1 | 356°38.3 | 11°01.6 | 25°24.9 | 39°48.1 | 54°11.4 | 68°34.7 | +23.3 | 16.5 |
| | 18°53.4 | 18°55.5 | 18°57.5 | 18°59.3 | 19°01.0 | 19°02.6 | 19°04.0 | 19°05.3 | 19°06.4 | 19°07.4 | 19°08.3 | +1.5 | 60.5 |
| Di 18 | 284°25.6 | 298°49.2 | 313°12.8 | 327°36.4 | 342°00.1 | 356°23.8 | 10°47.6 | 25°11.4 | 39°35.2 | 53°59.1 | 68°23.0 | +23.7 | 16.4 |
| | 19°04.8 | 19°03.4 | 19°02.0 | 19°00.4 | 18°58.7 | 18°56.8 | 18°54.8 | 18°52.7 | 18°50.4 | 18°48.0 | 18°45.5 | -1.9 | 60.2 |
| Lu 19 | 284°27.8 | 298°52.5 | 313°17.3 | 327°42.2 | 342°07.2 | 356°32.2 | 10°57.3 | 25°22.4 | 39°47.6 | 54°12.9 | 68°38.3 | +25.0 | 16.3 |
| | 17°52.6 | 17°48.1 | 17°43.5 | 17°38.8 | 17°33.9 | 17°29.0 | 17°23.9 | 17°18.7 | 17°13.4 | 17°08.0 | 17°02.5 | -5.0 | 59.7 |
| Ma 20 | 298°52.5 | 313°17.3 | 327°42.2 | 342°07.2 | 356°32.2 | 10°57.3 | 25°22.4 | 39°47.6 | 54°12.9 | 68°38.3 | 83°03.7 | +25.1 | 16.3 |
| | 17°48.1 | 17°43.5 | 17°38.8 | 17°33.9 | 17°29.0 | 17°23.9 | 17°18.7 | 17°13.4 | 17°08.0 | 17°02.5 | 16°56.9 | -5.1 | 59.7 |
| Me 21 | 299°33.2 | 313°59.8 | 328°26.4 | 342°53.1 | 357°19.9 | 11°46.7 | 26°13.6 | 40°40.6 | 55°07.7 | 69°34.8 | 84°02.1 | +26.9 | 16.1 |
| | 15°20.5 | 15°13.3 | 15°06.1 | 14°58.7 | 14°51.3 | 14°43.7 | 14°36.1 | 14°28.4 | 14°20.6 | 14°12.8 | 14°04.8 | -7.6 | 59.1 |
| ◑ Je 22 | 300°58.9 | 315°27.3 | 329°55.7 | 344°24.2 | 358°52.8 | 13°21.4 | 27°50.1 | 42°18.9 | 56°47.7 | 71°16.6 | 85°45.6 | +28.7 | 15.9 |
| | 11°57.1 | 11°48.1 | 11°39.0 | 11°29.9 | 11°20.6 | 11°11.4 | 11°02.0 | 10°52.7 | 10°43.2 | 10°33.8 | 10°24.2 | -9.3 | 58.4 |
| Ve 23 | 303°07.6 | 317°37.6 | 332°07.6 | 346°37.6 | 1°07.7 | 15°37.9 | 30°08.1 | 44°38.4 | 59°08.7 | 73°39.0 | 88°09.4 | +30.2 | 15.7 |
| | 7°56.0 | 7°45.8 | 7°35.6 | 7°25.3 | 7°15.1 | 7°04.7 | 6°54.4 | 6°44.0 | 6°33.7 | 6°23.2 | 6°12.8 | -10.3 | 57.7 |
| Sa 24 | 305°51.1 | 320°22.3 | 334°53.4 | 349°24.6 | 3°55.8 | 18°27.1 | 32°58.4 | 47°29.7 | 62°01.1 | 76°32.4 | 91°03.9 | +31.3 | 15.6 |
| | 3°34.0 | 3°23.3 | 3°12.6 | 3°01.9 | 2°51.1 | 2°40.4 | 2°29.7 | 2°19.0 | 2°08.2 | 1°57.5 | 1°46.8 | -10.7 | 57.1 |
| Di 25 | 308°58.5 | 323°30.3 | 338°02.2 | 352°34.0 | 7°05.9 | 21°37.8 | 36°09.7 | 50°41.7 | 65°13.6 | 79°45.6 | 94°17.6 | +31.9 | 15.4 |
| | -0°53.9 | -1°04.5 | -1°15.2 | -1°25.8 | -1°36.4 | -1°47.0 | -1°57.6 | -2°08.1 | -2°18.6 | -2°29.2 | -2°39.7 | -10.6 | 56.5 |
| Lu 26 | 312°18.4 | 326°50.6 | 341°22.7 | 355°54.8 | 10°26.9 | 24°59.0 | 39°31.2 | 54°03.3 | 68°35.4 | 83°07.5 | 97°39.7 | +32.1 | 15.3 |
| | -5°14.4 | -5°24.5 | -5°34.6 | -5°44.6 | -5°54.6 | -6°04.6 | -6°14.5 | -6°24.4 | -6°34.3 | -6°44.1 | -6°53.9 | -9.9 | 55.9 |
| Ma 27 | 315°41.2 | 330°13.2 | 344°45.3 | 359°17.3 | 13°49.3 | 28°21.4 | 42°53.4 | 57°25.4 | 71°57.4 | 86°29.3 | 101°01.3 | +32.0 | 15.1 |
| | -9°15.8 | -9°24.9 | -9°33.9 | -9°42.9 | -9°51.9 | -10°00.8 | -10°09.6 | -10°18.4 | -10°27.2 | -10°35.9 | -10°44.5 | -8.9 | 55.5 |
| Me 28 | 318°59.4 | 333°31.2 | 348°02.9 | 2°34.7 | 17°06.4 | 31°38.1 | 46°09.8 | 60°41.5 | 75°13.1 | 89°44.8 | 104°16.4 | +31.7 | 15.0 |
| | -12°47.3 | -12°55.0 | -13°02.6 | -13°10.2 | -13°17.7 | -13°25.1 | -13°32.5 | -13°39.8 | -13°47.1 | -13°54.3 | -14°01.4 | -7.4 | 55.0 |
| ● Je 29 | 322°09.1 | 336°40.5 | 351°11.9 | 5°43.3 | 20°14.6 | 34°46.0 | 49°17.3 | 63°48.6 | 78°19.9 | 92°51.2 | 107°22.5 | +31.3 | 14.9 |
| | -15°39.5 | -15°45.5 | -15°51.4 | -15°57.2 | -16°02.9 | -16°08.6 | -16°14.1 | -16°19.6 | -16°25.1 | -16°30.4 | -16°35.7 | -5.6 | 54.6 |
| Ve 30 | 325°10.1 | 339°41.2 | 354°12.3 | 8°43.4 | 23°14.5 | 37°45.5 | 52°16.6 | 66°47.6 | 81°18.7 | 95°49.7 | 110°20.7 | +31.1 | 14.8 |
| | -17°44.8 | -17°48.7 | -17°52.6 | -17°56.4 | -18°00.1 | -18°03.7 | -18°07.2 | -18°10.6 | -18°14.0 | -18°17.2 | -18°20.4 | -3.6 | 54.3 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 8 05h50 — PL: 15 13h48 — DQ: 22 05h16 — NL: 29 19h37

# SOLEIL

## Décembre 2035

| J | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | 15h | 16h | 17h | Δ'/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 272°47.6 | 287°47.4 | 302°47.1 | 317°46.9 | 332°46.7 | 347°46.4 | 2°46.2 | 17°46.0 | 32°45.7 | 47°45.5 | 62°45.3 | 77°45.0 | -0.2 |
| | -21°46.2 | -21°46.6 | -21°47.0 | -21°47.4 | -21°47.8 | -21°48.1 | -21°48.5 | -21°48.9 | -21°49.3 | -21°49.7 | -21°50.1 | -21°50.5 | -0.4 |
| Di 2 | 272°41.9 | 287°41.7 | 302°41.5 | 317°41.2 | 332°41.0 | 347°40.7 | 2°40.5 | 17°40.3 | 32°40.0 | 47°39.8 | 62°39.5 | 77°39.3 | -0.2 |
| | -21°55.4 | -21°55.8 | -21°56.1 | -21°56.5 | -21°56.9 | -21°57.2 | -21°57.6 | -21°58.0 | -21°58.4 | -21°58.7 | -21°59.1 | -21°59.5 | -0.4 |
| Lu 3 | 272°36.1 | 287°35.9 | 302°35.7 | 317°35.4 | 332°35.2 | 347°34.9 | 2°34.7 | 17°34.4 | 32°34.2 | 47°33.9 | 62°33.7 | 77°33.4 | -0.2 |
| | -22°04.2 | -22°04.5 | -22°04.9 | -22°05.2 | -22°05.6 | -22°05.9 | -22°06.3 | -22°06.6 | -22°07.0 | -22°07.3 | -22°07.7 | -22°08.0 | -0.4 |
| Ma 4 | 272°30.2 | 287°29.9 | 302°29.7 | 317°29.4 | 332°29.2 | 347°28.9 | 2°28.7 | 17°28.4 | 32°28.2 | 47°27.9 | 62°27.7 | 77°27.4 | -0.3 |
| | -22°12.5 | -22°12.8 | -22°13.2 | -22°13.5 | -22°13.8 | -22°14.2 | -22°14.5 | -22°14.8 | -22°15.2 | -22°15.5 | -22°15.8 | -22°16.2 | -0.3 |
| Me 5 | 272°24.1 | 287°23.8 | 302°23.6 | 317°23.3 | 332°23.1 | 347°22.8 | 2°22.6 | 17°22.3 | 32°22.0 | 47°21.8 | 62°21.5 | 77°21.3 | -0.3 |
| | -22°20.4 | -22°20.7 | -22°21.0 | -22°21.4 | -22°21.7 | -22°22.0 | -22°22.3 | -22°22.6 | -22°22.9 | -22°23.3 | -22°23.6 | -22°23.9 | -0.3 |
| Je 6 | 272°17.9 | 287°17.6 | 302°17.4 | 317°17.1 | 332°16.8 | 347°16.6 | 2°16.3 | 17°16.0 | 32°15.8 | 47°15.5 | 62°15.2 | 77°15.0 | -0.3 |
| | -22°27.9 | -22°28.2 | -22°28.5 | -22°28.8 | -22°29.1 | -22°29.4 | -22°29.7 | -22°30.0 | -22°30.3 | -22°30.6 | -22°30.9 | -22°31.2 | -0.3 |
| Ve 7 | 272°11.5 | 287°11.3 | 302°11.0 | 317°10.7 | 332°10.4 | 347°10.2 | 2°09.9 | 17°09.6 | 32°09.4 | 47°09.1 | 62°08.8 | 77°08.6 | -0.3 |
| | -22°34.9 | -22°35.2 | -22°35.5 | -22°35.8 | -22°36.1 | -22°36.3 | -22°36.6 | -22°36.9 | -22°37.2 | -22°37.4 | -22°37.7 | -22°38.0 | -0.3 |
| Sa 8 | 272°05.0 | 287°04.8 | 302°04.5 | 317°04.2 | 332°04.0 | 347°03.7 | 2°03.4 | 17°03.1 | 32°02.9 | 47°02.6 | 62°02.3 | 77°02.0 | -0.3 |
| | -22°41.5 | -22°41.8 | -22°42.0 | -22°42.3 | -22°42.6 | -22°42.8 | -22°43.1 | -22°43.4 | -22°43.6 | -22°43.9 | -22°44.1 | -22°44.4 | -0.3 |
| Di 9 | 271°58.5 | 286°58.2 | 301°57.9 | 316°57.6 | 331°57.3 | 346°57.1 | 1°56.8 | 16°56.5 | 31°56.2 | 46°56.0 | 61°55.7 | 76°55.4 | -0.3 |
| | -22°47.7 | -22°47.9 | -22°48.2 | -22°48.4 | -22°48.7 | -22°48.9 | -22°49.1 | -22°49.4 | -22°49.6 | -22°49.9 | -22°50.1 | -22°50.3 | -0.2 |
| Lu 10 | 271°51.8 | 286°51.5 | 301°51.2 | 316°50.9 | 331°50.6 | 346°50.3 | 1°50.1 | 16°49.8 | 31°49.5 | 46°49.2 | 61°48.9 | 76°48.7 | -0.3 |
| | -22°53.4 | -22°53.6 | -22°53.8 | -22°54.1 | -22°54.3 | -22°54.5 | -22°54.7 | -22°54.9 | -22°55.2 | -22°55.4 | -22°55.6 | -22°55.8 | -0.2 |
| Ma 11 | 271°45.0 | 286°44.7 | 301°44.4 | 316°44.1 | 331°43.8 | 346°43.5 | 1°43.2 | 16°43.0 | 31°42.7 | 46°42.4 | 61°42.1 | 76°41.8 | -0.3 |
| | -22°58.6 | -22°58.8 | -22°59.0 | -22°59.2 | -22°59.5 | -22°59.7 | -22°59.9 | -23°00.1 | -23°00.3 | -23°00.5 | -23°00.7 | -23°00.9 | -0.2 |
| Me 12 | 271°38.1 | 286°37.8 | 301°37.5 | 316°37.2 | 331°36.9 | 346°36.6 | 1°36.3 | 16°36.0 | 31°35.7 | 46°35.5 | 61°35.2 | 76°34.9 | -0.3 |
| | -23°03.4 | -23°03.6 | -23°03.8 | -23°04.0 | -23°04.2 | -23°04.4 | -23°04.5 | -23°04.7 | -23°04.9 | -23°05.1 | -23°05.3 | -23°05.5 | -0.2 |
| Je 13 | 271°31.1 | 286°30.8 | 301°30.5 | 316°30.2 | 331°29.9 | 346°29.6 | 1°29.3 | 16°29.0 | 31°28.7 | 46°28.4 | 61°28.2 | 76°27.9 | -0.3 |
| | -23°07.8 | -23°07.9 | -23°08.1 | -23°08.3 | -23°08.4 | -23°08.6 | -23°08.8 | -23°08.9 | -23°09.1 | -23°09.3 | -23°09.4 | -23°09.6 | -0.2 |
| Ve 14 | 271°24.0 | 286°23.7 | 301°23.4 | 316°23.1 | 331°22.8 | 346°22.5 | 1°22.2 | 16°22.0 | 31°21.7 | 46°21.4 | 61°21.1 | 76°20.8 | -0.3 |
| | -23°11.6 | -23°11.8 | -23°11.9 | -23°12.1 | -23°12.2 | -23°12.4 | -23°12.5 | -23°12.7 | -23°12.8 | -23°13.0 | -23°13.1 | -23°13.3 | -0.1 |
| Sa 15 | 271°16.9 | 286°16.6 | 301°16.3 | 316°16.0 | 331°15.7 | 346°15.4 | 1°15.1 | 16°14.8 | 31°14.5 | 46°14.2 | 61°13.9 | 76°13.6 | -0.3 |
| | -23°15.1 | -23°15.2 | -23°15.3 | -23°15.4 | -23°15.6 | -23°15.7 | -23°15.8 | -23°16.0 | -23°16.1 | -23°16.2 | -23°16.3 | -23°16.5 | -0.1 |
| Di 16 | 271°09.7 | 286°09.4 | 301°09.1 | 316°08.8 | 331°08.5 | 346°08.2 | 1°07.9 | 16°07.6 | 31°07.3 | 46°07.0 | 61°06.7 | 76°06.4 | -0.3 |
| | -23°18.0 | -23°18.1 | -23°18.2 | -23°18.3 | -23°18.5 | -23°18.6 | -23°18.7 | -23°18.8 | -23°18.9 | -23°19.0 | -23°19.1 | -23°19.2 | -0.1 |
| Lu 17 | 271°02.4 | 286°02.1 | 301°01.8 | 316°01.5 | 331°01.2 | 346°00.9 | 1°00.6 | 16°00.3 | 31°00.0 | 45°59.7 | 60°59.4 | 75°59.1 | -0.3 |
| | -23°20.5 | -23°20.6 | -23°20.7 | -23°20.8 | -23°20.9 | -23°21.0 | -23°21.0 | -23°21.1 | -23°21.2 | -23°21.3 | -23°21.4 | -23°21.5 | -0.1 |
| Ma 18 | 270°55.1 | 285°54.8 | 300°54.5 | 315°54.2 | 330°53.9 | 345°53.6 | 0°53.3 | 15°53.0 | 30°52.7 | 45°52.4 | 60°52.1 | 75°51.8 | -0.3 |
| | -23°22.5 | -23°22.6 | -23°22.7 | -23°22.7 | -23°22.8 | -23°22.9 | -23°22.9 | -23°23.0 | -23°23.1 | -23°23.2 | -23°23.2 | -23°23.3 | -0.1 |
| Me 19 | 270°47.8 | 285°47.5 | 300°47.2 | 315°46.8 | 330°46.5 | 345°46.2 | 0°45.9 | 15°45.6 | 30°45.3 | 45°45.0 | 60°44.7 | 75°44.4 | -0.3 |
| | -23°24.1 | -23°24.1 | -23°24.2 | -23°24.2 | -23°24.3 | -23°24.3 | -23°24.4 | -23°24.4 | -23°24.5 | -23°24.5 | -23°24.6 | -23°24.6 | -0.1 |
| Je 20 | 270°40.4 | 285°40.1 | 300°39.8 | 315°39.4 | 330°39.1 | 345°38.8 | 0°38.5 | 15°38.2 | 30°37.9 | 45°37.6 | 60°37.3 | 75°37.0 | -0.3 |
| | -23°25.2 | -23°25.2 | -23°25.2 | -23°25.3 | -23°25.3 | -23°25.3 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.5 | -23°25.5 | -0.0 |
| Ve 21 | 270°32.9 | 285°32.6 | 300°32.3 | 315°32.0 | 330°31.7 | 345°31.4 | 0°31.1 | 15°30.8 | 30°30.5 | 45°30.2 | 60°29.8 | 75°29.5 | -0.3 |
| | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.8 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -0.0 |
| Sa 22 | 270°25.5 | 285°25.2 | 300°24.9 | 315°24.6 | 330°24.3 | 345°23.9 | 0°23.6 | 15°23.3 | 30°23.0 | 45°22.7 | 60°22.4 | 75°22.1 | -0.3 |
| | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.9 | -23°25.8 | -23°25.8 | -23°25.8 | +0.0 |
| Di 23 | 270°18.0 | 285°17.7 | 300°17.4 | 315°17.1 | 330°16.8 | 345°16.5 | 0°16.2 | 15°15.9 | 30°15.6 | 45°15.2 | 60°14.9 | 75°14.6 | -0.3 |
| | -23°25.6 | -23°25.6 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.5 | -23°25.4 | -23°25.4 | -23°25.4 | -23°25.3 | -23°25.3 | -23°25.3 | +0.0 |
| Lu 24 | 270°10.6 | 285°10.3 | 300°10.0 | 315°09.6 | 330°09.3 | 345°09.0 | 0°08.7 | 15°08.4 | 30°08.1 | 45°07.8 | 60°07.5 | 75°07.2 | -0.3 |
| | -23°24.8 | -23°24.8 | -23°24.7 | -23°24.7 | -23°24.6 | -23°24.6 | -23°24.5 | -23°24.5 | -23°24.4 | -23°24.4 | -23°24.3 | -23°24.3 | +0.0 |
| Ma 25 | 270°03.1 | 285°02.8 | 300°02.5 | 315°02.2 | 330°01.9 | 345°01.6 | 0°01.3 | 15°00.9 | 30°00.6 | 45°00.3 | 60°00.0 | 74°59.7 | -0.3 |
| | -23°23.5 | -23°23.5 | -23°23.4 | -23°23.3 | -23°23.3 | -23°23.2 | -23°23.1 | -23°23.1 | -23°23.0 | -23°22.9 | -23°22.9 | -23°22.8 | +0.1 |
| Me 26 | 269°55.7 | 284°55.4 | 299°55.1 | 314°54.7 | 329°54.4 | 344°54.1 | 359°53.8 | 14°53.5 | 29°53.2 | 44°52.9 | 59°52.6 | 74°52.3 | -0.3 |
| | -23°21.8 | -23°21.7 | -23°21.6 | -23°21.5 | -23°21.5 | -23°21.4 | -23°21.3 | -23°21.2 | -23°21.1 | -23°21.0 | -23°20.9 | -23°20.8 | +0.1 |
| Je 27 | 269°48.3 | 284°47.9 | 299°47.6 | 314°47.3 | 329°47.0 | 344°46.7 | 359°46.4 | 14°46.1 | 29°45.8 | 44°45.5 | 59°45.2 | 74°44.9 | -0.3 |
| | -23°19.6 | -23°19.5 | -23°19.4 | -23°19.3 | -23°19.2 | -23°19.1 | -23°19.0 | -23°18.9 | -23°18.7 | -23°18.6 | -23°18.5 | -23°18.4 | +0.1 |
| Ve 28 | 269°40.9 | 284°40.6 | 299°40.3 | 314°39.9 | 329°39.6 | 344°39.3 | 359°39.0 | 14°38.7 | 29°38.4 | 44°38.1 | 59°37.8 | 74°37.5 | -0.3 |
| | -23°16.9 | -23°16.8 | -23°16.7 | -23°16.5 | -23°16.4 | -23°16.3 | -23°16.2 | -23°16.0 | -23°15.9 | -23°15.8 | -23°15.7 | -23°15.5 | +0.1 |
| Sa 29 | 269°33.5 | 284°33.2 | 299°32.9 | 314°32.6 | 329°32.3 | 344°32.0 | 359°31.7 | 14°31.4 | 29°31.1 | 44°30.8 | 59°30.5 | 74°30.2 | -0.3 |
| | -23°13.8 | -23°13.6 | -23°13.5 | -23°13.3 | -23°13.2 | -23°13.1 | -23°12.9 | -23°12.8 | -23°12.6 | -23°12.5 | -23°12.3 | -23°12.2 | +0.1 |
| Di 30 | 269°26.2 | 284°25.9 | 299°25.6 | 314°25.3 | 329°25.0 | 344°24.7 | 359°24.4 | 14°24.1 | 29°23.8 | 44°23.5 | 59°23.2 | 74°22.9 | -0.3 |
| | -23°10.2 | -23°10.0 | -23°09.8 | -23°09.7 | -23°09.5 | -23°09.4 | -23°09.2 | -23°09.0 | -23°08.9 | -23°08.7 | -23°08.5 | -23°08.4 | +0.2 |
| Lu 31 | 269°19.0 | 284°18.7 | 299°18.4 | 314°18.1 | 329°17.8 | 344°17.5 | 359°17.2 | 14°16.9 | 29°16.6 | 44°16.3 | 59°16.0 | 74°15.7 | -0.3 |
| | -23°06.1 | -23°05.9 | -23°05.7 | -23°05.6 | -23°05.4 | -23°05.2 | -23°05.0 | -23°04.8 | -23°04.6 | -23°04.5 | -23°04.3 | -23°04.1 | +0.2 |

Ligne 1: GHA (Angle Horaire Greenwich), Δ'/h = var. GHA − 15°
Ligne 2: Dec (Déclinaison, − = Sud), Δ'/h = var. déc.
Semi-diamètre: 16.2'

# LUNE

## Décembre 2035

| J | 4h | 5h | 6h | 7h | 8h | 9h | 10h | 11h | 12h | 13h | 14h | Δ'/h | SP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sa 1 | 240°59.7 | 255°30.7 | 270°01.7 | 284°32.6 | 299°03.6 | 313°34.6 | 328°05.6 | 342°36.5 | 357°07.5 | 11°38.5 | 26°09.5 | +31.0 | 14.8 |
| | -18°45.1 | -18°47.4 | -18°49.6 | -18°51.7 | -18°53.7 | -18°55.7 | -18°57.5 | -18°59.3 | -19°01.0 | -19°02.6 | -19°04.1 | -1.9 | 54.1 |
| Di 2 | 243°54.5 | 258°25.6 | 272°56.6 | 287°27.7 | 301°58.8 | 316°29.9 | 331°01.0 | 345°32.1 | 0°03.2 | 14°34.3 | 29°05.4 | +31.1 | 14.7 |
| | -19°15.9 | -19°16.0 | -19°16.0 | -19°15.9 | -19°15.7 | -19°15.4 | -19°15.0 | -19°14.6 | -19°14.0 | -19°13.4 | -19°12.7 | +0.3 | 54.0 |
| Lu 3 | 246°53.9 | 261°25.3 | 275°56.7 | 290°28.1 | 304°59.5 | 319°30.9 | 334°02.3 | 348°33.8 | 3°05.2 | 17°36.7 | 32°08.2 | +31.4 | 14.7 |
| | -18°51.3 | -18°49.2 | -18°47.0 | -18°44.7 | -18°42.4 | -18°39.9 | -18°37.4 | -18°34.7 | -18°32.0 | -18°29.2 | -18°26.4 | +2.5 | 53.9 |
| Ma 4 | 250°03.1 | 264°34.9 | 279°06.7 | 293°38.6 | 308°10.4 | 322°42.3 | 337°14.2 | 351°46.2 | 6°18.1 | 20°50.1 | 35°22.1 | +31.9 | 14.7 |
| | -17°33.4 | -17°29.2 | -17°25.0 | -17°20.7 | -17°16.3 | -17°11.8 | -17°07.2 | -17°02.6 | -16°57.9 | -16°53.1 | -16°48.2 | +4.5 | 54.0 |
| Me 5 | 253°24.3 | 267°56.6 | 282°28.9 | 297°01.3 | 311°33.6 | 326°06.0 | 340°38.4 | 355°10.8 | 9°43.2 | 24°15.7 | 38°48.1 | +32.4 | 14.8 |
| | -15°26.4 | -15°20.4 | -15°14.3 | -15°08.1 | -15°01.8 | -14°55.5 | -14°49.2 | -14°42.7 | -14°36.2 | -14°29.7 | -14°23.0 | +6.3 | 54.3 |
| Je 6 | 256°56.7 | 271°29.3 | 286°02.0 | 300°34.7 | 315°07.4 | 329°40.1 | 344°12.8 | 358°45.5 | 13°18.3 | 27°51.0 | 42°23.7 | +32.7 | 14.9 |
| | -12°35.7 | -12°28.1 | -12°20.4 | -12°12.6 | -12°04.8 | -11°56.9 | -11°49.0 | -11°41.0 | -11°32.9 | -11°24.8 | -11°16.7 | +7.9 | 54.7 |
| Ve 7 | 260°35.3 | 275°08.1 | 289°40.9 | 304°13.6 | 318°46.4 | 333°19.1 | 347°51.9 | 2°24.7 | 16°57.4 | 31°30.1 | 46°02.9 | +32.8 | 15.1 |
| | -9°07.8 | -8°58.9 | -8°49.8 | -8°40.7 | -8°31.6 | -8°22.4 | -8°13.2 | -8°03.9 | -7°54.6 | -7°45.2 | -7°35.8 | +9.2 | 55.3 |
| ◐ Sa 8 | 264°12.3 | 278°44.8 | 293°17.3 | 307°49.8 | 322°22.2 | 336°54.6 | 351°27.0 | 5°59.4 | 20°31.7 | 35°04.1 | 49°36.4 | +32.4 | 15.3 |
| | -5°09.9 | -4°59.8 | -4°49.8 | -4°39.6 | -4°29.5 | -4°19.3 | -4°09.1 | -3°58.9 | -3°48.6 | -3°38.4 | -3°28.0 | +10.2 | 56.0 |
| Di 9 | 267°37.1 | 282°08.9 | 296°40.6 | 311°12.3 | 325°43.9 | 340°15.5 | 354°47.1 | 9°18.6 | 23°50.1 | 38°21.5 | 52°52.9 | +31.6 | 15.5 |
| | -0°50.0 | -0°39.3 | -0°28.6 | -0°17.9 | -0°07.1 | 0°03.7 | 0°14.5 | 0°25.3 | 0°36.1 | 0°46.9 | 0°57.8 | +10.8 | 57.0 |
| Lu 10 | 270°37.3 | 285°07.9 | 299°38.3 | 314°08.7 | 328°39.0 | 343°09.3 | 357°39.5 | 12°09.6 | 26°39.7 | 41°09.7 | 55°39.7 | +30.2 | 15.8 |
| | 3°41.2 | 3°52.1 | 4°03.1 | 4°14.0 | 4°24.9 | 4°35.7 | 4°46.6 | 4°57.5 | 5°08.4 | 5°19.2 | 5°30.1 | +10.9 | 57.9 |
| Ma 11 | 273°00.2 | 287°29.0 | 301°57.7 | 316°26.3 | 330°54.8 | 345°23.3 | 359°51.6 | 14°19.9 | 28°48.1 | 43°16.3 | 57°44.3 | +28.4 | 16.1 |
| | 8°10.5 | 8°20.9 | 8°31.4 | 8°41.8 | 8°52.2 | 9°02.6 | 9°12.9 | 9°23.2 | 9°33.4 | 9°43.6 | 9°53.8 | +10.3 | 59.0 |
| Me 12 | 274°34.7 | 289°01.4 | 303°28.0 | 317°54.5 | 332°20.9 | 346°47.2 | 1°13.4 | 15°39.6 | 30°05.6 | 44°31.6 | 58°57.5 | +26.3 | 16.3 |
| | 12°20.0 | 12°29.3 | 12°38.5 | 12°47.7 | 12°56.7 | 13°05.7 | 13°14.7 | 13°23.5 | 13°32.3 | 13°41.0 | 13°49.6 | +9.0 | 59.9 |
| Je 13 | 275°15.5 | 289°40.0 | 304°04.4 | 318°28.8 | 332°53.1 | 347°17.3 | 1°41.5 | 16°05.5 | 30°29.5 | 44°53.5 | 59°17.3 | +24.2 | 16.5 |
| | 15°48.6 | 15°55.7 | 16°02.8 | 16°09.7 | 16°16.6 | 16°23.3 | 16°30.0 | 16°36.5 | 16°42.9 | 16°49.2 | 16°55.4 | +6.7 | 60.6 |
| Ve 14 | 275°07.1 | 289°29.9 | 303°52.8 | 318°15.5 | 332°38.2 | 347°00.9 | 1°23.5 | 15°46.1 | 30°08.6 | 44°31.1 | 58°53.6 | +22.6 | 16.7 |
| | 18°13.5 | 18°17.7 | 18°21.7 | 18°25.6 | 18°29.4 | 18°33.0 | 18°36.5 | 18°39.9 | 18°43.1 | 18°46.2 | 18°49.2 | +3.6 | 61.1 |
| ○ Sa 15 | 274°27.5 | 288°49.6 | 303°11.8 | 317°33.9 | 331°56.0 | 346°18.2 | 0°40.3 | 15°02.5 | 29°24.6 | 43°46.8 | 58°09.0 | +22.1 | 16.7 |
| | 19°16.2 | 19°16.8 | 19°17.3 | 19°17.7 | 19°17.9 | 19°17.9 | 19°17.8 | 19°17.6 | 19°17.2 | 19°16.6 | 19°16.0 | -0.0 | 61.2 |
| Di 16 | 273°44.6 | 288°07.3 | 302°30.0 | 316°52.7 | 331°15.5 | 345°38.4 | 0°01.2 | 14°24.2 | 28°47.2 | 43°10.2 | 57°33.3 | +22.9 | 16.6 |
| | 18°48.3 | 18°45.3 | 18°42.2 | 18°38.9 | 18°35.6 | 18°32.0 | 18°28.4 | 18°24.6 | 18°20.6 | 18°16.6 | 18°12.4 | -3.6 | 61.0 |
| Lu 17 | 273°27.6 | 287°51.8 | 302°16.1 | 316°40.4 | 331°04.8 | 345°29.3 | 359°53.9 | 14°18.6 | 28°43.3 | 43°08.1 | 57°33.0 | +24.5 | 16.5 |
| | 16°54.5 | 16°48.3 | 16°42.1 | 16°35.7 | 16°29.2 | 16°22.6 | 16°15.9 | 16°09.1 | 16°02.2 | 15°55.2 | 15°48.1 | -6.6 | 60.5 |
| Ma 18 | 273°56.5 | 288°22.7 | 302°49.1 | 317°15.5 | 331°42.0 | 346°08.6 | 0°35.3 | 15°02.0 | 29°28.9 | 43°55.8 | 58°22.8 | +26.6 | 16.3 |
| | 13°50.4 | 13°41.8 | 13°33.2 | 13°24.5 | 13°15.8 | 13°06.9 | 12°58.0 | 12°49.1 | 12°40.0 | 12°30.9 | 12°21.7 | -8.9 | 59.7 |
| Me 19 | 275°18.0 | 289°46.3 | 304°14.7 | 318°43.2 | 333°11.8 | 347°40.4 | 2°09.1 | 16°37.9 | 31°06.8 | 45°35.7 | 60°04.7 | +28.7 | 16.0 |
| | 9°57.0 | 9°46.9 | 9°36.8 | 9°26.7 | 9°16.5 | 9°06.3 | 8°56.0 | 8°45.7 | 8°35.4 | 8°25.0 | 8°14.6 | -10.2 | 58.8 |
| Je 20 | 289°46.3 | 304°14.7 | 318°43.2 | 333°11.8 | 347°40.4 | 2°09.1 | 16°37.9 | 31°06.8 | 45°35.7 | 60°04.7 | 74°33.8 | +28.7 | 16.0 |
| | 9°46.9 | 9°36.8 | 9°26.7 | 9°16.5 | 9°06.3 | 8°56.0 | 8°45.7 | 8°35.4 | 8°25.0 | 8°14.6 | 8°04.2 | -10.3 | 58.8 |
| ◑ Ve 21 | 291°58.0 | 306°28.2 | 320°58.4 | 335°28.6 | 349°58.9 | 4°29.3 | 18°59.7 | 33°30.2 | 48°00.7 | 62°31.3 | 77°01.9 | +30.4 | 15.8 |
| | 5°24.5 | 5°13.6 | 5°02.8 | 4°52.0 | 4°41.1 | 4°30.3 | 4°19.4 | 4°08.6 | 3°57.7 | 3°46.8 | 3°35.9 | -10.9 | 57.9 |
| Sa 22 | 294°47.1 | 309°18.5 | 323°49.8 | 338°21.3 | 352°52.7 | 7°24.3 | 21°55.8 | 36°27.4 | 50°59.0 | 65°30.6 | 80°02.3 | +31.5 | 15.6 |
| | 0°52.4 | 0°41.5 | 0°30.6 | 0°19.8 | 0°08.9 | -0°01.9 | -0°12.7 | -0°23.5 | -0°34.3 | -0°45.1 | -0°55.8 | -10.8 | 57.0 |
| Di 23 | 298°00.6 | 312°32.7 | 327°04.7 | 341°36.8 | 356°09.0 | 10°41.1 | 25°13.3 | 39°45.4 | 54°17.6 | 68°49.8 | 83°22.0 | +32.1 | 15.3 |
| | -3°34.8 | -3°45.2 | -3°55.6 | -4°05.9 | -4°16.3 | -4°26.6 | -4°36.8 | -4°47.1 | -4°57.3 | -5°07.4 | -5°17.6 | -10.3 | 56.3 |
| Lu 24 | 301°26.1 | 315°58.4 | 330°30.7 | 345°03.0 | 359°35.3 | 14°07.7 | 28°40.0 | 43°12.3 | 57°44.6 | 72°16.9 | 86°49.2 | +32.3 | 15.2 |
| | -7°45.2 | -7°54.7 | -8°04.2 | -8°13.6 | -8°23.0 | -8°32.4 | -8°41.7 | -8°50.9 | -9°00.1 | -9°09.3 | -9°18.4 | -9.2 | 55.6 |
| Ma 25 | 304°53.1 | 319°25.3 | 333°57.5 | 348°29.7 | 3°01.8 | 17°34.0 | 32°06.1 | 46°38.3 | 61°10.4 | 75°42.5 | 90°14.6 | +32.1 | 15.0 |
| | -11°28.8 | -11°37.1 | -11°45.3 | -11°53.4 | -12°01.5 | -12°09.5 | -12°17.5 | -12°25.4 | -12°33.2 | -12°41.0 | -12°48.7 | -8.0 | 55.0 |
| Me 26 | 308°14.2 | 322°46.1 | 337°17.9 | 351°49.8 | 6°21.6 | 20°53.4 | 35°25.1 | 49°56.9 | 64°28.6 | 79°00.4 | 93°32.1 | +31.8 | 14.9 |
| | -14°36.8 | -14°43.5 | -14°50.1 | -14°56.6 | -15°03.1 | -15°09.5 | -15°15.8 | -15°22.0 | -15°28.2 | -15°34.3 | -15°40.3 | -6.3 | 54.6 |
| Je 27 | 311°25.7 | 325°57.2 | 340°28.6 | 355°00.1 | 9°31.5 | 24°02.9 | 38°34.2 | 53°05.6 | 67°36.9 | 82°08.3 | 96°39.6 | +31.4 | 14.8 |
| | -17°01.5 | -17°06.3 | -17°11.0 | -17°15.7 | -17°20.2 | -17°24.7 | -17°29.1 | -17°33.4 | -17°37.6 | -17°41.7 | -17°45.8 | -4.4 | 54.3 |
| Ve 28 | 314°28.0 | 328°59.1 | 343°30.2 | 358°01.4 | 12°32.5 | 27°03.6 | 41°34.7 | 56°05.8 | 70°36.9 | 85°08.0 | 99°39.0 | +31.1 | 14.7 |
| | -18°36.6 | -18°39.3 | -18°41.9 | -18°44.4 | -18°46.9 | -18°49.2 | -18°51.5 | -18°53.7 | -18°55.8 | -18°57.8 | -18°59.7 | -2.3 | 54.1 |
| ● Sa 29 | 317°24.9 | 331°55.9 | 346°27.0 | 0°58.0 | 15°29.1 | 30°00.2 | 44°31.2 | 59°02.3 | 73°33.4 | 88°04.4 | 102°35.5 | +31.1 | 14.7 |
| | -19°17.7 | -19°18.2 | -19°18.6 | -19°19.0 | -19°19.2 | -19°19.3 | -19°19.4 | -19°19.3 | -19°19.2 | -19°19.0 | -19°18.7 | -0.1 | 53.9 |
| Di 30 | 320°22.8 | 334°54.0 | 349°25.2 | 3°56.5 | 18°27.8 | 32°59.1 | 47°30.4 | 62°01.7 | 76°33.0 | 91°04.4 | 105°35.7 | +31.3 | 14.7 |
| | -19°03.4 | -19°01.7 | -18°59.8 | -18°58.0 | -18°56.0 | -18°53.9 | -18°51.7 | -18°49.5 | -18°47.2 | -18°44.8 | -18°42.3 | +2.1 | 53.9 |
| Lu 31 | 323°28.2 | 337°59.9 | 352°31.6 | 7°03.3 | 21°35.0 | 36°06.7 | 50°38.5 | 65°10.2 | 79°42.0 | 94°13.9 | 108°45.7 | +31.7 | 14.7 |
| | -17°54.8 | -17°51.0 | -17°47.0 | -17°43.1 | -17°39.0 | -17°34.9 | -17°30.6 | -17°26.3 | -17°22.0 | -17°17.5 | -17°13.0 | +4.2 | 53.9 |

Ligne 1: GHA, Δ'/h = var. GHA − 14°, SP = semi-diamètre
Ligne 2: Dec (− = Sud), Δ'/h = var. déc., SP = parallaxe horizontale
Colonne = (heure UTC − jour) mod 24
PQ: 8 01h05 — PL: 15 00h33 — DQ: 21 16h28 — NL: 29 14h30