LUNAR OCCULTATIONS OF PLANETS, BRIGHT STARS, AND THE SUN

January 7, 2026

The moon, as our nearest neighbor, sometimes blocks the light coming from a planet, a star, or the sun. Occultations and solar eclipses are listed below for 2024 through 2025. The name of the planet or star, along with its visual magnitude, is listed along with the percentage of the moon's disk that is illuminated at the time, and the phase of the moon. The date and time (MST) when the geocentric angle between the center of the moon and the center of the planet or star is minimal (mid-point of the occultation), and the angle of separation are also listed. **NOTE: previous editions of this listing should be discarded.**

The date and times (MST) when the occultation first commences, and last ends, for the first and last observations on earth are listed, followed by the longitude and latitude of the location where the line from the object's center through the moon's center strikes the surface of the earth at mid-occultation.

If the occultation is visible, in whole or in part, from **The Journey Museum and Learning Center (JMLC)**, the times (MST) of the various stages are listed along with the altitude above the horizon, and the azimuth, of the object, and the altitude of the sun with respect to the horizon. For occultations of Venus and solar eclipses, when the object is above the horizon, and for other objects when the object is above the horizon, but not the sun (this is noted with three asterisks (***)). If, on the other hand, the Moon is visible when the object in question appears closest to the Moon, but the planet or star is not occulted because of perspective, then the angle between the edge of the Moon and the edge of the object (the miss angle) is listed. *If MDT is required, add one hour to the listed time. For UTC, add 7 hours.*

Note: The calculations for "global events" are made in terms of Terrestrial Time (TT), but listed in UTC or a derivative such as MST or EST. Therefore, they are dependent on DUTC (DUTC = TT – UTC) which for dates more than a few months into the future can only be predicted. For observations at a particular location, and for predictions of where to observe an occultation or eclipse, the Earth's rotational position is also needed, and thus DUT1 (DUT1 = TT – UT1) is involved which again can only be estimated for dates in the future. Also, a number of other factors are involved in the computation of an occultation, and the results given here for more than a year in the future could be off by a few seconds. In addition, direct visual observation can be uncertain in terms of reaction time, plus establishing the accuracy of the clock an observer uses can require considerable effort.

The values of DUTC (TT – UTC) and DUT1 (TT-UT1), are shown in seconds.

N.B. This edition replaces all previous editions.

Reference location: Journey Museum 103.2187W 44.0866N
A "miss angle" is the angle between the edges of the Moon and the object.
Selected stars are magnitude 3.5 or brighter.

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Occultation of Alcyone 2.85 by moon 88% illuminated at phase= 140 degrees
12/31/2025 06:46:33.9 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.11
Global start/end: 12/31/2025 05:19:45.7    and   12/31/2025 08:13:20.1
Mid-occultation observing point 20.595E 77.86N

Occultation of Elnath 1.65 by moon 97% illuminated at phase= 161 degrees
01/01/2026 18:53:08.6 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.11
Global start/end: 01/01/2026 16:56:36.1    and   01/01/2026 20:49:40.7
Mid-occultation observing point 47.105W 3.18N
At Journey Museum, the miss angle is 2465.5 arc-sec at 01/01/2026 18:04:09.7

Occultation of Regulus 1.36 by moon 86% illuminated at phase= 224 degrees
01/06/2026 10:21:32.1 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.11
Global start/end: 01/06/2026 08:19:34.0    and   01/06/2026 12:23:36.6
Mid-occultation observing point 159.401E 35.436N
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Occultation of 6 pi Scorpii 2.89 by moon 19% illuminated at phase= 309 degrees
01/13/2026 23:15:11.5 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/13/2026 21:03:38.9 and 01/14/2026 01:26:42.1
Mid-occultation observing point 37.763E 1.14S

Occultation of 20 sigma Scorpii 2.9 by moon 16% illuminated at phase= 313 degrees
01/14/2026 09:03:27.1 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/14/2026 08:16:43.3 and 01/14/2026 09:50:10.5
Mid-occultation observing point 91.254E 61.796S

Occultation of Antares 1.06 by moon 15% illuminated at phase= 315 degrees
01/14/2026 13:01:20.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/14/2026 10:58:59.5 and 01/14/2026 15:03:39.6
Mid-occultation observing point 178.825W 63.626S

Occultation of 23 tau Scorpii 2.82 by moon 14% illuminated at phase= 317 degrees
01/14/2026 16:25:48.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/14/2026 15:17:20.6 and 01/14/2026 17:34:15.3
Mid-occultation observing point 160.532E 61.991N

Occultation of 27 phi Sagittarii 3.17 by moon 2% illuminated at phase= 343 degrees
01/17/2026 01:36:43.1 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/16/2026 23:30:27.6 and 01/17/2026 03:42:55.1
Mid-occultation observing point 42.451E 56.577S

Occultation of Nunki 2.05 by moon 2% illuminated at phase= 345 degrees
01/17/2026 05:58:05.4 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/17/2026 04:24:48.6 and 01/17/2026 07:31:19.6
Mid-occultation observing point 95.893E 80.615S

Occultation of 40 tau Sagittarii 3.32 by moon 1% illuminated at phase= 347 degrees
01/17/2026 10:34:30.3 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.111
Global start/end: 01/17/2026 09:08:52.7 and 01/17/2026 12:00:05.7
Mid-occultation observing point 110.572W 55.052N

Occultation of Alcyone 2.85 by moon 69% illuminated at phase= 112 degrees
01/27/2026 14:29:34.2 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.112
Global start/end: 01/27/2026 13:24:25.1 and 01/27/2026 15:34:42.1
Mid-occultation observing point 176.37E 61.649N
At Journey Museum, the miss angle is 228.6 arc-sec at 01/27/2026 13:29:29.5

Occultation of Elnath 1.65 by moon 84% illuminated at phase= 133 degrees
01/29/2026 03:54:07.5 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.112
Global start/end: 01/29/2026 01:52:23.4 and 01/29/2026 05:55:50.3
Mid-occultation observing point 150.411E 9.426N

Occultation of Regulus 1.36 by moon 98% illuminated at phase= 196 degrees
02/02/2026 20:45:17.6 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.112
Global start/end: 02/02/2026 18:41:03.0 and 02/02/2026 22:49:36.3
Mid-occultation observing point 27.109W 30.201N

---For observations at Journey Museum:
02/02/2026 18:41:48.4 Start Total (elev 4 az 77 deg.) -17.7 *
02/02/2026 19:09:14.8 OCCULTATION MID-POINT (elev 8 az 81 deg.) -22.6 *
02/02/2026 19:37:43.0 End Total (elev 13 az 86 deg.) -27.7 *

Occultation of 6 pi Scorpii 2.89 by moon 40% illuminated at phase= 281 degrees
02/10/2026 07:03:11.5 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.114
Global start/end: 02/10/2026 04:46:24.1 and 02/10/2026 09:19:58.4
Mid-occultation observing point 108.013W 10.592S
At Journey Museum, the miss angle is 1233.8 arc-sec at 02/10/2026 06:36:04.9

Occultation of Antares 1.06 by moon 35% illuminated at phase= 287 degrees
02/10/2026 20:50:35.3 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 02/10/2026 18:57:53.9 and 02/10/2026 22:43:15.4
Mid-occultation observing point 24.568E 74.152S

Occultation of 23 tau Scorpii 2.82 by moon 34% illuminated at phase= 289 degrees
02/11/2026 00:15:15.9 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 02/10/2026 22:44:07.1 and 02/11/2026 01:46:23.7
Mid-occultation observing point 10.242E 46.551N

Occultation of 27 phi Sagittarii 3.17 by moon 14% illuminated at phase= 315 degrees
02/13/2026 09:38:47.9 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 02/13/2026 07:36:15.1 and 02/13/2026 11:41:16.2
Mid-occultation observing point 102.397W 62.041S
At Journey Museum, the miss angle is 3919.3 arc-sec at 02/13/2026 10:49:29.6

Occultation of Nunki 2.05 by moon 13% illuminated at phase= 317 degrees
02/13/2026 14:00:44.0 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 02/13/2026 12:36:55.9 and 02/13/2026 15:24:29.3
Mid-occultation observing point 12.997W 61.51S

Occultation of 40 tau Sagittarii 3.32 by moon 12% illuminated at phase= 320 degrees
02/13/2026 18:37:01.3 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 02/13/2026 17:02:00.9 and 02/13/2026 20:11:58.1
Mid-occultation observing point 107.302E 38.367N

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.116
02/17/2026 02:56:27.5 Start Partial Solar
02/17/2026 04:42:59.1 Start Annular Solar
02/17/2026 05:11:58.1 ANNULAR SOLAR ECLIPSE MID-POINT
02/17/2026 05:11:58.6 SOLAR ECLIPSE MAXIMUM 92.9%
02/17/2026 05:41:23.7 End Annular Solar
02/17/2026 07:27:40.7 End Partial Solar
Mid-eclipse observing point 86.721E 64.705S

Occultation of Alcyone 2.85 by moon 46% illuminated at phase= 85 degrees
02/23/2026 20:03:40.5 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.118
Global start/end: 02/23/2026 19:16:38.3 and 02/23/2026 20:50:42.5
Mid-occultation observing point 66.002E 61.658N

Occultation of Elnath 1.65 by moon 64% illuminated at phase= 106 degrees
02/25/2026 10:14:23.6 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.118
Global start/end: 02/25/2026 08:09:19.9 and 02/25/2026 12:19:26.9
Mid-occultation observing point 28.331E 13.377N

Occultation of Regulus 1.36 by moon 99% illuminated at phase= 168 degrees
03/02/2026 05:58:14.3 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.12
Global start/end: 03/02/2026 03:53:25.7 and 03/02/2026 08:03:04.9
Mid-occultation observing point 167.867E 30.462N

Occultation of 6 pi Scorpii 2.89 by moon 64% illuminated at phase= 254 degrees
03/09/2026 15:16:50.8 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.123
Global start/end: 03/09/2026 12:59:51.1 and 03/09/2026 17:33:52.0
Mid-occultation observing point 101.396E 11.728S

Occultation of Antares 1.06 by moon 59% illuminated at phase= 260 degrees
03/10/2026 05:03:13.7 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.123
Global start/end: 03/10/2026 03:11:50.7 and 03/10/2026 06:54:37.1
Mid-occultation observing point 128.296W 75.406S
At Journey Museum, the miss angle is 4559.8 arc-sec at 03/10/2026 03:56:05.8

Occultation of 23 tau Scorpii 2.82 by moon 57% illuminated at phase= 262 degrees
03/10/2026 08:27:58.0 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.123
Global start/end: 03/10/2026 06:54:46.6 and 03/10/2026 10:01:09.6
Mid-occultation observing point 140.693W 43.375N

Occultation of 27 phi Sagittarii 3.17 by moon 35% illuminated at phase= 288 degrees
03/12/2026 18:13:29.0 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.124
Global start/end: 03/12/2026 16:10:22.0 and 03/12/2026 20:16:32.1
Mid-occultation observing point 102.212E 62.441S

Occultation of Nunki 2.05 by moon 33% illuminated at phase= 290 degrees
03/12/2026 22:38:05.8 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.125
Global start/end: 03/12/2026 21:14:33.9 and 03/13/2026 00:01:35.1
Mid-occultation observing point 169.338W 61.509S

Occultation of 40 tau Sagittarii 3.32 by moon 31% illuminated at phase= 292 degrees
03/13/2026 03:17:10.8 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.125
Global start/end: 03/13/2026 01:41:23.4 and 03/13/2026 04:52:54.8
Mid-occultation observing point 49.704W 38.296N

Occultation of Alcyone 2.85 by moon 23% illuminated at phase= 58 degrees
03/23/2026 01:52:41.7 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.129
Global start/end: 03/23/2026 00:53:37.1 and 03/23/2026 02:51:46.7
Mid-occultation observing point 48.132W 61.653N

Occultation of Elnath 1.65 by moon 40% illuminated at phase= 79 degrees
03/24/2026 15:36:57.1 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.129
Global start/end: 03/24/2026 13:33:26.6 and 03/24/2026 17:40:29.4
Mid-occultation observing point 79.053W 10.037N
At Journey Museum, the miss angle is 1355.0 arc-sec at 03/24/2026 15:08:45.4

Occultation of Regulus 1.36 by moon 89% illuminated at phase= 141 degrees
03/29/2026 12:58:04.5 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.132
Global start/end: 03/29/2026 10:51:01.5 and 03/29/2026 15:05:08.5
Mid-occultation observing point 35.124E 29.131N

Occultation of 6 pi Scorpii 2.89 by moon 84% illuminated at phase= 227 degrees
04/05/2026 23:10:51.5 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.135
Global start/end: 04/05/2026 20:57:36.1 and 04/06/2026 01:24:09.5
Mid-occultation observing point 42.748W 4.887S

Occultation of 20 sigma Scorpii 2.9 by moon 81% illuminated at phase= 231 degrees
04/06/2026 08:57:30.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.135
Global start/end: 04/06/2026 08:27:22.6 and 04/06/2026 09:27:39.3
Mid-occultation observing point 11.636E 61.84S

Occultation of Antares 1.06 by moon 80% illuminated at phase= 233 degrees
04/06/2026 12:55:14.5 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.135
Global start/end: 04/06/2026 10:55:09.1 and 04/06/2026 14:55:21.7
Mid-occultation observing point 99.999E 66.336S

Occultation of 23 tau Scorpii 2.82 by moon 79% illuminated at phase= 235 degrees
04/06/2026 16:19:30.9 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.135
Global start/end: 04/06/2026 15:04:52.8 and 04/06/2026 17:34:09.7
Mid-occultation observing point 80.905E 62.037N

Occultation of 27 phi Sagittarii 3.17 by moon 58% illuminated at phase= 261 degrees
04/09/2026 02:21:40.2 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.136
Global start/end: 04/09/2026 00:11:05.2 and 04/09/2026 04:32:13.4
Mid-occultation observing point 50.665W 53.324S

Occultation of Nunki 2.05 by moon 56% illuminated at phase= 263 degrees
04/09/2026 06:49:19.5 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.137
Global start/end: 04/09/2026 05:08:29.5 and 04/09/2026 08:30:07.4
Mid-occultation observing point 47.703W 82.153S

Occultation of 40 tau Sagittarii 3.32 by moon 54% illuminated at phase= 265 degrees
04/09/2026 11:31:54.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.137
Global start/end: 04/09/2026 10:15:37.4 and 04/09/2026 12:48:09.4
Mid-occultation observing point 149.892E 62.057N

Occultation of Alcyone 2.85 by moon 7% illuminated at phase= 31 degrees
04/19/2026 09:50:50.8 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.141
Global start/end: 04/19/2026 08:33:12.1 and 04/19/2026 11:08:30.3
Mid-occultation observing point 171.209E 66.584N
At Journey Museum, the miss angle is 107.4 arc-sec at 04/19/2026 08:52:51.0

Occultation of Elnath 1.65 by moon 19% illuminated at phase= 52 degrees
04/20/2026 22:23:37.5 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.142
Global start/end: 04/20/2026 20:26:52.8 and 04/21/2026 00:20:25.2
Mid-occultation observing point 152.619E 0.658N

Occultation of Regulus 1.36 by moon 71% illuminated at phase= 114 degrees
04/25/2026 18:27:49.4 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.145
Global start/end: 04/25/2026 16:16:47.0 and 04/25/2026 20:38:52.7
Mid-occultation observing point 78.784W 21.275N

Occultation of 6 pi Scorpii 2.89 by moon 97% illuminated at phase= 201 degrees
05/03/2026 06:12:51.4 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/03/2026 04:05:21.1 and 05/03/2026 08:20:23.7
Mid-occultation observing point 173.631W 3.644N

Occultation of 20 sigma Scorpii 2.9 by moon 95% illuminated at phase= 205 degrees
05/03/2026 15:59:28.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/03/2026 14:48:37.8 and 05/03/2026 17:10:19.3
Mid-occultation observing point 121.071W 61.891S

Occultation of Antares 1.06 by moon 95% illuminated at phase= 207 degrees
05/03/2026 19:56:45.7 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/03/2026 17:48:30.1 and 05/03/2026 22:05:03.1
Mid-occultation observing point 25.818W 55.936S

Occultation of 23 tau Scorpii 2.82 by moon 94% illuminated at phase= 208 degrees
05/03/2026 23:20:18.4 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/03/2026 22:48:16.0 and 05/03/2026 23:52:21.0
Mid-occultation observing point 51.512W 62.074N

Occultation of 27 phi Sagittarii 3.17 by moon 79% illuminated at phase= 234 degrees
05/06/2026 09:28:05.3 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/06/2026 07:10:38.5 and 05/06/2026 11:45:32.7
Mid-occultation observing point 172.418E 39.734S

Occultation of Nunki 2.05 by moon 78% illuminated at phase= 236 degrees
05/06/2026 13:57:30.9 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/06/2026 11:57:40.0 and 05/06/2026 15:57:21.0
Mid-occultation observing point 119.154E 66.208S

Occultation of Elnath 1.65 by moon 5% illuminated at phase= 26 degrees
05/18/2026 07:30:52.0 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/18/2026 05:42:24.7 and 05/18/2026 09:19:21.5
Mid-occultation observing point 11.02W 8.927S
At Journey Museum, the miss angle is 3880.4 arc-sec at 05/18/2026 06:41:03.4

Occultation of Regulus 1.36 by moon 48% illuminated at phase= 88 degrees
05/23/2026 00:17:38.2 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/22/2026 22:06:19.9 and 05/23/2026 02:28:57.8
Mid-occultation observing point 160.299E 8.164N

Occultation of 6 pi Scorpii 2.89 by moon 100% illuminated at phase= 172 degrees
05/30/2026 12:25:14.6 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/30/2026 10:19:28.4 and 05/30/2026 14:31:01.4
Mid-occultation observing point 66.741E 6.126N

Occultation of 20 sigma Scorpii 2.9 by moon 100% illuminated at phase= 175 degrees
05/30/2026 22:13:38.0 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/30/2026 20:53:21.7 and 05/30/2026 23:33:54.7
Mid-occultation observing point 118.056E 61.962S

Occultation of Antares 1.06 by moon 100% illuminated at phase= 185 degrees
05/31/2026 02:10:55.5 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.147
Global start/end: 05/30/2026 23:59:56.0 and 05/31/2026 04:21:55.5
Mid-occultation observing point 144.484W 51.812S
At Journey Museum, the miss angle is 3420.8 arc-sec at 05/31/2026 03:17:38.5

Occultation of 27 phi Sagittarii 3.17 by moon 94% illuminated at phase= 208 degrees
06/02/2026 15:39:51.6 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.146
Global start/end: 06/02/2026 13:20:43.6 and 06/02/2026 17:59:00.9
Mid-occultation observing point 50.745E 28.981S

Occultation of Nunki 2.05 by moon 93% illuminated at phase= 210 degrees
06/02/2026 20:09:23.1 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.146
Global start/end: 06/02/2026 17:59:33.0 and 06/02/2026 22:19:13.2
Mid-occultation observing point 7.973W 53.287S

Occultation of Alcyone 2.85 by moon 4% illuminated at phase= 337 degrees
06/13/2026 06:39:49.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.139
Global start/end: 06/13/2026 05:18:39.8 and 06/13/2026 08:00:56.2
Mid-occultation observing point 172.897W 75.529N
At Journey Museum, the miss angle is 137.9 arc-sec at 06/13/2026 05:43:11.5

Occultation of Venus -4.0 by moon 11% illuminated at phase= 39 degrees
06/17/2026 13:30:31.8 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.137
Global start/end: 06/17/2026 11:17:12.3 and 06/17/2026 15:43:57.7
Mid-occultation observing point 79.541W 35.821N

---For observations at Journey Museum:
06/17/2026 11:58:03.0 Start Partial (elev 49 az 111 deg.) 69.3 *
06/17/2026 11:58:38.1 Start Total (elev 49 az 111 deg.) 69.3 *
06/17/2026 12:38:51.7 OCCULTATION MID-POINT (elev 56 az 123 deg.) 67.4 *
06/17/2026 13:20:17.9 End Total (elev 62 az 138 deg.) 62.8 *
06/17/2026 13:20:55.0 End Partial (elev 62 az 138 deg.) 62.7 *

Occultation of Regulus 1.36 by moon 26% illuminated at phase= 62 degrees
06/19/2026 07:54:29.4 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.135
Global start/end: 06/19/2026 05:49:13.6 and 06/19/2026 09:59:50.3
Mid-occultation observing point 12.929E 5.064S

Occultation of 6 pi Scorpii 2.89 by moon 92% illuminated at phase= 148 degrees
06/26/2026 18:22:16.3 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.131
Global start/end: 06/26/2026 16:11:55.6 and 06/26/2026 20:32:36.6
Mid-occultation observing point 50.546W 0.203N

Occultation of 20 sigma Scorpii 2.9 by moon 94% illuminated at phase= 152 degrees
06/27/2026 04:12:44.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.131
Global start/end: 06/27/2026 03:04:34.7 and 06/27/2026 05:20:53.4
Mid-occultation observing point 0.989E 62.025S

Occultation of Antares 1.06 by moon 95% illuminated at phase= 154 degrees
06/27/2026 08:10:15.3 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.131
Global start/end: 06/27/2026 06:01:40.4 and 06/27/2026 10:18:49.5
Mid-occultation observing point 97.542E 55.8S

Occultation of 23 tau Scorpii 2.82 by moon 95% illuminated at phase= 155 degrees
06/27/2026 11:32:50.4 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.13
Global start/end: 06/27/2026 11:11:57.6 and 06/27/2026 11:53:43.2
Mid-occultation observing point 70.718E 62.178N

Occultation of 27 phi Sagittarii 3.17 by moon 100% illuminated at phase= 184 degrees
06/29/2026 21:35:49.8 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.129
Global start/end: 06/29/2026 19:17:05.6 and 06/29/2026 23:54:34.0
Mid-occultation observing point 65.662W 25.343S
At Journey Museum, the miss angle is 1908.0 arc-sec at 06/29/2026 20:34:03.4

Occultation of Nunki 2.05 by moon 100% illuminated at phase= 186 degrees
06/30/2026 02:04:32.6 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.129
Global start/end: 06/29/2026 23:52:20.1 and 06/30/2026 04:16:44.1
Mid-occultation observing point 125.099W 48.77S
At Journey Museum, the miss angle is 2774.6 arc-sec at 06/30/2026 03:42:12.2

Occultation of Alcyone 2.85 by moon 17% illuminated at phase= 311 degrees
07/10/2026 16:16:56.6 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.12
Global start/end: 07/10/2026 15:13:05.0 and 07/10/2026 17:20:46.4
Mid-occultation observing point 13.762W 61.984N

Occultation of Elnath 1.65 by moon 6% illuminated at phase= 332 degrees
07/12/2026 04:31:44.8 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.119
Global start/end: 07/12/2026 02:43:04.8 and 07/12/2026 06:20:22.8
Mid-occultation observing point 20.562W 8.99S
At Journey Museum, the miss angle is 3677.1 arc-sec at 07/12/2026 03:40:04.9

Occultation of Regulus 1.36 by moon 9% illuminated at phase= 36 degrees
07/16/2026 17:22:44.3 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.115
Global start/end: 07/16/2026 15:24:13.1 and 07/16/2026 19:21:21.2
Mid-occultation observing point 160.259W 13.487S
At Journey Museum, the miss angle is 3415.9 arc-sec at 07/16/2026 17:24:00.8

Occultation of 6 pi Scorpii 2.89 by moon 76% illuminated at phase= 122 degrees
07/24/2026 00:47:45.3 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.109
Global start/end: 07/23/2026 22:32:12.7 and 07/24/2026 03:03:17.5
Mid-occultation observing point 175.418W 8.648S

Occultation of 20 sigma Scorpii 2.9 by moon 80% illuminated at phase= 126 degrees
07/24/2026 10:38:23.7 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.109
Global start/end: 07/24/2026 10:06:32.5 and 07/24/2026 11:10:14.9
Mid-occultation observing point 122.557W 62.059S

Occultation of Antares 1.06 by moon 81% illuminated at phase= 128 degrees
07/24/2026 14:35:48.3 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.109
Global start/end: 07/24/2026 12:33:36.8 and 07/24/2026 16:37:59.4
Mid-occultation observing point 29.883W 64.229S

Occultation of 23 tau Scorpii 2.82 by moon 82% illuminated at phase= 130 degrees
07/24/2026 17:58:00.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.109
Global start/end: 07/24/2026 16:54:29.3 and 07/24/2026 19:01:31.6
Mid-occultation observing point 52.734W 62.211N

Occultation of 27 phi Sagittarii 3.17 by moon 96% illuminated at phase= 156 degrees
07/27/2026 04:00:09.4 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.107
Global start/end: 07/27/2026 01:41:26.3 and 07/27/2026 06:18:51.3
Mid-occultation observing point 171.75E 27.725S

Occultation of Nunki 2.05 by moon 96% illuminated at phase= 158 degrees
07/27/2026 08:28:15.8 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.106
Global start/end: 07/27/2026 06:17:24.5 and 07/27/2026 10:39:04.8
Mid-occultation observing point 112.922E 50.864S

Occultation of Alcyone 2.85 by moon 37% illuminated at phase= 285 degrees
08/06/2026 23:44:43.9 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.1
Global start/end: 08/06/2026 23:09:03.0 and 08/07/2026 00:20:24.3
Mid-occultation observing point 152.727W 62.026N

Occultation of Elnath 1.65 by moon 20% illuminated at phase= 306 degrees
08/08/2026 13:10:41.3 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.099
Global start/end: 08/08/2026 11:16:44.3 and 08/08/2026 15:04:35.6
Mid-occultation observing point 177.401W 4.145S
At Journey Museum, the miss angle is 3143.3 arc-sec at 08/08/2026 14:06:41.1

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.098
08/12/2026 08:34:15.3 Start Partial Solar
08/12/2026 09:58:10.1 Start Total Solar
08/12/2026 10:45:55.2 TOTAL SOLAR ECLIPSE MID-POINT
08/12/2026 11:34:07.1 End Total Solar
08/12/2026 12:57:59.0 End Partial Solar
Mid-eclipse observing point 25.247W 65.235N
At Journey Museum, the miss angle is 174.6 arc-sec at 08/12/2026 09:54:52.1

Occultation of 6 pi Scorpii 2.89 by moon 55% illuminated at phase= 96 degrees
08/20/2026 08:08:03.4 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.094
Global start/end: 08/20/2026 05:50:51.3 and 08/20/2026 10:25:16.5
Mid-occultation observing point 46.724E 13.341S

Occultation of Antares 1.06 by moon 60% illuminated at phase= 102 degrees
08/20/2026 21:52:24.9 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.094
Global start/end: 08/20/2026 19:54:54.6 and 08/20/2026 23:49:56.2
Mid-occultation observing point 170.148W 69.387S

Occultation of 23 tau Scorpii 2.82 by moon 62% illuminated at phase= 104 degrees
08/21/2026 01:13:51.9 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.094
Global start/end: 08/20/2026 23:56:09.3 and 08/21/2026 02:31:35.0
Mid-occultation observing point 171.287E 62.226N

Occultation of 27 phi Sagittarii 3.17 by moon 82% illuminated at phase= 130 degrees
08/23/2026 11:16:46.7 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.093
Global start/end: 08/23/2026 08:57:48.2 and 08/23/2026 13:35:43.3
Mid-occultation observing point 36.108E 30.282S

Occultation of Nunki 2.05 by moon 83% illuminated at phase= 132 degrees
08/23/2026 15:45:12.7 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.093
Global start/end: 08/23/2026 13:35:42.3 and 08/23/2026 17:54:40.1
Mid-occultation observing point 22.171W 53.469S

Occultation of Alcyone 2.85 by moon 59% illuminated at phase= 259 degrees
09/03/2026 05:25:07.5 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.089
Global start/end: 09/03/2026 04:55:16.5 and 09/03/2026 05:54:58.2
Mid-occultation observing point 95.349E 62.032N
At Journey Museum, the miss angle is 2391.0 arc-sec at 09/03/2026 05:43:32.8

Occultation of Elnath 1.65 by moon 41% illuminated at phase= 280 degrees
09/04/2026 19:36:57.9 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.089
Global start/end: 09/04/2026 17:41:39.5 and 09/04/2026 21:32:14.9
Mid-occultation observing point 59.148E 4.437S

Occultation of Jupiter -1.8 by moon 7% illuminated at phase= 329 degrees
09/08/2026 11:43:54.3 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.088
Global start/end: 09/08/2026 10:01:45.5 and 09/08/2026 13:26:04.0
Mid-occultation observing point 92.944W 61.117N

Occultation of Regulus 1.36 by moon 2% illuminated at phase= 343 degrees
09/09/2026 12:50:34.0 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.088
Global start/end: 09/09/2026 10:53:24.4 and 09/09/2026 14:47:45.4
Mid-occultation observing point 147.383W 15.715S
At Journey Museum, the miss angle is 3176.6 arc-sec at 09/09/2026 12:33:35.0

Occultation of Venus -4.7 by moon 12% illuminated at phase= 41 degrees
09/14/2026 04:34:29.2 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 09/14/2026 02:25:20.5 and 09/14/2026 06:43:43.5
Mid-occultation observing point 53.043E 11.912N

Occultation of 6 pi Scorpii 2.89 by moon 32% illuminated at phase= 69 degrees
09/16/2026 16:15:11.6 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 09/16/2026 13:59:57.1 and 09/16/2026 18:30:28.9
Mid-occultation observing point 101.419W 10.069S
At Journey Museum, the miss angle is 1140.6 arc-sec at 09/16/2026 15:35:09.6

Occultation of 20 sigma Scorpii 2.9 by moon 36% illuminated at phase= 74 degrees
09/17/2026 01:58:21.2 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 09/17/2026 01:30:14.1 and 09/17/2026 02:26:28.4
Mid-occultation observing point 46.495W 62.064S

Occultation of Antares 1.06 by moon 38% illuminated at phase= 76 degrees
09/17/2026 05:53:15.5 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 09/17/2026 03:52:04.1 and 09/17/2026 07:54:29.5
Mid-occultation observing point 46.496E 64.912S

Occultation of 23 tau Scorpii 2.82 by moon 39% illuminated at phase= 77 degrees
09/17/2026 09:13:25.7 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 09/17/2026 08:06:14.2 and 09/17/2026 10:20:38.1
Mid-occultation observing point 24.404E 62.235N

Occultation of 27 phi Sagittarii 3.17 by moon 62% illuminated at phase= 104 degrees
09/19/2026 19:15:53.6 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 09/19/2026 16:56:13.2 and 09/19/2026 21:35:33.2
Mid-occultation observing point 111.197W 26.727S
At Journey Museum, the miss angle is 1965.3 arc-sec at 09/19/2026 20:14:45.0

Occultation of Nunki 2.05 by moon 63% illuminated at phase= 106 degrees
09/19/2026 23:45:34.0 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 09/19/2026 21:33:03.6 and 09/20/2026 01:58:02.5
Mid-occultation observing point 170.669W 49.654S

Occultation of Alcyone 2.85 by moon 80% illuminated at phase= 233 degrees
09/30/2026 11:03:43.2 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 09/30/2026 10:04:12.4 and 09/30/2026 12:03:13.9
Mid-occultation observing point 16.221W 62.04N

Occultation of Elnath 1.65 by moon 64% illuminated at phase= 254 degrees
10/02/2026 00:58:46.9 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/01/2026 23:10:00.5 and 10/02/2026 02:47:34.0
Mid-occultation observing point 48.007W 13.12S
At Journey Museum, the miss angle is 3193.4 arc-sec at 10/02/2026 00:11:35.3

Occultation of Mars 1.1 by moon 31% illuminated at phase= 292 degrees
10/04/2026 23:11:32.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/04/2026 22:06:14.4 and 10/05/2026 00:16:52.0
Mid-occultation observing point 157.313E 61.891N

Occultation of Jupiter -1.9 by moon 20% illuminated at phase= 307 degrees
10/06/2026 03:23:38.7 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/06/2026 01:13:35.7 and 10/06/2026 05:33:41.4
Mid-occultation observing point 23.784W 23.87N

---For observations at Journey Museum:
10/06/2026 01:29:54.1 Start Partial (elev 1 az 70 deg.) -44.4 *
10/06/2026 01:31:13.2 Start Total (elev 2 az 70 deg.) -44.2 *
10/06/2026 01:49:55.4 OCCULTATION MID-POINT (elev 5 az 73 deg.) -41.9 *
10/06/2026 02:09:04.9 End Total (elev 8 az 76 deg.) -39.4 *
10/06/2026 02:10:28.0 End Partial (elev 8 az 76 deg.) -39.2 *

Occultation of Regulus 1.36 by moon 14% illuminated at phase= 316 degrees
10/06/2026 20:08:12.1 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/06/2026 18:12:51.7 and 10/06/2026 22:03:33.7
Mid-occultation observing point 74.066E 20.099S

Occultation of 6 pi Scorpii 2.89 by moon 13% illuminated at phase= 43 degrees
10/14/2026 00:30:08.3 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/13/2026 22:20:45.2 and 10/14/2026 02:39:35.4
Mid-occultation observing point 109.534E 0.498S

Occultation of 20 sigma Scorpii 2.9 by moon 16% illuminated at phase= 47 degrees
10/14/2026 10:09:27.4 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/14/2026 08:55:59.2 and 10/14/2026 11:22:57.4
Mid-occultation observing point 163.605E 62.087S

Occultation of Antares 1.06 by moon 17% illuminated at phase= 49 degrees
10/14/2026 14:02:43.2 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 10/14/2026 11:53:23.8 and 10/14/2026 16:12:06.3
Mid-occultation observing point 97.221W 53.564S
At Journey Museum, the miss angle is 3413.4 arc-sec at 10/14/2026 12:46:17.3

Occultation of 27 phi Sagittarii 3.17 by moon 38% illuminated at phase= 77 degrees
10/17/2026 03:19:50.1 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 10/17/2026 01:01:43.4 and 10/17/2026 05:37:57.2
Mid-occultation observing point 99.187E 15.15S

Occultation of Nunki 2.05 by moon 40% illuminated at phase= 79 degrees
10/17/2026 07:50:52.1 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 10/17/2026 05:32:36.7 and 10/17/2026 10:09:07.7
Mid-occultation observing point 37.699E 37.773S

Occultation of Alcyone 2.85 by moon 95% illuminated at phase= 206 degrees
10/27/2026 18:38:58.4 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 10/27/2026 17:18:24.9 and 10/27/2026 19:59:31.7
Mid-occultation observing point 138.159W 73.378N

---For observations at Journey Museum:
10/27/2026 17:27:56.0 Start Total (elev 0 az 54 deg.) -7.6
10/27/2026 17:49:11.2 OCCULTATION MID-POINT (elev 3 az 58 deg.) -11.3 *
10/27/2026 18:10:53.7 End Total (elev 6 az 62 deg.) -15.2 *

Occultation of Elnath 1.65 by moon 84% illuminated at phase= 227 degrees
10/29/2026 07:27:44.7 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 10/29/2026 05:53:45.1 and 10/29/2026 09:01:45.8
Mid-occultation observing point 171.927W 29.246S
At Journey Museum, the miss angle is 4130.4 arc-sec at 10/29/2026 08:18:49.6

Occultation of Mars 0.9 by moon 42% illuminated at phase= 279 degrees
11/02/2026 06:39:03.4 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 11/02/2026 05:14:52.9 and 11/02/2026 08:03:16.3
Mid-occultation observing point 152.889W 57.954S
At Journey Museum, the miss angle is 3885.4 arc-sec at 11/02/2026 05:40:27.4

Occultation of Jupiter -2.0 by moon 38% illuminated at phase= 284 degrees
11/02/2026 15:45:55.0 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 11/02/2026 13:44:44.6 and 11/02/2026 17:47:08.1
Mid-occultation observing point 111.028E 13.425S

Occultation of Regulus 1.36 by moon 34% illuminated at phase= 289 degrees
11/03/2026 01:42:09.9 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 11/02/2026 23:58:47.1 and 11/03/2026 03:25:35.3
Mid-occultation observing point 44.685W 33.967S

Occultation of Venus -4.5 by moon 4% illuminated at phase= 338 degrees
11/07/2026 03:42:46.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/07/2026 02:24:14.5 and 11/07/2026 05:01:19.9
Mid-occultation observing point 122.585W 61.339S

Occultation of 6 pi Scorpii 2.89 by moon 2% illuminated at phase= 16 degrees
11/10/2026 08:05:59.2 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/10/2026 06:03:24.7 and 11/10/2026 10:08:36.8
Mid-occultation observing point 29.889W 8.595N

Occultation of 20 sigma Scorpii 2.9 by moon 3% illuminated at phase= 20 degrees
11/10/2026 17:45:01.7 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/10/2026 16:10:14.2 and 11/10/2026 19:19:51.4
Mid-occultation observing point 70.29E 81.526S

Occultation of Antares 1.06 by moon 4% illuminated at phase= 22 degrees
11/10/2026 21:37:34.0 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/10/2026 19:23:13.9 and 11/10/2026 23:51:56.8
Mid-occultation observing point 124.991E 43.662S

Occultation of 27 phi Sagittarii 3.17 by moon 17% illuminated at phase= 49 degrees
11/13/2026 10:48:21.3 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/13/2026 08:38:12.9 and 11/13/2026 12:58:31.3
Mid-occultation observing point 41.943W 0.503N

Occultation of Nunki 2.05 by moon 19% illuminated at phase= 51 degrees
11/13/2026 15:19:58.1 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 11/13/2026 13:00:16.6 and 11/13/2026 17:39:41.4
Mid-occultation observing point 104.425W 22.924S
At Journey Museum, the miss angle is 1857.3 arc-sec at 11/13/2026 16:04:08.3

Occultation of Alcyone 2.85 by moon 100% illuminated at phase= 175 degrees
11/24/2026 04:46:31.1 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 11/24/2026 03:20:08.5 and 11/24/2026 06:12:52.0
Mid-occultation observing point 86.589E 79.184N
At Journey Museum, the miss angle is 423.2 arc-sec at 11/24/2026 06:12:30.9

Occultation of Elnath 1.65 by moon 97% illuminated at phase= 200 degrees
11/25/2026 16:35:33.9 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 11/25/2026 15:16:07.7 and 11/25/2026 17:55:00.6
Mid-occultation observing point 24.332E 49.069S

Occultation of Jupiter -2.2 by moon 60% illuminated at phase= 258 degrees
11/30/2026 01:24:59.5 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 11/30/2026 00:14:45.6 and 11/30/2026 02:35:16.1
Mid-occultation observing point 112.362W 62.489S

Occultation of Regulus 1.36 by moon 57% illuminated at phase= 262 degrees
11/30/2026 07:24:44.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 11/30/2026 06:11:03.4 and 11/30/2026 08:38:27.9
Mid-occultation observing point 157.429E 62.514S
At Journey Museum, the miss angle is 5020.6 arc-sec at 11/30/2026 06:52:07.5

Occultation of 6 pi Scorpii 2.89 by moon 1% illuminated at phase= 347 degrees
12/07/2026 14:39:15.2 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/07/2026 12:36:43.6 and 12/07/2026 16:41:48.2
Mid-occultation observing point 155.137W 9.147N

Occultation of 27 phi Sagittarii 3.17 by moon 4% illuminated at phase= 22 degrees
12/10/2026 17:27:20.8 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/10/2026 15:26:48.1 and 12/10/2026 19:27:54.6
Mid-occultation observing point 170.268W 12.455N

Occultation of Nunki 2.05 by moon 4% illuminated at phase= 24 degrees
12/10/2026 21:58:45.9 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/10/2026 19:41:54.9 and 12/11/2026 00:15:38.2
Mid-occultation observing point 127.251E 12.455S

Occultation of Alcyone 2.85 by moon 93% illuminated at phase= 150 degrees
12/21/2026 16:04:54.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/21/2026 14:46:35.1 and 12/21/2026 17:23:10.8
Mid-occultation observing point 165.158W 69.318N

Occultation of Elnath 1.65 by moon 99% illuminated at phase= 170 degrees
12/23/2026 03:51:22.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/23/2026 02:34:00.3 and 12/23/2026 05:08:43.5
Mid-occultation observing point 171.909W 53.786S
At Journey Museum, the miss angle is 4755.7 arc-sec at 12/23/2026 04:39:09.1

Occultation of Regulus 1.36 by moon 80% illuminated at phase= 234 degrees
12/27/2026 15:22:40.0 Geocentric minimum 1.3 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 12/27/2026 15:04:10.2 and 12/27/2026 15:41:10.1
Mid-occultation observing point 10.89E 62.444S

Occultation of 6 pi Scorpii 2.89 by moon 12% illuminated at phase= 319 degrees
01/03/2027 20:32:28.2 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 01/03/2027 18:23:29.1 and 01/03/2027 22:41:27.9
Mid-occultation observing point 88.31E 1.343N

Occultation of 20 sigma Scorpii 2.9 by moon 10% illuminated at phase= 324 degrees
01/04/2027 06:19:28.0 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 01/04/2027 04:53:20.1 and 01/04/2027 07:45:36.5
Mid-occultation observing point 139.123E 62.271S

Occultation of Antares 1.06 by moon 9% illuminated at phase= 326 degrees
01/04/2027 10:13:52.2 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.087
Global start/end: 01/04/2027 08:00:15.1 and 01/04/2027 12:27:29.2
Mid-occultation observing point 118.379W 46.976S
At Journey Museum, the miss angle is 3342.4 arc-sec at 01/04/2027 10:16:19.1

Occultation of Alcyone 2.85 by moon 77% illuminated at phase= 122 degrees
01/18/2027 02:12:19.6 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 01/18/2027 01:13:41.2 and 01/18/2027 03:10:55.8
Mid-occultation observing point 6.938E 62.367N

Occultation of Elnath 1.65 by moon 90% illuminated at phase= 143 degrees
01/19/2027 15:01:15.2 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.086
Global start/end: 01/19/2027 13:36:33.1 and 01/19/2027 16:25:54.2
Mid-occultation observing point 6.852W 40.509S
At Journey Museum, the miss angle is 5069.9 arc-sec at 01/19/2027 14:14:13.6

Occultation of 6 pi Scorpii 2.89 by moon 31% illuminated at phase= 292 degrees
01/31/2027 02:47:58.4 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 01/31/2027 00:34:38.8 and 01/31/2027 05:01:19.6
Mid-occultation observing point 33.624W 5.764S

Occultation of 20 sigma Scorpii 2.9 by moon 28% illuminated at phase= 296 degrees
01/31/2027 12:33:36.0 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 01/31/2027 11:23:28.6 and 01/31/2027 13:43:44.2
Mid-occultation observing point 18.572E 62.286S

Occultation of Antares 1.06 by moon 26% illuminated at phase= 298 degrees
01/31/2027 16:27:35.7 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.085
Global start/end: 01/31/2027 14:17:18.9 and 01/31/2027 18:37:53.6
Mid-occultation observing point 119.709E 53.181S

Occultation of 27 phi Sagittarii 3.17 by moon 9% illuminated at phase= 326 degrees
02/03/2027 05:56:01.9 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 02/03/2027 03:53:41.4 and 02/03/2027 07:58:21.2
Mid-occultation observing point 51.096W 10.576N

Occultation of Nunki 2.05 by moon 8% illuminated at phase= 328 degrees
02/03/2027 10:27:49.8 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.084
Global start/end: 02/03/2027 08:10:33.6 and 02/03/2027 12:45:04.4
Mid-occultation observing point 113.699W 13.212S
At Journey Museum, the miss angle is 1168.2 arc-sec at 02/03/2027 11:26:08.6

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.084
02/06/2027 05:57:38.5 Start Partial Solar
02/06/2027 07:03:58.7 Start Annular Solar
02/06/2027 08:59:39.4 ANNULAR SOLAR ECLIPSE MID-POINT
02/06/2027 09:02:53.7 SOLAR ECLIPSE MAXIMUM 86.3%
02/06/2027 10:55:25.1 End Annular Solar
02/06/2027 12:01:40.3 End Partial Solar
Mid-eclipse observing point 48.478W 31.3S
At Journey Museum, the miss angle is 2195.5 arc-sec at 02/06/2027 08:37:37.1

Occultation of Alcyone 2.85 by moon 54% illuminated at phase= 95 degrees
02/14/2027 09:39:32.3 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.083
Global start/end: 02/14/2027 08:53:15.3 and 02/14/2027 10:25:48.2
Mid-occultation observing point 131.797W 62.393N

Occultation of Elnath 1.65 by moon 72% illuminated at phase= 116 degrees
02/15/2027 23:52:35.9 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.083
Global start/end: 02/15/2027 22:24:58.7 and 02/16/2027 01:20:09.8
Mid-occultation observing point 166.718W 38.788S
At Journey Museum, the miss angle is 4277.6 arc-sec at 02/16/2027 00:40:41.6

Occultation of Jupiter -2.5 by moon 99% illuminated at phase= 169 degrees
02/19/2027 21:57:38.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.083
Global start/end: 02/19/2027 20:50:49.5 and 02/19/2027 23:04:28.9
Mid-occultation observing point 141.884W 62.569S

Occultation of 6 pi Scorpii 2.89 by moon 55% illuminated at phase= 264 degrees
02/27/2027 10:20:30.6 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.082
Global start/end: 02/27/2027 08:08:44.1 and 02/27/2027 12:32:20.9
Mid-occultation observing point 173.522W 4.739S

Occultation of 20 sigma Scorpii 2.9 by moon 51% illuminated at phase= 269 degrees
02/27/2027 19:57:27.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.082
Global start/end: 02/27/2027 18:42:26.0 and 02/27/2027 21:12:31.1
Mid-occultation observing point 119.316W 62.277S

Occultation of Antares 1.06 by moon 50% illuminated at phase= 271 degrees
02/27/2027 23:48:24.5 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.082
Global start/end: 02/27/2027 21:37:47.8 and 02/28/2027 01:59:04.3
Mid-occultation observing point 16.936W 51.592S

Occultation of 27 phi Sagittarii 3.17 by moon 26% illuminated at phase= 298 degrees
03/02/2027 12:57:00.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.082
Global start/end: 03/02/2027 10:55:44.7 and 03/02/2027 14:58:16.1
Mid-occultation observing point 176.529E 12.229N

Occultation of Nunki 2.05 by moon 25% illuminated at phase= 300 degrees
03/02/2027 17:28:52.0 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.082
Global start/end: 03/02/2027 15:11:41.5 and 03/02/2027 19:46:01.1
Mid-occultation observing point 113.926E 11.848S

Occultation of Alcyone 2.85 by moon 31% illuminated at phase= 68 degrees
03/13/2027 15:11:23.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.081
Global start/end: 03/13/2027 14:05:43.0 and 03/13/2027 16:17:03.7
Mid-occultation observing point 118.394E 62.402N
At Journey Museum, the miss angle is 1480.2 arc-sec at 03/13/2027 14:37:45.9

Occultation of Elnath 1.65 by moon 49% illuminated at phase= 88 degrees
03/15/2027 06:05:05.8 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.081
Global start/end: 03/15/2027 04:49:57.5 and 03/15/2027 07:20:12.7
Mid-occultation observing point 73.667E 62.772S

Occultation of Mebsuta 3.06 by moon 63% illuminated at phase= 105 degrees
03/16/2027 11:48:46.5 Geocentric minimum 1.3 degrees. DUTC= 69.184 DUT1= 69.081
Global start/end: 03/16/2027 11:35:54.2 and 03/16/2027 12:01:38.7
Mid-occultation observing point 166.394E 62.529N

Occultation of Jupiter -2.4 by moon 88% illuminated at phase= 139 degrees
03/19/2027 02:25:58.2 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.08
Global start/end: 03/19/2027 00:53:46.0 and 03/19/2027 03:58:10.1
Mid-occultation observing point 156.334E 39.335S
At Journey Museum, the miss angle is 5257.1 arc-sec at 03/19/2027 02:49:55.5

Occultation of 6 pi Scorpii 2.89 by moon 77% illuminated at phase= 237 degrees
03/26/2027 19:03:45.1 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.08
Global start/end: 03/26/2027 16:59:34.8 and 03/26/2027 21:08:00.9
Mid-occultation observing point 30.229E 4.955N

Occultation of 20 sigma Scorpii 2.9 by moon 74% illuminated at phase= 242 degrees
03/27/2027 04:30:17.5 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.08
Global start/end: 03/27/2027 02:53:35.6 and 03/27/2027 06:07:03.5
Mid-occultation observing point 157.568E 82.966S
At Journey Museum, the miss angle is 5217.9 arc-sec at 03/27/2027 04:10:22.8

Occultation of Antares 1.06 by moon 72% illuminated at phase= 243 degrees
03/27/2027 08:17:09.7 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.08
Global start/end: 03/27/2027 06:02:51.6 and 03/27/2027 10:31:31.6
Mid-occultation observing point 168.733W 41.591S

Occultation of 27 phi Sagittarii 3.17 by moon 49% illuminated at phase= 271 degrees
03/29/2027 20:45:16.6 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.08
Global start/end: 03/29/2027 18:56:58.9 and 03/29/2027 22:33:35.4
Mid-occultation observing point 30.377E 26.341N

Occultation of Nunki 2.05 by moon 47% illuminated at phase= 273 degrees
03/30/2027 01:16:06.0 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.079
Global start/end: 03/29/2027 23:04:08.2 and 03/30/2027 03:28:04.4
Mid-occultation observing point 31.406W 1.562S

Occultation of Alcyone 2.85 by moon 12% illuminated at phase= 41 degrees
04/09/2027 21:01:16.7 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.078
Global start/end: 04/09/2027 19:33:04.7 and 04/09/2027 22:29:27.7
Mid-occultation observing point 57.774E 79.313N

Occultation of Elnath 1.65 by moon 26% illuminated at phase= 61 degrees
04/11/2027 11:27:08.0 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.078
Global start/end: 04/11/2027 10:53:52.6 and 04/11/2027 12:00:23.4
Mid-occultation observing point 33.84W 62.775S

Occultation of Mebsuta 3.06 by moon 39% illuminated at phase= 78 degrees
04/12/2027 17:11:19.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.078
Global start/end: 04/12/2027 16:01:02.4 and 04/12/2027 18:21:35.9
Mid-occultation observing point 58.956E 62.537N
At Journey Museum, the miss angle is 1719.9 arc-sec at 04/12/2027 17:09:50.9

Occultation of Jupiter -2.2 by moon 68% illuminated at phase= 112 degrees
04/15/2027 07:19:02.5 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.078
Global start/end: 04/15/2027 05:50:53.0 and 04/15/2027 08:47:12.2
Mid-occultation observing point 50.302E 46.091S

Occultation of 6 pi Scorpii 2.89 by moon 93% illuminated at phase= 210 degrees
04/23/2027 03:54:09.6 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/23/2027 02:01:14.5 and 04/23/2027 05:47:09.5
Mid-occultation observing point 127.315W 17.801N

---For observations at Journey Museum:
04/23/2027 04:06:57.6 Start Total (elev 13 az 212 deg.) -9.1 *
04/23/2027 04:28:10.9 OCCULTATION MID-POINT (elev 11 az 216 deg.) -5.6 *
04/23/2027 04:48:52.1 End Total (elev 9 az 220 deg.) -1.6

Occultation of 20 sigma Scorpii 2.9 by moon 91% illuminated at phase= 215 degrees
04/23/2027 13:15:30.0 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/23/2027 11:22:25.4 and 04/23/2027 15:08:39.2
Mid-occultation observing point 74.362E 69.839S

Occultation of Antares 1.06 by moon 90% illuminated at phase= 217 degrees
04/23/2027 16:59:48.3 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/23/2027 14:43:50.0 and 04/23/2027 19:15:48.7
Mid-occultation observing point 35.56E 30.058S

Occultation of Kaus Borealis 2.82 by moon 74% illuminated at phase= 241 degrees
04/25/2027 21:24:06.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/25/2027 20:47:04.4 and 04/25/2027 22:01:09.8
Mid-occultation observing point 162.566E 62.801S

Occultation of 27 phi Sagittarii 3.17 by moon 72% illuminated at phase= 244 degrees
04/26/2027 04:52:48.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/26/2027 03:36:21.0 and 04/26/2027 06:09:16.7
Mid-occultation observing point 130.168W 63.003N

Occultation of Nunki 2.05 by moon 70% illuminated at phase= 246 degrees
04/26/2027 09:22:04.5 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.077
Global start/end: 04/26/2027 07:24:34.6 and 04/26/2027 11:19:36.8
Mid-occultation observing point 177.28E 16.518N

Occultation of Alcyone 2.85 by moon 2% illuminated at phase= 15 degrees
05/07/2027 04:45:40.7 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.076
Global start/end: 05/07/2027 03:07:15.3 and 05/07/2027 06:24:04.2
Mid-occultation observing point 20.007W 74.628N

Occultation of Mebsuta 3.06 by moon 19% illuminated at phase= 51 degrees
05/09/2027 23:12:54.3 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.075
Global start/end: 05/09/2027 21:36:54.2 and 05/10/2027 00:48:55.5
Mid-occultation observing point 178.701E 78.514N

Occultation of Jupiter -2.1 by moon 47% illuminated at phase= 86 degrees
05/12/2027 14:52:24.3 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.075
Global start/end: 05/12/2027 14:26:28.8 and 05/12/2027 15:18:20.0
Mid-occultation observing point 116.397W 62.874S

Occultation of 6 pi Scorpii 2.89 by moon 100% illuminated at phase= 186 degrees
05/20/2027 11:45:37.5 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.074
Global start/end: 05/20/2027 09:59:10.2 and 05/20/2027 13:32:07.9
Mid-occultation observing point 89.026E 25.112N

Occultation of 20 sigma Scorpii 2.9 by moon 99% illuminated at phase= 189 degrees
05/20/2027 21:09:07.4 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.074
Global start/end: 05/20/2027 19:09:35.0 and 05/20/2027 23:08:43.3
Mid-occultation observing point 64.867W 62.463S

Occultation of Antares 1.06 by moon 99% illuminated at phase= 191 degrees
05/21/2027 00:53:28.9 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.074
Global start/end: 05/20/2027 22:37:37.6 and 05/21/2027 03:09:21.1
Mid-occultation observing point 108.962W 23.659S
At Journey Museum, the miss angle is 2050.1 arc-sec at 05/21/2027 00:42:30.5

Occultation of Kaus Borealis 2.82 by moon 91% illuminated at phase= 215 degrees
05/23/2027 05:11:05.4 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.074
Global start/end: 05/23/2027 03:47:50.4 and 05/23/2027 06:34:22.3
Mid-occultation observing point 18.557E 62.765S

Occultation of Nunki 2.05 by moon 88% illuminated at phase= 220 degrees
05/23/2027 17:05:40.2 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.074
Global start/end: 05/23/2027 15:28:58.5 and 05/23/2027 18:42:24.1
Mid-occultation observing point 29.718E 39.092N

Occultation of Alcyone 2.85 by moon 1% illuminated at phase= 346 degrees
06/03/2027 14:22:27.3 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.073
Global start/end: 06/03/2027 12:44:27.8 and 06/03/2027 16:00:23.2
Mid-occultation observing point 169.497E 74.721N
At Journey Museum, the miss angle is 465.4 arc-sec at 06/03/2027 15:44:09.5

Occultation of Mebsuta 3.06 by moon 5% illuminated at phase= 25 degrees
06/06/2027 07:23:13.1 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.073
Global start/end: 06/06/2027 05:37:42.0 and 06/06/2027 09:08:44.6
Mid-occultation observing point 5.841E 66.646N

Occultation of 6 pi Scorpii 2.89 by moon 96% illuminated at phase= 157 degrees
06/16/2027 18:15:59.0 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.072
Global start/end: 06/16/2027 16:25:41.2 and 06/16/2027 20:06:18.9
Mid-occultation observing point 36.245W 21.622N

Occultation of 20 sigma Scorpii 2.9 by moon 97% illuminated at phase= 162 degrees
06/17/2027 03:45:44.6 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.072
Global start/end: 06/17/2027 01:47:12.0 and 06/17/2027 05:44:19.4
Mid-occultation observing point 168.24E 64.41S

Occultation of Antares 1.06 by moon 98% illuminated at phase= 163 degrees
06/17/2027 07:31:55.7 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.072
Global start/end: 06/17/2027 05:15:22.0 and 06/17/2027 09:48:28.9
Mid-occultation observing point 124.419E 24.613S

Occultation of Kaus Borealis 2.82 by moon 99% illuminated at phase= 189 degrees
06/19/2027 12:06:01.4 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.071
Global start/end: 06/19/2027 10:32:12.3 and 06/19/2027 13:39:52.0
Mid-occultation observing point 150.524W 81.757S

Occultation of Nunki 2.05 by moon 98% illuminated at phase= 194 degrees
06/20/2027 00:00:36.7 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.071
Global start/end: 06/19/2027 22:37:42.4 and 06/20/2027 01:23:32.2
Mid-occultation observing point 112.045W 63.212N

---For observations at Journey Museum:
06/19/2027 23:16:44.6 Start Total (elev 16 az 157 deg.) -22.0 *
06/19/2027 23:58:54.5 OCCULTATION MID-POINT (elev 18 az 166 deg.) -22.5 *
06/20/2027 00:41:41.4 End Total (elev 20 az 176 deg.) -21.7 *

Occultation of Alcyone 2.85 by moon 11% illuminated at phase= 321 degrees
07/01/2027 00:36:18.7 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 06/30/2027 23:05:45.9 and 07/01/2027 02:06:46.7
Mid-occultation observing point 51.855W 80.156N

Occultation of 6 pi Scorpii 2.89 by moon 83% illuminated at phase= 132 degrees
07/13/2027 23:57:51.3 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 07/13/2027 22:00:07.6 and 07/14/2027 01:55:37.3
Mid-occultation observing point 149.928W 13.897N

Occultation of 20 sigma Scorpii 2.9 by moon 86% illuminated at phase= 136 degrees
07/14/2027 09:31:48.1 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 07/14/2027 07:38:33.2 and 07/14/2027 11:25:05.1
Mid-occultation observing point 49.605E 70.994S

Occultation of Antares 1.06 by moon 87% illuminated at phase= 138 degrees
07/14/2027 13:19:28.4 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 07/14/2027 11:02:11.7 and 07/14/2027 15:36:44.1
Mid-occultation observing point 10.102E 29.353S

Occultation of Kaus Borealis 2.82 by moon 98% illuminated at phase= 162 degrees
07/16/2027 18:14:36.8 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 07/16/2027 16:43:11.7 and 07/16/2027 19:46:02.7
Mid-occultation observing point 106.09E 78.742S

Occultation of Nunki 2.05 by moon 99% illuminated at phase= 168 degrees
07/17/2027 06:11:43.4 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.07
Global start/end: 07/17/2027 04:48:05.1 and 07/17/2027 07:35:22.4
Mid-occultation observing point 128.067E 63.169N

Occultation of Alcyone 2.85 by moon 29% illuminated at phase= 295 degrees
07/28/2027 09:52:22.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 07/28/2027 08:29:33.5 and 07/28/2027 11:15:06.3
Mid-occultation observing point 78.062E 73.721N
At Journey Museum, the miss angle is 1262.6 arc-sec at 07/28/2027 11:08:05.7

Occultation of Mebsuta 3.06 by moon 6% illuminated at phase= 332 degrees
07/31/2027 04:11:15.3 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 07/31/2027 02:25:14.2 and 07/31/2027 05:57:12.7
Mid-occultation observing point 0.583W 65.731N

---For observations at Journey Museum:
07/31/2027 02:29:43.0 Start Total (elev 2 az 56 deg.) -18.8 *
07/31/2027 02:53:22.4 OCCULTATION MID-POINT (elev 6 az 60 deg.) -16.1 *
07/31/2027 03:17:42.4 End Total (elev 10 az 64 deg.) -13.0 *

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.069
08/02/2027 00:30:13.5 Start Partial Solar
08/02/2027 01:23:29.4 Start Total Solar
08/02/2027 03:06:40.9 TOTAL SOLAR ECLIPSE MID-POINT
08/02/2027 04:49:55.8 End Total Solar
08/02/2027 05:43:11.1 End Partial Solar
Mid-eclipse observing point 33.167E 25.503N

Occultation of 6 pi Scorpii 2.89 by moon 64% illuminated at phase= 106 degrees
08/10/2027 05:57:48.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 08/10/2027 03:57:45.8 and 08/10/2027 07:57:55.4
Mid-occultation observing point 92.73E 10.907N

Occultation of 20 sigma Scorpii 2.9 by moon 67% illuminated at phase= 110 degrees
08/10/2027 15:28:42.1 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 08/10/2027 13:37:53.5 and 08/10/2027 17:19:34.0
Mid-occultation observing point 69.676W 73.505S

Occultation of Antares 1.06 by moon 69% illuminated at phase= 112 degrees
08/10/2027 19:15:27.6 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 08/10/2027 16:58:19.0 and 08/10/2027 21:32:36.2
Mid-occultation observing point 106.001W 31.281S
At Journey Museum, the miss angle is 2464.0 arc-sec at 08/10/2027 18:52:12.5

Occultation of Kaus Borealis 2.82 by moon 86% illuminated at phase= 136 degrees
08/13/2027 00:12:14.8 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 08/12/2027 22:43:00.3 and 08/13/2027 01:41:30.0
Mid-occultation observing point 0.084W 74.77S

Occultation of Nunki 2.05 by moon 89% illuminated at phase= 142 degrees
08/13/2027 12:11:22.7 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.069
Global start/end: 08/13/2027 10:44:58.1 and 08/13/2027 13:37:47.7
Mid-occultation observing point 11.243E 63.16N

Occultation of Alcyone 2.85 by moon 51% illuminated at phase= 269 degrees
08/24/2027 17:10:27.5 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 08/24/2027 15:43:40.0 and 08/24/2027 18:37:11.3
Mid-occultation observing point 43.399W 77.586N

Occultation of Mebsuta 3.06 by moon 21% illuminated at phase= 306 degrees
08/27/2027 13:39:36.9 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 08/27/2027 11:50:38.2 and 08/27/2027 15:28:31.1
Mid-occultation observing point 170.907W 64.295N

Occultation of 6 pi Scorpii 2.89 by moon 41% illuminated at phase= 79 degrees
09/06/2027 13:15:04.2 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 09/06/2027 11:21:40.9 and 09/06/2027 15:08:33.1
Mid-occultation observing point 42.484W 17.443N

Occultation of 20 sigma Scorpii 2.9 by moon 45% illuminated at phase= 84 degrees
09/06/2027 22:35:31.8 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 09/06/2027 20:38:29.7 and 09/07/2027 00:32:39.1
Mid-occultation observing point 164.46E 65.797S

Occultation of Antares 1.06 by moon 46% illuminated at phase= 86 degrees
09/07/2027 02:18:30.9 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 09/07/2027 00:02:07.1 and 09/07/2027 04:34:55.1
Mid-occultation observing point 122.012E 25.837S

Occultation of Kaus Borealis 2.82 by moon 67% illuminated at phase= 110 degrees
09/09/2027 06:44:23.4 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 09/09/2027 05:04:23.9 and 09/09/2027 08:24:24.6
Mid-occultation observing point 154.121E 83.277S

Occultation of Nunki 2.05 by moon 72% illuminated at phase= 116 degrees
09/09/2027 18:41:34.7 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.068
Global start/end: 09/09/2027 17:27:23.3 and 09/09/2027 19:55:46.8
Mid-occultation observing point 113.109W 63.177N

---For observations at Journey Museum:
09/09/2027 18:02:50.0 Start Total (elev 17 az 159 deg.) 1.6
09/09/2027 18:41:24.3 OCCULTATION MID-POINT (elev 19 az 167 deg.) -5.6 *
09/09/2027 19:20:24.7 End Total (elev 20 az 177 deg.) -12.4 *

Occultation of Alcyone 2.85 by moon 73% illuminated at phase= 242 degrees
09/20/2027 22:50:00.5 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.067
Global start/end: 09/20/2027 21:08:01.2 and 09/21/2027 00:31:57.2
Mid-occultation observing point 65.416W 75.138N

---For observations at Journey Museum:
09/20/2027 21:21:34.2 Start Total (elev 13 az 69 deg.) -34.8 *
09/20/2027 21:47:55.5 OCCULTATION MID-POINT (elev 18 az 73 deg.) -38.0 *
09/20/2027 22:15:13.4 End Total (elev 22 az 77 deg.) -40.8 *

Occultation of Mebsuta 3.06 by moon 42% illuminated at phase= 279 degrees
09/23/2027 20:51:43.3 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.067
Global start/end: 09/23/2027 18:53:48.0 and 09/23/2027 22:49:35.2
Mid-occultation observing point 48.533E 54.849N

Occultation of 6 pi Scorpii 2.89 by moon 20% illuminated at phase= 53 degrees
10/03/2027 22:00:27.0 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.067
Global start/end: 10/03/2027 20:23:57.8 and 10/03/2027 23:37:01.5
Mid-occultation observing point 162.387E 35.031N

Occultation of 20 sigma Scorpii 2.9 by moon 23% illuminated at phase= 57 degrees
10/04/2027 07:08:45.0 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.067
Global start/end: 10/04/2027 05:02:45.4 and 10/04/2027 09:14:50.4
Mid-occultation observing point 15.428E 51.934S

Occultation of Antares 1.06 by moon 24% illuminated at phase= 59 degrees
10/04/2027 10:46:48.0 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.067
Global start/end: 10/04/2027 08:34:01.9 and 10/04/2027 12:59:38.2
Mid-occultation observing point 30.777W 14.125S

Occultation of Kaus Borealis 2.82 by moon 44% illuminated at phase= 84 degrees
10/06/2027 14:19:35.3 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.066
Global start/end: 10/06/2027 12:21:08.0 and 10/06/2027 16:18:06.2
Mid-occultation observing point 46.053W 66.164S

Occultation of Alcyone 2.85 by moon 91% illuminated at phase= 216 degrees
10/18/2027 04:29:52.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.066
Global start/end: 10/18/2027 02:35:34.5 and 10/18/2027 06:24:09.1
Mid-occultation observing point 155.451W 61.408N

---For observations at Journey Museum:
10/18/2027 05:34:11.9 Start Total (elev 42 az 265 deg.) -7.5 *
10/18/2027 05:42:00.5 OCCULTATION MID-POINT (elev 40 az 266 deg.) -6.0 *
10/18/2027 05:49:44.0 End Total (elev 39 az 267 deg.) -4.6 *

Occultation of Mebsuta 3.06 by moon 65% illuminated at phase= 252 degrees
10/21/2027 02:19:51.9 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.066
Global start/end: 10/21/2027 00:13:45.0 and 10/21/2027 04:25:58.3
Mid-occultation observing point 65.115W 40.108N

---For observations at Journey Museum:
10/21/2027 00:45:37.6 Start Total (elev 39 az 92 deg.) -53.5 *
10/21/2027 01:18:14.8 OCCULTATION MID-POINT (elev 45 az 98 deg.) -50.1 *
10/21/2027 01:52:18.1 End Total (elev 51 az 105 deg.) -45.8 *

Occultation of 6 pi Scorpii 2.89 by moon 5% illuminated at phase= 26 degrees
10/31/2027 07:23:41.2 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.065
Global start/end: 10/31/2027 06:09:31.5 and 10/31/2027 08:37:53.8
Mid-occultation observing point 5.45E 63.652N

Occultation of 20 sigma Scorpii 2.9 by moon 7% illuminated at phase= 30 degrees
10/31/2027 16:25:28.5 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.065
Global start/end: 10/31/2027 14:14:47.7 and 10/31/2027 18:36:13.2
Mid-occultation observing point 147.893W 40.013S

Occultation of Antares 1.06 by moon 8% illuminated at phase= 32 degrees
10/31/2027 20:00:16.8 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.065
Global start/end: 10/31/2027 17:54:11.4 and 10/31/2027 22:06:27.2
Mid-occultation observing point 164.957E 1.957S

Occultation of Kaus Borealis 2.82 by moon 22% illuminated at phase= 56 degrees
11/02/2027 22:47:26.4 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.065
Global start/end: 11/02/2027 20:36:34.7 and 11/03/2027 00:58:22.6
Mid-occultation observing point 152.429E 47.911S

Occultation of Alcyone 2.85 by moon 99% illuminated at phase= 189 degrees
11/14/2027 11:57:06.7 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.064
Global start/end: 11/14/2027 09:58:54.0 and 11/14/2027 13:55:16.6
Mid-occultation observing point 70.384E 54.44N

Occultation of Mebsuta 3.06 by moon 85% illuminated at phase= 225 degrees
11/17/2027 08:10:56.1 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.063
Global start/end: 11/17/2027 06:03:36.4 and 11/17/2027 10:18:16.9
Mid-occultation observing point 177.517E 26.855N
At Journey Museum, the miss angle is 1611.8 arc-sec at 11/17/2027 09:02:57.9

Occultation of Venus -3.9 by moon 6% illuminated at phase= 28 degrees
11/30/2027 06:36:07.6 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.062
Global start/end: 11/30/2027 04:53:56.4 and 11/30/2027 08:18:23.7
Mid-occultation observing point 128.806E 80.959S

Occultation of Kaus Borealis 2.82 by moon 6% illuminated at phase= 29 degrees
11/30/2027 07:18:42.5 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.062
Global start/end: 11/30/2027 05:03:53.5 and 11/30/2027 09:33:34.5
Mid-occultation observing point 4.716W 36.57S

Occultation of Alcyone 2.85 by moon 97% illuminated at phase= 160 degrees
12/11/2027 21:37:24.1 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.061
Global start/end: 12/11/2027 19:40:55.6 and 12/11/2027 23:33:47.6
Mid-occultation observing point 102.437W 56.322N

---For observations at Journey Museum:
12/11/2027 20:54:07.6 Start Total (elev 64 az 132 deg.) -49.1 *
12/11/2027 21:24:21.3 OCCULTATION MID-POINT (elev 67 az 146 deg.) -54.2 *
12/11/2027 21:55:14.0 End Total (elev 70 az 164 deg.) -59.0 *

Occultation of Mebsuta 3.06 by moon 98% illuminated at phase= 198 degrees
12/14/2027 16:25:29.6 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.061
Global start/end: 12/14/2027 14:20:29.1 and 12/14/2027 18:30:30.5
Mid-occultation observing point 25.802E 20.397N

Occultation of 6 pi Scorpii 2.89 by moon 7% illuminated at phase= 330 degrees
12/24/2027 22:57:47.3 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.06
Global start/end: 12/24/2027 21:43:40.5 and 12/25/2027 00:11:55.4
Mid-occultation observing point 77.216E 63.763N

Occultation of 20 sigma Scorpii 2.9 by moon 5% illuminated at phase= 334 degrees
12/25/2027 08:11:38.2 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.06
Global start/end: 12/25/2027 05:59:14.5 and 12/25/2027 10:24:02.4
Mid-occultation observing point 77.88W 38.326S
At Journey Museum, the miss angle is 2445.4 arc-sec at 12/25/2027 06:48:06.8

Occultation of Antares 1.06 by moon 4% illuminated at phase= 336 degrees
12/25/2027 11:49:43.0 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.06
Global start/end: 12/25/2027 09:44:36.9 and 12/25/2027 13:54:50.9
Mid-occultation observing point 126.164W 1.262N
At Journey Museum, the miss angle is 603.7 arc-sec at 12/25/2027 12:28:25.1

Occultation of Mars 1.2 by moon 3% illuminated at phase= 18 degrees
12/29/2027 04:51:36.7 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.06
Global start/end: 12/29/2027 02:39:36.2 and 12/29/2027 07:03:41.0
Mid-occultation observing point 13.14E 11.292N

Occultation of Alcyone 2.85 by moon 84% illuminated at phase= 132 degrees
01/08/2028 08:10:18.3 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.059
Global start/end: 01/08/2028 06:17:14.1 and 01/08/2028 10:03:15.8
Mid-occultation observing point 68.676E 62.255N

Occultation of Mebsuta 3.06 by moon 99% illuminated at phase= 169 degrees
01/11/2028 03:07:00.8 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.058
Global start/end: 01/11/2028 01:02:49.2 and 01/11/2028 05:11:11.2
Mid-occultation observing point 161.655W 20.289N
At Journey Museum, the miss angle is 1627.0 arc-sec at 01/11/2028 03:53:14.2

Occultation of 6 pi Scorpii 2.89 by moon 23% illuminated at phase= 302 degrees
01/21/2028 04:35:06.9 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.058
Global start/end: 01/21/2028 03:11:07.0 and 01/21/2028 05:59:09.0
Mid-occultation observing point 36.721W 59.654N

Occultation of 20 sigma Scorpii 2.9 by moon 20% illuminated at phase= 307 degrees
01/21/2028 13:54:26.1 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.058
Global start/end: 01/21/2028 11:42:18.4 and 01/21/2028 16:06:35.0
Mid-occultation observing point 168.974E 41.915S

Occultation of Antares 1.06 by moon 19% illuminated at phase= 308 degrees
01/21/2028 17:34:43.7 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.058
Global start/end: 01/21/2028 15:26:24.4 and 01/21/2028 19:43:04.8
Mid-occultation observing point 120.398E 2.374S

Occultation of Kaus Borealis 2.82 by moon 5% illuminated at phase= 333 degrees
01/23/2028 21:15:19.8 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.057
Global start/end: 01/23/2028 18:59:14.9 and 01/23/2028 23:31:24.4
Mid-occultation observing point 92.19E 35.487S

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.057
01/26/2028 05:06:44.1 Start Partial Solar
01/26/2028 06:14:56.7 Start Annular Solar
01/26/2028 08:05:59.7 SOLAR ECLIPSE MAXIMUM 84.9%
01/26/2028 08:07:48.9 ANNULAR SOLAR ECLIPSE MID-POINT
01/26/2028 10:00:33.2 End Annular Solar
01/26/2028 11:08:50.4 End Partial Solar
Mid-eclipse observing point 51.579W 2.958N

---For observations at Journey Museum:
01/26/2028 06:45:00.4 Start Partial (elev -6 az 110 deg.) -6.2
01/26/2028 07:15:57.3 ECLIPSE MID-POINT (2.4%) (elev 0 az 116 deg.) -0.4
01/26/2028 07:48:34.5 End Partial (elev 4 az 121 deg.) 4.4 *

Occultation of Alcyone 2.85 by moon 63% illuminated at phase= 105 degrees
02/04/2028 17:31:10.4 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.056
Global start/end: 02/04/2028 15:36:38.7 and 02/04/2028 19:25:35.6
Mid-occultation observing point 99.075W 62.97N

---For observations at Journey Museum:
02/04/2028 16:41:41.0 Start Total (elev 58 az 119 deg.) 3.5
02/04/2028 17:02:54.1 OCCULTATION MID-POINT (elev 61 az 126 deg.) 0.3
02/04/2028 17:24:36.2 End Total (elev 64 az 135 deg.) -3.6 *

Occultation of Mebsuta 3.06 by moon 89% illuminated at phase= 142 degrees
02/07/2028 14:19:22.5 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.056
Global start/end: 02/07/2028 12:13:57.8 and 02/07/2028 16:24:44.8
Mid-occultation observing point 3.144E 20.053N

Occultation of 6 pi Scorpii 2.89 by moon 46% illuminated at phase= 275 degrees
02/17/2028 10:35:23.7 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.055
Global start/end: 02/17/2028 09:18:37.6 and 02/17/2028 11:52:13.0
Mid-occultation observing point 151.082W 63.798N

Occultation of 20 sigma Scorpii 2.9 by moon 42% illuminated at phase= 279 degrees
02/17/2028 19:48:02.5 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.055
Global start/end: 02/17/2028 17:35:06.4 and 02/17/2028 22:01:01.0
Mid-occultation observing point 54.309E 38.475S

Occultation of Antares 1.06 by moon 41% illuminated at phase= 281 degrees
02/17/2028 23:26:10.2 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.055
Global start/end: 02/17/2028 21:20:15.7 and 02/18/2028 01:32:08.8
Mid-occultation observing point 5.97E 1.045N

Occultation of Kaus Borealis 2.82 by moon 21% illuminated at phase= 305 degrees
02/20/2028 03:00:38.8 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.055
Global start/end: 02/20/2028 00:43:21.3 and 02/20/2028 05:17:55.9
Mid-occultation observing point 21.458W 32.867S

Occultation of Alcyone 2.85 by moon 39% illuminated at phase= 77 degrees
03/03/2028 00:34:34.8 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.054
Global start/end: 03/02/2028 22:31:20.8 and 03/03/2028 02:37:44.6
Mid-occultation observing point 133.705E 53.813N

Occultation of Mebsuta 3.06 by moon 71% illuminated at phase= 114 degrees
03/05/2028 23:44:09.1 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.054
Global start/end: 03/05/2028 21:37:42.0 and 03/06/2028 01:50:32.4
Mid-occultation observing point 166.146W 13.146N
At Journey Museum, the miss angle is 2104.2 arc-sec at 03/06/2028 00:30:43.5

Occultation of 6 pi Scorpii 2.89 by moon 69% illuminated at phase= 247 degrees
03/15/2028 18:27:24.6 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.053
Global start/end: 03/15/2028 17:49:04.3 and 03/15/2028 19:05:46.0
Mid-occultation observing point 63.89E 63.829N

Occultation of 20 sigma Scorpii 2.9 by moon 66% illuminated at phase= 252 degrees
03/16/2028 03:24:10.8 Geocentric minimum 0.0 degrees. DUTC= 69.184 DUT1= 69.053
Global start/end: 03/16/2028 01:11:09.7 and 03/16/2028 05:37:13.1
Mid-occultation observing point 85.023W 27.18S
At Journey Museum, the miss angle is 2026.5 arc-sec at 03/16/2028 02:17:38.5

Occultation of Antares 1.06 by moon 64% illuminated at phase= 254 degrees
03/16/2028 06:56:13.2 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.053
Global start/end: 03/16/2028 05:01:42.1 and 03/16/2028 08:50:50.7
Mid-occultation observing point 132.365W 14.126N

Occultation of Kaus Borealis 2.82 by moon 43% illuminated at phase= 278 degrees
03/18/2028 09:29:51.0 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.053
Global start/end: 03/18/2028 07:12:37.2 and 03/18/2028 11:47:05.2
Mid-occultation observing point 147.319W 21.911S

Occultation of Venus -4.6 by moon 15% illuminated at phase= 46 degrees
03/29/2028 21:37:01.6 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.052
Global start/end: 03/29/2028 20:05:38.3 and 03/29/2028 23:08:22.0
Mid-occultation observing point 10.242E 70.495N

Occultation of Alcyone 2.85 by moon 18% illuminated at phase= 50 degrees
03/30/2028 06:07:57.3 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.052
Global start/end: 03/30/2028 03:57:16.8 and 03/30/2028 08:18:36.7
Mid-occultation observing point 28.234E 40.539N

Occultation of Mebsuta 3.06 by moon 47% illuminated at phase= 87 degrees
04/02/2028 06:31:03.5 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.051
Global start/end: 04/02/2028 04:29:25.5 and 04/02/2028 08:32:37.8
Mid-occultation observing point 63.064E 1.507S

Occultation of Wasat 3.5 by moon 55% illuminated at phase= 95 degrees
04/02/2028 21:44:20.2 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.051
Global start/end: 04/02/2028 20:38:13.5 and 04/02/2028 22:50:24.9
Mid-occultation observing point 3.091W 63.722N
At Journey Museum, the miss angle is 598.0 arc-sec at 04/02/2028 22:43:09.3

Occultation of 20 sigma Scorpii 2.9 by moon 85% illuminated at phase= 225 degrees
04/12/2028 12:45:21.9 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.05
Global start/end: 04/12/2028 10:36:06.6 and 04/12/2028 14:54:41.5
Mid-occultation observing point 109.145E 14.011S

Occultation of Antares 1.06 by moon 84% illuminated at phase= 227 degrees
04/12/2028 16:11:33.9 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.05
Global start/end: 04/12/2028 14:36:27.3 and 04/12/2028 17:46:46.1
Mid-occultation observing point 63.801E 34.856N

Occultation of 42 theta Ophiuchi 3.27 by moon 77% illuminated at phase= 237 degrees
04/13/2028 13:35:10.9 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.05
Global start/end: 04/13/2028 12:47:01.2 and 04/13/2028 14:23:22.2
Mid-occultation observing point 71.297W 63.921S

Occultation of Kaus Borealis 2.82 by moon 66% illuminated at phase= 251 degrees
04/14/2028 17:28:08.1 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.05
Global start/end: 04/14/2028 15:17:15.8 and 04/14/2028 19:39:05.3
Mid-occultation observing point 64.077E 5.801S

Occultation of Alcyone 2.85 by moon 4% illuminated at phase= 24 degrees
04/26/2028 11:57:58.8 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.049
Global start/end: 04/26/2028 09:45:41.8 and 04/26/2028 14:10:15.7
Mid-occultation observing point 83.817W 31.028N
At Journey Museum, the miss angle is 95.5 arc-sec at 04/26/2028 11:36:25.6

Occultation of Mebsuta 3.06 by moon 25% illuminated at phase= 60 degrees
04/29/2028 11:52:40.7 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.048
Global start/end: 04/29/2028 10:04:39.1 and 04/29/2028 13:40:40.3
Mid-occultation observing point 47.033W 19.783S
At Journey Museum, the miss angle is 3145.8 arc-sec at 04/29/2028 10:46:54.3

Occultation of Wasat 3.5 by moon 32% illuminated at phase= 69 degrees
04/30/2028 03:12:07.2 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.048
Global start/end: 04/30/2028 01:34:24.8 and 04/30/2028 04:49:47.6
Mid-occultation observing point 142.086E 74.149N

Occultation of 20 sigma Scorpii 2.9 by moon 97% illuminated at phase= 198 degrees
05/09/2028 22:32:24.0 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.047
Global start/end: 05/09/2028 20:27:15.5 and 05/10/2028 00:37:36.8
Mid-occultation observing point 63.851W 5.511S
At Journey Museum, the miss angle is 404.5 arc-sec at 05/09/2028 21:16:47.7

Occultation of Antares 1.06 by moon 97% illuminated at phase= 200 degrees
05/10/2028 01:56:19.4 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.047
Global start/end: 05/10/2028 00:38:58.7 and 05/10/2028 03:13:43.3
Mid-occultation observing point 103.305W 64.418N

---For observations at Journey Museum:
05/10/2028 01:26:53.2 Start Total (elev 19 az 184 deg.) -24.3 *
05/10/2028 02:05:46.2 OCCULTATION MID-POINT (elev 18 az 193 deg.) -20.7 *
05/10/2028 02:44:02.3 End Total (elev 16 az 202 deg.) -16.4 *

Occultation of 42 theta Ophiuchi 3.27 by moon 93% illuminated at phase= 211 degrees
05/10/2028 23:03:53.2 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.047
Global start/end: 05/10/2028 21:40:54.1 and 05/11/2028 00:26:56.0
Mid-occultation observing point 118.586E 72.093S

Occultation of Kaus Borealis 2.82 by moon 86% illuminated at phase= 224 degrees
05/12/2028 02:27:54.2 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.047
Global start/end: 05/12/2028 00:27:52.1 and 05/12/2028 04:28:02.3
Mid-occultation observing point 99.734W 9.102N
At Journey Museum, the miss angle is 314.1 arc-sec at 05/12/2028 02:34:46.0

Occultation of Mebsuta 3.06 by moon 9% illuminated at phase= 34 degrees
05/26/2028 17:53:02.6 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.046
Global start/end: 05/26/2028 16:19:05.4 and 05/26/2028 19:26:58.4
Mid-occultation observing point 167.013W 34.934S
At Journey Museum, the miss angle is 4242.8 arc-sec at 05/26/2028 18:25:06.2

Occultation of Wasat 3.5 by moon 13% illuminated at phase= 42 degrees
05/27/2028 08:57:15.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.046
Global start/end: 05/27/2028 07:06:40.8 and 05/27/2028 10:47:49.6
Mid-occultation observing point 2.827E 60.652N

Occultation of 20 sigma Scorpii 2.9 by moon 99% illuminated at phase= 171 degrees
06/06/2028 07:15:21.9 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.045
Global start/end: 06/06/2028 05:10:15.1 and 06/06/2028 09:20:31.2
Mid-occultation observing point 138.487E 4.325S

Occultation of Antares 1.06 by moon 100% illuminated at phase= 173 degrees
06/06/2028 10:41:00.5 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.045
Global start/end: 06/06/2028 09:27:36.9 and 06/06/2028 11:54:26.1
Mid-occultation observing point 98.165E 64.441N

Occultation of 42 theta Ophiuchi 3.27 by moon 100% illuminated at phase= 185 degrees
06/07/2028 07:56:26.9 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.045
Global start/end: 06/07/2028 06:26:18.6 and 06/07/2028 09:26:38.2
Mid-occultation observing point 50.11W 86.103S

Occultation of Kaus Borealis 2.82 by moon 97% illuminated at phase= 198 degrees
06/08/2028 11:18:11.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.045
Global start/end: 06/08/2028 09:25:03.9 and 06/08/2028 13:11:24.1
Mid-occultation observing point 99.587E 17.036N

Occultation of Alcyone 2.85 by moon 7% illuminated at phase= 330 degrees
06/20/2028 04:07:51.9 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.043
Global start/end: 06/20/2028 01:56:44.5 and 06/20/2028 06:18:56.4
Mid-occultation observing point 20.304W 31.925N
At Journey Museum, the miss angle is 1295.5 arc-sec at 06/20/2028 03:13:48.5

Occultation of Wasat 3.5 by moon 2% illuminated at phase= 16 degrees
06/23/2028 16:32:26.1 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.043
Global start/end: 06/23/2028 14:39:23.6 and 06/23/2028 18:25:26.9
Mid-occultation observing point 141.739W 55.86N

Occultation of 20 sigma Scorpii 2.9 by moon 91% illuminated at phase= 146 degrees
07/03/2028 14:11:48.8 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/03/2028 12:04:09.5 and 07/03/2028 16:19:29.3
Mid-occultation observing point 7.208E 6.955S

Occultation of Antares 1.06 by moon 92% illuminated at phase= 147 degrees
07/03/2028 17:41:04.3 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/03/2028 16:21:57.2 and 07/03/2028 19:00:13.0
Mid-occultation observing point 33.964W 64.448N

Occultation of 42 theta Ophiuchi 3.27 by moon 96% illuminated at phase= 158 degrees
07/04/2028 15:17:45.6 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/04/2028 13:50:12.5 and 07/04/2028 16:45:20.9
Mid-occultation observing point 177.746E 81.063S

Occultation of Kaus Borealis 2.82 by moon 100% illuminated at phase= 172 degrees
07/05/2028 18:58:37.6 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/05/2028 17:05:31.2 and 07/05/2028 20:51:47.1
Mid-occultation observing point 42.58W 17.579N

Occultation of Alcyone 2.85 by moon 22% illuminated at phase= 304 degrees
07/17/2028 13:30:17.9 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/17/2028 11:18:26.2 and 07/17/2028 15:42:05.8
Mid-occultation observing point 171.644E 34.122N
At Journey Museum, the miss angle is 463.0 arc-sec at 07/17/2028 14:48:41.9

Occultation of Mebsuta 3.06 by moon 3% illuminated at phase= 342 degrees
07/20/2028 11:30:05.4 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.042
Global start/end: 07/20/2028 09:59:55.0 and 07/20/2028 13:00:11.9
Mid-occultation observing point 126.089W 38.006S
At Journey Museum, the miss angle is 3528.1 arc-sec at 07/20/2028 11:24:08.3

Eclipse of the Sun -- Global data; DUTC= 69.184 DUT1= 69.042
07/21/2028 17:27:36.2 Start Partial Solar
07/21/2028 18:30:43.8 Start Total Solar
07/21/2028 19:55:31.8 TOTAL SOLAR ECLIPSE MID-POINT
07/21/2028 21:20:05.3 End Total Solar
07/21/2028 22:23:12.1 End Partial Solar
Mid-eclipse observing point 126.697E 15.583S

Occultation of 20 sigma Scorpii 2.9 by moon 75% illuminated at phase= 120 degrees
07/30/2028 19:49:36.4 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 07/30/2028 17:41:07.9 and 07/30/2028 21:58:06.8
Mid-occultation observing point 104.079W 6.831S
At Journey Museum, the miss angle is 1145.6 arc-sec at 07/30/2028 19:35:42.4

Occultation of Antares 1.06 by moon 76% illuminated at phase= 122 degrees
07/30/2028 23:20:57.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 07/30/2028 22:01:53.4 and 07/31/2028 00:40:02.8
Mid-occultation observing point 145.811W 64.446N

Occultation of 42 theta Ophiuchi 3.27 by moon 84% illuminated at phase= 132 degrees
07/31/2028 21:12:49.3 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 07/31/2028 19:44:53.8 and 07/31/2028 22:40:46.9
Mid-occultation observing point 62.488E 80.462S
At Journey Museum, the miss angle is 5442.3 arc-sec at 07/31/2028 21:57:26.3

Occultation of Kaus Borealis 2.82 by moon 92% illuminated at phase= 146 degrees
08/02/2028 01:15:14.4 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 08/01/2028 23:21:27.5 and 08/02/2028 03:09:03.6
Mid-occultation observing point 163.627W 17.807N

Occultation of Alcyone 2.85 by moon 43% illuminated at phase= 278 degrees
08/13/2028 22:07:45.9 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 08/13/2028 19:53:17.3 and 08/14/2028 00:22:12.5
Mid-occultation observing point 16.156E 29.991N

Occultation of Mebsuta 3.06 by moon 14% illuminated at phase= 315 degrees
08/16/2028 21:41:20.3 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 08/16/2028 20:15:36.3 and 08/16/2028 23:06:59.7
Mid-occultation observing point 52.114E 45.465S

Occultation of Mars 1.6 by moon 10% illuminated at phase= 323 degrees
08/17/2028 11:41:03.8 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 08/17/2028 09:33:28.0 and 08/17/2028 13:48:33.1
Mid-occultation observing point 141.416W 2.687N
At Journey Museum, the miss angle is 2186.2 arc-sec at 08/17/2028 12:00:26.0

Occultation of Wasat 3.5 by moon 10% illuminated at phase= 323 degrees
08/17/2028 12:27:00.0 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.041
Global start/end: 08/17/2028 10:32:15.2 and 08/17/2028 14:21:39.2
Mid-occultation observing point 135.9W 53.693N

Occultation of 20 sigma Scorpii 2.9 by moon 53% illuminated at phase= 94 degrees
08/27/2028 01:33:34.2 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 08/26/2028 23:29:35.1 and 08/27/2028 03:37:37.8
Mid-occultation observing point 143.747E 0.653N

Occultation of Antares 1.06 by moon 55% illuminated at phase= 95 degrees
08/27/2028 05:02:48.7 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 08/27/2028 04:03:38.2 and 08/27/2028 06:02:01.1
Mid-occultation observing point 101.897E 64.452N

Occultation of 42 theta Ophiuchi 3.27 by moon 64% illuminated at phase= 106 degrees
08/28/2028 02:46:38.5 Geocentric minimum 0.8 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 08/28/2028 01:06:04.5 and 08/28/2028 04:27:16.4
Mid-occultation observing point 142.381E 82.698S

Occultation of Kaus Borealis 2.82 by moon 75% illuminated at phase= 120 degrees
08/29/2028 06:50:16.2 Geocentric minimum 0.7 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 08/29/2028 05:03:35.8 and 08/29/2028 08:36:59.7
Mid-occultation observing point 84.574E 26.287N

Occultation of Alcyone 2.85 by moon 65% illuminated at phase= 252 degrees
09/10/2028 05:10:04.1 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 09/10/2028 02:54:15.6 and 09/10/2028 07:25:52.2
Mid-occultation observing point 114.311W 18.753N
At Journey Museum, the miss angle is 460.5 arc-sec at 09/10/2028 05:42:41.6

Occultation of Mebsuta 3.06 by moon 34% illuminated at phase= 289 degrees
09/13/2028 06:44:53.2 Geocentric minimum 1.1 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 09/13/2028 05:44:35.3 and 09/13/2028 07:45:08.8
Mid-occultation observing point 120.226W 64.6S
At Journey Museum, the miss angle is 4101.8 arc-sec at 09/13/2028 06:18:33.7

Occultation of Wasat 3.5 by moon 27% illuminated at phase= 297 degrees
09/13/2028 21:57:38.8 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 09/13/2028 19:55:08.7 and 09/14/2028 00:00:03.3
Mid-occultation observing point 49.645E 44.76N

Occultation of Venus -4.2 by moon 13% illuminated at phase= 317 degrees
09/15/2028 10:42:21.1 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.04
Global start/end: 09/15/2028 09:16:02.0 and 09/15/2028 12:08:35.5
Mid-occultation observing point 168.712W 57.179S
At Journey Museum, the miss angle is 4569.8 arc-sec at 09/15/2028 10:14:04.6

Occultation of 20 sigma Scorpii 2.9 by moon 31% illuminated at phase= 67 degrees
09/23/2028 08:53:38.7 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.039
Global start/end: 09/23/2028 07:02:16.8 and 09/23/2028 10:45:07.1
Mid-occultation observing point 8.148E 15.732N

Occultation of 42 theta Ophiuchi 3.27 by moon 41% illuminated at phase= 80 degrees
09/24/2028 09:28:45.2 Geocentric minimum 0.6 degrees. DUTC= 69.184 DUT1= 69.039
Global start/end: 09/24/2028 07:31:45.0 and 09/24/2028 11:25:51.6
Mid-occultation observing point 10.718E 62.208S

Occultation of Kaus Borealis 2.82 by moon 53% illuminated at phase= 94 degrees
09/25/2028 13:02:43.1 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.039
Global start/end: 09/25/2028 11:40:25.0 and 09/25/2028 14:25:04.7
Mid-occultation observing point 47.21W 64.749N

Occultation of Alcyone 2.85 by moon 85% illuminated at phase= 225 degrees
10/07/2028 10:54:22.7 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.039
Global start/end: 10/07/2028 08:42:53.8 and 10/07/2028 13:05:50.5
Mid-occultation observing point 134.86E 4.972N

Occultation of Wasat 3.5 by moon 50% illuminated at phase= 270 degrees
10/11/2028 05:22:34.4 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.038
Global start/end: 10/11/2028 03:12:22.1 and 10/11/2028 07:32:44.6
Mid-occultation observing point 93.653W 30.099N

---For observations at Journey Museum:
10/11/2028 04:25:37.6 Start Total (elev 62 az 134 deg.) -18.4 *
10/11/2028 04:54:29.7 OCCULTATION MID-POINT (elev 65 az 147 deg.) -13.2 *
10/11/2028 05:23:35.9 End Total (elev 67 az 163 deg.) -8.0 *

Occultation of 20 sigma Scorpii 2.9 by moon 12% illuminated at phase= 40 degrees
10/20/2028 18:18:33.4 Geocentric minimum 0.9 degrees. DUTC= 69.184 DUT1= 69.038
Global start/end: 10/20/2028 16:45:22.5 and 10/20/2028 19:51:49.6
Mid-occultation observing point 158.081W 35.355N

Occultation of 42 theta Ophiuchi 3.27 by moon 20% illuminated at phase= 53 degrees
10/21/2028 18:10:12.5 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.038
Global start/end: 10/21/2028 16:04:18.8 and 10/21/2028 20:16:11.8
Mid-occultation observing point 147.195W 44.967S

Occultation of Alcyone 2.85 by moon 97% illuminated at phase= 199 degrees
11/03/2028 16:41:18.3 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.037
Global start/end: 11/03/2028 14:36:05.3 and 11/03/2028 18:46:29.2
Mid-occultation observing point 22.525E 4.247S

Occultation of Wasat 3.5 by moon 73% illuminated at phase= 243 degrees
11/07/2028 10:58:58.7 Geocentric minimum 0.1 degrees. DUTC= 69.184 DUT1= 69.036
Global start/end: 11/07/2028 08:47:55.4 and 11/07/2028 13:10:01.9
Mid-occultation observing point 151.678E 15.411N

Occultation of 20 sigma Scorpii 2.9 by moon 1% illuminated at phase= 13 degrees
11/17/2028 04:46:56.7 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.036
Global start/end: 11/17/2028 03:26:19.1 and 11/17/2028 06:07:37.4
Mid-occultation observing point 20.976E 54.925N

Occultation of 42 theta Ophiuchi 3.27 by moon 5% illuminated at phase= 25 degrees
11/18/2028 04:17:26.4 Geocentric minimum 0.2 degrees. DUTC= 69.184 DUT1= 69.035
Global start/end: 11/18/2028 02:09:33.4 and 11/18/2028 06:25:22.6
Mid-occultation observing point 33.778E 35.199S

Occultation of Alcyone 2.85 by moon 99% illuminated at phase= 170 degrees
11/30/2028 23:52:18.5 Geocentric minimum 0.5 degrees. DUTC= 69.184 DUT1= 69.034
Global start/end: 11/30/2028 21:48:14.0 and 12/01/2028 01:56:19.3
Mid-occultation observing point 112.148W 4.772S
At Journey Museum, the miss angle is 1800.8 arc-sec at 12/01/2028 00:25:18.4

Occultation of Wasat 3.5 by moon 91% illuminated at phase= 215 degrees
12/04/2028 16:41:38.2 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.034
Global start/end: 12/04/2028 14:34:10.4 and 12/04/2028 18:49:05.4
Mid-occultation observing point 37.233E 6.814N

Occultation of 20 sigma Scorpii 2.9 by moon 2% illuminated at phase= 344 degrees
12/14/2028 14:23:36.0 Geocentric minimum 1.0 degrees. DUTC= 69.184 DUT1= 69.033
Global start/end: 12/14/2028 13:02:36.9 and 12/14/2028 15:44:36.7
Mid-occultation observing point 150.274W 55.519N

Occultation of 41 pi Sagittarii 2.88 by moon 3% illuminated at phase= 20 degrees
12/17/2028 10:47:00.2 Geocentric minimum 1.2 degrees. DUTC= 69.184 DUT1= 69.033
Global start/end: 12/17/2028 10:19:13.0 and 12/17/2028 11:14:47.9
Mid-occultation observing point 84.465E 64.958S

Occultation of Alcyone 2.85 by moon 90% illuminated at phase= 143 degrees
12/28/2028 08:40:58.1 Geocentric minimum 0.4 degrees. DUTC= 69.184 DUT1= 69.032
Global start/end: 12/28/2028 06:34:30.6 and 12/28/2028 10:47:20.4
Mid-occultation observing point 88.218E 1.483S

Occultation of Wasat 3.5 by moon 100% illuminated at phase= 188 degrees
01/01/2029 00:25:42.8 Geocentric minimum 0.3 degrees. DUTC= 69.184 DUT1= 69.031
Global start/end: 12/31/2028 22:20:22.4 and 01/01/2029 02:31:01.3
Mid-occultation observing point 106.004W 5.556N
At Journey Museum, the miss angle is 1300.6 arc-sec at 01/01/2029 00:03:11.4

*** = The Moon is above the horizon, and the Sun is not an obstacle.

Program LOSP4 version 241109a + gglib version 260105a
delta-T data as of 01/07/2026