

# Custom Ephemeris

Compiled by: APS

Calculated by: JPL Horizons

Date: 2023-03-05

## C/2022 E3 (ZTF)

Discovered: 2022-03-02.54453

Orbital Period: not defined

Diameter: n/a

Perihelion: 2023-01-12, 18:53:56.815 UT

Links:

[SBDB](#)

[MPC](#)

Date	UT	JD	AU	RA	Declination	Latitude	Longitude	Rx
2023-Jan-01	00:00	2459945.5	1.1287	238°29'08.90"	+31°00'28.98"	+49°45'17.72"	16° Sco 05'45.01"	Rx
2023-Jan-02	00:00	2459946.5	1.1261	238°26'17.88"	+31°27'02.94"	+50°09'38.72"	15° Sco 48'48.69"	Rx
2023-Jan-03	00:00	2459947.5	1.1236	238°22'59.30"	+31°55'20.54"	+50°35'27.93"	15° Sco 30'08.63"	Rx
2023-Jan-04	00:00	2459948.5	1.1214	238°19'10.13"	+32°25'31.05"	+51°02'52.68"	15° Sco 09'32.09"	Rx
2023-Jan-05	00:00	2459949.5	1.1195	238°14'46.85"	+32°57'44.91"	+51°32'01.12"	14° Sco 46'44.13"	Rx
2023-Jan-06	00:00	2459950.5	1.1177	238°09'45.33"	+33°32'13.93"	+52°03'02.31"	14° Sco 21'27.04"	Rx
2023-Jan-07	00:00	2459951.5	1.1162	238°04'00.71"	+34°09'11.51"	+52°36'06.34"	13° Sco 53'19.80"	Rx
2023-Jan-08	00:00	2459952.5	1.1150	237°57'27.27"	+34°48'52.84"	+53°11'24.44"	13° Sco 21'57.19"	Rx
2023-Jan-09	00:00	2459953.5	1.1140	237°49'58.18"	+35°31'35.24"	+53°49'09.06"	12° Sco 46'48.77"	Rx
2023-Jan-10	00:00	2459954.5	1.1132	237°41'25.26"	+36°17'38.48"	+54°29'34.00"	12° Sco 07'17.48"	Rx
2023-Jan-11	00:00	2459955.5	1.1126	237°31'38.60"	+37°07'25.18"	+55°12'54.49"	11° Sco 22'37.80"	Rx
2023-Jan-12	00:00	2459956.5	1.1123	237°20'26.13"	+38°01'21.32"	+55°59'27.20"	10° Sco 31'53.30"	Rx
2023-Jan-13	00:00	2459957.5	1.1122	237°07'32.98"	+38°59'56.81"	+56°49'30.23"	9° Sco 33'53.24"	Rx
2023-Jan-14	00:00	2459958.5	1.1124	236°52'40.64"	+40°03'46.14"	+57°43'22.83"	8° Sco 27'07.99"	Rx
2023-Jan-15	00:00	2459959.5	1.1128	236°35'25.80"	+41°13'29.15"	+58°41'24.99"	7° Sco 09'42.58"	Rx
2023-Jan-16	00:00	2459960.5	1.1135	236°15'18.68"	+42°29'52.00"	+59°43'56.42"	5° Sco 39'07.66"	Rx
2023-Jan-17	00:00	2459961.5	1.1144	235°51'40.71"	+43°53'48.07"	+60°51'14.81"	3° Sco 52'06.56"	Rx
2023-Jan-18	00:00	2459962.5	1.1155	235°23'41.03"	+45°26'19.15"	+62°03'32.66"	1° Sco 44'16.83"	Rx
2023-Jan-19	00:00	2459963.5	1.1168	234°50'11.27"	+47°08'36.49"	+63°20'51.81"	29° Lib 09'43.76"	Rx
2023-Jan-20	00:00	2459964.5	1.1184	234°09'37.46"	+49°02'01.70"	+64°42'53.88"	26° Lib 00'22.97"	Rx
2023-Jan-21	00:00	2459965.5	1.1203	233°19'46.99"	+51°08'07.28"	+66°08'43.95"	22° Lib 05'10.39"	Rx
2023-Jan-22	00:00	2459966.5	1.1223	232°17'26.83"	+53°28'35.91"	+67°36'22.90"	17° Lib 09'03.83"	Rx
2023-Jan-23	00:00	2459967.5	1.1246	230°57'45.44"	+56°05'17.51"	+69°02'02.23"	10° Lib 52'23.74"	Rx
2023-Jan-24	00:00	2459968.5	1.1272	229°13'02.25"	+59°00'01.55"	+70°18'56.70"	2° Lib 52'03.83"	Rx
2023-Jan-25	00:00	2459969.5	1.1299	226°50'28.59"	+62°14'19.86"	+71°16'05.41"	22° Vir 48'07.08"	Rx
2023-Jan-26	00:00	2459970.5	1.1329	223°27'12.19"	+65°48'48.75"	+71°37'41.40"	10° Vir 40'23.20"	Rx
2023-Jan-27	00:00	2459971.5	1.1361	218°18'54.26"	+69°41'42.26"	+71°05'38.66"	27° Leo 10'22.71"	Rx
2023-Jan-28	00:00	2459972.5	1.1395	209°51'36.99"	+73°45'11.39"	+69°25'55.45"	13° Leo 40'50.45"	Rx
2023-Jan-29	00:00	2459973.5	1.1431	194°36'23.36"	+77°34'46.81"	+66°34'34.83"	1° Leo 34'17.72"	Rx
2023-Jan-30	00:00	2459974.5	1.1470	166°56'23.39"	+80°01'33.26"	+62°37'47.20"	21° Can 31'49.97"	Rx
2023-Jan-31	00:00	2459975.5	1.1510	131°58'27.49"	+79°14'21.28"	+57°47'40.79"	13° Can 33'00.80"	Rx
2023-Feb-01	00:00	2459976.5	1.1553	107°49'07.25"	+75°18'05.20"	+52°18'52.78"	7° Can 17'48.51"	Rx
2023-Feb-02	00:00	2459977.5	1.1598	94°46'28.41"	+69°50'40.93"	+46°26'45.57"	2° Can 23'07.91"	Rx
2023-Feb-03	00:00	2459978.5	1.1644	87°23'22.82"	+63°51'45.50"	+40°26'17.06"	28° Gem 29'22.22"	Rx
2023-Feb-04	00:00	2459979.5	1.1693	82°48'18.91"	+57°50'06.46"	+34°30'45.77"	25° Gem 21'31.91"	Rx
2023-Feb-05	00:00	2459980.5	1.1744	79°44'08.88"	+52°01'39.83"	+28°50'43.17"	22° Gem 48'34.98"	Rx
2023-Feb-06	00:00	2459981.5	1.1796	77°33'41.09"	+46°35'35.06"	+23°33'18.64"	20° Gem 42'28.62"	Rx
2023-Feb-07	00:00	2459982.5	1.1851	75°57'18.29"	+41°36'30.45"	+18°42'25.59"	18° Gem 57'19.13"	Rx

2023-Feb-08	00:00	2459983.5	1.1907	74°43'49.00"	+37°05'54.92"	+14°19'17.75"	17° Gem 28'44.77"	Rx
2023-Feb-09	00:00	2459984.5	1.1965	73°46'24.96"	+33°03'13.20"	+10°23'16.74"	16° Gem 13'29.32"	Rx
2023-Feb-10	00:00	2459985.5	1.2025	73°00'44.65"	+29°26'37.44"	+6°52'36.59"	15° Gem 09'03.70"	Rx
2023-Feb-11	00:00	2459986.5	1.2087	72°23'53.26"	+26°13'44.60"	+3°44'57.91"	14° Gem 13'33.08"	Rx
2023-Feb-12	00:00	2459987.5	1.2150	71°53'49.71"	+23°22'00.86"	+0°57'51.05"	13° Gem 25'27.92"	Rx
2023-Feb-13	00:00	2459988.5	1.2215	71°29'07.57"	+20°48'56.07"	-1°31'10.11"	12° Gem 43'37.48"	Rx
2023-Feb-14	00:00	2459989.5	1.2282	71°08'43.55"	+18°32'11.28"	-3°44'20.81"	12° Gem 07'05.30"	Rx
2023-Feb-15	00:00	2459990.5	1.2350	70°51'50.27"	+16°29'41.96"	-5°43'42.29"	11° Gem 35'05.79"	Rx
2023-Feb-16	00:00	2459991.5	1.2420	70°37'51.57"	+14°39'38.60"	-7°31'01.16"	11° Gem 07'01.77"	Rx
2023-Feb-17	00:00	2459992.5	1.2491	70°26'19.37"	+13°00'26.05"	-9°07'50.03"	10° Gem 42'22.66"	Rx
2023-Feb-18	00:00	2459993.5	1.2564	70°16'51.51"	+11°30'42.20"	-10°35'28.83"	10° Gem 20'43.06"	Rx
2023-Feb-19	00:00	2459994.5	1.2638	70°09'10.30"	+10°09'16.39"	-11°55'06.28"	10° Gem 01'41.70"	Rx
2023-Feb-20	00:00	2459995.5	1.2714	70°03'01.39"	+8°55'07.93"	-13°07'41.39"	9° Gem 45'00.65"	Rx
2023-Feb-21	00:00	2459996.5	1.2791	69°58'13.07"	+7°47'24.62"	-14°14'04.86"	9° Gem 30'24.67"	Rx
2023-Feb-22	00:00	2459997.5	1.2869	69°54'35.65"	+6°45'21.59"	-15°15'00.28"	9° Gem 17'40.74"	Rx
2023-Feb-23	00:00	2459998.5	1.2949	69°52'01.03"	+5°48'20.12"	-16°11'05.21"	9° Gem 06'37.67"	Rx
2023-Feb-24	00:00	2459999.5	1.3030	69°50'22.39"	+4°55'46.77"	-17°02'52.12"	8° Gem 57'05.74"	Rx
2023-Feb-25	00:00	2460000.5	1.3112	69°49'33.94"	+4°07'12.56"	-17°50'49.09"	8° Gem 48'56.52"	Rx
2023-Feb-26	00:00	2460001.5	1.3195	69°49'30.71"	+3°22'12.31"	-18°35'20.54"	8° Gem 42'02.61"	Rx
2023-Feb-27	00:00	2460002.5	1.3280	69°50'08.44"	+2°40'24.05"	-19°16'47.72"	8° Gem 36'17.53"	Rx
2023-Feb-28	00:00	2460003.5	1.3365	69°51'23.45"	+2°01'28.57"	-19°55'29.24"	8° Gem 31'35.58"	Rx
2023-Mar-01	00:00	2460004.5	1.3452	69°53'12.53"	+1°25'09.03"	-20°31'41.38"	8° Gem 27'51.69"	Rx
2023-Mar-02	00:00	2460005.5	1.3540	69°55'32.90"	+0°51'10.56"	-21°05'38.48"	8° Gem 25'01.41"	Rx
2023-Mar-03	00:00	2460006.5	1.3629	69°58'22.13"	+0°19'20.07"	-21°37'33.18"	8° Gem 23'00.75"	Rx
2023-Mar-04	00:00	2460007.5	1.3719	70°01'38.06"	-0°10'34.05"	-22°07'36.69"	8° Gem 21'46.16"	Rx
2023-Mar-05	00:00	2460008.5	1.3810	70°05'18.80"	-0°38'42.13"	-22°35'58.94"	8° Gem 21'14.49"	Rx
2023-Mar-06	00:00	2460009.5	1.3901	70°09'22.70"	-1°05'13.35"	-23°02'48.78"	8° Gem 21'22.88"	
2023-Mar-07	00:00	2460010.5	1.3994	70°13'48.28"	-1°30'15.93"	-23°28'14.10"	8° Gem 22'08.80"	
2023-Mar-08	00:00	2460011.5	1.4088	70°18'34.22"	-1°53'57.23"	-23°52'21.98"	8° Gem 23'29.96"	
2023-Mar-09	00:00	2460012.5	1.4182	70°23'39.36"	-2°16'23.85"	-24°15'18.76"	8° Gem 25'24.30"	
2023-Mar-10	00:00	2460013.5	1.4277	70°29'02.68"	-2°37'41.76"	-24°37'10.16"	8° Gem 27'49.97"	
2023-Mar-11	00:00	2460014.5	1.4374	70°34'43.24"	-2°57'56.31"	-24°58'01.35"	8° Gem 30'45.28"	
2023-Mar-12	00:00	2460015.5	1.4470	70°40'40.22"	-3°17'12.36"	-25°17'56.97"	8° Gem 34'08.71"	
2023-Mar-13	00:00	2460016.5	1.4568	70°46'52.86"	-3°35'34.34"	-25°37'01.28"	8° Gem 37'58.86"	
2023-Mar-14	00:00	2460017.5	1.4666	70°53'20.47"	-3°53'06.24"	-25°55'18.12"	8° Gem 42'14.46"	
2023-Mar-15	00:00	2460018.5	1.4766	71°00'02.42"	-4°09'51.75"	-26°12'51.00"	8° Gem 46'54.32"	
2023-Mar-16	00:00	2460019.5	1.4865	71°06'58.11"	-4°25'54.20"	-26°29'43.14"	8° Gem 51'57.32"	
2023-Mar-17	00:00	2460020.5	1.4966	71°14'06.97"	-4°41'16.69"	-26°45'57.48"	8° Gem 57'22.43"	
2023-Mar-18	00:00	2460021.5	1.5067	71°21'28.49"	-4°56'02.08"	-27°01'36.74"	9° Gem 03'08.69"	
2023-Mar-19	00:00	2460022.5	1.5169	71°29'02.17"	-5°10'12.98"	-27°16'43.40"	9° Gem 09'15.18"	
2023-Mar-20	00:00	2460023.5	1.5271	71°36'47.54"	-5°23'51.85"	-27°31'19.76"	9° Gem 15'41.07"	
2023-Mar-21	00:00	2460024.5	1.5374	71°44'44.20"	-5°37'00.94"	-27°45'27.95"	9° Gem 22'25.55"	
2023-Mar-22	00:00	2460025.5	1.5477	71°52'51.72"	-5°49'42.33"	-27°59'09.94"	9° Gem 29'27.90"	
2023-Mar-23	00:00	2460026.5	1.5581	72°01'09.73"	-6°01'57.94"	-28°12'27.53"	9° Gem 36'47.41"	
2023-Mar-24	00:00	2460027.5	1.5686	72°09'37.84"	-6°13'49.55"	-28°25'22.39"	9° Gem 44'23.41"	
2023-Mar-25	00:00	2460028.5	1.5791	72°18'15.69"	-6°25'18.80"	-28°37'56.09"	9° Gem 52'15.24"	

2023-Mar-26	00:00	2460029.5	1.5896	72°27'02.89"	-6°36'27.19"	-28°50'10.04"	10° Gem 00'22.26"	
2023-Mar-27	00:00	2460030.5	1.6002	72°35'59.08"	-6°47'16.16"	-29°02'05.57"	10° Gem 08'43.86"	
2023-Mar-28	00:00	2460031.5	1.6109	72°45'03.91"	-6°57'47.00"	-29°13'43.91"	10° Gem 17'19.46"	
2023-Mar-29	00:00	2460032.5	1.6215	72°54'17.04"	-7°08'00.95"	-29°25'06.20"	10° Gem 26'08.51"	
2023-Mar-30	00:00	2460033.5	1.6323	73°03'38.17"	-7°17'59.14"	-29°36'13.50"	10° Gem 35'10.48"	
2023-Mar-31	00:00	2460034.5	1.6430	73°13'06.99"	-7°27'42.66"	-29°47'06.79"	10° Gem 44'24.90"	
2023-Apr-01	00:00	2460035.5	1.6538	73°22'43.25"	-7°37'12.51"	-29°57'47.01"	10° Gem 53'51.32"	
2023-Apr-02	00:00	2460036.5	1.6647	73°32'26.67"	-7°46'29.62"	-30°08'15.01"	11° Gem 03'29.32"	
2023-Apr-03	00:00	2460037.5	1.6756	73°42'17.03"	-7°55'34.87"	-30°18'31.59"	11° Gem 13'18.52"	
2023-Apr-04	00:00	2460038.5	1.6865	73°52'14.12"	-8°04'29.10"	-30°28'37.51"	11° Gem 23'18.54"	
2023-Apr-05	00:00	2460039.5	1.6974	74°02'17.73"	-8°13'13.06"	-30°38'33.49"	11° Gem 33'29.08"	
2023-Apr-06	00:00	2460040.5	1.7084	74°12'27.69"	-8°21'47.49"	-30°48'20.17"	11° Gem 43'49.82"	
2023-Apr-07	00:00	2460041.5	1.7194	74°22'43.84"	-8°30'13.07"	-30°57'58.20"	11° Gem 54'20.49"	
2023-Apr-08	00:00	2460042.5	1.7305	74°33'06.03"	-8°38'30.44"	-31°07'28.15"	12° Gem 05'00.85"	
2023-Apr-09	00:00	2460043.5	1.7415	74°43'34.12"	-8°46'40.19"	-31°16'50.59"	12° Gem 15'50.64"	
2023-Apr-10	00:00	2460044.5	1.7526	74°54'07.97"	-8°54'42.89"	-31°26'06.05"	12° Gem 26'49.64"	
2023-Apr-11	00:00	2460045.5	1.7637	75°04'47.43"	-9°02'39.09"	-31°35'15.04"	12° Gem 37'57.61"	
2023-Apr-12	00:00	2460046.5	1.7749	75°15'32.36"	-9°10'29.31"	-31°44'18.03"	12° Gem 49'14.32"	
2023-Apr-13	00:00	2460047.5	1.7861	75°26'22.61"	-9°18'14.06"	-31°53'15.51"	13° Gem 00'39.53"	
2023-Apr-14	00:00	2460048.5	1.7973	75°37'18.03"	-9°25'53.84"	-32°02'07.90"	13° Gem 12'13.02"	
2023-Apr-15	00:00	2460049.5	1.8085	75°48'18.47"	-9°33'29.12"	-32°10'55.64"	13° Gem 23'54.57"	
2023-Apr-16	00:00	2460050.5	1.8197	75°59'23.79"	-9°41'00.38"	-32°19'39.15"	13° Gem 35'43.96"	
2023-Apr-17	00:00	2460051.5	1.8310	76°10'33.86"	-9°48'28.07"	-32°28'18.83"	13° Gem 47'41.00"	
2023-Apr-18	00:00	2460052.5	1.8422	76°21'48.56"	-9°55'52.63"	-32°36'55.04"	13° Gem 59'45.50"	
2023-Apr-19	00:00	2460053.5	1.8535	76°33'07.77"	-10°03'14.46"	-32°45'28.16"	14° Gem 11'57.29"	
2023-Apr-20	00:00	2460054.5	1.8648	76°44'31.35"	-10°10'33.95"	-32°53'58.54"	14° Gem 24'16.18"	
2023-Apr-21	00:00	2460055.5	1.8762	76°55'59.16"	-10°17'51.45"	-33°02'26.50"	14° Gem 36'41.97"	
2023-Apr-22	00:00	2460056.5	1.8875	77°07'31.05"	-10°25'07.31"	-33°10'52.36"	14° Gem 49'14.45"	
2023-Apr-23	00:00	2460057.5	1.8988	77°19'06.84"	-10°32'21.84"	-33°19'16.39"	15° Gem 01'53.40"	
2023-Apr-24	00:00	2460058.5	1.9102	77°30'46.38"	-10°39'35.35"	-33°27'38.88"	15° Gem 14'38.60"	
2023-Apr-25	00:00	2460059.5	1.9216	77°42'29.48"	-10°46'48.13"	-33°36'00.10"	15° Gem 27'29.84"	
2023-Apr-26	00:00	2460060.5	1.9330	77°54'15.97"	-10°54'00.47"	-33°44'20.27"	15° Gem 40'26.89"	
2023-Apr-27	00:00	2460061.5	1.9444	78°06'05.71"	-11°01'12.64"	-33°52'39.64"	15° Gem 53'29.56"	
2023-Apr-28	00:00	2460062.5	1.9558	78°17'58.53"	-11°08'24.90"	-34°00'58.43"	16° Gem 06'37.67"	
2023-Apr-29	00:00	2460063.5	1.9673	78°29'54.30"	-11°15'37.50"	-34°09'16.84"	16° Gem 19'51.05"	
2023-Apr-30	00:00	2460064.5	1.9787	78°41'52.90"	-11°22'50.67"	-34°17'35.08"	16° Gem 33'09.53"	
2023-May-01	00:00	2460065.5	1.9901	78°53'54.20"	-11°30'04.64"	-34°25'53.34"	16° Gem 46'32.99"	
2023-May-02	00:00	2460066.5	2.0016	79°05'58.09"	-11°37'19.63"	-34°34'11.81"	17° Gem 00'01.28"	
2023-May-03	00:00	2460067.5	2.0131	79°18'04.48"	-11°44'35.84"	-34°42'30.65"	17° Gem 13'34.29"	
2023-May-04	00:00	2460068.5	2.0245	79°30'13.28"	-11°51'53.46"	-34°50'50.03"	17° Gem 27'11.93"	
2023-May-05	00:00	2460069.5	2.0360	79°42'24.41"	-11°59'12.69"	-34°59'10.13"	17° Gem 40'54.10"	
2023-May-06	00:00	2460070.5	2.0475	79°54'37.80"	-12°06'33.68"	-35°07'31.08"	17° Gem 54'40.72"	
2023-May-07	00:00	2460071.5	2.0590	80°06'53.36"	-12°13'56.60"	-35°15'53.05"	18° Gem 08'31.71"	
2023-May-08	00:00	2460072.5	2.0705	80°19'11.02"	-12°21'21.62"	-35°24'16.19"	18° Gem 22'26.98"	
2023-May-09	00:00	2460073.5	2.0820	80°31'30.69"	-12°28'48.89"	-35°32'40.66"	18° Gem 36'26.44"	
2023-May-10	00:00	2460074.5	2.0935	80°43'52.26"	-12°36'18.59"	-35°41'06.59"	18° Gem 50'29.97"	

2023-May-11	00:00	2460075.5	2.1050	80°56'15.65"	-12°43'50.87"	-35°49'34.14"	19° Gem 04'37.48"	
2023-May-12	00:00	2460076.5	2.1166	81°08'40.75"	-12°51'25.94"	-35°58'03.47"	19° Gem 18'48.85"	
2023-May-13	00:00	2460077.5	2.1281	81°21'07.47"	-12°59'03.96"	-36°06'34.73"	19° Gem 33'03.99"	
2023-May-14	00:00	2460078.5	2.1396	81°33'35.73"	-13°06'45.14"	-36°15'08.07"	19° Gem 47'22.83"	
2023-May-15	00:00	2460079.5	2.1511	81°46'05.45"	-13°14'29.63"	-36°23'43.63"	20° Gem 01'45.28"	
2023-May-16	00:00	2460080.5	2.1626	81°58'36.55"	-13°22'17.63"	-36°32'21.58"	20° Gem 16'11.26"	
2023-May-17	00:00	2460081.5	2.1742	82°11'08.95"	-13°30'09.28"	-36°41'02.05"	20° Gem 30'40.71"	
2023-May-18	00:00	2460082.5	2.1857	82°23'42.56"	-13°38'04.73"	-36°49'45.18"	20° Gem 45'13.53"	
2023-May-19	00:00	2460083.5	2.1972	82°36'17.27"	-13°46'04.12"	-36°58'31.10"	20° Gem 59'49.61"	
2023-May-20	00:00	2460084.5	2.2088	82°48'52.95"	-13°54'07.59"	-37°07'19.94"	21° Gem 14'28.83"	
2023-May-21	00:00	2460085.5	2.2203	83°01'29.48"	-14°02'15.25"	-37°16'11.82"	21° Gem 29'11.05"	
2023-May-22	00:00	2460086.5	2.2318	83°14'06.72"	-14°10'27.24"	-37°25'06.85"	21° Gem 43'56.13"	
2023-May-23	00:00	2460087.5	2.2434	83°26'44.52"	-14°18'43.68"	-37°34'05.14"	21° Gem 58'43.94"	
2023-May-24	00:00	2460088.5	2.2549	83°39'22.76"	-14°27'04.68"	-37°43'06.79"	22° Gem 13'34.34"	
2023-May-25	00:00	2460089.5	2.2664	83°52'01.31"	-14°35'30.36"	-37°52'11.90"	22° Gem 28'27.21"	
2023-May-26	00:00	2460090.5	2.2780	84°04'40.06"	-14°44'00.84"	-38°01'20.57"	22° Gem 43'22.43"	
2023-May-27	00:00	2460091.5	2.2895	84°17'18.87"	-14°52'36.21"	-38°10'32.88"	22° Gem 58'19.90"	
2023-May-28	00:00	2460092.5	2.3010	84°29'57.67"	-15°01'16.59"	-38°19'48.92"	23° Gem 13'19.53"	
2023-May-29	00:00	2460093.5	2.3126	84°42'36.34"	-15°10'02.07"	-38°29'08.78"	23° Gem 28'21.24"	
2023-May-30	00:00	2460094.5	2.3241	84°55'14.81"	-15°18'52.75"	-38°38'32.53"	23° Gem 43'24.95"	
2023-May-31	00:00	2460095.5	2.3356	85°07'52.98"	-15°27'48.71"	-38°48'00.26"	23° Gem 58'30.60"	
2023-Jun-01	00:00	2460096.5	2.3471	85°20'30.80"	-15°36'50.04"	-38°57'32.04"	24° Gem 13'38.14"	
2023-Jun-02	00:00	2460097.5	2.3587	85°33'08.18"	-15°45'56.82"	-39°07'07.94"	24° Gem 28'47.53"	
2023-Jun-03	00:00	2460098.5	2.3702	85°45'45.06"	-15°55'09.11"	-39°16'48.05"	24° Gem 43'58.71"	
2023-Jun-04	00:00	2460099.5	2.3817	85°58'21.37"	-16°04'26.98"	-39°26'32.44"	24° Gem 59'11.64"	
2023-Jun-05	00:00	2460100.5	2.3932	86°10'57.02"	-16°13'50.50"	-39°36'21.17"	25° Gem 14'26.26"	
2023-Jun-06	00:00	2460101.5	2.4047	86°23'31.93"	-16°23'19.75"	-39°46'14.34"	25° Gem 29'42.50"	
2023-Jun-07	00:00	2460102.5	2.4162	86°36'06.00"	-16°32'54.81"	-39°56'12.03"	25° Gem 45'00.27"	
2023-Jun-08	00:00	2460103.5	2.4277	86°48'39.13"	-16°42'35.78"	-40°06'14.33"	26° Gem 00'19.51"	
2023-Jun-09	00:00	2460104.5	2.4392	87°01'11.23"	-16°52'22.77"	-40°16'21.32"	26° Gem 15'40.15"	
2023-Jun-10	00:00	2460105.5	2.4507	87°13'42.23"	-17°02'15.90"	-40°26'33.11"	26° Gem 31'02.14"	
2023-Jun-11	00:00	2460106.5	2.4621	87°26'12.05"	-17°12'15.28"	-40°36'49.79"	26° Gem 46'25.43"	
2023-Jun-12	00:00	2460107.5	2.4736	87°38'40.61"	-17°22'21.01"	-40°47'11.46"	27° Gem 01'49.99"	
2023-Jun-13	00:00	2460108.5	2.4851	87°51'07.85"	-17°32'33.18"	-40°57'38.22"	27° Gem 17'15.75"	
2023-Jun-14	00:00	2460109.5	2.4966	88°03'33.68"	-17°42'51.90"	-41°08'10.16"	27° Gem 32'42.66"	
2023-Jun-15	00:00	2460110.5	2.5080	88°15'57.97"	-17°53'17.23"	-41°18'47.37"	27° Gem 48'10.63"	
2023-Jun-16	00:00	2460111.5	2.5195	88°28'20.63"	-18°03'49.26"	-41°29'29.93"	28° Gem 03'39.58"	
2023-Jun-17	00:00	2460112.5	2.5309	88°40'41.52"	-18°14'28.06"	-41°40'17.93"	28° Gem 19'09.40"	
2023-Jun-18	00:00	2460113.5	2.5424	88°53'00.50"	-18°25'13.69"	-41°51'11.46"	28° Gem 34'39.95"	
2023-Jun-19	00:00	2460114.5	2.5538	89°05'17.43"	-18°36'06.22"	-42°02'10.58"	28° Gem 50'11.13"	
2023-Jun-20	00:00	2460115.5	2.5653	89°17'32.18"	-18°47'05.73"	-42°13'15.36"	29° Gem 05'42.80"	
2023-Jun-21	00:00	2460116.5	2.5767	89°29'44.60"	-18°58'12.28"	-42°24'25.88"	29° Gem 21'14.85"	
2023-Jun-22	00:00	2460117.5	2.5881	89°41'54.56"	-19°09'25.94"	-42°35'42.19"	29° Gem 36'47.18"	
2023-Jun-23	00:00	2460118.5	2.5995	89°54'01.94"	-19°20'46.76"	-42°47'04.36"	29° Gem 52'19.67"	
2023-Jun-24	00:00	2460119.5	2.6109	90°06'06.61"	-19°32'14.82"	-42°58'32.45"	0° Can 07'52.23"	
2023-Jun-25	00:00	2460120.5	2.6224	90°18'08.47"	-19°43'50.15"	-43°10'06.51"	0° Can 23'24.78"	

2023-Jun-26	00:00	2460121.5	2.6337	90°30'07.41"	-19°55'32.83"	-43°21'46.61"	0° Can 38'57.25"	
2023-Jun-27	00:00	2460122.5	2.6451	90°42'03.33"	-20°07'22.88"	-43°33'32.78"	0° Can 54'29.57"	
2023-Jun-28	00:00	2460123.5	2.6565	90°53'56.13"	-20°19'20.37"	-43°45'25.09"	1° Can 10'01.66"	
2023-Jun-29	00:00	2460124.5	2.6679	91°05'45.71"	-20°31'25.31"	-43°57'23.58"	1° Can 25'33.49"	
2023-Jun-30	00:00	2460125.5	2.6793	91°17'31.99"	-20°43'37.75"	-44°09'28.30"	1° Can 41'04.98"	
2023-Jul-01	00:00	2460126.5	2.6906	91°29'14.87"	-20°55'57.72"	-44°21'39.30"	1° Can 56'36.09"	
2023-Jul-02	00:00	2460127.5	2.7020	91°40'54.25"	-21°08'25.22"	-44°33'56.63"	2° Can 12'06.75"	
2023-Jul-03	00:00	2460128.5	2.7133	91°52'30.02"	-21°21'00.31"	-44°46'20.34"	2° Can 27'36.88"	
2023-Jul-04	00:00	2460129.5	2.7247	92°04'02.06"	-21°33'43.00"	-44°58'50.49"	2° Can 43'06.40"	
2023-Jul-05	00:00	2460130.5	2.7360	92°15'30.24"	-21°46'33.36"	-45°11'27.13"	2° Can 58'35.22"	
2023-Jul-06	00:00	2460131.5	2.7473	92°26'54.46"	-21°59'31.44"	-45°24'10.34"	3° Can 14'03.26"	
2023-Jul-07	00:00	2460132.5	2.7587	92°38'14.60"	-22°12'37.33"	-45°37'00.18"	3° Can 29'30.44"	
2023-Jul-08	00:00	2460133.5	2.7700	92°49'30.56"	-22°25'51.10"	-45°49'56.73"	3° Can 44'56.72"	
2023-Jul-09	00:00	2460134.5	2.7813	93°00'42.25"	-22°39'12.81"	-46°03'00.07"	4° Can 00'22.03"	
2023-Jul-10	00:00	2460135.5	2.7926	93°11'49.57"	-22°52'42.54"	-46°16'10.26"	4° Can 15'46.33"	
2023-Jul-11	00:00	2460136.5	2.8039	93°22'52.39"	-23°06'20.32"	-46°29'27.39"	4° Can 31'09.53"	
2023-Jul-12	00:00	2460137.5	2.8152	93°33'50.59"	-23°20'06.20"	-46°42'51.51"	4° Can 46'31.53"	
2023-Jul-13	00:00	2460138.5	2.8264	93°44'44.01"	-23°34'00.21"	-46°56'22.70"	5° Can 01'52.23"	
2023-Jul-14	00:00	2460139.5	2.8377	93°55'32.49"	-23°48'02.40"	-47°10'01.03"	5° Can 17'11.48"	
2023-Jul-15	00:00	2460140.5	2.8490	94°06'15.86"	-24°02'12.78"	-47°23'46.53"	5° Can 32'29.14"	
2023-Jul-16	00:00	2460141.5	2.8602	94°16'53.94"	-24°16'31.38"	-47°37'39.28"	5° Can 47'45.05"	
2023-Jul-17	00:00	2460142.5	2.8714	94°27'26.55"	-24°30'58.24"	-47°51'39.32"	6° Can 02'59.06"	
2023-Jul-18	00:00	2460143.5	2.8827	94°37'53.52"	-24°45'33.36"	-48°05'46.69"	6° Can 18'11.00"	
2023-Jul-19	00:00	2460144.5	2.8939	94°48'14.66"	-25°00'16.78"	-48°20'01.43"	6° Can 33'20.73"	
2023-Jul-20	00:00	2460145.5	2.9051	94°58'29.81"	-25°15'08.51"	-48°34'23.59"	6° Can 48'28.09"	
2023-Jul-21	00:00	2460146.5	2.9163	95°08'38.78"	-25°30'08.57"	-48°48'53.19"	7° Can 03'32.94"	
2023-Jul-22	00:00	2460147.5	2.9275	95°18'41.43"	-25°45'16.96"	-49°03'30.27"	7° Can 18'35.15"	
2023-Jul-23	00:00	2460148.5	2.9387	95°28'37.57"	-26°00'33.69"	-49°18'14.85"	7° Can 33'34.57"	
2023-Jul-24	00:00	2460149.5	2.9499	95°38'27.07"	-26°15'58.75"	-49°33'06.95"	7° Can 48'31.08"	
2023-Jul-25	00:00	2460150.5	2.9611	95°48'09.76"	-26°31'32.15"	-49°48'06.61"	8° Can 03'24.55"	
2023-Jul-26	00:00	2460151.5	2.9723	95°57'45.49"	-26°47'13.87"	-50°03'13.83"	8° Can 18'14.86"	
2023-Jul-27	00:00	2460152.5	2.9834	96°07'14.10"	-27°03'03.88"	-50°18'28.63"	8° Can 33'01.89"	
2023-Jul-28	00:00	2460153.5	2.9946	96°16'35.44"	-27°19'02.16"	-50°33'51.03"	8° Can 47'45.51"	
2023-Jul-29	00:00	2460154.5	3.0057	96°25'49.34"	-27°35'08.69"	-50°49'21.05"	9° Can 02'25.59"	
2023-Jul-30	00:00	2460155.5	3.0169	96°34'55.63"	-27°51'23.42"	-51°04'58.68"	9° Can 17'01.98"	
2023-Jul-31	00:00	2460156.5	3.0280	96°43'54.13"	-28°07'46.34"	-51°20'43.95"	9° Can 31'34.52"	
2023-Aug-01	00:00	2460157.5	3.0391	96°52'44.66"	-28°24'17.41"	-51°36'36.88"	9° Can 46'03.05"	
2023-Aug-02	00:00	2460158.5	3.0502	97°01'27.02"	-28°40'56.64"	-51°52'37.48"	10° Can 00'27.40"	
2023-Aug-03	00:00	2460159.5	3.0613	97°10'01.05"	-28°57'44.02"	-52°08'45.79"	10° Can 14'47.41"	
2023-Aug-04	00:00	2460160.5	3.0724	97°18'26.55"	-29°14'39.57"	-52°25'01.82"	10° Can 29'02.93"	
2023-Aug-05	00:00	2460161.5	3.0835	97°26'43.38"	-29°31'43.30"	-52°41'25.62"	10° Can 43'13.83"	
2023-Aug-06	00:00	2460162.5	3.0946	97°34'51.34"	-29°48'55.21"	-52°57'57.22"	10° Can 57'19.97"	
2023-Aug-07	00:00	2460163.5	3.1056	97°42'50.26"	-30°06'15.28"	-53°14'36.64"	11° Can 11'21.16"	
2023-Aug-08	00:00	2460164.5	3.1167	97°50'39.92"	-30°23'43.47"	-53°31'23.91"	11° Can 25'17.20"	
2023-Aug-09	00:00	2460165.5	3.1277	97°58'20.08"	-30°41'19.77"	-53°48'19.05"	11° Can 39'07.88"	
2023-Aug-10	00:00	2460166.5	3.1388	98°05'50.50"	-30°59'04.11"	-54°05'22.07"	11° Can 52'52.93"	

2023-Aug-11	00:00	2460167.5	3.1498	98°13'10.92"	-31°16'56.45"	-54°22'32.98"	12° Can 06'32.07"	
2023-Aug-12	00:00	2460168.5	3.1608	98°20'21.07"	-31°34'56.73"	-54°39'51.78"	12° Can 20'05.01"	
2023-Aug-13	00:00	2460169.5	3.1718	98°27'20.66"	-31°53'04.91"	-54°57'18.47"	12° Can 33'31.45"	
2023-Aug-14	00:00	2460170.5	3.1828	98°34'09.43"	-32°11'20.90"	-55°14'53.02"	12° Can 46'51.07"	
2023-Aug-15	00:00	2460171.5	3.1938	98°40'47.09"	-32°29'44.64"	-55°32'35.43"	13° Can 00'03.55"	
2023-Aug-16	00:00	2460172.5	3.2048	98°47'13.37"	-32°48'16.07"	-55°50'25.67"	13° Can 13'08.57"	
2023-Aug-17	00:00	2460173.5	3.2158	98°53'27.98"	-33°06'55.09"	-56°08'23.70"	13° Can 26'05.81"	
2023-Aug-18	00:00	2460174.5	3.2268	98°59'30.65"	-33°25'41.62"	-56°26'29.50"	13° Can 38'54.92"	
2023-Aug-19	00:00	2460175.5	3.2377	99°05'21.11"	-33°44'35.57"	-56°44'43.01"	13° Can 51'35.57"	
2023-Aug-20	00:00	2460176.5	3.2487	99°10'59.06"	-34°03'36.82"	-57°03'04.19"	14° Can 04'07.43"	
2023-Aug-21	00:00	2460177.5	3.2596	99°16'24.24"	-34°22'45.28"	-57°21'32.99"	14° Can 16'30.14"	
2023-Aug-22	00:00	2460178.5	3.2705	99°21'36.36"	-34°42'00.81"	-57°40'09.35"	14° Can 28'43.35"	
2023-Aug-23	00:00	2460179.5	3.2815	99°26'35.14"	-35°01'23.29"	-57°58'53.19"	14° Can 40'46.68"	
2023-Aug-24	00:00	2460180.5	3.2924	99°31'20.30"	-35°20'52.57"	-58°17'44.46"	14° Can 52'39.75"	
2023-Aug-25	00:00	2460181.5	3.3033	99°35'51.52"	-35°40'28.50"	-58°36'43.08"	15° Can 04'22.17"	
2023-Aug-26	00:00	2460182.5	3.3142	99°40'08.52"	-36°00'10.94"	-58°55'48.98"	15° Can 15'53.50"	
2023-Aug-27	00:00	2460183.5	3.3251	99°44'10.97"	-36°19'59.73"	-59°15'02.06"	15° Can 27'13.30"	
2023-Aug-28	00:00	2460184.5	3.3360	99°47'58.56"	-36°39'54.70"	-59°34'22.26"	15° Can 38'21.11"	
2023-Aug-29	00:00	2460185.5	3.3468	99°51'30.96"	-36°59'55.72"	-59°53'49.49"	15° Can 49'16.44"	
2023-Aug-30	00:00	2460186.5	3.3577	99°54'47.83"	-37°20'02.64"	-60°13'23.67"	15° Can 59'58.77"	
2023-Aug-31	00:00	2460187.5	3.3685	99°57'48.87"	-37°40'15.34"	-60°33'04.73"	16° Can 10'27.61"	
2023-Sep-01	00:00	2460188.5	3.3794	100°00'33.73"	-38°00'33.68"	-60°52'52.59"	16° Can 20'42.44"	
2023-Sep-02	00:00	2460189.5	3.3902	100°03'02.11"	-38°20'57.53"	-61°12'47.17"	16° Can 30'42.71"	
2023-Sep-03	00:00	2460190.5	3.4011	100°05'13.64"	-38°41'26.72"	-61°32'48.39"	16° Can 40'27.86"	
2023-Sep-04	00:00	2460191.5	3.4119	100°07'07.97"	-39°02'01.10"	-61°52'56.17"	16° Can 49'57.24"	
2023-Sep-05	00:00	2460192.5	3.4227	100°08'44.70"	-39°22'40.47"	-62°13'10.42"	16° Can 59'10.16"	
2023-Sep-06	00:00	2460193.5	3.4335	100°10'03.39"	-39°43'24.62"	-62°33'31.02"	17° Can 08'05.85"	
2023-Sep-07	00:00	2460194.5	3.4443	100°11'03.62"	-40°04'13.35"	-62°53'57.86"	17° Can 16'43.49"	
2023-Sep-08	00:00	2460195.5	3.4551	100°11'44.94"	-40°25'06.44"	-63°14'30.82"	17° Can 25'02.20"	
2023-Sep-09	00:00	2460196.5	3.4658	100°12'06.87"	-40°46'03.65"	-63°35'09.77"	17° Can 33'01.07"	
2023-Sep-10	00:00	2460197.5	3.4766	100°12'08.97"	-41°07'04.77"	-63°55'54.54"	17° Can 40'39.12"	
2023-Sep-11	00:00	2460198.5	3.4874	100°11'50.75"	-41°28'09.52"	-64°16'44.99"	17° Can 47'55.35"	
2023-Sep-12	00:00	2460199.5	3.4981	100°11'11.74"	-41°49'17.68"	-64°37'40.95"	17° Can 54'48.68"	
2023-Sep-13	00:00	2460200.5	3.5088	100°10'11.48"	-42°10'28.97"	-64°58'42.23"	18° Can 01'17.99"	
2023-Sep-14	00:00	2460201.5	3.5196	100°08'49.47"	-42°31'43.11"	-65°19'48.65"	18° Can 07'22.13"	
2023-Sep-15	00:00	2460202.5	3.5303	100°07'05.23"	-42°52'59.82"	-65°41'00.01"	18° Can 12'59.85"	
2023-Sep-16	00:00	2460203.5	3.5410	100°04'58.28"	-43°14'18.81"	-66°02'16.09"	18° Can 18'09.87"	
2023-Sep-17	00:00	2460204.5	3.5517	100°02'28.13"	-43°35'39.77"	-66°23'36.67"	18° Can 22'50.82"	
2023-Sep-18	00:00	2460205.5	3.5624	99°59'34.29"	-43°57'02.36"	-66°45'01.51"	18° Can 27'01.28"	
2023-Sep-19	00:00	2460206.5	3.5731	99°56'16.27"	-44°18'26.25"	-67°06'30.38"	18° Can 30'39.71"	
2023-Sep-20	00:00	2460207.5	3.5838	99°52'33.55"	-44°39'51.11"	-67°28'03.01"	18° Can 33'44.53"	
2023-Sep-21	00:00	2460208.5	3.5944	99°48'25.64"	-45°01'16.56"	-67°49'39.13"	18° Can 36'14.01"	
2023-Sep-22	00:00	2460209.5	3.6051	99°43'52.01"	-45°22'42.23"	-68°11'18.47"	18° Can 38'06.35"	
2023-Sep-23	00:00	2460210.5	3.6157	99°38'52.16"	-45°44'07.77"	-68°33'00.75"	18° Can 39'19.62"	
2023-Sep-24	00:00	2460211.5	3.6264	99°33'25.54"	-46°05'32.78"	-68°54'45.67"	18° Can 39'51.76"	
2023-Sep-25	00:00	2460212.5	3.6370	99°27'31.63"	-46°26'56.90"	-69°16'32.91"	18° Can 39'40.58"	Rx

2023-Sep-26	00:00	2460213.5	3.6476	99°21'09.89"	-46°48'19.76"	-69°38'22.18"	18° Can 38'43.76"	Rx
2023-Sep-27	00:00	2460214.5	3.6583	99°14'19.81"	-47°09'40.98"	-70°00'13.16"	18° Can 36'58.84"	Rx
2023-Sep-28	00:00	2460215.5	3.6689	99°07'00.84"	-47°31'00.20"	-70°22'05.50"	18° Can 34'23.19"	Rx
2023-Sep-29	00:00	2460216.5	3.6795	98°59'12.47"	-47°52'17.07"	-70°43'58.88"	18° Can 30'54.00"	Rx
2023-Sep-30	00:00	2460217.5	3.6901	98°50'54.14"	-48°13'31.18"	-71°05'52.94"	18° Can 26'28.28"	Rx
2023-Oct-01	00:00	2460218.5	3.7006	98°42'05.30"	-48°34'42.14"	-71°27'47.33"	18° Can 21'02.77"	Rx
2023-Oct-02	00:00	2460219.5	3.7112	98°32'45.37"	-48°55'49.53"	-71°49'41.64"	18° Can 14'33.95"	Rx
2023-Oct-03	00:00	2460220.5	3.7218	98°22'53.74"	-49°16'52.91"	-72°11'35.47"	18° Can 06'57.98"	Rx
2023-Oct-04	00:00	2460221.5	3.7323	98°12'29.80"	-49°37'51.82"	-72°33'28.38"	17° Can 58'10.72"	Rx
2023-Oct-05	00:00	2460222.5	3.7429	98°01'32.93"	-49°58'45.79"	-72°55'19.91"	17° Can 48'07.69"	Rx
2023-Oct-06	00:00	2460223.5	3.7534	97°50'02.50"	-50°19'34.36"	-73°17'09.54"	17° Can 36'44.07"	Rx
2023-Oct-07	00:00	2460224.5	3.7640	97°37'57.90"	-50°40'17.05"	-73°38'56.75"	17° Can 23'54.67"	Rx
2023-Oct-08	00:00	2460225.5	3.7745	97°25'18.53"	-51°00'53.35"	-74°00'40.96"	17° Can 09'33.90"	Rx
2023-Oct-09	00:00	2460226.5	3.7850	97°12'03.79"	-51°21'22.78"	-74°22'21.57"	16° Can 53'35.75"	Rx
2023-Oct-10	00:00	2460227.5	3.7955	96°58'13.10"	-51°41'44.81"	-74°43'57.94"	16° Can 35'53.76"	Rx
2023-Oct-11	00:00	2460228.5	3.8060	96°43'45.89"	-52°01'58.94"	-75°05'29.36"	16° Can 16'20.94"	Rx
2023-Oct-12	00:00	2460229.5	3.8165	96°28'41.60"	-52°22'04.62"	-75°26'55.09"	15° Can 54'49.78"	Rx
2023-Oct-13	00:00	2460230.5	3.8270	96°12'59.71"	-52°42'01.31"	-75°48'14.36"	15° Can 31'12.18"	Rx
2023-Oct-14	00:00	2460231.5	3.8374	95°56'39.71"	-53°01'48.46"	-76°09'26.30"	15° Can 05'19.41"	Rx
2023-Oct-15	00:00	2460232.5	3.8479	95°39'41.11"	-53°21'25.51"	-76°30'30.00"	14° Can 37'02.06"	Rx
2023-Oct-16	00:00	2460233.5	3.8583	95°22'03.44"	-53°40'51.88"	-76°51'24.50"	14° Can 06'09.97"	Rx
2023-Oct-17	00:00	2460234.5	3.8688	95°03'46.28"	-54°00'06.99"	-77°12'08.73"	13° Can 32'32.22"	Rx
2023-Oct-18	00:00	2460235.5	3.8792	94°44'49.21"	-54°19'10.24"	-77°32'41.58"	12° Can 55'57.05"	Rx
2023-Oct-19	00:00	2460236.5	3.8896	94°25'11.88"	-54°38'01.04"	-77°53'01.82"	12° Can 16'11.80"	Rx
2023-Oct-20	00:00	2460237.5	3.9001	94°04'53.94"	-54°56'38.79"	-78°13'08.15"	11° Can 33'02.90"	Rx
2023-Oct-21	00:00	2460238.5	3.9105	93°43'55.09"	-55°15'02.91"	-78°32'59.16"	10° Can 46'15.81"	Rx
2023-Oct-22	00:00	2460239.5	3.9209	93°22'15.07"	-55°33'12.81"	-78°52'33.32"	9° Can 55'35.00"	Rx
2023-Oct-23	00:00	2460240.5	3.9313	92°59'53.68"	-55°51'07.92"	-79°11'49.00"	9° Can 00'43.95"	Rx
2023-Oct-24	00:00	2460241.5	3.9417	92°36'50.74"	-56°08'47.68"	-79°30'44.40"	8° Can 01'25.17"	Rx
2023-Oct-25	00:00	2460242.5	3.9520	92°13'06.13"	-56°26'11.53"	-79°49'17.61"	6° Can 57'20.24"	Rx
2023-Oct-26	00:00	2460243.5	3.9624	91°48'39.78"	-56°43'18.93"	-80°07'26.55"	5° Can 48'09.93"	Rx
2023-Oct-27	00:00	2460244.5	3.9728	91°23'31.68"	-57°00'09.33"	-80°25'08.95"	4° Can 33'34.29"	Rx
2023-Oct-28	00:00	2460245.5	3.9831	90°57'41.83"	-57°16'42.16"	-80°42'22.37"	3° Can 13'12.90"	Rx
2023-Oct-29	00:00	2460246.5	3.9935	90°31'10.30"	-57°32'56.87"	-80°59'04.17"	1° Can 46'45.19"	Rx
2023-Oct-30	00:00	2460247.5	4.0038	90°03'57.20"	-57°48'52.90"	-81°15'11.48"	0° Can 13'50.86"	Rx
2023-Oct-31	00:00	2460248.5	4.0141	89°36'02.70"	-58°04'29.66"	-81°30'41.23"	28° Gem 34'10.48"	Rx
2023-Nov-01	00:00	2460249.5	4.0245	89°07'27.03"	-58°19'46.60"	-81°45'30.13"	26° Gem 47'26.24"	Rx
2023-Nov-02	00:00	2460250.5	4.0348	88°38'10.49"	-58°34'43.16"	-81°59'34.67"	24° Gem 53'22.92"	Rx
2023-Nov-03	00:00	2460251.5	4.0451	88°08'13.47"	-58°49'18.78"	-82°12'51.19"	22° Gem 51'48.99"	Rx
2023-Nov-04	00:00	2460252.5	4.0554	87°37'36.42"	-59°03'32.94"	-82°25'15.85"	20° Gem 42'37.85"	Rx
2023-Nov-05	00:00	2460253.5	4.0657	87°06'19.92"	-59°17'25.09"	-82°36'44.73"	18° Gem 25'49.28"	Rx
2023-Nov-06	00:00	2460254.5	4.0759	86°34'24.61"	-59°30'54.72"	-82°47'13.87"	16° Gem 01'30.78"	Rx
2023-Nov-07	00:00	2460255.5	4.0862	86°01'51.24"	-59°44'01.33"	-82°56'39.39"	13° Gem 29'59.02"	Rx
2023-Nov-08	00:00	2460256.5	4.0965	85°28'40.65"	-59°56'44.41"	-83°04'57.54"	10° Gem 51'40.92"	Rx
2023-Nov-09	00:00	2460257.5	4.1067	84°54'53.80"	-60°09'03.51"	-83°12'04.87"	8° Gem 07'14.46"	Rx
2023-Nov-10	00:00	2460258.5	4.1170	84°20'31.73"	-60°20'58.14"	-83°17'58.35"	5° Gem 17'28.87"	Rx

2023-Nov-11	00:00	2460259.5	4.1272	83°45'35.58"	-60°32'27.87"	-83°22'35.45"	2° Gem 23'24.15"	Rx
2023-Nov-12	00:00	2460260.5	4.1374	83°10'06.62"	-60°43'32.27"	-83°25'54.34"	29° Tau 26'09.73"	Rx
2023-Nov-13	00:00	2460261.5	4.1477	82°34'06.20"	-60°54'10.93"	-83°27'53.91"	26° Tau 27'02.39"	Rx
2023-Nov-14	00:00	2460262.5	4.1579	81°57'35.77"	-61°04'23.46"	-83°28'33.89"	23° Tau 27'23.47"	Rx
2023-Nov-15	00:00	2460263.5	4.1681	81°20'36.89"	-61°14'09.51"	-83°27'54.87"	20° Tau 28'35.63"	Rx
2023-Nov-16	00:00	2460264.5	4.1783	80°43'11.22"	-61°23'28.76"	-83°25'58.27"	17° Tau 31'59.44"	Rx
2023-Nov-17	00:00	2460265.5	4.1885	80°05'20.49"	-61°32'20.93"	-83°22'46.29"	14° Tau 38'50.28"	Rx
2023-Nov-18	00:00	2460266.5	4.1987	79°27'06.53"	-61°40'45.77"	-83°18'21.85"	11° Tau 50'15.61"	Rx
2023-Nov-19	00:00	2460267.5	4.2088	78°48'31.24"	-61°48'43.08"	-83°12'48.42"	9° Tau 07'13.08"	Rx
2023-Nov-20	00:00	2460268.5	4.2190	78°09'36.56"	-61°56'12.71"	-83°06'09.94"	6° Tau 30'29.38"	Rx
2023-Nov-21	00:00	2460269.5	4.2292	77°30'24.53"	-62°03'14.55"	-82°58'30.63"	4° Tau 00'39.90"	Rx
2023-Nov-22	00:00	2460270.5	4.2393	76°50'57.22"	-62°09'48.51"	-82°49'54.93"	1° Tau 38'09.12"	Rx
2023-Nov-23	00:00	2460271.5	4.2495	76°11'16.74"	-62°15'54.55"	-82°40'27.28"	29° Ari 23'11.45"	Rx
2023-Nov-24	00:00	2460272.5	4.2596	75°31'25.24"	-62°21'32.63"	-82°30'12.14"	27° Ari 15'52.50"	Rx
2023-Nov-25	00:00	2460273.5	4.2697	74°51'24.90"	-62°26'42.77"	-82°19'13.81"	25° Ari 16'10.44"	Rx
2023-Nov-26	00:00	2460274.5	4.2798	74°11'17.93"	-62°31'24.98"	-82°07'36.43"	23° Ari 23'57.46"	Rx
2023-Nov-27	00:00	2460275.5	4.2900	73°31'06.54"	-62°35'39.33"	-81°55'23.92"	21° Ari 39'01.09"	Rx
2023-Nov-28	00:00	2460276.5	4.3001	72°50'52.97"	-62°39'25.90"	-81°42'39.96"	20° Ari 01'05.47"	Rx
2023-Nov-29	00:00	2460277.5	4.3102	72°10'39.43"	-62°42'44.82"	-81°29'27.98"	18° Ari 29'52.41"	Rx
2023-Nov-30	00:00	2460278.5	4.3202	71°30'28.17"	-62°45'36.23"	-81°15'51.15"	17° Ari 05'02.25"	Rx
2023-Dec-01	00:00	2460279.5	4.3303	70°50'21.40"	-62°48'00.35"	-81°01'52.40"	15° Ari 46'14.59"	Rx
2023-Dec-02	00:00	2460280.5	4.3404	70°10'21.33"	-62°49'57.38"	-80°47'34.41"	14° Ari 33'08.83"	Rx
2023-Dec-03	00:00	2460281.5	4.3505	69°30'30.16"	-62°51'27.58"	-80°32'59.64"	13° Ari 25'24.60"	Rx
2023-Dec-04	00:00	2460282.5	4.3605	68°50'50.04"	-62°52'31.24"	-80°18'10.35"	12° Ari 22'42.04"	Rx
2023-Dec-05	00:00	2460283.5	4.3706	68°11'23.11"	-62°53'08.68"	-80°03'08.58"	11° Ari 24'42.04"	Rx
2023-Dec-06	00:00	2460284.5	4.3806	67°32'11.46"	-62°53'20.23"	-79°47'56.22"	10° Ari 31'06.33"	Rx
2023-Dec-07	00:00	2460285.5	4.3907	66°53'17.13"	-62°53'06.25"	-79°32'34.96"	9° Ari 41'37.65"	Rx
2023-Dec-08	00:00	2460286.5	4.4007	66°14'42.12"	-62°52'27.14"	-79°17'06.38"	8° Ari 55'59.70"	Rx
2023-Dec-09	00:00	2460287.5	4.4107	65°36'28.35"	-62°51'23.30"	-79°01'31.90"	8° Ari 13'57.19"	Rx
2023-Dec-10	00:00	2460288.5	4.4207	64°58'37.70"	-62°49'55.18"	-78°45'52.82"	7° Ari 35'15.85"	Rx
2023-Dec-11	00:00	2460289.5	4.4307	64°21'11.95"	-62°48'03.22"	-78°30'10.32"	6° Ari 59'42.35"	Rx
2023-Dec-12	00:00	2460290.5	4.4407	63°44'12.84"	-62°45'47.90"	-78°14'25.50"	6° Ari 27'04.26"	Rx
2023-Dec-13	00:00	2460291.5	4.4507	63°07'42.01"	-62°43'09.73"	-77°58'39.36"	5° Ari 57'10.03"	Rx
2023-Dec-14	00:00	2460292.5	4.4607	62°31'41.00"	-62°40'09.23"	-77°42'52.82"	5° Ari 29'48.89"	Rx
2023-Dec-15	00:00	2460293.5	4.4707	61°56'11.25"	-62°36'46.97"	-77°27'06.71"	5° Ari 04'50.84"	Rx
2023-Dec-16	00:00	2460294.5	4.4806	61°21'14.12"	-62°33'03.52"	-77°11'21.82"	4° Ari 42'06.57"	Rx
2023-Dec-17	00:00	2460295.5	4.4906	60°46'50.82"	-62°28'59.49"	-76°55'38.84"	4° Ari 21'27.44"	Rx
2023-Dec-18	00:00	2460296.5	4.5006	60°13'02.49"	-62°24'35.50"	-76°39'58.43"	4° Ari 02'45.44"	Rx
2023-Dec-19	00:00	2460297.5	4.5105	59°39'50.14"	-62°19'52.17"	-76°24'21.19"	3° Ari 45'53.15"	Rx
2023-Dec-20	00:00	2460298.5	4.5204	59°07'14.68"	-62°14'50.13"	-76°08'47.64"	3° Ari 30'43.70"	Rx
2023-Dec-21	00:00	2460299.5	4.5304	58°35'16.94"	-62°09'29.98"	-75°53'18.27"	3° Ari 17'10.72"	Rx
2023-Dec-22	00:00	2460300.5	4.5403	58°03'57.65"	-62°03'52.35"	-75°37'53.54"	3° Ari 05'08.33"	Rx
2023-Dec-23	00:00	2460301.5	4.5502	57°33'17.45"	-61°57'57.84"	-75°22'33.85"	2° Ari 54'31.05"	Rx
2023-Dec-24	00:00	2460302.5	4.5601	57°03'16.89"	-61°51'47.04"	-75°07'19.57"	2° Ari 45'13.80"	Rx
2023-Dec-25	00:00	2460303.5	4.5700	56°33'56.42"	-61°45'20.56"	-74°52'11.03"	2° Ari 37'11.86"	Rx
2023-Dec-26	00:00	2460304.5	4.5799	56°05'16.42"	-61°38'39.00"	-74°37'08.55"	2° Ari 30'20.86"	Rx



2023-Dec-27	00:00	2460305.5	4.5898	55°37'17.19"	-61°31'42.95"	-74°22'12.40"	2° Ari 24'36.72"	Rx
2023-Dec-28	00:00	2460306.5	4.5997	55°09'58.94"	-61°24'33.00"	-74°07'22.83"	2° Ari 19'55.67"	Rx
2023-Dec-29	00:00	2460307.5	4.6096	54°43'21.82"	-61°17'09.74"	-73°52'40.10"	2° Ari 16'14.20"	Rx
2023-Dec-30	00:00	2460308.5	4.6194	54°17'25.92"	-61°09'33.76"	-73°38'04.42"	2° Ari 13'29.07"	Rx
2023-Dec-31	00:00	2460309.5	4.6293	53°52'11.27"	-61°01'45.62"	-73°23'36.00"	2° Ari 11'37.24"	Rx
2024-Jan-01	00:00	2460310.5	4.6391	53°27'37.87"	-60°53'45.88"	-73°09'15.03"	2° Ari 10'35.91"	Rx
2024-Jan-02	00:00	2460311.5	4.6490	53°03'45.63"	-60°45'35.11"	-72°55'01.67"	2° Ari 10'22.46"	Rx
2024-Jan-03	00:00	2460312.5	4.6588	52°40'34.44"	-60°37'13.84"	-72°40'56.11"	2° Ari 10'54.45"	
2024-Jan-04	00:00	2460313.5	4.6686	52°18'04.17"	-60°28'42.60"	-72°26'58.49"	2° Ari 12'09.60"	
2024-Jan-05	00:00	2460314.5	4.6785	51°56'14.60"	-60°20'01.92"	-72°13'08.96"	2° Ari 14'05.77"	
2024-Jan-06	00:00	2460315.5	4.6883	51°35'05.52"	-60°11'12.30"	-71°59'27.65"	2° Ari 16'40.97"	
2024-Jan-07	00:00	2460316.5	4.6981	51°14'36.66"	-60°02'14.24"	-71°45'54.69"	2° Ari 19'53.30"	
2024-Jan-08	00:00	2460317.5	4.7079	50°54'47.72"	-59°53'08.23"	-71°32'30.19"	2° Ari 23'40.99"	
2024-Jan-09	00:00	2460318.5	4.7177	50°35'38.39"	-59°43'54.75"	-71°19'14.28"	2° Ari 28'02.35"	
2024-Jan-10	00:00	2460319.5	4.7275	50°17'08.30"	-59°34'34.30"	-71°06'07.06"	2° Ari 32'55.79"	
2024-Jan-11	00:00	2460320.5	4.7373	49°59'17.04"	-59°25'07.33"	-70°53'08.62"	2° Ari 38'19.75"	
2024-Jan-12	00:00	2460321.5	4.7470	49°42'04.18"	-59°15'34.35"	-70°40'19.07"	2° Ari 44'12.77"	
2024-Jan-13	00:00	2460322.5	4.7568	49°25'29.24"	-59°05'55.82"	-70°27'38.48"	2° Ari 50'33.44"	
2024-Jan-14	00:00	2460323.5	4.7666	49°09'31.70"	-58°56'12.23"	-70°15'06.95"	2° Ari 57'20.43"	
2024-Jan-15	00:00	2460324.5	4.7763	48°54'11.02"	-58°46'24.02"	-70°02'44.54"	3° Ari 04'32.48"	
2024-Jan-16	00:00	2460325.5	4.7861	48°39'26.67"	-58°36'31.65"	-69°50'31.30"	3° Ari 12'08.43"	
2024-Jan-17	00:00	2460326.5	4.7958	48°25'18.07"	-58°26'35.51"	-69°38'27.29"	3° Ari 20'07.18"	
2024-Jan-18	00:00	2460327.5	4.8055	48°11'44.68"	-58°16'36.01"	-69°26'32.54"	3° Ari 28'27.68"	
2024-Jan-19	00:00	2460328.5	4.8153	47°58'45.90"	-58°06'33.53"	-69°14'47.08"	3° Ari 37'08.94"	
2024-Jan-20	00:00	2460329.5	4.8250	47°46'21.17"	-57°56'28.41"	-69°03'10.93"	3° Ari 46'10.03"	
2024-Jan-21	00:00	2460330.5	4.8347	47°34'29.89"	-57°46'21.02"	-68°51'44.12"	3° Ari 55'30.03"	
2024-Jan-22	00:00	2460331.5	4.8444	47°23'11.44"	-57°36'11.69"	-68°40'26.63"	4° Ari 05'08.10"	
2024-Jan-23	00:00	2460332.5	4.8541	47°12'25.23"	-57°26'00.75"	-68°29'18.49"	4° Ari 15'03.42"	
2024-Jan-24	00:00	2460333.5	4.8638	47°02'10.63"	-57°15'48.53"	-68°18'19.70"	4° Ari 25'15.21"	
2024-Jan-25	00:00	2460334.5	4.8735	46°52'27.03"	-57°05'35.34"	-68°07'30.24"	4° Ari 35'42.77"	
2024-Jan-26	00:00	2460335.5	4.8831	46°43'13.84"	-56°55'21.49"	-67°56'50.12"	4° Ari 46'25.40"	
2024-Jan-27	00:00	2460336.5	4.8928	46°34'30.44"	-56°45'07.25"	-67°46'19.33"	4° Ari 57'22.49"	
2024-Jan-28	00:00	2460337.5	4.9025	46°26'16.25"	-56°34'52.91"	-67°35'57.87"	5° Ari 08'33.44"	
2024-Jan-29	00:00	2460338.5	4.9121	46°18'30.70"	-56°24'38.75"	-67°25'45.72"	5° Ari 19'57.69"	
2024-Jan-30	00:00	2460339.5	4.9218	46°11'13.22"	-56°14'25.01"	-67°15'42.88"	5° Ari 31'34.73"	
2024-Jan-31	00:00	2460340.5	4.9314	46°04'23.26"	-56°04'11.94"	-67°05'49.34"	5° Ari 43'24.06"	
2024-Feb-01	00:00	2460341.5	4.9411	45°58'00.28"	-55°53'59.78"	-66°56'05.09"	5° Ari 55'25.22"	
2024-Feb-02	00:00	2460342.5	4.9507	45°52'03.75"	-55°43'48.75"	-66°46'30.12"	6° Ari 07'37.75"	
2024-Feb-03	00:00	2460343.5	4.9603	45°46'33.15"	-55°33'39.08"	-66°37'04.43"	6° Ari 20'01.24"	
2024-Feb-04	00:00	2460344.5	4.9699	45°41'27.97"	-55°23'30.98"	-66°27'47.99"	6° Ari 32'35.26"	
2024-Feb-05	00:00	2460345.5	4.9795	45°36'47.71"	-55°13'24.65"	-66°18'40.82"	6° Ari 45'19.40"	
2024-Feb-06	00:00	2460346.5	4.9891	45°32'31.86"	-55°03'20.31"	-66°09'42.88"	6° Ari 58'13.27"	
2024-Feb-07	00:00	2460347.5	4.9987	45°28'39.92"	-54°53'18.17"	-66°00'54.19"	7° Ari 11'16.46"	
2024-Feb-08	00:00	2460348.5	5.0083	45°25'11.40"	-54°43'18.42"	-65°52'14.72"	7° Ari 24'28.56"	
2024-Feb-09	00:00	2460349.5	5.0179	45°22'05.76"	-54°33'21.30"	-65°43'44.49"	7° Ari 37'49.17"	
2024-Feb-10	00:00	2460350.5	5.0275	45°19'22.50"	-54°23'27.00"	-65°35'23.47"	7° Ari 51'17.88"	

2024-Feb-11	00:00	2460351.5	5.0371	45°17'01.10"	-54°13'35.76"	-65°27'11.66"	8° Ari 04'54.31"	
2024-Feb-12	00:00	2460352.5	5.0466	45°15'01.06"	-54°03'47.75"	-65°19'09.04"	8° Ari 18'38.12"	
2024-Feb-13	00:00	2460353.5	5.0562	45°13'21.89"	-53°54'03.17"	-65°11'15.59"	8° Ari 32'28.98"	
2024-Feb-14	00:00	2460354.5	5.0657	45°12'03.13"	-53°44'22.17"	-65°03'31.29"	8° Ari 46'26.59"	
2024-Feb-15	00:00	2460355.5	5.0753	45°11'04.32"	-53°34'44.90"	-64°55'56.11"	9° Ari 00'30.64"	
2024-Feb-16	00:00	2460356.5	5.0848	45°10'24.99"	-53°25'11.50"	-64°48'30.00"	9° Ari 14'40.82"	
2024-Feb-17	00:00	2460357.5	5.0943	45°10'04.69"	-53°15'42.11"	-64°41'12.94"	9° Ari 28'56.84"	
2024-Feb-18	00:00	2460358.5	5.1039	45°10'02.97"	-53°06'16.86"	-64°34'04.88"	9° Ari 43'18.39"	
2024-Feb-19	00:00	2460359.5	5.1134	45°10'19.38"	-52°56'55.87"	-64°27'05.78"	9° Ari 57'45.19"	
2024-Feb-20	00:00	2460360.5	5.1229	45°10'53.46"	-52°47'39.28"	-64°20'15.59"	10° Ari 12'16.97"	
2024-Feb-21	00:00	2460361.5	5.1324	45°11'44.79"	-52°38'27.20"	-64°13'34.27"	10° Ari 26'53.47"	
2024-Feb-22	00:00	2460362.5	5.1419	45°12'52.94"	-52°29'19.75"	-64°07'01.78"	10° Ari 41'34.46"	
2024-Feb-23	00:00	2460363.5	5.1514	45°14'17.51"	-52°20'17.04"	-64°00'38.07"	10° Ari 56'19.71"	
2024-Feb-24	00:00	2460364.5	5.1609	45°15'58.10"	-52°11'19.18"	-63°54'23.10"	11° Ari 11'09.03"	
2024-Feb-25	00:00	2460365.5	5.1704	45°17'54.33"	-52°02'26.27"	-63°48'16.84"	11° Ari 26'02.21"	
2024-Feb-26	00:00	2460366.5	5.1798	45°20'05.84"	-51°53'38.39"	-63°42'19.23"	11° Ari 40'59.10"	
2024-Feb-27	00:00	2460367.5	5.1893	45°22'32.28"	-51°44'55.65"	-63°36'30.25"	11° Ari 55'59.53"	
2024-Feb-28	00:00	2460368.5	5.1988	45°25'13.31"	-51°36'18.11"	-63°30'49.85"	12° Ari 11'03.35"	
2024-Feb-29	00:00	2460369.5	5.2082	45°28'08.61"	-51°27'45.87"	-63°25'18.00"	12° Ari 26'10.41"	
2024-Mar-01	00:00	2460370.5	5.2177	45°31'17.88"	-51°19'18.99"	-63°19'54.66"	12° Ari 41'20.57"	
2024-Mar-02	00:00	2460371.5	5.2271	45°34'40.79"	-51°10'57.55"	-63°14'39.80"	12° Ari 56'33.68"	
2024-Mar-03	00:00	2460372.5	5.2366	45°38'17.06"	-51°02'41.63"	-63°09'33.40"	13° Ari 11'49.58"	
2024-Mar-04	00:00	2460373.5	5.2460	45°42'06.38"	-50°54'31.30"	-63°04'35.41"	13° Ari 27'08.14"	
2024-Mar-05	00:00	2460374.5	5.2554	45°46'08.46"	-50°46'26.63"	-62°59'45.81"	13° Ari 42'29.18"	
2024-Mar-06	00:00	2460375.5	5.2648	45°50'23.01"	-50°38'27.71"	-62°55'04.59"	13° Ari 57'52.53"	