

Location:

Lat: 38.7151 N Long: 77.1811 W

Time from UTC: -4

Date	Sun		C Twi		N Twi		A Twi		Moon		Moon Illum
	R	S	B	E	B	E	B	E	R	S	
20240801	0610	2019	0541	2048	0505	2125	0425	2204	0254	1853	11.4%
20240802	0611	2018	0542	2047	0506	2123	0427	2202	0355	1940	5.7%
20240803	0612	2017	0543	2046	0507	2122	0428	2201	0500	2017	1.9%
20240804	0613	2016	0544	2045	0508	2121	0429	2159	0606	2047	0.2%
20240805	0614	2014	0545	2044	0509	2119	0431	2158	0710	2113	0.6%
20240806	0615	2013	0546	2042	0511	2118	0432	2156	0812	2135	2.9%
20240807	0616	2012	0547	2041	0512	2117	0433	2154	0911	2155	6.9%
20240808	0617	2011	0548	2040	0513	2115	0435	2153	1010	2215	12.5%
20240809	0618	2010	0549	2039	0514	2114	0436	2151	1108	2235	19.4%
20240810	0618	2009	0550	2037	0515	2112	0437	2150	1207	2258	27.4%
20240811	0619	2007	0551	2036	0516	2111	0439	2148	1308	2323	36.2%
20240812	0620	2006	0552	2035	0517	2109	0440	2146	1411	2353	45.6%
20240813	0621	2005	0553	2033	0519	2108	0441	2145	1516	----	55.4%
20240814	0622	2004	0554	2032	0520	2106	0443	2143	1621	0031	65.2%
20240815	0623	2002	0555	2030	0521	2105	0444	2141	1723	0118	74.6%
20240816	0624	2001	0556	2029	0522	2103	0445	2140	1818	0216	83.3%
20240817	0625	2000	0557	2028	0523	2102	0447	2138	1905	0325	90.7%
20240818	0626	1958	0558	2026	0524	2100	0448	2136	1944	0440	96.2%
20240819	0627	1957	0559	2025	0525	2059	0449	2134	2016	0558	99.3%
20240820	0627	1956	0600	2023	0526	2057	0450	2133	2045	0716	99.7%
20240821	0628	1954	0601	2022	0527	2055	0452	2131	2112	0832	97.1%
20240822	0629	1953	0602	2020	0528	2054	0453	2129	2138	0948	91.8%
20240823	0630	1952	0603	2019	0530	2052	0454	2127	2205	1103	84%
20240824	0631	1950	0603	2017	0531	2051	0456	2126	2237	1218	74.4%
20240825	0632	1949	0604	2016	0532	2049	0457	2124	2313	1333	63.7%
20240826	0633	1947	0605	2014	0533	2047	0458	2122	2357	1445	52.6%
20240827	0634	1946	0606	2013	0534	2046	0459	2120	----	1552	41.7%
20240828	0635	1944	0607	2011	0535	2044	0500	2118	0049	1650	31.4%
20240829	0635	1943	0608	2010	0536	2042	0502	2116	0148	1739	22.2%
20240830	0636	1941	0609	2008	0537	2041	0503	2115	0251	1818	14.3%
20240831	0637	1940	0610	2007	0538	2039	0504	2113	0357	1850	8.1%

Key

.... means sun or moon below horizon all day or  
twilight never begins

\*\*\*\* means sun or moon above horizon all day  
or twilight never ends

---- in rise column means no rise that day and  
in set column - no set that day

R - Rise

S - Set

B - Beginning

E - Ending

C Twi - Civil Twilight: Sun is 6 deg below the horizon

N Twi - Nautical Twilight: Sun is 12 deg below the horizon

A Twi - Astonomical Twilight: Sun is 18 deg below the horizon

Moon Illumination is valid 00:01L for that day.