

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	
20241101	0737	1808	0709	1835	0637	1907	0606	1938	0745	1800	0.2%
20241102	0738	1807	0710	1834	0638	1906	0607	1937	0847	1829	0.5%
20241103	0739	1806	0711	1833	0639	1905	0608	1936	0952	1906	2.6%
20241104	0639	1705	0612	1733	0540	1804	0509	1835	0954	1850	6.8%
20241105	0640	1704	0613	1732	0541	1803	0510	1834	1053	1945	12.7%
20241106	0642	1703	0614	1731	0542	1802	0511	1833	1146	2046	20.2%
20241107	0643	1702	0615	1730	0543	1801	0512	1832	1230	2155	29%
20241108	0644	1701	0616	1729	0544	1800	0513	1831	1307	2306	39%
20241109	0645	1700	0617	1728	0545	1800	0514	1831	1339	----	49.8%
20241110	0646	1659	0618	1727	0546	1759	0515	1830	1407	0018	60.8%
20241111	0647	1658	0619	1726	0547	1758	0516	1829	1433	0131	71.6%
20241112	0648	1657	0620	1726	0548	1758	0517	1829	1459	0243	81.5%
20241113	0649	1656	0621	1725	0549	1757	0518	1828	1526	0358	89.7%
20241114	0650	1656	0622	1724	0550	1756	0519	1827	1556	0516	95.8%
20241115	0652	1655	0623	1724	0551	1756	0520	1827	1632	0635	99.2%
20241116	0653	1654	0624	1723	0552	1755	0521	1826	1717	0754	99.7%
20241117	0654	1653	0625	1722	0553	1754	0522	1826	1811	0910	97.4%
20241118	0655	1653	0626	1722	0554	1754	0523	1825	1914	1015	92.6%
20241119	0656	1652	0627	1721	0555	1753	0523	1825	2021	1109	85.7%
20241120	0657	1652	0628	1721	0556	1753	0524	1824	2130	1152	77.4%
20241121	0658	1651	0629	1720	0557	1753	0525	1824	2236	1225	68.2%
20241122	0659	1650	0630	1720	0558	1752	0526	1823	2340	1253	58.4%
20241123	0700	1650	0631	1719	0559	1752	0527	1823	----	1316	48.7%
20241124	0701	1650	0632	1719	0600	1751	0528	1823	0040	1337	39.1%
20241125	0702	1649	0633	1718	0601	1751	0529	1823	0139	1357	30.1%
20241126	0703	1649	0634	1718	0602	1751	0530	1822	0236	1416	21.9%
20241127	0704	1648	0635	1718	0602	1751	0531	1822	0335	1438	14.7%
20241128	0705	1648	0636	1718	0603	1750	0532	1822	0435	1502	8.7%
20241129	0707	1648	0637	1717	0604	1750	0533	1822	0538	1531	4.1%
20241130	0708	1648	0638	1717	0605	1750	0533	1822	0641	1605	1.2%
20241201	0708	1647	0639	1717	0606	1750	0534	1822	0746	1648	0.2%
20241202	0709	1647	0640	1717	0607	1750	0535	1822	0847	1740	1.1%
20241203	0710	1647	0641	1717	0608	1750	0536	1822	0942	1840	4.1%
20241204	0711	1647	0641	1717	0608	1750	0537	1822	1029	1947	9.1%

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.