

Location:

Lat: 38.7151 N Long: 77.1811 W

Time from UTC: -5

Date	Sun		C Twi		N Twi		A Twi		Moon		Moon Illum
	R	S	B	E	B	E	B	E	R	S	
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%
20241205	0712	1647	0642	1717	0609	1750	0537	1822	1109	2058	16%
20241206	0713	1647	0643	1717	0610	1750	0538	1822	1142	2208	24.6%
20241207	0714	1647	0644	1717	0611	1750	0539	1822	1210	2319	34.5%
20241208	0715	1647	0645	1717	0612	1750	0540	1822	1235	----	45.3%
20241209	0716	1647	0646	1717	0612	1750	0541	1822	1300	0029	56.6%
20241210	0717	1647	0646	1717	0613	1750	0541	1822	1326	0141	67.6%
20241211	0717	1647	0647	1717	0614	1751	0542	1823	1353	0254	77.9%
20241212	0718	1647	0648	1718	0615	1751	0543	1823	1426	0409	86.8%
20241213	0719	1648	0649	1718	0615	1751	0543	1823	1506	0527	93.6%
20241214	0720	1648	0649	1718	0616	1751	0544	1823	1554	0644	98%
20241215	0720	1648	0650	1718	0617	1752	0545	1824	1653	0755	99.8%
20241216	0721	1649	0651	1719	0617	1752	0545	1824	1800	0855	98.9%
20241217	0721	1649	0651	1719	0618	1753	0546	1825	1910	0943	95.6%
20241218	0722	1649	0652	1720	0618	1753	0546	1825	2019	1021	90.3%
20241219	0723	1650	0652	1720	0619	1753	0547	1825	2125	1052	83.4%
20241220	0723	1650	0653	1720	0619	1754	0547	1826	2227	1118	75.2%
20241221	0724	1651	0653	1721	0620	1754	0548	1826	2328	1140	66.3%
20241222	0724	1651	0654	1722	0620	1755	0548	1827	----	1200	57%
20241223	0725	1652	0654	1722	0621	1755	0549	1827	0026	1220	47.5%
20241224	0725	1652	0655	1723	0621	1756	0549	1828	0124	1240	38.2%
20241225	0725	1653	0655	1723	0622	1757	0550	1829	0223	1304	29.3%
20241226	0726	1654	0656	1724	0622	1757	0550	1829	0325	1330	21.1%
20241227	0726	1654	0656	1725	0622	1758	0550	1830	0428	1402	13.8%
20241228	0726	1655	0656	1725	0623	1758	0551	1831	0533	1441	7.8%
20241229	0727	1656	0657	1726	0623	1759	0551	1831	0635	1531	3.4%
20241230	0727	1657	0657	1727	0623	1800	0551	1832	0734	1629	0.8%
20241231	0727	1657	0657	1727	0623	1801	0552	1833	0825	1736	0.3%

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.