

## Total Lunar Eclipse 2022 May 16

Greatest Eclipse = 04:11:31.2 UT1  
 Penumbral Eclipse Magnitude = 2.3743  
 Umbral Eclipse Magnitude = 1.4154  
 Gamma = -0.2532  
 Axis = 0.2555°  
 Saros = 131 [34 of 72]  
 Descending Node

### Geocentric Coordinates at Greatest Eclipse

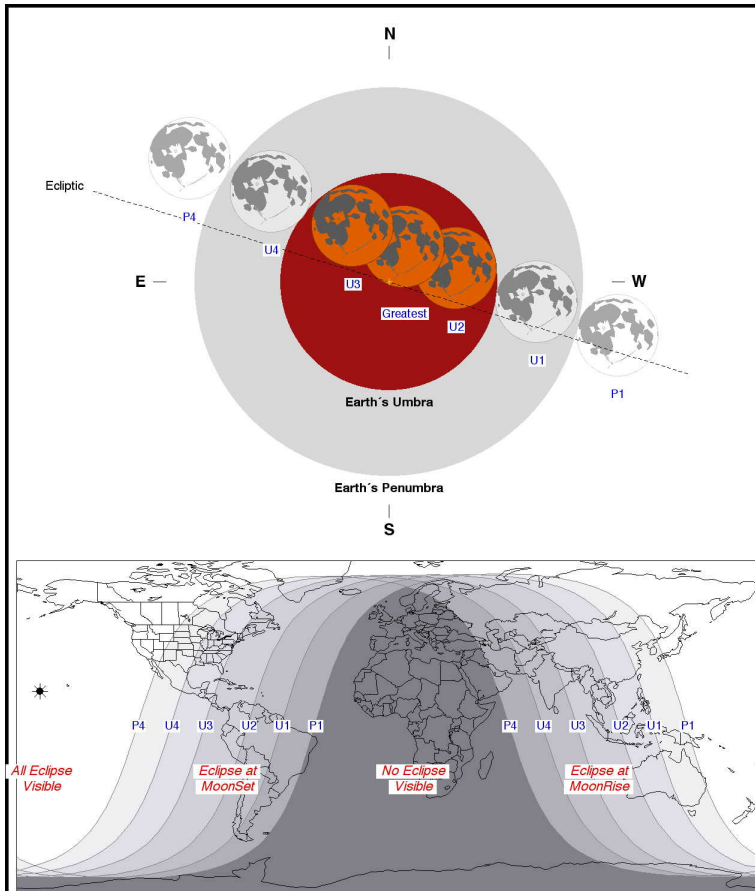
Sun	Moon
R.A. = 03h31m49.5s	R.A. = 15h31m27.8s
Dec. = +19°05'13.4"	Dec. = -19°19'40.4"
S.D. = 00°15'49.2"	S.D. = 00°16'29.9"
H.P. = 00°00'08.7"	H.P. = 01°00'33.1"

Eclipse Durations	Eclipse Contacts
Penumbral = 05h19m28s	P1 = 01:31:44 UT1
Umbral = 03h27m57s	U1 = 02:27:31 UT1
Total = 01h25m32s	U2 = 03:28:40 UT1
	U3 = 04:54:11 UT1
	U4 = 05:55:27 UT1
	P4 = 06:51:11 UT1

**Parameters**  
 Eph. = JPL DE430  
 Rule = Herald-Sinnott  
 ΔT = 70 s

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## Total Lunar Eclipse 2022 Nov 08

Greatest Eclipse = 10:59:11.3 UT1  
 Penumbral Eclipse Magnitude = 2.4161  
 Umbral Eclipse Magnitude = 1.3607  
 Gamma = 0.2570  
 Axis = 0.2404°  
 Saros = 136 [20 of 72]  
 Ascending Node

### Geocentric Coordinates at Greatest Eclipse

Sun	Moon
R.A. = 14h54m11.2s	R.A. = 02h53m48.1s
Dec. = -16°37'47.0"	Dec. = +16°51'06.7"
S.D. = 00°16'08.5"	S.D. = 00°15'17.7"
H.P. = 00°00'08.9"	H.P. = 00°56'07.8"

Eclipse Durations	Eclipse Contacts
Penumbral = 05h54m41s	P1 = 08:01:52 UT1
Umbral = 03h40m35s	U1 = 09:08:49 UT1
Total = 01h25m40s	U2 = 10:16:12 UT1
	U3 = 11:41:52 UT1
	U4 = 12:49:24 UT1
	P4 = 13:56:32 UT1

**Parameters**  
 Eph. = JPL DE430  
 Rule = Herald-Sinnott  
 ΔT = 71 s

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