

# Total Solar Eclipse of 2016 Mar 09

Ecliptic Conjunction = 01:55:37.5 TD (= 01:54:29.5 UT)

Greatest Eclipse = 01:58:19.5 TD (= 01:57:11.5 UT)

Eclipse Magnitude = 1.0450      Gamma = 0.2609

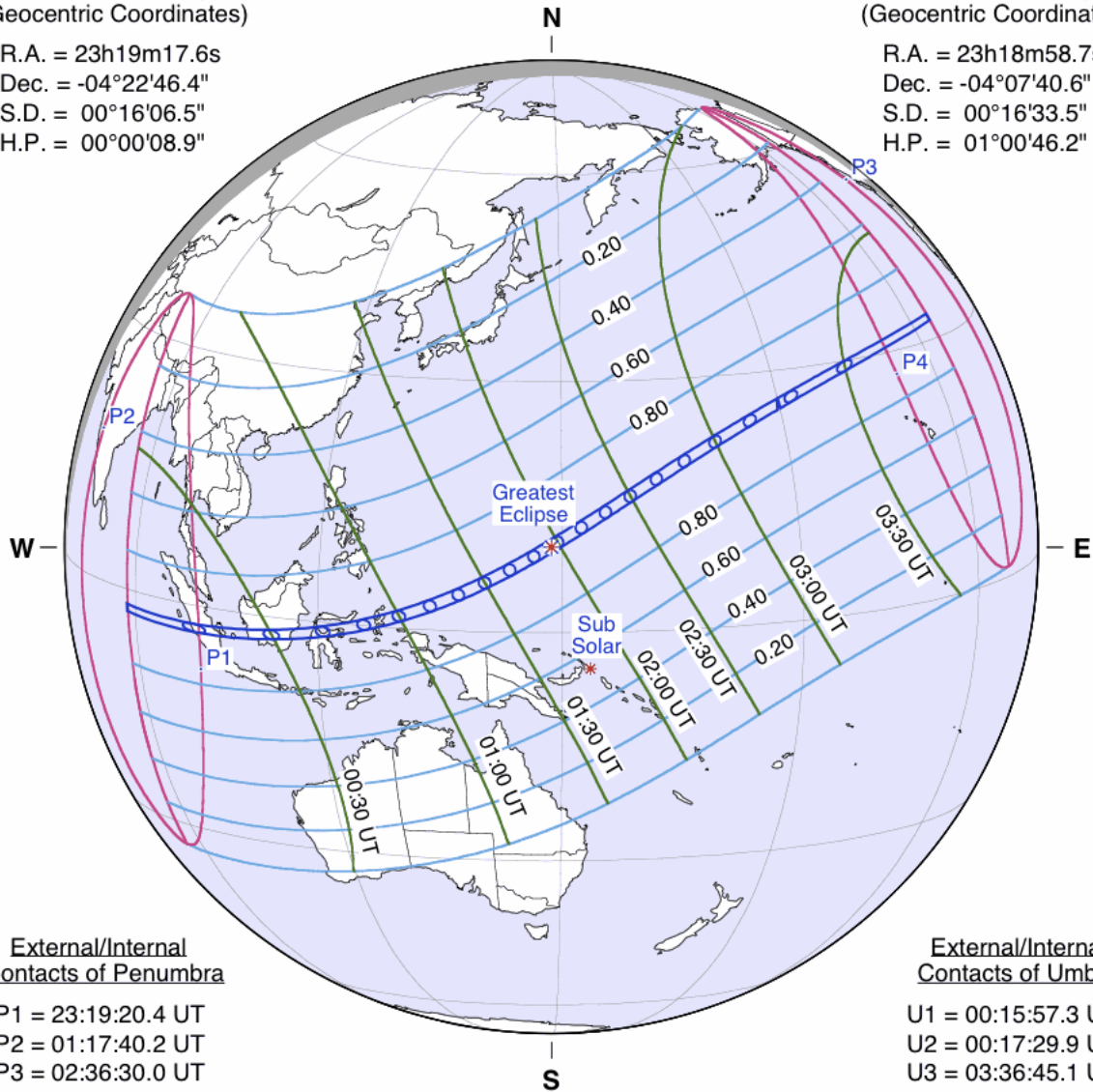
Saros Series = 130      Member = 52 of 73

Sun at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 23h19m17.6s  
Dec. = -04°22'46.4"  
S.D. = 00°16'06.5"  
H.P. = 00°00'08.9"

Moon at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 23h18m58.7s  
Dec. = -04°07'40.6"  
S.D. = 00°16'33.5"  
H.P. = 01°00'46.2"



External/Internal  
Contacts of Penumbra

P1 = 23:19:20.4 UT  
P2 = 01:17:40.2 UT  
P3 = 02:36:30.0 UT  
P4 = 04:34:55.4 UT

External/Internal  
Contacts of Umbra

U1 = 00:15:57.3 UT  
U2 = 00:17:29.9 UT  
U3 = 03:36:45.1 UT  
U4 = 03:38:20.7 UT

Constants & Ephemeris

$\Delta T = 67.9$  s  
k1 = 0.2725076  
k2 = 0.2722810  
 $\Delta b = 0.0''$      $\Delta l = 0.0''$   
Eph. = JPL DE405

Circumstances at Greatest Eclipse: 01:57:11.5 UT

Lat. = 10°07.3'N      Sun Alt. = 74.8°  
Long. = 148°47.6'E      Sun Azm. = 162.5°  
Path Width = 155.1 km      Duration = 04m09.5s

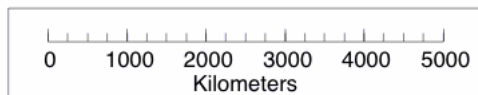
Geocentric Libration  
(Optical + Physical)

l = -2.73°  
b = -0.34°  
c = -24.56°

Circumstances at Greatest Duration: 01:56:52.0 UT

Lat. = 10°04'N      Sun Alt. = 74.8°  
Long. = 148°42'E      Duration = 04m09.5s

Brown Lun. No. = 1153



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