

# Figure 5

## Total Solar Eclipse of 2009 Jul 22

Ecliptic Conjunction = 02:35:41.4 TD (= 02:34:35.5 UT)  
 Greatest Eclipse = 02:36:24.0 TD (= 02:35:18.1 UT)

Eclipse Magnitude = 1.0799      Gamma = 0.0698

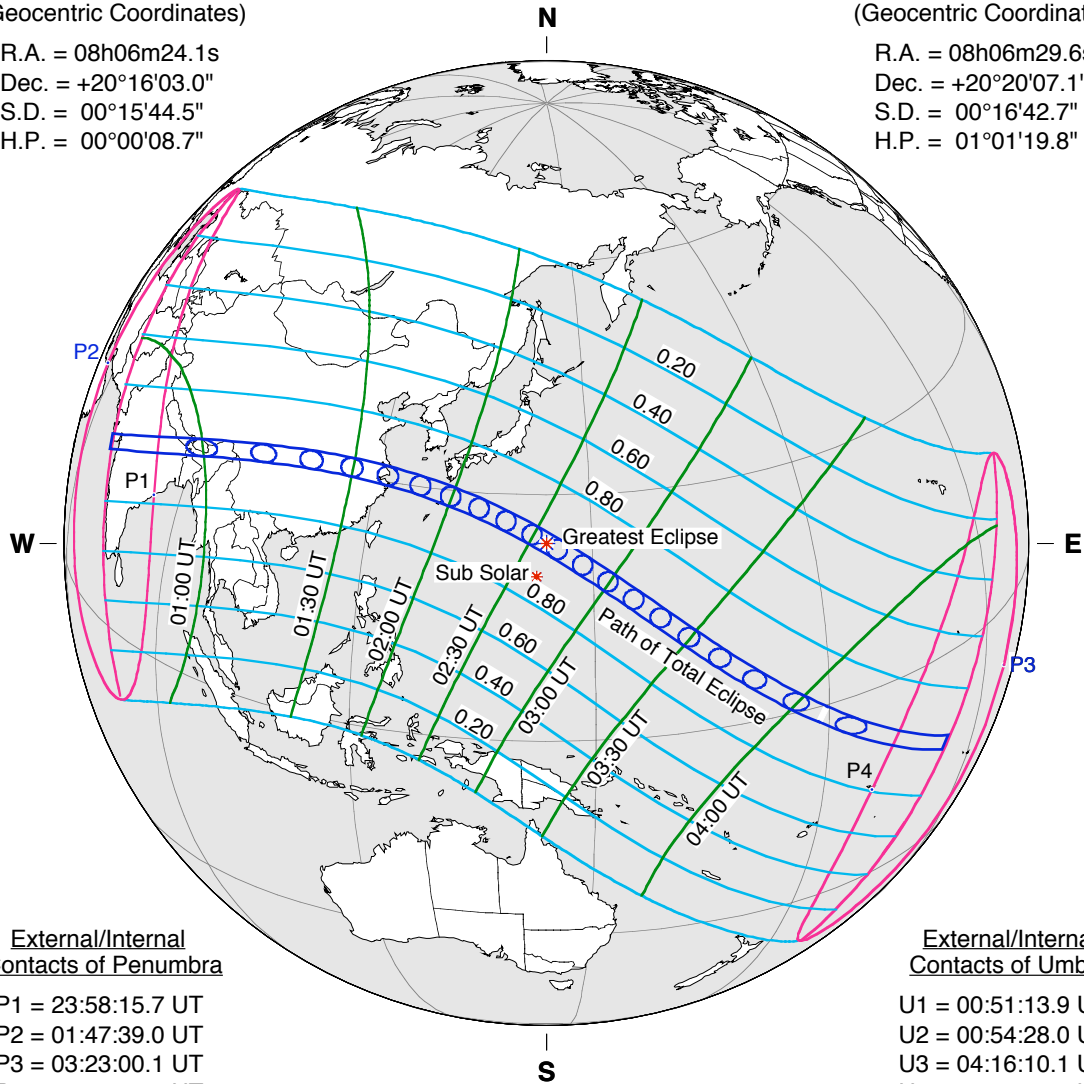
Saros Series = 136      Member = 37 of 71

Sun at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 08h06m24.1s  
 Dec. = +20°16'03.0"  
 S.D. = 00°15'44.5"  
 H.P. = 00°00'08.7"

Moon at Greatest Eclipse  
(Geocentric Coordinates)

R.A. = 08h06m29.6s  
 Dec. = +20°20'07.1"  
 S.D. = 00°16'42.7"  
 H.P. = 01°01'19.8"



External/Internal  
Contacts of Penumbra

P1 = 23:58:15.7 UT  
 P2 = 01:47:39.0 UT  
 P3 = 03:23:00.1 UT  
 P4 = 05:12:22.1 UT

External/Internal  
Contacts of Umbra

U1 = 00:51:13.9 UT  
 U2 = 00:54:28.0 UT  
 U3 = 04:16:10.1 UT  
 U4 = 04:19:23.5 UT

Local Circumstances at Greatest Eclipse

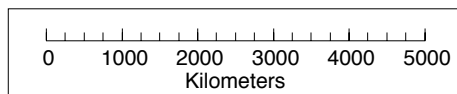
Lat. = 24°13.3'N      Sun Alt. = 85.9°  
 Long. = 144°07.1'E      Sun Azm. = 197.6°  
 Path Width = 258.5 km      Duration = 06m38.9s

Constants & Ephemeris

$\Delta T = 65.9$  s  
 $k1 = 0.2724880$   
 $k2 = 0.2722810$   
 $\Delta b = 0.0''$      $\Delta l = 0.0''$   
 Eph. = VSOP87/ELP2000-85

Geocentric Libration  
(Optical + Physical)

$l = 0.67^\circ$   
 $b = -0.07^\circ$   
 $c = 10.52^\circ$   
 Brown Lun. No. = 1071



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[eclipse.gsfc.nasa.gov/eclipse.html](http://eclipse.gsfc.nasa.gov/eclipse.html)