

**FIGURE 3 - LUNAR LIMB PROFILE FOR 2012 NOVEMBER 13 AT 20:39 UT**

**Total Solar Eclipse of 2012 Nov 13/14**

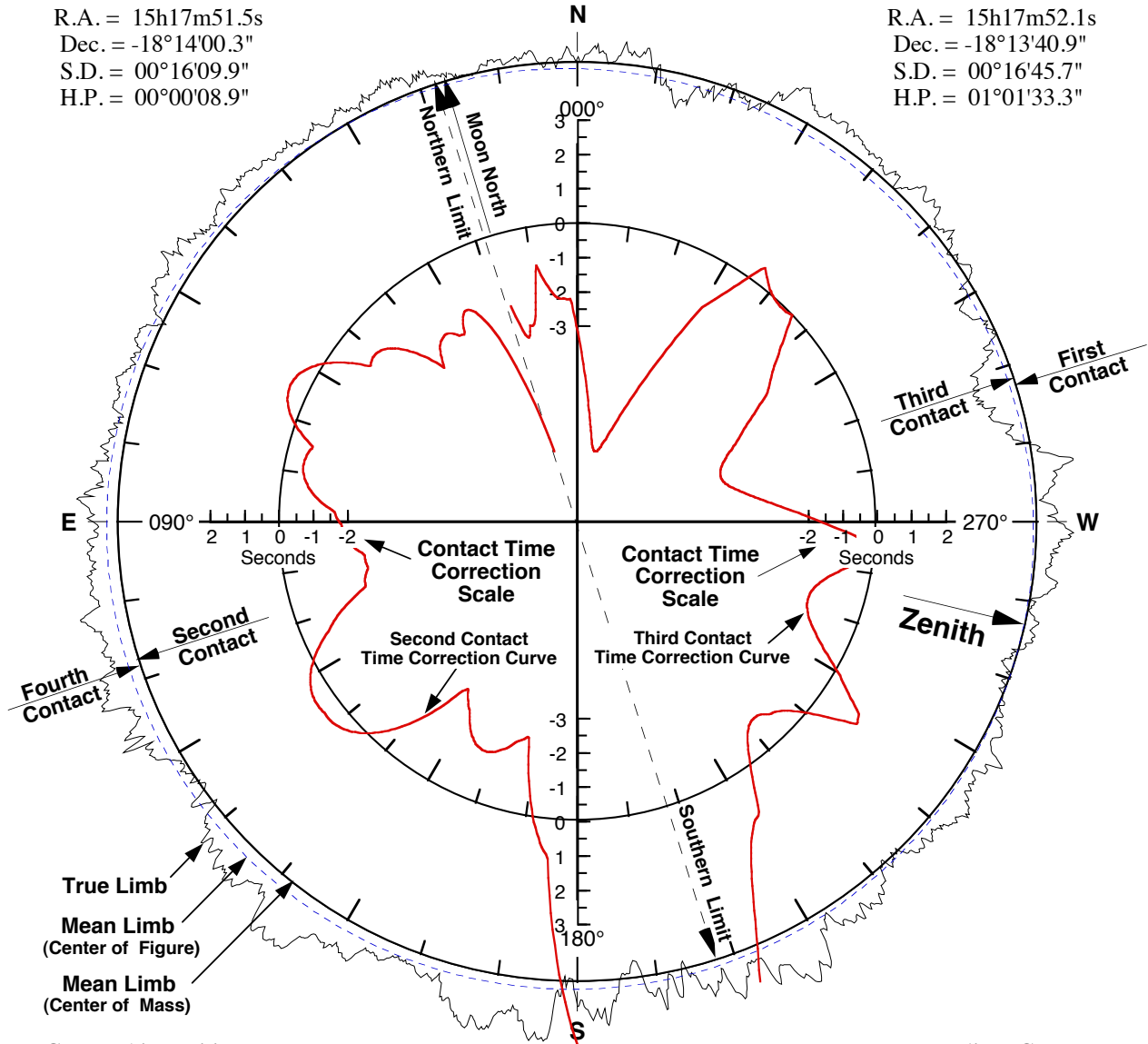
Maximum Eclipse = 20:39:00.0 UT  
 Magnitude = 1.0369      Ratio = 1.0369

Sun at Maximum Eclipse  
 (Topocentric Coordinates)

R.A. = 15h17m51.5s  
 Dec. = -18°14'00.3"  
 S.D. = 00°16'09.9"  
 H.P. = 00°00'08.9"

Moon at Maximum Eclipse  
 (Topocentric Coordinates)

R.A. = 15h17m52.1s  
 Dec. = -18°13'40.9"  
 S.D. = 00°16'45.7"  
 H.P. = 01°01'33.3"



Geographic Position

Name = Central Line at 20:39 UT  
 Lat. = 16°25'20.7"S  
 Long. = 145°04'43.2"E  
 Elev. = 0.0 m

Ephemeris & Constants

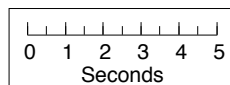
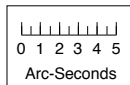
Eph. = JPL DE405  
 $\Delta T = 66.8$  s  
 $k1 = 0.2725076$   
 $k2 = 0.2722810$   
 $\Delta b = 0.00''$      $\Delta l = 0.00''$

Calculated Center of Figure

$\Delta b' = -0.27''$      $\Delta l' = 0.49''$

Local Circumstances at Maximum Eclipse

Sun Alt. = 13.2°      Path Width = 143.1 km  
 Sun Azm. = 105.4°      Duration = 02m04.1s  
 PA(N.Limit) = 17.8°    A.Vel. (M:S) = 0.576"/s



Eclipse Contacts

C1 = 19:44:29.8 UT  
 C2 = 20:37:58.1 UT  
 C3 = 20:40:02.2 UT  
 C4 = 21:39:23.5 UT

Limb Corrected Contacts

C2\* = 20:37:56.1 UT (-2.0s)  
 C3\* = 20:39:57.9 UT (-4.4s)

Topocentric Libration  
 (Optical + Physical)

l = -0.24°  
 b = 0.14°  
 c = 16.50°