

# Total Lunar Eclipse of 2011 Dec 10

Ecliptic Conjunction = 14:37:28.9 TD (= 14:36:21.4 UT)  
 Greatest Eclipse = 14:32:56.0 TD (= 14:31:48.5 UT)

Penumbral Magnitude = 2.1860      P. Radius = 1.2023°      Gamma = -0.3882  
 Umbral Magnitude = 1.1061      U. Radius = 0.6609°      Axis = 0.3571°

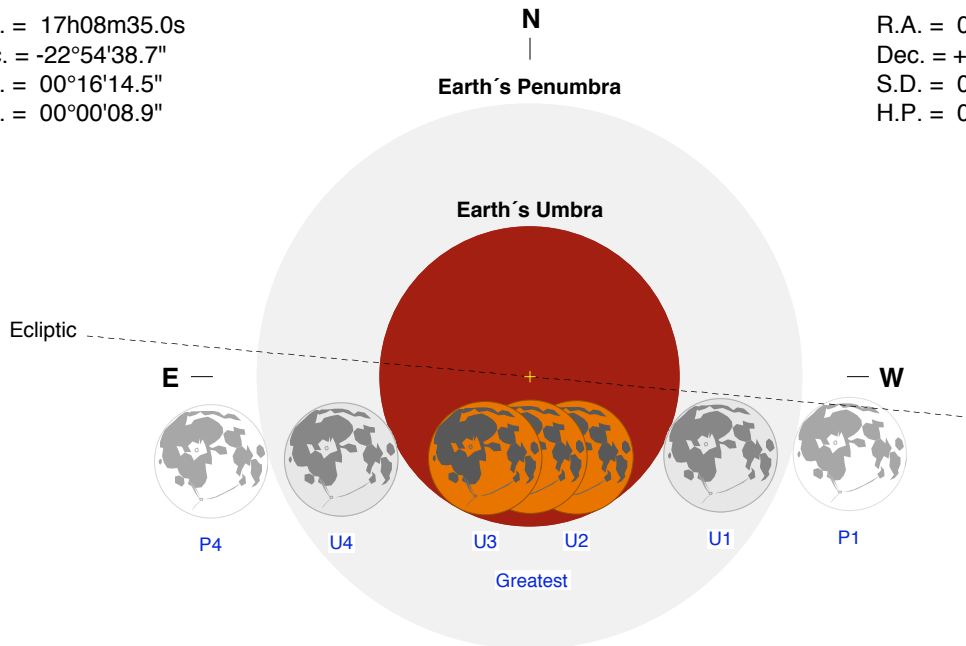
Saros Series = 135      Member = 23 of 71

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 17h08m35.0s  
 Dec. = -22°54'38.7"  
 S.D. = 00°16'14.5"  
 H.P. = 00°00'08.9"

## Moon at Greatest Eclipse (Geocentric Coordinates)

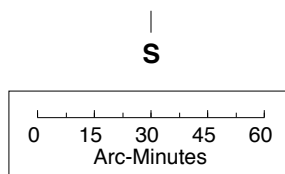
R.A. = 05h08m33.9s  
 Dec. = +22°33'13.3"  
 S.D. = 00°15'02.4"  
 H.P. = 00°55'11.7"



## Eclipse Durations

Penumbral = 05h56m28s  
 Umbral = 03h32m17s  
 Total = 00h51m08s

$\Delta T = 68$  s  
 Rule = CdT (Danjon)  
 Eph. = VSOP87/ELP2000-85



F. Espenak, NASA's GSFC  
[eclipse.gsfc.nasa.gov/eclipse.html](http://eclipse.gsfc.nasa.gov/eclipse.html)

## Eclipse Contacts

P1 = 11:33:32 UT  
 U1 = 12:45:42 UT  
 U2 = 14:06:16 UT  
 U3 = 14:57:24 UT  
 U4 = 16:17:58 UT  
 P4 = 17:30:00 UT

