

# Total Lunar Eclipse of 2087 Nov 10

Ecliptic Conjunction = 12:07:38.9 TD (= 12:04:44.5 UT)

Greatest Eclipse = 12:05:33.4 TD (= 12:02:39.0 UT)

Penumbral Magnitude = 2.4654

P. Radius = 1.3055°

Gamma = -0.2043

Umbral Magnitude = 1.5006

U. Radius = 0.7673°

Axis = 0.2091°

Saros Series = 137 Member = 32 of 81

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 15h03m26.2s

Dec. = -17°16'20.1"

S.D. = 00°16'08.9"

H.P. = 00°00'08.9"

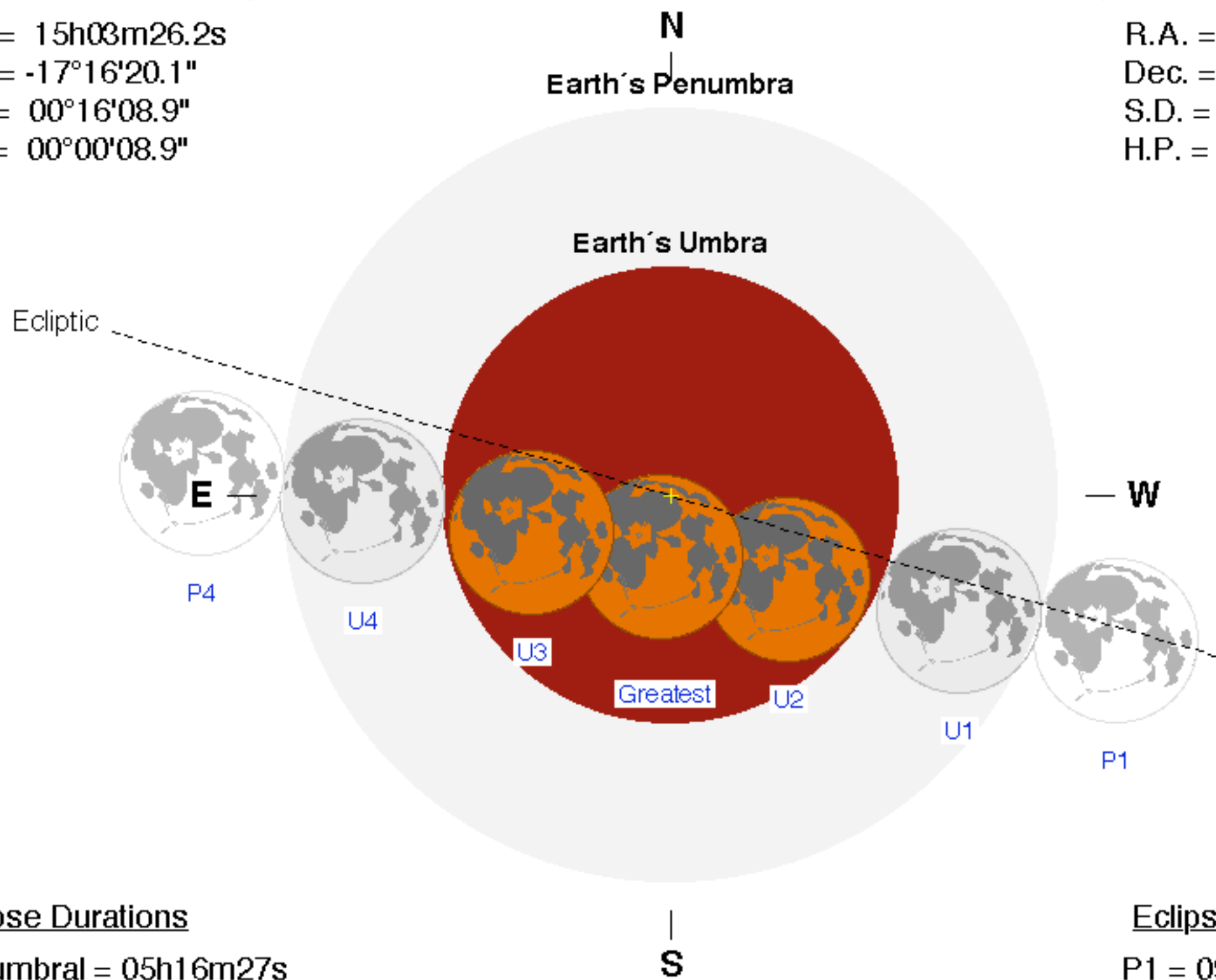
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 03h03m35.7s

Dec. = +17°03'59.7"

S.D. = 00°16'44.2"

H.P. = 01°01'25.3"



## Eclipse Durations

Penumbral = 05h16m27s

Umbral = 03h26m34s

Total = 01h28m56s

$\Delta T = 174$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

## Eclipse Contacts

P1 = 09:24:25 UT

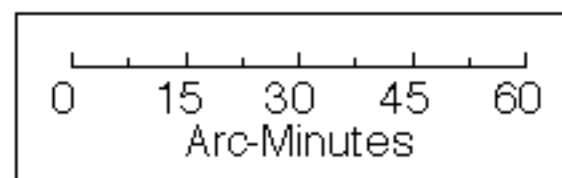
U1 = 10:19:22 UT

U2 = 11:18:11 UT

U3 = 12:47:07 UT

U4 = 13:45:56 UT

P4 = 14:40:52 UT



F. Espenak, NASA's GSFC  
eclipse.gsfc.nasa.gov/eclipse.html

