

# Total Lunar Eclipse of 1989 Feb 20

Ecliptic Conjunction = 15:32:47.9 TD (= 15:31:51.6 UT)

Greatest Eclipse = 15:36:18.3 TD (= 15:35:21.9 UT)

Penumbral Magnitude = 2.3651

P. Radius = 1.1883°

Gamma = 0.2934

Umbral Magnitude = 1.2747

U. Radius = 0.6492°

Axis = 0.2662°

Saros Series = 123

Member = 51 of 73

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 22h15m55.3s

Dec. = -10°46'12.9"

S.D. = 00°16'10.4"

H.P. = 00°00'08.9"

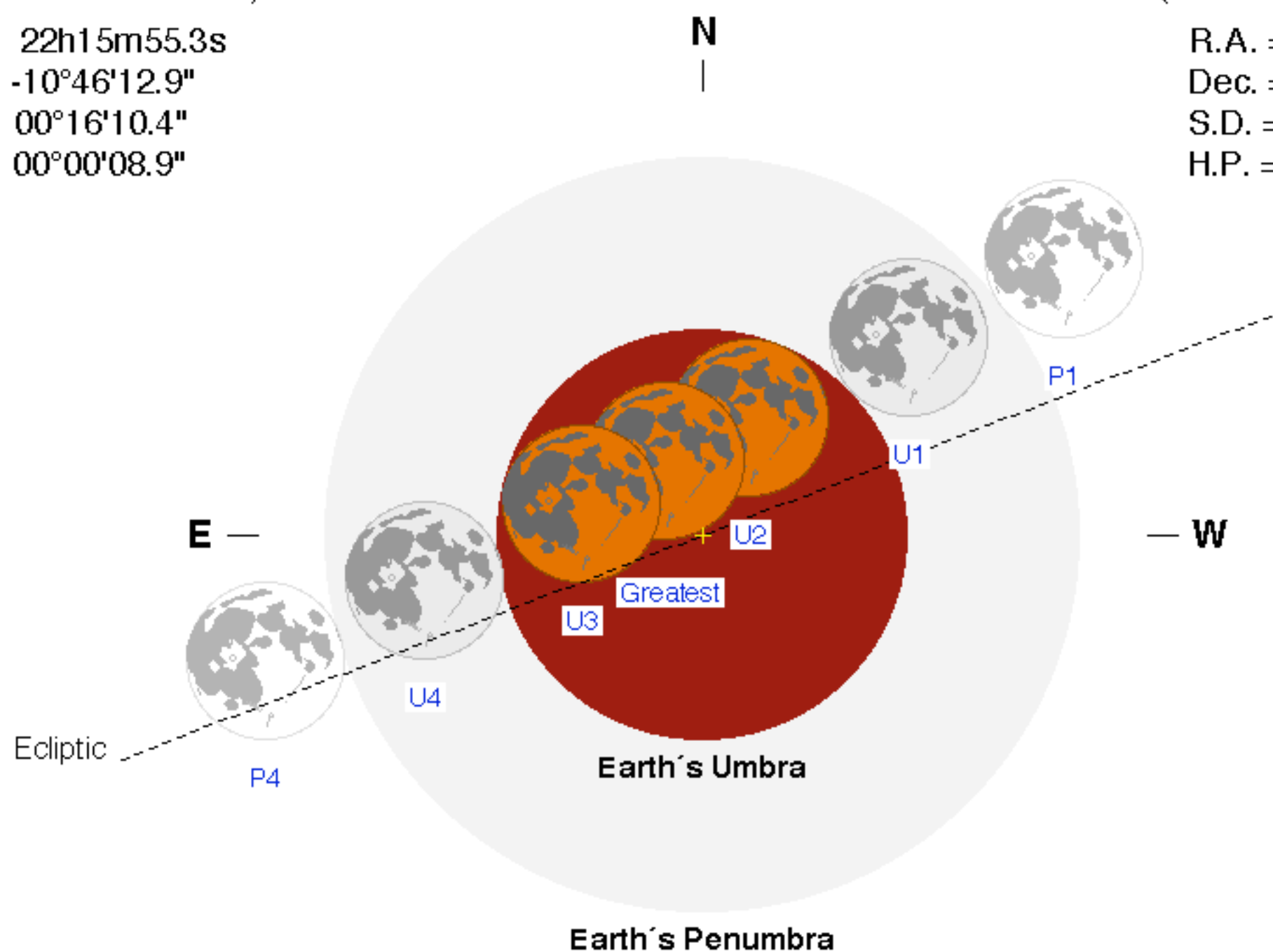
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 10h16m24.6s

Dec. = +11°00'28.8"

S.D. = 00°14'49.9"

H.P. = 00°54'25.9"



## Eclipse Durations

Penumbral = 06h07m40s

Umbral = 03h43m07s

Total = 01h18m31s

$\Delta T = 56$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

## Eclipse Contacts

P1 = 12:31:33 UT

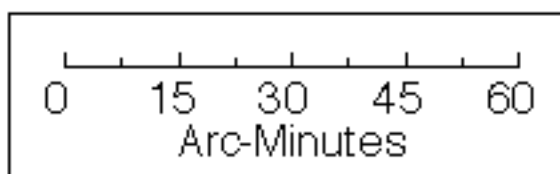
U1 = 13:43:47 UT

U2 = 14:56:06 UT

U3 = 16:14:37 UT

U4 = 17:26:55 UT

P4 = 18:39:13 UT



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

