

# Total Lunar Eclipse of 1993 Nov 29

Ecliptic Conjunction = 06:31:45.4 TD (= 06:30:45.6 UT)

Greatest Eclipse = 06:27:05.8 TD (= 06:26:05.9 UT)

Penumbral Magnitude = 2.1633

P. Radius = 1.2040°

Gamma = -0.3994

Umbral Magnitude = 1.0876

U. Radius = 0.6635°

Axis = 0.3682°

Saros Series = 135      Member = 22 of 71

## Sun at Greatest Eclipse (Geocentric Coordinates)

R.A. = 16h20m54.5s

Dec. = -21°29'12.4"

S.D. = 00°16'12.9"

H.P. = 00°00'08.9"

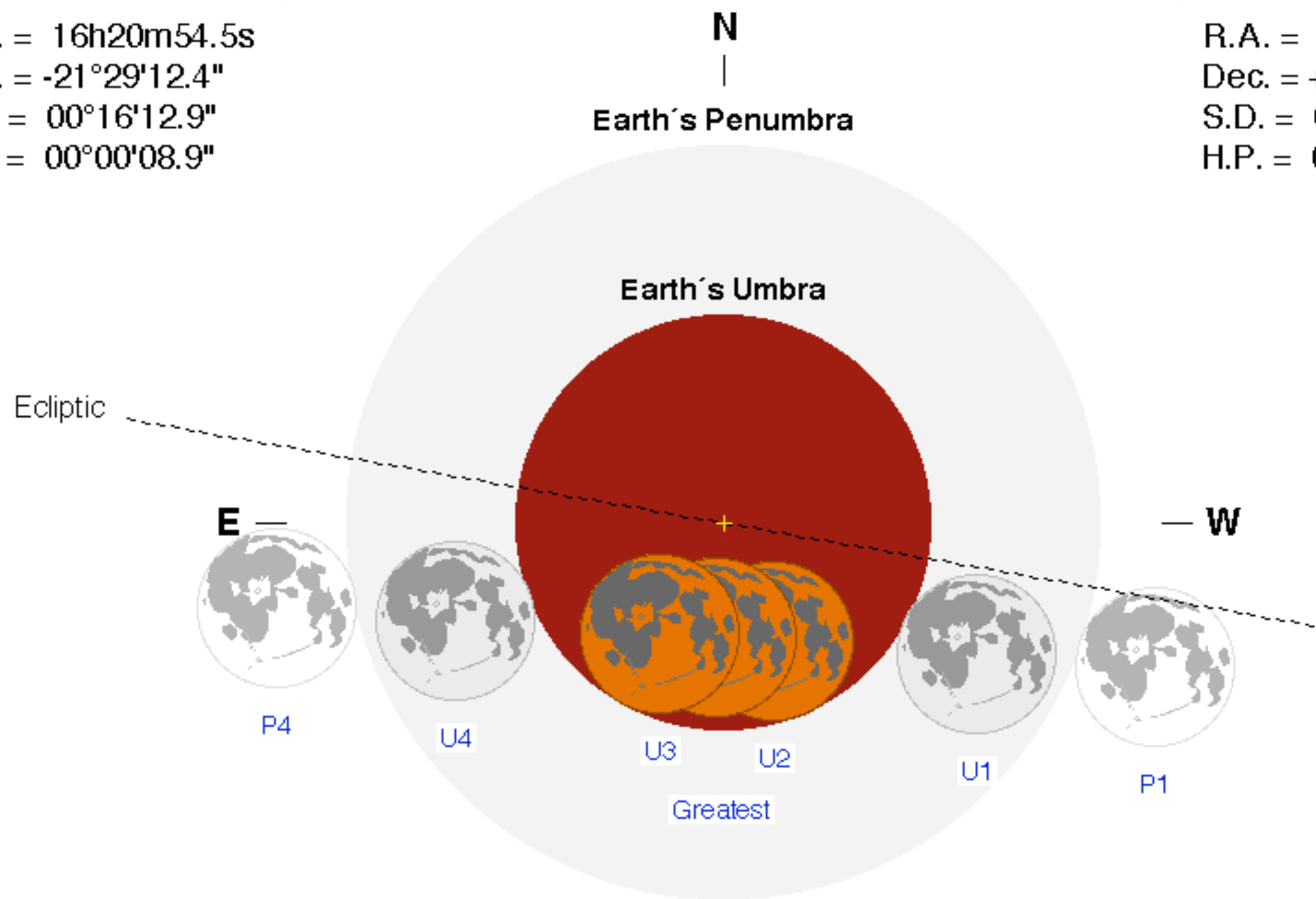
## Moon at Greatest Eclipse (Geocentric Coordinates)

R.A. = 04h21m00.8s

Dec. = +21°07'09.8"

S.D. = 00°15'04.4"

H.P. = 00°55'19.3"



## Eclipse Durations

Penumbral = 05h54m23s

Umbral = 03h30m47s

Total = 00h46m39s

$\Delta T = 60$  s

Rule = CdT (Danjon)

Eph. = VSOP87/ELP2000-85

## Eclipse Contacts

P1 = 03:28:52 UT

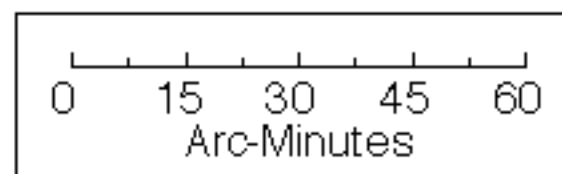
U1 = 04:40:44 UT

U2 = 06:02:47 UT

U3 = 06:49:27 UT

U4 = 08:11:31 UT

P4 = 09:23:15 UT



F. Espenak, NASA's GSFC

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

