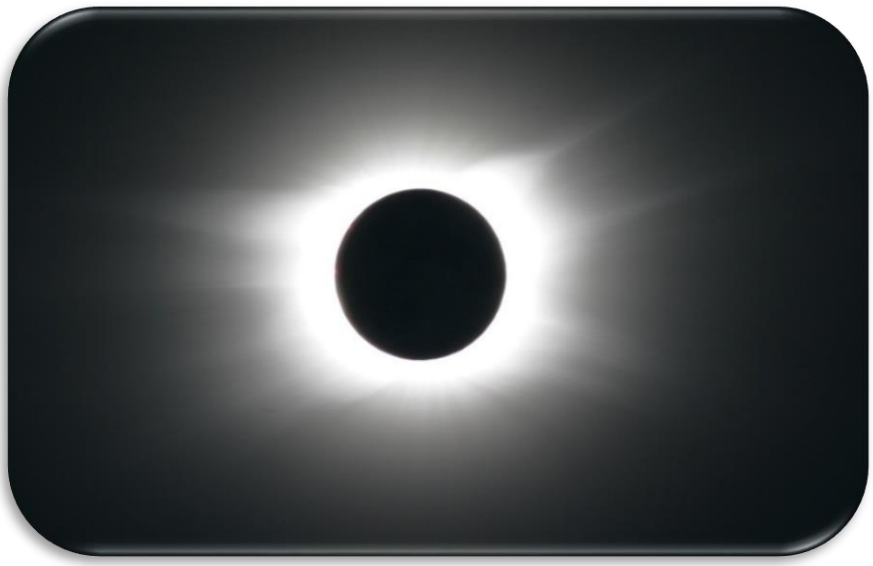
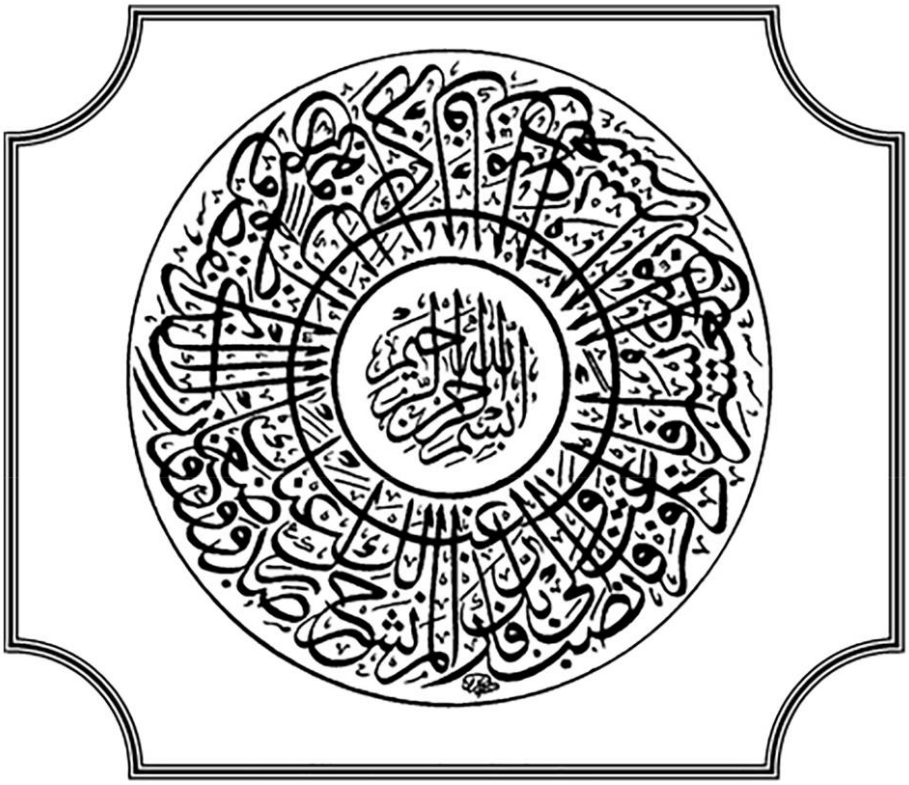
Arab Republic of Egypt
Ministry of Higher Education and Scientific Research
National Research Institute of Astronomy
and Geophysics
(NRIAG)
Helwan - Cairo

The Astronomical Guide
For the Hijri year
1445 AH



A solar corona image was captured by the research team at the Solar Research Laboratory using the 5-inch Williams Telescope, on the 29 March 2006 Total Solar Eclipse, Salloum Plateau, Egypt.



BY

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President of the National Research Institute of Astronomy and Geophysics (NRIAG)

Preface

The National Research Institute of Astronomy and Geophysics has been working since its inception at Helwan in 1903, to provide services through scientific applications to the community such as conditions and calculations of astronomical events such as Solar and lunar eclipses, prayer times, beginnings of Hijri months, fasting times, religious reasons and pilgrimages.

It is my great pleasure to present the astronomical guide version of the Hijri year 1445 AH corresponding to the Gregorian year 2023/2024 AD. The astronomical guide includes the times of moon phases, the times of the new crescent over almost Arabic and Islamic countries besides some world capitals, and calculations of every Hijri month's calendar. In addition, it contains data of solar and lunar eclipses over the year.

On the other hand, NRIAG started sharing this guide in digital form on our website as well as a smart application for mobile phones. This can be accessed via the NRIAG website: https://www.nriag.sci.eg/hejri-calendar/

There is a great hope that the astronomical guide for the Hijri year 1445 AH will gain the attention of the public and amateur astronomers and will help in spreading scientific awareness in one of the important fields related to various aspects of life.

President
The National research Institute of Astronomy and Geophysics (NRIAG)

Prof. Gad M. El-Qady

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Hijri calendar summary

New Moon conjunctions and the beginnings of Hijri months for the year 1445 A.H.

The Month	New moon Conjunction (U.T.)	Circumstances of crescent visibility according to the crescent lag after sunset (On the sight day)	Begin of Hijri month	Length of Hijri month (days)
Mohar'rum	h m 18 33 Monday 17/7/2023 29/12/1444	On the sighting day (17/7/2023), the crescent will not be born yet before sunset in almost Arabic and Islamic countries.	Wednesday 19/7/2023	29
Safar	h m 09 39 Wednesday 16/8/2023 29/1/1445	On the sighting day (16/8/2023), The crescent lags (3 - 26 minutes) after sunset in all Arabic and Islamic countries.	Thursday 17/8/2023	30
Rabee Al'awal	h m 01 41 Friday 15/9/2023 30/2/1445	On the sighting day (14/9/2023) the crescent will not be born yet before sunset in almost Arabic and Islamic countries.	Saturday 16/9/2023	30
Rabee Al'akher	h m 17 56 Saturday 14/10/2023 29/3/1445	On the sighting day (14/10/2023) the crescent will not be born yet before sunset in almost Arabic and Islamic countries.	Monday 16/10/2023	30

New Moon conjunctions and the beginnings of Hijri months for the year 1445 A.H. (Cont.).

The Month	New moon Conjunction (U.T.)	Circumstances of crescent visibility according to the crescent lag after sunset (On the sight day)	Begin of Hijri month	Length of Hijri month (days)
Jumade Al'oula	h m 09 29 Monday 13/11/2023 29/4/1445	On the sighting day (13/11/2023) The crescent will be set before sunset in almost Arabic and Islamic countries.	Wednesday 15/11/2023	29
Jumade Al'akhera	h m 23 33 Tuesday 12/12/2023 29/5/1445	On the sighting day (13/12/2023), The crescent lags (36 – 56 minutes) after sunset in Arabic and Islamic countries.	Thursday 14/12/2023	30
Rajab	h m 11 59 Thursday 11/1/2024 29/6/1445	On the sighting day (11/1/2024) The crescent will be set before sunset in almost Arabic and Islamic countries.	Saturday 13/1/2024	29
Sha'aban	h m 23 00 Friday 9/2/2024 29/7/1445	On the sighting day (10/2/2024), The crescent lags (30 – 50 minutes) after sunset in almost Arabic and Islamic countries.	Sunday 11/2/2024	29

New Moon conjunctions and the beginnings of Hijri months for the year 1445 A.H. (Cont.).

The Month	New moon Conjunction (U.T.)	Circumstances of crescent visibility according to the crescent lag after sunset (On the sight day)	Begin of Hijri month	Length of Hijri month (days)
Ramadan	h m 09 02 Sunday 10/3/2024 29/8/1445	On the sighting day (10/3/2024), The crescent lags (4 – 24 minutes) after sunset in almost Arabic and Islamic countries.	Monday 11/3/2024	30
Shawal	h m 18 22 Monday 8/4/2024 29/9/1445	On the sighting day (8/4/2024) the crescent will not be born yet before sunset in almost Arabic and Islamic countries.	Wednesday 10/4/2024	29
Zul'kada	h m 03 23 Wednesday 8/5/2024 29/10/1445	On the sighting day (8/5/2024), The crescent lags (8 – 48 minutes) after sunset in almost Arabic and Islamic countries.	Thursday 9/5/2024	29
Zul'hejja	h m 12 39 Thursday 6/6/2024 29/11/1445	On the sighting day (6/6/2024), The crescent lags (1 – 28 minutes) after sunset in almost Arabic and Islamic countries.	Friday 7/6/2024	30

Glossary

Conjunction (New Moon):

Is the event when the Earth, Moon and Sun are approximately in a straight line; with the sun and Earth on opposite side of the Moon. This alignment leaves the side of the Moon that faces the Earth in complete darkness.

The crescent:

The illuminated part of the moon that occurs when the angle between the center of the Moon and the Sun as seen from the Earth is 8 degrees.

Duration:

The time interval separating Sunset and Moonset, i.e. the time interval during which the Moon stays above the western horizon after Sunset.
Sign (-) means that Moonset occurs before sunset.
Sign (+) means that Moonset occurs after sunset.

Crescent coordinates: defined by

(a) Relative altitude (degree): height above the horizon at sunset.
(b) Relative azimuth (degree): the horizontal deviation from the solar disk at sunset.

Quarter:

50 % of the Moon surface is illuminated.

Full Moon:

100 % of the Moon surface is illuminated.

Sight Day:

The day to seek the crescent, it is the twenty-ninth day of every Higric month.

Hijric, Coptic and Gregorian:

H, Q and G.

Mohar’rum

Mohar'rum, 1445 A.H.
Crescent statement

- **Mohar'rum's crescent will be born after the conjunction that occurs on Monday, 17/7/2023A.D. (Sighting day) at 6 o'clock and 33 minutes p.m. (U.T.)**

On sighting day (Monday, 17/7/2023 A.D.):

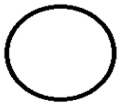
- **In Cairo and in almost Arabic and Islamic countries, the crescent will not be born yet at sunset on that day.**
- **On that day the moon sets after sunset in some of Arabic and Islamic countries despite the conjugation coming after sunset (it is negligible).**

Therefore, Tuesday, 18/7/2023A.D. shall be adopted as the completing day of Zul'hejja, 1444 A.H.

Consequently, the first day of Mohar'rum 1445 A.H. shall be adopted to be Wednesday, 19/7/2023 A.D. according to the astronomical calculations.

Ephemeris of Mohar'rum, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Monday	Tuesday	Tuesday	Tuesday
July 17, 2023	July 25, 2023	August 01, 2023	August 08, 2023
18:33	22:08	18:33	10:30

First Day	Last Day	Length
July 19, 2023	August 16, 2023	29 Days

(b) Observing conditions in Egypt

for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	18:20	18:25	5	Moon not new	Moon not new
Toshka	18:39	18:46	7		
Aswan	18:38	18:45	7		
Qena	18:43	18:51	8		
Al'kharga	18:52	19:00	8		
Assiut	18:51	19:00	9		
Sohag	18:48	18:56	8		
Fayoum	18:57	19:07	10		
Tur	18:44	18:53	9		
S.Catherine	18:43	18:52	9		
Taba	18:41	18:51	10		
Cairo	18:57	19:08	11		
Tanta	19:00	19:11	11		
Alexandria	19:05	19:16	11		
Port Said	18:56	19:07	11		
Salloum	19:25	19:37	12		

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

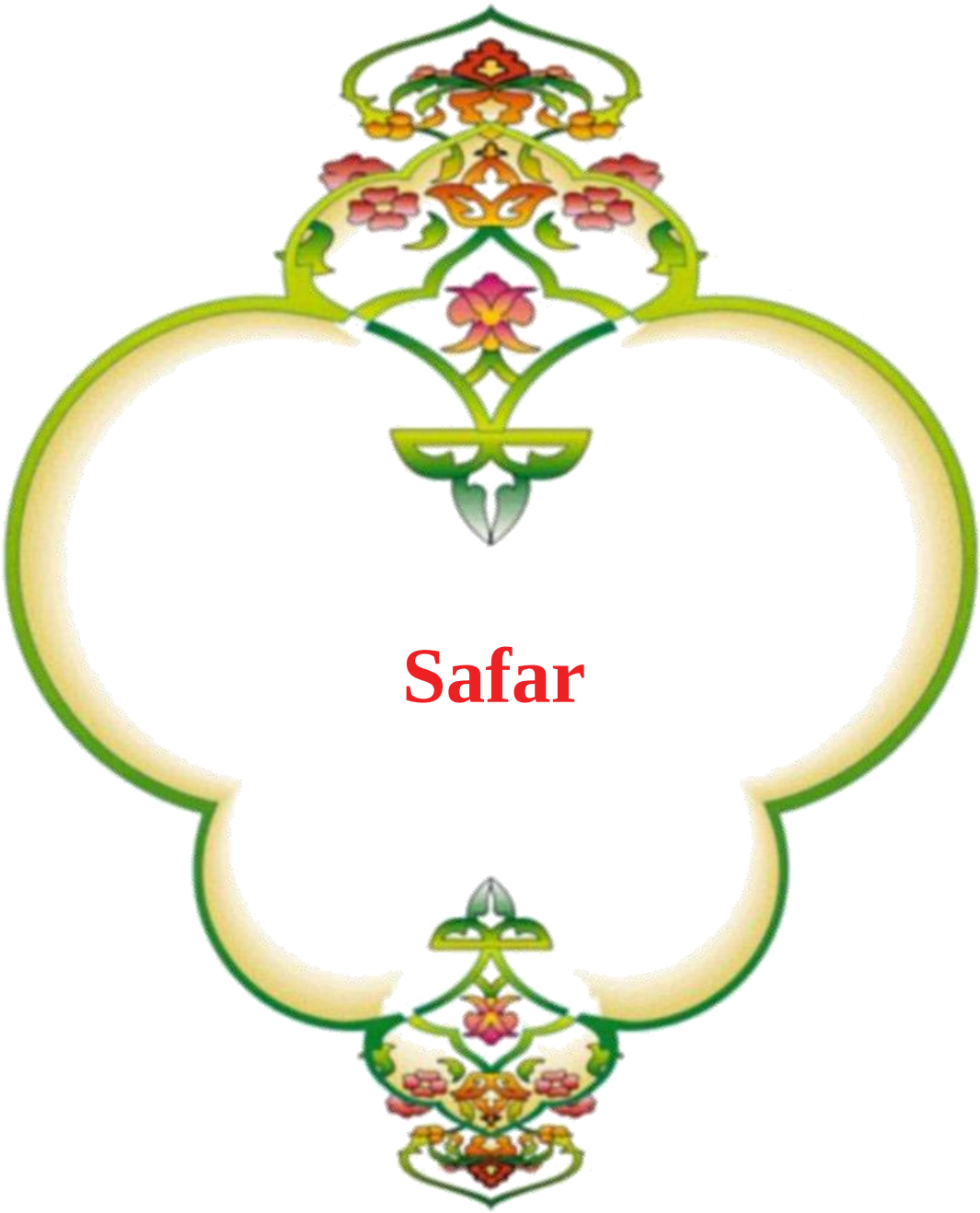
City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:43	18:52	9	Makkah	19:06	19:10	4
Nouakchott	18:43	18:53	10	Al-Quds	18:45	18:56	11
Marrakech	19:38	19:54	16	Baghdad	19:12	19:23	11
Fez	19:31	19:48	17	Aden	18:30	18:29	-1
Lagos	19:06	19:08	2	Riyadh	18:44	18:50	6
Algeria	19:06	19:25	19	Kuwait	18:49	18:57	8
Tunisia	19:37	19:55	18	Manama	18:32	18:38	6
Tripoli-Libya	19:16	19:31	15	Tehran	19:20	19:32	12
Khartoum	18:25	18:27	2	Doha	18:26	18:31	5
Mogadishu	18:11	18:05	-6	Abu Dhabi	19:13	19:18	5
Ankara	19:15	19:33	18	Dubai	19:11	19:16	5
Amman	18:42	18:54	12	Muscat	18:55	18:58	3
Damascus	18:45	18:57	12	Karachi	19:23	19:26	3
Jazan	18:47	18:48	1	Kuala Lumpur	19:28	19:14	-14
Medina	19:12	19:19	7	Jakarta	17:53	17:34	-19

(2) In some world capitals

Cape Town	17:56	17:32	-24	Washington	19:32	20:01	29
Brasilia	17:56	17:54	-2	Ottawa	19:47	20:21	34
Santiago	17:54	17:44	-10	London	20:10	20:44	34
Lima	17:59	18:03	4	Moscow	21:02	21:42	40

(D) Mohar'rum's first day is: Wednesday Jul. 19, 2023 12 Epip 1739

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				4	22	15	11	29	22	18	5	29	25	12	6
Sunday				5	23	16	12	30	23	19	6	30	26	13	7
Monday				6	24	17	13	31	24	20	7	Meso	27	14	8
Tuesday				7	25	18	14	Aug	25	21	8	2	28	15	9
Wednesday	1	19	12	8	26	19	15	2	26	22	9	3	29	16	10
Thursday	2	20	13	9	27	20	16	3	27	23	10	4			
Friday	3	21	14	10	28	21	17	4	28	24	11	5			


Safar

Safar, 1445 A.H.
Crescent statement

- **Safar's crescent will be born after the conjunction that occurs on Wednesday, 16/8/2023 A.D. (Sighting day) at 9 o'clock and 39 minutes a.m. (U.T.)**

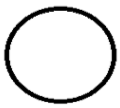
On sighting day (Wednesday, 16/8/2023 A.D.):

- **The crescent will lag 19 minutes after sunset in Makkah.**
- **The crescent will lag 22 minutes after sunset in Cairo.**
- **Generally, the crescent will lag (3 - 26 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Safar 1445 A.H. shall be adopted to be Thursday, 17/8/2023 A.D. according to the astronomical calculations.

Ephemeris of Safar, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Wednesday	Thursday	Thursday	Wednesday
August 16, 2023	August 24, 2023	August 31, 2023	September 06, 2023
09:39	09:58	01:37	22:22

First Day	Last Day	Length
August 17, 2023	September 15, 2023	30 Days

(b) Observing conditions in Egypt
for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	18:04	18:24	20	3.6	1.3 N
Toshka	18:24	18:44	20	3.7	1.2 N
Aswan	18:21	18:42	21	3.7	1 N
Qena	18:25	18:46	21	3.8	0.8 N
Al'kharga	18:34	18:55	21	3.8	0.8 N
Assiut	18:32	18:53	21	3.8	0.7 N
Sohag	18:29	18:50	21	3.8	0.7 N
Fayoum	18:36	18:58	22	3.8	0.4 N
Tur	18:24	18:45	21	3.8	0.6 N
S.Catherine	18:23	18:44	21	3.8	0.6 N
Taba	18:20	18:42	22	3.8	0.5 N
Cairo	18:36	18:58	22	3.8	0.4 N
Tanta	18:38	19:00	22	3.9	0.3 N
Alexandria	18:42	19:05	23	3.9	0.2 N
Port Said	18:33	18:56	23	3.8	0.3 N
Salloum	19:02	19:25	23	4	0.1 N

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:32	18:55	23	Makkah	18:51	19:10	19
Nouakchott	18:30	18:53	23	Al-Quds	18:22	18:44	22
Marrakech	19:15	19:41	26	Baghdad	18:48	19:10	22
Fez	19:06	19:32	26	Aden	18:21	18:37	16
Lagos	19:00	19:19	19	Riyadh	18:27	18:46	19
Algeria	18:39	19:05	26	Kuwait	18:28	18:48	20
Tunisia	19:10	19:36	26	Manama	18:13	18:32	19
Tripoli-Libya	18:52	19:16	24	Tehran	18:53	19:15	22
Khartoum	18:13	18:31	18	Doha	18:08	18:27	19
Mogadishu	18:08	18:21	13	Abu Dhabi	18:56	19:15	19
Ankara	18:44	19:10	26	Dubai	18:53	19:12	19
Amman	18:19	18:42	23	Muscat	18:38	18:56	18
Damascus	18:20	18:43	23	Karachi	19:06	19:23	17
Jazan	18:35	18:52	17	Kuala Lumpur	19:24	19:31	7
Medina	18:55	19:15	20	Jakarta	17:55	17:58	3

(2) In some world capitals

Cape Town	18:17	18:21	4	Washington	19:02	19:34	32
Brasilia	18:03	18:23	20	Ottawa	19:09	19:43	34
Santiago	18:14	18:33	19	London	19:22	19:53	31
Lima	18:04	18:29	25	Moscow	20:04	20:36	32

(D) Safar's first day is: Thursday Aug. 17, 2023 11 Mesori 1739

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				3	19	13	10	26	20	17	2	27	24	9	4
Sunday				4	20	14	11	27	21	18	3	28	25	10	5
Monday				5	21	15	12	28	22	19	4	29	26	11	6
Tuesday				6	22	16	13	29	23	20	5	30	27	12	Thout
Wednesday				7	23	17	14	30	24	21	6	Nasi	28	13	2
Thursday	1	17	11	8	24	18	15	31	25	22	7	2	29	14	3
Friday	2	18	12	9	25	19	16	Sep	26	23	8	3	30	15	4

Rabee Al’awal

Rabee Al'awal, 1445 A.H.
Crescent statement

- **Rabee Al'awal's crescent will be born after the conjunction that occurs on Friday, 15/9/2023 A.D. (the day after sighting day) at 1 o'clock and 41 minutes a.m. (U.T.)**

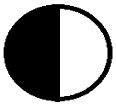
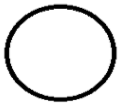
On sighting day (Thursday, 14/9/2023 A.D.):

- **In Cairo and in all Arabic and Islamic countries, the crescent will not be born yet at sunset on that day.**
- **In Makkah and Cairo, moonset will occur before sunset by 9 and 4 minutes consequently.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (1 - 27 minutes).**
- **Therefore, Friday, 15/9/2023 A.D. shall be adopted as the completing day of Safar, 1445 A.H.**

Consequently, the first day of Rabee Al'awal 1445 A.H. shall be adopted to be Saturday, 16/9/2023 A.D. according to the astronomical calculations.

Ephemeris of Rabee Al'awal, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Friday	Friday	Friday	Friday
September 15, 2023	September 22, 2023	September 29, 2023	October 06, 2023
01:41	19:33	09:59	13:49

First Day	Last Day	Length
September 16, 2023	October 15, 2023	30 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:38	17:30	-8	Moon not new	Moon not new
Toshka	17:57	17:50	-7		
Aswan	17:54	17:46	-8		
Qena	17:55	17:49	-6		
Al'kharga	18:05	17:58	-7		
Assiut	18:01	17:56	-5		
Sohag	17:59	17:53	-6		
Fayoum	18:04	17:59	-5		
Tur	17:52	17:46	-6		
S.Catherine	17:51	17:45	-6		
Taba	17:47	17:42	-5		
Cairo	18:02	17:58	-4		
Tanta	18:03	17:59	-4		
Alexandria	18:08	18:04	-4		
Port Said	17:58	17:54	-4		
Salloum	18:27	18:23	-4		

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:12	18:07	-5	Makkah	18:25	18:16	-9
Nouakchott	18:07	18:02	-5	Al-Quds	17:47	17:43	-4
Marrakech	18:40	18:39	-1	Baghdad	18:11	18:06	-5
Fez	18:28	18:28	Zero	Aden	18:02	17:50	-12
Lagos	18:47	18:36	-11	Riyadh	17:59	17:51	-8
Algeria	17:58	17:58	Zero	Kuwait	17:55	17:49	-6
Tunisia	18:29	18:29	Zero	Manama	17:43	17:36	-7
Tripoli-Libya	18:15	18:13	-2	Tehran	18:14	18:10	-4
Khartoum	17:53	17:42	-11	Doha	17:40	17:31	-9
Mogadishu	17:58	17:42	-16	Abu Dhabi	18:28	18:19	-9
Ankara	18:00	18:00	Zero	Dubai	18:24	18:16	-8
Amman	17:44	17:40	-4	Muscat	18:11	18:01	-10
Damascus	17:43	17:40	-3	Karachi	18:37	18:28	-9
Jazan	18:13	18:02	-11	Kuala Lumpur	19:13	18:51	-22
Medina	18:27	18:19	-8	Jakarta	17:51	17:24	-27

(2) In some world capitals

Cape Town	18:37	18:09	-28	Washington	18:18	18:24	6
Brasilia	18:07	17:55	-12	Ottawa	18:16	18:24	8
Santiago	18:34	18:19	-15	London	18:18	18:26	8
Lima	18:04	17:58	-6	Moscow	18:50	19:01	11

(D) Rabee Al'awal's first day is: Saturday Sep. 16, 2023 5 Thout 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday	1	16	5	8	23	12	15	30	19	22	7	26	29	14	3
Sunday	2	17	6	9	24	13	16	Oct.	20	23	8	27	30	15	4
Monday	3	18	7	10	25	14	17	2	21	24	9	28			
Tuesday	4	19	8	11	26	15	18	3	22	25	10	29			
Wednesday	5	20	9	12	27	16	19	4	23	26	11	30			
Thursday	6	21	10	13	28	17	20	5	24	27	12	Paopi			
Friday	7	22	11	14	29	18	21	6	25	28	13	2			

Rabee Al’akher

Rabee Al'akher, 1445 A.H.
Crescent statement

- **Rabee Al'akher's crescent will be born after the conjunction that occurs on Saturday, 14/10/2023 A.D. (Sighting Day) at 5 o'clock and 56 minutes p.m. (U.T.)**

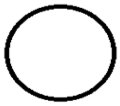
On sighting day (Saturday, 14/10/2023 A.D.):

- **In Cairo and in almost Arabic and Islamic countries, the crescent will not be born yet at sunset on that day.**
- **In Makkah and Cairo, moonset will occur before sunset by 7 and 6 minutes consequently.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (2 - 17 minutes).**
- **Therefore, Sunday, 15/10/2023 A.D. shall be adopted as the completing day of Rabee Al'awal, 1445 A.H.**

Consequently, the first day of Rabee Al'akher 1445 A.H. shall be adopted to be Monday, 16/10/2023 A.D. according to the astronomical calculations.

Ephemeris of Rabee Al'akher, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Saturday	Sunday	Saturday	Sunday
October 14, 2023	October 22, 2023	October 28, 2023	November 05, 2023
17:56	03:31	20:25	08:38

First Day	Last Day	Length
October 16, 2023	November 14, 2023	30 Days

(b) Observing conditions in Egypt
for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:10	17:03	-7	Moon not new	Moon not new
Toshka	17:28	17:22	-6		
Aswan	17:23	17:17	-6		
Qena	17:23	17:16	-7		
Al'kharga	17:33	17:27	-6		
Assiut	17:28	17:22	-6		
Sohag	17:26	17:20	-6		
Fayoum	17:28	17:22	-6		
Tur	17:18	17:11	-7		
S.Catherine	17:16	17:10	-6		
Taba	17:12	17:05	-7		
Cairo	17:26	17:20	-6		
Tanta	17:26	17:20	-6		
Alexandria	17:30	17:24	-6		
Port Said	17:21	17:14	-7		
Salloum	17:49	17:43	-6		

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	17:51	17:49	-2	Makkah	17:57	17:50	-7
Nouakchott	17:42	17:40	-2	Al-Quds	17:09	17:02	-7
Marrakech	18:01	17:58	-3	Baghdad	17:31	17:24	-7
Fez	17:48	17:44	-4	Aden	17:42	17:34	-8
Lagos	18:32	18:28	-4	Riyadh	17:28	17:20	-8
Algeria	17:13	17:09	-4	Kuwait	17:19	17:12	-7
Tunisia	17:45	17:40	-5	Manama	17:11	17:03	-8
Tripoli-Libya	17:36	17:31	-5	Tehran	17:31	17:23	-8
Khartoum	17:30	17:23	-7	Doha	17:08	17:00	-8
Mogadishu	17:47	17:38	-9	Abu Dhabi	17:57	17:49	-8
Ankara	17:11	17:05	-6	Dubai	17:53	17:45	-8
Amman	17:05	16:59	-6	Muscat	17:41	17:32	-9
Damascus	17:03	16:56	-7	Karachi	18:06	17:57	-9
Jazan	17:49	17:42	-7	Kuala Lumpur	19:01	18:46	-15
Medina	17:56	17:49	-7	Jakarta	17:46	17:29	-17

(2) In some world capitals

Cape Town	18:59	18:51	-8	Washington	17:31	17:32	1
Brasilia	18:10	18:13	3	Ottawa	17:20	17:19	-1
Santiago	18:55	19:02	7	London	17:10	17:06	-4
Lima	18:05	18:11	6	Moscow	17:33	17:27	-6

(D) Rabee Al'akher's first day is: Monday Oct. 16, 2023 5 Paopi 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				6	21	10	13	28	17	20	4	24	27	11	Hathor
Sunday				7	22	11	14	29	18	21	5	25	28	12	2
Monday	1	16	5	8	23	12	15	30	19	22	6	26	29	13	3
Tuesday	2	17	6	9	24	13	16	31	20	23	7	27	30	14	4
Wednesday	3	18	7	10	25	14	17	Nov.	21	24	8	28			
Thursday	4	19	8	11	26	15	18	2	22	25	9	29			
Friday	5	20	9	12	27	16	19	3	23	26	10	30			

Jumade Al’oula

Jumada Al'oula, 1445 A.H.
Crescent statement

- **Jumada Al'oula's crescent will be born after the conjunction that occurs on Monday, 13/11/2023 A.D. (Sighting day) at 9 o'clock and 29 minutes a.m. (U.T.)**

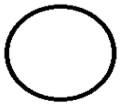
On sighting day (Monday, 13/11/2023 A.D.):

- **In almost Arabic and Islamic countries, the crescent will be set before sunset on that day.**
- **In Makkah and Cairo, moonset will occur before sunset by 2 and 5 minutes consequently.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (1 - 11 minutes).**
- **Therefore, Tuesday, 14/11/2023 A.D. shall be adopted as the completing day of Rabee Al'akher, 1445 A.H.**

Consequently, the first day of Jumada Al'oula 1445 A.H. shall be adopted to be Wednesday, 15/11/2023 A.D. according to the astronomical calculations.

Ephemeris of Jumade Al'oula, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Monday	Monday	Monday	Tuesday
November 13, 2023	November 20, 2023	November 27, 2023	December 05, 2023
09:29	10:51	09:17	05:50

First Day	Last Day	Length
November 15, 2023	December 13, 2023	29 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	16:51	16:49	-2	Crescent below the horizon	Crescent below the horizon
Toshka	17:10	17:08	-2		
Aswan	17:03	17:01	-2		
Qena	17:01	16:57	-4		
Al'kharga	17:12	17:09	-3		
Assiut	17:05	17:02	-3		
Sohag	17:04	17:01	-3		
Fayoum	17:03	16:59	-4		
Tur	16:54	16:49	-5		
S.Catherine	16:52	16:47	-5		
Taba	16:46	16:42	-4		
Cairo	17:00	16:55	-5		
Tanta	17:00	16:55	-5		
Alexandria	17:03	16:58	-5		
Port Said	16:54	16:48	-6		
Salloum	17:22	17:17	-5		

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

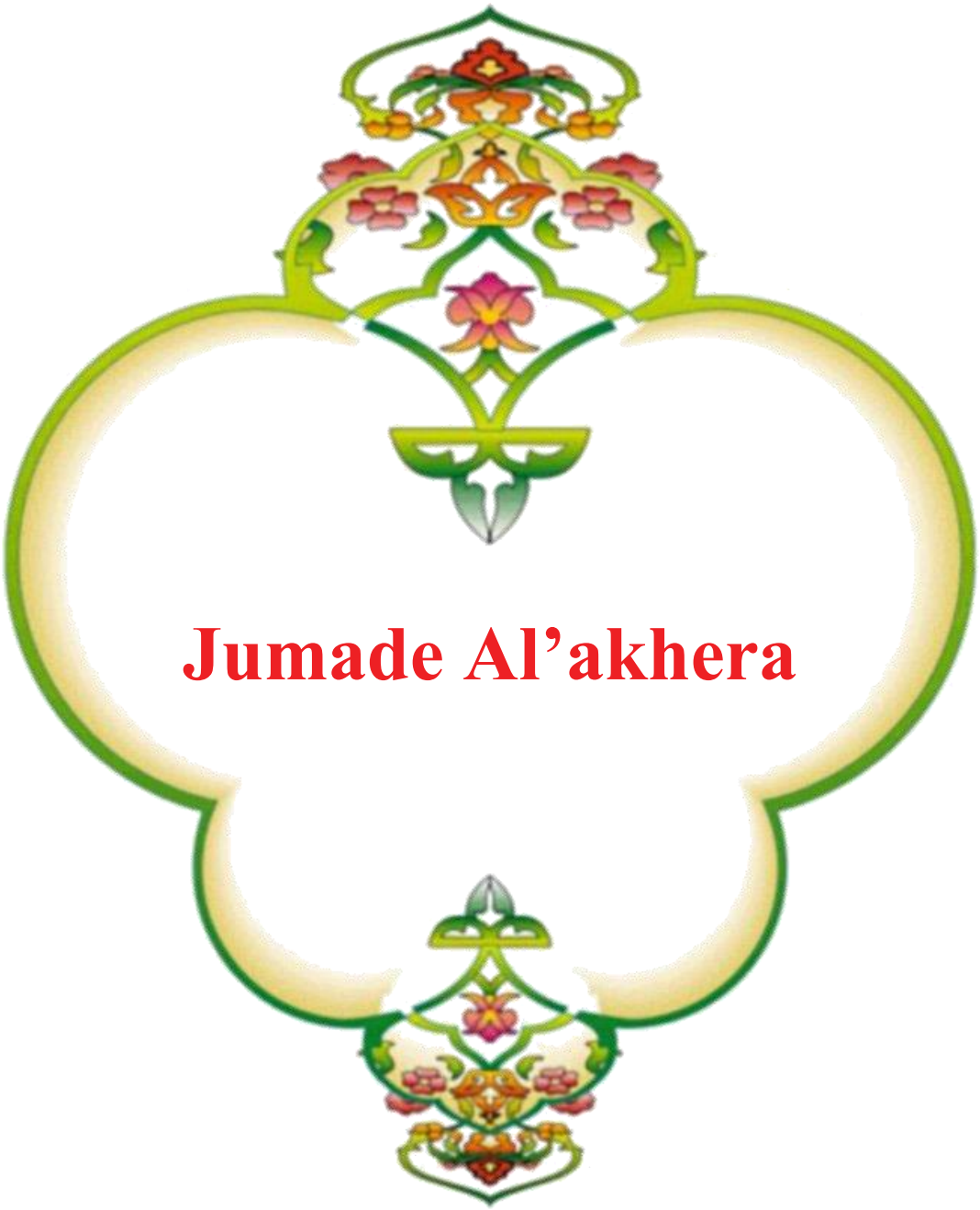
City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	17:38	17:46	8	Makkah	17:39	17:37	-2
Nouakchott	17:27	17:33	6	Al-Quds	16:41	16:35	-6
Marrakech	17:34	17:33	-1	Baghdad	17:01	16:54	-7
Fez	17:18	17:15	-3	Aden	17:31	17:31	Zero
Lagos	18:25	18:33	8	Riyadh	17:07	17:03	-4
Algeria	16:40	16:35	-5	Kuwait	16:54	16:48	-6
Tunisia	17:12	17:06	-6	Manama	16:49	16:44	-5
Tripoli-Libya	17:07	17:03	-4	Tehran	16:59	16:50	-9
Khartoum	17:17	17:18	1	Doha	16:47	16:42	-5
Mogadishu	17:44	17:47	3	Abu Dhabi	17:37	17:32	-5
Ankara	16:35	16:24	-11	Dubai	17:32	17:26	-6
Amman	16:38	16:32	-6	Muscat	17:21	17:16	-5
Damascus	16:34	16:27	-7	Karachi	17:45	17:39	-6
Jazan	17:35	17:34	-1	Kuala Lumpur	18:57	18:52	-5
Medina	17:36	17:33	-3	Jakarta	17:49	17:46	-3

(2) In some world capitals

Cape Town	19:25	19:46	21	Washington	16:56	16:57	1
Brasilia	18:21	18:45	24	Ottawa	16:35	16:30	-5
Santiago	19:21	19:58	37	London	16:15	15:57	-18
Lima	18:12	18:39	27	Moscow	16:27	16:01	-26

(D) Jumade Al'oula's first day is: Wednesday Nov. 15, 2023 5 Hathor 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				4	18	8	11	25	15	18	2	22	25	9	29
Sunday				5	19	9	12	26	16	19	3	23	26	10	30
Monday				6	20	10	13	27	17	20	4	24	27	11	Koiak
Tuesday				7	21	11	14	28	18	21	5	25	28	12	2
Wednesday	1	15	5	8	22	12	15	29	19	22	6	26	29	13	3
Thursday	2	16	6	9	23	13	16	30	20	23	7	27			
Friday	3	17	7	10	24	14	17	Dec.	21	24	8	28			



Jumade Al’akhera

Jumada Al'akhera, 1445 A.H.
Crescent statement

- **Jumada Al'akhera's crescent will be born after the conjunction that occurs on Tuesday, 12/12/2023 A.D. (the previous day of sighting day) at 11 o'clock and 33 minutes p.m. (U.T.)**

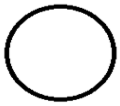
On sighting day (Wednesday, 13/12/2023 A.D.):

- **The crescent will lag 22 minutes after sunset in Makkah.**
- **The crescent will lag 17 minutes after sunset in Cairo.**
- **Generally, the crescent will lag (7 - 37 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Jumada Al'akhera 1445 A.H. shall be adopted to be Thursday, 14/12/2023 A.D. according to the astronomical calculations.

Ephemeris of Jumade Al'akhera, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Tuesday	Tuesday	Wednesday	Thursday
December 12, 2023	December 19, 2023	December 27, 2023	January 04, 2024
23:33	18:40	00:34	03:32

First Day	Last Day	Length
December 14, 2023	January 12, 2024	30 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	16:51	17:13	22	3.5	8 S
Toshka	17:10	17:32	22	3.6	8.1 S
Aswan	17:02	17:24	22	3.3	8.2 S
Qena	16:59	17:19	20	3	8.4 S
Al'kharga	17:10	17:31	21	3.2	8.4 S
Assiut	17:03	17:22	19	2.9	8.5 S
Sohag	17:02	17:22	20	3	8.4 S
Fayoum	16:59	17:17	18	2.5	8.6 S
Tur	16:51	17:09	18	2.6	8.5 S
S.Catherine	16:49	17:06	17	2.6	8.5 S
Taba	16:43	17:00	17	2.4	8.6 S
Cairo	16:56	17:13	17	2.4	8.7 S
Tanta	16:55	17:12	17	2.2	8.7 S
Alexandria	16:59	17:15	16	2.2	8.8 S
Port Said	16:49	17:05	16	2.1	8.7 S
Salloum	17:17	17:34	17	2.3	8.9 S

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

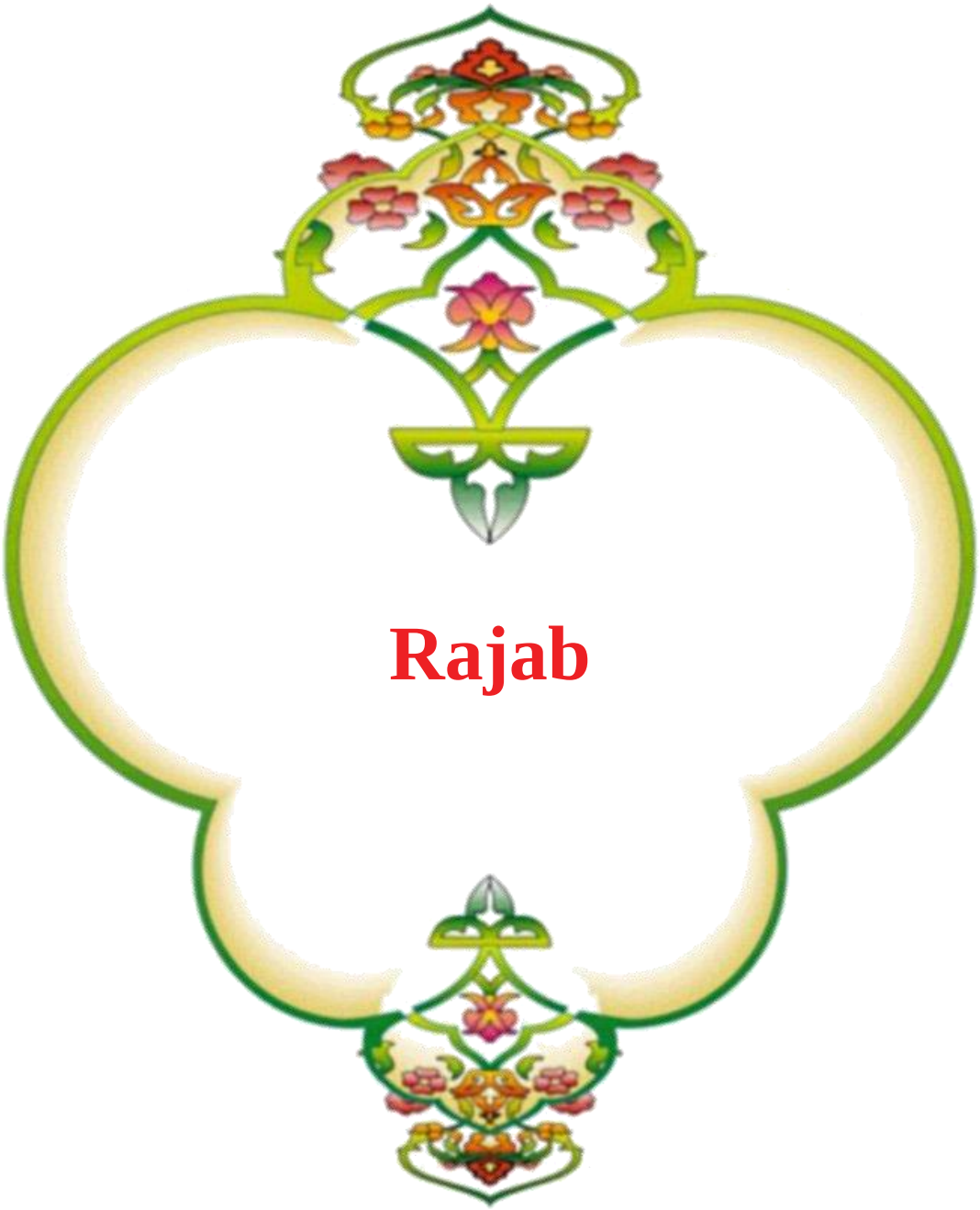
City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	17:42	18:18	36	Makkah	17:40	18:02	22
Nouakchott	17:30	18:03	33	Al-Quds	16:36	16:51	15
Marrakech	17:29	17:52	23	Baghdad	16:55	17:08	13
Fez	17:12	17:31	19	Aden	17:35	18:02	27
Lagos	18:33	19:10	37	Riyadh	17:06	17:25	19
Algeria	16:32	16:48	16	Kuwait	16:51	17:05	14
Tunisia	17:04	17:18	14	Manama	16:47	17:04	17
Tripoli-Libya	17:01	17:19	18	Tehran	16:51	17:00	9
Khartoum	17:20	17:47	27	Doha	16:45	17:03	18
Mogadishu	17:53	18:25	32	Abu Dhabi	17:36	17:53	17
Ankara	16:24	16:31	7	Dubai	17:30	17:47	17
Amman	16:33	16:47	14	Muscat	17:21	17:38	17
Damascus	16:28	16:41	13	Karachi	17:44	17:59	15
Jazan	17:38	18:02	24	Kuala Lumpur	19:05	19:27	22
Medina	17:35	17:55	20	Jakarta	18:01	18:27	26

(2) In some world capitals

Cape Town	19:52	20:50	58	Washington	16:46	17:13	27
Brasilia	18:37	19:35	58	Ottawa	16:20	16:37	17
Santiago	19:47	21:00	73	London	15:51	15:43	-8
Lima	18:27	19:28	61	Moscow	15:56	15:26	-30

(D) Jumade Al'akhera's first day is: Thursday Dec. 14, 2023 4 Koiak 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				3	16	6	10	23	13	17	30	20	24	6	27
Sunday				4	17	7	11	24	14	18	31	21	25	7	28
Monday				5	18	8	12	25	15	19	Jan.	22	26	8	29
Tuesday				6	19	9	13	26	16	20	2	23	27	9	30
Wednesday				7	20	10	14	27	17	21	3	24	28	10	Tobi
Thursday	1	14	4	8	21	11	15	28	18	22	4	25	29	11	2
Friday	2	15	5	9	22	12	16	29	19	23	5	26	30	12	3


Rajab

Rajab, 1445 A.H.
Crescent statement

- **Rajab's crescent will be born after the conjunction that occurs on Thursday, 11/1/2024 A.D. (Sighting Day) at 11 o'clock and 59 minutes a.m. (U.T.)**

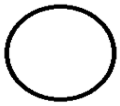
On sighting day (Thursday, 11/1/2024 A.D.):

- **In almost Arabic and Islamic countries, the crescent will be set before sunset on that day.**
- **In Makkah and Cairo, moonset will occur before sunset by 3 and 7 minutes consequently.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (1 - 17 minutes).**
- **Therefore, Friday, 12/1/2024 A.D. shall be adopted as the completing day of Jumada Al'akhera, 1445 A.H.**

Consequently, the first day of Rajab 1445 A.H. shall be adopted to be Saturday, 13/1/2024 A.D. according to the astronomical calculations.

Ephemeris of Rajab, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Thursday	Thursday	Thursday	Friday
January 11, 2024	January 18, 2024	January 25, 2024	February 02, 2024
11:59	03:54	17:55	23:19

First Day	Last Day	Length
January 13, 2024	February 10, 2024	29 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:07	17:05	-2	Crescent below the horizon	Crescent below the horizon
Toshka	17:26	17:24	-2		
Aswan	17:19	17:16	-3		
Qena	17:16	17:11	-5		
Al'kharga	17:27	17:23	-4		
Assiut	17:20	17:15	-5		
Sohag	17:19	17:14	-5		
Fayoum	17:17	17:10	-7		
Tur	17:08	17:01	-7		
S.Catherine	17:06	16:59	-7		
Taba	17:00	16:53	-7		
Cairo	17:13	17:06	-7		
Tanta	17:13	17:05	-8		
Alexandria	17:16	17:08	-8		
Port Said	17:07	16:58	-9		
Salloum	17:35	17:27	-8		

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	17:57	18:09	12	Makkah	17:56	17:53	-3
Nouakchott	17:45	17:55	10	Al-Quds	16:54	16:44	-10
Marrakech	17:47	17:46	-1	Baghdad	17:13	17:01	-12
Fez	17:30	17:27	-3	Aden	17:51	17:52	1
Lagos	18:47	18:59	12	Riyadh	17:23	17:16	-7
Algeria	16:51	16:43	-8	Kuwait	17:08	16:58	-10
Tunisia	17:22	17:13	-9	Manama	17:04	16:56	-8
Tripoli-Libya	17:19	17:13	-6	Tehran	17:10	16:54	-16
Khartoum	17:36	17:37	1	Doha	17:02	16:54	-8
Mogadishu	18:07	18:13	6	Abu Dhabi	17:52	17:45	-7
Ankara	16:43	16:26	-17	Dubai	17:47	17:39	-8
Amman	16:50	16:41	-9	Muscat	17:37	17:29	-8
Damascus	16:45	16:34	-11	Karachi	18:01	17:50	-11
Jazan	17:53	17:53	Zero	Kuala Lumpur	19:19	19:15	-4
Medina	17:51	17:47	-4	Jakarta	18:14	18:14	Zero

(2) In some world capitals

Cape Town	20:01	20:30	29	Washington	17:05	17:13	8
Brasilia	18:49	19:19	30	Ottawa	16:41	16:40	-1
Santiago	19:56	20:37	41	London	16:14	15:45	-29
Lima	18:39	19:12	33	Moscow	16:21	15:29	-52

(D) Rajab's first day is: Saturday Jan. 13, 2024 4 Tobi 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday	1	13	4	8	20	11	15	27	18	22	3	25	29	10	2
Sunday	2	14	5	9	21	12	16	28	19	23	4	26			
Monday	3	15	6	10	22	13	17	29	20	24	5	27			
Tuesday	4	16	7	11	23	14	18	30	21	25	6	28			
Wednesday	5	17	8	12	24	15	19	31	22	26	7	29			
Thursday	6	18	9	13	25	16	20	Feb.	23	27	8	30			
Friday	7	19	10	14	26	17	21	2	24	28	9	Meshir			

Sha’aban

Sha’aban, 1445 A.H.
Crescent statement

- **Sha’aban’s crescent will be born after the conjunction that occurs on Friday, 9/2/2024 A.D. (the previous day of sighting day) at 11 o’clock p.m. (U.T.)**

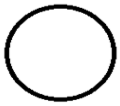
On sighting day (Saturday, 10/2/2024 A.D.):

- **The crescent will lag 39 minutes after sunset in Makkah.**
- **The crescent will lag 40 minutes after sunset in Cairo.**
- **Generally, the crescent will lag (30 - 50 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Sha’aban 1445 A.H. shall be adopted to be Sunday, 11/2/2024 A.D. according to the astronomical calculations.

Ephemeris of Sha'aban, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Friday	Friday	Saturday	Sunday
February 09, 2024	February 16, 2024	February 24, 2024	March 03, 2024
23:00	15:02	12:32	15:25

First Day	Last Day	Length
February 11, 2024	March 10, 2024	29 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:27	18:07	40	7.7	4.4 S
Toshka	17:46	18:27	41	7.8	4.4 S
Aswan	17:40	18:20	40	7.7	4.7 S
Qena	17:38	18:19	41	7.5	5.1 S
Al'kharga	17:49	18:30	41	7.6	4.9 S
Assiut	17:43	18:24	41	7.4	5.2 S
Sohag	17:42	18:22	40	7.5	5.1 S
Fayoum	17:42	18:22	40	7.2	5.6 S
Tur	17:32	18:12	40	7.2	5.4 S
S.Catherine	17:30	18:10	40	7.2	5.4 S
Taba	17:25	18:05	40	7	5.6 S
Cairo	17:39	18:19	40	7.1	5.7 S
Tanta	17:39	18:19	40	7	5.8 S
Alexandria	17:43	18:23	40	7	5.9 S
Port Said	17:33	18:13	40	6.9	5.9 S
Salloum	18:01	18:43	42	7.1	6 S

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

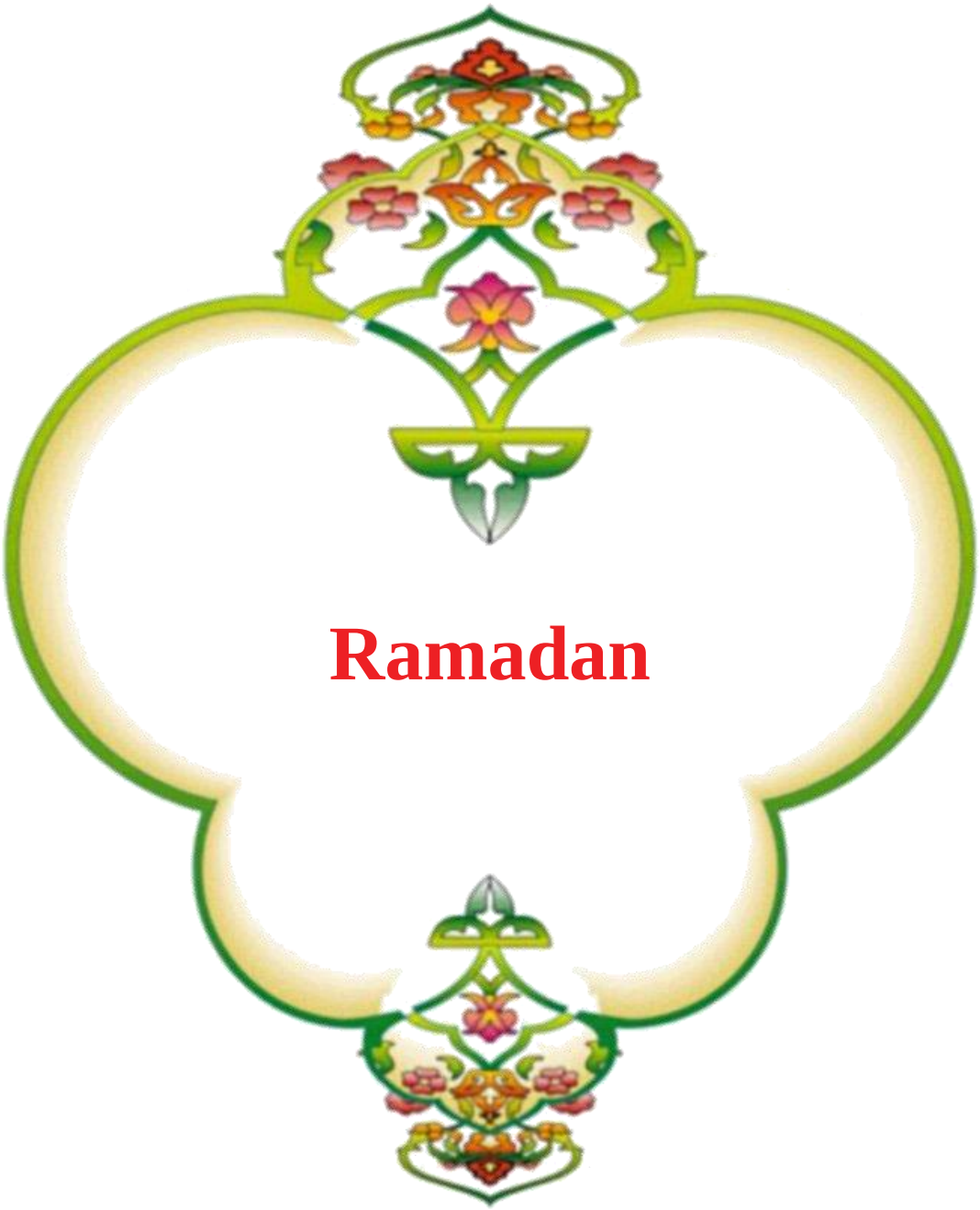
City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:12	19:02	50	Makkah	18:16	18:55	39
Nouakchott	18:02	18:52	50	Al-Quds	17:21	18:00	39
Marrakech	18:14	19:02	48	Baghdad	17:42	18:19	37
Fez	17:59	18:46	47	Aden	18:04	18:43	39
Lagos	18:57	19:43	46	Riyadh	17:44	18:22	38
Algeria	17:22	18:08	46	Kuwait	17:33	18:10	37
Tunisia	17:54	18:37	43	Manama	17:27	18:03	36
Tripoli-Libya	17:47	18:31	44	Tehran	17:40	18:15	35
Khartoum	17:51	18:32	41	Doha	17:24	18:01	37
Mogadishu	18:14	18:54	40	Abu Dhabi	18:14	18:50	36
Ankara	17:18	17:56	38	Dubai	18:09	18:45	36
Amman	17:18	17:56	38	Muscat	17:58	18:33	35
Damascus	17:14	17:53	39	Karachi	18:22	18:56	34
Jazan	18:10	18:49	39	Kuala Lumpur	19:28	19:58	30
Medina	18:13	18:52	39	Jakarta	18:17	18:48	31

(2) In some world capitals

Cape Town	19:44	20:27	43	Washington	17:39	18:42	63
Brasilia	18:46	19:38	52	Ottawa	17:22	18:25	63
Santiago	19:40	20:31	51	London	17:06	17:49	43
Lima	18:38	19:35	57	Moscow	17:21	17:53	32

(D) Sha'aban's first day is: Sunday Feb. 11, 2024 3 Meshir 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				7	17	9	14	24	16	21	2	23	28	9	30
Sunday	1	11	3	8	18	10	15	25	17	22	3	24	29	10	Paremhat
Monday	2	12	4	9	19	11	16	26	18	23	4	25			
Tuesday	3	13	5	10	20	12	17	27	19	24	5	26			
Wednesday	4	14	6	11	21	13	18	28	20	25	6	27			
Thursday	5	15	7	12	22	14	19	29	21	26	7	28			
Friday	6	16	8	13	23	15	20	Mar.	22	27	8	29			



Ramadan

Ramadan, 1445 A.H.
Crescent statement

- **Ramadan's crescent will be born after the conjunction that occurs on Sunday, 10/3/2024 A.D. (Sighting day) at 9 o'clock and 2 minutes a.m. (U.T.)**

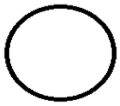
On sighting day (Sunday, 10/3/2024 A.D.):

- **The crescent will lag 12 minutes after sunset in Makkah.**
- **The crescent will lag 14 minutes after sunset in Cairo.**
- **Generally, the crescent will lag (4 - 22 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Ramadan 1445 A.H. shall be adopted to be Monday, 11/3/2024 A.D. according to the astronomical calculations.

Ephemeris of Ramadan, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Sunday	Sunday	Monday	Tuesday
March 10, 2024	March 17, 2024	March 25, 2024	April 02, 2024
09:02	04:12	07:01	03:16

First Day	Last Day	Length
March 11, 2024	April 09, 2024	30 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:41	17:54	13	2.4	1.8 S
Toshka	18:00	18:14	14	2.6	1.8 S
Aswan	17:55	18:09	14	2.5	2 S
Qena	17:56	18:10	14	2.4	2.1 S
Al'kharga	18:06	18:20	14	2.5	2 S
Assiut	18:01	18:16	15	2.4	2.2 S
Sohag	18:00	18:14	14	2.4	2.1 S
Fayoum	18:02	18:16	14	2.3	2.3 S
Tur	17:51	18:05	14	2.3	2.2 S
S.Catherine	17:50	18:03	13	2.3	2.3 S
Taba	17:46	17:59	13	2.2	2.3 S
Cairo	18:00	18:14	14	2.3	2.4 S
Tanta	18:01	18:15	14	2.3	2.4 S
Alexandria	18:05	18:19	14	2.3	2.4 S
Port Said	17:56	18:09	13	2.2	2.4 S
Salloum	18:24	18:39	15	2.5	2.5 S

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:20	18:42	22	Makkah	18:29	18:41	12
Nouakchott	18:13	18:35	22	Al-Quds	17:44	17:57	13
Marrakech	18:37	18:58	21	Baghdad	18:06	18:18	12
Fez	18:24	18:45	21	Aden	18:10	18:23	13
Lagos	18:58	19:17	19	Riyadh	18:00	18:12	12
Algeria	17:51	18:10	19	Kuwait	17:53	18:04	11
Tunisia	18:22	18:40	18	Manama	17:44	17:55	11
Tripoli-Libya	18:12	18:29	17	Tehran	18:08	18:17	9
Khartoum	17:59	18:14	15	Doha	17:41	17:51	10
Mogadishu	18:11	18:24	13	Abu Dhabi	18:29	18:40	11
Ankara	17:51	18:03	12	Dubai	18:25	18:35	10
Amman	17:41	17:54	13	Muscat	18:13	18:22	9
Damascus	17:39	17:52	13	Karachi	18:39	18:46	7
Jazan	18:19	18:32	13	Kuala Lumpur	19:26	19:30	4
Medina	18:29	18:41	12	Jakarta	18:08	18:13	5

(2) In some world capitals

Cape Town	19:10	19:26	16	Washington	18:11	18:47	36
Brasilia	18:29	18:53	24	Ottawa	18:03	18:40	37
Santiago	19:06	19:30	24	London	17:57	18:17	20
Lima	18:25	18:53	28	Moscow	18:23	18:32	9

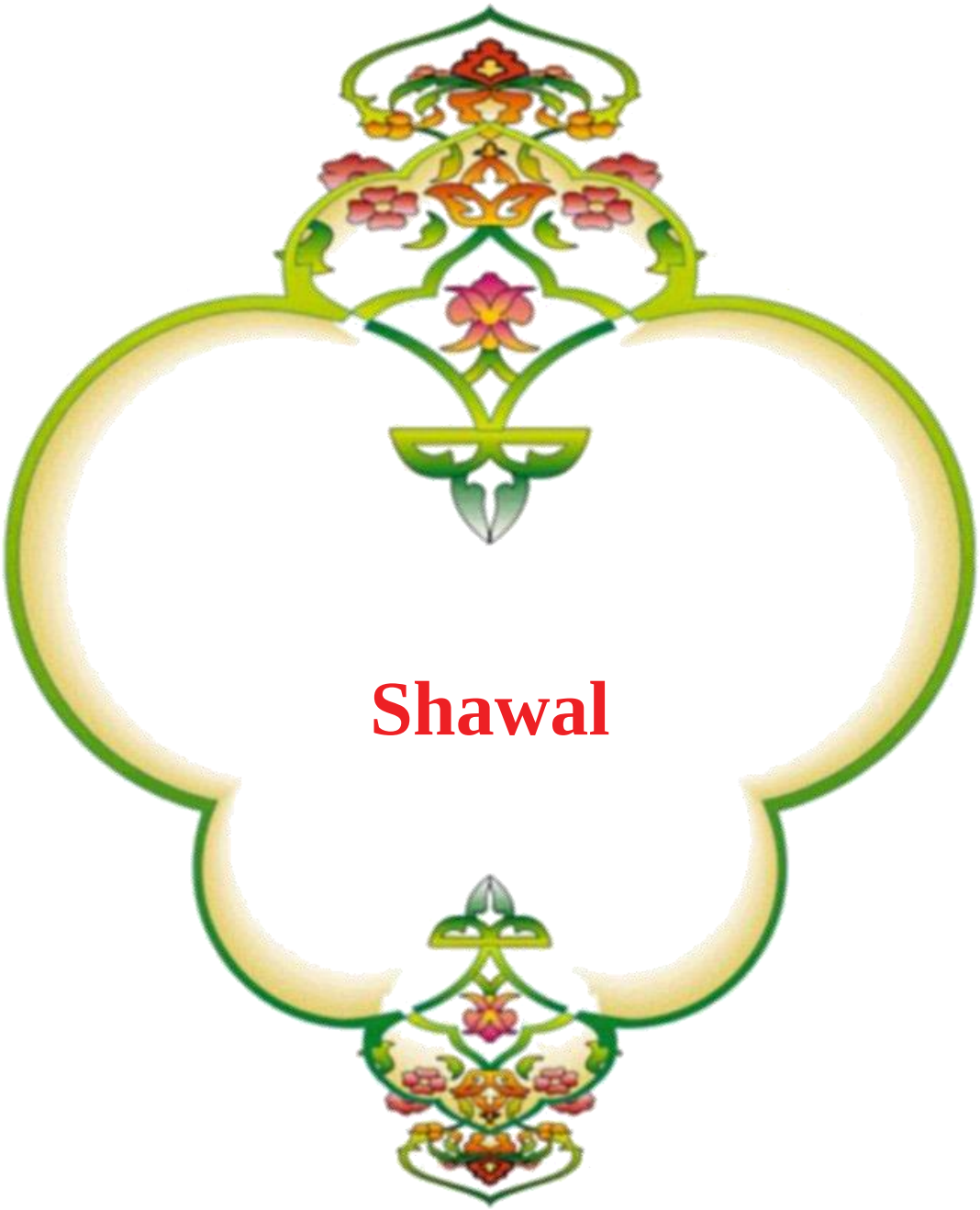
(D) Ramadan's first day is: Monday Mar. 11, 2024 2 Paremhat 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				6	16	7	13	23	14	20	30	21	27	6	28
Sunday				7	17	8	14	24	15	21	31	22	28	7	29
Monday	1	11	2	8	18	9	15	25	16	22	Apr.	23	29	8	30
Tuesday	2	12	3	9	19	10	16	26	17	23	2	24	30	9	Parmouti
Wednesday	3	13	4	10	20	11	17	27	18	24	3	25			
Thursday	4	14	5	11	21	12	18	28	19	25	4	26			
Friday	5	15	6	12	22	13	19	29	20	26	5	27			

Ramadan's Prayer times 1445 AH
Cairo, Egypt
March / April 2024 AD

Ramadan	Gregorian date	Week Dayes	Duration of fasting	Sohoor	Imsak	Fagr	Sunrise	Dhuhr	Asr	Maghrib	Isha
1	March 11	Mon	13:18	2:23	4:23	4:43	6:09	12:05	15:28	18:01	19:18
2	March 12	Tue	13:20	2:22	4:22	4:42	6:08	12:05	15:28	18:02	19:19
3	March 13	Wed	13:22	2:20	4:20	4:40	6:07	12:04	15:29	18:02	19:19
4	March 14	Thu	13:24	2:19	4:19	4:39	6:06	12:04	15:29	18:03	19:20
5	March 15	Fri	13:25	2:18	4:18	4:38	6:04	12:04	15:29	18:03	19:21
6	March 16	Sat	13:27	2:17	4:17	4:37	6:03	12:03	15:29	18:04	19:21
7	March 17	Sun	13:30	2:15	4:15	4:35	6:02	12:03	15:29	18:05	19:22
8	March 18	Mon	13:31	2:14	4:14	4:34	6:01	12:03	15:29	18:05	19:23
9	March 19	Tue	13:33	2:13	4:13	4:33	6:00	12:03	15:30	18:06	19:23
10	March 20	Wed	13:35	2:12	4:12	4:32	5:58	12:02	15:30	18:07	19:24
11	March 21	Thu	13:37	2:10	4:10	4:30	5:57	12:02	15:30	18:07	19:25
12	March 22	Fri	13:39	2:09	4:09	4:29	5:56	12:02	15:30	18:08	19:25
13	March 23	Sat	13:40	2:08	4:08	4:28	5:55	12:01	15:30	18:08	19:26
14	March 24	Sun	13:43	2:06	4:06	4:26	5:54	12:01	15:30	18:09	19:27
15	March 25	Mon	13:45	2:05	4:05	4:25	5:52	12:01	15:30	18:10	19:28
16	March 26	Tue	13:46	2:04	4:04	4:24	5:51	12:00	15:30	18:10	19:28
17	March 27	Wed	13:49	2:02	4:02	4:22	5:50	12:00	15:30	18:11	19:29
18	March 28	Thu	13:50	2:01	4:01	4:21	5:49	12:00	15:30	18:11	19:30
19	March 29	Fri	13:52	2:00	4:00	4:20	5:47	12:00	15:30	18:12	19:30
20	March 30	Sat	13:55	1:58	3:58	4:18	5:46	11:59	15:30	18:13	19:31
21	March 31	Sun	13:56	1:57	3:57	4:17	5:45	11:59	15:30	18:13	19:32
22	April 01	Mon	13:58	1:56	3:56	4:16	5:44	11:59	15:30	18:14	19:33
23	April 02	Tue	14:00	1:54	3:54	4:14	5:43	11:58	15:30	18:14	19:33
24	April 03	Wed	14:02	1:53	3:53	4:13	5:41	11:58	15:30	18:15	19:34
25	April 04	Thu	14:04	1:52	3:52	4:12	5:40	11:58	15:30	18:16	19:35
26	April 05	Fri	14:06	1:50	3:50	4:10	5:39	11:57	15:30	18:16	19:36
27	April 06	Sat	14:08	1:49	3:49	4:09	5:38	11:57	15:30	18:17	19:36
28	April 07	Sun	14:10	1:48	3:48	4:08	5:37	11:57	15:30	18:18	19:37
29	April 08	Mon	14:12	1:46	3:46	4:06	5:36	11:57	15:30	18:18	19:38
30	April 09	Tue	14:14	1:45	3:45	4:05	5:34	11:56	15:30	18:19	19:39

Eid al-Fitr will be held on (Wednesday, 10/4/2024 AD) and its prayer will be in Cairo at 5:59 AM.



Shawal

Shawal, 1445 A.H.
Crescent statement

- **Shawal's crescent will be born after the conjunction that occurs on Monday, 8/4/2024 A.D. (Sighting Day) at 6 o'clock and 22 minutes p.m. (U.T.)**

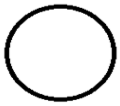
On sighting day (Monday, 8/4/2024 A.D.):

- **In Cairo and in almost Arabic and Islamic countries, the crescent will not be born yet at sunset on that day.**
- **In Makkah and Cairo, moonset will occur before sunset by 12 and 10 minutes consequently.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (2 - 20 minutes).**
- **Therefore, Tuesday, 9/4/2024 A.D. shall be adopted as the completing day of Ramadan, 1445 A.H.**

Consequently, the first day of Shawal (Eid al-Fitr) 1445 A.H. shall be adopted to be Wednesday, 10/4/2024 A.D. according to the astronomical calculations.

Ephemeris of Shawal, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Monday	Monday	Tuesday	Wednesday
April 08, 2024	April 15, 2024	April 23, 2024	May 01, 2024
18:22	19:14	23:50	11:28

First Day	Last Day	Length
April 10, 2024	May 08, 2024	29 Days

(b) Observing conditions in Egypt

for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	17:51	17:40	-11	Moon not new	Moon not new
Toshka	18:10	18:00	-10		
Aswan	18:07	17:57	-10		
Qena	18:09	17:59	-10		
Al'kharga	18:19	18:09	-10		
Assiut	18:16	18:06	-10		
Sohag	18:14	18:03	-11		
Fayoum	18:19	18:09	-10		
Tur	18:07	17:56	-11		
S.Catherine	18:06	17:55	-11		
Taba	18:03	17:52	-11		
Cairo	18:18	18:08	-10		
Tanta	18:20	18:09	-11		
Alexandria	18:24	18:14	-10		
Port Said	18:15	18:04	-11		
Salloum	18:44	18:34	-10		

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:23	18:21	-2	Makkah	18:38	18:26	-12
Nouakchott	18:19	18:17	-2	Al-Quds	18:04	17:52	-12
Marrakech	18:56	18:53	-3	Baghdad	18:28	18:15	-13
Fez	18:46	18:43	-3	Aden	18:12	18:00	-12
Lagos	18:55	18:49	-6	Riyadh	18:12	17:59	-13
Algeria	18:17	18:12	-5	Kuwait	18:11	17:57	-14
Tunisia	18:48	18:41	-7	Manama	17:58	17:44	-14
Tripoli-Libya	18:33	18:25	-8	Tehran	18:32	18:17	-15
Khartoum	18:03	17:53	-10	Doha	17:54	17:39	-15
Mogadishu	18:05	17:53	-12	Abu Dhabi	18:42	18:27	-15
Ankara	18:20	18:09	-11	Dubai	18:39	18:24	-15
Amman	18:01	17:49	-12	Muscat	18:24	18:09	-15
Damascus	18:01	17:49	-12	Karachi	18:51	18:34	-17
Jazan	18:24	18:12	-12	Kuala Lumpur	19:20	19:00	-20
Medina	18:41	18:29	-12	Jakarta	17:55	17:35	-20

(2) In some world capitals

Cape Town	18:31	18:22	-9	Washington	18:39	18:51	12
Brasilia	18:08	18:07	-1	Ottawa	18:41	18:54	13
Santiago	18:28	18:27	-1	London	18:46	18:42	-4
Lima	18:07	18:11	4	Moscow	19:22	19:08	-14

(D) Shawal's first day is: Wednesday Apr. 10, 2024 2 Parmouti 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				4	13	5	11	20	12	18	27	19	25	4	26
Sunday				5	14	6	12	21	13	19	28	20	26	5	27
Monday				6	15	7	13	22	14	20	29	21	27	6	28
Tuesday				7	16	8	14	23	15	21	30	22	28	7	29
Wednesday	1	10	2	8	17	9	15	24	16	22	May	23	29	8	30
Thursday	2	11	3	9	18	10	16	25	17	23	2	24			
Friday	3	12	4	10	19	11	17	26	18	24	3	25			

Zul’kada

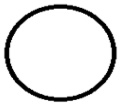
Zul'kada, 1445 A.H.
Crescent statement

- **Zul'kada's crescent will be born after the conjunction that occurs on Wednesday, 8/5/2024 A.D. (Sighting day) at 3 o'clock and 23 minutes a.m. (U.T.)**
- **On sighting day (Wednesday, 8/5/2024 A.D.):**
- **The crescent will lag 31 minutes after sunset in Makkah.**
- **The crescent will lag 38 minutes after sunset in Cairo.**
- **Generally the crescent lags (8 - 48 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Zul'kada, 1445 A.H. shall be adopted to be Thursday, 9/5/2024 A.D. according to the astronomical calculations.

Ephemeris of Zul'kada, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Wednesday	Wednesday	Thursday	Thursday
May 08, 2024	May 15, 2024	May 23, 2024	May 30, 2024
03:23	11:49	13:54	17:14

First Day	Last Day	Length
May 09, 2024	June 06, 2024	29 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	18:03	18:35	32	5.8	2.4 N
Toshka	18:22	18:55	33	6	2.4 N
Aswan	18:21	18:54	33	6	2.1 N
Qena	18:25	19:00	35	6.1	1.8 N
Al'kharga	18:33	19:08	35	6.2	1.9 N
Assiut	18:33	19:08	35	6.2	1.7 N
Sohag	18:30	19:05	35	6.2	1.8 N
Fayoum	18:38	19:15	37	6.4	1.4 N
Tur	18:25	19:00	35	6.2	1.5 N
S.Catherine	18:24	19:00	36	6.2	1.5 N
Taba	18:22	18:58	36	6.2	1.4 N
Cairo	18:37	19:15	38	6.4	1.2 N
Tanta	18:40	19:18	38	6.4	1.1 N
Alexandria	18:44	19:23	39	6.5	1.1 N
Port Said	18:35	19:13	38	6.4	1.1 N
Salloum	19:04	19:44	40	6.6	1 N

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:29	19:06	37	Makkah	18:49	19:20	31
Nouakchott	18:27	19:06	39	Al-Quds	18:24	19:02	38
Marrakech	19:17	20:03	46	Baghdad	18:50	19:28	38
Fez	19:09	19:57	48	Aden	18:16	18:42	26
Lagos	18:54	19:24	30	Riyadh	18:26	18:58	32
Algeria	18:43	19:31	48	Kuwait	18:29	19:03	34
Tunisia	19:14	20:01	47	Manama	18:13	18:45	32
Tripoli-Libya	18:55	19:38	43	Tehran	18:57	19:34	37
Khartoum	18:10	18:39	29	Doha	18:08	18:39	31
Mogadishu	18:01	18:22	21	Abu Dhabi	18:56	19:25	29
Ankara	18:50	19:35	45	Dubai	18:53	19:23	30
Amman	18:22	19:00	38	Muscat	18:37	19:06	29
Damascus	18:23	19:02	39	Karachi	19:05	19:33	28
Jazan	18:32	19:00	28	Kuala Lumpur	19:17	19:29	12
Medina	18:55	19:27	32	Jakarta	17:45	17:53	8

(2) In some world capitals

Cape Town	17:58	18:03	5	Washington	19:08	20:14	66
Brasilia	17:51	18:16	25	Ottawa	19:19	20:33	74
Santiago	17:55	18:11	16	London	19:36	20:43	67
Lima	17:53	18:25	32	Moscow	20:22	21:28	66

(D) Zul'kada's first day is: Thursday May. 09, 2024 1 Pashons 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday				3	11	3	10	18	10	17	25	17	24	June	24
Sunday				4	12	4	11	19	11	18	26	18	25	2	25
Monday				5	13	5	12	20	12	19	27	19	26	3	26
Tuesday				6	14	6	13	21	13	20	28	20	27	4	27
Wednesday				7	15	7	14	22	14	21	29	21	28	5	28
Thursday	1	9	Pashons	8	16	8	15	23	15	22	30	22	29	6	29
Friday	2	10	2	9	17	9	16	24	16	23	31	23			

Zul’hejja

Zul'hejja, 1445 A.H.
Crescent statement

- **Zul'hejja's crescent will be born after the conjunction that occurs on Thursday, 6/6/2024 A.D. (Sighting Day) at 12 o'clock and 39 minutes p.m. (U.T.)**

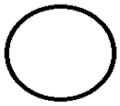
On sighting day (Thursday, 6/6/2024 A.D.):

- **The crescent will lag 11 minutes after sunset in Makkah.**
- **The crescent will lag 18 minutes after sunset in Cairo.**
- **Generally the crescent lags (1 - 28 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Zul'hejja 1445 A.H. shall be adopted to be Friday, 7/6/2024 A.D., a pause Arafat on Saturday, 15/6/2024 A.D., and Eid al-Adha on Sunday, 16/6/2024 A.D. according to the astronomical calculations.

Ephemeris of Zul'hejja, 1445 A.H.

(a) Phases of the Moon (U.T.)

Conjunction	First Quarter	Full Moon	Last Quarter
			
Thursday	Friday	Saturday	Friday
June 06, 2024	June 14, 2024	June 22, 2024	June 28, 2024
12:39	05:20	01:09	21:55

First Day	Last Day	Length
June 07, 2024	July 06, 2024	30 Days

(b) Observing conditions in Egypt for the crescent on the sight day (L.T.)

City	Sunset	Moonset	Crescent lag	Relative altitude (degree)	Relative azimuth (degree)
Halayib	18:16	18:28	12	1.8	3.7 N
Toshka	18:35	18:48	13	2	3.7 N
Aswan	18:34	18:48	14	2.1	3.5 N
Qena	18:40	18:55	15	2.2	3.4 N
Al'kharga	18:48	19:03	15	2.3	3.4 N
Assiut	18:48	19:04	16	2.4	3.3 N
Sohag	18:45	19:00	15	2.3	3.3 N
Fayoum	18:54	19:12	18	2.5	3.1 N
Tur	18:41	18:57	16	2.4	3.2 N
S.Catherine	18:40	18:56	16	2.4	3.2 N
Taba	18:38	18:55	17	2.4	3.1 N
Cairo	18:54	19:12	18	2.6	3 N
Tanta	18:57	19:15	18	2.6	3 N
Alexandria	19:02	19:21	19	2.7	2.9 N
Port Said	18:53	19:12	19	2.6	2.9 N
Salloum	19:22	19:42	20	2.9	2.8 N

*** Add one hour for Cairo daylight saving time**

(c) Observing conditions of the crescent on the sight day

(1) In some Arab and Islamic cities (L.T.)

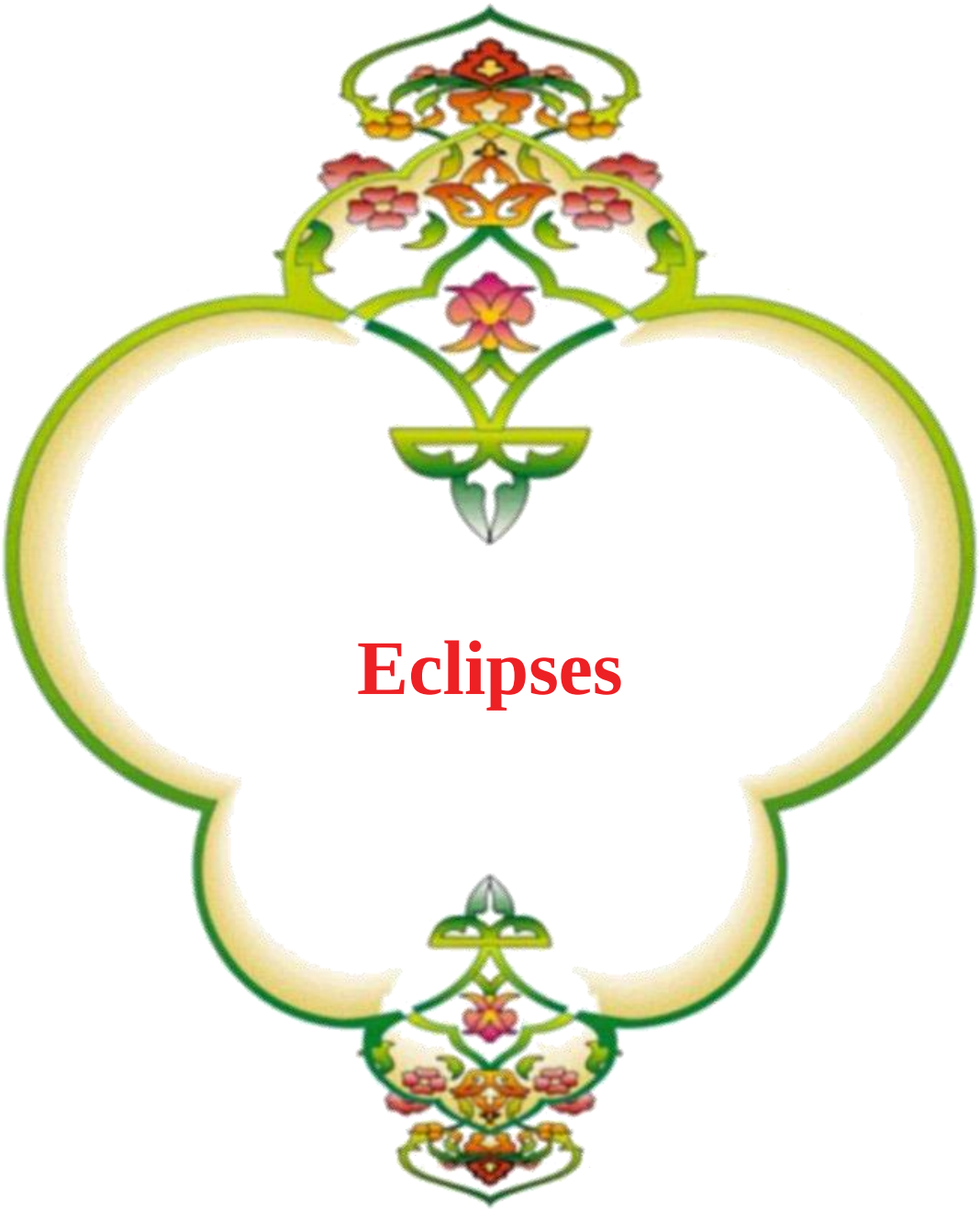
City	Sun set	Moon set	Lag	City	Sun set	Moon set	Lag
Dakar	18:38	18:55	17	Makkah	19:01	19:12	11
Nouakchott	18:38	18:57	19	Al-Quds	18:43	19:01	18
Marrakech	19:35	20:01	26	Baghdad	19:10	19:27	17
Fez	19:29	19:56	27	Aden	18:24	18:30	6
Lagos	18:59	19:09	10	Riyadh	18:40	18:52	12
Algeria	19:05	19:33	28	Kuwait	18:46	19:00	14
Tunisia	19:36	20:03	27	Manama	18:28	18:40	12
Tripoli-Libya	19:14	19:37	23	Tehran	19:18	19:36	18
Khartoum	18:19	18:28	9	Doha	18:22	18:34	12
Mogadishu	18:04	18:05	1	Abu Dhabi	19:09	19:20	11
Ankara	19:15	19:40	25	Dubai	19:07	19:18	11
Amman	18:40	18:58	18	Muscat	18:51	19:00	9
Damascus	18:43	19:02	19	Karachi	19:19	19:28	9
Jazan	18:42	18:50	8	Kuala Lumpur	19:21	19:12	-9
Medina	19:08	19:21	13	Jakarta	17:45	17:31	-14

(2) In some world capitals

Cape Town	17:44	17:27	-17	Washington	19:31	20:16	45
Brasilia	17:46	17:53	7	Ottawa	19:48	20:40	52
Santiago	17:41	17:38	-3	London	20:14	21:02	48
Lima	17:50	18:03	13	Moscow	21:08	22:01	53

(D) Zul'hejja's first day is: Friday Jun. 07, 2024 30 Pashons 1740

Day	H	G	Q	H	G	Q	H	G	Q	H	G	Q	H	G	Q
Saturday	30	6	29	2	8	Paoni	9	15	8	16	22	15	23	29	22
Sunday				3	9	2	10	16	9	17	23	16	24	30	23
Monday				4	10	3	11	17	10	18	24	17	25	July	24
Tuesday				5	11	4	12	18	11	19	25	18	26	2	25
Wednesday				6	12	5	13	19	12	20	26	19	27	3	26
Thursday				7	13	6	14	20	13	21	27	20	28	4	27
Friday	1	7	30	8	14	7	15	21	14	22	28	21	29	5	28



Eclipses

1-Annular solar eclipse
Saturday, October 14, 2023 AD.

The timing of its middle coincides with the conjunction of the month of Rabee Al'akher 1445 AH.

This annular solar eclipse will be visible in parts of the United States, Mexico, and several Central American and South American countries.

It can be seen as a partial eclipse in: Western Africa, North America, South America, Pacific, Atlantic, and Arctic.

The Annular solar eclipse covers an area 187.4 km wide and will last 5 minute and 17.2 seconds.

At the maximum of the total eclipse, the lunar disk covers about 95.2 % of the entire disk of the sun.

The eclipse will take from its beginning to its end approximately a period of five hours and fifty- two minutes.

(Eclipses not visible in Cairo)

Next Annular Solar Eclipse will be on October 2, 2024.

The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:

Event	**U.T. Time**
First location to see the partial eclipse begin	15:03:45
First location to see the full eclipse begin	16:10:09
Maximum Eclipse	17:59:27
Last location to see the full eclipse end	19:48:56
Last location to see the partial eclipse end	20:55:11

Annular Solar Eclipse of 2023 Oct 14

Geocentric Conjunction = 17:36:28.8 UT J.D. = 2460232.233667
Greatest Eclipse = 17:59:21.0 UT J.D. = 2460232.249549

Eclipse Magnitude = 0.9520 Gamma = 0.3752

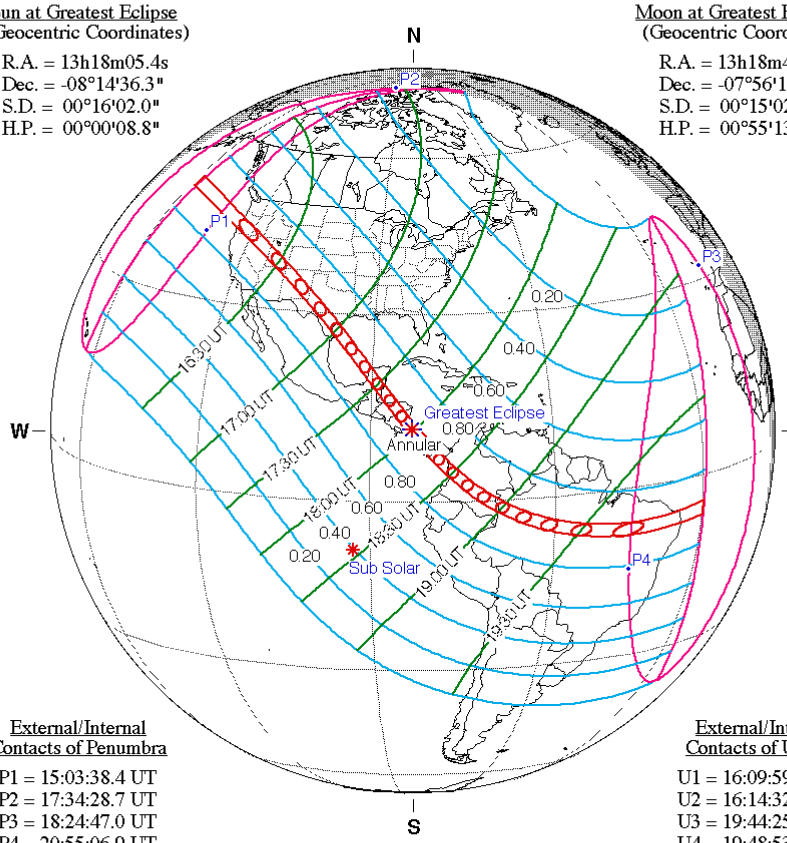
Saros Series = 134 Member = 44 of 71

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 13h18m05.4s
Dec. = -08°14'36.3"
S.D. = 00°16'02.0"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 13h18m44.3s
Dec. = -07°56'18.8"
S.D. = 00°15'02.9"
H.P. = 00°55'13.8"



External/Internal Contacts of Penumbra

P1 = 15:03:38.4 UT
P2 = 17:34:28.7 UT
P3 = 18:24:47.0 UT
P4 = 20:55:06.9 UT

External/Internal Contacts of Umbra

U1 = 16:09:59.1 UT
U2 = 16:14:32.6 UT
U3 = 19:44:25.5 UT
U4 = 19:48:53.5 UT

Local Circumstances at Greatest Eclipse

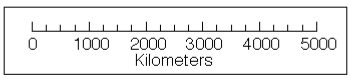
Lat. = 11°21.7'N Sun Alt. = 67.9°
Long. = 083°04.3'W Sun Azm. = 208.0°
Path Width = 187.4 km Duration = 05m17.2s

Ephemeris & Constants

Eph. = Newcomb/ILE
ΔT = 80.7 s
k1 = 0.2724880
k2 = 0.2722810
Δb = 0.0" Δl = 0.0"

Geocentric Libration
(Optical + Physical)

l = -3.80°
b = -0.48°
c = 20.45°
Brown Lun. No. = 1247



F. Espenak, NASA's GSFC - Fri, Jul 2,
sunearth.gsfc.nasa.gov/eclipse/eclipse.html

2- Partial lunar eclipse
Saturday/Sunday, October 28/29, 2023 AD.

The timing of its middle coincides with the timing of full moon, the month of Rabee al'akher 1445 AH.
The Earth's shadow covers almost 12.2 % of the moon's surface.
Regions seeing, at least, some parts of the eclipse: Europe, Asia, Australia, Africa, North America, North/East South America, Pacific, Atlantic, Indian Ocean, Arctic, Antarctica.
The total duration of the eclipse is 4 hours and 25 minutes.
The duration of the partial eclipse is 1 hour and 17 minutes.
It can be seen in Egypt.
The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:

Event	U.T. Time	Time in Cairo
Penumbral Eclipse begins	28 Oct, 18:01:44	28 Oct, 20:01:44
Partial Eclipse begins	28 Oct, 19:35:18	28 Oct, 21:35:18
Maximum Eclipse	28 Oct, 20:14:00	28 Oct, 22:14:00
Partial Eclipse ends	28 Oct, 20:52:37	28 Oct, 22:52:37
Penumbral Eclipse ends	28 Oct, 22:26:19	29 Oct, 00:26:19

Partial Lunar Eclipse of 2023 Oct 28

Ecliptic Conjunction = 20:25:12.2 TD (= 20:23:58.5 UT)
Greatest Eclipse = 20:15:17.6 TD (= 20:14:03.9 UT)

Penumbral Magnitude = 1.1181 P. Radius = 1.2692° Gamma = 0.9471
Umbral Magnitude = 0.1220 U. Radius = 0.7326° Axis = 0.9363°

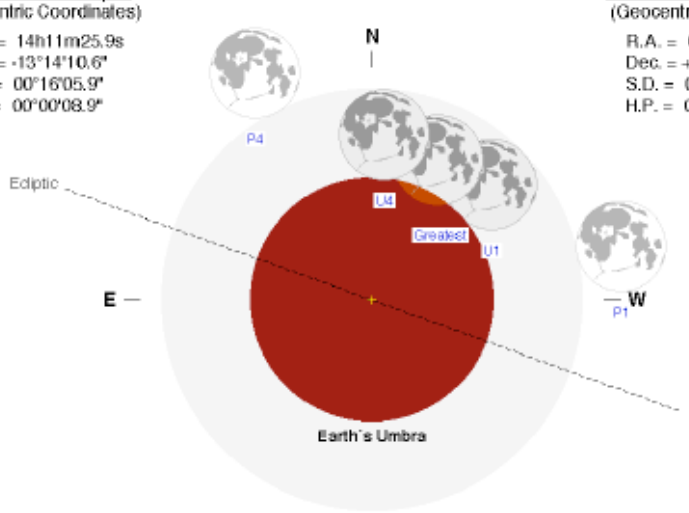
Saros Series = 146 Member = 11 of 72

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 14h11m25.9s
Dec. = -13°14'10.6"
S.D. = 00°16'05.9"
H.P. = 00°00'08.9"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 02h09m47.6s
Dec. = +14°05'01.8"
S.D. = 00°16'09.7"
H.P. = 00°59'18.9"



Eclipse Durations

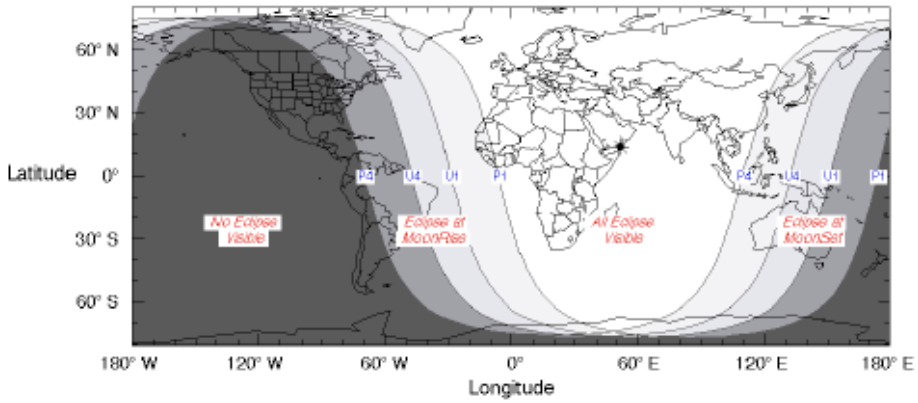
Penumbral = 04h24m34s
Umbral = 01h17m21s

Eclipse Contacts

P1 = 18:01:47 UT
U1 = 19:35:18 UT
U4 = 20:52:39 UT
P4 = 22:26:20 UT

ΔT = 74 s
Rule = CdT (Danjon)
Eph. = VSOP87/ELP2000-85

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



2009 Apr 29

3- Penumbral lunar eclipse
Monday, March 25, 2024 AD

The timing of its middle coincides with the timing of full moon, the month of Ramadan 1445AH.
Regions seeing, at least, some parts of the eclipse: Much of Europe, North/East Asia, Much of Australia, Much of Africa, North America, South America, Pacific, Atlantic, Arctic, and Antarctica. The eclipse from its beginning to its end will take approximately four hours and thirty-nine minutes).
It cannot be seen in Egypt.
The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:

Event	U.T. Time	Time in Cairo
Penumbral Eclipse begins	25 Mar, 04:53:16	25 Mar, 06:53:16
Maximum Eclipse	25 Mar, 07:12:51	25 Mar, 09:12:51
Penumbral Eclipse ends	25 Mar, 09:32:27	25 Mar, 11:32:27

Penumbral Lunar Eclipse of 2024 Mar 25

Ecliptic Conjunction = 07:01:28.5 TD (= 07:00:14.6 UT)
Greatest Eclipse = 07:13:59.2 TD (= 07:12:45.2 UT)

Penumbral Magnitude = 0.9557 P. Radius = 1.1803° Gamma = 1.0609
Umbral Magnitude = -0.1325 U. Radius = 0.6457° Axis = 0.9564°

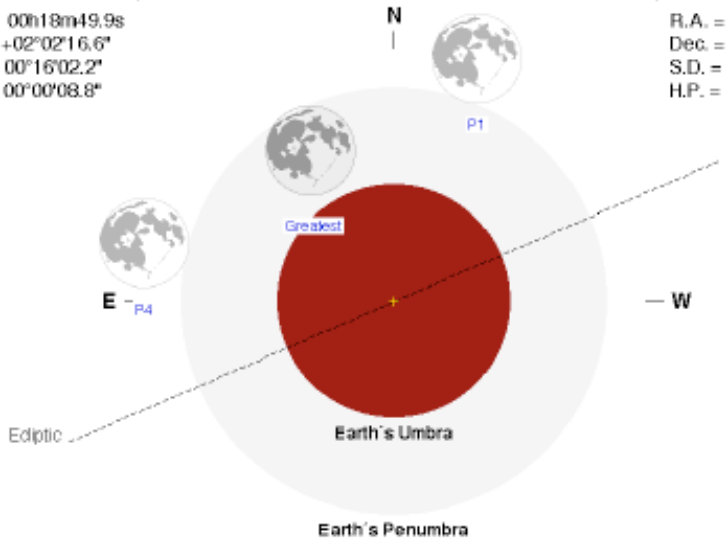
Saros Series = 113 Member = 64 of 71

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 00h18m49.9s
Dec. = +02°02'16.6"
S.D. = 00°16'02.2"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 12h20m41.3s
Dec. = -01°12'05.4"
S.D. = 00°14'44.3"
H.P. = 00°54'05.4"



Eclipse Durations

Penumbral = 04h39m07s

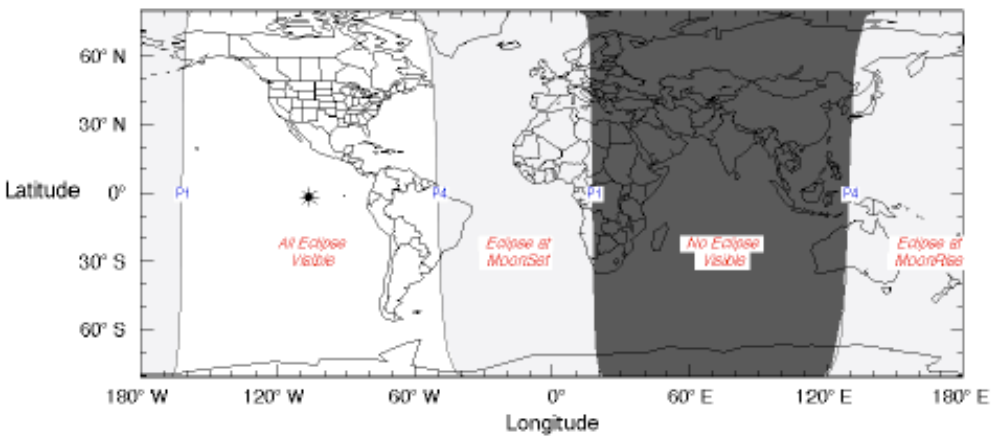
Eclipse Contacts

P1 = 04:53:11 UT
P4 = 09:32:18 UT

0 15 30 45 60
Arc-Minutes

ΔT = 74 s
Rule = CdT (Danjon)
Eph. = VSOP87/ELP2000-85

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



2009 Apr 29

4- Total Solar eclipse
Monday, April 8, 2024 AD.

The timing of its middle coincides with the conjunction of the month of Shawal 1445 AH.
Regions seeing, at least, a partial eclipse: West in Europe, North America, North in South America, Pacific, Atlantic, Arctic.
Maximum eclipse takes place at 18:17 UTC around the city of Nazas, Durango in Mexico, where totality will last for 4 minutes and 29 seconds.

The Total solar eclipse covers an area 197.5 km wide.

At the maximum of the total eclipse, the lunar disk covers about 105.7 % of the entire disk of the sun.
The eclipse will take from its beginning to its end approximately a period of five hours and ten minutes.
(It cannot be seen in Egypt).
Comprehensive statement about the phases of the eclipse for the areas in which it is seen:

Event	U.T. Time	Time in Cairo
First location to see the partial eclipse begin	15:42:15	17:42:15
First location to see the full eclipse begin	16:38:52	18:38:52
Maximum Eclipse	18:17:21	20:17:21
Last location to see the full eclipse end	19:55:35	21:55:35
Last location to see the partial eclipse end	20:52:19	22:52:19

Total Solar Eclipse of 2024 Apr 08

Geocentric Conjunction = 18:36:02.5 UT J.D. = 2460409.275029
Greatest Eclipse = 18:17:13.1 UT J.D. = 2460409.261957

Eclipse Magnitude = 1.0565 Gamma = 0.3432

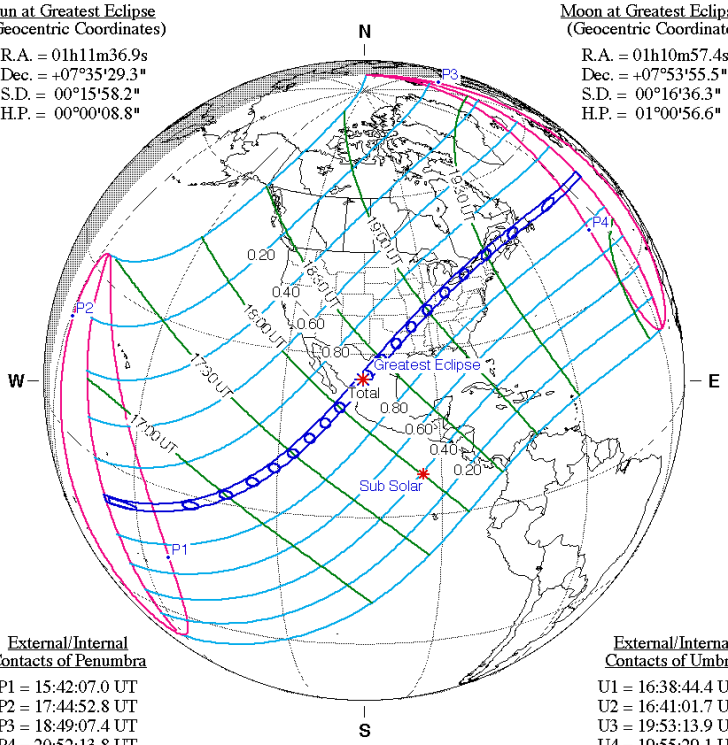
Saros Series = 139 Member = 30 of 71

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 01h11m36.9s
Dec. = +07°35'29.3"
S.D. = 00°15'58.2"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 01h10m57.4s
Dec. = +07°53'55.5"
S.D. = 00°16'36.3"
H.P. = 01°00'56.6"



External/Internal Contacts of Penumbra

P1 = 15:42:07.0 UT
P2 = 17:44:52.8 UT
P3 = 18:49:07.4 UT
P4 = 20:52:13.8 UT

External/Internal Contacts of Umbra

U1 = 16:38:44.4 UT
U2 = 16:41:01.7 UT
U3 = 19:53:13.9 UT
U4 = 19:55:29.1 UT

Local Circumstances at Greatest Eclipse

Lat. = 25°17.5'N Sun Alt. = 69.8°
Long. = 104°07.2'W Sun Azm. = 149.4°
Path Width = 197.5 km Duration = 04m28.1s

Ephemeris & Constants

Eph. = Newcomb/ILE
ΔT = 81.2 s
k1 = 0.2724880
k2 = 0.2722810
Δb = 0.0" Δl = 0.0"

Geocentric Libration
(Optical + Physical)

l = 2.00°
b = -0.46°
c = -20.75°

Brown Lun. No. = 1253

0 1000 2000 3000 4000 5000
Kilometers

F. Espenak, NASA's GSFC - Fri, Jul 2,
sunearth.gsfc.nasa.gov/eclipse/eclipse.html

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2024