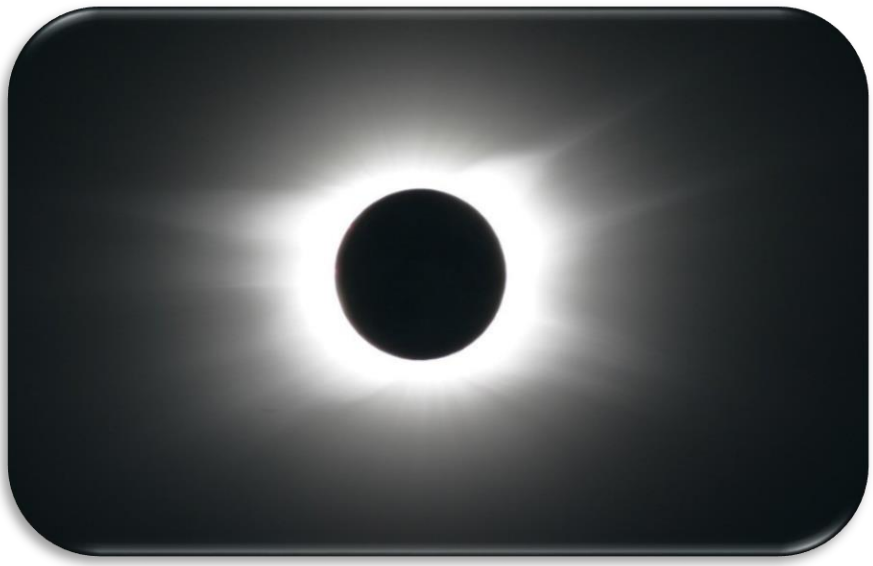
Arab Republic of Egypt
Ministry of Higher Education & Scientific Research
National Research Institute of
Astronomy and Geophysics(NRIAG)
Helwan - Cairo

An Astronomical Guide

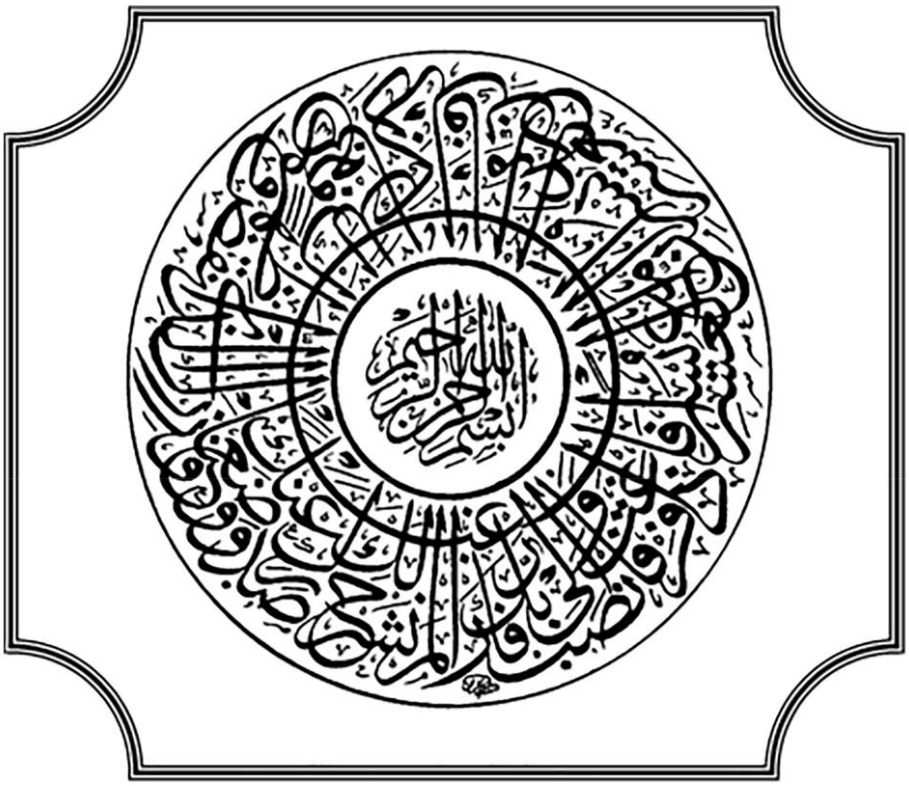
for the Hijri Year 1444 H

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
1444 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

Prof. Mohamed G. Rashed **Dr. Ahmed Abulwfa**

Reviewed by

Prof. Rabab H. Abdul Hamid

Solar and Space research department

Supervision

Prof. Gad M. EL - Qady

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 1444 AH corresponding to the Gregorian year 2022/2023 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 1444 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. Dr.Gad M. El-Qady

Contents

New Moon conjunctions and the beginning of Hijri months For the year 1444 A.H.

New Moon conjunctions and the beginnings of Hijri months for the year 1444 A.H.

The Month	New moon Conjunction	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 17 56 Thursday 28/7/2022 29/12/1443	On the sighting day (Thursday, 28/7/2022), the moonset will occur before sunset in all Arabic and Islamic countries	Saturday 30/7/2022	29
Safar	h m 08 18 Saturday 27/8/2022 29/1/1444	On the sighting day (Saturday, 27/8/2022), The crescent lags (6 - 29 minutes) after sunset in all Arabic and Islamic countries.	Sunday 28/8/2022	30
Rabee Al'awal	h m 21 56 Sunday 25/9/2022 29/2/1444	On the sighting day (Sunday, 25/9/2022) the crescent will not be born yet before sunset in all Arabic and Islamic countries.	Tuesday 27/9/2022	29
Rabee Al'akher	h m 10 50 Tuesday 25/10/2022 29/3/1444	On the sighting day (Tuesday, 25/10/2022), The crescent lags (1 - 13 minutes) after sunset in all Arabic and Islamic countries.	Wednesday 26/10/2022	30

Time, described above, according to the universal time

New Moon conjunctions and the beginnings of Hijri months for the year 1444 A.H. (Cont.).

The Month	New moon Conjunction	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 22 58 Wednesday 23/11/2022 29/4/1444	On the sighting day (Wednesday, 23/11/2022) The crescent will not be born before sunset in all Arabic and Islamic countries.	Friday 25/11/2022	30
Jumade Al'akhera	h m 10 18 Friday 23/12/2022 29/5/1444	On the sighting day (Friday, 23/12/2022) The crescent will be set before sunset in almost Arabic and Islamic countries.	Sunday 25/11/2022	29
Rajab	h m 20 54 Saturday 21/1/2023 28/6/1444	On the sighting day (Sunday, 22/1/2023), The crescent lags (36 – 56 minutes) after sunset in Arabic and Islamic countries.	Monday 23/1/2023	29
Sha'aban	h m 07 07 Monday 20/2/2023 29/7/1444	On the sighting day (Monday, 20/2/2023), The crescent lags (11 – 29 minutes) after sunset in all Arabic and Islamic countries.	Tuesday 21/2/2023	30

Time, described above, according to the universal time

New Moon conjunctions and the beginnings of Hijri months for the year 1444 A.H. (Cont.).

The Month	New moon Conjunction	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 17 24 Tuesday 21/3/2023 29/8/1444	On the sighting day (Tuesday, 21/3/2023) The crescent will not be born yet before sunset in all Arabic and Islamic countries.	Thursday 23/3/2023	29
Shawal	h m 04 14 Thursday 20/4/2023 29/9/1444	On the sighting day (Thursday, 20/4/2023), The crescent lags (10 – 35 minutes) after sunset in Arabic and Islamic countries.	Friday 21/4/2023	30
Zul'kada	h m 15 54 Friday 19/5/2023 29/10/1444	On the sighting day (Friday, 19/5/2023), The crescent will be set before sunset in almost Arabic and Islamic countries.	Sunday 21/5/2023	29
Zul'hejja	h m 04 38 Sunday 18/6/2023 29/11/1444	On the sighting day (Sunday, 18/6/2023), The crescent lags (7 – 44 minutes) after sunset in Arabic and Islamic countries.	Monday 19/3/2023	30

Time, described above, according to the universal time

Glossary

Conjunction (New Moon):

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, Gregorian, and Coptic:

A.H.: Hijri
A.D.: Gregorian
C: Coptic


Mohar’rum

Mohar'rum, 1444 A.H.
Crescent statement

- **Mohar'rum's crescent will be born after the conjunction that occurs on Thursday, 28/7/2022A.D. (Sighting day) at 5 o'clock and 56 minutes p.m. (U.T.)**

On the sighting day (Thursday, 28/7/2022 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, Friday, 29/7/2022A.D. shall be adopted as the completing day of Zul'hejja, 1443 A.H.**

Consequently, the first day of Mohar'rum 1444 A.H. shall be adopted to be Saturday, 30/7/2022 A.D. according to the astronomical calculations.

Ephemeris of Mohar'rum, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Thursday July 28, 2022 17:56	Friday August 5, 2022 11:08	Friday August 12, 2022 1:37	Friday August 19, 2022 4:37

First Day	Last Day	Length
Saturday July 30, 2022	Saturday August 27, 2022	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)
	h	m	h	m	m		
Halayib	18	16	18	23	7	Moon not new	Moon not new
Toshka	18	35	18	43	8	Moon not new	Moon not new
Aswan	18	34	18	43	9	Moon not new	Moon not new
Qena	18	38	18	48	10	Moon not new	Moon not new
Al'kharga	18	47	18	56	9	Moon not new	Moon not new
Assiut	18	46	18	57	11	Moon not new	Moon not new
Sohag	18	43	18	53	10	Moon not new	Moon not new
Fayoum	18	51	19	3	12	Moon not new	Moon not new
Tur	18	38	18	49	11	Moon not new	Moon not new
Saint Catherine	18	38	18	48	10	Moon not new	Moon not new
Taba	18	36	18	47	11	Moon not new	Moon not new
Cairo	18	51	19	3	12	Moon not new	Moon not new
Tanta	18	54	19	6	12	Moon not new	Moon not new
Alexandria	18	59	19	12	13	Moon not new	Moon not new
Port Said	18	49	19	2	13	Moon not new	Moon not new
Salloum	19	18	19	32	14	Moon not new	Moon not new

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	41	18	51	10	Makkah*	19	2	19	8	6
Nouakchott	18	40	18	51	11	Al-Quds*	18	39	18	51	12
Marrakech	19	31	19	49	18	Baghdad*	19	5	19	18	13
Fez	19	24	19	42	18	Aden*	18	28	18	30	2
Lagos	19	5	19	9	4	Riyadh*	18	40	18	47	7
Algeria	18	58	19	18	20	Kuwait*	18	43	18	53	10
Tunisia	19	30	19	48	18	Manama*	18	27	18	34	7
Tripoli, Libya	19	9	19	25	16	Tehran*	19	12	19	25	13
Khartoum*	18	22	18	26	4	Doha*	18	22	18	29	7
Mogadishu*	18	11	18	8	-3	Abu Dhabi*	19	9	19	15	6
Ankara*	19	6	19	25	19	Dubai*	19	6	19	13	7
Amman*	18	36	18	49	13	Muscat*	18	50	18	56	6
Damascus*	18	38	18	51	13	Karachi*	19	19	19	24	5
Jazan*	18	44	18	48	4	Kuala Lumpur*	19	28	19	17	-11
Medina*	19	8	19	16	8	Jakarta*	17	55	17	39	-16

(2) In some Western capitals

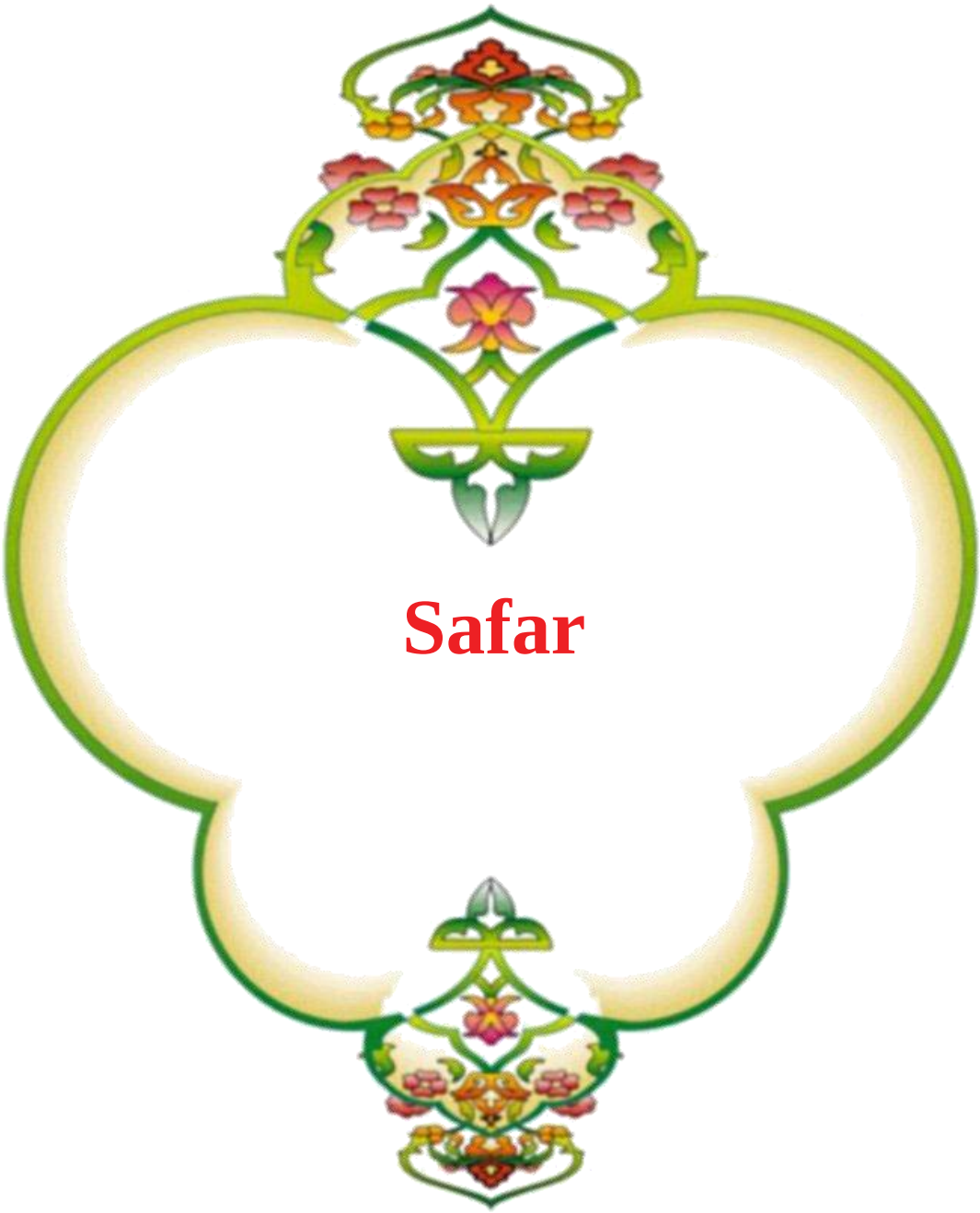
Washington	19	23	19	52	29	Cape Town*	18	4	17	44	-20
Ottawa	19	36	20	8	32	Brasilia	17	59	18	1	2
London	19	55	20	27	32	Santiago	18	1	17	56	-5
Moscow*	20	43	21	20	37	Lima	18	2	18	9	7

(D) Calender of Mohar'rum, 1444 A.H.

First day: Saturday, Jul 30, 2022, Epip 23, 1738 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday	1	30	23	8	06	30	15	13	7	22	20	14	29	27	21
Sunday	2	31	24	9	07	Mesori	16	14	8	23	21	15			
Monday	3	Aug	25	10	08	2	17	15	9	24	22	16			
Tuesday	4	02	26	11	09	3	18	16	10	25	23	17			
Wednesday	5	03	27	12	10	4	19	17	11	26	24	18			
Thursday	6	04	28	13	11	5	20	18	12	27	25	19			
Friday	7	05	29	14	12	6	21	19	13	28	26	20			

(*) Moon not new


Safar

Safar, 1444 A.H.
Crescent statement

- **Safar's crescent will be born after the conjunction that occurs on Saturday, 27/8/2022 A.D. (Sighting day) at 8 o'clock and 18 minutes a.m. (U.T.)**

On the sighting day (Saturday, 27/8/2022 A.D.):

- **The crescent will lag 21 minutes after sunset in Makkah.**
- **The crescent will lag 24 minutes after sunset in Cairo.**
- **Generally the crescent will lag (6 - 29 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Safar 1444 A.H. shall be adopted to be Sunday, 28/8/2022 A.D. according to the astronomical calculations.

Ephemeris of Safar, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Saturday August 27, 2022 8:18	Saturday September 3, 2022 18:09	Saturday September 10, 2022 10:00	Saturday September 17, 2022 21:53

First Day	Last Day	Length
Sunday August 28, 2022	Monday September 26, 2022	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)
	h	m	h	m	m		
Halayib	17	55	18	17	22	4.31	0.83 N
Toshka	18	14	18	37	23	4.26	0.68 N
Aswan	18	12	18	35	23	4.33	0.53 N
Qena	18	14	18	38	24	4.27	0.29 N
Al'kharga	18	23	18	47	24	4.34	0.31 N
Assiut	18	21	18	45	24	4.32	0.13 N
Sohag	18	18	18	42	24	4.38	0.23 N
Fayoum	18	24	18	49	25	4.40	0.11 S
Tur	18	12	18	36	24	4.32	0.08 N
Saint Catherine	18	11	18	35	24	4.30	0.05 N
Taba	18	9	18	33	24	4.34	0.02 S
Cairo	18	24	18	48	24	4.42	0.19 S
Tanta	18	25	18	50	25	4.37	0.27 S
Alexandria	18	30	18	55	25	4.52	0.35 S
Port Said	18	21	18	46	25	4.40	0.3 S
Salloum	18	49	19	15	26	4.49	0.51 S

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	25	18	52	27	Makkah	18	42	19	3	21
Nouakchott	18	22	18	49	27	Al-Quds	18	9	18	34	25
Marrakech	19	2	19	31	29	Baghdad	18	34	18	59	25
Fez	18	52	19	21	29	Aden	18	14	18	33	19
Lagos	18	56	19	18	22	Riyadh	18	17	18	39	22
Algeria	18	24	18	52	28	Kuwait	18	16	18	39	23
Tunisia	18	55	19	23	28	Manama	18	3	18	25	22
Tripoli, Libya	18	39	19	6	27	Tehran	18	39	19	3	24
Khartoum	18	6	18	27	21	Doha	17	58	18	20	22
Mogadishu	18	5	18	21	16	Abu Dhabi	18	46	19	7	21
Ankara	18	28	18	56	28	Dubai	18	43	19	4	21
Amman	18	7	18	31	24	Muscat	18	28	18	49	21
Damascus	18	7	18	32	25	Karachi	18	56	19	16	20
Jazan	18	27	18	47	20	Kuala Lumpur	19	20	19	30	10
Medina	18	45	19	8	23	Jakarta	17	54	18	0	6

(2) In some Western capitals

Washington	18	46	19	21	35	Cape Town	18	25	18	34	9
Ottawa	18	49	19	25	36	Brasilia	18	5	18	30	25
London	18	58	19	31	33	Santiago	18	22	18	46	24
Moscow	19	36	20	10	34	Lima	18	5	18	34	29

(D) Calender of Safar, 1444 A.H.

First day: Sunday, Aug 28, 2022, Mesori 22, 1738 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				7	03	28	14	10	5	21	17	7	28	24	14
Sunday	1	28	22	8	04	29	15	11	Thout	22	18	8	29	25	15
Monday	2	29	23	9	05	30	16	12	2	23	19	9	30	26	16
Tuesday	3	30	24	10	06	Nasi	17	13	3	24	20	10			
Wednesday	4	31	25	11	07	2	18	14	4	25	21	11			
Thursday	5	Sep	26	12	08	3	19	15	5	26	22	12			
Friday	6	02	27	13	09	4	20	16	6	27	23	13			

Rabee Al’awal

Rabee Al'awal, 1444 A.H.
Crescent statement

- **Rabee Al'awal's crescent will be born after the conjunction that occurs on Sunday, 25/9/2022 A.D. (Sighting day) at 9 o'clock and 56 minutes p.m. (U.T.)**

On the Sighting day (Sunday, 25/9/2022 A.D.):

- **In Cairo and in all 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 Arabic and Islamic countries despite the conjugation coming after sunset (it is negligible).**
- **Therefore, Monday, 26/9/2022 A.D. shall be adopted as the completing day of Safar, 1444 A.H.**

Consequently, the first day of Rabee Al'awal 1444 A.H. shall be adopted to be Tuesday, 27/9/2022 A.D. according to the astronomical calculations.

Ephemeris of Rabee Al'awal, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Sunday September 25, 2022 21:56	Monday October 3, 2022 0:15	Sunday October 9, 2022 20:56	Monday October 17, 2022 17:16

First Day	Last Day	Length
Tuesday September 27, 2022	Tuesday October 25, 2022	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)
	h	m	h	m	m		
Halayib	17	27	17	24	-3	Moon not new	Moon not new
Toshka	17	46	17	44	-2	Moon not new	Moon not new
Aswan	17	42	17	40	-2	Moon not new	Moon not new
Qena	17	42	17	41	-1	Moon not new	Moon not new
Al'kharga	17	52	17	51	-1	Moon not new	Moon not new
Assiut	17	49	17	48	-1	Moon not new	Moon not new
Sohag	17	46	17	46	Zero	Moon not new	Moon not new
Fayoum	17	50	17	50	Zero	Moon not new	Moon not new
Tur	17	39	17	38	-1	Moon not new	Moon not new
Saint Catherine	17	37	17	37	Zero	Moon not new	Moon not new
Taba	17	34	17	34	Zero	Moon not new	Moon not new
Cairo	17	48	17	49	1	Moon not new	Moon not new
Tanta	17	49	17	50	1	Moon not new	Moon not new
Alexandria	17	53	17	54	1	Moon not new	Moon not new
Port Said	17	44	17	45	1	Moon not new	Moon not new
Salloum	18	12	18	14	2	Moon not new	Moon not new

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar*	18	4	18	4	Zero	Makkah*	18	14	18	11	-3
Nouakchott*	17	57	17	59	2	Al-Quds*	17	32	17	33	1
Marrakech*	18	25	18	29	4	Baghdad*	17	55	17	56	1
Fez*	18	13	18	18	5	Aden*	17	54	17	47	-7
Lagos*	18	41	18	36	-5	Riyadh*	17	47	17	44	-3
Algeria*	17	41	17	46	5	Kuwait*	17	41	17	40	-1
Tunisia*	18	12	18	17	5	Manama*	17	31	17	28	-3
Tripoli, Libya*	18	0	18	3	3	Tehran*	17	57	17	59	2
Khartoum*	17	44	17	39	-5	Doha*	17	27	17	24	-3
Mogadishu*	17	53	17	43	-10	Abu Dhabi*	18	16	18	13	-3
Ankara*	17	41	17	46	5	Dubai*	18	12	18	9	-3
Amman*	17	29	17	30	1	Muscat*	17	59	17	55	-4
Damascus*	17	28	17	29	1	Karachi*	18	25	18	21	-4
Jazan*	18	4	17	58	-6	Kuala Lumpur*	19	8	18	51	-17
Medina*	18	15	18	13	-2	Jakarta*	17	48	17	27	-21

(2) In some Western capitals

Washington	18	0	18	12	12	Cape Town*	18	45	18	24	-21
Ottawa	17	55	18	8	13	Brasilia*	18	8	18	4	-4
London*	17	52	18	5	13	Santiago	18	41	18	35	-6
Moscow*	18	21	18	35	14	Lima	18	4	18	5	1

(D) Calender of Rabee Al'awal, 1444 A.H.

First day: Tuesday, Sep 27, 2022, Thout 17, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				5	Oct	21	12	08	28	19	15	5	26	22	12
Sunday				6	02	22	13	09	29	20	16	6	27	23	13
Monday				7	03	23	14	10	30	21	17	7	28	24	14
Tuesday	1	27	17	8	04	24	15	11	Paopi	22	18	8	29	25	15
Wednesday	2	28	18	9	05	25	16	12	2	23	19	9			
Thursday	3	29	19	10	06	26	17	13	3	24	20	10			
Friday	4	30	20	11	07	27	18	14	4	25	21	11			

(*) Moon not new

Rabee Al’akher

Rabee Al'akher, 1444 A.H.
Crescent statement

- **Rabee Al'akher's crescent will be born after the conjunction that occurs on Tuesday, 25/10/2022 A.D. (Sighting Day) at 10 o'clock and 50 minutes a.m. (U.T.)**

On the Sighting day (Tuesday, 25/10/2022 A.D.):

- **The crescent will lag 5 minutes after sunset in Makkah.**
- **The crescent will lag 6 minutes after sunset in Cairo.**
- **Generally the crescent will lag (2 - 13 minutes) after sunset in Arabic and Islamic countries.**
- **In Jakarta, the crescent will not be born yet at sunset.**
- **In Kuala Lumpur and Jakarta moonsets will occur 2 and 3 minutes before sunset respectively.**

Consequently, the first day of Rabee Al'akher 1444 A.H. shall be adopted to be Wednesday, 26/10/2022 A.D. according to the astronomical calculations.

Ephemeris of Rabee Al'akher, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Tuesday October 25, 2022 10:50	Tuesday November 1, 2022 6:38	Tuesday November 8, 2022 11:03	Wednesday November 16, 2022 13:28

First Day	Last Day	Length
Wednesday October 26, 2022	Thursday November 24, 2022	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)
	h	m	h	m	m		
Halayib	17	1	17	6	5	0.56	0.9 S
Toshka	17	20	17	26	6	0.62	1.03 S
Aswan	17	14	17	20	6	0.63	1.06 S
Qena	17	13	17	18	5	0.49	1.13 S
Al'kharga	17	23	17	29	6	0.47	1.18 S
Assiut	17	18	17	23	5	0.51	1.2 S
Sohag	17	16	17	22	6	0.43	1.18 S
Fayoum	17	17	17	22	5	0.46	1.27 S
Tur	17	7	17	12	5	0.44	1.17 S
Saint Catherine	17	5	17	10	5	0.49	1.17 S
Taba	17	0	17	6	6	0.31	1.17 S
Cairo	17	14	17	20	6	0.34	1.3 S
Tanta	17	14	17	20	6	0.36	1.32 S
Alexandria	17	18	17	24	6	0.30	1.37 S
Port Said	17	9	17	14	5	0.37	1.29 S
Salloum	17	37	17	43	6	0.54	1.51 S

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	17	44	17	57	13	Makkah	17	49	17	54	5
Nouakchott	17	35	17	47	12	Al-Quds	16	56	17	1	5
Marrakech	17	49	17	58	9	Baghdad	17	18	17	22	4
Fez	17	34	17	43	9	Aden	17	36	17	41	5
Lagos	18	28	18	39	11	Riyadh	17	18	17	23	5
Algeria	16	59	17	6	7	Kuwait	17	8	17	12	4
Tunisia	17	30	17	37	7	Manama	17	1	17	5	4
Tripoli, Libya	17	23	17	30	7	Tehran	17	17	17	20	3
Khartoum	17	23	17	30	7	Doha	16	58	17	2	4
Mogadishu	17	44	17	50	6	Abu Dhabi	17	48	17	51	3
Ankara	16	55	17	0	5	Dubai	17	43	17	47	4
Amman	16	53	16	58	5	Muscat	17	32	17	35	3
Damascus	16	50	16	55	5	Karachi	17	57	17	59	2
Jazan	17	42	17	48	6	Kuala Lumpur	18	58	18	56	-2
Medina	17	47	17	52	5	Jakarta*	17	46	17	43	-3

(2) In some Western capitals

Washington	17	16	17	29	13	Cape Town	19	8	19	19	11
Ottawa	17	1	17	12	11	Brasilia	18	13	18	34	21
London	16	47	16	52	5	Santiago	19	4	19	31	27
Moscow	17	5	17	7	2	Lima	18	6	18	31	25

(D) Calender of Rabee Al'akher, 1444 A.H.

First day: Wednesday, Oct 26, 2022, Paopi 16, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				4	29	19	11	05	26	18	12	3	25	19	10
Sunday				5	30	20	12	06	27	19	13	4	26	20	11
Monday				6	31	21	13	07	28	20	14	5	27	21	12
Tuesday				7	Nov	22	14	08	29	21	15	6	28	22	13
Wednesday	1	26	16	8	02	23	15	09	30	22	16	7	29	23	14
Thursday	2	27	17	9	03	24	16	10	Hathor	23	17	8	30	24	15
Friday	3	28	18	10	04	25	17	11	2	24	18	9			

(*) Moon not new

Jumade Al’oula

Jumada Al'oula, 1444 A.H.
Crescent statement

- **Jumada Al'oula's crescent will be born after the conjunction that occurs on Wednesday, 23/11/2022 A.D. (Sighting day) at 10 o'clock and 58 minutes p.m. (U.T.)**

On the Sighting day (Wednesday, 23/11/2022 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 26 minutes.**
- **In Arabic and Islamic countries, moonset will occur before sunset by (18 - 35 minutes).**
- **Therefore, Thursday, 24/11/2022 A.D. shall be adopted as the completing day of Rabee Al'akher, 1444 A.H.**

Consequently, the first day of Jumada Al'oula 1444 A.H. shall be adopted to be Friday, 25/11/2022 A.D. according to the astronomical calculations.

Ephemeris of Jumade Al'oula, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Wednesday	**Wednesday**	**Thursday**	**Friday**
November 23, 2022	**November 30, 2022**	**December 8, 2022**	**December 16, 2022**
22:58	**14:38**	**4:09**	**8:57**

First Day	Last Day	Length
Friday **November 25, 2022**	**Saturday** **December 24, 2022**	**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)
	h	m	h	m	m		
Halayib	16	49	16	23	-26	Moon not new	Moon not new
Toshka	17	7	16	42	-25	Moon not new	Moon not new
Aswan	17	0	16	35	-25	Moon not new	Moon not new
Qena	16	57	16	31	-26	Moon not new	Moon not new
Al'kharga	17	9	16	43	-26	Moon not new	Moon not new
Assiut	17	2	16	36	-26	Moon not new	Moon not new
Sohag	17	1	16	35	-26	Moon not new	Moon not new
Fayoum	16	59	16	33	-26	Moon not new	Moon not new
Tur	16	50	16	24	-26	Moon not new	Moon not new
Saint Catherine	16	48	16	22	-26	Moon not new	Moon not new
Taba	16	42	16	16	-26	Moon not new	Moon not new
Cairo	16	56	16	30	-26	Moon not new	Moon not new
Tanta	16	55	16	29	-26	Moon not new	Moon not new
Alexandria	16	59	16	32	-27	Moon not new	Moon not new
Port Said	16	49	16	23	-26	Moon not new	Moon not new
Salloum	17	17	16	51	-26	Moon not new	Moon not new

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar*	17	38	17	20	-18	Makkah*	17	37	17	11	-26
Nouakchott*	17	26	17	8	-18	Al-Quds*	16	36	16	10	-26
Marrakech*	17	30	17	8	-22	Baghdad*	16	56	16	28	-28
Fez*	17	13	16	50	-23	Aden*	17	31	17	4	-27
Lagos*	18	26	18	7	-19	Riyadh*	17	4	16	37	-27
Algeria*	16	34	16	10	-24	Kuwait*	16	50	16	22	-28
Tunisia*	17	6	16	41	-25	Manama*	16	46	16	18	-28
Tripoli, Libya*	17	2	16	38	-24	Tehran*	16	53	16	24	-29
Khartoum*	17	16	16	51	-25	Doha*	16	44	16	16	-28
Mogadishu*	17	46	17	20	-26	Abu Dhabi*	17	34	17	5	-29
Ankara*	16	27	15	59	-28	Dubai*	17	29	17	0	-29
Amman*	16	33	16	6	-27	Muscat*	17	18	16	49	-29
Damascus*	16	28	16	1	-27	Karachi*	17	42	17	12	-30
Jazan*	17	34	17	8	-26	Kuala Lumpur*	18	58	18	24	-34
Medina*	17	33	17	6	-27	Jakarta*	17	52	17	17	-35

(2) In some Western capitals

Washington*	16	49	16	33	-16	Cape Town*	19	35	19	17	-18
Ottawa*	16	26	16	7	-19	Brasilia*	18	26	18	18	-8
London*	16	2	15	34	-28	Santiago	19	31	19	31	Zero
Moscow*	16	11	15	38	-33	Lima	18	17	18	13	-4

(D) Calender of Jumade Al'oula, 1444 A.H.

First day: Friday, Nov 25, 2022, Hathor 16, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday	30	24	15	2	26	17	9	03	24	16	10	Koiak	23	17	8
Sunday				3	27	18	10	04	25	17	11	2	24	18	9
Monday				4	28	19	11	05	26	18	12	3	25	19	10
Tuesday				5	29	20	12	06	27	19	13	4	26	20	11
Wednesday				6	30	21	13	07	28	20	14	5	27	21	12
Thursday				7	Dec	22	14	08	29	21	15	6	28	22	13
Friday	1	25	16	8	02	23	15	09	30	22	16	7	29	23	14

(*) Moon not new

Jumade Al’akhera

Jumada Al'akhera, 1444 A.H.
Crescent statement

- **Jumada Al'akhera's crescent will be born after the conjunction that occurs on Friday, 23/12/2022 A.D. (Sighting day) at 10 o'clock and 18 minutes a.m. (U.T.)**

On the Sighting day (Friday, 23/12/2022 A.D.):

- **In almost Arabic and Islamic countries, the crescent will be set before sunset on that day.**
- **In Makkah, moonset will occur before sunset by one minute.**
- **In Cairo, moonset will occur before sunset by 4 minutes.**
- **Therefore, Saturday, 24/12/2022 A.D. shall be adopted as the completing day of Jumada Al'oula, 1444 A.H.**

Consequently, the first day of Jumada Al'akhera 1444 A.H. shall be adopted to be Sunday, 25/12/2022 A.D. according to the astronomical calculations.

Ephemeris of Jumade Al'akhera, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Friday December 23, 2022 10:18	Friday December 30, 2022 1:22	Friday January 6, 2023 23:09	Sunday January 15, 2023 2:11

First Day	Last Day	Length
Sunday December 25, 2022	Sunday January 22, 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)
	h	m	h	m	m		
Halayib	16	56	16	55	-1	Crescent below the horizon	
Toshka	17	14	17	14	Zero	Moonset with sunset	
Aswan	17	7	17	6	-1	Crescent below the horizon	
Qena	17	3	17	1	-2	Crescent below the horizon	
Al'kharga	17	15	17	13	-2	Crescent below the horizon	
Assiut	17	7	17	5	-2	Crescent below the horizon	
Sohag	17	6	17	4	-2	Crescent below the horizon	
Fayoum	17	4	17	0	-4	Crescent below the horizon	
Tur	16	55	16	51	-4	Crescent below the horizon	
Saint Catherine	16	53	16	49	-4	Crescent below the horizon	
Taba	16	47	16	42	-5	Crescent below the horizon	
Cairo	17	0	16	56	-4	Crescent below the horizon	
Tanta	17	0	16	55	-5	Crescent below the horizon	
Alexandria	17	3	16	58	-5	Crescent below the horizon	
Port Said	16	53	16	48	-5	Crescent below the horizon	
Salloum	17	21	17	17	-4	Crescent below the horizon	

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	17	47	18	0	13	Makkah	17	45	17	44	-1
Nouakchott	17	34	17	46	12	Al-Quds	16	40	16	34	-6
Marrakech	17	34	17	35	1	Baghdad	17	0	16	50	-10
Fez	17	16	17	15	-1	Aden	17	40	17	43	3
Lagos	18	38	18	51	13	Riyadh	17	11	17	7	-4
Algeria	16	36	16	31	-5	Kuwait	16	55	16	48	-7
Tunisia	17	8	17	1	-7	Manama	16	51	16	46	-5
Tripoli, Libya	17	6	17	2	-4	Tehran	16	56	16	43	-13
Khartoum	17	25	17	29	4	Doha	16	50	16	45	-5
Mogadishu	17	58	18	6	8	Abu Dhabi	17	40	17	35	-5
Ankara	16	28	16	14	-14	Dubai	17	35	17	29	-6
Amman	16	37	16	30	-7	Muscat	17	25	17	20	-5
Damascus	16	32	16	24	-8	Karachi	17	49	17	41	-8
Jazan	17	42	17	44	2	Kuala Lumpur	19	10	19	7	-3
Medina	17	39	17	37	-2	Jakarta	18	6	18	6	Zero

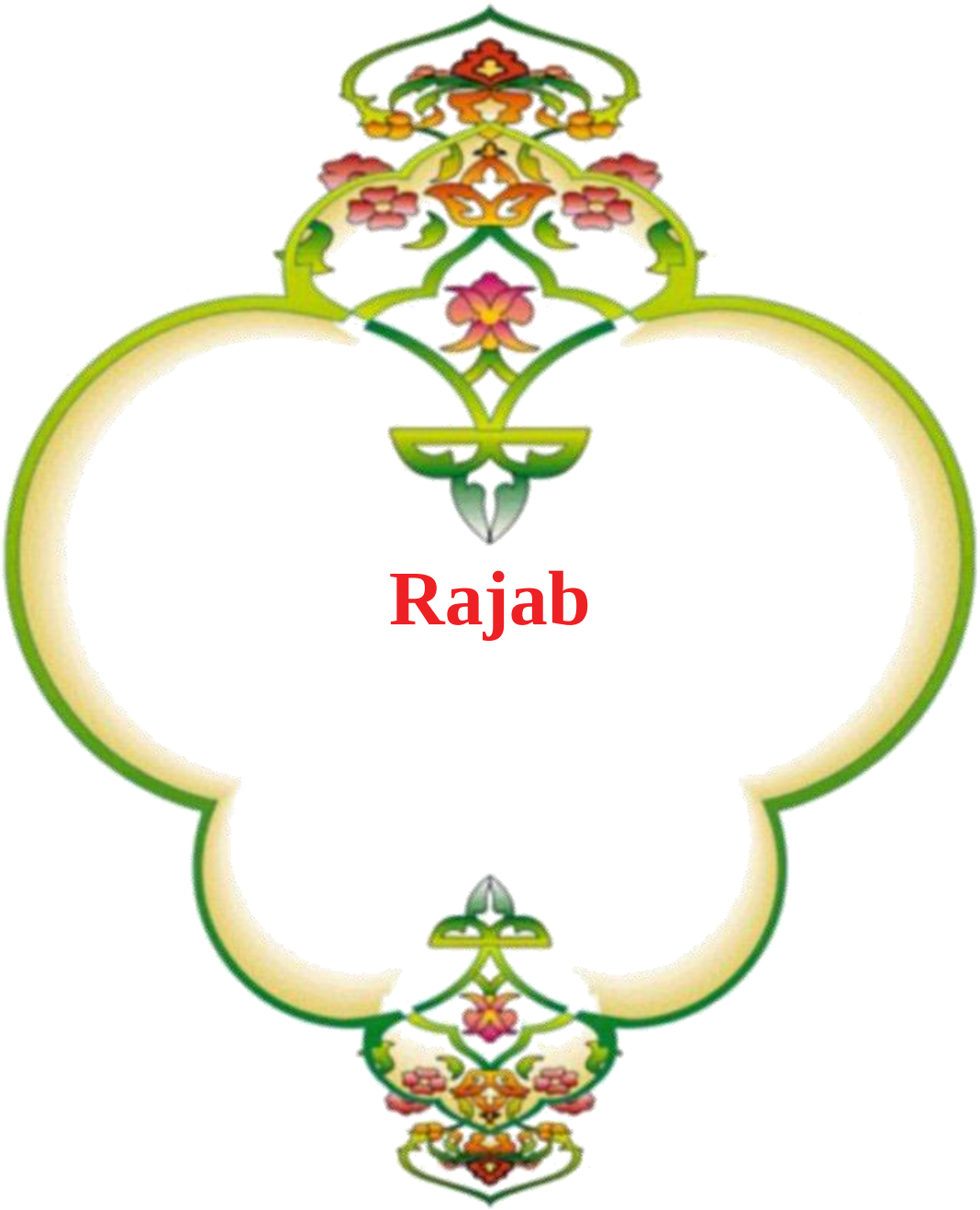
(2) In some Western capitals

Washington	16	50	16	58	8	Cape Town	19	58	20	28	30
Ottawa	16	23	16	23	Zero	Brasilia	18	43	19	16	33
London	15	55	15	29	-26	Santiago	19	53	20	39	46
Moscow	15	58	15	14	-44	Lima	18	32	19	9	37

(D) Calender of Jumade Al'akhera, 1444 A.H.

First day: Sunday, Dec 25, 2022, Koiak 16, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				7	31	22	14	07	29	21	14	6	28	21	13
Sunday	1	25	16	8	Jan	23	15	08	30	22	15	7	29	22	14
Monday	2	26	17	9	02	24	16	09	Tobi	23	16	8			
Tuesday	3	27	18	10	03	25	17	10	2	24	17	9			
Wednesday	4	28	19	11	04	26	18	11	3	25	18	10			
Thursday	5	29	20	12	05	27	19	12	4	26	19	11			
Friday	6	30	21	13	06	28	20	13	5	27	20	12			


Rajab

Rajab crescent, 1444 A.H.
Crescent statement

- **Rajab's crescent will be born after the conjunction that occurs on Saturday, 21/1/2023 A.D. (The previous day of Sighting Day) at 8 o'clock and 54 minutes p.m. (U.T.)**

On the Sighting day (Sunday, 22/1/2023 A.D.):

- **The crescent will lag 44 minutes after sunset in Makkah.**
- **The crescent will lag 43 minutes after sunset in Cairo.**
- **Generally the crescent will lag (36 - 56 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Rajab 1444 A.H. shall be adopted to be Monday, 23/1/2023 A.D. according to the astronomical calculations.

Ephemeris of Rajab, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Saturday January 21, 2023 20:54	Saturday January 28, 2023 15:20	Sunday February 5, 2023 18:30	Monday February 13, 2023 16:02

First Day	Last Day	Length
Monday January 23, 2023	Monday February 20, 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)
	h	m	h	m	m		
Halayib	17	15	18	0	45	8.04	6.95 S
Toshka	17	34	18	19	45	8.30	7.04 S
Aswan	17	27	18	12	45	7.87	7.31 S
Qena	17	24	18	8	44	7.58	7.68 S
Al'kharga	17	35	18	20	45	7.81	7.58 S
Assiut	17	29	18	12	43	7.53	7.87 S
Sohag	17	28	18	12	44	7.63	7.75 S
Fayoum	17	26	18	9	43	7.09	8.22 S
Tur	17	17	18	0	43	7.32	8.02 S
Saint Catherine	17	15	17	58	43	7.27	8.06 S
Taba	17	10	17	52	42	7.00	8.2 S
Cairo	17	23	18	6	43	6.94	8.32 S
Tanta	17	23	18	5	42	6.93	8.45 S
Alexandria	17	26	18	9	43	6.95	8.54 S
Port Said	17	16	17	59	43	6.77	8.51 S
Salloum	17	44	18	28	44	6.99	8.65 S

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	4	19	0	56	Makkah	18	4	18	48	44
Nouakchott	17	52	18	48	56	Al-Quds	17	4	17	45	41
Marrakech	17	57	18	47	50	Baghdad	17	24	18	3	39
Fez	17	40	18	29	49	Aden	17	56	18	42	46
Lagos	18	52	19	46	54	Riyadh	17	31	18	13	42
Algeria	17	2	17	48	46	Kuwait	17	17	17	57	40
Tunisia	17	33	18	18	45	Manama	17	13	17	53	40
Tripoli, Libya	17	30	18	15	45	Tehran	17	21	17	57	36
Khartoum	17	42	18	29	47	Doha	17	10	17	51	41
Mogadishu	18	11	18	59	48	Abu Dhabi	18	1	18	41	40
Ankara	16	55	17	33	38	Dubai	17	55	18	35	40
Amman	17	0	17	41	41	Muscat	17	45	18	25	40
Damascus	16	56	17	36	40	Karachi	18	9	18	47	38
Jazan	18	0	18	45	45	Kuala Lumpur	19	24	20	2	38
Medina	18	0	18	43	43	Jakarta	18	17	18	56	39

(2) In some Western capitals

Washington	17	18	18	20	62	Cape Town	19	58	20	56	58
Ottawa	16	55	17	55	60	Brasilia	18	50	19	55	65
London	16	32	17	9	37	Santiago	19	53	21	2	69
Moscow	16	41	17	3	22	Lima	18	41	19	50	69

(D) Calender of Rajab, 1444 A.H.

First day: Monday, Jan 23, 2023, Tobi 15, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				6	28	20	13	04	27	20	11	4	27	18	11
Sunday				7	29	21	14	05	28	21	12	5	28	19	12
Monday	1	23	15	8	30	22	15	06	29	22	13	6	29	20	13
Tuesday	2	24	16	9	31	23	16	07	30	23	14	7			
Wednesday	3	25	17	10	Feb	24	17	08	Meshir	24	15	8			
Thursday	4	26	18	11	02	25	18	09	2	25	16	9			
Friday	5	27	19	12	03	26	19	10	3	26	17	10			

Sha’aban

Sha'aban, 1444 A.H.
Crescent statement

- **Sha'aban's crescent will be born after the conjunction that occurs on Monday, 20/2/2023 A.D. (Sighting Day) at 7 o'clock and 7 minutes a.m. (U.T.)**

On the Sighting day (Monday, 20/2/2023 A.D.):

- **The crescent will lag 17 minutes after sunset in Makkah and Cairo.**
- **Generally the crescent will lag (11 - 29 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Sha'aban 1444 A.H. shall be adopted to be Tuesday, 21/2/2023 A.D. according to the astronomical calculations.

Ephemeris of Sha'aban, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Monday February 20, 2023 7:07	Monday February 27, 2023 8:07	Tuesday March 7, 2023 12:42	Wednesday March 15, 2023 2:09

First Day	Last Day	Length
Tuesday February 21, 2023	Wednesday March 22, 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)
	h	m	h	m	m		
Halayib	17	33	17	51	18	3.13	4.5 S
Toshka	17	52	18	10	18	3.26	4.52 S
Aswan	17	46	18	4	18	2.97	4.65 S
Qena	17	45	18	2	17	2.96	4.83 S
Al'kharga	17	55	18	14	19	3.02	4.77 S
Assiut	17	50	18	8	18	2.75	4.92 S
Sohag	17	49	18	6	17	2.90	4.87 S
Fayoum	17	49	18	6	17	2.62	5.08 S
Tur	17	39	17	56	17	2.60	4.99 S
Saint Catherine	17	38	17	54	16	2.63	5.02 S
Taba	17	33	17	49	16	2.38	5.08 S
Cairo	17	47	18	4	17	2.46	5.14 S
Tanta	17	47	18	4	17	2.45	5.19 S
Alexandria	17	51	18	8	17	2.40	5.23 S
Port Said	17	42	17	58	16	2.41	5.23 S
Salloum	18	10	18	27	17	2.52	5.28 S

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	16	18	45	29	Makkah	18	21	18	38	17
Nouakchott	18	7	18	35	28	Al-Quds	17	30	17	45	15
Marrakech	18	23	18	46	23	Baghdad	17	51	18	4	13
Fez	18	8	18	31	23	Aden	18	7	18	26	19
Lagos	18	58	19	25	27	Riyadh	17	50	18	6	16
Algeria	17	33	17	53	20	Kuwait	17	41	17	54	13
Tunisia	18	4	18	23	19	Manama	17	33	17	47	14
Tripoli, Libya	17	56	18	16	20	Tehran	17	50	18	1	11
Khartoum	17	55	18	15	20	Doha	17	30	17	45	15
Mogadishu	18	14	18	35	21	Abu Dhabi	18	20	18	34	14
Ankara	17	30	17	42	12	Dubai	18	15	18	29	14
Amman	17	26	17	41	15	Muscat	18	4	18	17	13
Damascus	17	23	17	38	15	Karachi	18	29	18	40	11
Jazan	18	14	18	32	18	Kuala Lumpur	19	28	19	40	12
Medina	18	19	18	36	17	Jakarta	18	15	18	29	14

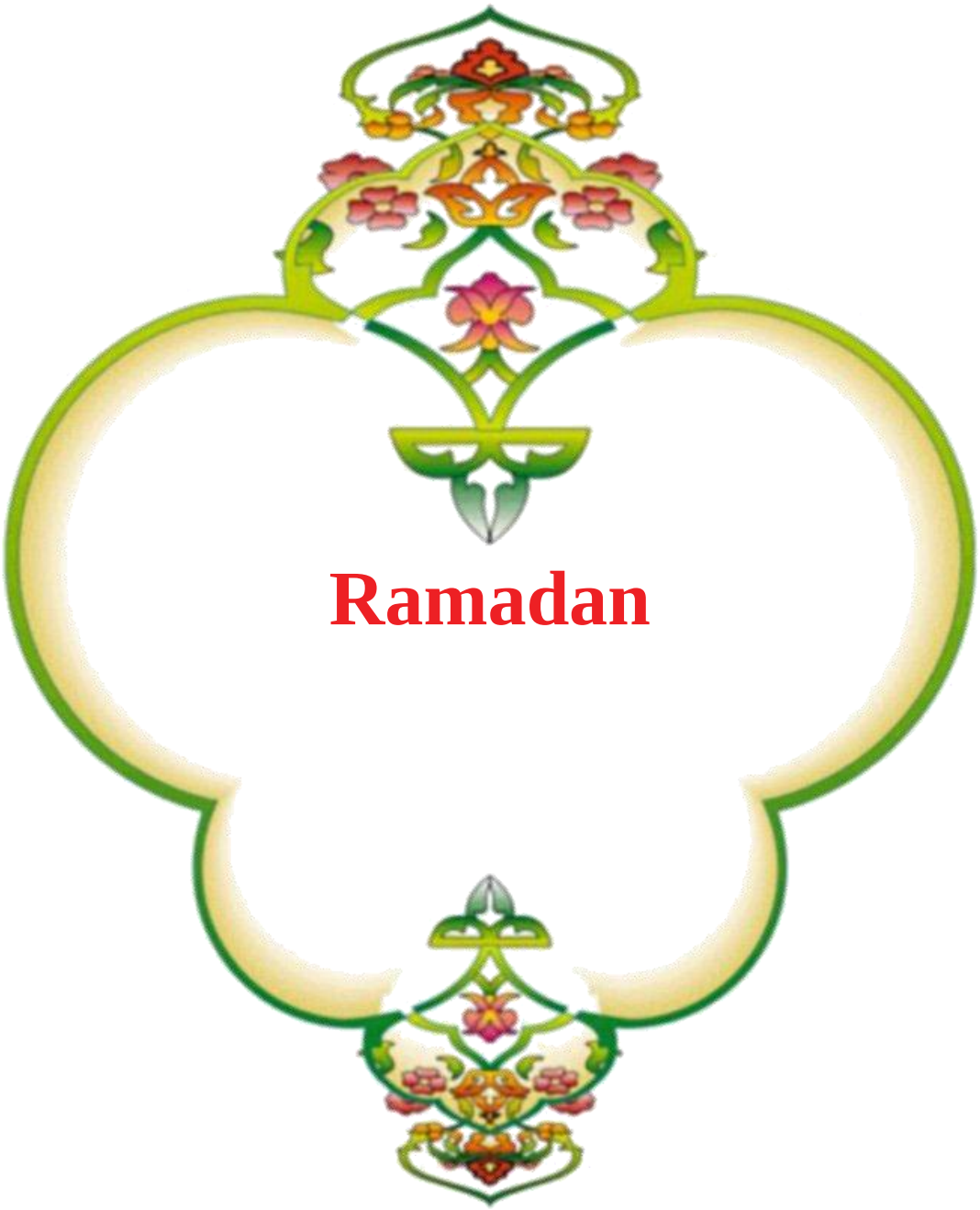
(2) In some Western capitals

Washington	17	51	18	27	36	Cape Town	19	34	20	4	30
Ottawa	17	37	18	12	35	Brasilia	18	41	19	17	36
London	17	24	17	38	14	Santiago	19	29	20	8	39
Moscow	17	44	17	44	Zero	Lima	18	35	19	14	39

(D) Calender of Sha'aban, 1444 A.H.

First day: Tuesday, Feb 21, 2023, Meshir 14, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				5	25	18	12	04	25	19	11	2	26	18	9
Sunday				6	26	19	13	05	26	20	12	3	27	19	10
Monday				7	27	20	14	06	27	21	13	4	28	20	11
Tuesday	1	21	14	8	28	21	15	07	28	22	14	5	29	21	12
Wednesday	2	22	15	9	Mar	22	16	08	29	23	15	6	30	22	13
Thursday	3	23	16	10	02	23	17	09	30	24	16	7			
Friday	4	24	17	11	03	24	18	10	Paremha	25	17	8			



Ramadan

Ramadan, 1444 A.H.
Crescent statement

- **Ramadan's crescent will be born after the conjunction that occurs on Tuesday, 21/3/2023 A.D. (Sighting day) at 5 o'clock and 24 minutes p.m. (U.T.)**

On the Sighting day (Tuesday, 21/3/2023 A.D.):

- **In almost Arabic and Islamic countries, the crescent will not be born yet at sunset on that day.**
- **Moonset will occur 9 minutes before sunset in Makkah.**
- **Moonset will occur 10 minutes before sunset in Cairo.**
- **Therefore, Wednesday, 22/3/2023 A.D. shall be adopted as the completing day of Sha'aban, 1444 A.H.**

Consequently, the first day of Ramadan 1444 A.H. shall be adopted to be Thursday, 23/3/2023 A.D. according to the astronomical calculations.

Ephemeris of Ramadan, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Tuesday March 21, 2023 17:24	Wednesday March 29, 2023 2:34	Thursday April 6, 2023 4:36	Thursday April 13, 2023 9:13

First Day	Last Day	Length
Thursday March 23, 2023	Thursday April 20, 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)
	h	m	h	m	m		
Halayib	17	45	17	36	-9	Moon not new	Moon not new
Toshka	18	4	17	56	-8	Moon not new	Moon not new
Aswan	18	0	17	51	-9	Moon not new	Moon not new
Qena	18	1	17	52	-9	Moon not new	Moon not new
Al'kharga	18	10	18	2	-8	Moon not new	Moon not new
Assiut	18	7	17	58	-9	Moon not new	Moon not new
Sohag	18	5	17	56	-9	Moon not new	Moon not new
Fayoum	18	8	17	59	-9	Moon not new	Moon not new
Tur	17	57	17	47	-10	Moon not new	Moon not new
Saint Catherine	17	56	17	46	-10	Moon not new	Moon not new
Taba	17	52	17	42	-10	Moon not new	Moon not new
Cairo	18	7	17	57	-10	Moon not new	Moon not new
Tanta	18	8	17	58	-10	Moon not new	Moon not new
Alexandria	18	12	18	2	-10	Moon not new	Moon not new
Port Said	18	3	17	52	-11	Moon not new	Moon not new
Salloum	18	31	18	22	-9	Moon not new	Moon not new

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	21	18	23	2	Makkah*	18	32	18	23	-9
Nouakchott	18	15	18	16	1	Al-Quds*	17	51	17	40	-11
Marrakech	18	44	18	41	-3	Baghdad*	18	14	18	1	-13
Fez	18	32	18	28	-4	Aden*	18	11	18	4	-7
Lagos	18	57	18	57	Zero	Riyadh*	18	5	17	54	-11
Algeria*	18	0	17	53	-7	Kuwait*	18	0	17	47	-13
Tunisia	18	32	18	23	-9	Manama*	17	49	17	37	-12
Tripoli, Libya*	18	19	18	12	-7	Tehran*	18	16	18	0	-16
Khartoum*	18	1	17	55	-6	Doha*	17	45	17	33	-12
Mogadishu*	18	9	18	5	-4	Abu Dhabi*	18	34	18	22	-12
Ankara*	18	1	17	47	-14	Dubai*	18	30	18	18	-12
Amman*	17	48	17	36	-12	Muscat*	18	17	18	4	-13
Damascus*	17	47	17	35	-12	Karachi*	18	43	18	29	-14
Jazan*	18	21	18	13	-8	Kuala Lumpur*	19	24	19	11	-13
Medina*	18	33	18	23	-10	Jakarta*	18	3	17	53	-10

(2) In some Western capitals

Washington	18	21	18	29	8	Cape Town*	18	56	19	3	7
Ottawa	18	16	18	23	7	Brasilia	18	21	18	32	11
London	18	15	18	2	-13	Santiago	18	53	19	7	14
Moscow*	18	44	18	19	-25	Lima	18	18	18	32	14

(D) Calender of Ramadan, 1444 A.H.

First day: Thursday, Mar 23, 2023, Paremhat 14, 1739 Coptic

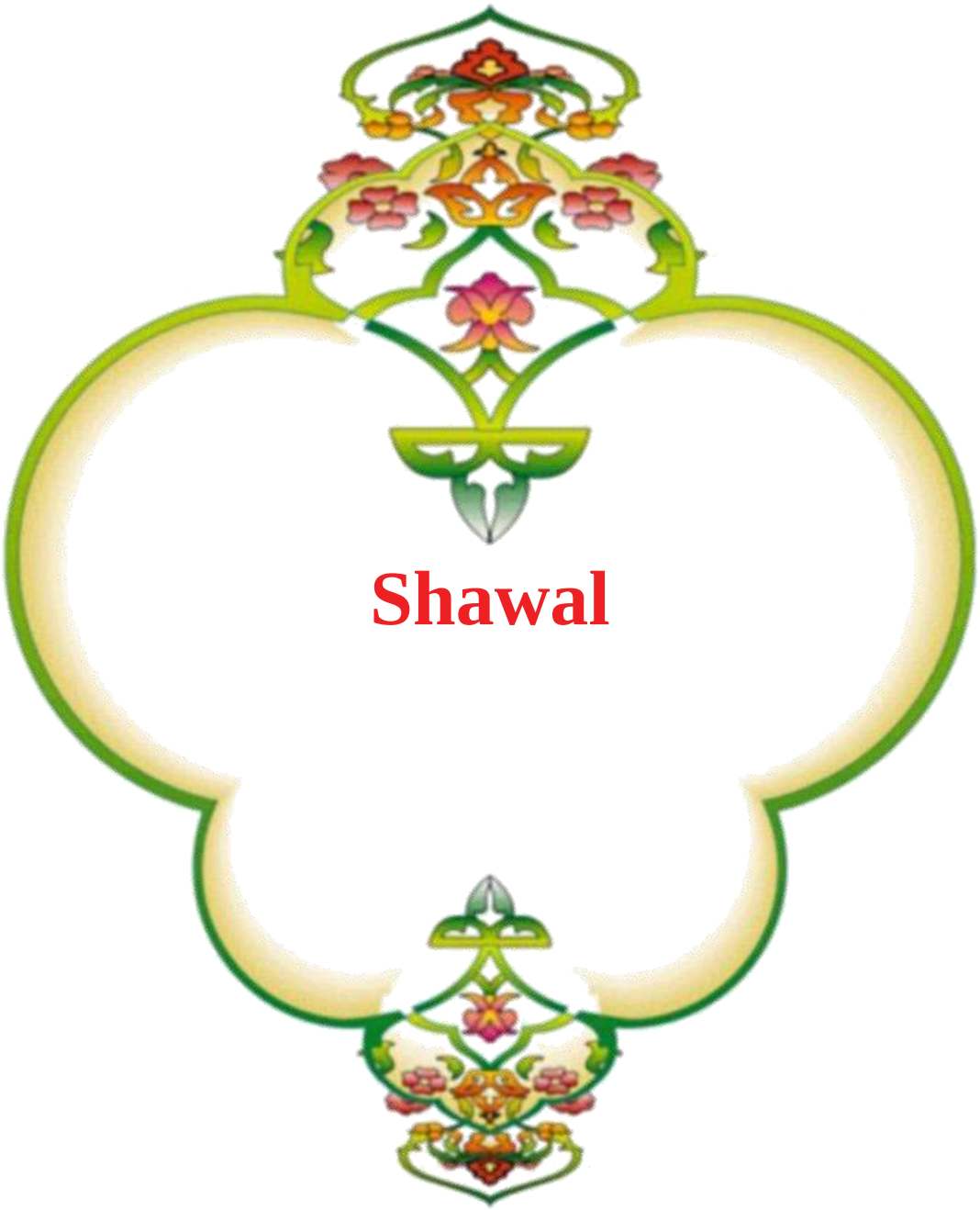
Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				3	25	16	10	Apr	23	17	08	30	24	15	7
Sunday				4	26	17	11	02	24	18	09	Parmouti	25	16	8
Monday				5	27	18	12	03	25	19	10	2	26	17	9
Tuesday				6	28	19	13	04	26	20	11	3	27	18	10
Wednesday				7	29	20	14	05	27	21	12	4	28	19	11
Thursday	1	23	14	8	30	21	15	06	28	22	13	5	29	20	12
Friday	2	24	15	9	31	22	16	07	29	23	14	6			

(*) Moon not new

Ramadan's Prayer times 1444 AH, March / April 2023 AD
Cairo, Egypt

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

Eid al-Fitr will be held on (Friday, 21/4/2023 AD) and its prayer will be in Cairo at 5:47 AM.


Shawal

Shawal, 1444 A.H.
Crescent statement

- **Shawal's crescent will be born after the conjunction that occurs on Thursday, 20/4/2023 A.D. (Sighting Day) at 4 o'clock and 14 minutes a.m. (U.T.)**

On the Sighting day (Thursday, 20/4/2023 A.D.):

- **The crescent will lag 23 minutes after sunset in Makkah.**
- **The crescent will lag 27 minutes after sunset in Cairo.**
- **Generally the crescent lags (10 - 35 minutes) after sunset in almost Arabic and Islamic countries.**

Consequently, the first day of Shawal (Eid al-Fitr) 1444 A.H. shall be adopted to be Friday, 21/4/2023 A.D. according to the astronomical calculations.

Ephemeris of Shawal, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Thursday April 20, 2023 4:14	Thursday April 27, 2023 21:21	Friday May 5, 2023 17:35	Friday May 12, 2023 14:29

First Day	Last Day	Length
Friday April 21, 2023	Saturday May 20, 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)
	h	m	h	m	m		
Halayib	17	55	18	19	24	4.46	0.02 S
Toshka	18	15	18	40	25	4.71	0.05 S
Aswan	18	12	18	37	25	4.58	0.23 S
Qena	18	15	18	41	26	4.78	0.46 S
Al'kharga	18	24	18	50	26	4.66	0.39 S
Assiut	18	22	18	49	27	4.67	0.59 S
Sohag	18	19	18	46	27	4.70	0.51 S
Fayoum	18	26	18	53	27	4.81	0.83 S
Tur	18	14	18	40	26	4.65	0.7 S
Saint Catherine	18	13	18	39	26	4.64	0.74 S
Taba	18	10	18	36	26	4.68	0.84 S
Cairo	18	25	18	52	27	4.64	0.92 S
Tanta	18	27	18	54	27	4.81	1 S
Alexandria	18	32	18	59	27	4.79	1.06 S
Port Said	18	22	18	50	28	4.63	1.06 S
Salloum	18	51	19	20	29	4.85	1.11 S

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	25	18	56	31	Makkah	18	42	19	5	23
Nouakchott	18	22	18	53	31	Al-Quds	18	11	18	38	27
Marrakech	19	4	19	39	35	Baghdad	18	36	19	2	26
Fez	18	55	19	30	35	Aden	18	13	18	34	21
Lagos	18	54	19	19	25	Riyadh	18	17	18	41	24
Algeria	18	27	19	1	34	Kuwait	18	17	18	41	24
Tunisia	18	58	19	31	33	Manama	18	3	18	26	23
Tripoli, Libya	18	41	19	12	31	Tehran	18	41	19	6	25
Khartoum	18	5	18	29	24	Doha	17	59	18	21	22
Mogadishu	18	3	18	21	18	Abu Dhabi	18	47	19	8	21
Ankara	18	32	19	1	29	Dubai	18	44	19	5	21
Amman	18	8	18	35	27	Muscat	18	29	18	50	21
Damascus	18	9	18	36	27	Karachi	18	56	19	16	20
Jazan	18	27	18	49	22	Kuala Lumpur	19	18	19	29	11
Medina	18	46	19	10	24	Jakarta	17	50	18	0	10

(2) In some Western capitals

Washington	18	50	19	40	50	Cape Town	18	17	18	30	13
Ottawa	18	55	19	49	54	Brasilia	18	0	18	26	26
London	19	5	19	47	42	Santiago	18	14	18	36	22
Moscow	19	45	20	21	36	Lima	18	0	18	31	31

(D) Calender of Shawal, 1444 A.H.

First day: Friday, Apr 21, 2023, Parmouti 13, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday	30	20	12	2	22	14	9	29	21	16	06	28	23	13	5
Sunday				3	23	15	10	30	22	17	07	29	24	14	6
Monday				4	24	16	11	May	23	18	08	30	25	15	7
Tuesday				5	25	17	12	02	24	19	09	Pashons	26	16	8
Wednesday				6	26	18	13	03	25	20	10	2	27	17	9
Thursday				7	27	19	14	04	26	21	11	3	28	18	10
Friday	1	21	13	8	28	20	15	05	27	22	12	4	29	19	11

Zul’kada

Zul'kada, 1444 A.H.
Crescent statement

- **Zul'kada's crescent will be born after the conjunction that occurs on Friday, 19/5/2023 A.D. (Sighting day) at 3 o'clock and 54 minutes p.m. (U.T.)**
- **On the Sighting day (Friday, 19/5/2023 A.D.):**
- **In almost Arabic and Islamic countries, the crescent will be set before sunset on that day.**
- **Moonset will occur three minutes before sunset in Makkah.**
- **The crescent will lag one minute after sunset in Cairo.**
- **Therefore, Saturday, 20/5/2023A.D. shall be adopted as the completing day of Shawal, 1444 A.H.**

Consequently, the first day of Zul'kada, 1444 A.H. shall be adopted to be Sunday, 21/5/2023 A.D. according to the astronomical calculations.

Ephemeris of Zul'kada, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Friday	**Saturday**	**Sunday**	**Saturday**
May 19, 2023	**May 27, 2023**	**June 4, 2023**	**June 10, 2023**
15:54	**15:23**	**3:43**	**19:33**

First Day	Last Day	Length
Sunday **May 21, 2023**	**Sunday** **June 18, 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)
	h	m	h	m	m		
Halayib	18	8	18	6	-2	Crescent below the horizon	
Toshka	18	27	18	26	-1	Crescent below the horizon	
Aswan	18	26	18	25	-1	Crescent below the horizon	
Qena	18	30	18	30	Zero	Moonset with sunset	
Al'kharga	18	39	18	39	Zero	Moonset with sunset	
Assiut	18	38	18	39	1	0.16	1.939 N
Sohag	18	35	18	35	Zero	Moonset with sunset	
Fayoum	18	44	18	45	1	0.14	1.954 N
Tur	18	31	18	31	Zero	Moonset with sunset	
Saint Catherine	18	30	18	30	Zero	Moonset with sunset	
Taba	18	28	18	28	Zero	Moonset with sunset	
Cairo	18	44	18	45	1	0.16	1.939 N
Tanta	18	46	18	48	2	0.20	1.917 N
Alexandria	18	51	18	53	2	0.25	1.896 N
Port Said	18	42	18	43	1	0.19	1.916 N
Salloum	19	11	19	14	3	0.40	1.842 N

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	32	18	37	5	Makkah	18	54	18	51	-3
Nouakchott	18	31	18	36	5	Al-Quds	18	31	18	32	1
Marrakech	19	24	19	32	8	Baghdad	18	58	18	58	Zero
Fez	19	17	19	26	9	Aden*	18	19	18	13	-6
Lagos	18	56	18	55	-1	Riyadh*	18	32	18	28	-4
Algeria	18	52	19	0	8	Kuwait*	18	35	18	33	-2
Tunisia	19	23	19	30	7	Manama*	18	19	18	15	-4
Tripoli, Libya	19	2	19	7	5	Tehran*	19	5	19	4	-1
Khartoum	18	13	18	10	-3	Doha*	18	13	18	10	-3
Mogadishu*	18	2	17	54	-8	Abu Dhabi*	19	1	18	56	-5
Ankara	19	0	19	4	4	Dubai*	18	58	18	54	-4
Amman	18	29	18	30	1	Muscat*	18	42	18	37	-5
Damascus	18	31	18	32	1	Karachi*	19	11	19	4	-7
Jazan*	18	35	18	31	-4	Kuala Lumpur*	19	18	19	2	-16
Medina	19	0	18	58	-2	Jakarta*	17	44	17	26	-18

(2) In some Western capitals

Washington	19	17	19	41	24	Cape Town*	17	51	17	37	-14
Ottawa	19	31	19	59	28	Brasilia	17	48	17	48	Zero
London	19	51	20	9	18	Santiago	17	48	17	44	-4
Moscow	20	41	20	54	13	Lima	17	51	17	56	5

(D) Calender of Zul'kada, 1444 A.H.

First day: Sunday, May 21, 2023, Pashons 13, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				7	27	19	14	03	26	21	10	3	28	17	10
Sunday	1	21	13	8	28	20	15	04	27	22	11	4	29	18	11
Monday	2	22	14	9	29	21	16	05	28	23	12	5			
Tuesday	3	23	15	10	30	22	17	06	29	24	13	6			
Wednesday	4	24	16	11	31	23	18	07	30	25	14	7			
Thursday	5	25	17	12	Jun	24	19	08	Paoni	26	15	8			
Friday	6	26	18	13	02	25	20	09	2	27	16	9			

(*) Moon not new

Zul’hejja

Zul'hejja, 1444 A.H.
Crescent statement

- **Zul'hejja's crescent will be born after the conjunction that occurs on Sunday, 18/6/2023 A.D. (Sighting Day) at 4 o'clock and 38 minutes a.m. (U.T.)**

On the Sighting day (Sunday, 18/6/2023 A.D.):

- **The crescent will lag 29 minutes after sunset in Makkah.**
- **The crescent will lag 36 minutes after sunset in Cairo.**
- **Generally the crescent lags (7 - 44 minutes) after sunset in Arabic and Islamic countries.**

Consequently, the first day of Zul'hejja 1444 A.H. shall be adopted to be Monday, 19/06/2023 A.D., a pause Arafat on Tuesday, 27/06/2023 A.D., and Eid al-Adha on Wednesday, 28/06/2023 A.D. according to the astronomical calculations.

Ephemeris of Zul'hejja, 1444 A.H.

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

Conjunction	First Quarter	Full Moon	Last Quarter
			
Sunday June 18, 2023 4:38	Monday June 26, 2023 7:51	Monday July 3, 2023 11:40	Monday July 10, 2023 1:49

First Day	Last Day	Length
Monday June 19, 2023	Tuesday July 18, 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)
	h	m	h	m	m		
Halayib	18	19	18	50	31	5.15	1.84 N
Toshka	18	39	19	10	31	5.44	1.77 N
Aswan	18	38	19	10	32	5.35	1.54 N
Qena	18	44	19	17	33	5.50	1.24 N
Al'kharga	18	52	19	25	33	5.57	1.31 N
Assiut	18	52	19	26	34	5.66	1.08 N
Sohag	18	48	19	22	34	5.53	1.17 N
Fayoum	18	58	19	33	35	5.61	0.73 N
Tur	18	45	19	19	34	5.56	0.95 N
Saint Catherine	18	44	19	18	34	5.45	0.89 N
Taba	18	43	19	17	34	5.56	0.78 N
Cairo	18	58	19	34	36	5.66	0.63 N
Tanta	19	1	19	37	36	5.65	0.51 N
Alexandria	19	7	19	43	36	5.75	0.43 N
Port Said	18	57	19	33	36	5.63	0.45 N
Salloum	19	27	20	4	37	5.87	0.3 N

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

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

City	Sunset		Moonset		Crescent lag	City	Sunset		Moonset		Crescent lag
	h	m	h	m	m		h	m	h	m	m
Dakar	18	41	19	16	35	Makkah	19	5	19	34	29
Nouakchott	18	41	19	17	36	Al-Quds	18	47	19	23	36
Marrakech	19	39	20	22	43	Baghdad	19	14	19	50	36
Fez	19	33	20	17	44	Aden	18	28	18	52	24
Lagos	19	2	19	30	28	Riyadh	18	44	19	14	30
Algeria	19	10	19	54	44	Kuwait	18	50	19	22	32
Tunisia	19	41	20	24	43	Manama	18	32	19	2	30
Tripoli, Libya	19	18	19	58	40	Tehran	19	23	19	59	36
Khartoum	18	23	18	50	27	Doha	18	26	18	56	30
Mogadishu	18	7	18	26	19	Abu Dhabi	19	13	19	42	29
Ankara	19	20	20	2	42	Dubai	19	11	19	40	29
Amman	18	44	19	20	36	Muscat	18	54	19	22	28
Damascus	18	47	19	24	37	Karachi	19	23	19	50	27
Jazan	18	45	19	12	27	Kuala Lumpur	19	23	19	35	12
Medina	19	12	19	43	31	Jakarta	17	47	17	54	7

(2) In some Western capitals

Washington	19	36	20	34	58	Cape Town	17	44	17	47	3
Ottawa	19	54	20	58	64	Brasilia	17	48	18	13	25
London	20	21	21	23	62	Santiago	17	42	17	58	16
Moscow	21	17	22	24	67	Lima	17	52	18	23	31

(D) Calender of Zul'hejja, 1444 A.H.

First day: Monday, Jun 19, 2023, Paoni 12, 1739 Coptic

Day	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C	AH	AD	C
Saturday				6	24	17	13	Jul	24	20	08	Epip	27	15	8
Sunday				7	25	18	14	02	25	21	09	2	28	16	9
Monday	1	19	12	8	26	19	15	03	26	22	10	3	29	17	10
Tuesday	2	20	13	9	27	20	16	04	27	23	11	4	30	18	11
Wednesday	3	21	14	10	28	21	17	05	28	24	12	5			
Thursday	4	22	15	11	29	22	18	06	29	25	13	6			
Friday	5	23	16	12	30	23	19	07	30	26	14	7			

Lunar and Solar Eclipses 1444 A.H.

Partial Solar Eclipse

Tuesday, October 25, 2022 AD.

- **The timing of its middle coincides with Rabee Al'akher 1444 AH conjunction.**
- **It can be seen in (Europe, South/West Asia, North/East Africa, and Atlantic).**
- **At the maximum of the partial eclipse, the disk of the moon covers about 86% of the disk of the sun, but in Cairo the eclipse's magnitude does not exceed 37% only.**
- **The partial eclipse will take's approximately four hours and four minutes.**
- **It can be seen in Cairo.**
- **The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:**

Event	Time (U.T.)	Visible in Cairo
Eclipse Begins	10:58:10	Yes
Maximum Eclipse	13:00:00	Yes
Eclipse Ends	15:02:08	Yes

Partial Solar Eclipse of 2022 Oct 25

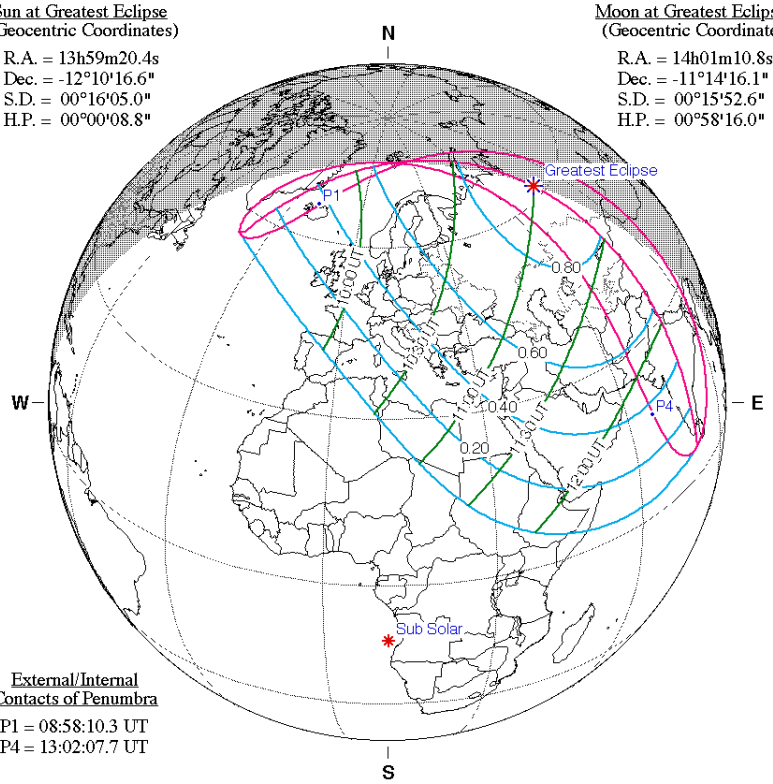
Geocentric Conjunction = 10:03:36.7 UT J.D. = 2459877.919175
Greatest Eclipse = 11:00:00.4 UT J.D. = 2459877.958338

Eclipse Magnitude = 0.8611 Gamma = 1.0700

Saros Series = 124 Member = 55 of 73

Sun at Greatest Eclipse
(Geocentric Coordinates)
R.A. = 13h59m20.4s
Dec. = -12°10'16.6"
S.D. = 00°16'05.0"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)
R.A. = 14h01m10.8s
Dec. = -11°14'16.1"
S.D. = 00°15'52.6"
H.P. = 00°58'16.0"



External/Internal
Contacts of Penumbra
P1 = 08:58:10.3 UT
P4 = 13:02:07.7 UT

Ephemeris & Constants
Eph. = Newcomb/ILE
ΔT = 79.7 s
k1 = 0.2724880
k2 = 0.2722810
Δb = 0.0" Δl = 0.0"

Geocentric Libration
(Optical + Physical)
l = -4.55°
b = -1.38°
c = 18.60°
Brown Lun. No. = 1235

0 1000 2000 3000 4000 5000
Kilometers

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

Total Lunar Eclipse

Tuesday, November 8, 2022 AD.

- **The timing of its middle coincides with the timing of Rabee Al'akher, 1444 AH full moon.**
- **The Earth's shadow covers approximately 135.9% of the moon's surface, It can be seen in the areas where the moon appears when it occurs, including (Europe, Africa, Asia, North America, South America, Pacific Ocean, Atlantic Ocean, Indian Ocean, and Antarctica), All phases of the eclipse from its beginning to its end will take approximately 5 hours and 54 minutes. The eclipse takes from the beginning of the first partial eclipse until the end of the second partial eclipse, a period of approximately 3 hours and 40 minutes, the total eclipse takes approximately an hour and twenty-five minutes.**
- **It cannot be seen in Cairo.**
- **The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:**

Event	Time (U.T.)	Visible in Cairo
Penumbral eclipse begins	08:02:17	No
Partial eclipse begins	09:09:12	No
Full Eclipse begins	10:16:39	No
Maximum eclipse	11:00:22	No
Full Eclipse ends	11:41:37	No
Partial Eclipse ends	12:49:03	No
Penumbral Eclipse ends	13:56:08	No

Total Lunar Eclipse of 2022 Nov 08

Ecliptic Conjunction = 11:03:18.4 TD (= 11:02:05.3 UT)
Greatest Eclipse = 11:00:22.0 TD (= 10:59:08.8 UT)

Penumbral Magnitude = 2.4143 P. Radius = 1.2164° Gamma = 0.2570
Umbral Magnitude = 1.3589 U. Radius = 0.6783° Axis = 0.2404°

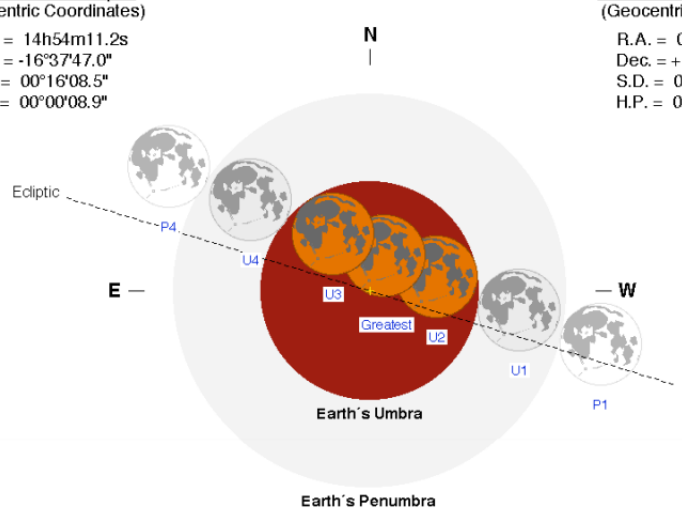
Saros Series = 136 Member = 20 of 72

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 14h54m11.2s
Dec. = -16°37'47.0"
S.D. = 00°16'08.5"
H.P. = 00°00'08.9"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 02h53m48.1s
Dec. = +16°51'06.7"
S.D. = 00°15'17.7"
H.P. = 00°56'07.8"



Eclipse Durations

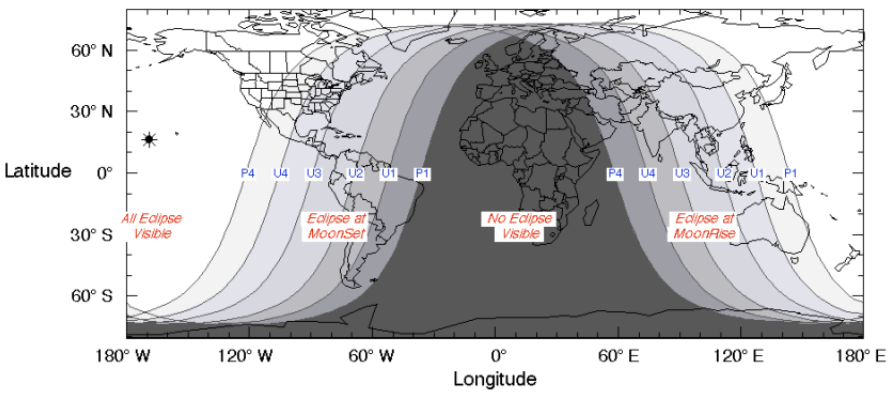
Penumbral = 05h53m51s
Umbral = 03h39m50s
Total = 01h24m58s

ΔT = 73 s
Rule = CdT (Danjon)
Eph. = VSOP87/ELP2000-85

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

Eclipse Contacts

P1 = 08:02:17 UT
U1 = 09:09:12 UT
U2 = 10:16:39 UT
U3 = 11:41:37 UT
U4 = 12:49:03 UT
P4 = 13:56:08 UT



Hybrid Solar Eclipse

Thursday, April 20, 2023 AD.

- **The timing of its middle coincides with Shawal 1444 AH conjunction, It is seen as a Hybrid eclipse in: Indonesia, Australia, and Papua New Guinea, It can be seen as a partial eclipse in (South/East Asia, E. Indies, Australia, Philippines, and N.Z).**
- **The annular eclipse covers an area about 49 km wide and will last 1 minute 16 seconds.**
- **At the maximum of the eclipse, the lunar disk covers about 101.3 percent of the entire disk of the sun.**
- **The eclipse will take from its beginning to its end approximately a period of 5 hours and 25 minutes.**
- **(It cannot be seen in Egypt).**
- **The next total eclipse will occur on April 8, 2024 AD.**
- **The following is a comprehensive statement about the phases of the eclipse for the areas in which it is seen:**

Event	Time (U.T.)	Visible in Cairo
Partial eclipse begin	01:34:15	No
Full eclipse begin	02:36:03	No
Maximum Eclipse	04:16:37	No
Full eclipse end	05:56:35	No
Partial eclipse end	06:59:16	No

Hybrid Solar Eclipse of 2023 Apr 20

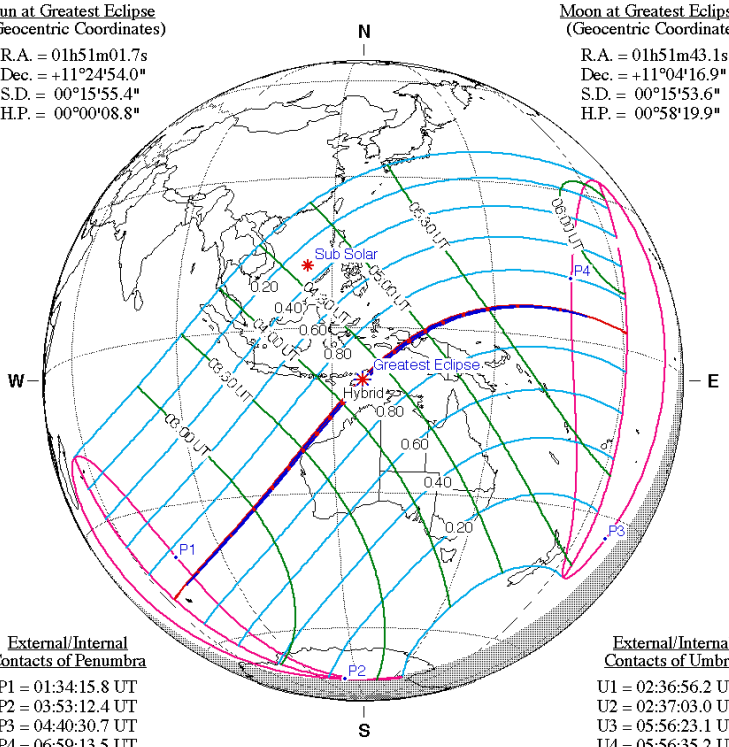
Geocentric Conjunction = 03:55:26.5 UT J.D. = 2460054.663502
Greatest Eclipse = 04:16:37.5 UT J.D. = 2460054.678212

Eclipse Magnitude = 1.0132 Gamma = -0.3951

Saros Series = 129 Member = 52 of 80

Sun at Greatest Eclipse
(Geocentric Coordinates)
R.A. = 01h51m01.7s
Dec. = +11°24'54.0"
S.D. = 00°15'55.4"
H.P. = 00°00'08.8"

Moon at Greatest Eclipse
(Geocentric Coordinates)
R.A. = 01h51m43.1s
Dec. = +11°04'16.9"
S.D. = 00°15'53.6"
H.P. = 00°58'19.9"



External/Internal Contacts of Penumbra
P1 = 01:34:15.8 UT
P2 = 03:53:12.4 UT
P3 = 04:40:30.7 UT
P4 = 06:59:13.5 UT

External/Internal Contacts of Umbra
U1 = 02:36:56.2 UT
U2 = 02:37:03.0 UT
U3 = 05:56:23.1 UT
U4 = 05:56:35.2 UT

Local Circumstances at Greatest Eclipse
Lat. = 09°35.4'S Sun Alt. = 66.7°
Long. = 125°48.4'E Sun Azm. = 334.0°
Path Width = 49.0 km Duration = 01m16.1s

Ephemeris & Constants
Eph. = Newcomb/ILE
ΔT = 80.2 s
k1 = 0.2724880
k2 = 0.2722810
Δb = 0.0" Δl = 0.0"

Geocentric Libration
(Optical + Physical)
l = 4.67°
b = 0.46°
c = -19.05°
Brown Lun. No. = 1241

0 1000 2000 3000 4000 5000
Kilometers

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

Penumbral Lunar Eclipse

Friday, May 5, 2023 AD.

- **The timing of its middle coincides with the timing of Shawal, 1444 AH full moon, A penumbral lunar eclipse can be a bit hard to see as the shadowed part is only a little bit fainter than the rest of the Moon, It can be seen in the areas where the moon appears when it occurs, including (Europe, Africa, Asia, North America, South America, Pacific Ocean, Atlantic Ocean, Indian Ocean, and Antarctica).**
- **All phases of the eclipse from its beginning to its end will take approximately 4 hours and 18 minutes. The eclipse takes from the beginning of the first partial eclipse until the end of the second partial eclipse, a period of approximately three hours and twenty-seven minutes, the total eclipse takes approximately an hour and twenty-five 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	Time (U.T.)	Visible in Cairo
Eclipse Begins	15:14:10	Moon below the horizon
Maximum Eclipse	17:24:05	Yes
Eclipse Ends	19:31:41	Yes

Penumbral Lunar Eclipse of 2023 May 05

Ecliptic Conjunction = 17:35:12.7 TD (= 17:33:59.2 UT)
Greatest Eclipse = 17:24:05.1 TD (= 17:22:51.7 UT)

Penumbral Magnitude = 0.9636 P. Radius = 1.2375° Gamma = -1.0349
Umbral Magnitude = -0.0457 U. Radius = 0.7089° Axis = 0.9947°

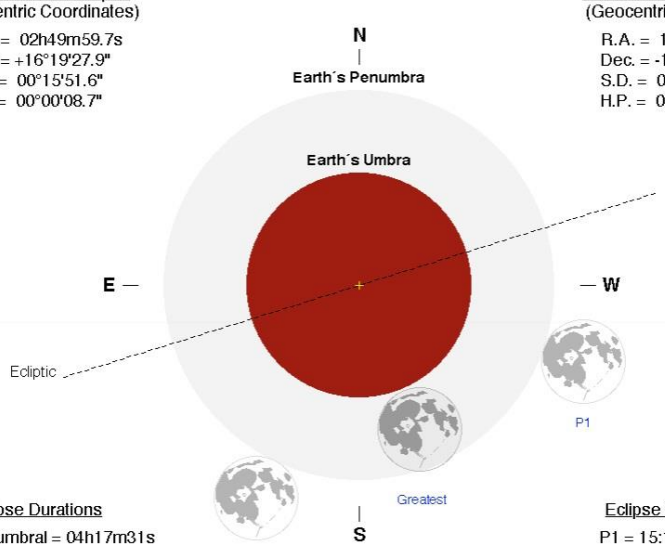
Saros Series = 141 Member = 24 of 73

Sun at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 02h49m59.7s
Dec. = +16°19'27.9"
S.D. = 00°15'51.6"
H.P. = 00°00'08.7"

Moon at Greatest Eclipse
(Geocentric Coordinates)

R.A. = 14h48m23.5s
Dec. = -17°14'31.9"
S.D. = 00°15'42.8"
H.P. = 00°57'40.1"

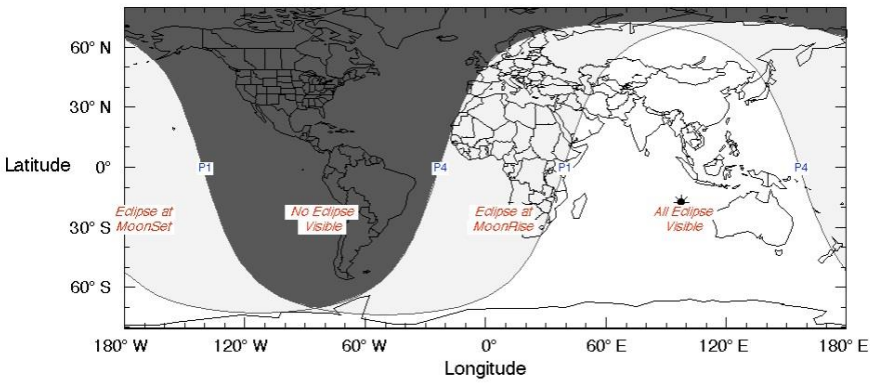


Eclipse Durations
Penumbral = 04h17m31s

Eclipse Contacts
P1 = 15:14:10 UT
P4 = 19:31:41 UT

ΔT = 73 s
Rule = CdT (Danjon)
Eph. = VSOP87/ELP2000-85

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



Follow us on our website

www.nriag.sci.eg

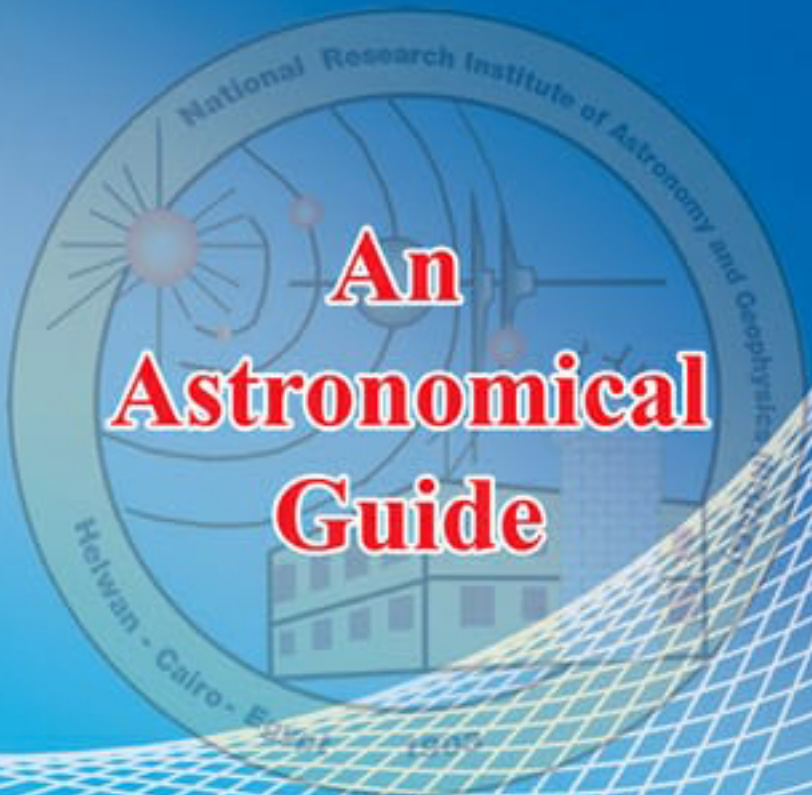
For electronic copy follow us on

http://www.nriag.sci.eg/hejri-calendar/

For mobile application follow us on

https://play.google.com/store/apps/NRIAG_Dalil

Calculated and designed by Solar Lab.
Printed by Drawing and GIS unit.
2022



An Astronomical Guide

For the Hijri Year

1444 H