

TAHUN = 2016
 LONG= 120.0 ~

**** ARGUMEN MASA DALAM WAKTU PIAWAI MALAYSIA ****

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	1	.0	5	59	36.3	18	6	50.8
1.0	1	1.0	6	1	18.2	18	5	9.1
1.0	1	2.0	6	3	.1	18	3	27.4
1.0	1	3.0	6	4	42.0	18	1	45.7
1.0	1	4.0	6	6	24.1	18	0	3.8
1.0	1	5.0	6	8	6.4	17	58	21.7
1.0	1	6.0	6	9	48.9	17	56	39.4
1.0	1	7.0	6	11	31.8	17	54	56.7
2.0	1	.0	6	0	4.7	18	7	18.9
2.0	1	1.0	6	1	46.2	18	5	37.7
2.0	1	2.0	6	3	27.7	18	3	56.4
2.0	1	3.0	6	5	9.2	18	2	15.1
2.0	1	4.0	6	6	50.9	18	0	33.7
2.0	1	5.0	6	8	32.7	17	58	52.1
2.0	1	6.0	6	10	14.8	17	57	10.2
2.0	1	7.0	6	11	57.3	17	55	28.0
3.0	1	.0	6	0	32.8	18	7	46.8
3.0	1	1.0	6	2	13.9	18	6	6.0
3.0	1	2.0	6	3	54.9	18	4	25.2
3.0	1	3.0	6	5	36.0	18	2	44.4
3.0	1	4.0	6	7	17.2	18	1	3.4
3.0	1	5.0	6	8	58.5	17	59	22.3
3.0	1	6.0	6	10	40.2	17	57	40.9
3.0	1	7.0	6	12	22.2	17	55	59.1
4.0	1	.0	6	1	.6	18	8	14.2
4.0	1	1.0	6	2	41.2	18	6	33.9
4.0	1	2.0	6	4	21.7	18	4	53.7
4.0	1	3.0	6	6	2.3	18	3	13.4
4.0	1	4.0	6	7	43.0	18	1	32.9
4.0	1	5.0	6	9	23.9	17	59	52.3
4.0	1	6.0	6	11	5.0	17	58	11.4
4.0	1	7.0	6	12	46.5	17	56	30.2
5.0	1	.0	6	1	28.0	18	8	41.3
5.0	1	1.0	6	3	8.0	18	7	1.6
5.0	1	2.0	6	4	48.0	18	5	21.9
5.0	1	3.0	6	6	28.1	18	3	42.1
5.0	1	4.0	6	8	8.3	18	2	2.2
5.0	1	5.0	6	9	48.6	18	0	22.1
5.0	1	6.0	6	11	29.2	17	58	41.8
5.0	1	7.0	6	13	10.2	17	57	1.1
6.0	1	.0	6	1	55.1	18	9	8.0
6.0	1	1.0	6	3	34.5	18	7	28.8
6.0	1	2.0	6	5	13.9	18	5	49.7
6.0	1	3.0	6	6	53.4	18	4	10.5
6.0	1	4.0	6	8	33.0	18	2	31.2
6.0	1	5.0	6	10	12.8	18	0	51.7
6.0	1	6.0	6	11	52.9	17	59	11.9
6.0	1	7.0	6	13	33.2	17	57	31.9

7.0	1	.0	6	2	21.7	18	9	34.2
7.0	1	1.0	6	4	.5	18	7	55.6
7.0	1	2.0	6	5	39.3	18	6	17.1
7.0	1	3.0	6	7	18.2	18	4	38.6
7.0	1	4.0	6	8	57.2	18	2	59.9
7.0	1	5.0	6	10	36.4	18	1	21.0
7.0	1	6.0	6	12	15.8	17	59	41.9
7.0	1	7.0	6	13	55.6	17	58	2.4
8.0	1	.0	6	2	47.8	18	9	59.9
8.0	1	1.0	6	4	26.0	18	8	22.0
8.0	1	2.0	6	6	4.2	18	6	44.2
8.0	1	3.0	6	7	42.5	18	5	6.3
8.0	1	4.0	6	9	20.8	18	3	28.2
8.0	1	5.0	6	10	59.4	18	1	50.0
8.0	1	6.0	6	12	38.2	18	0	11.6
8.0	1	7.0	6	14	17.3	17	58	32.8
9.0	1	.0	6	3	13.5	18	10	25.1
9.0	1	1.0	6	4	51.0	18	8	48.0
9.0	1	2.0	6	6	28.5	18	7	10.8
9.0	1	3.0	6	8	6.1	18	5	33.6
9.0	1	4.0	6	9	43.8	18	3	56.2
9.0	1	5.0	6	11	21.7	18	2	18.7
9.0	1	6.0	6	12	59.8	18	0	40.9
9.0	1	7.0	6	14	38.2	17	59	2.8
10.0	1	.0	6	3	38.6	18	10	49.8
10.0	1	1.0	6	5	15.4	18	9	13.4
10.0	1	2.0	6	6	52.3	18	7	36.9
10.0	1	3.0	6	8	29.1	18	6	.4
10.0	1	4.0	6	10	6.1	18	4	23.8
10.0	1	5.0	6	11	43.3	18	2	47.0
10.0	1	6.0	6	13	20.7	18	1	10.0
10.0	1	7.0	6	14	58.4	17	59	32.6
11.0	1	.0	6	4	3.2	18	11	14.0
11.0	1	1.0	6	5	39.3	18	9	38.3
11.0	1	2.0	6	7	15.4	18	8	2.6
11.0	1	3.0	6	8	51.5	18	6	26.8
11.0	1	4.0	6	10	27.7	18	4	51.0
11.0	1	5.0	6	12	4.2	18	3	14.9
11.0	1	6.0	6	13	40.8	18	1	38.6
11.0	1	7.0	6	15	17.8	18	0	2.1
12.0	1	.0	6	4	27.2	18	11	37.5
12.0	1	1.0	6	6	2.5	18	10	2.6
12.0	1	2.0	6	7	37.9	18	8	27.7
12.0	1	3.0	6	9	13.2	18	6	52.7
12.0	1	4.0	6	10	48.7	18	5	17.6
12.0	1	5.0	6	12	24.3	18	3	42.4
12.0	1	6.0	6	14	.2	18	2	6.9
12.0	1	7.0	6	15	36.4	18	0	31.1
13.0	1	.0	6	4	50.6	18	12	.4
13.0	1	1.0	6	6	25.2	18	10	26.3
13.0	1	2.0	6	7	59.7	18	8	52.2
13.0	1	3.0	6	9	34.2	18	7	18.1
13.0	1	4.0	6	11	8.9	18	5	43.8
13.0	1	5.0	6	12	43.7	18	4	9.4
13.0	1	6.0	6	14	18.8	18	2	34.8
13.0	1	7.0	6	15	54.2	18	0	59.8

14.0	1	.0	6 5 13.4	18 12 22.7
14.0	1	1.0	6 6 47.1	18 10 49.4
14.0	1	2.0	6 8 20.8	18 9 16.2
14.0	1	3.0	6 9 54.5	18 7 42.9
14.0	1	4.0	6 11 28.3	18 6 9.5
14.0	1	5.0	6 13 2.3	18 4 35.9
14.0	1	6.0	6 14 36.6	18 3 2.1
14.0	1	7.0	6 16 11.1	18 1 28.1

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	1	.0	6	5	35.6	18	12	44.3
15.0	1	1.0	6	7	8.4	18	11	11.9
15.0	1	2.0	6	8	41.2	18	9	39.6
15.0	1	3.0	6	10	14.0	18	8	7.2
15.0	1	4.0	6	11	47.0	18	6	34.7
15.0	1	5.0	6	13	20.1	18	5	2.0
15.0	1	6.0	6	14	53.5	18	3	29.1
15.0	1	7.0	6	16	27.1	18	1	55.9
16.0	1	.0	6	5	57.0	18	13	5.2
16.0	1	1.0	6	7	28.9	18	11	33.8
16.0	1	2.0	6	9	.8	18	10	2.3
16.0	1	3.0	6	10	32.8	18	8	30.8
16.0	1	4.0	6	12	4.9	18	6	59.2
16.0	1	5.0	6	13	37.1	18	5	27.4
16.0	1	6.0	6	15	9.5	18	3	55.5
16.0	1	7.0	6	16	42.3	18	2	23.2
17.0	1	.0	6	6	17.8	18	13	25.4
17.0	1	1.0	6	7	48.8	18	11	54.9
17.0	1	2.0	6	9	19.8	18	10	24.4
17.0	1	3.0	6	10	50.8	18	8	53.8
17.0	1	4.0	6	12	21.9	18	7	23.2
17.0	1	5.0	6	13	53.2	18	5	52.4
17.0	1	6.0	6	15	24.7	18	4	21.3
17.0	1	7.0	6	16	56.5	18	2	50.0
18.0	1	.0	6	6	37.8	18	13	44.9
18.0	1	1.0	6	8	7.9	18	12	15.4
18.0	1	2.0	6	9	37.9	18	10	45.8
18.0	1	3.0	6	11	8.0	18	9	16.2
18.0	1	4.0	6	12	38.1	18	7	46.6
18.0	1	5.0	6	14	8.5	18	6	16.7
18.0	1	6.0	6	15	39.0	18	4	46.6
18.0	1	7.0	6	17	9.9	18	3	16.3
19.0	1	.0	6	6	57.1	18	14	3.7
19.0	1	1.0	6	8	26.2	18	12	35.1
19.0	1	2.0	6	9	55.3	18	11	6.6
19.0	1	3.0	6	11	24.3	18	9	38.0
19.0	1	4.0	6	12	53.5	18	8	9.3
19.0	1	5.0	6	14	22.9	18	6	40.4
19.0	1	6.0	6	15	52.4	18	5	11.4
19.0	1	7.0	6	17	22.3	18	3	42.1
20.0	1	.0	6	7	15.7	18	14	21.7
20.0	1	1.0	6	8	43.8	18	12	54.1
20.0	1	2.0	6	10	11.8	18	11	26.6
20.0	1	3.0	6	11	39.9	18	9	59.0

20.0	1	4.0	6 13	8.1	18 8	31.4
20.0	1	5.0	6 14	36.4	18 7	3.6
20.0	1	6.0	6 16	4.9	18 5	35.5
20.0	1	7.0	6 17	33.8	18 4	7.2
21.0	1	.0	6 7	33.6	18 14	38.9
21.0	1	1.0	6 9	.6	18 13	12.4
21.0	1	2.0	6 10	27.6	18 11	45.9
21.0	1	3.0	6 11	54.6	18 10	19.4
21.0	1	4.0	6 13	21.7	18 8	52.8
21.0	1	5.0	6 14	49.0	18 7	26.1
21.0	1	6.0	6 16	16.5	18 5	59.1
21.0	1	7.0	6 17	44.3	18 4	31.9
22.0	1	.0	6 7	50.6	18 14	55.4
22.0	1	1.0	6 9	16.6	18 13	30.0
22.0	1	2.0	6 10	42.5	18 12	4.6
22.0	1	3.0	6 12	8.5	18 10	39.1
22.0	1	4.0	6 13	34.5	18 9	13.6
22.0	1	5.0	6 15	.8	18 7	47.9
22.0	1	6.0	6 16	27.2	18 6	22.1
22.0	1	7.0	6 17	53.9	18 4	55.9
23.0	1	.0	6 8	6.9	18 15	11.0
23.0	1	1.0	6 9	31.8	18 13	46.7
23.0	1	2.0	6 10	56.6	18 12	22.5
23.0	1	3.0	6 12	21.5	18 10	58.1
23.0	1	4.0	6 13	46.5	18 9	33.7
23.0	1	5.0	6 15	11.6	18 8	9.1
23.0	1	6.0	6 16	36.9	18 6	44.4
23.0	1	7.0	6 18	2.5	18 5	19.4
24.0	1	.0	6 8	22.4	18 15	26.0
24.0	1	1.0	6 9	46.2	18 14	2.8
24.0	1	2.0	6 11	9.9	18 12	39.6
24.0	1	3.0	6 12	33.7	18 11	16.4
24.0	1	4.0	6 13	57.5	18 9	53.1
24.0	1	5.0	6 15	21.5	18 8	29.7
24.0	1	6.0	6 16	45.7	18 7	6.1
24.0	1	7.0	6 18	10.2	18 5	42.2
25.0	1	.0	6 8	37.2	18 15	40.1
25.0	1	1.0	6 9	59.8	18 14	18.0
25.0	1	2.0	6 11	22.4	18 12	56.0
25.0	1	3.0	6 12	45.0	18 11	34.0
25.0	1	4.0	6 14	7.7	18 10	11.9
25.0	1	5.0	6 15	30.6	18 8	49.6
25.0	1	6.0	6 16	53.6	18 7	27.1
25.0	1	7.0	6 18	16.9	18 6	4.4
26.0	1	.0	6 8	51.2	18 15	53.4
26.0	1	1.0	6 10	12.6	18 14	32.6
26.0	1	2.0	6 11	34.0	18 13	11.7
26.0	1	3.0	6 12	55.5	18 11	50.9
26.0	1	4.0	6 14	17.0	18 10	29.9
26.0	1	5.0	6 15	38.7	18 9	8.8
26.0	1	6.0	6 17	.6	18 7	47.5
26.0	1	7.0	6 18	22.7	18 6	26.0
27.0	1	.0	6 9	4.3	18 16	6.0
27.0	1	1.0	6 10	24.6	18 14	46.3
27.0	1	2.0	6 11	44.8	18 13	26.7
27.0	1	3.0	6 13	5.1	18 12	7.0

27.0	1	4.0	6 14 25.5	18 10 47.2
27.0	1	5.0	6 15 45.9	18 9 27.4
27.0	1	6.0	6 17 6.6	18 8 7.3
27.0	1	7.0	6 18 27.5	18 6 47.0
28.0	1	.0	6 9 16.7	18 16 17.7
28.0	1	1.0	6 10 35.8	18 14 59.3
28.0	1	2.0	6 11 54.8	18 13 40.8
28.0	1	3.0	6 13 13.9	18 12 22.4
28.0	1	4.0	6 14 33.0	18 11 3.9
28.0	1	5.0	6 15 52.3	18 9 45.2
28.0	1	6.0	6 17 11.7	18 8 26.4
28.0	1	7.0	6 18 31.4	18 7 7.3
29.0	1	.0	6 9 28.3	18 16 28.7
29.0	1	1.0	6 10 46.1	18 15 11.5
29.0	1	2.0	6 12 3.9	18 13 54.3
29.0	1	3.0	6 13 21.8	18 12 37.1
29.0	1	4.0	6 14 39.7	18 11 19.8
29.0	1	5.0	6 15 57.7	18 10 2.4
29.0	1	6.0	6 17 15.9	18 8 44.8
29.0	1	7.0	6 18 34.4	18 7 27.0
30.0	1	.0	6 9 39.1	18 16 38.8
30.0	1	1.0	6 10 55.7	18 15 22.9
30.0	1	2.0	6 12 12.2	18 14 7.0
30.0	1	3.0	6 13 28.8	18 12 51.0
30.0	1	4.0	6 14 45.4	18 11 35.0
30.0	1	5.0	6 16 2.2	18 10 18.9
30.0	1	6.0	6 17 19.2	18 9 2.5
30.0	1	7.0	6 18 36.4	18 7 46.0
31.0	1	.0	6 9 49.1	18 16 48.2
31.0	1	1.0	6 11 4.4	18 15 33.5
31.0	1	2.0	6 12 19.7	18 14 18.9
31.0	1	3.0	6 13 35.0	18 13 4.2
31.0	1	4.0	6 14 50.3	18 11 49.5
31.0	1	5.0	6 16 5.8	18 10 34.6
31.0	1	6.0	6 17 21.5	18 9 19.6
31.0	1	7.0	6 18 37.4	18 8 4.4

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	2	.0	6	9	58.3	18	16	56.7
1.0	2	1.0	6	11	12.3	18	15	43.4
1.0	2	2.0	6	12	26.3	18	14	30.0
1.0	2	3.0	6	13	40.3	18	13	16.7
1.0	2	4.0	6	14	54.4	18	12	3.3
1.0	2	5.0	6	16	8.6	18	10	49.7
1.0	2	6.0	6	17	22.9	18	9	36.0
1.0	2	7.0	6	18	37.5	18	8	22.1
2.0	2	.0	6	10	6.7	18	17	4.5
2.0	2	1.0	6	11	19.4	18	15	52.5
2.0	2	2.0	6	12	32.1	18	14	40.4
2.0	2	3.0	6	13	44.7	18	13	28.4
2.0	2	4.0	6	14	57.5	18	12	16.3
2.0	2	5.0	6	16	10.4	18	11	4.1
2.0	2	6.0	6	17	23.4	18	9	51.7
2.0	2	7.0	6	18	36.7	18	8	39.1

3.0	2	.0	6 10 14.3	18 17 11.4
3.0	2	1.0	6 11 25.7	18 16 .8
3.0	2	2.0	6 12 37.0	18 14 50.1
3.0	2	3.0	6 13 48.4	18 13 39.4
3.0	2	4.0	6 14 59.8	18 12 28.6
3.0	2	5.0	6 16 11.3	18 11 17.8
3.0	2	6.0	6 17 23.0	18 10 6.7
3.0	2	7.0	6 18 34.9	18 8 55.5
4.0	2	.0	6 10 21.1	18 17 17.6
4.0	2	1.0	6 11 31.1	18 16 8.3
4.0	2	2.0	6 12 41.1	18 14 59.0
4.0	2	3.0	6 13 51.1	18 13 49.6
4.0	2	4.0	6 15 1.2	18 12 40.2
4.0	2	5.0	6 16 11.4	18 11 30.7
4.0	2	6.0	6 17 21.7	18 10 21.1
4.0	2	7.0	6 18 32.3	18 9 11.2
5.0	2	.0	6 10 27.1	18 17 23.0
5.0	2	1.0	6 11 35.7	18 16 15.0
5.0	2	2.0	6 12 44.4	18 15 7.1
5.0	2	3.0	6 13 53.0	18 13 59.1
5.0	2	4.0	6 15 1.7	18 12 51.1
5.0	2	5.0	6 16 10.5	18 11 43.0
5.0	2	6.0	6 17 19.5	18 10 34.7
5.0	2	7.0	6 18 28.7	18 9 26.3
6.0	2	.0	6 10 32.3	18 17 27.6
6.0	2	1.0	6 11 39.6	18 16 21.0
6.0	2	2.0	6 12 46.8	18 15 14.4
6.0	2	3.0	6 13 54.1	18 14 7.9
6.0	2	4.0	6 15 1.4	18 13 1.3
6.0	2	5.0	6 16 8.8	18 11 54.5
6.0	2	6.0	6 17 16.4	18 10 47.7
6.0	2	7.0	6 18 24.2	18 9 40.6
7.0	2	.0	6 10 36.7	18 17 31.4
7.0	2	1.0	6 11 42.6	18 16 26.2
7.0	2	2.0	6 12 48.4	18 15 21.0
7.0	2	3.0	6 13 54.3	18 14 15.9
7.0	2	4.0	6 15 .2	18 13 10.7
7.0	2	5.0	6 16 6.2	18 12 5.4
7.0	2	6.0	6 17 12.4	18 10 59.9
7.0	2	7.0	6 18 18.7	18 9 54.3
8.0	2	.0	6 10 40.3	18 17 34.4
8.0	2	1.0	6 11 44.8	18 16 30.6
8.0	2	2.0	6 12 49.2	18 15 26.9
8.0	2	3.0	6 13 53.7	18 14 23.2
8.0	2	4.0	6 14 58.2	18 13 19.4
8.0	2	5.0	6 16 2.8	18 12 15.5
8.0	2	6.0	6 17 7.5	18 11 11.5
8.0	2	7.0	6 18 12.4	18 10 7.3
9.0	2	.0	6 10 43.1	18 17 36.6
9.0	2	1.0	6 11 46.2	18 16 34.3
9.0	2	2.0	6 12 49.2	18 15 32.0
9.0	2	3.0	6 13 52.2	18 14 29.7
9.0	2	4.0	6 14 55.3	18 13 27.3
9.0	2	5.0	6 15 58.4	18 12 24.9
9.0	2	6.0	6 17 1.7	18 11 22.3
9.0	2	7.0	6 18 5.2	18 10 19.6

10.0	2	.0	6 10 45.2	18 17 38.0
10.0	2	1.0	6 11 46.8	18 16 37.1
10.0	2	2.0	6 12 48.3	18 15 36.3
10.0	2	3.0	6 13 49.9	18 14 35.4
10.0	2	4.0	6 14 51.5	18 13 34.6
10.0	2	5.0	6 15 53.2	18 12 33.6
10.0	2	6.0	6 16 55.1	18 11 32.5
10.0	2	7.0	6 17 57.1	18 10 31.2

11.0	2	.0	6 10 46.4	18 17 38.6
11.0	2	1.0	6 11 46.5	18 16 39.2
11.0	2	2.0	6 12 46.7	18 15 39.9
11.0	2	3.0	6 13 46.8	18 14 40.5
11.0	2	4.0	6 14 46.9	18 13 41.0
11.0	2	5.0	6 15 47.2	18 12 41.5
11.0	2	6.0	6 16 47.6	18 11 41.9
11.0	2	7.0	6 17 48.1	18 10 42.1

12.0	2	.0	6 10 46.9	18 17 38.5
12.0	2	1.0	6 11 45.5	18 16 40.6
12.0	2	2.0	6 12 44.2	18 15 42.7
12.0	2	3.0	6 13 42.8	18 14 44.8
12.0	2	4.0	6 14 41.5	18 13 46.8
12.0	2	5.0	6 15 40.3	18 12 48.8
12.0	2	6.0	6 16 39.2	18 11 50.6
12.0	2	7.0	6 17 38.2	18 10 52.4

13.0	2	.0	6 10 46.5	18 17 37.6
13.0	2	1.0	6 11 43.7	18 16 41.2
13.0	2	2.0	6 12 40.9	18 15 44.7
13.0	2	3.0	6 13 38.0	18 14 48.3
13.0	2	4.0	6 14 35.2	18 13 51.9
13.0	2	5.0	6 15 32.5	18 12 55.3
13.0	2	6.0	6 16 29.9	18 11 58.7
13.0	2	7.0	6 17 27.5	18 11 1.9

14.0	2	.0	6 10 45.4	18 17 35.9
14.0	2	1.0	6 11 41.1	18 16 41.0
14.0	2	2.0	6 12 36.8	18 15 46.1
14.0	2	3.0	6 13 32.4	18 14 51.1
14.0	2	4.0	6 14 28.2	18 13 56.2
14.0	2	5.0	6 15 23.9	18 13 1.2
14.0	2	6.0	6 16 19.8	18 12 6.0
14.0	2	7.0	6 17 15.9	18 11 10.8

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
H	B	~	MATAHARI			MATAHARI		
			j	m	s	j	m	s

15.0	2	.0	6 10 43.5	18 17 33.5
15.0	2	1.0	6 11 37.7	18 16 40.1
15.0	2	2.0	6 12 31.9	18 15 46.7
15.0	2	3.0	6 13 26.1	18 14 53.2
15.0	2	4.0	6 14 20.3	18 13 59.8
15.0	2	5.0	6 15 14.5	18 13 6.3
15.0	2	6.0	6 16 8.9	18 12 12.7
15.0	2	7.0	6 17 3.4	18 11 19.0

16.0	2	.0	6 10 40.9	18 17 30.3
16.0	2	1.0	6 11 33.6	18 16 38.4
16.0	2	2.0	6 12 26.2	18 15 46.5
16.0	2	3.0	6 13 18.9	18 14 54.6
16.0	2	4.0	6 14 11.6	18 14 2.7

16.0	2	5.0	6 15 4.3	18 13 10.8
16.0	2	6.0	6 15 57.1	18 12 18.7
16.0	2	7.0	6 16 50.1	18 11 26.5
17.0	2	.0	6 10 37.5	18 17 26.4
17.0	2	1.0	6 11 28.7	18 16 36.0
17.0	2	2.0	6 12 19.8	18 15 45.7
17.0	2	3.0	6 13 10.9	18 14 55.3
17.0	2	4.0	6 14 2.1	18 14 5.0
17.0	2	5.0	6 14 53.3	18 13 14.5
17.0	2	6.0	6 15 44.6	18 12 24.0
17.0	2	7.0	6 16 36.0	18 11 33.3
18.0	2	.0	6 10 33.4	18 17 21.8
18.0	2	1.0	6 11 23.1	18 16 32.9
18.0	2	2.0	6 12 12.6	18 15 44.1
18.0	2	3.0	6 13 2.2	18 14 55.3
18.0	2	4.0	6 13 51.8	18 14 6.5
18.0	2	5.0	6 14 41.5	18 13 17.6
18.0	2	6.0	6 15 31.2	18 12 28.6
18.0	2	7.0	6 16 21.1	18 11 39.5
19.0	2	.0	6 10 28.6	18 17 16.5
19.0	2	1.0	6 11 16.7	18 16 29.2
19.0	2	2.0	6 12 4.7	18 15 41.9
19.0	2	3.0	6 12 52.8	18 14 54.7
19.0	2	4.0	6 13 40.8	18 14 7.4
19.0	2	5.0	6 14 28.9	18 13 20.1
19.0	2	6.0	6 15 17.1	18 12 32.6
19.0	2	7.0	6 16 5.4	18 11 45.1
20.0	2	.0	6 10 23.1	18 17 10.5
20.0	2	1.0	6 11 9.6	18 16 24.7
20.0	2	2.0	6 11 56.1	18 15 39.0
20.0	2	3.0	6 12 42.6	18 14 53.3
20.0	2	4.0	6 13 29.1	18 14 7.6
20.0	2	5.0	6 14 15.6	18 13 21.9
20.0	2	6.0	6 15 2.3	18 12 36.0
20.0	2	7.0	6 15 49.0	18 11 50.1
21.0	2	.0	6 10 16.9	18 17 3.8
21.0	2	1.0	6 11 1.9	18 16 19.6
21.0	2	2.0	6 11 46.8	18 15 35.5
21.0	2	3.0	6 12 31.7	18 14 51.4
21.0	2	4.0	6 13 16.7	18 14 7.2
21.0	2	5.0	6 14 1.6	18 13 23.0
21.0	2	6.0	6 14 46.7	18 12 38.8
21.0	2	7.0	6 15 31.8	18 11 54.4
22.0	2	.0	6 10 10.1	18 16 56.5
22.0	2	1.0	6 10 53.5	18 16 13.9
22.0	2	2.0	6 11 36.8	18 15 31.3
22.0	2	3.0	6 12 20.2	18 14 48.8
22.0	2	4.0	6 13 3.5	18 14 6.2
22.0	2	5.0	6 13 46.9	18 13 23.6
22.0	2	6.0	6 14 30.4	18 12 40.9
22.0	2	7.0	6 15 13.9	18 11 58.2
23.0	2	.0	6 10 2.6	18 16 48.5
23.0	2	1.0	6 10 44.4	18 16 7.5
23.0	2	2.0	6 11 26.2	18 15 26.5
23.0	2	3.0	6 12 7.9	18 14 45.6
23.0	2	4.0	6 12 49.7	18 14 4.6

23.0	2	5.0	6 13 31.5	18 13 23.6
23.0	2	6.0	6 14 13.4	18 12 42.5
23.0	2	7.0	6 14 55.3	18 12 1.4
24.0	2	.0	6 9 54.5	18 16 40.0
24.0	2	1.0	6 10 34.7	18 16 .6
24.0	2	2.0	6 11 14.9	18 15 21.2
24.0	2	3.0	6 11 55.1	18 14 41.8
24.0	2	4.0	6 12 35.2	18 14 2.4
24.0	2	5.0	6 13 15.5	18 13 23.0
24.0	2	6.0	6 13 55.7	18 12 43.5
24.0	2	7.0	6 14 36.1	18 12 4.0
25.0	2	.0	6 9 45.8	18 16 30.8
25.0	2	1.0	6 10 24.4	18 15 53.0
25.0	2	2.0	6 11 3.0	18 15 15.2
25.0	2	3.0	6 11 41.6	18 14 37.5
25.0	2	4.0	6 12 20.1	18 13 59.7
25.0	2	5.0	6 12 58.8	18 13 21.9
25.0	2	6.0	6 13 37.4	18 12 44.0
25.0	2	7.0	6 14 16.2	18 12 6.1
26.0	2	.0	6 9 36.5	18 16 21.1
26.0	2	1.0	6 10 13.5	18 15 44.9
26.0	2	2.0	6 10 50.5	18 15 8.7
26.0	2	3.0	6 11 27.5	18 14 32.6
26.0	2	4.0	6 12 4.4	18 13 56.4
26.0	2	5.0	6 12 41.4	18 13 20.2
26.0	2	6.0	6 13 18.5	18 12 44.0
26.0	2	7.0	6 13 55.6	18 12 7.6
27.0	2	.0	6 9 26.6	18 16 10.9
27.0	2	1.0	6 10 2.1	18 15 36.3
27.0	2	2.0	6 10 37.4	18 15 1.7
27.0	2	3.0	6 11 12.8	18 14 27.1
27.0	2	4.0	6 11 48.2	18 13 52.6
27.0	2	5.0	6 12 23.5	18 13 18.0
27.0	2	6.0	6 12 59.0	18 12 43.4
27.0	2	7.0	6 13 34.5	18 12 8.7
28.0	2	.0	6 9 16.2	18 16 .1
28.0	2	1.0	6 9 50.0	18 15 27.1
28.0	2	2.0	6 10 23.8	18 14 54.1
28.0	2	3.0	6 10 57.5	18 14 21.2
28.0	2	4.0	6 11 31.3	18 13 48.3
28.0	2	5.0	6 12 5.1	18 13 15.3
28.0	2	6.0	6 12 38.9	18 12 42.3
28.0	2	7.0	6 13 12.7	18 12 9.3
29.0	2	.0	6 9 5.3	18 15 48.8
29.0	2	1.0	6 9 37.5	18 15 17.4
29.0	2	2.0	6 10 9.6	18 14 46.1
29.0	2	3.0	6 10 41.8	18 14 14.7
29.0	2	4.0	6 11 13.9	18 13 43.4
29.0	2	5.0	6 11 46.0	18 13 12.1
29.0	2	6.0	6 12 18.2	18 12 40.8
29.0	2	7.0	6 12 50.4	18 12 9.3

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	3	.0	6	8	53.8	18	15	37.0
1.0	3	1.0	6	9	24.4	18	15	7.2
1.0	3	2.0	6	9	54.9	18	14	37.5
1.0	3	3.0	6	10	25.4	18	14	7.8
1.0	3	4.0	6	10	55.9	18	13	38.2
1.0	3	5.0	6	11	26.4	18	13	8.5
1.0	3	6.0	6	11	57.0	18	12	38.7
1.0	3	7.0	6	12	27.6	18	12	9.0
2.0	3	.0	6	8	41.9	18	15	24.7
2.0	3	1.0	6	9	10.9	18	14	56.6
2.0	3	2.0	6	9	39.8	18	14	28.5
2.0	3	3.0	6	10	8.6	18	14	.5
2.0	3	4.0	6	10	37.5	18	13	32.4
2.0	3	5.0	6	11	6.4	18	13	4.4
2.0	3	6.0	6	11	35.3	18	12	36.3
2.0	3	7.0	6	12	4.2	18	12	8.2
3.0	3	.0	6	8	29.5	18	15	12.0
3.0	3	1.0	6	8	56.8	18	14	45.5
3.0	3	2.0	6	9	24.1	18	14	19.1
3.0	3	3.0	6	9	51.3	18	13	52.7
3.0	3	4.0	6	10	18.6	18	13	26.2
3.0	3	5.0	6	10	45.8	18	12	59.8
3.0	3	6.0	6	11	13.0	18	12	33.4
3.0	3	7.0	6	11	40.3	18	12	6.9
4.0	3	.0	6	8	16.7	18	14	58.9
4.0	3	1.0	6	8	42.3	18	14	34.0
4.0	3	2.0	6	9	8.0	18	14	9.2
4.0	3	3.0	6	9	33.6	18	13	44.4
4.0	3	4.0	6	9	59.2	18	13	19.7
4.0	3	5.0	6	10	24.8	18	12	54.9
4.0	3	6.0	6	10	50.4	18	12	30.1
4.0	3	7.0	6	11	16.0	18	12	5.3
5.0	3	.0	6	8	3.4	18	14	45.3
5.0	3	1.0	6	8	27.4	18	14	22.1
5.0	3	2.0	6	8	51.4	18	13	58.9
5.0	3	3.0	6	9	15.4	18	13	35.8
5.0	3	4.0	6	9	39.3	18	13	12.7
5.0	3	5.0	6	10	3.3	18	12	49.5
5.0	3	6.0	6	10	27.2	18	12	26.4
5.0	3	7.0	6	10	51.2	18	12	3.3
6.0	3	.0	6	7	49.7	18	14	31.4
6.0	3	1.0	6	8	12.1	18	14	9.8
6.0	3	2.0	6	8	34.4	18	13	48.2
6.0	3	3.0	6	8	56.7	18	13	26.8
6.0	3	4.0	6	9	19.0	18	13	5.3
6.0	3	5.0	6	9	41.3	18	12	43.8
6.0	3	6.0	6	10	3.6	18	12	22.4
6.0	3	7.0	6	10	25.9	18	12	.9
7.0	3	.0	6	7	35.6	18	14	17.0
7.0	3	1.0	6	7	56.3	18	13	57.1
7.0	3	2.0	6	8	17.0	18	13	37.2
7.0	3	3.0	6	8	37.7	18	13	17.4
7.0	3	4.0	6	8	58.4	18	12	57.5

7.0	3	5.0	6 9	19.0	18 12	37.7
7.0	3	6.0	6 9	39.6	18 12	17.9
7.0	3	7.0	6 10	.3	18 11	58.1
8.0	3	.0	6 7	21.1	18 14	2.3
8.0	3	1.0	6 7	40.2	18 13	44.0
8.0	3	2.0	6 7	59.3	18 13	25.8
8.0	3	3.0	6 8	18.3	18 13	7.6
8.0	3	4.0	6 8	37.3	18 12	49.4
8.0	3	5.0	6 8	56.2	18 12	31.3
8.0	3	6.0	6 9	15.2	18 12	13.1
8.0	3	7.0	6 9	34.2	18 11	55.0
9.0	3	.0	6 7	6.2	18 13	47.3
9.0	3	1.0	6 7	23.7	18 13	30.6
9.0	3	2.0	6 7	41.1	18 13	14.0
9.0	3	3.0	6 7	58.5	18 12	57.5
9.0	3	4.0	6 8	15.8	18 12	41.0
9.0	3	5.0	6 8	33.1	18 12	24.5
9.0	3	6.0	6 8	50.4	18 12	8.0
9.0	3	7.0	6 9	7.7	18 11	51.5
10.0	3	.0	6 6	51.0	18 13	31.9
10.0	3	1.0	6 7	6.8	18 13	16.9
10.0	3	2.0	6 7	22.6	18 13	1.9
10.0	3	3.0	6 7	38.3	18 12	47.1
10.0	3	4.0	6 7	54.0	18 12	32.2
10.0	3	5.0	6 8	9.6	18 12	17.4
10.0	3	6.0	6 8	25.3	18 12	2.6
10.0	3	7.0	6 8	40.9	18 11	47.8
11.0	3	.0	6 6	35.5	18 13	16.1
11.0	3	1.0	6 6	49.6	18 13	2.8
11.0	3	2.0	6 7	3.7	18 12	49.5
11.0	3	3.0	6 7	17.8	18 12	36.3
11.0	3	4.0	6 7	31.8	18 12	23.1
11.0	3	5.0	6 7	45.8	18 12	10.0
11.0	3	6.0	6 7	59.8	18 11	56.8
11.0	3	7.0	6 8	13.7	18 11	43.7
12.0	3	.0	6 6	19.6	18 13	.1
12.0	3	1.0	6 6	32.1	18 12	48.5
12.0	3	2.0	6 6	44.6	18 12	36.8
12.0	3	3.0	6 6	57.0	18 12	25.3
12.0	3	4.0	6 7	9.3	18 12	13.7
12.0	3	5.0	6 7	21.6	18 12	2.2
12.0	3	6.0	6 7	33.9	18 11	50.8
12.0	3	7.0	6 7	46.2	18 11	39.3
13.0	3	.0	6 6	3.4	18 12	43.8
13.0	3	1.0	6 6	14.3	18 12	33.8
13.0	3	2.0	6 6	25.1	18 12	23.8
13.0	3	3.0	6 6	35.8	18 12	13.9
13.0	3	4.0	6 6	46.5	18 12	4.1
13.0	3	5.0	6 6	57.2	18 11	54.2
13.0	3	6.0	6 7	7.8	18 11	44.4
13.0	3	7.0	6 7	18.4	18 11	34.7
14.0	3	.0	6 5	47.0	18 12	27.2
14.0	3	1.0	6 5	56.1	18 12	18.9
14.0	3	2.0	6 6	5.3	18 12	10.6
14.0	3	3.0	6 6	14.4	18 12	2.3
14.0	3	4.0	6 6	23.4	18 11	54.1

14.0	3	5.0	6	6	32.4	18	11	46.0
14.0	3	6.0	6	6	41.4	18	11	37.8
14.0	3	7.0	6	6	50.3	18	11	29.7

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	3	.0	6	5	30.2	18	12	10.4
15.0	3	1.0	6	5	37.8	18	12	3.7
15.0	3	2.0	6	5	45.2	18	11	57.1
15.0	3	3.0	6	5	52.6	18	11	50.5
15.0	3	4.0	6	6	.0	18	11	43.9
15.0	3	5.0	6	6	7.3	18	11	37.4
15.0	3	6.0	6	6	14.6	18	11	31.0
15.0	3	7.0	6	6	21.9	18	11	24.6
16.0	3	.0	6	5	13.2	18	11	53.3
16.0	3	1.0	6	5	19.1	18	11	48.3
16.0	3	2.0	6	5	24.9	18	11	43.3
16.0	3	3.0	6	5	30.7	18	11	38.4
16.0	3	4.0	6	5	36.4	18	11	33.5
16.0	3	5.0	6	5	42.0	18	11	28.7
16.0	3	6.0	6	5	47.7	18	11	23.9
16.0	3	7.0	6	5	53.2	18	11	19.1
17.0	3	.0	6	4	56.0	18	11	36.1
17.0	3	1.0	6	5	.2	18	11	32.7
17.0	3	2.0	6	5	4.4	18	11	29.3
17.0	3	3.0	6	5	8.5	18	11	26.1
17.0	3	4.0	6	5	12.5	18	11	22.9
17.0	3	5.0	6	5	16.5	18	11	19.7
17.0	3	6.0	6	5	20.5	18	11	16.6
17.0	3	7.0	6	5	24.4	18	11	13.5
18.0	3	.0	6	4	38.6	18	11	18.6
18.0	3	1.0	6	4	41.1	18	11	16.9
18.0	3	2.0	6	4	43.6	18	11	15.2
18.0	3	3.0	6	4	46.1	18	11	13.6
18.0	3	4.0	6	4	48.5	18	11	12.0
18.0	3	5.0	6	4	50.8	18	11	10.5
18.0	3	6.0	6	4	53.1	18	11	9.1
18.0	3	7.0	6	4	55.3	18	11	7.7
19.0	3	.0	6	4	21.0	18	11	1.0
19.0	3	1.0	6	4	21.9	18	11	.9
19.0	3	2.0	6	4	22.7	18	11	.9
19.0	3	3.0	6	4	23.5	18	11	.9
19.0	3	4.0	6	4	24.2	18	11	1.0
19.0	3	5.0	6	4	24.9	18	11	1.2
19.0	3	6.0	6	4	25.5	18	11	1.4
19.0	3	7.0	6	4	26.0	18	11	1.7
20.0	3	.0	6	4	3.2	18	10	43.2
20.0	3	1.0	6	4	2.4	18	10	44.8
20.0	3	2.0	6	4	1.6	18	10	46.4
20.0	3	3.0	6	4	.7	18	10	48.1
20.0	3	4.0	6	3	59.8	18	10	49.9
20.0	3	5.0	6	3	58.8	18	10	51.7
20.0	3	6.0	6	3	57.7	18	10	53.6
20.0	3	7.0	6	3	56.6	18	10	55.6
21.0	3	.0	6	3	45.3	18	10	25.3

21.0	3	1.0	6	3	42.9	18	10	28.5
21.0	3	2.0	6	3	40.4	18	10	31.8
21.0	3	3.0	6	3	37.8	18	10	35.2
21.0	3	4.0	6	3	35.2	18	10	38.6
21.0	3	5.0	6	3	32.6	18	10	42.1
21.0	3	6.0	6	3	29.8	18	10	45.7
21.0	3	7.0	6	3	27.0	18	10	49.3
22.0	3	.0	6	3	27.2	18	10	7.3
22.0	3	1.0	6	3	23.2	18	10	12.2
22.0	3	2.0	6	3	19.0	18	10	17.1
22.0	3	3.0	6	3	14.8	18	10	22.1
22.0	3	4.0	6	3	10.6	18	10	27.2
22.0	3	5.0	6	3	6.3	18	10	32.4
22.0	3	6.0	6	3	1.9	18	10	37.6
22.0	3	7.0	6	2	57.4	18	10	43.0
23.0	3	.0	6	3	9.1	18	9	49.2
23.0	3	1.0	6	3	3.4	18	9	55.8
23.0	3	2.0	6	2	57.6	18	10	2.4
23.0	3	3.0	6	2	51.8	18	10	9.0
23.0	3	4.0	6	2	45.8	18	10	15.8
23.0	3	5.0	6	2	39.9	18	10	22.6
23.0	3	6.0	6	2	33.8	18	10	29.5
23.0	3	7.0	6	2	27.6	18	10	36.5
24.0	3	.0	6	2	50.9	18	9	31.1
24.0	3	1.0	6	2	43.5	18	9	39.3
24.0	3	2.0	6	2	36.1	18	9	47.5
24.0	3	3.0	6	2	28.6	18	9	55.9
24.0	3	4.0	6	2	21.0	18	10	4.3
24.0	3	5.0	6	2	13.4	18	10	12.7
24.0	3	6.0	6	2	5.7	18	10	21.3
24.0	3	7.0	6	1	57.8	18	10	30.0
25.0	3	.0	6	2	32.7	18	9	13.0
25.0	3	1.0	6	2	23.6	18	9	22.8
25.0	3	2.0	6	2	14.6	18	9	32.7
25.0	3	3.0	6	2	5.4	18	9	42.7
25.0	3	4.0	6	1	56.2	18	9	52.7
25.0	3	5.0	6	1	46.9	18	10	2.8
25.0	3	6.0	6	1	37.5	18	10	13.1
25.0	3	7.0	6	1	28.0	18	10	23.4
26.0	3	.0	6	2	14.4	18	8	54.8
26.0	3	1.0	6	2	3.7	18	9	6.3
26.0	3	2.0	6	1	53.0	18	9	17.8
26.0	3	3.0	6	1	42.2	18	9	29.4
26.0	3	4.0	6	1	31.3	18	9	41.1
26.0	3	5.0	6	1	20.4	18	9	52.9
26.0	3	6.0	6	1	9.3	18	10	4.8
26.0	3	7.0	6	0	58.2	18	10	16.8
27.0	3	.0	6	1	56.1	18	8	36.7
27.0	3	1.0	6	1	43.8	18	8	49.8
27.0	3	2.0	6	1	31.5	18	9	3.0
27.0	3	3.0	6	1	19.0	18	9	16.2
27.0	3	4.0	6	1	6.5	18	9	29.6
27.0	3	5.0	6	0	53.9	18	9	43.0
27.0	3	6.0	6	0	41.2	18	9	56.6
27.0	3	7.0	6	0	28.3	18	10	10.2
28.0	3	.0	6	1	37.9	18	8	18.6

28.0	3	1.0	6 1	23.9	18 8	33.3
28.0	3	2.0	6 1	9.9	18 8	48.2
28.0	3	3.0	6 0	55.9	18 9	3.1
28.0	3	4.0	6 0	41.7	18 9	18.1
28.0	3	5.0	6 0	27.4	18 9	33.2
28.0	3	6.0	6 0	13.0	18 9	48.4
28.0	3	7.0	5 59	58.6	18 10	3.7
29.0	3	.0	6 1	19.7	18 8	.6
29.0	3	1.0	6 1	4.1	18 8	17.0
29.0	3	2.0	6 0	48.5	18 8	33.4
29.0	3	3.0	6 0	32.7	18 8	50.0
29.0	3	4.0	6 0	16.9	18 9	6.6
29.0	3	5.0	6 0	1.0	18 9	23.3
29.0	3	6.0	5 59	45.0	18 9	40.2
29.0	3	7.0	5 59	28.9	18 9	57.2
30.0	3	.0	6 1	1.6	18 7	42.6
30.0	3	1.0	6 0	44.4	18 8	.7
30.0	3	2.0	6 0	27.1	18 8	18.7
30.0	3	3.0	6 0	9.7	18 8	36.9
30.0	3	4.0	5 59	52.3	18 8	55.2
30.0	3	5.0	5 59	34.7	18 9	13.6
30.0	3	6.0	5 59	17.0	18 9	32.1
30.0	3	7.0	5 58	59.2	18 9	50.7
31.0	3	.0	6 0	43.5	18 7	24.8
31.0	3	1.0	6 0	24.7	18 7	44.4
31.0	3	2.0	6 0	5.8	18 8	4.2
31.0	3	3.0	5 59	46.8	18 8	24.0
31.0	3	4.0	5 59	27.7	18 8	43.9
31.0	3	5.0	5 59	8.5	18 9	3.9
31.0	3	6.0	5 58	49.2	18 9	24.0
31.0	3	7.0	5 58	29.7	18 9	44.3

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	4	.0	6 0	25.6	18 7	7.1		
1.0	4	1.0	6 0	5.1	18 7	28.4		
1.0	4	2.0	5 59	44.6	18 7	49.7		
1.0	4	3.0	5 59	24.0	18 8	11.1		
1.0	4	4.0	5 59	3.2	18 8	32.7		
1.0	4	5.0	5 58	42.4	18 8	54.3		
1.0	4	6.0	5 58	21.5	18 9	16.1		
1.0	4	7.0	5 58	.4	18 9	38.0		
2.0	4	.0	6 0	7.8	18 6	49.5		
2.0	4	1.0	5 59	45.7	18 7	12.4		
2.0	4	2.0	5 59	23.5	18 7	35.4		
2.0	4	3.0	5 59	1.3	18 7	58.4		
2.0	4	4.0	5 58	38.9	18 8	21.6		
2.0	4	5.0	5 58	16.5	18 8	44.9		
2.0	4	6.0	5 57	53.9	18 9	8.3		
2.0	4	7.0	5 57	31.1	18 9	31.9		
3.0	4	.0	5 59	50.1	18 6	32.1		
3.0	4	1.0	5 59	26.4	18 6	56.6		
3.0	4	2.0	5 59	2.7	18 7	21.2		
3.0	4	3.0	5 58	38.8	18 7	45.9		
3.0	4	4.0	5 58	14.8	18 8	10.7		
3.0	4	5.0	5 57	50.7	18 8	35.6		

3.0	4	6.0	5 57 26.5	18 9 .6
3.0	4	7.0	5 57 2.1	18 9 25.8
4.0	4	.0	5 59 32.6	18 6 14.9
4.0	4	1.0	5 59 7.3	18 6 41.0
4.0	4	2.0	5 58 41.9	18 7 7.2
4.0	4	3.0	5 58 16.5	18 7 33.5
4.0	4	4.0	5 57 50.9	18 7 59.9
4.0	4	5.0	5 57 25.1	18 8 26.4
4.0	4	6.0	5 56 59.3	18 8 53.1
4.0	4	7.0	5 56 33.3	18 9 19.9
5.0	4	.0	5 59 15.3	18 5 57.9
5.0	4	1.0	5 58 48.4	18 6 25.6
5.0	4	2.0	5 58 21.4	18 6 53.4
5.0	4	3.0	5 57 54.3	18 7 21.3
5.0	4	4.0	5 57 27.1	18 7 49.3
5.0	4	5.0	5 56 59.8	18 8 17.5
5.0	4	6.0	5 56 32.3	18 8 45.8
5.0	4	7.0	5 56 4.6	18 9 14.2
6.0	4	.0	5 58 58.2	18 5 41.1
6.0	4	1.0	5 58 29.7	18 6 10.4
6.0	4	2.0	5 58 1.1	18 6 39.8
6.0	4	3.0	5 57 32.4	18 7 9.3
6.0	4	4.0	5 57 3.6	18 7 38.9
6.0	4	5.0	5 56 34.6	18 8 8.7
6.0	4	6.0	5 56 5.5	18 8 38.6
6.0	4	7.0	5 55 36.3	18 9 8.7
7.0	4	.0	5 58 41.3	18 5 24.5
7.0	4	1.0	5 58 11.2	18 5 55.4
7.0	4	2.0	5 57 41.0	18 6 26.4
7.0	4	3.0	5 57 10.7	18 6 57.5
7.0	4	4.0	5 56 40.3	18 7 28.7
7.0	4	5.0	5 56 9.7	18 8 .1
7.0	4	6.0	5 55 39.0	18 8 31.6
7.0	4	7.0	5 55 8.1	18 9 3.3
8.0	4	.0	5 58 24.6	18 5 8.2
8.0	4	1.0	5 57 52.9	18 5 40.7
8.0	4	2.0	5 57 21.1	18 6 13.3
8.0	4	3.0	5 56 49.2	18 6 45.9
8.0	4	4.0	5 56 17.2	18 7 18.7
8.0	4	5.0	5 55 45.1	18 7 51.7
8.0	4	6.0	5 55 12.7	18 8 24.8
8.0	4	7.0	5 54 40.2	18 8 58.1
9.0	4	.0	5 58 8.2	18 4 52.1
9.0	4	1.0	5 57 34.9	18 5 26.2
9.0	4	2.0	5 57 1.5	18 6 .3
9.0	4	3.0	5 56 28.0	18 6 34.6
9.0	4	4.0	5 55 54.4	18 7 9.0
9.0	4	5.0	5 55 20.7	18 7 43.5
9.0	4	6.0	5 54 46.7	18 8 18.2
9.0	4	7.0	5 54 12.6	18 8 53.2
10.0	4	.0	5 57 52.0	18 4 36.2
10.0	4	1.0	5 57 17.1	18 5 11.9
10.0	4	2.0	5 56 42.1	18 5 47.6
10.0	4	3.0	5 56 7.1	18 6 23.5
10.0	4	4.0	5 55 31.9	18 6 59.5
10.0	4	5.0	5 54 56.5	18 7 35.6

10.0	4	6.0	5 54 21.0	18 8 11.9
10.0	4	7.0	5 53 45.3	18 8 48.4
11.0	4	.0	5 57 36.0	18 4 20.7
11.0	4	1.0	5 56 59.6	18 4 57.9
11.0	4	2.0	5 56 23.0	18 5 35.2
11.0	4	3.0	5 55 46.4	18 6 12.6
11.0	4	4.0	5 55 9.6	18 6 50.2
11.0	4	5.0	5 54 32.7	18 7 27.9
11.0	4	6.0	5 53 55.6	18 8 5.8
11.0	4	7.0	5 53 18.3	18 8 43.9
12.0	4	.0	5 57 20.3	18 4 5.4
12.0	4	1.0	5 56 42.3	18 4 44.2
12.0	4	2.0	5 56 4.2	18 5 23.1
12.0	4	3.0	5 55 26.0	18 6 2.0
12.0	4	4.0	5 54 47.7	18 6 41.2
12.0	4	5.0	5 54 9.2	18 7 20.4
12.0	4	6.0	5 53 30.5	18 7 59.9
12.0	4	7.0	5 52 51.7	18 8 39.6
13.0	4	.0	5 57 5.0	18 3 50.4
13.0	4	1.0	5 56 25.4	18 4 30.8
13.0	4	2.0	5 55 45.7	18 5 11.2
13.0	4	3.0	5 55 6.0	18 5 51.7
13.0	4	4.0	5 54 26.1	18 6 32.4
13.0	4	5.0	5 53 46.0	18 7 13.2
13.0	4	6.0	5 53 5.8	18 7 54.3
13.0	4	7.0	5 52 25.3	18 8 35.5
14.0	4	.0	5 56 49.9	18 3 35.8
14.0	4	1.0	5 56 8.8	18 4 17.7
14.0	4	2.0	5 55 27.6	18 4 59.6
14.0	4	3.0	5 54 46.3	18 5 41.7
14.0	4	4.0	5 54 4.8	18 6 23.9
14.0	4	5.0	5 53 23.2	18 7 6.3
14.0	4	6.0	5 52 41.4	18 7 48.9
14.0	4	7.0	5 51 59.4	18 8 31.7
TARIKH LATITUD WAKTU TERBIT WAKTU TERBENAM				
MATAHARI MATAHARI				
H	B	~	j m s	j m s
15.0	4	.0	5 56 35.1	18 3 21.5
15.0	4	1.0	5 55 52.5	18 4 4.9
15.0	4	2.0	5 55 9.7	18 4 48.4
15.0	4	3.0	5 54 26.9	18 5 32.0
15.0	4	4.0	5 53 43.9	18 6 15.8
15.0	4	5.0	5 53 .7	18 6 59.7
15.0	4	6.0	5 52 17.3	18 7 43.8
15.0	4	7.0	5 51 33.8	18 8 28.2
16.0	4	.0	5 56 20.7	18 3 7.5
16.0	4	1.0	5 55 36.5	18 3 52.4
16.0	4	2.0	5 54 52.2	18 4 37.5
16.0	4	3.0	5 54 7.9	18 5 22.6
16.0	4	4.0	5 53 23.3	18 6 7.9
16.0	4	5.0	5 52 38.6	18 6 53.4
16.0	4	6.0	5 51 53.7	18 7 39.1
16.0	4	7.0	5 51 8.6	18 8 25.0
17.0	4	.0	5 56 6.6	18 2 53.9
17.0	4	1.0	5 55 20.9	18 3 40.4

17.0	4	2.0	5 54	35.1	18	4	26.9
17.0	4	3.0	5 53	49.2	18	5	13.6
17.0	4	4.0	5 53	3.2	18	6	.4
17.0	4	5.0	5 52	16.9	18	6	47.4
17.0	4	6.0	5 51	30.5	18	7	34.6
17.0	4	7.0	5 50	43.8	18	8	22.1
18.0	4	.0	5 55	52.9	18	2	40.7
18.0	4	1.0	5 55	5.7	18	3	28.6
18.0	4	2.0	5 54	18.4	18	4	16.7
18.0	4	3.0	5 53	31.0	18	5	4.9
18.0	4	4.0	5 52	43.4	18	5	53.2
18.0	4	5.0	5 51	55.6	18	6	41.7
18.0	4	6.0	5 51	7.7	18	7	30.5
18.0	4	7.0	5 50	19.4	18	8	19.4
19.0	4	.0	5 55	39.6	18	2	27.9
19.0	4	1.0	5 54	50.9	18	3	17.3
19.0	4	2.0	5 54	2.1	18	4	6.9
19.0	4	3.0	5 53	13.1	18	4	56.5
19.0	4	4.0	5 52	24.1	18	5	46.4
19.0	4	5.0	5 51	34.8	18	6	36.4
19.0	4	6.0	5 50	45.3	18	7	26.7
19.0	4	7.0	5 49	55.5	18	8	17.2
20.0	4	.0	5 55	26.7	18	2	15.4
20.0	4	1.0	5 54	36.5	18	3	6.4
20.0	4	2.0	5 53	46.2	18	3	57.4
20.0	4	3.0	5 52	55.7	18	4	48.6
20.0	4	4.0	5 52	5.2	18	5	39.9
20.0	4	5.0	5 51	14.4	18	6	31.5
20.0	4	6.0	5 50	23.4	18	7	23.2
20.0	4	7.0	5 49	32.1	18	8	15.2
21.0	4	.0	5 55	14.2	18	2	3.5
21.0	4	1.0	5 54	22.5	18	2	55.9
21.0	4	2.0	5 53	30.7	18	3	48.4
21.0	4	3.0	5 52	38.8	18	4	41.1
21.0	4	4.0	5 51	46.7	18	5	33.9
21.0	4	5.0	5 50	54.5	18	6	26.9
21.0	4	6.0	5 50	2.0	18	7	20.1
21.0	4	7.0	5 49	9.2	18	8	13.6
22.0	4	.0	5 55	2.1	18	1	51.9
22.0	4	1.0	5 54	9.0	18	2	45.8
22.0	4	2.0	5 53	15.7	18	3	39.8
22.0	4	3.0	5 52	22.3	18	4	33.9
22.0	4	4.0	5 51	28.8	18	5	28.2
22.0	4	5.0	5 50	35.0	18	6	22.7
22.0	4	6.0	5 49	41.0	18	7	17.4
22.0	4	7.0	5 48	46.8	18	8	12.4
23.0	4	.0	5 54	50.5	18	1	40.9
23.0	4	1.0	5 53	55.9	18	2	36.2
23.0	4	2.0	5 53	1.2	18	3	31.6
23.0	4	3.0	5 52	6.3	18	4	27.2
23.0	4	4.0	5 51	11.3	18	5	23.0
23.0	4	5.0	5 50	16.1	18	6	18.9
23.0	4	6.0	5 49	20.6	18	7	15.1
23.0	4	7.0	5 48	24.9	18	8	11.6
24.0	4	.0	5 54	39.4	18	1	30.3
24.0	4	1.0	5 53	43.3	18	2	27.0

24.0	4	2.0	5 52 47.1	18 3 23.9
24.0	4	3.0	5 51 50.8	18 4 20.9
24.0	4	4.0	5 50 54.4	18 5 18.1
24.0	4	5.0	5 49 57.7	18 6 15.5
24.0	4	6.0	5 49 .8	18 7 13.2
24.0	4	7.0	5 48 3.6	18 8 11.1
25.0	4	.0	5 54 28.7	18 1 20.1
25.0	4	1.0	5 53 31.2	18 2 18.4
25.0	4	2.0	5 52 33.6	18 3 16.7
25.0	4	3.0	5 51 35.9	18 4 15.1
25.0	4	4.0	5 50 38.0	18 5 13.7
25.0	4	5.0	5 49 39.8	18 6 12.6
25.0	4	6.0	5 48 41.5	18 7 11.7
25.0	4	7.0	5 47 42.8	18 8 11.1
26.0	4	.0	5 54 18.5	18 1 10.5
26.0	4	1.0	5 53 19.6	18 2 10.2
26.0	4	2.0	5 52 20.6	18 3 9.9
26.0	4	3.0	5 51 21.4	18 4 9.8
26.0	4	4.0	5 50 22.1	18 5 9.8
26.0	4	5.0	5 49 22.5	18 6 10.1
26.0	4	6.0	5 48 22.7	18 7 10.6
26.0	4	7.0	5 47 22.6	18 8 11.4
27.0	4	.0	5 54 8.9	18 1 1.4
27.0	4	1.0	5 53 8.5	18 2 2.5
27.0	4	2.0	5 52 8.1	18 3 3.6
27.0	4	3.0	5 51 7.5	18 4 4.9
27.0	4	4.0	5 50 6.8	18 5 6.3
27.0	4	5.0	5 49 5.8	18 6 8.0
27.0	4	6.0	5 48 4.6	18 7 10.0
27.0	4	7.0	5 47 3.0	18 8 12.2
28.0	4	.0	5 53 59.7	18 0 52.9
28.0	4	1.0	5 52 58.0	18 1 55.3
28.0	4	2.0	5 51 56.2	18 2 57.8
28.0	4	3.0	5 50 54.2	18 4 .5
28.0	4	4.0	5 49 52.0	18 5 3.4
28.0	4	5.0	5 48 49.6	18 6 6.4
28.0	4	6.0	5 47 47.0	18 7 9.8
28.0	4	7.0	5 46 44.0	18 8 13.5
29.0	4	.0	5 53 51.1	18 0 44.8
29.0	4	1.0	5 52 48.0	18 1 48.6
29.0	4	2.0	5 51 44.8	18 2 52.5
29.0	4	3.0	5 50 41.4	18 3 56.6
29.0	4	4.0	5 49 37.9	18 5 .8
29.0	4	5.0	5 48 34.1	18 6 5.3
29.0	4	6.0	5 47 30.0	18 7 10.1
29.0	4	7.0	5 46 25.7	18 8 15.1
30.0	4	.0	5 53 43.0	18 0 37.4
30.0	4	1.0	5 52 38.6	18 1 42.5
30.0	4	2.0	5 51 34.0	18 2 47.8
30.0	4	3.0	5 50 29.2	18 3 53.2
30.0	4	4.0	5 49 24.3	18 4 58.8
30.0	4	5.0	5 48 19.2	18 6 4.7
30.0	4	6.0	5 47 13.7	18 7 10.8
30.0	4	7.0	5 46 8.0	18 8 17.2

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	5	.0	5	53	35.5	18	0	30.4
1.0	5	1.0	5	52	29.7	18	1	36.9
1.0	5	2.0	5	51	23.7	18	2	43.6
1.0	5	3.0	5	50	17.7	18	3	50.3
1.0	5	4.0	5	49	11.4	18	4	57.3
1.0	5	5.0	5	48	4.8	18	6	4.5
1.0	5	6.0	5	46	58.0	18	7	12.0
1.0	5	7.0	5	45	50.9	18	8	19.8
2.0	5	.0	5	53	28.6	18	0	24.1
2.0	5	1.0	5	52	21.4	18	1	31.9
2.0	5	2.0	5	51	14.1	18	2	39.8
2.0	5	3.0	5	50	6.7	18	3	48.0
2.0	5	4.0	5	48	59.0	18	4	56.3
2.0	5	5.0	5	47	51.2	18	6	4.8
2.0	5	6.0	5	46	43.0	18	7	13.6
2.0	5	7.0	5	45	34.5	18	8	22.8
3.0	5	.0	5	53	22.2	18	0	18.3
3.0	5	1.0	5	52	13.7	18	1	27.4
3.0	5	2.0	5	51	5.1	18	2	36.7
3.0	5	3.0	5	49	56.3	18	3	46.1
3.0	5	4.0	5	48	47.3	18	4	55.7
3.0	5	5.0	5	47	38.1	18	6	5.6
3.0	5	6.0	5	46	28.6	18	7	15.8
3.0	5	7.0	5	45	18.8	18	8	26.3
4.0	5	.0	5	53	16.3	18	0	13.0
4.0	5	1.0	5	52	6.5	18	1	23.5
4.0	5	2.0	5	50	56.6	18	2	34.1
4.0	5	3.0	5	49	46.5	18	3	44.8
4.0	5	4.0	5	48	36.3	18	4	55.7
4.0	5	5.0	5	47	25.7	18	6	6.9
4.0	5	6.0	5	46	14.9	18	7	18.4
4.0	5	7.0	5	45	3.7	18	8	30.2
5.0	5	.0	5	53	11.1	18	0	8.4
5.0	5	1.0	5	51	60.0	18	1	20.1
5.0	5	2.0	5	50	48.8	18	2	32.0
5.0	5	3.0	5	49	37.4	18	3	44.0
5.0	5	4.0	5	48	25.8	18	4	56.2
5.0	5	5.0	5	47	14.0	18	6	8.7
5.0	5	6.0	5	46	1.9	18	7	21.4
5.0	5	7.0	5	44	49.4	18	8	34.6
6.0	5	.0	5	53	6.4	18	0	4.3
6.0	5	1.0	5	51	54.0	18	1	17.3
6.0	5	2.0	5	50	41.5	18	2	30.4
6.0	5	3.0	5	49	28.9	18	3	43.7
6.0	5	4.0	5	48	16.0	18	4	57.2
6.0	5	5.0	5	47	2.9	18	6	10.9
6.0	5	6.0	5	45	49.5	18	7	25.0
6.0	5	7.0	5	44	35.7	18	8	39.4
7.0	5	.0	5	53	2.2	18	0	.8
7.0	5	1.0	5	51	48.6	18	1	15.0
7.0	5	2.0	5	50	34.9	18	2	29.4
7.0	5	3.0	5	49	21.0	18	3	43.9
7.0	5	4.0	5	48	6.9	18	4	58.7

7.0	5	5.0	5 46 52.5	18 6 13.7
7.0	5	6.0	5 45 37.8	18 7 29.0
7.0	5	7.0	5 44 22.7	18 8 44.7
8.0	5	.0	5 52 58.7	17 59 57.8
8.0	5	1.0	5 51 43.8	18 1 13.3
8.0	5	2.0	5 50 28.8	18 2 28.9
8.0	5	3.0	5 49 13.7	18 3 44.6
8.0	5	4.0	5 47 58.3	18 5 .6
8.0	5	5.0	5 46 42.7	18 6 16.9
8.0	5	6.0	5 45 26.8	18 7 33.4
8.0	5	7.0	5 44 10.5	18 8 50.4
9.0	5	.0	5 52 55.7	17 59 55.4
9.0	5	1.0	5 51 39.6	18 1 12.1
9.0	5	2.0	5 50 23.4	18 2 28.9
9.0	5	3.0	5 49 7.0	18 3 45.9
9.0	5	4.0	5 47 50.4	18 5 3.1
9.0	5	5.0	5 46 33.6	18 6 20.5
9.0	5	6.0	5 45 16.4	18 7 38.3
9.0	5	7.0	5 43 58.9	18 8 56.5
10.0	5	.0	5 52 53.2	17 59 53.6
10.0	5	1.0	5 51 35.9	18 1 11.5
10.0	5	2.0	5 50 18.5	18 2 29.5
10.0	5	3.0	5 49 1.0	18 3 47.6
10.0	5	4.0	5 47 43.2	18 5 6.0
10.0	5	5.0	5 46 25.1	18 6 24.7
10.0	5	6.0	5 45 6.7	18 7 43.7
10.0	5	7.0	5 43 48.0	18 9 3.0
11.0	5	.0	5 52 51.3	17 59 52.3
11.0	5	1.0	5 51 32.9	18 1 11.4
11.0	5	2.0	5 50 14.3	18 2 30.5
11.0	5	3.0	5 48 55.5	18 3 49.9
11.0	5	4.0	5 47 36.6	18 5 9.4
11.0	5	5.0	5 46 17.3	18 6 29.3
11.0	5	6.0	5 44 57.7	18 7 49.5
11.0	5	7.0	5 43 37.7	18 9 10.0
12.0	5	.0	5 52 50.0	17 59 51.6
12.0	5	1.0	5 51 30.4	18 1 11.8
12.0	5	2.0	5 50 10.6	18 2 32.1
12.0	5	3.0	5 48 50.7	18 3 52.6
12.0	5	4.0	5 47 30.6	18 5 13.3
12.0	5	5.0	5 46 10.1	18 6 34.3
12.0	5	6.0	5 44 49.4	18 7 55.7
12.0	5	7.0	5 43 28.2	18 9 17.4
13.0	5	.0	5 52 49.2	17 59 51.4
13.0	5	1.0	5 51 28.5	18 1 12.7
13.0	5	2.0	5 50 7.6	18 2 34.2
13.0	5	3.0	5 48 46.5	18 3 55.8
13.0	5	4.0	5 47 25.2	18 5 17.7
13.0	5	5.0	5 46 3.6	18 6 39.8
13.0	5	6.0	5 44 41.7	18 8 2.3
13.0	5	7.0	5 43 19.4	18 9 25.2
14.0	5	.0	5 52 49.0	17 59 51.8
14.0	5	1.0	5 51 27.1	18 1 14.2
14.0	5	2.0	5 50 5.1	18 2 36.8
14.0	5	3.0	5 48 42.9	18 3 59.5
14.0	5	4.0	5 47 20.5	18 5 22.5

14.0	5	5.0	5 45 57.8	18 6 45.7
14.0	5	6.0	5 44 34.8	18 8 9.3
14.0	5	7.0	5 43 11.3	18 9 33.3

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	5	.0	5	52	49.3	17	59	52.7
15.0	5	1.0	5	51	26.4	18	1	16.2
15.0	5	2.0	5	50	3.2	18	2	39.9
15.0	5	3.0	5	48	40.0	18	4	3.7
15.0	5	4.0	5	47	16.4	18	5	27.8
15.0	5	5.0	5	45	52.6	18	6	52.1
15.0	5	6.0	5	44	28.5	18	8	16.8
15.0	5	7.0	5	43	3.9	18	9	41.9
16.0	5	.0	5	52	50.2	17	59	54.2
16.0	5	1.0	5	51	26.2	18	1	18.7
16.0	5	2.0	5	50	2.0	18	2	43.4
16.0	5	3.0	5	48	37.6	18	4	8.3
16.0	5	4.0	5	47	13.0	18	5	33.5
16.0	5	5.0	5	45	48.1	18	6	58.9
16.0	5	6.0	5	44	22.9	18	8	24.7
16.0	5	7.0	5	42	57.2	18	9	50.9
17.0	5	.0	5	52	51.6	17	59	56.2
17.0	5	1.0	5	51	26.5	18	1	21.8
17.0	5	2.0	5	50	1.3	18	2	47.5
17.0	5	3.0	5	48	35.9	18	4	13.5
17.0	5	4.0	5	47	10.2	18	5	39.7
17.0	5	5.0	5	45	44.3	18	7	6.1
17.0	5	6.0	5	44	17.9	18	8	33.0
17.0	5	7.0	5	42	51.2	18	10	.2
18.0	5	.0	5	52	53.6	17	59	58.7
18.0	5	1.0	5	51	27.5	18	1	25.3
18.0	5	2.0	5	50	1.2	18	2	52.1
18.0	5	3.0	5	48	34.7	18	4	19.1
18.0	5	4.0	5	47	8.1	18	5	46.3
18.0	5	5.0	5	45	41.1	18	7	13.8
18.0	5	6.0	5	44	13.7	18	8	41.6
18.0	5	7.0	5	42	45.9	18	10	9.9
19.0	5	.0	5	52	56.1	18	0	1.8
19.0	5	1.0	5	51	29.0	18	1	29.4
19.0	5	2.0	5	50	1.7	18	2	57.2
19.0	5	3.0	5	48	34.2	18	4	25.1
19.0	5	4.0	5	47	6.5	18	5	53.3
19.0	5	5.0	5	45	38.5	18	7	21.8
19.0	5	6.0	5	44	10.2	18	8	50.7
19.0	5	7.0	5	42	41.4	18	10	20.0
20.0	5	.0	5	52	59.2	18	0	5.4
20.0	5	1.0	5	51	31.0	18	1	34.0
20.0	5	2.0	5	50	2.8	18	3	2.7
20.0	5	3.0	5	48	34.3	18	4	31.6
20.0	5	4.0	5	47	5.7	18	6	.8
20.0	5	5.0	5	45	36.7	18	7	30.3
20.0	5	6.0	5	44	7.3	18	9	.1
20.0	5	7.0	5	42	37.5	18	10	30.4
21.0	5	.0	5	53	2.7	18	0	9.5

21.0	5	1.0	5 51 33.7	18 1 39.1
21.0	5	2.0	5 50 4.5	18 3 8.7
21.0	5	3.0	5 48 35.1	18 4 38.6
21.0	5	4.0	5 47 5.4	18 6 8.7
21.0	5	5.0	5 45 35.4	18 7 39.2
21.0	5	6.0	5 44 5.1	18 9 10.0
21.0	5	7.0	5 42 34.4	18 10 41.2
22.0	5	.0	5 53 6.9	18 0 14.2
22.0	5	1.0	5 51 36.8	18 1 44.6
22.0	5	2.0	5 50 6.7	18 3 15.2
22.0	5	3.0	5 48 36.4	18 4 46.0
22.0	5	4.0	5 47 5.8	18 6 17.1
22.0	5	5.0	5 45 34.9	18 7 48.4
22.0	5	6.0	5 44 3.6	18 9 20.1
22.0	5	7.0	5 42 31.9	18 10 52.3
23.0	5	.0	5 53 11.5	18 0 19.3
23.0	5	1.0	5 51 40.6	18 1 50.7
23.0	5	2.0	5 50 9.5	18 3 22.2
23.0	5	3.0	5 48 38.3	18 4 53.9
23.0	5	4.0	5 47 6.8	18 6 25.8
23.0	5	5.0	5 45 35.0	18 7 58.1
23.0	5	6.0	5 44 2.8	18 9 30.7
23.0	5	7.0	5 42 30.2	18 11 3.8
24.0	5	.0	5 53 16.6	18 0 25.0
24.0	5	1.0	5 51 44.9	18 1 57.2
24.0	5	2.0	5 50 12.9	18 3 29.6
24.0	5	3.0	5 48 40.8	18 5 2.1
24.0	5	4.0	5 47 8.4	18 6 34.9
24.0	5	5.0	5 45 35.7	18 8 8.1
24.0	5	6.0	5 44 2.7	18 9 41.6
24.0	5	7.0	5 42 29.1	18 11 15.5
25.0	5	.0	5 53 22.3	18 0 31.2
25.0	5	1.0	5 51 49.7	18 2 4.2
25.0	5	2.0	5 50 16.9	18 3 37.4
25.0	5	3.0	5 48 43.9	18 5 10.8
25.0	5	4.0	5 47 10.7	18 6 44.5
25.0	5	5.0	5 45 37.1	18 8 18.5
25.0	5	6.0	5 44 3.2	18 9 52.8
25.0	5	7.0	5 42 28.8	18 11 27.6
26.0	5	.0	5 53 28.5	18 0 37.8
26.0	5	1.0	5 51 55.0	18 2 11.7
26.0	5	2.0	5 50 21.4	18 3 45.7
26.0	5	3.0	5 48 47.6	18 5 19.9
26.0	5	4.0	5 47 13.6	18 6 54.4
26.0	5	5.0	5 45 39.2	18 8 29.2
26.0	5	6.0	5 44 4.4	18 10 4.4
26.0	5	7.0	5 42 29.2	18 11 40.0
27.0	5	.0	5 53 35.2	18 0 45.0
27.0	5	1.0	5 52 .9	18 2 19.7
27.0	5	2.0	5 50 26.5	18 3 54.4
27.0	5	3.0	5 48 51.9	18 5 29.4
27.0	5	4.0	5 47 17.0	18 7 4.7
27.0	5	5.0	5 45 41.8	18 8 40.3
27.0	5	6.0	5 44 6.3	18 10 16.2
27.0	5	7.0	5 42 30.2	18 11 52.7
28.0	5	.0	5 53 42.3	18 0 52.6

28.0	5	1.0	5 52 7.3	18 2 28.0
28.0	5	2.0	5 50 32.1	18 4 3.6
28.0	5	3.0	5 48 56.8	18 5 39.3
28.0	5	4.0	5 47 21.1	18 7 15.3
28.0	5	5.0	5 45 45.2	18 8 51.7
28.0	5	6.0	5 44 8.8	18 10 28.4
28.0	5	7.0	5 42 32.0	18 12 5.6
29.0	5	.0	5 53 50.0	18 1 .7
29.0	5	1.0	5 52 14.2	18 2 36.9
29.0	5	2.0	5 50 38.3	18 4 13.1
29.0	5	3.0	5 49 2.2	18 5 49.6
29.0	5	4.0	5 47 25.8	18 7 26.3
29.0	5	5.0	5 45 49.1	18 9 3.4
29.0	5	6.0	5 44 12.0	18 10 40.9
29.0	5	7.0	5 42 34.4	18 12 18.8
30.0	5	.0	5 53 58.1	18 1 9.3
30.0	5	1.0	5 52 21.6	18 2 46.1
30.0	5	2.0	5 50 45.0	18 4 23.1
30.0	5	3.0	5 49 8.1	18 6 .2
30.0	5	4.0	5 47 31.0	18 7 37.7
30.0	5	5.0	5 45 53.6	18 9 15.5
30.0	5	6.0	5 44 15.8	18 10 53.6
30.0	5	7.0	5 42 37.5	18 12 32.3
31.0	5	.0	5 54 6.6	18 1 18.2
31.0	5	1.0	5 52 29.5	18 2 55.7
31.0	5	2.0	5 50 52.2	18 4 33.4
31.0	5	3.0	5 49 14.6	18 6 11.2
31.0	5	4.0	5 47 36.9	18 7 49.3
31.0	5	5.0	5 45 58.7	18 9 27.8
31.0	5	6.0	5 44 20.2	18 11 6.6
31.0	5	7.0	5 42 41.2	18 12 46.0

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	6	.0	5	54	15.6	18	1	27.6
1.0	6	1.0	5	52	37.8	18	3	5.8
1.0	6	2.0	5	50	59.8	18	4	44.0
1.0	6	3.0	5	49	21.7	18	6	22.5
1.0	6	4.0	5	47	43.2	18	8	1.3
1.0	6	5.0	5	46	4.5	18	9	40.4
1.0	6	6.0	5	44	25.3	18	11	19.9
1.0	6	7.0	5	42	45.6	18	12	59.8
2.0	6	.0	5	54	25.0	18	1	37.4
2.0	6	1.0	5	52	46.6	18	3	16.1
2.0	6	2.0	5	51	8.0	18	4	55.0
2.0	6	3.0	5	49	29.2	18	6	34.1
2.0	6	4.0	5	47	50.1	18	8	13.5
2.0	6	5.0	5	46	10.7	18	9	53.2
2.0	6	6.0	5	44	30.9	18	11	33.3
2.0	6	7.0	5	42	50.6	18	13	13.9
3.0	6	.0	5	54	34.8	18	1	47.6
3.0	6	1.0	5	52	55.8	18	3	26.9
3.0	6	2.0	5	51	16.6	18	5	6.3
3.0	6	3.0	5	49	37.2	18	6	46.0
3.0	6	4.0	5	47	57.6	18	8	26.0
3.0	6	5.0	5	46	17.6	18	10	6.2

3.0	6	6.0	5 44 37.2	18 11 46.9
3.0	6	7.0	5 42 56.3	18 13 28.1
4.0	6	.0	5 54 45.0	18 1 58.1
4.0	6	1.0	5 53 5.4	18 3 37.9
4.0	6	2.0	5 51 25.6	18 5 17.9
4.0	6	3.0	5 49 45.7	18 6 58.2
4.0	6	4.0	5 48 5.5	18 8 38.6
4.0	6	5.0	5 46 24.9	18 10 19.5
4.0	6	6.0	5 44 43.9	18 12 .7
4.0	6	7.0	5 43 2.5	18 13 42.5
5.0	6	.0	5 54 55.5	18 2 8.9
5.0	6	1.0	5 53 15.4	18 3 49.3
5.0	6	2.0	5 51 35.1	18 5 29.8
5.0	6	3.0	5 49 54.6	18 7 10.5
5.0	6	4.0	5 48 13.9	18 8 51.5
5.0	6	5.0	5 46 32.8	18 10 32.9
5.0	6	6.0	5 44 51.3	18 12 14.7
5.0	6	7.0	5 43 9.3	18 13 56.9
6.0	6	.0	5 55 6.3	18 2 20.1
6.0	6	1.0	5 53 25.7	18 4 .9
6.0	6	2.0	5 51 44.9	18 5 41.9
6.0	6	3.0	5 50 4.0	18 7 23.1
6.0	6	4.0	5 48 22.7	18 9 4.6
6.0	6	5.0	5 46 41.1	18 10 46.5
6.0	6	6.0	5 44 59.1	18 12 28.7
6.0	6	7.0	5 43 16.6	18 14 11.5
7.0	6	.0	5 55 17.4	18 2 31.5
7.0	6	1.0	5 53 36.4	18 4 12.8
7.0	6	2.0	5 51 55.1	18 5 54.3
7.0	6	3.0	5 50 13.7	18 7 35.9
7.0	6	4.0	5 48 32.0	18 9 17.9
7.0	6	5.0	5 46 49.9	18 11 .1
7.0	6	6.0	5 45 7.4	18 12 42.8
7.0	6	7.0	5 43 24.5	18 14 26.0
8.0	6	.0	5 55 28.9	18 2 43.2
8.0	6	1.0	5 53 47.3	18 4 24.9
8.0	6	2.0	5 52 5.7	18 6 6.8
8.0	6	3.0	5 50 23.8	18 7 48.8
8.0	6	4.0	5 48 41.7	18 9 31.2
8.0	6	5.0	5 46 59.2	18 11 13.9
8.0	6	6.0	5 45 16.2	18 12 57.0
8.0	6	7.0	5 43 32.8	18 14 40.7
9.0	6	.0	5 55 40.5	18 2 55.1
9.0	6	1.0	5 53 58.6	18 4 37.2
9.0	6	2.0	5 52 16.5	18 6 19.4
9.0	6	3.0	5 50 34.3	18 8 1.9
9.0	6	4.0	5 48 51.7	18 9 44.7
9.0	6	5.0	5 47 8.8	18 11 27.7
9.0	6	6.0	5 45 25.5	18 13 11.3
9.0	6	7.0	5 43 41.7	18 14 55.3
10.0	6	.0	5 55 52.4	18 3 7.2
10.0	6	1.0	5 54 10.1	18 4 49.7
10.0	6	2.0	5 52 27.7	18 6 32.3
10.0	6	3.0	5 50 45.1	18 8 15.1
10.0	6	4.0	5 49 2.1	18 9 58.2
10.0	6	5.0	5 47 18.9	18 11 41.6

10.0	6	6.0	5 45 35.2	18 13 25.5
10.0	6	7.0	5 43 51.0	18 15 9.9
11.0	6	.0	5 56 4.5	18 3 19.5
11.0	6	1.0	5 54 21.9	18 5 2.3
11.0	6	2.0	5 52 39.1	18 6 45.2
11.0	6	3.0	5 50 56.1	18 8 28.3
11.0	6	4.0	5 49 12.9	18 10 11.7
11.0	6	5.0	5 47 29.3	18 11 55.5
11.0	6	6.0	5 45 45.2	18 13 39.7
11.0	6	7.0	5 44 .7	18 15 24.4
12.0	6	.0	5 56 16.8	18 3 32.0
12.0	6	1.0	5 54 33.8	18 5 15.0
12.0	6	2.0	5 52 50.8	18 6 58.2
12.0	6	3.0	5 51 7.5	18 8 41.7
12.0	6	4.0	5 49 24.0	18 10 25.4
12.0	6	5.0	5 47 40.0	18 12 9.4
12.0	6	6.0	5 45 55.7	18 13 53.9
12.0	6	7.0	5 44 10.9	18 15 38.9
13.0	6	.0	5 56 29.2	18 3 44.6
13.0	6	1.0	5 54 46.0	18 5 27.9
13.0	6	2.0	5 53 2.7	18 7 11.3
13.0	6	3.0	5 51 19.1	18 8 55.0
13.0	6	4.0	5 49 35.3	18 10 39.0
13.0	6	5.0	5 47 51.1	18 12 23.3
13.0	6	6.0	5 46 6.5	18 14 8.0
13.0	6	7.0	5 44 21.4	18 15 53.2
14.0	6	.0	5 56 41.8	18 3 57.3
14.0	6	1.0	5 54 58.4	18 5 40.8
14.0	6	2.0	5 53 14.8	18 7 24.5
14.0	6	3.0	5 51 31.0	18 9 8.4
14.0	6	4.0	5 49 47.0	18 10 52.5
14.0	6	5.0	5 48 2.5	18 12 37.1
14.0	6	6.0	5 46 17.7	18 14 22.0
14.0	6	7.0	5 44 32.3	18 16 7.5
TARIKH LATITUD WAKTU TERBIT WAKTU TERBENAM				
MATAHARI MATAHARI				
H	B	~	j m s	j m s
15.0	6	.0	5 56 54.5	18 4 10.1
15.0	6	1.0	5 55 10.8	18 5 53.8
15.0	6	2.0	5 53 27.1	18 7 37.7
15.0	6	3.0	5 51 43.1	18 9 21.7
15.0	6	4.0	5 49 58.8	18 11 6.1
15.0	6	5.0	5 48 14.2	18 12 50.8
15.0	6	6.0	5 46 29.2	18 14 35.9
15.0	6	7.0	5 44 43.6	18 16 21.6
16.0	6	.0	5 57 7.2	18 4 23.0
16.0	6	1.0	5 55 23.5	18 6 6.9
16.0	6	2.0	5 53 39.5	18 7 50.9
16.0	6	3.0	5 51 55.4	18 9 35.1
16.0	6	4.0	5 50 11.0	18 11 19.6
16.0	6	5.0	5 48 26.2	18 13 4.4
16.0	6	6.0	5 46 41.0	18 14 49.7
16.0	6	7.0	5 44 55.2	18 16 35.5
17.0	6	.0	5 57 20.1	18 4 36.0
17.0	6	1.0	5 55 36.2	18 6 19.9

17.0	6	2.0	5 53 52.1	18 8 4.0
17.0	6	3.0	5 52 7.9	18 9 48.3
17.0	6	4.0	5 50 23.3	18 11 33.0
17.0	6	5.0	5 48 38.4	18 13 17.9
17.0	6	6.0	5 46 53.0	18 15 3.3
17.0	6	7.0	5 45 7.2	18 16 49.2
18.0	6	.0	5 57 33.0	18 4 48.9
18.0	6	1.0	5 55 49.0	18 6 33.0
18.0	6	2.0	5 54 4.9	18 8 17.1
18.0	6	3.0	5 52 20.5	18 10 1.6
18.0	6	4.0	5 50 35.8	18 11 46.2
18.0	6	5.0	5 48 50.8	18 13 31.3
18.0	6	6.0	5 47 5.4	18 15 16.8
18.0	6	7.0	5 45 19.4	18 17 2.8
19.0	6	.0	5 57 46.0	18 5 1.9
19.0	6	1.0	5 56 1.9	18 6 46.0
19.0	6	2.0	5 54 17.7	18 8 30.2
19.0	6	3.0	5 52 33.2	18 10 14.7
19.0	6	4.0	5 50 48.5	18 11 59.4
19.0	6	5.0	5 49 3.4	18 13 44.5
19.0	6	6.0	5 47 17.9	18 15 30.0
19.0	6	7.0	5 45 31.9	18 17 16.1
20.0	6	.0	5 57 58.9	18 5 14.9
20.0	6	1.0	5 56 14.8	18 6 59.0
20.0	6	2.0	5 54 30.6	18 8 43.2
20.0	6	3.0	5 52 46.1	18 10 27.7
20.0	6	4.0	5 51 1.4	18 12 12.4
20.0	6	5.0	5 49 16.3	18 13 57.5
20.0	6	6.0	5 47 30.7	18 15 43.1
20.0	6	7.0	5 45 44.7	18 17 29.1
21.0	6	.0	5 58 11.9	18 5 27.8
21.0	6	1.0	5 56 27.8	18 7 11.9
21.0	6	2.0	5 54 43.5	18 8 56.1
21.0	6	3.0	5 52 59.1	18 10 40.5
21.0	6	4.0	5 51 14.3	18 12 25.3
21.0	6	5.0	5 49 29.2	18 14 10.3
21.0	6	6.0	5 47 43.7	18 15 55.9
21.0	6	7.0	5 45 57.7	18 17 41.9
22.0	6	.0	5 58 24.8	18 5 40.7
22.0	6	1.0	5 56 40.7	18 7 24.7
22.0	6	2.0	5 54 56.5	18 9 8.9
22.0	6	3.0	5 53 12.1	18 10 53.2
22.0	6	4.0	5 51 27.4	18 12 37.9
22.0	6	5.0	5 49 42.4	18 14 22.9
22.0	6	6.0	5 47 56.9	18 16 8.4
22.0	6	7.0	5 46 10.9	18 17 54.4
23.0	6	.0	5 58 37.7	18 5 53.5
23.0	6	1.0	5 56 53.7	18 7 37.4
23.0	6	2.0	5 55 9.6	18 9 21.5
23.0	6	3.0	5 53 25.2	18 11 5.8
23.0	6	4.0	5 51 40.6	18 12 50.4
23.0	6	5.0	5 49 55.6	18 14 35.3
23.0	6	6.0	5 48 10.2	18 16 20.7
23.0	6	7.0	5 46 24.3	18 18 6.5
24.0	6	.0	5 58 50.5	18 6 6.3
24.0	6	1.0	5 57 6.6	18 7 50.0

24.0	6	2.0	5 55 22.6	18 9 34.0
24.0	6	3.0	5 53 38.4	18 11 18.1
24.0	6	4.0	5 51 53.9	18 13 2.6
24.0	6	5.0	5 50 9.0	18 14 47.4
24.0	6	6.0	5 48 23.7	18 16 32.6
24.0	6	7.0	5 46 37.9	18 18 18.4
25.0	6	.0	5 59 3.2	18 6 18.9
25.0	6	1.0	5 57 19.5	18 8 2.5
25.0	6	2.0	5 55 35.6	18 9 46.3
25.0	6	3.0	5 53 51.5	18 11 30.3
25.0	6	4.0	5 52 7.2	18 13 14.6
25.0	6	5.0	5 50 22.4	18 14 59.2
25.0	6	6.0	5 48 37.3	18 16 44.3
25.0	6	7.0	5 46 51.6	18 18 29.9
26.0	6	.0	5 59 15.8	18 6 31.4
26.0	6	1.0	5 57 32.3	18 8 14.8
26.0	6	2.0	5 55 48.6	18 9 58.4
26.0	6	3.0	5 54 4.7	18 11 42.2
26.0	6	4.0	5 52 20.5	18 13 26.3
26.0	6	5.0	5 50 35.9	18 15 10.7
26.0	6	6.0	5 48 51.0	18 16 55.6
26.0	6	7.0	5 47 5.5	18 18 41.0
27.0	6	.0	5 59 28.3	18 6 43.7
27.0	6	1.0	5 57 45.0	18 8 26.9
27.0	6	2.0	5 56 1.5	18 10 10.3
27.0	6	3.0	5 54 17.8	18 11 53.9
27.0	6	4.0	5 52 33.8	18 13 37.7
27.0	6	5.0	5 50 49.5	18 15 22.0
27.0	6	6.0	5 49 4.7	18 17 6.6
27.0	6	7.0	5 47 19.5	18 18 51.7
28.0	6	.0	5 59 40.7	18 6 55.9
28.0	6	1.0	5 57 57.6	18 8 38.9
28.0	6	2.0	5 56 14.3	18 10 22.0
28.0	6	3.0	5 54 30.9	18 12 5.3
28.0	6	4.0	5 52 47.2	18 13 48.9
28.0	6	5.0	5 51 3.1	18 15 32.8
28.0	6	6.0	5 49 18.5	18 17 17.2
28.0	6	7.0	5 47 33.5	18 19 2.1
29.0	6	.0	5 59 52.8	18 7 7.9
29.0	6	1.0	5 58 10.0	18 8 50.5
29.0	6	2.0	5 56 27.1	18 10 33.4
29.0	6	3.0	5 54 43.9	18 12 16.4
29.0	6	4.0	5 53 .4	18 13 59.7
29.0	6	5.0	5 51 16.6	18 15 43.3
29.0	6	6.0	5 49 32.4	18 17 27.4
29.0	6	7.0	5 47 47.7	18 19 12.0
30.0	6	.0	6 0 4.8	18 7 19.7
30.0	6	1.0	5 58 22.3	18 9 2.0
30.0	6	2.0	5 56 39.7	18 10 44.5
30.0	6	3.0	5 54 56.8	18 12 27.2
30.0	6	4.0	5 53 13.7	18 14 10.1
30.0	6	5.0	5 51 30.2	18 15 53.5
30.0	6	6.0	5 49 46.3	18 17 37.2
30.0	6	7.0	5 48 1.8	18 19 21.4

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
			MATAHARI			MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	7	.0	6	0	16.6	18	7	31.2
1.0	7	1.0	5	58	34.4	18	9	13.2
1.0	7	2.0	5	56	52.1	18	10	55.3
1.0	7	3.0	5	55	9.6	18	12	37.6
1.0	7	4.0	5	53	26.8	18	14	20.2
1.0	7	5.0	5	51	43.7	18	16	3.2
1.0	7	6.0	5	50	.1	18	17	46.6
1.0	7	7.0	5	48	16.0	18	19	30.4
2.0	7	.0	6	0	28.1	18	7	42.5
2.0	7	1.0	5	58	46.3	18	9	24.0
2.0	7	2.0	5	57	4.4	18	11	5.8
2.0	7	3.0	5	55	22.3	18	12	47.7
2.0	7	4.0	5	53	39.8	18	14	29.9
2.0	7	5.0	5	51	57.1	18	16	12.5
2.0	7	6.0	5	50	13.9	18	17	55.4
2.0	7	7.0	5	48	30.2	18	19	38.9
3.0	7	.0	6	0	39.3	18	7	53.4
3.0	7	1.0	5	58	58.0	18	9	34.6
3.0	7	2.0	5	57	16.5	18	11	15.9
3.0	7	3.0	5	55	34.7	18	12	57.4
3.0	7	4.0	5	53	52.7	18	14	39.2
3.0	7	5.0	5	52	10.4	18	16	21.3
3.0	7	6.0	5	50	27.6	18	18	3.9
3.0	7	7.0	5	48	44.3	18	19	46.9
4.0	7	.0	6	0	50.3	18	8	4.1
4.0	7	1.0	5	59	9.4	18	9	44.8
4.0	7	2.0	5	57	28.3	18	11	25.6
4.0	7	3.0	5	55	47.0	18	13	6.7
4.0	7	4.0	5	54	5.5	18	14	48.0
4.0	7	5.0	5	52	23.6	18	16	29.7
4.0	7	6.0	5	50	41.2	18	18	11.8
4.0	7	7.0	5	48	58.4	18	19	54.3
5.0	7	.0	6	1	.9	18	8	14.4
5.0	7	1.0	5	59	20.5	18	9	54.6
5.0	7	2.0	5	57	39.9	18	11	35.0
5.0	7	3.0	5	55	59.1	18	13	15.5
5.0	7	4.0	5	54	18.0	18	14	56.4
5.0	7	5.0	5	52	36.6	18	16	37.5
5.0	7	6.0	5	50	54.7	18	18	19.1
5.0	7	7.0	5	49	12.4	18	20	1.2
6.0	7	.0	6	1	11.2	18	8	24.4
6.0	7	1.0	5	59	31.3	18	10	4.1
6.0	7	2.0	5	57	51.2	18	11	43.9
6.0	7	3.0	5	56	10.9	18	13	23.9
6.0	7	4.0	5	54	30.3	18	15	4.2
6.0	7	5.0	5	52	49.4	18	16	44.9
6.0	7	6.0	5	51	8.1	18	18	25.9
6.0	7	7.0	5	49	26.2	18	20	7.5
7.0	7	.0	6	1	21.1	18	8	34.0
7.0	7	1.0	5	59	41.7	18	10	13.1
7.0	7	2.0	5	58	2.2	18	11	52.4
7.0	7	3.0	5	56	22.4	18	13	31.8

7.0	7	4.0	5 54	42.4	18 15	11.6
7.0	7	5.0	5 53	2.0	18 16	51.7
7.0	7	6.0	5 51	21.2	18 18	32.2
7.0	7	7.0	5 49	39.9	18 20	13.2
8.0	7	.0	6 1	30.7	18 8	43.1
8.0	7	1.0	5 59	51.8	18 10	21.7
8.0	7	2.0	5 58	12.8	18 12	.4
8.0	7	3.0	5 56	33.7	18 13	39.2
8.0	7	4.0	5 54	54.2	18 15	18.4
8.0	7	5.0	5 53	14.4	18 16	57.9
8.0	7	6.0	5 51	34.2	18 18	37.8
8.0	7	7.0	5 49	53.5	18 20	18.2
9.0	7	.0	6 1	39.8	18 8	51.9
9.0	7	1.0	6 0	1.5	18 10	29.8
9.0	7	2.0	5 58	23.2	18 12	7.9
9.0	7	3.0	5 56	44.6	18 13	46.1
9.0	7	4.0	5 55	5.7	18 15	24.7
9.0	7	5.0	5 53	26.5	18 17	3.6
9.0	7	6.0	5 51	46.9	18 18	42.9
9.0	7	7.0	5 50	6.8	18 20	22.6
10.0	7	.0	6 1	48.5	18 9	.2
10.0	7	1.0	6 0	10.9	18 10	37.4
10.0	7	2.0	5 58	33.1	18 12	14.9
10.0	7	3.0	5 56	55.1	18 13	52.5
10.0	7	4.0	5 55	16.9	18 15	30.4
10.0	7	5.0	5 53	38.3	18 17	8.6
10.0	7	6.0	5 51	59.4	18 18	47.3
10.0	7	7.0	5 50	19.9	18 20	26.4
11.0	7	.0	6 1	56.7	18 9	8.0
11.0	7	1.0	6 0	19.8	18 10	44.6
11.0	7	2.0	5 58	42.7	18 12	21.3
11.0	7	3.0	5 57	5.4	18 13	58.3
11.0	7	4.0	5 55	27.8	18 15	35.5
11.0	7	5.0	5 53	49.9	18 17	13.1
11.0	7	6.0	5 52	11.6	18 18	51.0
11.0	7	7.0	5 50	32.8	18 20	29.5
12.0	7	.0	6 2	4.5	18 9	15.3
12.0	7	1.0	6 0	28.2	18 10	51.2
12.0	7	2.0	5 58	51.8	18 12	27.3
12.0	7	3.0	5 57	15.2	18 14	3.5
12.0	7	4.0	5 55	38.3	18 15	40.1
12.0	7	5.0	5 54	1.1	18 17	16.9
12.0	7	6.0	5 52	23.5	18 18	54.2
12.0	7	7.0	5 50	45.4	18 20	31.9
13.0	7	.0	6 2	11.8	18 9	22.2
13.0	7	1.0	6 0	36.2	18 10	57.3
13.0	7	2.0	5 59	.5	18 12	32.7
13.0	7	3.0	5 57	24.6	18 14	8.2
13.0	7	4.0	5 55	48.5	18 15	44.0
13.0	7	5.0	5 54	12.0	18 17	20.1
13.0	7	6.0	5 52	35.1	18 18	56.6
13.0	7	7.0	5 50	57.8	18 20	33.6
14.0	7	.0	6 2	18.6	18 9	28.5
14.0	7	1.0	6 0	43.8	18 11	2.9
14.0	7	2.0	5 59	8.8	18 12	37.5
14.0	7	3.0	5 57	33.7	18 14	12.2

14.0	7	4.0	5 55 58.3	18 15 47.3
14.0	7	5.0	5 54 22.5	18 17 22.6
14.0	7	6.0	5 52 46.4	18 18 58.4
14.0	7	7.0	5 51 9.8	18 20 34.6

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	7	.0	6	2	24.9	18	9	34.3
15.0	7	1.0	6	0	50.8	18	11	8.0
15.0	7	2.0	5	59	16.7	18	12	41.7
15.0	7	3.0	5	57	42.3	18	14	15.7
15.0	7	4.0	5	56	7.7	18	15	49.9
15.0	7	5.0	5	54	32.7	18	17	24.5
15.0	7	6.0	5	52	57.3	18	18	59.4
15.0	7	7.0	5	51	21.5	18	20	34.8
16.0	7	.0	6	2	30.6	18	9	39.6
16.0	7	1.0	6	0	57.4	18	11	12.4
16.0	7	2.0	5	59	24.0	18	12	45.4
16.0	7	3.0	5	57	50.5	18	14	18.5
16.0	7	4.0	5	56	16.6	18	15	52.0
16.0	7	5.0	5	54	42.5	18	17	25.7
16.0	7	6.0	5	53	7.9	18	18	59.8
16.0	7	7.0	5	51	33.0	18	20	34.4
17.0	7	.0	6	2	35.9	18	9	44.3
17.0	7	1.0	6	1	3.5	18	11	16.3
17.0	7	2.0	5	59	30.9	18	12	48.4
17.0	7	3.0	5	57	58.2	18	14	20.8
17.0	7	4.0	5	56	25.2	18	15	53.3
17.0	7	5.0	5	54	51.9	18	17	26.2
17.0	7	6.0	5	53	18.2	18	18	59.5
17.0	7	7.0	5	51	44.0	18	20	33.2
18.0	7	.0	6	2	40.6	18	9	48.5
18.0	7	1.0	6	1	9.0	18	11	19.6
18.0	7	2.0	5	59	37.3	18	12	50.9
18.0	7	3.0	5	58	5.5	18	14	22.3
18.0	7	4.0	5	56	33.3	18	15	54.0
18.0	7	5.0	5	55	.9	18	17	26.1
18.0	7	6.0	5	53	28.0	18	18	58.5
18.0	7	7.0	5	51	54.7	18	20	31.3
19.0	7	.0	6	2	44.7	18	9	52.2
19.0	7	1.0	6	1	14.1	18	11	22.4
19.0	7	2.0	5	59	43.3	18	12	52.8
19.0	7	3.0	5	58	12.3	18	14	23.3
19.0	7	4.0	5	56	41.0	18	15	54.1
19.0	7	5.0	5	55	9.4	18	17	25.2
19.0	7	6.0	5	53	37.5	18	18	56.7
19.0	7	7.0	5	52	5.1	18	20	28.6
20.0	7	.0	6	2	48.3	18	9	55.2
20.0	7	1.0	6	1	18.6	18	11	24.6
20.0	7	2.0	5	59	48.7	18	12	54.0
20.0	7	3.0	5	58	18.6	18	14	23.6
20.0	7	4.0	5	56	48.2	18	15	53.5
20.0	7	5.0	5	55	17.6	18	17	23.7
20.0	7	6.0	5	53	46.6	18	18	54.2
20.0	7	7.0	5	52	15.1	18	20	25.2

21.0	7	.0	6	2	51.4	18	9	57.8
21.0	7	1.0	6	1	22.6	18	11	26.1
21.0	7	2.0	5	59	53.6	18	12	54.6
21.0	7	3.0	5	58	24.4	18	14	23.3
21.0	7	4.0	5	56	55.0	18	15	52.2
21.0	7	5.0	5	55	25.3	18	17	21.5
21.0	7	6.0	5	53	55.2	18	18	51.1
21.0	7	7.0	5	52	24.7	18	20	21.1
22.0	7	.0	6	2	53.9	18	9	59.7
22.0	7	1.0	6	1	26.0	18	11	27.1
22.0	7	2.0	5	59	58.0	18	12	54.6
22.0	7	3.0	5	58	29.8	18	14	22.3
22.0	7	4.0	5	57	1.3	18	15	50.3
22.0	7	5.0	5	55	32.6	18	17	18.6
22.0	7	6.0	5	54	3.5	18	18	47.2
22.0	7	7.0	5	52	33.9	18	20	16.2
23.0	7	.0	6	2	55.8	18	10	1.1
23.0	7	1.0	6	1	28.9	18	11	27.5
23.0	7	2.0	6	0	1.9	18	12	54.0
23.0	7	3.0	5	58	34.7	18	14	20.7
23.0	7	4.0	5	57	7.2	18	15	47.7
23.0	7	5.0	5	55	39.4	18	17	15.0
23.0	7	6.0	5	54	11.3	18	18	42.6
23.0	7	7.0	5	52	42.7	18	20	10.6
24.0	7	.0	6	2	57.2	18	10	1.9
24.0	7	1.0	6	1	31.3	18	11	27.3
24.0	7	2.0	6	0	5.2	18	12	52.8
24.0	7	3.0	5	58	39.0	18	14	18.5
24.0	7	4.0	5	57	12.6	18	15	44.4
24.0	7	5.0	5	55	45.8	18	17	10.7
24.0	7	6.0	5	54	18.7	18	18	37.3
24.0	7	7.0	5	52	51.2	18	20	4.3
25.0	7	.0	6	2	58.0	18	10	2.1
25.0	7	1.0	6	1	33.1	18	11	26.4
25.0	7	2.0	6	0	8.1	18	12	50.9
25.0	7	3.0	5	58	42.9	18	14	15.6
25.0	7	4.0	5	57	17.5	18	15	40.5
25.0	7	5.0	5	55	51.8	18	17	5.7
25.0	7	6.0	5	54	25.7	18	18	31.2
25.0	7	7.0	5	52	59.2	18	19	57.2
26.0	7	.0	6	2	58.2	18	10	1.7
26.0	7	1.0	6	1	34.4	18	11	25.0
26.0	7	2.0	6	0	10.4	18	12	48.4
26.0	7	3.0	5	58	46.3	18	14	12.0
26.0	7	4.0	5	57	21.9	18	15	35.9
26.0	7	5.0	5	55	57.2	18	17	.0
26.0	7	6.0	5	54	32.2	18	18	24.5
26.0	7	7.0	5	53	6.8	18	19	49.4
27.0	7	.0	6	2	57.8	18	10	.8
27.0	7	1.0	6	1	35.1	18	11	23.0
27.0	7	2.0	6	0	12.2	18	12	45.3
27.0	7	3.0	5	58	49.1	18	14	7.9
27.0	7	4.0	5	57	25.8	18	15	30.6
27.0	7	5.0	5	56	2.3	18	16	53.7
27.0	7	6.0	5	54	38.3	18	18	17.0
27.0	7	7.0	5	53	14.0	18	19	40.8

28.0	7	.0	6	2	56.9	18	9	59.3
28.0	7	1.0	6	1	35.2	18	11	20.4
28.0	7	2.0	6	0	13.5	18	12	41.6
28.0	7	3.0	5	58	51.5	18	14	3.0
28.0	7	4.0	5	57	29.3	18	15	24.7
28.0	7	5.0	5	56	6.8	18	16	46.6
28.0	7	6.0	5	54	44.0	18	18	8.9
28.0	7	7.0	5	53	20.8	18	19	31.5

29.0	7	.0	6	2	55.4	18	9	57.2
29.0	7	1.0	6	1	34.8	18	11	17.2
29.0	7	2.0	6	0	14.2	18	12	37.3
29.0	7	3.0	5	58	53.3	18	13	57.6
29.0	7	4.0	5	57	32.2	18	15	18.1
29.0	7	5.0	5	56	10.9	18	16	38.9
29.0	7	6.0	5	54	49.2	18	17	60.0
29.0	7	7.0	5	53	27.1	18	19	21.5

30.0	7	.0	6	2	53.3	18	9	54.5
30.0	7	1.0	6	1	33.9	18	11	13.3
30.0	7	2.0	6	0	14.3	18	12	32.3
30.0	7	3.0	5	58	54.6	18	13	51.4
30.0	7	4.0	5	57	34.7	18	15	10.8
30.0	7	5.0	5	56	14.5	18	16	30.4
30.0	7	6.0	5	54	53.9	18	17	50.4
30.0	7	7.0	5	53	33.0	18	19	10.8

31.0	7	.0	6	2	50.6	18	9	51.2
31.0	7	1.0	6	1	32.3	18	11	8.9
31.0	7	2.0	6	0	14.0	18	12	26.7
31.0	7	3.0	5	58	55.4	18	13	44.6
31.0	7	4.0	5	57	36.6	18	15	2.8
31.0	7	5.0	5	56	17.6	18	16	21.3
31.0	7	6.0	5	54	58.2	18	17	40.1
31.0	7	7.0	5	53	38.4	18	18	59.3

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
H	B	~	MATAHARI			MATAHARI		
			j	m	s	j	m	s

1.0	8	.0	6	2	47.3	18	9	47.3
1.0	8	1.0	6	1	30.2	18	11	3.8
1.0	8	2.0	6	0	13.0	18	12	20.4
1.0	8	3.0	5	58	55.6	18	13	37.2
1.0	8	4.0	5	57	38.0	18	14	54.2
1.0	8	5.0	5	56	20.2	18	16	11.5
1.0	8	6.0	5	55	2.0	18	17	29.1
1.0	8	7.0	5	53	43.4	18	18	47.1

2.0	8	.0	6	2	43.4	18	9	42.8
2.0	8	1.0	6	1	27.5	18	10	58.1
2.0	8	2.0	6	0	11.5	18	12	13.5
2.0	8	3.0	5	58	55.3	18	13	29.1
2.0	8	4.0	5	57	38.9	18	14	44.9
2.0	8	5.0	5	56	22.2	18	16	1.0
2.0	8	6.0	5	55	5.3	18	17	17.4
2.0	8	7.0	5	53	47.9	18	18	34.1

3.0	8	.0	6	2	39.0	18	9	37.7
3.0	8	1.0	6	1	24.3	18	10	51.8
3.0	8	2.0	6	0	9.5	18	12	6.0
3.0	8	3.0	5	58	54.5	18	13	20.4
3.0	8	4.0	5	57	39.3	18	14	34.9

3.0	8	5.0	5 56 23.8	18 15 49.8
3.0	8	6.0	5 55 8.1	18 17 4.9
3.0	8	7.0	5 53 51.9	18 18 20.4
4.0	8	.0	6 2 33.9	18 9 32.0
4.0	8	1.0	6 1 20.4	18 10 44.9
4.0	8	2.0	6 0 6.8	18 11 57.8
4.0	8	3.0	5 58 53.1	18 13 10.9
4.0	8	4.0	5 57 39.1	18 14 24.3
4.0	8	5.0	5 56 24.9	18 15 37.9
4.0	8	6.0	5 55 10.4	18 16 51.8
4.0	8	7.0	5 53 55.5	18 18 6.0
5.0	8	.0	6 2 28.2	18 9 25.7
5.0	8	1.0	6 1 15.9	18 10 37.3
5.0	8	2.0	6 0 3.6	18 11 49.0
5.0	8	3.0	5 58 51.1	18 13 .9
5.0	8	4.0	5 57 38.4	18 14 13.0
5.0	8	5.0	5 56 25.4	18 15 25.3
5.0	8	6.0	5 55 12.2	18 16 37.9
5.0	8	7.0	5 53 58.6	18 17 50.9
6.0	8	.0	6 2 21.9	18 9 18.8
6.0	8	1.0	6 1 10.9	18 10 29.1
6.0	8	2.0	5 59 59.8	18 11 39.6
6.0	8	3.0	5 58 48.6	18 12 50.2
6.0	8	4.0	5 57 37.2	18 14 1.0
6.0	8	5.0	5 56 25.5	18 15 12.0
6.0	8	6.0	5 55 13.5	18 16 23.3
6.0	8	7.0	5 54 1.1	18 17 35.0
7.0	8	.0	6 2 14.9	18 9 11.3
7.0	8	1.0	6 1 5.3	18 10 20.3
7.0	8	2.0	5 59 55.5	18 11 29.5
7.0	8	3.0	5 58 45.5	18 12 38.8
7.0	8	4.0	5 57 35.4	18 13 48.3
7.0	8	5.0	5 56 25.0	18 14 58.0
7.0	8	6.0	5 55 14.3	18 16 8.1
7.0	8	7.0	5 54 3.2	18 17 18.5
8.0	8	.0	6 2 7.4	18 9 3.2
8.0	8	1.0	6 0 59.0	18 10 10.9
8.0	8	2.0	5 59 50.5	18 11 18.8
8.0	8	3.0	5 58 41.9	18 12 26.8
8.0	8	4.0	5 57 33.0	18 13 35.0
8.0	8	5.0	5 56 23.9	18 14 43.4
8.0	8	6.0	5 55 14.6	18 15 52.1
8.0	8	7.0	5 54 4.8	18 17 1.2
9.0	8	.0	6 1 59.3	18 8 54.5
9.0	8	1.0	6 0 52.2	18 10 .9
9.0	8	2.0	5 59 45.0	18 11 7.4
9.0	8	3.0	5 58 37.7	18 12 14.1
9.0	8	4.0	5 57 30.2	18 13 21.0
9.0	8	5.0	5 56 22.4	18 14 28.1
9.0	8	6.0	5 55 14.3	18 15 35.5
9.0	8	7.0	5 54 5.9	18 16 43.2
10.0	8	.0	6 1 50.6	18 8 45.2
10.0	8	1.0	6 0 44.8	18 9 50.3
10.0	8	2.0	5 59 39.0	18 10 55.4
10.0	8	3.0	5 58 33.0	18 12 .8
10.0	8	4.0	5 57 26.8	18 13 6.3

10.0	8	5.0	5 56	20.3	18 14	12.1
10.0	8	6.0	5 55	13.6	18 15	18.1
10.0	8	7.0	5 54	6.6	18 16	24.5
11.0	8	.0	6 1	41.3	18 8	35.3
11.0	8	1.0	6 0	36.9	18 9	39.0
11.0	8	2.0	5 59	32.4	18 10	42.9
11.0	8	3.0	5 58	27.7	18 11	46.9
11.0	8	4.0	5 57	22.8	18 12	51.0
11.0	8	5.0	5 56	17.7	18 13	55.4
11.0	8	6.0	5 55	12.4	18 15	.1
11.0	8	7.0	5 54	6.7	18 16	5.1
12.0	8	.0	6 1	31.4	18 8	24.8
12.0	8	1.0	6 0	28.3	18 9	27.2
12.0	8	2.0	5 59	25.2	18 10	29.7
12.0	8	3.0	5 58	21.9	18 11	32.3
12.0	8	4.0	5 57	18.4	18 12	35.1
12.0	8	5.0	5 56	14.6	18 13	38.2
12.0	8	6.0	5 55	10.7	18 14	41.5
12.0	8	7.0	5 54	6.3	18 15	45.1
13.0	8	.0	6 1	20.9	18 8	13.8
13.0	8	1.0	6 0	19.3	18 9	14.8
13.0	8	2.0	5 59	17.5	18 10	15.9
13.0	8	3.0	5 58	15.5	18 11	17.1
13.0	8	4.0	5 57	13.4	18 12	18.6
13.0	8	5.0	5 56	11.0	18 13	20.2
13.0	8	6.0	5 55	8.4	18 14	22.2
13.0	8	7.0	5 54	5.5	18 15	24.4
14.0	8	.0	6 1	9.9	18 8	2.2
14.0	8	1.0	6 0	9.6	18 9	1.8
14.0	8	2.0	5 59	9.2	18 10	1.5
14.0	8	3.0	5 58	8.6	18 11	1.4
14.0	8	4.0	5 57	7.9	18 12	1.4
14.0	8	5.0	5 56	6.9	18 13	1.7
14.0	8	6.0	5 55	5.7	18 14	2.2
14.0	8	7.0	5 54	4.2	18 15	3.0
TARIKH LATITUD WAKTU TERBIT WAKTU TERBENAM						
MATAHARI MATAHARI						
H	B	~	j	m	s	j m s
15.0	8	.0	6 0	58.3	18 7	50.1
15.0	8	1.0	5 59	59.4	18 8	48.3
15.0	8	2.0	5 59	.4	18 9	46.6
15.0	8	3.0	5 58	1.2	18 10	45.1
15.0	8	4.0	5 57	1.9	18 11	43.7
15.0	8	5.0	5 56	2.4	18 12	42.5
15.0	8	6.0	5 55	2.5	18 13	41.6
15.0	8	7.0	5 54	2.4	18 14	41.0
16.0	8	.0	6 0	46.2	18 7	37.4
16.0	8	1.0	5 59	48.7	18 8	34.2
16.0	8	2.0	5 58	51.1	18 9	31.1
16.0	8	3.0	5 57	53.4	18 10	28.2
16.0	8	4.0	5 56	55.4	18 11	25.4
16.0	8	5.0	5 55	57.3	18 12	22.8
16.0	8	6.0	5 54	58.9	18 13	20.5
16.0	8	7.0	5 54	.2	18 14	18.4
17.0	8	.0	6 0	33.6	18 7	24.2

17.0	8	1.0	5 59 37.5	18 8 19.6
17.0	8	2.0	5 58 41.3	18 9 15.1
17.0	8	3.0	5 57 45.0	18 10 10.7
17.0	8	4.0	5 56 48.5	18 11 6.5
17.0	8	5.0	5 55 51.7	18 12 2.5
17.0	8	6.0	5 54 54.8	18 12 58.7
17.0	8	7.0	5 53 57.6	18 13 55.2
18.0	8	.0	6 0 20.4	18 7 10.5
18.0	8	1.0	5 59 25.8	18 8 4.5
18.0	8	2.0	5 58 31.0	18 8 58.5
18.0	8	3.0	5 57 36.1	18 9 52.7
18.0	8	4.0	5 56 41.0	18 10 47.0
18.0	8	5.0	5 55 45.8	18 11 41.6
18.0	8	6.0	5 54 50.2	18 12 36.4
18.0	8	7.0	5 53 54.5	18 13 31.4
19.0	8	.0	6 0 6.8	18 6 56.3
19.0	8	1.0	5 59 13.5	18 7 48.8
19.0	8	2.0	5 58 20.2	18 8 41.4
19.0	8	3.0	5 57 26.8	18 9 34.2
19.0	8	4.0	5 56 33.1	18 10 27.1
19.0	8	5.0	5 55 39.3	18 11 20.1
19.0	8	6.0	5 54 45.3	18 12 13.5
19.0	8	7.0	5 53 50.9	18 13 7.1
20.0	8	.0	5 59 52.6	18 6 41.7
20.0	8	1.0	5 59 .8	18 7 32.7
20.0	8	2.0	5 58 9.0	18 8 23.9
20.0	8	3.0	5 57 17.0	18 9 15.1
20.0	8	4.0	5 56 24.8	18 10 6.6
20.0	8	5.0	5 55 32.5	18 10 58.2
20.0	8	6.0	5 54 39.9	18 11 50.0
20.0	8	7.0	5 53 47.0	18 12 42.2
21.0	8	.0	5 59 38.0	18 6 26.6
21.0	8	1.0	5 58 47.7	18 7 16.1
21.0	8	2.0	5 57 57.3	18 8 5.8
21.0	8	3.0	5 57 6.8	18 8 55.6
21.0	8	4.0	5 56 16.1	18 9 45.6
21.0	8	5.0	5 55 25.2	18 10 35.7
21.0	8	6.0	5 54 34.1	18 11 26.1
21.0	8	7.0	5 53 42.7	18 12 16.7
22.0	8	.0	5 59 23.0	18 6 11.0
22.0	8	1.0	5 58 34.1	18 6 59.1
22.0	8	2.0	5 57 45.2	18 7 47.3
22.0	8	3.0	5 56 56.1	18 8 35.6
22.0	8	4.0	5 56 6.9	18 9 24.1
22.0	8	5.0	5 55 17.5	18 10 12.8
22.0	8	6.0	5 54 27.9	18 11 1.6
22.0	8	7.0	5 53 38.0	18 11 50.8
23.0	8	.0	5 59 7.5	18 5 55.1
23.0	8	1.0	5 58 20.1	18 6 41.7
23.0	8	2.0	5 57 32.7	18 7 28.4
23.0	8	3.0	5 56 45.1	18 8 15.2
23.0	8	4.0	5 55 57.4	18 9 2.2
23.0	8	5.0	5 55 9.4	18 9 49.3
23.0	8	6.0	5 54 21.3	18 10 36.7
23.0	8	7.0	5 53 32.9	18 11 24.3

24.0	8	.0	5 58 51.6	18 5 38.7
24.0	8	1.0	5 58 5.7	18 6 23.8
24.0	8	2.0	5 57 19.7	18 7 9.0
24.0	8	3.0	5 56 33.7	18 7 54.3
24.0	8	4.0	5 55 47.4	18 8 39.8
24.0	8	5.0	5 55 1.0	18 9 25.5
24.0	8	6.0	5 54 14.4	18 10 11.3
24.0	8	7.0	5 53 27.5	18 10 57.4
25.0	8	.0	5 58 35.3	18 5 21.9
25.0	8	1.0	5 57 50.9	18 6 5.5
25.0	8	2.0	5 57 6.4	18 6 49.2
25.0	8	3.0	5 56 21.9	18 7 33.1
25.0	8	4.0	5 55 37.1	18 8 17.0
25.0	8	5.0	5 54 52.2	18 9 1.2
25.0	8	6.0	5 54 7.1	18 9 45.5
25.0	8	7.0	5 53 21.8	18 10 30.1
26.0	8	.0	5 58 18.6	18 5 4.8
26.0	8	1.0	5 57 35.7	18 5 46.9
26.0	8	2.0	5 56 52.8	18 6 29.1
26.0	8	3.0	5 56 9.7	18 7 11.4
26.0	8	4.0	5 55 26.5	18 7 53.8
26.0	8	5.0	5 54 43.1	18 8 36.5
26.0	8	6.0	5 53 59.5	18 9 19.3
26.0	8	7.0	5 53 15.7	18 10 2.3
27.0	8	.0	5 58 1.5	18 4 47.3
27.0	8	1.0	5 57 20.2	18 5 27.9
27.0	8	2.0	5 56 38.7	18 6 8.5
27.0	8	3.0	5 55 57.2	18 6 49.3
27.0	8	4.0	5 55 15.5	18 7 30.2
27.0	8	5.0	5 54 33.6	18 8 11.3
27.0	8	6.0	5 53 51.6	18 8 52.6
27.0	8	7.0	5 53 9.3	18 9 34.1
28.0	8	.0	5 57 44.1	18 4 29.4
28.0	8	1.0	5 57 4.3	18 5 8.5
28.0	8	2.0	5 56 24.4	18 5 47.6
28.0	8	3.0	5 55 44.3	18 6 26.9
28.0	8	4.0	5 55 4.2	18 7 6.3
28.0	8	5.0	5 54 23.9	18 7 45.8
28.0	8	6.0	5 53 43.4	18 8 25.6
28.0	8	7.0	5 53 2.6	18 9 5.5
29.0	8	.0	5 57 26.3	18 4 11.3
29.0	8	1.0	5 56 48.0	18 4 48.8
29.0	8	2.0	5 56 9.7	18 5 26.4
29.0	8	3.0	5 55 31.2	18 6 4.1
29.0	8	4.0	5 54 52.6	18 6 41.9
29.0	8	5.0	5 54 13.8	18 7 19.9
29.0	8	6.0	5 53 34.8	18 7 58.1
29.0	8	7.0	5 52 55.7	18 8 36.5
30.0	8	.0	5 57 8.2	18 3 52.8
30.0	8	1.0	5 56 31.5	18 4 28.7
30.0	8	2.0	5 55 54.6	18 5 4.8
30.0	8	3.0	5 55 17.7	18 5 41.0
30.0	8	4.0	5 54 40.6	18 6 17.3
30.0	8	5.0	5 54 3.4	18 6 53.7
30.0	8	6.0	5 53 26.0	18 7 30.3
30.0	8	7.0	5 52 48.4	18 8 7.2

31.0	8	.0	5 56 49.8	18 3 34.0
31.0	8	1.0	5 56 14.6	18 4 8.4
31.0	8	2.0	5 55 39.3	18 4 42.9
31.0	8	3.0	5 55 3.9	18 5 17.5
31.0	8	4.0	5 54 28.4	18 5 52.3
31.0	8	5.0	5 53 52.7	18 6 27.1
31.0	8	6.0	5 53 16.9	18 7 2.2
31.0	8	7.0	5 52 40.9	18 7 37.5

TARIKH		LATITUD	WAKTU TERBIT MATAHARI	WAKTU TERBENAM MATAHARI
H	B	~	j m s	j m s
1.0	9	.0	5 56 31.1	18 3 14.9
1.0	9	1.0	5 55 57.4	18 3 47.7
1.0	9	2.0	5 55 23.7	18 4 20.7
1.0	9	3.0	5 54 49.9	18 4 53.7
1.0	9	4.0	5 54 15.9	18 5 26.9
1.0	9	5.0	5 53 41.8	18 6 .2
1.0	9	6.0	5 53 7.5	18 6 33.7
1.0	9	7.0	5 52 33.1	18 7 7.4
2.0	9	.0	5 56 12.0	18 2 55.5
2.0	9	1.0	5 55 40.0	18 3 26.8
2.0	9	2.0	5 55 7.8	18 3 58.2
2.0	9	3.0	5 54 35.5	18 4 29.7
2.0	9	4.0	5 54 3.1	18 5 1.3
2.0	9	5.0	5 53 30.6	18 5 33.0
2.0	9	6.0	5 52 57.9	18 6 4.9
2.0	9	7.0	5 52 25.0	18 6 37.0
3.0	9	.0	5 55 52.7	18 2 35.9
3.0	9	1.0	5 55 22.2	18 3 5.6
3.0	9	2.0	5 54 51.6	18 3 35.4
3.0	9	3.0	5 54 20.9	18 4 5.3
3.0	9	4.0	5 53 50.1	18 4 35.3
3.0	9	5.0	5 53 19.1	18 5 5.5
3.0	9	6.0	5 52 48.0	18 5 35.8
3.0	9	7.0	5 52 16.7	18 6 6.3
4.0	9	.0	5 55 33.1	18 2 16.0
4.0	9	1.0	5 55 4.2	18 2 44.1
4.0	9	2.0	5 54 35.2	18 3 12.4
4.0	9	3.0	5 54 6.0	18 3 40.7
4.0	9	4.0	5 53 36.8	18 4 9.1
4.0	9	5.0	5 53 7.4	18 4 37.7
4.0	9	6.0	5 52 37.9	18 5 6.5
4.0	9	7.0	5 52 8.2	18 5 35.4
5.0	9	.0	5 55 13.3	18 1 55.8
5.0	9	1.0	5 54 45.9	18 2 22.4
5.0	9	2.0	5 54 18.5	18 2 49.1
5.0	9	3.0	5 53 50.9	18 3 15.8
5.0	9	4.0	5 53 23.3	18 3 42.7
5.0	9	5.0	5 52 55.5	18 4 9.7
5.0	9	6.0	5 52 27.6	18 4 36.8
5.0	9	7.0	5 51 59.5	18 5 4.1
6.0	9	.0	5 54 53.2	18 1 35.5
6.0	9	1.0	5 54 27.5	18 2 .5
6.0	9	2.0	5 54 1.6	18 2 25.5
6.0	9	3.0	5 53 35.6	18 2 50.7

6.0	9	4.0	5 53 9.6	18 3 16.0
6.0	9	5.0	5 52 43.4	18 3 41.4
6.0	9	6.0	5 52 17.0	18 4 6.9
6.0	9	7.0	5 51 50.5	18 4 32.6
7.0	9	.0	5 54 32.9	18 1 14.9
7.0	9	1.0	5 54 8.7	18 1 38.3
7.0	9	2.0	5 53 44.5	18 2 1.8
7.0	9	3.0	5 53 20.1	18 2 25.4
7.0	9	4.0	5 52 55.6	18 2 49.0
7.0	9	5.0	5 52 31.0	18 3 12.8
7.0	9	6.0	5 52 6.3	18 3 36.8
7.0	9	7.0	5 51 41.4	18 4 .8
8.0	9	.0	5 54 12.4	18 0 54.1
8.0	9	1.0	5 53 49.8	18 1 16.0
8.0	9	2.0	5 53 27.2	18 1 37.8
8.0	9	3.0	5 53 4.4	18 1 59.8
8.0	9	4.0	5 52 41.5	18 2 21.9
8.0	9	5.0	5 52 18.5	18 2 44.1
8.0	9	6.0	5 51 55.4	18 3 6.4
8.0	9	7.0	5 51 32.1	18 3 28.9
9.0	9	.0	5 53 51.8	18 0 33.2
9.0	9	1.0	5 53 30.7	18 0 53.4
9.0	9	2.0	5 53 9.7	18 1 13.7
9.0	9	3.0	5 52 48.5	18 1 34.1
9.0	9	4.0	5 52 27.2	18 1 54.6
9.0	9	5.0	5 52 5.8	18 2 15.2
9.0	9	6.0	5 51 44.3	18 2 35.9
9.0	9	7.0	5 51 22.6	18 2 56.7
10.0	9	.0	5 53 30.9	18 0 12.2
10.0	9	1.0	5 53 11.5	18 0 30.8
10.0	9	2.0	5 52 52.0	18 0 49.4
10.0	9	3.0	5 52 32.4	18 1 8.2
10.0	9	4.0	5 52 12.8	18 1 27.1
10.0	9	5.0	5 51 53.0	18 1 46.0
10.0	9	6.0	5 51 33.1	18 2 5.1
10.0	9	7.0	5 51 13.1	18 2 24.4
11.0	9	.0	5 53 9.9	17 59 50.9
11.0	9	1.0	5 52 52.1	18 0 7.9
11.0	9	2.0	5 52 34.2	18 0 25.0
11.0	9	3.0	5 52 16.2	18 0 42.2
11.0	9	4.0	5 51 58.2	18 0 59.4
11.0	9	5.0	5 51 40.0	18 1 16.8
11.0	9	6.0	5 51 21.7	18 1 34.3
11.0	9	7.0	5 51 3.3	18 1 51.9
12.0	9	.0	5 52 48.8	17 59 29.6
12.0	9	1.0	5 52 32.6	17 59 45.0
12.0	9	2.0	5 52 16.3	18 0 .5
12.0	9	3.0	5 51 59.9	18 0 16.0
12.0	9	4.0	5 51 43.5	18 0 31.7
12.0	9	5.0	5 51 26.9	18 0 47.4
12.0	9	6.0	5 51 10.3	18 1 3.2
12.0	9	7.0	5 50 53.5	18 1 19.2
13.0	9	.0	5 52 27.5	17 59 8.2
13.0	9	1.0	5 52 12.9	17 59 22.0
13.0	9	2.0	5 51 58.3	17 59 35.8
13.0	9	3.0	5 51 43.5	17 59 49.8

13.0	9	4.0	5 51 28.7	18 0 3.8
13.0	9	5.0	5 51 13.8	18 0 17.9
13.0	9	6.0	5 50 58.7	18 0 32.1
13.0	9	7.0	5 50 43.6	18 0 46.5
14.0	9	.0	5 52 6.2	17 58 46.7
14.0	9	1.0	5 51 53.2	17 58 58.9
14.0	9	2.0	5 51 40.2	17 59 11.1
14.0	9	3.0	5 51 27.0	17 59 23.4
14.0	9	4.0	5 51 13.8	17 59 35.8
14.0	9	5.0	5 51 .5	17 59 48.3
14.0	9	6.0	5 50 47.1	18 0 .9
14.0	9	7.0	5 50 33.6	18 0 13.6

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	9	.0	5	51	44.8	17	58	25.2
15.0	9	1.0	5	51	33.4	17	58	35.7
15.0	9	2.0	5	51	22.0	17	58	46.4
15.0	9	3.0	5	51	10.5	17	58	57.1
15.0	9	4.0	5	50	58.9	17	59	7.8
15.0	9	5.0	5	50	47.2	17	59	18.7
15.0	9	6.0	5	50	35.5	17	59	29.6
15.0	9	7.0	5	50	23.6	17	59	40.7
16.0	9	.0	5	51	23.3	17	58	3.6
16.0	9	1.0	5	51	13.6	17	58	12.6
16.0	9	2.0	5	51	3.8	17	58	21.6
16.0	9	3.0	5	50	53.9	17	58	30.6
16.0	9	4.0	5	50	43.9	17	58	39.8
16.0	9	5.0	5	50	33.9	17	58	49.0
16.0	9	6.0	5	50	23.8	17	58	58.3
16.0	9	7.0	5	50	13.5	17	59	7.7
17.0	9	.0	5	51	1.9	17	57	42.1
17.0	9	1.0	5	50	53.8	17	57	49.4
17.0	9	2.0	5	50	45.6	17	57	56.8
17.0	9	3.0	5	50	37.3	17	58	4.2
17.0	9	4.0	5	50	29.0	17	58	11.7
17.0	9	5.0	5	50	20.6	17	58	19.3
17.0	9	6.0	5	50	12.1	17	58	27.0
17.0	9	7.0	5	50	3.5	17	58	34.8
18.0	9	.0	5	50	40.4	17	57	20.5
18.0	9	1.0	5	50	33.9	17	57	26.2
18.0	9	2.0	5	50	27.4	17	57	32.0
18.0	9	3.0	5	50	20.7	17	57	37.8
18.0	9	4.0	5	50	14.0	17	57	43.7
18.0	9	5.0	5	50	7.3	17	57	49.6
18.0	9	6.0	5	50	.4	17	57	55.7
18.0	9	7.0	5	49	53.4	17	58	1.8
19.0	9	.0	5	50	19.0	17	56	59.1
19.0	9	1.0	5	50	14.1	17	57	3.1
19.0	9	2.0	5	50	9.2	17	57	7.2
19.0	9	3.0	5	50	4.2	17	57	11.4
19.0	9	4.0	5	49	59.1	17	57	15.7
19.0	9	5.0	5	49	54.0	17	57	20.0
19.0	9	6.0	5	49	48.8	17	57	24.4
19.0	9	7.0	5	49	43.5	17	57	28.9

20.0	9	.0	5 49 57.6	17 56 37.7
20.0	9	1.0	5 49 54.4	17 56 40.1
20.0	9	2.0	5 49 51.1	17 56 42.6
20.0	9	3.0	5 49 47.7	17 56 45.1
20.0	9	4.0	5 49 44.3	17 56 47.8
20.0	9	5.0	5 49 40.8	17 56 50.4
20.0	9	6.0	5 49 37.2	17 56 53.2
20.0	9	7.0	5 49 33.5	17 56 56.0
21.0	9	.0	5 49 36.3	17 56 16.4
21.0	9	1.0	5 49 34.7	17 56 17.1
21.0	9	2.0	5 49 33.1	17 56 18.0
21.0	9	3.0	5 49 31.3	17 56 18.9
21.0	9	4.0	5 49 29.5	17 56 19.9
21.0	9	5.0	5 49 27.6	17 56 21.0
21.0	9	6.0	5 49 25.7	17 56 22.1
21.0	9	7.0	5 49 23.7	17 56 23.3
22.0	9	.0	5 49 15.2	17 55 55.2
22.0	9	1.0	5 49 15.2	17 55 54.3
22.0	9	2.0	5 49 15.1	17 55 53.6
22.0	9	3.0	5 49 15.0	17 55 52.9
22.0	9	4.0	5 49 14.9	17 55 52.2
22.0	9	5.0	5 49 14.6	17 55 51.6
22.0	9	6.0	5 49 14.3	17 55 51.1
22.0	9	7.0	5 49 14.0	17 55 50.6
23.0	9	.0	5 48 54.1	17 55 34.1
23.0	9	1.0	5 48 55.8	17 55 31.7
23.0	9	2.0	5 48 57.3	17 55 29.3
23.0	9	3.0	5 48 58.9	17 55 26.9
23.0	9	4.0	5 49 .3	17 55 24.6
23.0	9	5.0	5 49 1.8	17 55 22.4
23.0	9	6.0	5 49 3.1	17 55 20.2
23.0	9	7.0	5 49 4.4	17 55 18.1
24.0	9	.0	5 48 33.2	17 55 13.2
24.0	9	1.0	5 48 36.5	17 55 9.2
24.0	9	2.0	5 48 39.7	17 55 5.1
24.0	9	3.0	5 48 42.9	17 55 1.1
24.0	9	4.0	5 48 46.0	17 54 57.2
24.0	9	5.0	5 48 49.0	17 54 53.3
24.0	9	6.0	5 48 52.0	17 54 49.5
24.0	9	7.0	5 48 55.0	17 54 45.7
25.0	9	.0	5 48 12.5	17 54 52.6
25.0	9	1.0	5 48 17.4	17 54 46.8
25.0	9	2.0	5 48 22.2	17 54 41.2
25.0	9	3.0	5 48 27.0	17 54 35.5
25.0	9	4.0	5 48 31.8	17 54 30.0
25.0	9	5.0	5 48 36.5	17 54 24.5
25.0	9	6.0	5 48 41.1	17 54 19.0
25.0	9	7.0	5 48 45.7	17 54 13.6
26.0	9	.0	5 47 51.9	17 54 32.1
26.0	9	1.0	5 47 58.4	17 54 24.7
26.0	9	2.0	5 48 4.9	17 54 17.4
26.0	9	3.0	5 48 11.4	17 54 10.1
26.0	9	4.0	5 48 17.7	17 54 2.9
26.0	9	5.0	5 48 24.1	17 53 55.8
26.0	9	6.0	5 48 30.4	17 53 48.7
26.0	9	7.0	5 48 36.6	17 53 41.6

27.0	9	.0	5 47 31.5	17 54 11.8
27.0	9	1.0	5 47 39.7	17 54 2.8
27.0	9	2.0	5 47 47.8	17 53 53.9
27.0	9	3.0	5 47 55.9	17 53 45.0
27.0	9	4.0	5 48 3.9	17 53 36.1
27.0	9	5.0	5 48 11.9	17 53 27.3
27.0	9	6.0	5 48 19.8	17 53 18.6
27.0	9	7.0	5 48 27.8	17 53 9.8
28.0	9	.0	5 47 11.4	17 53 51.8
28.0	9	1.0	5 47 21.2	17 53 41.1
28.0	9	2.0	5 47 31.0	17 53 30.6
28.0	9	3.0	5 47 40.7	17 53 20.0
28.0	9	4.0	5 47 50.3	17 53 9.6
28.0	9	5.0	5 47 59.9	17 52 59.1
28.0	9	6.0	5 48 9.5	17 52 48.7
28.0	9	7.0	5 48 19.1	17 52 38.3
29.0	9	.0	5 46 51.5	17 53 32.0
29.0	9	1.0	5 47 2.9	17 53 19.7
29.0	9	2.0	5 47 14.3	17 53 7.5
29.0	9	3.0	5 47 25.7	17 52 55.4
29.0	9	4.0	5 47 37.0	17 52 43.3
29.0	9	5.0	5 47 48.2	17 52 31.2
29.0	9	6.0	5 47 59.5	17 52 19.1
29.0	9	7.0	5 48 10.7	17 52 7.1
30.0	9	.0	5 46 31.9	17 53 12.5
30.0	9	1.0	5 46 44.9	17 52 58.6
30.0	9	2.0	5 46 57.9	17 52 44.8
30.0	9	3.0	5 47 10.9	17 52 31.0
30.0	9	4.0	5 47 23.8	17 52 17.2
30.0	9	5.0	5 47 36.8	17 52 3.5
30.0	9	6.0	5 47 49.6	17 51 49.8
30.0	9	7.0	5 48 2.5	17 51 36.1

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
H	B	~	MATAHARI			MATAHARI		
			j	m	s	j	m	s
1.0	10	.0	5	46	12.5	17	52	53.3
1.0	10	1.0	5	46	27.2	17	52	37.8
1.0	10	2.0	5	46	41.8	17	52	22.3
1.0	10	3.0	5	46	56.4	17	52	6.9
1.0	10	4.0	5	47	11.0	17	51	51.5
1.0	10	5.0	5	47	25.5	17	51	36.1
1.0	10	6.0	5	47	40.1	17	51	20.8
1.0	10	7.0	5	47	54.6	17	51	5.4
2.0	10	.0	5	45	53.4	17	52	34.4
2.0	10	1.0	5	46	9.7	17	52	17.2
2.0	10	2.0	5	46	26.0	17	52	.1
2.0	10	3.0	5	46	42.2	17	51	43.1
2.0	10	4.0	5	46	58.4	17	51	26.1
2.0	10	5.0	5	47	14.6	17	51	9.1
2.0	10	6.0	5	47	30.8	17	50	52.1
2.0	10	7.0	5	47	47.0	17	50	35.1
3.0	10	.0	5	45	34.6	17	52	15.8
3.0	10	1.0	5	45	52.6	17	51	57.0
3.0	10	2.0	5	46	10.5	17	51	38.3
3.0	10	3.0	5	46	28.3	17	51	19.6
3.0	10	4.0	5	46	46.2	17	51	1.0

3.0	10	5.0	5 47 4.0	17 50 42.3
3.0	10	6.0	5 47 21.8	17 50 23.7
3.0	10	7.0	5 47 39.6	17 50 5.1
4.0	10	.0	5 45 16.2	17 51 57.6
4.0	10	1.0	5 45 35.7	17 51 37.2
4.0	10	2.0	5 45 55.3	17 51 16.8
4.0	10	3.0	5 46 14.8	17 50 56.5
4.0	10	4.0	5 46 34.2	17 50 36.2
4.0	10	5.0	5 46 53.7	17 50 16.0
4.0	10	6.0	5 47 13.1	17 49 55.7
4.0	10	7.0	5 47 32.6	17 49 35.4
5.0	10	.0	5 44 58.0	17 51 39.7
5.0	10	1.0	5 45 19.2	17 51 17.7
5.0	10	2.0	5 45 40.4	17 50 55.7
5.0	10	3.0	5 46 1.5	17 50 33.8
5.0	10	4.0	5 46 22.6	17 50 11.9
5.0	10	5.0	5 46 43.7	17 49 50.0
5.0	10	6.0	5 47 4.8	17 49 28.0
5.0	10	7.0	5 47 25.9	17 49 6.1
6.0	10	.0	5 44 40.3	17 51 22.2
6.0	10	1.0	5 45 3.1	17 50 58.5
6.0	10	2.0	5 45 25.9	17 50 34.9
6.0	10	3.0	5 45 48.6	17 50 11.4
6.0	10	4.0	5 46 11.3	17 49 47.9
6.0	10	5.0	5 46 34.1	17 49 24.3
6.0	10	6.0	5 46 56.8	17 49 .8
6.0	10	7.0	5 47 19.5	17 48 37.2
7.0	10	.0	5 44 22.9	17 51 5.0
7.0	10	1.0	5 44 47.3	17 50 39.8
7.0	10	2.0	5 45 11.7	17 50 14.6
7.0	10	3.0	5 45 36.1	17 49 49.4
7.0	10	4.0	5 46 .4	17 49 24.3
7.0	10	5.0	5 46 24.8	17 48 59.1
7.0	10	6.0	5 46 49.1	17 48 34.0
7.0	10	7.0	5 47 13.5	17 48 8.8
8.0	10	.0	5 44 5.9	17 50 48.3
8.0	10	1.0	5 44 32.0	17 50 21.5
8.0	10	2.0	5 44 58.0	17 49 54.7
8.0	10	3.0	5 45 24.0	17 49 27.9
8.0	10	4.0	5 45 49.9	17 49 1.1
8.0	10	5.0	5 46 15.9	17 48 34.3
8.0	10	6.0	5 46 41.9	17 48 7.6
8.0	10	7.0	5 47 7.9	17 47 40.7
9.0	10	.0	5 43 49.3	17 50 32.1
9.0	10	1.0	5 44 17.0	17 50 3.6
9.0	10	2.0	5 44 44.6	17 49 35.2
9.0	10	3.0	5 45 12.2	17 49 6.8
9.0	10	4.0	5 45 39.8	17 48 38.4
9.0	10	5.0	5 46 7.4	17 48 10.0
9.0	10	6.0	5 46 35.0	17 47 41.6
9.0	10	7.0	5 47 2.6	17 47 13.1
10.0	10	.0	5 43 33.2	17 50 16.2
10.0	10	1.0	5 44 2.5	17 49 46.2
10.0	10	2.0	5 44 31.7	17 49 16.2
10.0	10	3.0	5 45 .9	17 48 46.2
10.0	10	4.0	5 45 30.1	17 48 16.2

10.0	10	5.0	5 45 59.3	17 47 46.2
10.0	10	6.0	5 46 28.5	17 47 16.1
10.0	10	7.0	5 46 57.8	17 46 46.0
11.0	10	.0	5 43 17.5	17 50 .9
11.0	10	1.0	5 43 48.4	17 49 29.2
11.0	10	2.0	5 44 19.2	17 48 57.6
11.0	10	3.0	5 44 50.0	17 48 26.0
11.0	10	4.0	5 45 20.8	17 47 54.4
11.0	10	5.0	5 45 51.6	17 47 22.8
11.0	10	6.0	5 46 22.5	17 46 51.1
11.0	10	7.0	5 46 53.3	17 46 19.4
12.0	10	.0	5 43 2.3	17 49 46.0
12.0	10	1.0	5 43 34.7	17 49 12.8
12.0	10	2.0	5 44 7.2	17 48 39.5
12.0	10	3.0	5 44 39.6	17 48 6.3
12.0	10	4.0	5 45 12.0	17 47 33.1
12.0	10	5.0	5 45 44.4	17 46 59.9
12.0	10	6.0	5 46 16.8	17 46 26.7
12.0	10	7.0	5 46 49.4	17 45 53.3
13.0	10	.0	5 42 47.5	17 49 31.7
13.0	10	1.0	5 43 21.6	17 48 56.8
13.0	10	2.0	5 43 55.6	17 48 22.0
13.0	10	3.0	5 44 29.6	17 47 47.2
13.0	10	4.0	5 45 3.6	17 47 12.4
13.0	10	5.0	5 45 37.6	17 46 37.6
13.0	10	6.0	5 46 11.7	17 46 2.7
13.0	10	7.0	5 46 45.8	17 45 27.8
14.0	10	.0	5 42 33.3	17 49 17.8
14.0	10	1.0	5 43 9.0	17 48 41.4
14.0	10	2.0	5 43 44.6	17 48 5.0
14.0	10	3.0	5 44 20.2	17 47 28.6
14.0	10	4.0	5 44 55.8	17 46 52.2
14.0	10	5.0	5 45 31.4	17 46 15.8
14.0	10	6.0	5 46 7.0	17 45 39.3
14.0	10	7.0	5 46 42.8	17 45 2.8
TARIKH LATITUD WAKTU TERBIT WAKTU TERBENAM				
MATAHARI MATAHARI				
H	B	~	j m s	j m s
15.0	10	.0	5 42 19.6	17 49 4.5
15.0	10	1.0	5 42 56.9	17 48 26.5
15.0	10	2.0	5 43 34.1	17 47 48.5
15.0	10	3.0	5 44 11.2	17 47 10.6
15.0	10	4.0	5 44 48.4	17 46 32.6
15.0	10	5.0	5 45 25.6	17 45 54.6
15.0	10	6.0	5 46 2.9	17 45 16.5
15.0	10	7.0	5 46 40.2	17 44 38.4
16.0	10	.0	5 42 6.5	17 48 51.8
16.0	10	1.0	5 42 45.3	17 48 12.2
16.0	10	2.0	5 43 24.1	17 47 32.7
16.0	10	3.0	5 44 2.8	17 46 53.1
16.0	10	4.0	5 44 41.6	17 46 13.6
16.0	10	5.0	5 45 20.4	17 45 34.0
16.0	10	6.0	5 45 59.2	17 44 54.4
16.0	10	7.0	5 46 38.2	17 44 14.6

17.0	10	.0	5 41 54.0	17 48 39.7
17.0	10	1.0	5 42 34.3	17 47 58.5
17.0	10	2.0	5 43 14.7	17 47 17.4
17.0	10	3.0	5 43 55.0	17 46 36.3
17.0	10	4.0	5 44 35.3	17 45 55.2
17.0	10	5.0	5 45 15.7	17 45 14.0
17.0	10	6.0	5 45 56.1	17 44 32.8
17.0	10	7.0	5 46 36.7	17 43 51.5
18.0	10	.0	5 41 42.0	17 48 28.2
18.0	10	1.0	5 42 23.9	17 47 45.5
18.0	10	2.0	5 43 5.8	17 47 2.8
18.0	10	3.0	5 43 47.7	17 46 20.1
18.0	10	4.0	5 44 29.6	17 45 37.4
18.0	10	5.0	5 45 11.6	17 44 54.7
18.0	10	6.0	5 45 53.6	17 44 11.9
18.0	10	7.0	5 46 35.7	17 43 29.0
19.0	10	.0	5 41 30.7	17 48 17.3
19.0	10	1.0	5 42 14.2	17 47 33.0
19.0	10	2.0	5 42 57.6	17 46 48.8
19.0	10	3.0	5 43 41.1	17 46 4.6
19.0	10	4.0	5 44 24.5	17 45 20.3
19.0	10	5.0	5 45 8.1	17 44 36.0
19.0	10	6.0	5 45 51.6	17 43 51.7
19.0	10	7.0	5 46 35.3	17 43 7.2
20.0	10	.0	5 41 20.0	17 48 7.1
20.0	10	1.0	5 42 5.0	17 47 21.3
20.0	10	2.0	5 42 50.0	17 46 35.5
20.0	10	3.0	5 43 35.0	17 45 49.7
20.0	10	4.0	5 44 20.1	17 45 3.9
20.0	10	5.0	5 45 5.1	17 44 18.1
20.0	10	6.0	5 45 50.3	17 43 32.2
20.0	10	7.0	5 46 35.5	17 42 46.1
21.0	10	.0	5 41 10.0	17 47 57.6
21.0	10	1.0	5 41 56.6	17 47 10.2
21.0	10	2.0	5 42 43.1	17 46 22.9
21.0	10	3.0	5 43 29.7	17 45 35.6
21.0	10	4.0	5 44 16.2	17 44 48.2
21.0	10	5.0	5 45 2.8	17 44 .8
21.0	10	6.0	5 45 49.5	17 43 13.4
21.0	10	7.0	5 46 36.3	17 42 25.8
22.0	10	.0	5 41 .6	17 47 48.7
22.0	10	1.0	5 41 48.7	17 46 59.8
22.0	10	2.0	5 42 36.8	17 46 11.0
22.0	10	3.0	5 43 24.9	17 45 22.1
22.0	10	4.0	5 44 13.0	17 44 33.3
22.0	10	5.0	5 45 1.2	17 43 44.3
22.0	10	6.0	5 45 49.4	17 42 55.3
22.0	10	7.0	5 46 37.8	17 42 6.2
23.0	10	.0	5 40 52.0	17 47 40.6
23.0	10	1.0	5 41 41.6	17 46 50.2
23.0	10	2.0	5 42 31.2	17 45 59.8
23.0	10	3.0	5 43 20.8	17 45 9.4
23.0	10	4.0	5 44 10.5	17 44 19.0
23.0	10	5.0	5 45 .2	17 43 28.6
23.0	10	6.0	5 45 50.0	17 42 38.0
23.0	10	7.0	5 46 39.9	17 41 47.4

24.0	10	.0	5 40 44.0	17 47 33.2
24.0	10	1.0	5 41 35.2	17 46 41.3
24.0	10	2.0	5 42 26.3	17 45 49.4
24.0	10	3.0	5 43 17.5	17 44 57.5
24.0	10	4.0	5 44 8.6	17 44 5.6
24.0	10	5.0	5 44 59.8	17 43 13.6
24.0	10	6.0	5 45 51.2	17 42 21.5
24.0	10	7.0	5 46 42.6	17 41 29.3
25.0	10	.0	5 40 36.8	17 47 26.5
25.0	10	1.0	5 41 29.5	17 46 33.1
25.0	10	2.0	5 42 22.1	17 45 39.7
25.0	10	3.0	5 43 14.8	17 44 46.3
25.0	10	4.0	5 44 7.4	17 43 52.9
25.0	10	5.0	5 45 .2	17 42 59.4
25.0	10	6.0	5 45 53.0	17 42 5.8
25.0	10	7.0	5 46 46.0	17 41 12.1
26.0	10	.0	5 40 30.4	17 47 20.6
26.0	10	1.0	5 41 24.5	17 46 25.7
26.0	10	2.0	5 42 18.7	17 45 30.8
26.0	10	3.0	5 43 12.8	17 44 35.9
26.0	10	4.0	5 44 7.0	17 43 41.0
26.0	10	5.0	5 45 1.2	17 42 46.0
26.0	10	6.0	5 45 55.5	17 41 50.9
26.0	10	7.0	5 46 50.0	17 40 55.6
27.0	10	.0	5 40 24.6	17 47 15.4
27.0	10	1.0	5 41 20.3	17 46 19.0
27.0	10	2.0	5 42 15.9	17 45 22.6
27.0	10	3.0	5 43 11.5	17 44 26.3
27.0	10	4.0	5 44 7.2	17 43 29.9
27.0	10	5.0	5 45 2.9	17 42 33.4
27.0	10	6.0	5 45 58.8	17 41 36.8
27.0	10	7.0	5 46 54.8	17 40 40.1
28.0	10	.0	5 40 19.6	17 47 11.0
28.0	10	1.0	5 41 16.8	17 46 13.1
28.0	10	2.0	5 42 13.9	17 45 15.3
28.0	10	3.0	5 43 11.0	17 44 17.4
28.0	10	4.0	5 44 8.1	17 43 19.6
28.0	10	5.0	5 45 5.3	17 42 21.6
28.0	10	6.0	5 46 2.7	17 41 23.5
28.0	10	7.0	5 47 .2	17 40 25.3
29.0	10	.0	5 40 15.4	17 47 7.3
29.0	10	1.0	5 41 14.0	17 46 8.0
29.0	10	2.0	5 42 12.6	17 45 8.7
29.0	10	3.0	5 43 11.2	17 44 9.4
29.0	10	4.0	5 44 9.8	17 43 10.1
29.0	10	5.0	5 45 8.5	17 42 10.7
29.0	10	6.0	5 46 7.3	17 41 11.1
29.0	10	7.0	5 47 6.2	17 40 11.4
30.0	10	.0	5 40 12.0	17 47 4.5
30.0	10	1.0	5 41 12.0	17 46 3.7
30.0	10	2.0	5 42 12.1	17 45 3.0
30.0	10	3.0	5 43 12.1	17 44 2.2
30.0	10	4.0	5 44 12.1	17 43 1.4
30.0	10	5.0	5 45 12.3	17 42 .6
30.0	10	6.0	5 46 12.6	17 40 59.6
30.0	10	7.0	5 47 13.0	17 39 58.4

31.0	10	.0	5 40	9.3	17 47	2.4
31.0	10	1.0	5 41	10.8	17 46	.2
31.0	10	2.0	5 42	12.3	17 44	58.1
31.0	10	3.0	5 43	13.7	17 43	55.9
31.0	10	4.0	5 44	15.3	17 42	53.6
31.0	10	5.0	5 45	16.9	17 41	51.3
31.0	10	6.0	5 46	18.6	17 40	48.9
31.0	10	7.0	5 47	20.5	17 39	46.3

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
1.0	11	.0	5 40	7.5	17 47	1.2		
1.0	11	1.0	5 41	10.4	17 45	57.5		
1.0	11	2.0	5 42	13.3	17 44	53.9		
1.0	11	3.0	5 43	16.2	17 43	50.3		
1.0	11	4.0	5 44	19.1	17 42	46.7		
1.0	11	5.0	5 45	22.1	17 41	42.9		
1.0	11	6.0	5 46	25.3	17 40	39.1		
1.0	11	7.0	5 47	28.6	17 39	35.0		
2.0	11	.0	5 40	6.4	17 47	.7		
2.0	11	1.0	5 41	10.7	17 45	55.7		
2.0	11	2.0	5 42	15.0	17 44	50.7		
2.0	11	3.0	5 43	19.3	17 43	45.7		
2.0	11	4.0	5 44	23.7	17 42	40.6		
2.0	11	5.0	5 45	28.1	17 41	35.4		
2.0	11	6.0	5 46	32.7	17 40	30.1		
2.0	11	7.0	5 47	37.5	17 39	24.6		
3.0	11	.0	5 40	6.1	17 47	1.0		
3.0	11	1.0	5 41	11.8	17 45	54.6		
3.0	11	2.0	5 42	17.5	17 44	48.2		
3.0	11	3.0	5 43	23.2	17 43	41.8		
3.0	11	4.0	5 44	29.0	17 42	35.4		
3.0	11	5.0	5 45	34.9	17 41	28.8		
3.0	11	6.0	5 46	40.9	17 40	22.1		
3.0	11	7.0	5 47	47.1	17 39	15.2		
4.0	11	.0	5 40	6.7	17 47	2.2		
4.0	11	1.0	5 41	13.8	17 45	54.4		
4.0	11	2.0	5 42	20.8	17 44	46.6		
4.0	11	3.0	5 43	27.9	17 43	38.8		
4.0	11	4.0	5 44	35.1	17 42	31.0		
4.0	11	5.0	5 45	42.3	17 41	23.0		
4.0	11	6.0	5 46	49.7	17 40	15.0		
4.0	11	7.0	5 47	57.3	17 39	6.7		
5.0	11	.0	5 40	8.0	17 47	4.1		
5.0	11	1.0	5 41	16.5	17 45	55.0		
5.0	11	2.0	5 42	24.9	17 44	45.9		
5.0	11	3.0	5 43	33.4	17 43	36.7		
5.0	11	4.0	5 44	41.9	17 42	27.5		
5.0	11	5.0	5 45	50.5	17 41	18.2		
5.0	11	6.0	5 46	59.3	17 40	8.7		
5.0	11	7.0	5 48	8.3	17 38	59.1		
6.0	11	.0	5 40	10.1	17 47	6.9		
6.0	11	1.0	5 41	20.0	17 45	56.4		
6.0	11	2.0	5 42	29.8	17 44	45.9		
6.0	11	3.0	5 43	39.6	17 43	35.4		

6.0	11	4.0	5 44 49.5	17 42 24.9
6.0	11	5.0	5 45 59.5	17 41 14.2
6.0	11	6.0	5 47 9.6	17 40 3.4
6.0	11	7.0	5 48 20.0	17 38 52.4
7.0	11	.0	5 40 13.1	17 47 10.5
7.0	11	1.0	5 41 24.3	17 45 58.7
7.0	11	2.0	5 42 35.4	17 44 46.9
7.0	11	3.0	5 43 46.6	17 43 35.1
7.0	11	4.0	5 44 57.8	17 42 23.2
7.0	11	5.0	5 46 9.1	17 41 11.2
7.0	11	6.0	5 47 20.6	17 39 59.0
7.0	11	7.0	5 48 32.3	17 38 46.6
8.0	11	.0	5 40 16.9	17 47 14.9
8.0	11	1.0	5 41 29.4	17 46 1.8
8.0	11	2.0	5 42 41.8	17 44 48.7
8.0	11	3.0	5 43 54.3	17 43 35.6
8.0	11	4.0	5 45 6.9	17 42 22.4
8.0	11	5.0	5 46 19.5	17 41 9.0
8.0	11	6.0	5 47 32.4	17 39 55.6
8.0	11	7.0	5 48 45.4	17 38 41.9
9.0	11	.0	5 40 21.5	17 47 20.2
9.0	11	1.0	5 41 35.3	17 46 5.7
9.0	11	2.0	5 42 49.1	17 44 51.3
9.0	11	3.0	5 44 2.8	17 43 36.9
9.0	11	4.0	5 45 16.7	17 42 22.4
9.0	11	5.0	5 46 30.7	17 41 7.8
9.0	11	6.0	5 47 44.8	17 39 53.0
9.0	11	7.0	5 48 59.2	17 38 38.0
10.0	11	.0	5 40 27.0	17 47 26.2
10.0	11	1.0	5 41 42.0	17 46 10.6
10.0	11	2.0	5 42 57.1	17 44 54.9
10.0	11	3.0	5 44 12.1	17 43 39.2
10.0	11	4.0	5 45 27.3	17 42 23.4
10.0	11	5.0	5 46 42.5	17 41 7.5
10.0	11	6.0	5 47 58.0	17 39 51.4
10.0	11	7.0	5 49 13.6	17 38 35.1
11.0	11	.0	5 40 33.2	17 47 33.2
11.0	11	1.0	5 41 49.6	17 46 16.2
11.0	11	2.0	5 43 5.9	17 44 59.3
11.0	11	3.0	5 44 22.2	17 43 42.3
11.0	11	4.0	5 45 38.6	17 42 25.3
11.0	11	5.0	5 46 55.1	17 41 8.1
11.0	11	6.0	5 48 11.8	17 39 50.8
11.0	11	7.0	5 49 28.8	17 38 33.2
12.0	11	.0	5 40 40.4	17 47 40.9
12.0	11	1.0	5 41 57.9	17 46 22.7
12.0	11	2.0	5 43 15.5	17 45 4.6
12.0	11	3.0	5 44 33.0	17 43 46.4
12.0	11	4.0	5 45 50.7	17 42 28.1
12.0	11	5.0	5 47 8.5	17 41 9.7
12.0	11	6.0	5 48 26.4	17 39 51.1
12.0	11	7.0	5 49 44.6	17 38 32.3
13.0	11	.0	5 40 48.3	17 47 49.5
13.0	11	1.0	5 42 7.1	17 46 30.1
13.0	11	2.0	5 43 25.9	17 45 10.7
13.0	11	3.0	5 44 44.7	17 43 51.3

13.0	11	4.0	5 46 3.5	17 42 31.8
13.0	11	5.0	5 47 22.5	17 41 12.2
13.0	11	6.0	5 48 41.7	17 39 52.4
13.0	11	7.0	5 50 1.2	17 38 32.3
14.0	11	.0	5 40 57.1	17 47 58.9
14.0	11	1.0	5 42 17.1	17 46 38.3
14.0	11	2.0	5 43 37.0	17 45 17.7
14.0	11	3.0	5 44 57.1	17 43 57.1
14.0	11	4.0	5 46 17.1	17 42 36.5
14.0	11	5.0	5 47 37.4	17 41 15.6
14.0	11	6.0	5 48 57.8	17 39 54.6
14.0	11	7.0	5 50 18.4	17 38 33.4

TARIKH		LATITUD	WAKTU TERBIT MATAHARI			WAKTU TERBENAM MATAHARI		
H	B	~	j	m	s	j	m	s
15.0	11	.0	5 41 6.7			17 48 9.1		
15.0	11	1.0	5 42 27.9			17 46 47.4		
15.0	11	2.0	5 43 49.0			17 45 25.7		
15.0	11	3.0	5 45 10.2			17 44 3.9		
15.0	11	4.0	5 46 31.5			17 42 42.0		
15.0	11	5.0	5 47 52.9			17 41 20.0		
15.0	11	6.0	5 49 14.5			17 39 57.9		
15.0	11	7.0	5 50 36.4			17 38 35.4		
16.0	11	.0	5 41 17.2			17 48 20.2		
16.0	11	1.0	5 42 39.5			17 46 57.3		
16.0	11	2.0	5 44 1.8			17 45 34.5		
16.0	11	3.0	5 45 24.2			17 44 11.5		
16.0	11	4.0	5 46 46.6			17 42 48.5		
16.0	11	5.0	5 48 9.2			17 41 25.4		
16.0	11	6.0	5 49 32.0			17 40 2.0		
16.0	11	7.0	5 50 55.0			17 38 38.5		
17.0	11	.0	5 41 28.5			17 48 32.2		
17.0	11	1.0	5 42 52.0			17 47 8.2		
17.0	11	2.0	5 44 15.4			17 45 44.2		
17.0	11	3.0	5 45 38.9			17 44 20.1		
17.0	11	4.0	5 47 2.5			17 42 56.0		
17.0	11	5.0	5 48 26.2			17 41 31.7		
17.0	11	6.0	5 49 50.1			17 40 7.2		
17.0	11	7.0	5 51 14.3			17 38 42.5		
18.0	11	.0	5 41 40.7			17 48 45.0		
18.0	11	1.0	5 43 5.3			17 47 19.9		
18.0	11	2.0	5 44 29.8			17 45 54.7		
18.0	11	3.0	5 45 54.4			17 44 29.6		
18.0	11	4.0	5 47 19.1			17 43 4.4		
18.0	11	5.0	5 48 44.0			17 41 39.0		
18.0	11	6.0	5 50 9.0			17 40 13.4		
18.0	11	7.0	5 51 34.3			17 38 47.5		
19.0	11	.0	5 41 53.7			17 48 58.6		
19.0	11	1.0	5 43 19.4			17 47 32.4		
19.0	11	2.0	5 44 45.0			17 46 6.2		
19.0	11	3.0	5 46 10.7			17 44 40.0		
19.0	11	4.0	5 47 36.5			17 43 13.7		
19.0	11	5.0	5 49 2.4			17 41 47.2		
19.0	11	6.0	5 50 28.6			17 40 20.5		
19.0	11	7.0	5 51 55.0			17 38 53.6		

20.0	11	.0	5 42 7.6	17 49 13.1
20.0	11	1.0	5 43 34.3	17 47 45.8
20.0	11	2.0	5 45 1.0	17 46 18.6
20.0	11	3.0	5 46 27.8	17 44 51.3
20.0	11	4.0	5 47 54.6	17 43 23.9
20.0	11	5.0	5 49 21.6	17 41 56.4
20.0	11	6.0	5 50 48.8	17 40 28.7
20.0	11	7.0	5 52 16.3	17 39 .7
21.0	11	.0	5 42 22.3	17 49 28.3
21.0	11	1.0	5 43 50.0	17 48 .1
21.0	11	2.0	5 45 17.8	17 46 31.8
21.0	11	3.0	5 46 45.6	17 45 3.5
21.0	11	4.0	5 48 13.5	17 43 35.1
21.0	11	5.0	5 49 41.5	17 42 6.6
21.0	11	6.0	5 51 9.8	17 40 37.8
21.0	11	7.0	5 52 38.3	17 39 8.8
22.0	11	.0	5 42 37.8	17 49 44.4
22.0	11	1.0	5 44 6.6	17 48 15.2
22.0	11	2.0	5 45 35.3	17 46 45.9
22.0	11	3.0	5 47 4.1	17 45 16.6
22.0	11	4.0	5 48 33.0	17 43 47.2
22.0	11	5.0	5 50 2.1	17 42 17.7
22.0	11	6.0	5 51 31.4	17 40 47.9
22.0	11	7.0	5 53 .9	17 39 17.8
23.0	11	.0	5 42 54.1	17 50 1.3
23.0	11	1.0	5 44 23.9	17 48 31.1
23.0	11	2.0	5 45 53.6	17 47 .9
23.0	11	3.0	5 47 23.4	17 45 30.6
23.0	11	4.0	5 48 53.3	17 44 .2
23.0	11	5.0	5 50 23.3	17 42 29.7
23.0	11	6.0	5 51 53.6	17 40 59.0
23.0	11	7.0	5 53 24.2	17 39 27.9
24.0	11	.0	5 43 11.3	17 50 19.0
24.0	11	1.0	5 44 42.0	17 48 47.8
24.0	11	2.0	5 46 12.7	17 47 16.7
24.0	11	3.0	5 47 43.4	17 45 45.5
24.0	11	4.0	5 49 14.3	17 44 14.2
24.0	11	5.0	5 50 45.3	17 42 42.7
24.0	11	6.0	5 52 16.5	17 41 11.0
24.0	11	7.0	5 53 48.0	17 39 39.0
25.0	11	.0	5 43 29.2	17 50 37.5
25.0	11	1.0	5 45 .8	17 49 5.4
25.0	11	2.0	5 46 32.4	17 47 33.3
25.0	11	3.0	5 48 4.1	17 46 1.2
25.0	11	4.0	5 49 35.9	17 44 28.9
25.0	11	5.0	5 51 7.8	17 42 56.5
25.0	11	6.0	5 52 40.0	17 41 23.9
25.0	11	7.0	5 54 12.5	17 39 51.0
26.0	11	.0	5 43 47.8	17 50 56.7
26.0	11	1.0	5 45 20.4	17 49 23.7
26.0	11	2.0	5 46 52.9	17 47 50.7
26.0	11	3.0	5 48 25.5	17 46 17.7
26.0	11	4.0	5 49 58.2	17 44 44.6
26.0	11	5.0	5 51 31.0	17 43 11.3
26.0	11	6.0	5 53 4.1	17 41 37.8
26.0	11	7.0	5 54 37.5	17 40 4.0

27.0	11	.0	5 44 7.3	17 51 16.6
27.0	11	1.0	5 45 40.7	17 49 42.8
27.0	11	2.0	5 47 14.1	17 48 9.0
27.0	11	3.0	5 48 47.5	17 46 35.1
27.0	11	4.0	5 50 21.1	17 45 1.1
27.0	11	5.0	5 51 54.8	17 43 27.0
27.0	11	6.0	5 53 28.7	17 41 52.6
27.0	11	7.0	5 55 3.0	17 40 17.9

28.0	11	.0	5 44 27.4	17 51 37.3
28.0	11	1.0	5 46 1.7	17 50 2.6
28.0	11	2.0	5 47 35.9	17 48 28.0
28.0	11	3.0	5 49 10.2	17 46 53.3
28.0	11	4.0	5 50 44.6	17 45 18.5
28.0	11	5.0	5 52 19.1	17 43 43.5
28.0	11	6.0	5 53 53.9	17 42 8.3
28.0	11	7.0	5 55 29.0	17 40 32.8

29.0	11	.0	5 44 48.3	17 51 58.6
29.0	11	1.0	5 46 23.3	17 50 23.2
29.0	11	2.0	5 47 58.4	17 48 47.7
29.0	11	3.0	5 49 33.5	17 47 12.3
29.0	11	4.0	5 51 8.7	17 45 36.7
29.0	11	5.0	5 52 44.1	17 44 .9
29.0	11	6.0	5 54 19.7	17 42 24.9
29.0	11	7.0	5 55 55.6	17 40 48.6

30.0	11	.0	5 45 9.8	17 52 20.7
30.0	11	1.0	5 46 45.6	17 50 44.4
30.0	11	2.0	5 48 21.5	17 49 8.2
30.0	11	3.0	5 49 57.3	17 47 32.0
30.0	11	4.0	5 51 33.3	17 45 55.6
30.0	11	5.0	5 53 9.5	17 44 19.1
30.0	11	6.0	5 54 45.9	17 42 42.3
30.0	11	7.0	5 56 22.6	17 41 5.2

TARIKH		LATITUD	WAKTU TERBIT			WAKTU TERBENAM		
H	B	~	MATAHARI			MATAHARI		
			j	m	s	j	m	s
1.0	12	.0	5	45	32.0	17	52	43.3
1.0	12	1.0	5	47	8.6	17	51	6.4
1.0	12	2.0	5	48	45.2	17	49	29.4
1.0	12	3.0	5	50	21.8	17	47	52.5
1.0	12	4.0	5	51	58.5	17	46	15.4
1.0	12	5.0	5	53	35.4	17	44	38.1
1.0	12	6.0	5	55	12.6	17	43	.6
1.0	12	7.0	5	56	50.0	17	41	22.7
2.0	12	.0	5	45	54.9	17	53	6.6
2.0	12	1.0	5	47	32.1	17	51	29.0
2.0	12	2.0	5	49	9.4	17	49	51.3
2.0	12	3.0	5	50	46.8	17	48	13.7
2.0	12	4.0	5	52	24.2	17	46	35.9
2.0	12	5.0	5	54	1.8	17	44	57.9
2.0	12	6.0	5	55	39.7	17	43	19.7
2.0	12	7.0	5	57	17.9	17	41	41.1
3.0	12	.0	5	46	18.3	17	53	30.5
3.0	12	1.0	5	47	56.3	17	51	52.2
3.0	12	2.0	5	49	34.2	17	50	13.9
3.0	12	3.0	5	51	12.2	17	48	35.5
3.0	12	4.0	5	52	50.4	17	46	57.1

3.0	12	5.0	5 54	28.7	17 45	18.4
3.0	12	6.0	5 56	7.3	17 43	39.5
3.0	12	7.0	5 57	46.1	17 42	.3
4.0	12	.0	5 46	42.3	17 53	54.9
4.0	12	1.0	5 48	21.0	17 52	16.0
4.0	12	2.0	5 49	59.6	17 50	37.1
4.0	12	3.0	5 51	38.2	17 48	58.1
4.0	12	4.0	5 53	17.0	17 47	19.0
4.0	12	5.0	5 54	56.0	17 45	39.7
4.0	12	6.0	5 56	35.2	17 44	.2
4.0	12	7.0	5 58	14.7	17 42	20.4
5.0	12	.0	5 47	6.9	17 54	19.9
5.0	12	1.0	5 48	46.2	17 52	40.4
5.0	12	2.0	5 50	25.4	17 51	.9
5.0	12	3.0	5 52	4.7	17 49	21.3
5.0	12	4.0	5 53	44.0	17 47	41.6
5.0	12	5.0	5 55	23.6	17 46	1.7
5.0	12	6.0	5 57	3.5	17 44	21.6
5.0	12	7.0	5 58	43.6	17 42	41.2
6.0	12	.0	5 47	32.1	17 54	45.4
6.0	12	1.0	5 49	11.9	17 53	5.3
6.0	12	2.0	5 50	51.7	17 51	25.2
6.0	12	3.0	5 52	31.5	17 49	45.1
6.0	12	4.0	5 54	11.5	17 48	4.9
6.0	12	5.0	5 55	51.6	17 46	24.4
6.0	12	6.0	5 57	32.0	17 44	43.7
6.0	12	7.0	5 59	12.8	17 43	2.7
7.0	12	.0	5 47	57.7	17 55	11.3
7.0	12	1.0	5 49	38.0	17 53	30.7
7.0	12	2.0	5 51	18.4	17 51	50.1
7.0	12	3.0	5 52	58.8	17 50	9.5
7.0	12	4.0	5 54	39.3	17 48	28.7
7.0	12	5.0	5 56	20.0	17 46	47.8
7.0	12	6.0	5 58	.9	17 45	6.5
7.0	12	7.0	5 59	42.2	17 43	25.0
8.0	12	.0	5 48	23.8	17 55	37.8
8.0	12	1.0	5 50	4.6	17 53	56.7
8.0	12	2.0	5 51	45.5	17 52	15.6
8.0	12	3.0	5 53	26.4	17 50	34.5
8.0	12	4.0	5 55	7.4	17 48	53.2
8.0	12	5.0	5 56	48.6	17 47	11.7
8.0	12	6.0	5 58	30.1	17 45	30.0
8.0	12	7.0	6 0	11.9	17 43	48.0
9.0	12	.0	5 48	50.3	17 56	4.6
9.0	12	1.0	5 50	31.7	17 54	23.1
9.0	12	2.0	5 52	13.0	17 52	41.5
9.0	12	3.0	5 53	54.3	17 50	60.0
9.0	12	4.0	5 55	35.8	17 49	18.2
9.0	12	5.0	5 57	17.5	17 47	36.3
9.0	12	6.0	5 58	59.5	17 45	54.2
9.0	12	7.0	6 0	41.7	17 44	11.7
10.0	12	.0	5 49	17.3	17 56	31.9
10.0	12	1.0	5 50	59.1	17 54	49.9
10.0	12	2.0	5 52	40.8	17 53	8.0
10.0	12	3.0	5 54	22.6	17 51	26.0
10.0	12	4.0	5 56	4.5	17 49	43.8

10.0	12	5.0	5 57 46.7	17 48 1.5
10.0	12	6.0	5 59 29.0	17 46 18.9
10.0	12	7.0	6 1 11.8	17 44 36.0
11.0	12	.0	5 49 44.7	17 56 59.5
11.0	12	1.0	5 51 26.8	17 55 17.1
11.0	12	2.0	5 53 9.0	17 53 34.8
11.0	12	3.0	5 54 51.2	17 51 52.4
11.0	12	4.0	5 56 33.5	17 50 9.9
11.0	12	5.0	5 58 16.0	17 48 27.2
11.0	12	6.0	5 59 58.8	17 46 44.3
11.0	12	7.0	6 1 41.9	17 45 1.0
12.0	12	.0	5 50 12.4	17 57 27.4
12.0	12	1.0	5 51 54.9	17 55 44.8
12.0	12	2.0	5 53 37.4	17 54 2.1
12.0	12	3.0	5 55 20.0	17 52 19.4
12.0	12	4.0	5 57 2.7	17 50 36.5
12.0	12	5.0	5 58 45.5	17 48 53.5
12.0	12	6.0	6 0 28.7	17 47 10.2
12.0	12	7.0	6 2 12.1	17 45 26.5
13.0	12	.0	5 50 40.5	17 57 55.7
13.0	12	1.0	5 52 23.3	17 56 12.7
13.0	12	2.0	5 54 6.1	17 54 29.8
13.0	12	3.0	5 55 49.0	17 52 46.7
13.0	12	4.0	5 57 32.0	17 51 3.6
13.0	12	5.0	5 59 15.2	17 49 20.2
13.0	12	6.0	6 0 58.7	17 47 36.6
13.0	12	7.0	6 2 42.5	17 45 52.7
14.0	12	.0	5 51 8.9	17 58 24.3
14.0	12	1.0	5 52 52.0	17 56 41.0
14.0	12	2.0	5 54 35.1	17 54 57.8
14.0	12	3.0	5 56 18.2	17 53 14.5
14.0	12	4.0	5 58 1.5	17 51 31.1
14.0	12	5.0	5 59 45.0	17 49 47.5
14.0	12	6.0	6 1 28.8	17 48 3.6
14.0	12	7.0	6 3 12.8	17 46 19.4
TARIKH LATITUD WAKTU TERBIT WAKTU TERBENAM				
MATAHARI MATAHARI				
H	B	~	j m s	j m s
15.0	12	.0	5 51 37.5	17 58 53.1
15.0	12	1.0	5 53 20.9	17 57 9.6
15.0	12	2.0	5 55 4.2	17 55 26.2
15.0	12	3.0	5 56 47.6	17 53 42.7
15.0	12	4.0	5 58 31.2	17 51 59.0
15.0	12	5.0	6 0 14.9	17 50 15.2
15.0	12	6.0	6 1 58.9	17 48 31.1
15.0	12	7.0	6 3 43.2	17 46 46.6
16.0	12	.0	5 52 6.5	17 59 22.2
16.0	12	1.0	5 53 50.0	17 57 38.5
16.0	12	2.0	5 55 33.6	17 55 54.9
16.0	12	3.0	5 57 17.2	17 54 11.2
16.0	12	4.0	5 59 .9	17 52 27.3
16.0	12	5.0	6 0 44.9	17 50 43.3
16.0	12	6.0	6 2 29.1	17 48 59.0
16.0	12	7.0	6 4 13.6	17 47 14.4
17.0	12	.0	5 52 35.6	17 59 51.4

17.0	12	1.0	5 54	19.4	17 58	7.6
17.0	12	2.0	5 56	3.1	17 56	23.8
17.0	12	3.0	5 57	46.9	17 54	40.0
17.0	12	4.0	5 59	30.8	17 52	56.0
17.0	12	5.0	6 1	14.9	17 51	11.8
17.0	12	6.0	6 2	59.2	17 49	27.4
17.0	12	7.0	6 4	44.0	17 47	42.6
18.0	12	.0	5 53	5.0	18 0	20.9
18.0	12	1.0	5 54	48.8	17 58	37.0
18.0	12	2.0	5 56	32.7	17 56	53.1
18.0	12	3.0	5 58	16.6	17 55	9.1
18.0	12	4.0	6 0	.6	17 53	25.0
18.0	12	5.0	6 1	44.9	17 51	40.7
18.0	12	6.0	6 3	29.4	17 49	56.2
18.0	12	7.0	6 5	14.2	17 48	11.3
19.0	12	.0	5 53	34.5	18 0	50.5
19.0	12	1.0	5 55	18.5	17 59	6.5
19.0	12	2.0	5 57	2.4	17 57	22.5
19.0	12	3.0	5 58	46.4	17 55	38.5
19.0	12	4.0	6 0	30.6	17 53	54.3
19.0	12	5.0	6 2	14.9	17 52	10.0
19.0	12	6.0	6 3	59.5	17 50	25.3
19.0	12	7.0	6 5	44.4	17 48	40.4
20.0	12	.0	5 54	4.2	18 1	20.2
20.0	12	1.0	5 55	48.2	17 59	36.2
20.0	12	2.0	5 57	32.2	17 57	52.2
20.0	12	3.0	5 59	16.3	17 56	8.1
20.0	12	4.0	6 1	.4	17 54	23.9
20.0	12	5.0	6 2	44.8	17 52	39.5
20.0	12	6.0	6 4	29.5	17 50	54.9
20.0	12	7.0	6 6	14.5	17 49	9.8
21.0	12	.0	5 54	34.0	18 1	50.0
21.0	12	1.0	5 56	18.0	18 0	6.0
21.0	12	2.0	5 58	2.0	17 58	22.0
21.0	12	3.0	5 59	46.1	17 56	37.9
21.0	12	4.0	6 1	30.3	17 54	53.7
21.0	12	5.0	6 3	14.7	17 53	9.3
21.0	12	6.0	6 4	59.3	17 51	24.7
21.0	12	7.0	6 6	44.3	17 49	39.7
22.0	12	.0	5 55	3.9	18 2	19.8
22.0	12	1.0	5 56	47.9	18 0	35.8
22.0	12	2.0	5 58	31.8	17 58	51.9
22.0	12	3.0	6 0	15.9	17 57	7.9
22.0	12	4.0	6 2	.0	17 55	23.7
22.0	12	5.0	6 3	44.4	17 53	39.4
22.0	12	6.0	6 5	29.0	17 51	54.8
22.0	12	7.0	6 7	14.0	17 50	9.9
23.0	12	.0	5 55	33.8	18 2	49.7
23.0	12	1.0	5 57	17.7	18 1	5.8
23.0	12	2.0	5 59	1.6	17 59	21.9
23.0	12	3.0	6 0	45.6	17 57	38.0
23.0	12	4.0	6 2	29.7	17 55	53.9
23.0	12	5.0	6 4	14.0	17 54	9.7
23.0	12	6.0	6 5	58.5	17 52	25.2
23.0	12	7.0	6 7	43.5	17 50	40.3

24.0	12	.0	5 56	3.7	18 3	19.5
24.0	12	1.0	5 57	47.5	18 1	35.7
24.0	12	2.0	5 59	31.3	17 59	52.0
24.0	12	3.0	6 1	15.2	17 58	8.2
24.0	12	4.0	6 2	59.2	17 56	24.3
24.0	12	5.0	6 4	43.3	17 54	40.1
24.0	12	6.0	6 6	27.8	17 52	55.7
24.0	12	7.0	6 8	12.6	17 51	11.0
25.0	12	.0	5 56	33.5	18 3	49.2
25.0	12	1.0	5 58	17.2	18 2	5.7
25.0	12	2.0	6 0	.9	18 0	22.1
25.0	12	3.0	6 1	44.6	17 58	38.4
25.0	12	4.0	6 3	28.4	17 56	54.7
25.0	12	5.0	6 5	12.5	17 55	10.7
25.0	12	6.0	6 6	56.8	17 53	26.5
25.0	12	7.0	6 8	41.5	17 51	41.9
26.0	12	.0	5 57	3.3	18 4	18.9
26.0	12	1.0	5 58	46.8	18 2	35.5
26.0	12	2.0	6 0	30.3	18 0	52.1
26.0	12	3.0	6 2	13.8	17 59	8.7
26.0	12	4.0	6 3	57.5	17 57	25.2
26.0	12	5.0	6 5	41.4	17 55	41.4
26.0	12	6.0	6 7	25.5	17 53	57.4
26.0	12	7.0	6 9	10.0	17 52	13.0
27.0	12	.0	5 57	33.0	18 4	48.4
27.0	12	1.0	5 59	16.3	18 3	5.3
27.0	12	2.0	6 0	59.5	18 1	22.2
27.0	12	3.0	6 2	42.9	17 59	39.0
27.0	12	4.0	6 4	26.3	17 57	55.6
27.0	12	5.0	6 6	9.9	17 56	12.1
27.0	12	6.0	6 7	53.9	17 54	28.3
27.0	12	7.0	6 9	38.1	17 52	44.2
28.0	12	.0	5 58	2.5	18 5	17.8
28.0	12	1.0	5 59	45.6	18 3	34.9
28.0	12	2.0	6 1	28.6	18 1	52.1
28.0	12	3.0	6 3	11.6	18 0	9.2
28.0	12	4.0	6 4	54.8	17 58	26.1
28.0	12	5.0	6 6	38.2	17 56	42.9
28.0	12	6.0	6 8	21.8	17 54	59.4
28.0	12	7.0	6 10	5.8	17 53	15.5
29.0	12	.0	5 58	31.9	18 5	47.0
29.0	12	1.0	6 0	14.6	18 4	4.4
29.0	12	2.0	6 1	57.3	18 2	21.9
29.0	12	3.0	6 3	40.1	18 0	39.3
29.0	12	4.0	6 5	23.0	17 58	56.5
29.0	12	5.0	6 7	6.0	17 57	13.6
29.0	12	6.0	6 8	49.4	17 55	30.4
29.0	12	7.0	6 10	33.1	17 53	46.9
30.0	12	.0	5 59	1.0	18 6	15.9
30.0	12	1.0	6 0	43.4	18 4	33.7
30.0	12	2.0	6 2	25.8	18 2	51.5
30.0	12	3.0	6 4	8.2	18 1	9.2
30.0	12	4.0	6 5	50.8	17 59	26.9
30.0	12	5.0	6 7	33.5	17 57	44.3
30.0	12	6.0	6 9	16.5	17 56	1.5
30.0	12	7.0	6 10	59.9	17 54	18.3

31.0	12	.0	5	59	29.9	18	6	44.5
31.0	12	1.0	6	1	11.9	18	5	2.7
31.0	12	2.0	6	2	53.9	18	3	20.9
31.0	12	3.0	6	4	36.0	18	1	39.1
31.0	12	4.0	6	6	18.1	17	59	57.1
31.0	12	5.0	6	8	.5	17	58	14.9
31.0	12	6.0	6	9	43.1	17	56	32.5
31.0	12	7.0	6	11	26.1	17	54	49.7