

## Height of Eye

Meters	Dip	Feet
1.2	-2'.0	4' 0"
1.4	-2'.1	4' 5"
1.5	-2'.2	4' 11"
1.6	-2'.3	5' 4"
1.8	-2'.4	5' 10"
1.9	-2'.5	6' 4"
2.1	-2'.6	6' 11"
2.3	-2'.7	7' 5"
2.4	-2'.8	8' 0"
2.6	-2'.9	8' 7"
2.8	-3'.0	9' 2"
3.0	-3'.1	9' 10"
3.2	-3'.2	10' 6"
3.4	-3'.3	11' 2"
3.6	-3'.4	11' 10"
3.8	-3'.5	12' 7"
4.1	-3'.6	13' 4"
4.3	-3'.7	14' 1"
4.5	-3'.8	14' 11"
4.8	-3'.9	15' 8"
5.0	-4'.0	16' 6"
5.3	-4'.1	17' 4"
5.6	-4'.2	18' 3"
5.8	-4'.3	19' 1"
6.1	-4'.3	20' 0"

Meters	Dip	Feet
6.1	-4'.4	20' 0"
6.4	-4'.5	20' 11"
6.7	-4'.6	21' 11"
7.0	-4'.7	22' 11"
7.3	-4'.8	23' 10"
7.6	-4'.9	24' 11"
7.9	-5'.0	25' 11"
8.2	-5'.1	27' 0"
8.6	-5'.2	28' 1"
8.9	-5'.3	29' 2"
9.2	-5'.4	30' 3"
9.6	-5'.5	31' 5"
9.9	-5'.6	32' 7"
10.3	-5'.7	33' 9"
10.7	-5'.8	35' 0"
11.0	-5'.9	36' 2"
11.4	-6'.0	37' 5"
11.8	-6'.1	38' 9"
12.2	-6'.2	40' 0"
12.6	-6'.3	41' 4"
13.0	-6'.4	42' 8"
13.4	-6'.5	44' 0"
13.8	-6'.6	45' 5"
14.3	-6'.7	46' 9"
14.7	-6'.7	48' 2"

Meters	Dip	Feet
14.7	-6'.8	48' 2"
15.1	-6'.9	49' 8"
15.6	-7'.0	51' 1"
16.0	-7'.1	52' 7"
16.5	-7'.2	54' 1"
16.9	-7'.3	55' 7"
17.4	-7'.4	57' 2"
17.9	-7'.5	58' 9"
18.4	-7'.6	60' 4"
18.9	-7'.7	61' 11"
19.4	-7'.8	63' 7"
19.9	-7'.9	65' 2"
20.4	-8'.0	66' 10"
20.9	-8'.1	68' 7"
21.4	-8'.2	70' 3"
21.9	-8'.3	72' 0"
22.5	-8'.4	73' 9"
23.0	-8'.5	75' 6"
23.6	-8'.6	77' 4"
24.1	-8'.7	79' 2"
24.7	-8'.8	81' 0"
25.3	-8'.9	82' 10"
25.8	-9'.0	84' 9"
26.4	-9'.1	86' 8"
27.0	-9'.1	88' 7"

Meters	Dip	Feet
27.0	-9'.2	88' 7"
27.6	-9'.3	90' 6"
28.2	-9'.4	92' 6"
28.8	-9'.5	94' 6"
29.4	-9'.6	96' 6"
30.0	-9'.7	98' 6"
30.7	-9'.8	100' 7"
31.3	-9'.9	102' 8"
31.9	-10'.0	104' 9"
32.6	-10'.1	106' 10"
33.2	-10'.2	109' 0"
33.9	-10'.3	111' 2"
34.5	-10'.4	113' 4"
35.2	-10'.5	115' 6"
35.9	-10'.6	117' 9"
36.6	-10'.7	120' 0"
37.3	-10'.8	122' 3"
38.0	-10'.9	124' 7"
38.7	-11'.0	126' 10"
39.4	-11'.1	129' 2"
40.1	-11'.2	131' 6"
40.8	-11'.3	133' 11"
41.5	-11'.4	136' 3"
42.3	-11'.5	138' 8"
43.0	-11'.5	141' 2"

## Temperature and Pressure Factors for Refraction

	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
970	1.07	1.05	1.03	1.01	1.00	0.98	0.96	0.94	0.93	0.91	0.90	0.88	0.87	0.85
980	1.09	1.06	1.04	1.02	1.01	0.99	0.97	0.95	0.94	0.92	0.91	0.89	0.88	0.86
990	1.10	1.08	1.05	1.04	1.02	1.00	0.98	0.96	0.95	0.93	0.92	0.90	0.89	0.87
1000	1.11	1.09	1.07	1.05	1.03	1.01	0.99	0.97	0.96	0.94	0.92	0.91	0.90	0.88
1010	1.12	1.10	1.08	1.06	1.04	1.02	1.00	0.98	0.97	0.95	0.93	0.92	0.90	0.89
1020	1.13	1.11	1.09	1.07	1.05	1.03	1.01	0.99	0.98	0.96	0.94	0.93	0.91	0.90
1030	1.14	1.12	1.10	1.08	1.06	1.04	1.02	1.00	0.98	0.97	0.95	0.94	0.92	0.91
1040	1.15	1.13	1.11	1.09	1.07	1.05	1.03	1.01	0.99	0.98	0.96	0.95	0.93	0.92

Corrected Refraction = Tabulated Refraction x Factor

## Moon's Semi-Diameter corrected for Augmentation

Alt \ HP	53'	54'	55'	56'	57'	58'	59'	60'	61'	62'
10°	14'.48	14'.75	15'.03	15'.30	15'.58	15'.85	16'.12	16'.40	16'.67	16'.95
15°	14'.50	14'.77	15'.05	15'.32	15'.60	15'.87	16'.15	16'.42	16'.70	16'.97
20°	14'.52	14'.79	15'.07	15'.34	15'.62	15'.90	16'.17	16'.45	16'.72	17'.00
25°	14'.54	14'.81	15'.09	15'.36	15'.64	15'.92	16'.19	16'.47	16'.75	17'.02
30°	14'.55	14'.83	15'.11	15'.38	15'.66	15'.94	16'.21	16'.49	16'.77	17'.05
35°	14'.57	14'.85	15'.12	15'.40	15'.68	15'.96	16'.23	16'.51	16'.79	17'.07
40°	14'.58	14'.86	15'.14	15'.42	15'.70	15'.98	16'.25	16'.53	16'.81	17'.09
45°	14'.60	14'.88	15'.16	15'.43	15'.71	15'.99	16'.27	16'.55	16'.83	17'.11
50°	14'.61	14'.89	15'.17	15'.45	15'.73	16'.01	16'.29	16'.57	16'.85	17'.13
55°	14'.62	14'.90	15'.18	15'.46	15'.74	16'.02	16'.30	16'.58	16'.86	17'.14
60°	14'.63	14'.91	15'.19	15'.47	15'.75	16'.03	16'.32	16'.60	16'.88	17'.16
65°	14'.64	14'.92	15'.20	15'.48	15'.76	16'.05	16'.33	16'.61	16'.89	17'.17
70°	14'.65	14'.93	15'.21	15'.49	15'.77	16'.05	16'.34	16'.62	16'.90	17'.18
75°	14'.66	14'.94	15'.22	15'.50	15'.78	16'.06	16'.34	16'.62	16'.91	17'.19
80°	14'.66	14'.94	15'.22	15'.50	15'.79	16'.07	16'.35	16'.63	16'.91	17'.19
85°	14'.66	14'.94	15'.23	15'.51	15'.79	16'.07	16'.35	16'.63	16'.92	17'.20
90°	14'.66	14'.95	15'.23	15'.51	15'.79	16'.07	16'.35	16'.63	16'.92	17'.20

## Latitude Corr'n to Moon's HP

Lat.	Corr'n
30°	-0.05
40°	-0.08
50°	-0.11
60°	-0.15
70°	-0.17
80°	-0.19

# Refraction at 10°C/ 1010mb

App. Alt	Corr'n	App. Alt	Corr'n	App. Alt	Corr'n	App. Alt	Corr'n	App. Alt	Corr'n	App. Alt	Corr'n	App. Alt	Corr'n
0° 00'	-33'.8	1° 00'	-24'.1	2° 00'	-18'.2	3° 00'	-14'.3	4° 00'		6° 51'		16° 24'	
01'	-33'.6	01'	-24'.0	01'	-18'.1	01'	-14'.3	01'	-11'.8	6° 57'	-07'.5	16° 55'	-03'.2
02'	-33'.4	02'	-23'.9	02'	-18'.1	02'	-14'.2	02'	-11'.7	7° 04'	-07'.4	17° 27'	-03'.1
03'	-33'.2	03'	-23'.7	03'	-18'.0	03'	-14'.2	03'	-11'.6	7° 10'	-07'.3	18° 01'	-03'.0
04'	-33'.0	04'	-23'.6	04'	-17'.9	04'	-14'.1	04'	-11'.5	7° 17'	-07'.2	18° 37'	-02'.9
05'	-32'.8	05'	-23'.5	05'	-17'.8	05'	-14'.1	05'	-11'.4	7° 23'	-07'.1	19° 15'	-02'.8
06'	-32'.6	06'	-23'.4	06'	-17'.7	06'	-14'.0	06'	-11'.3	7° 30'	-07'.0	19° 56'	-02'.7
07'	-32'.4	07'	-23'.3	07'	-17'.7	07'	-14'.0	07'	-11'.2	7° 38'	-06'.9	20° 40'	-02'.6
08'	-32'.2	08'	-23'.2	08'	-17'.6	08'	-13'.9	08'	-11'.1	7° 45'	-06'.8	21° 27'	-02'.5
09'	-32'.0	09'	-23'.0	09'	-17'.5	09'	-13'.9	09'	-11'.0	7° 53'	-06'.7	22° 17'	-02'.4
0° 10'	-31'.8	1° 10'	-22'.9	2° 10'	-17'.5	3° 10'	-13'.8	4° 17'	-10'.9	8° 00'	-06'.6	23° 11'	-02'.3
11'	-31'.6	11'	-22'.8	11'	-17'.4	11'	-13'.8	11'	-10'.8	8° 08'	-06'.5	24° 09'	-02'.2
12'	-31'.4	12'	-22'.7	12'	-17'.3	12'	-13'.7	12'	-10'.7	8° 17'	-06'.4	25° 12'	-02'.1
13'	-31'.3	13'	-22'.6	13'	-17'.2	13'	-13'.7	13'	-10'.6	8° 25'	-06'.3	26° 20'	-02'.0
14'	-31'.1	14'	-22'.5	14'	-17'.2	14'	-13'.6	14'	-10'.5	8° 34'	-06'.2	27° 34'	-01'.9
15'	-30'.9	15'	-22'.4	15'	-17'.1	15'	-13'.6	15'	-10'.4	8° 43'	-06'.1	28° 54'	-01'.8
16'	-30'.7	16'	-22'.3	16'	-17'.0	16'	-13'.6	16'	-10'.3	8° 53'	-06'.0	30° 22'	-01'.7
17'	-30'.5	17'	-22'.1	17'	-17'.0	17'	-13'.5	17'	-10'.2	9° 02'	-05'.9	31° 57'	-01'.6
18'	-30'.4	18'	-22'.0	18'	-16'.9	18'	-13'.5	18'	-10'.1	9° 12'	-05'.8	33° 42'	-01'.5
19'	-30'.2	19'	-21'.9	19'	-16'.8	19'	-13'.4	19'	-10'.0	9° 23'	-05'.7	35° 38'	-01'.4
0° 20'	-30'.0	1° 20'	-21'.8	2° 20'	-16'.7	3° 20'	-13'.4	4° 36'	-09'.9	9° 33'	-05'.6	37° 45'	-01'.3
21'	-29'.8	21'	-21'.7	21'	-16'.7	21'	-13'.3	21'	-09'.8	9° 44'	-05'.4	40° 06'	-01'.1
22'	-29'.7	22'	-21'.6	22'	-16'.6	22'	-13'.3	22'	-09'.7	9° 56'	-05'.3	42° 41'	-01'.0
23'	-29'.5	23'	-21'.5	23'	-16'.5	23'	-13'.2	23'	-09'.6	10° 08'	-05'.2	45° 33'	-00'.9
24'	-29'.3	24'	-21'.4	24'	-16'.5	24'	-13'.2	24'	-09'.5	10° 20'	-05'.1	48° 44'	-00'.8
25'	-29'.2	25'	-21'.3	25'	-16'.4	25'	-13'.1	25'	-09'.4	10° 33'	-05'.0	52° 16'	-00'.7
26'	-29'.0	26'	-21'.2	26'	-16'.3	26'	-13'.1	26'	-09'.3	10° 46'	-04'.9	56° 09'	-00'.6
27'	-28'.8	27'	-21'.1	27'	-16'.3	27'	-13'.1	27'	-09'.2	10° 59'	-04'.8	60° 25'	-00'.5
28'	-28'.7	28'	-21'.0	28'	-16'.2	28'	-13'.0	28'	-09'.1	11° 14'	-04'.7	65° 05'	-00'.4
29'	-28'.5	29'	-20'.9	29'	-16'.1	29'	-13'.0	29'	-09'.0	11° 29'	-04'.6	70° 08'	-00'.3
0° 30'	-28'.3	1° 30'	-20'.8	2° 30'	-16'.1	3° 30'	-12'.9	4° 43'	-08'.9	11° 44'	-04'.5	75° 31'	-00'.2
31'	-28'.2	31'	-20'.7	31'	-16'.0	31'	-12'.9	31'	-08'.8	12° 00'	-04'.4	81° 10'	-00'.1
32'	-28'.0	32'	-20'.6	32'	-15'.9	32'	-12'.8	32'	-08'.7	12° 17'	-04'.3	87° 00'	00'.0
33'	-27'.9	33'	-20'.5	33'	-15'.9	33'	-12'.8	33'	-08'.6	12° 35'	-04'.2	90° 00'	
34'	-27'.7	34'	-20'.4	34'	-15'.8	34'	-12'.8	34'	-08'.5	12° 53'	-04'.1		
35'	-27'.6	35'	-20'.3	35'	-15'.8	35'	-12'.7	35'	-08'.4	13° 12'	-04'.0		
36'	-27'.4	36'	-20'.3	36'	-15'.7	36'	-12'.7	36'	-08'.3	13° 32'	-03'.9		
37'	-27'.2	37'	-20'.2	37'	-15'.6	37'	-12'.6	37'	-08'.2	13° 53'	-03'.8		
38'	-27'.1	38'	-20'.1	38'	-15'.6	38'	-12'.6	38'	-08'.1	14° 15'	-03'.7		
39'	-27'.0	39'	-20'.0	39'	-15'.5	39'	-12'.5	39'	-08'.0	14° 38'	-03'.6		
0° 40'	-26'.8	1° 40'	-19'.9	2° 40'	-15'.5	3° 40'	-12'.5	4° 57'	-07'.9	15° 03'	-03'.5		
41'	-26'.7	41'	-19'.8	41'	-15'.4	41'	-12'.5	41'	-07'.8	15° 29'	-03'.4		
42'	-26'.5	42'	-19'.7	42'	-15'.3	42'	-12'.4	42'	-07'.7	15° 56'	-03'.3		
43'	-26'.4	43'	-19'.6	43'	-15'.3	43'	-12'.4	43'	-07'.6	16° 24'			
44'	-26'.2	44'	-19'.5	44'	-15'.2	44'	-12'.3	44'	-07'.5				
45'	-26'.1	45'	-19'.4	45'	-15'.2	45'	-12'.3	45'	-07'.4				
46'	-25'.9	46'	-19'.4	46'	-15'.1	46'	-12'.3	46'	-07'.3				
47'	-25'.8	47'	-19'.3	47'	-15'.1	47'	-12'.2	47'	-07'.2				
48'	-25'.7	48'	-19'.2	48'	-15'.0	48'	-12'.2	48'	-07'.1				
49'	-25'.5	49'	-19'.1	49'	-14'.9	49'	-12'.1	49'	-07'.0				
0° 50'	-25'.4	1° 50'	-19'.0	2° 50'	-14'.9	3° 50'	-12'.1	5° 02'	-06'.9				
51'	-25'.3	51'	-18'.9	51'	-14'.8	51'	-12'.1	51'	-06'.8				
52'	-25'.1	52'	-18'.8	52'	-14'.8	52'	-12'.0	52'	-06'.7				
53'	-25'.0	53'	-18'.8	53'	-14'.7	53'	-12'.0	53'	-06'.6				
54'	-24'.9	54'	-18'.7	54'	-14'.7	54'	-12'.0	54'	-06'.5				
55'	-24'.7	55'	-18'.6	55'	-14'.6	55'	-11'.9	55'	-06'.4				
56'	-24'.6	56'	-18'.5	56'	-14'.6	56'	-11'.9	56'	-06'.3				
57'	-24'.5	57'	-18'.4	57'	-14'.5	57'	-11'.8	57'	-06'.2				
58'	-24'.4	58'	-18'.4	58'	-14'.4	58'	-11'.8	58'	-06'.1				
59'	-24'.2	59'	-18'.3	59'	-14'.4	59'	-11'.8	59'	-06'.0				