

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P270508

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270508
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24257)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL2-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16789.2 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

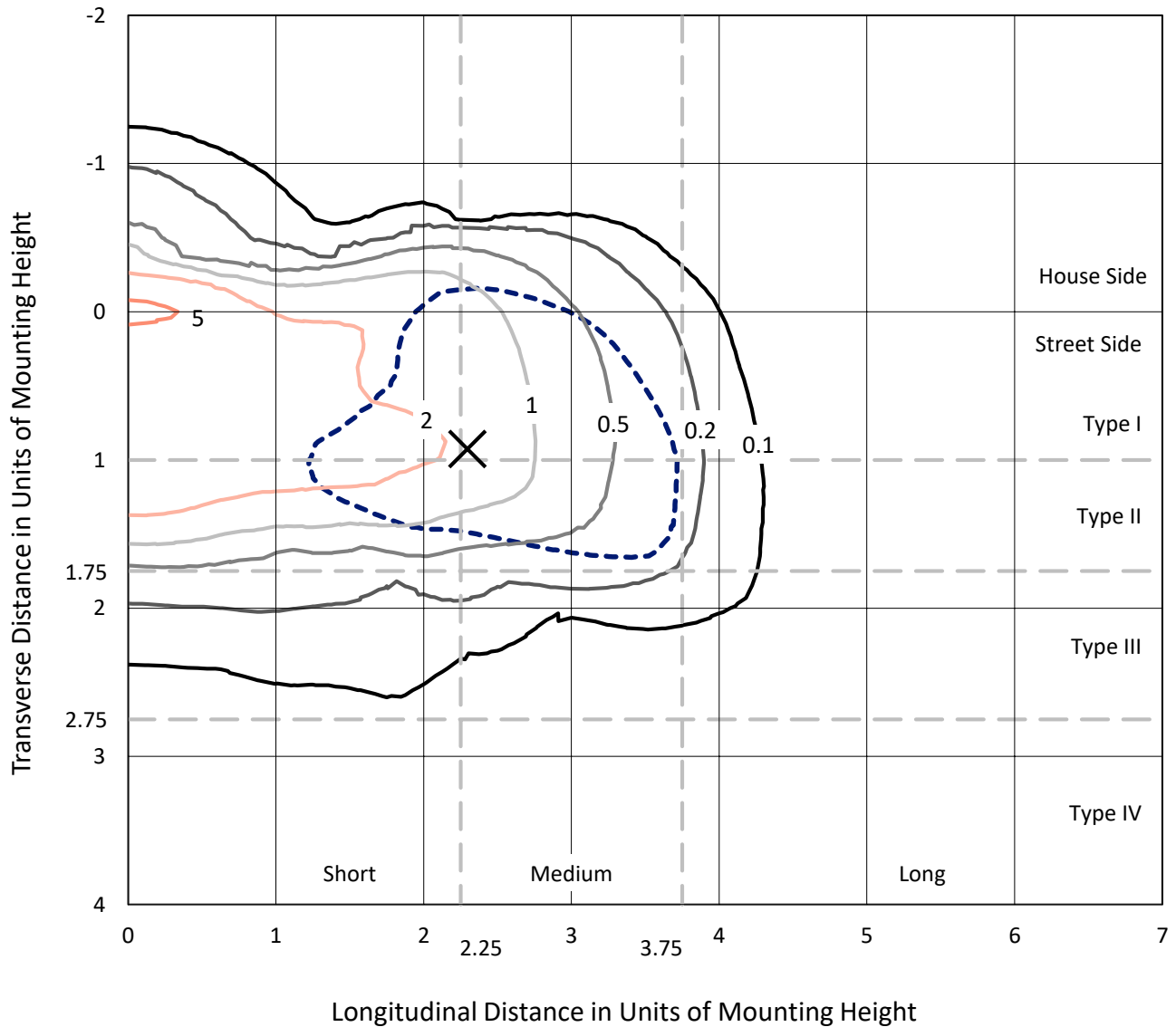


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Iso-Footcandle Lines of Horizontal Illumination

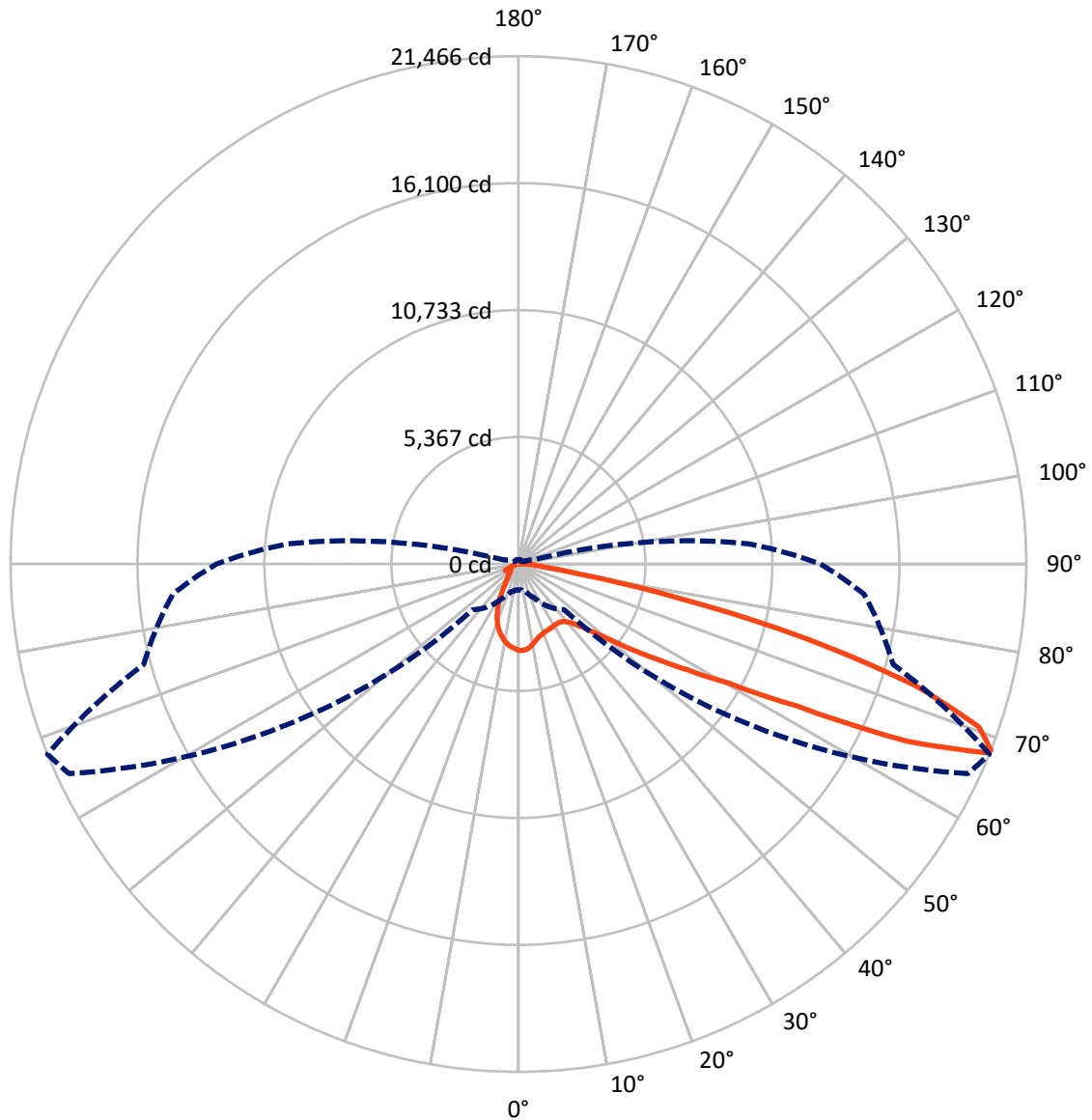
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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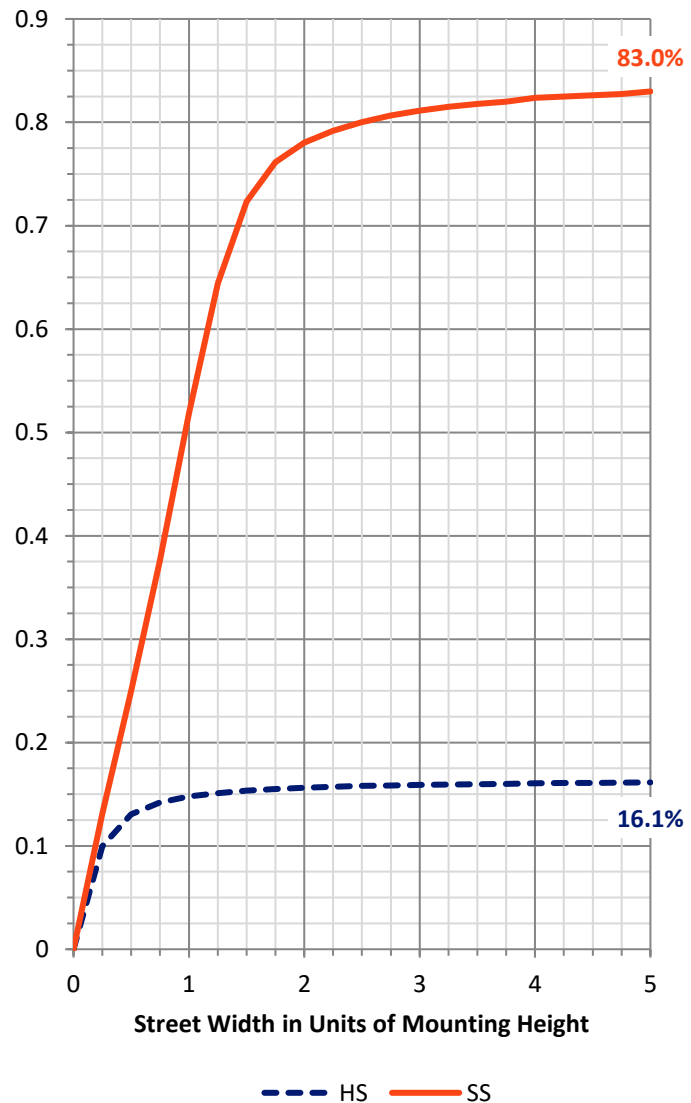
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2746.8	0.0	2746.8
	% Fixture	16.4	0.0	16.4
Street Side	Lumens	14042.4	0.0	14042.4
	% Fixture	83.6	0.0	83.6
Total	Lumens	16789.2	0.0	16789.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.0	1.9
10°-20°	726.0	4.3
20°-30°	981.9	5.8
30°-40°	1384.4	8.2
40°-50°	2276.5	13.6
50°-60°	3528.8	21.0
60°-70°	4575.3	27.3
70°-80°	2625.6	15.6
80°-90°	377.7	2.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	16789.2	100.0
0°-180°	16789.2	100.0



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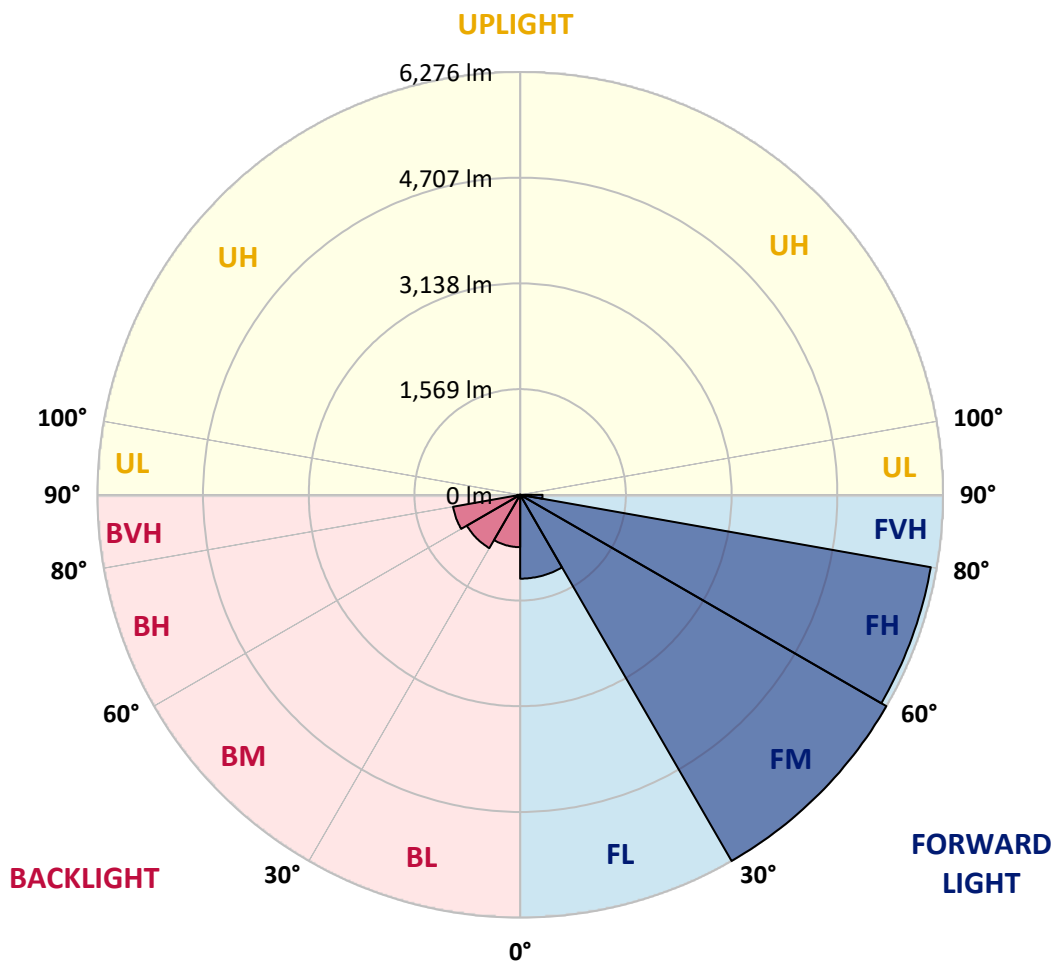
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1244.4	7.4			
FM (30°-60°)	6276.1	37.4			
FH (60°-80°)	6189.3	36.9			G3/7500
FVH (80°-90°)	332.7	2.0			G3/500
BL (0°-30°)	776.5	4.6	B2/1000		
BM (30°-60°)	913.6	5.4	B1/1000		
BH (60°-80°)	1011.6	6.0	B3/2500		G3/2500
BVH (80°-90°)	45.0	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1
2.5°	3555.6	3584.1	3584.1	3604.9	3623.6	3638.9	3652.1	3652.1	3652.1	3643.3	3635.6
5°	3181.5	3220.0	3225.5	3278.2	3347.3	3431.6	3525.9	3609.3	3625.7	3656.6	3668.6
7.5°	2921.6	2933.8	2954.5	2990.7	3061.0	3165.2	3313.2	3499.6	3544.6	3641.1	3691.6
10°	2737.4	2747.2	2764.9	2801.1	2864.7	2958.9	3104.8	3347.3	3421.7	3593.0	3692.7
12.5°	2602.5	2610.3	2626.6	2659.5	2724.3	2808.7	2957.8	3210.2	3302.2	3544.6	3708.1
15°	2497.3	2510.5	2523.6	2555.4	2621.2	2702.3	2853.6	3110.3	3210.2	3506.3	3736.5
17.5°	2455.5	2462.2	2464.3	2480.8	2540.0	2622.2	2773.5	3040.1	3143.2	3475.5	3758.5
20°	2481.8	2482.9	2461.0	2450.0	2484.1	2559.7	2706.8	2987.5	3092.8	3448.1	3767.2
22.5°	2597.0	2597.0	2540.0	2491.8	2468.7	2516.0	2661.8	2951.3	3065.3	3427.3	3767.2
25°	2816.4	2806.6	2717.7	2622.2	2520.3	2500.5	2633.2	2928.2	3044.4	3416.3	3752.9
27.5°	3104.8	3096.1	2983.1	2841.6	2657.4	2533.4	2623.4	2909.6	3023.7	3399.8	3722.2
30°	3455.8	3448.1	3319.7	3134.5	2862.4	2637.7	2646.3	2896.4	3007.3	3372.4	3670.7
32.5°	3805.6	3801.3	3699.2	3509.5	3145.3	2814.2	2706.8	2894.2	2998.5	3339.4	3608.2
35°	4157.6	4157.6	4095.2	3935.0	3525.9	3079.6	2832.8	2934.9	3014.9	3322.0	3554.5
37.5°	4677.6	4656.6	4540.5	4374.8	4005.3	3424.0	3036.8	3020.5	3078.5	3351.5	3536.9
40°	5482.5	5422.2	5131.6	4853.1	4528.4	3864.9	3335.1	3186.0	3221.1	3452.5	3578.6
42.5°	6324.7	6229.3	5844.5	5399.2	5069.0	4408.8	3726.7	3454.7	3453.5	3647.7	3711.3
45°	7047.6	6998.2	6581.4	6016.6	5686.5	5020.7	4221.2	3853.9	3814.5	3950.3	3966.8
47.5°	7467.6	7434.7	7183.6	6670.3	6419.1	5743.6	4848.6	4407.8	4333.2	4414.4	4389.1
50°	7351.3	7383.1	7310.8	7048.6	7206.6	6759.0	5648.2	5166.6	5025.2	5106.3	5044.9
52.5°	6739.4	6825.0	6889.6	6940.0	7659.5	8118.0	6652.7	6114.3	5996.8	5982.6	5923.5
55°	5637.1	5773.1	5977.1	6347.9	7537.8	9209.2	8407.4	7260.3	7089.2	6999.2	7022.3
57.5°	3836.3	4042.6	4482.4	5187.5	6905.0	9674.1	11002.4	8740.9	8451.3	8131.1	8205.7
60°	2113.4	2285.6	2808.7	3519.4	5460.5	9605.0	13302.1	11147.1	10235.6	9386.8	9540.4
62.5°	1367.6	1404.9	1794.3	2404.0	3351.5	8479.9	14579.9	15168.8	13237.5	11043.0	11258.9
65°	1098.9	1125.2	1316.0	1939.0	2335.0	5455.0	14636.9	19340.7	18067.4	13293.4	13299.9
67.5°	1073.7	1085.7	1196.5	1630.9	2190.2	2969.9	12651.8	20985.8	21280.8	15949.6	14665.4
68°	1089.0	1103.3	1215.1	1580.4	2189.1	2737.4	11693.2	20960.6	21466.2	16393.8	14665.4
70°	960.7	978.3	1239.3	1635.3	2095.8	2353.6	8007.2	19847.4	20661.1	17414.9	13915.3
72.5°	502.3	488.0	613.1	1290.9	2359.0	2452.3	4230.1	16581.4	17531.1	16128.3	12022.2
75°	391.5	356.4	343.3	510.0	2075.1	2543.3	2456.7	11785.5	12502.6	11626.4	8035.7
77.5°	368.6	325.7	300.6	301.7	913.5	2646.3	1987.3	6935.6	6935.6	5546.1	2564.1
80°	296.1	256.6	240.1	274.3	440.9	2439.1	2073.8	3160.7	2695.8	1433.4	706.2
82.5°	195.2	174.5	175.4	222.6	334.4	1628.6	2401.8	1560.6	1172.4	635.0	415.6
85°	124.0	106.4	118.4	155.8	250.1	726.0	2377.8	1084.7	776.5	356.4	207.2
87.5°	62.5	48.2	59.2	81.1	152.4	208.3	1957.6	968.5	575.8	148.1	112.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1	3653.1
2.5°	3635.6	3611.5	3599.5	3579.7	3555.6	3531.4	3515.0	3507.3	3502.9	3505.1	3504.0
5°	3662.0	3630.1	3578.6	3505.1	3429.5	3349.4	3287.9	3240.8	3211.3	3202.5	3200.2
7.5°	3681.8	3635.6	3539.1	3405.4	3275.8	3135.5	3016.0	2920.6	2855.9	2826.2	2825.2
10°	3678.4	3619.2	3466.7	3269.3	3079.6	2873.4	2685.9	2525.8	2409.6	2353.6	2351.4
12.5°	3681.8	3600.5	3377.8	3110.3	2838.4	2543.3	2264.7	2015.7	1842.6	1760.3	1756.9
15°	3694.9	3580.9	3286.9	2932.6	2556.4	2139.8	1741.6	1429.1	1271.1	1217.4	1217.4
17.5°	3693.8	3547.9	3181.5	2726.4	2222.0	1663.8	1188.8	995.9	980.5	1029.8	1037.5
20°	3671.8	3495.2	3045.7	2481.8	1829.4	1151.5	806.0	778.7	901.4	1037.5	1052.9
22.5°	3637.9	3427.3	2888.8	2197.9	1372.0	750.2	621.8	663.5	830.3	999.2	1023.2
25°	3590.6	3345.0	2708.8	1867.8	912.5	539.6	518.7	570.3	687.7	800.6	818.1
27.5°	3521.5	3240.8	2512.6	1510.2	582.3	444.2	451.8	488.0	538.5	586.8	596.7
30°	3434.8	3119.1	2298.8	1114.3	442.0	397.1	410.2	432.2	454.1	484.7	491.4
32.5°	3347.3	2995.2	2076.2	765.5	386.0	371.8	385.0	397.1	415.6	436.4	440.9
35°	3268.3	2880.0	1846.8	534.1	361.8	355.3	361.8	369.7	388.2	409.1	411.2
37.5°	3211.3	2785.6	1607.7	422.3	347.6	341.0	344.4	347.6	369.7	400.4	403.6
40°	3203.5	2723.1	1365.5	379.4	336.7	327.9	325.7	327.9	356.4	391.5	394.9
42.5°	3278.2	2726.4	1128.5	361.8	327.9	318.1	309.2	313.7	338.9	366.2	368.6
45°	3454.7	2803.3	923.5	354.2	320.2	312.6	299.4	301.7	313.7	327.9	330.0
47.5°	3766.1	2971.1	766.7	349.9	313.7	307.1	290.6	284.0	285.1	292.8	292.8
50°	4264.1	3251.8	671.3	345.5	308.2	296.1	277.4	264.3	261.0	265.4	266.4
52.5°	5006.6	3733.3	625.1	336.7	298.2	281.9	261.0	247.8	242.4	246.8	246.8
55°	6010.0	4502.0	603.2	324.6	286.2	264.3	245.6	234.6	230.3	233.6	233.6
57.5°	7153.9	5501.2	640.5	308.2	270.8	245.6	232.5	224.8	221.5	224.8	226.0
60°	8512.8	6808.4	897.0	287.4	254.4	229.2	221.5	217.1	215.0	218.3	218.3
62.5°	10319.1	8547.8	1388.4	270.8	237.0	213.8	211.7	209.5	207.2	210.6	210.6
65°	12269.1	10130.5	1429.1	261.0	221.5	200.7	201.8	201.8	199.7	202.8	202.8
67.5°	12889.8	9993.4	798.5	249.0	202.8	187.6	191.9	191.9	190.8	194.2	193.0
68°	12758.2	9776.2	695.3	245.6	199.7	184.2	188.6	189.7	188.6	191.9	190.8
70°	11777.7	8582.9	457.3	227.0	185.3	173.4	179.9	181.0	179.9	184.2	183.2
72.5°	9722.4	6437.8	337.9	198.5	167.9	159.0	165.6	166.6	167.9	172.1	171.0
75°	6174.6	3555.6	266.4	168.9	150.2	142.7	149.2	152.4	154.7	161.2	157.9
77.5°	1691.1	1079.1	216.0	143.6	129.4	126.1	130.6	134.8	137.1	144.7	139.2
80°	592.3	477.1	179.9	121.7	107.4	106.4	110.9	115.2	117.4	124.0	117.4
82.5°	359.7	311.4	143.6	95.4	84.4	83.4	88.8	93.2	95.4	95.4	91.0
85°	187.6	164.5	105.3	67.0	58.1	54.8	64.7	70.2	71.2	70.2	67.0
87.5°	105.3	93.2	56.0	31.8	26.3	27.4	34.0	41.7	44.9	43.8	41.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)