

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: P195188

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195188
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SL3-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13345 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B2 - U0 - G3

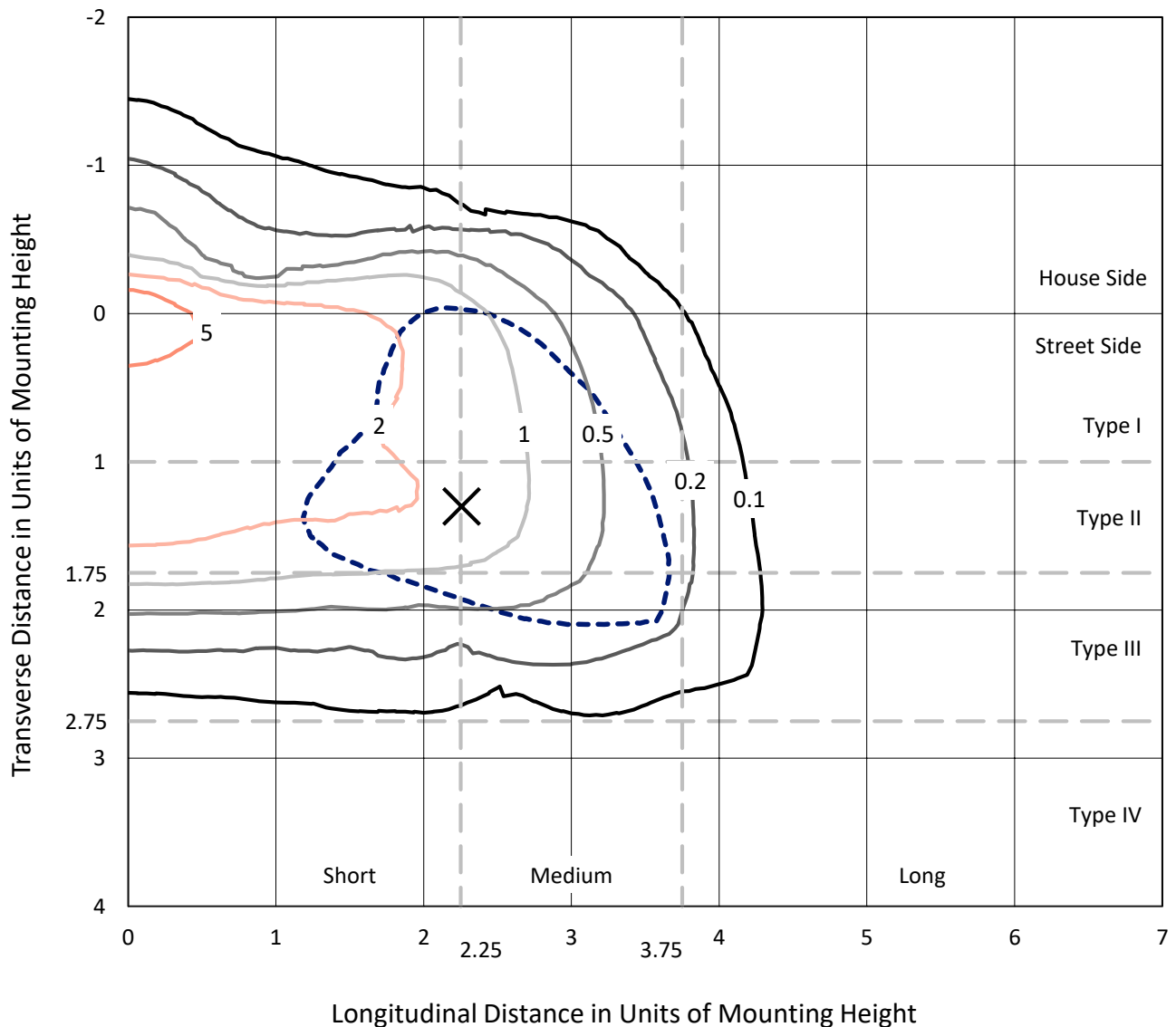
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

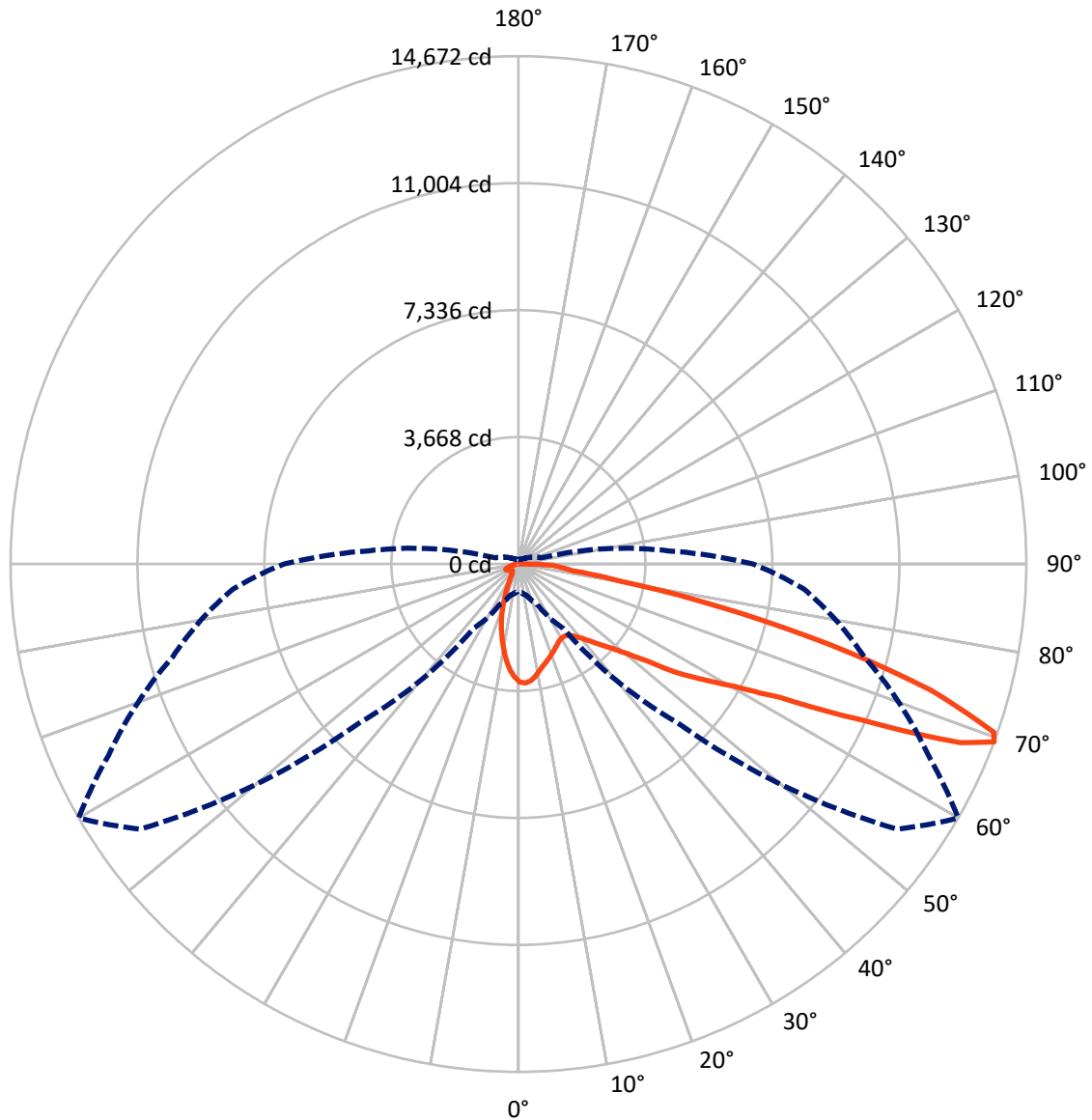
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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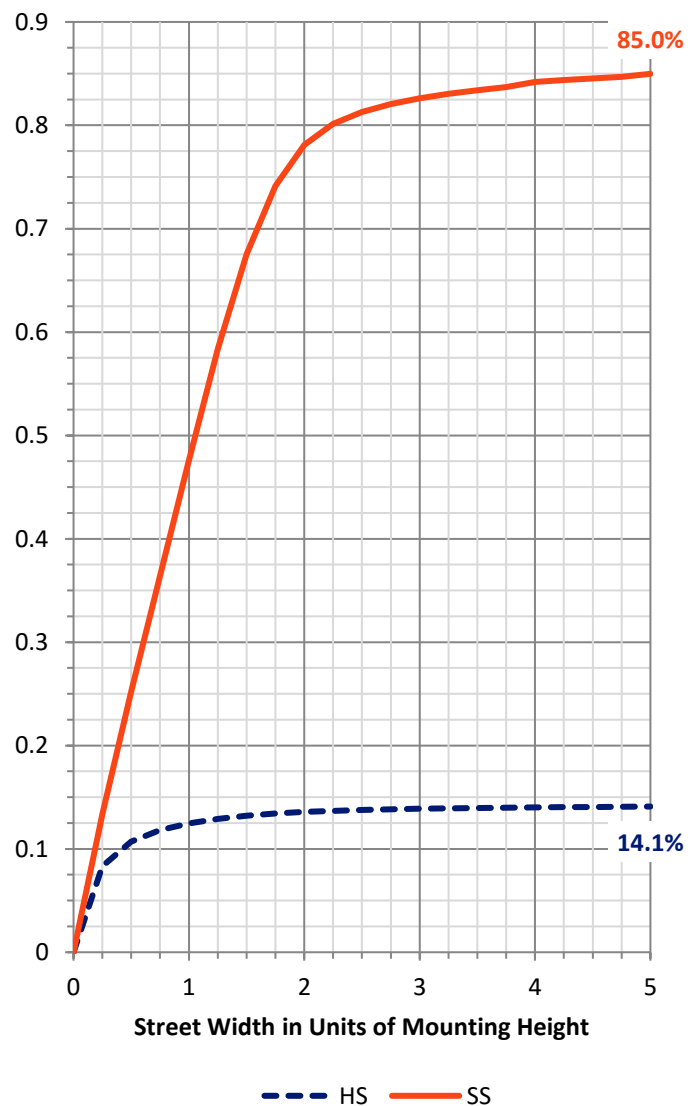
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1903.4	0.0	1903.4
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	11441.6	0.0	11441.6
	% Fixture	85.7	0.0	85.7
Total	Lumens	13345.0	0.0	13345.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	288.9	2.2
10°-20°	618.5	4.6
20°-30°	789.0	5.9
30°-40°	1085.7	8.1
40°-50°	1758.7	13.2
50°-60°	2760.2	20.7
60°-70°	3679.8	27.6
70°-80°	2046.8	15.3
80°-90°	317.5	2.4
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°	13345.0	100.0
0°-180°	13345.0	100.0

Coefficient of Utilization



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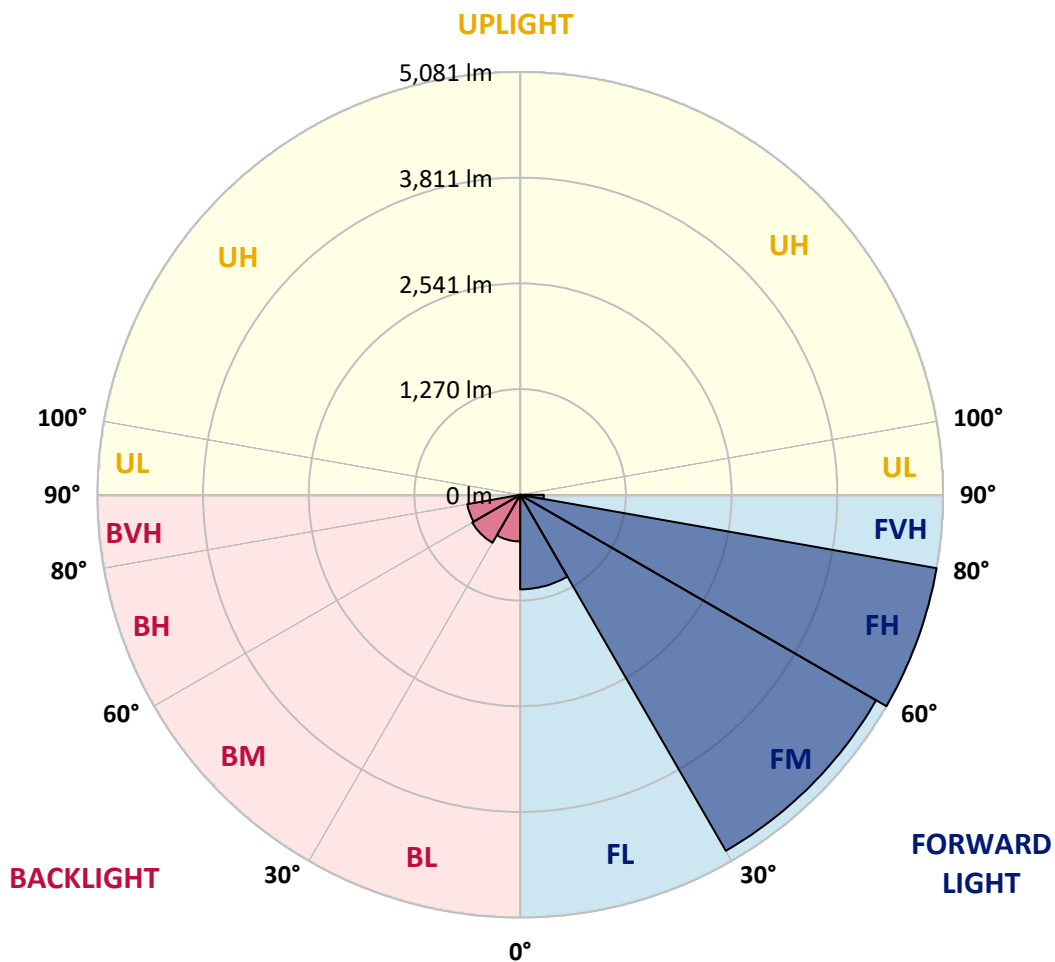
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1135.4	8.5			
FM	(30°-60°)	4939.6	37.0			
FH	(60°-80°)	5081.3	38.1			G3/7500
FVH	(80°-90°)	285.3	2.1			G3/500
BL	(0°-30°)	560.9	4.2	B2/1000		
BM	(30°-60°)	665.0	5.0	B1/1000		
BH	(60°-80°)	645.4	4.8	B2/1000		G2/1000
BVH	(80°-90°)	32.2	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0
2.5°	3495.7	3505.1	3505.1	3497.4	3493.2	3468.3	3453.8	3443.5	3425.6	3392.2	3362.2
5°	3370.8	3388.8	3396.5	3399.9	3422.1	3414.4	3415.3	3408.4	3393.0	3357.1	3308.3
7.5°	3141.4	3144.9	3158.6	3181.7	3235.6	3273.2	3304.0	3310.0	3306.6	3280.1	3211.6
10°	2915.5	2921.5	2937.8	2977.1	3028.5	3082.4	3149.2	3176.5	3197.1	3188.5	3102.1
12.5°	2728.1	2729.0	2746.9	2792.3	2849.6	2917.2	3008.0	3050.7	3099.5	3119.2	3022.5
15°	2547.6	2559.5	2576.7	2631.4	2702.5	2788.0	2892.4	2951.5	3015.7	3072.1	2960.9
17.5°	2410.6	2420.1	2430.3	2475.7	2557.8	2664.8	2794.0	2857.3	2942.1	3028.5	2897.6
20°	2335.3	2338.8	2331.1	2353.3	2422.6	2538.1	2687.9	2764.1	2865.0	2986.6	2832.5
22.5°	2319.9	2319.9	2291.7	2287.4	2318.2	2415.8	2578.4	2671.6	2794.9	2957.5	2774.3
25°	2391.8	2386.7	2333.6	2284.8	2273.7	2323.4	2474.0	2588.6	2735.0	2956.6	2730.7
27.5°	2527.9	2521.0	2455.1	2373.0	2302.0	2280.6	2393.5	2510.8	2687.9	2985.7	2708.4
30°	2697.3	2694.7	2628.0	2525.3	2408.1	2297.7	2361.9	2470.5	2656.2	3039.6	2707.6
32.5°	2883.0	2871.0	2830.0	2727.3	2574.9	2392.7	2380.7	2472.3	2647.7	3118.3	2727.3
35°	3080.7	3072.1	3061.9	2958.3	2787.2	2560.4	2463.7	2531.3	2689.6	3227.9	2782.9
37.5°	3332.3	3322.9	3340.0	3227.0	3039.6	2780.3	2604.0	2649.4	2775.2	3387.0	2886.4
40°	3779.8	3752.5	3704.5	3530.8	3334.0	3049.9	2806.9	2813.7	2921.5	3600.1	3052.5
42.5°	4514.9	4426.8	4189.7	3870.5	3644.6	3363.1	3071.3	3038.8	3123.5	3881.7	3293.8
45°	5251.7	5152.5	4752.0	4241.1	3966.4	3699.4	3398.2	3320.3	3375.1	4209.4	3604.4
47.5°	5727.5	5678.7	5226.9	4611.6	4303.6	4065.7	3772.1	3643.8	3683.1	4580.8	3987.8
50°	5867.0	5825.1	5469.9	4901.7	4621.9	4508.1	4235.1	4064.8	4071.6	5014.7	4447.3
52.5°	5762.6	5745.5	5510.2	5081.4	4914.6	4974.5	4876.0	4639.0	4582.5	5490.5	4945.4
55°	5623.1	5629.1	5538.4	5262.0	5212.4	5409.2	5714.7	5523.8	5284.2	5986.0	5463.9
57.5°	5184.1	5188.4	5426.3	5606.0	5780.6	6018.5	6367.6	6287.2	6008.2	6520.8	6045.0
60°	4174.3	4207.7	4737.4	5535.0	6430.1	7219.1	7304.7	7166.0	6778.4	7136.9	6800.6
62.5°	2982.3	3012.2	3625.8	4805.0	6353.9	8578.0	9035.0	8483.9	7823.2	8058.6	7863.5
65°	1566.9	1561.7	2036.7	3320.3	5351.8	8892.9	11761.4	10823.5	9583.5	9325.9	8890.4
67.5°	875.4	903.7	1087.7	1674.7	3488.0	7826.7	13502.8	13779.2	12031.0	10331.4	8845.9
69°	809.5	819.0	942.2	1294.7	2273.7	6457.5	13353.1	14671.8	13063.0	10335.7	8275.9
70°	786.4	796.7	908.8	1192.9	1910.0	5291.1	12808.0	14567.4	13313.7	10106.4	7757.4
72.5°	705.1	718.8	827.5	1072.3	1609.7	2727.3	10316.9	12468.2	12060.0	8833.0	6015.0
75°	601.6	624.7	789.0	1064.5	1524.9	1733.7	6880.2	9289.1	8975.9	6317.1	3412.7
77.5°	249.0	251.6	344.9	779.6	1600.2	1659.3	3697.7	5884.1	5208.9	2770.1	1027.8
80°	173.7	170.3	172.0	227.6	1291.3	1670.4	1897.2	2992.5	2325.9	730.8	480.9
82.5°	146.3	144.6	151.5	142.9	437.3	1895.5	1586.6	1560.0	1095.4	393.6	229.3
85°	96.7	94.1	124.1	130.1	207.9	1505.3	1706.4	1226.3	816.4	210.5	97.6
87.5°	47.1	47.9	71.0	88.1	110.4	476.7	1634.5	969.6	630.7	91.6	39.4
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°	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0	3405.0
2.5°	3350.3	3324.6	3301.5	3272.4	3250.1	3231.3	3205.6	3204.8	3200.5	3206.5	3208.2
5°	3275.8	3233.0	3168.0	3095.2	3043.9	2976.3	2910.4	2888.1	2863.3	2860.8	2868.5
7.5°	3163.7	3096.9	2985.7	2874.5	2763.2	2649.4	2541.6	2486.8	2433.7	2417.5	2425.2
10°	3038.8	2954.0	2783.7	2602.3	2445.7	2276.3	2112.0	2005.9	1909.2	1868.1	1878.4
12.5°	2941.2	2833.4	2593.8	2358.4	2124.0	1880.9	1664.4	1454.8	1296.5	1225.4	1229.7
15°	2857.3	2719.6	2415.8	2102.6	1809.1	1476.2	1175.8	932.8	794.1	742.8	741.1
17.5°	2766.6	2599.8	2230.1	1864.7	1483.9	1072.3	787.3	643.5	588.8	571.6	571.6
20°	2669.9	2476.5	2035.8	1605.4	1141.6	748.8	592.2	536.6	516.0	510.9	510.0
22.5°	2580.1	2355.9	1840.7	1329.0	825.8	568.2	504.0	482.6	479.2	483.5	483.5
25°	2509.1	2249.8	1643.0	1038.0	600.7	475.8	448.4	445.8	458.7	474.1	476.7
27.5°	2456.0	2154.8	1447.9	758.2	472.4	414.2	404.8	415.9	445.8	476.7	482.6
30°	2419.2	2073.5	1214.3	545.1	393.6	362.8	367.1	386.8	432.2	479.2	492.1
32.5°	2402.9	2007.6	979.0	418.5	336.3	319.2	330.3	356.0	403.1	450.1	465.5
35°	2418.3	1959.7	761.6	347.4	294.4	281.5	294.4	320.9	351.7	374.8	384.2
37.5°	2474.0	1942.5	573.4	308.1	267.0	254.2	264.4	282.4	296.1	304.6	308.9
40°	2591.2	1960.5	449.3	287.5	251.6	237.0	239.6	248.2	257.6	264.4	265.3
42.5°	2777.8	2019.6	399.6	279.8	242.2	223.4	219.1	225.1	235.3	244.7	246.5
45°	3025.9	2118.0	394.5	282.4	237.9	212.2	203.7	209.7	223.4	238.8	241.3
47.5°	3346.8	2273.7	418.5	296.1	240.5	206.2	193.4	199.4	217.4	237.9	241.3
50°	3726.8	2489.4	463.0	316.6	252.4	206.2	189.1	194.3	213.1	236.2	239.6
52.5°	4174.3	2789.7	509.2	337.2	269.6	213.9	190.8	190.0	207.1	228.5	232.8
55°	4668.1	3162.8	553.7	355.1	279.0	224.2	195.1	184.8	198.5	215.6	219.1
57.5°	5249.2	3673.7	631.5	372.3	284.1	231.9	200.2	179.7	187.4	199.4	202.0
60°	6037.3	4424.2	783.0	401.3	293.5	235.3	201.1	174.6	173.7	182.3	183.1
62.5°	7065.1	5303.1	927.6	435.6	312.3	236.2	197.7	171.1	162.6	165.2	165.2
65°	7795.9	5626.5	885.7	464.7	329.5	235.3	194.3	168.6	154.0	149.8	149.8
67.5°	7380.0	4970.2	752.2	472.4	331.2	225.9	186.6	162.6	146.3	136.1	136.1
69°	6769.0	4356.6	690.6	458.7	317.5	214.8	178.0	156.6	141.2	129.2	129.2
70°	6270.9	3891.9	652.9	442.4	301.2	205.4	170.3	150.6	136.1	125.8	124.9
72.5°	4681.8	2597.2	557.9	381.7	247.3	173.7	148.9	134.4	122.4	115.5	115.5
75°	2470.5	1301.6	457.0	311.5	190.8	138.6	122.4	113.0	106.1	105.3	104.4
77.5°	809.5	588.8	328.6	234.5	140.3	107.8	97.6	91.6	90.7	94.1	94.1
80°	437.3	351.7	211.4	158.3	97.6	80.4	75.3	74.5	77.0	82.2	82.2
82.5°	212.2	173.7	125.8	97.6	66.7	59.0	59.0	59.9	63.3	69.3	69.3
85°	91.6	82.2	72.7	54.8	41.1	36.8	41.9	46.2	48.8	53.1	54.8
87.5°	43.6	38.5	33.4	21.4	18.0	18.8	22.2	27.4	32.5	35.9	36.8
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)