

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: P270548

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7027-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270548
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)
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-T3-7027-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23259.1 lumens
Efficiency: N/A
Efficacy: 90.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 258
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

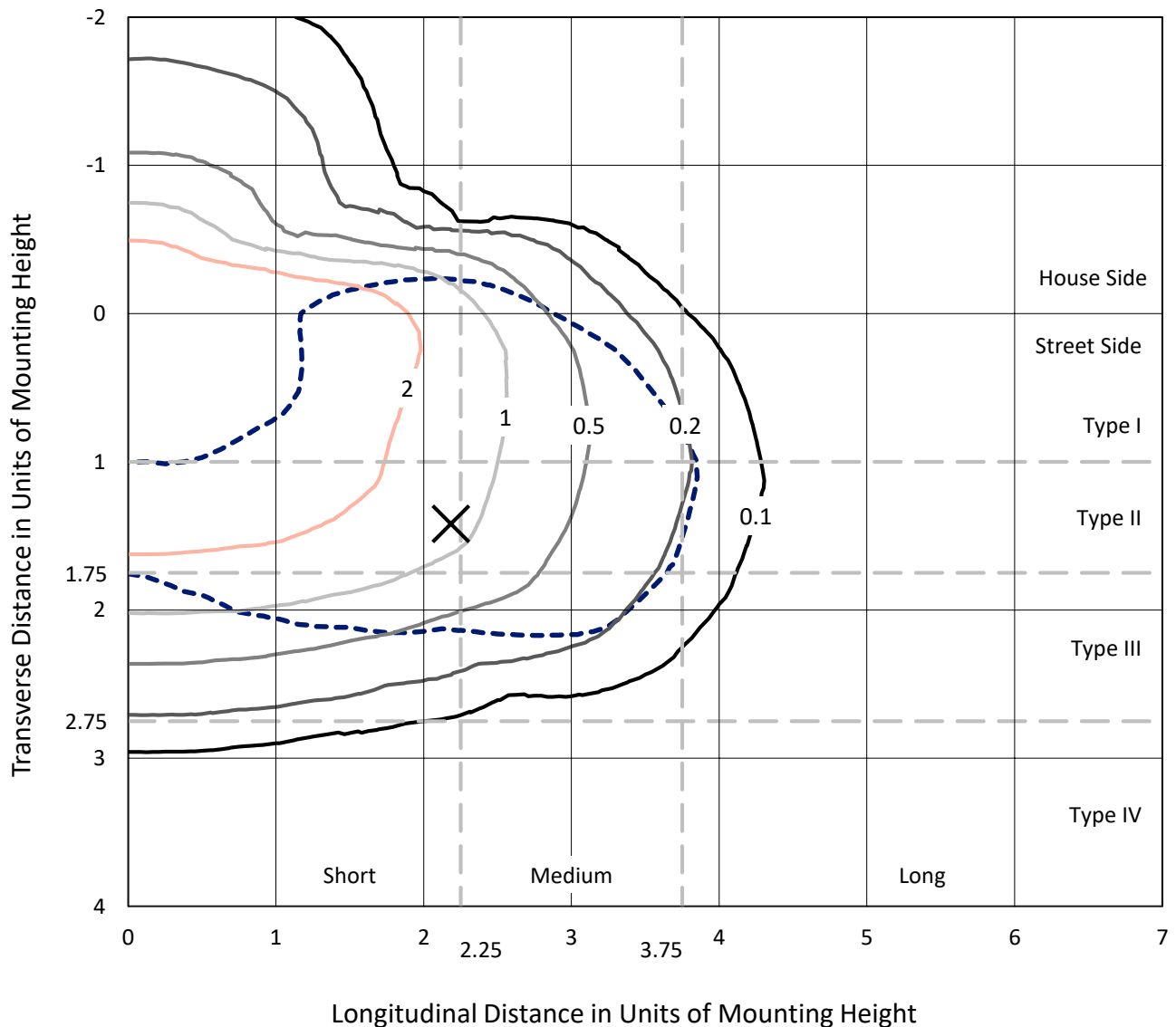


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Iso-Footcandle Lines of Horizontal Illumination

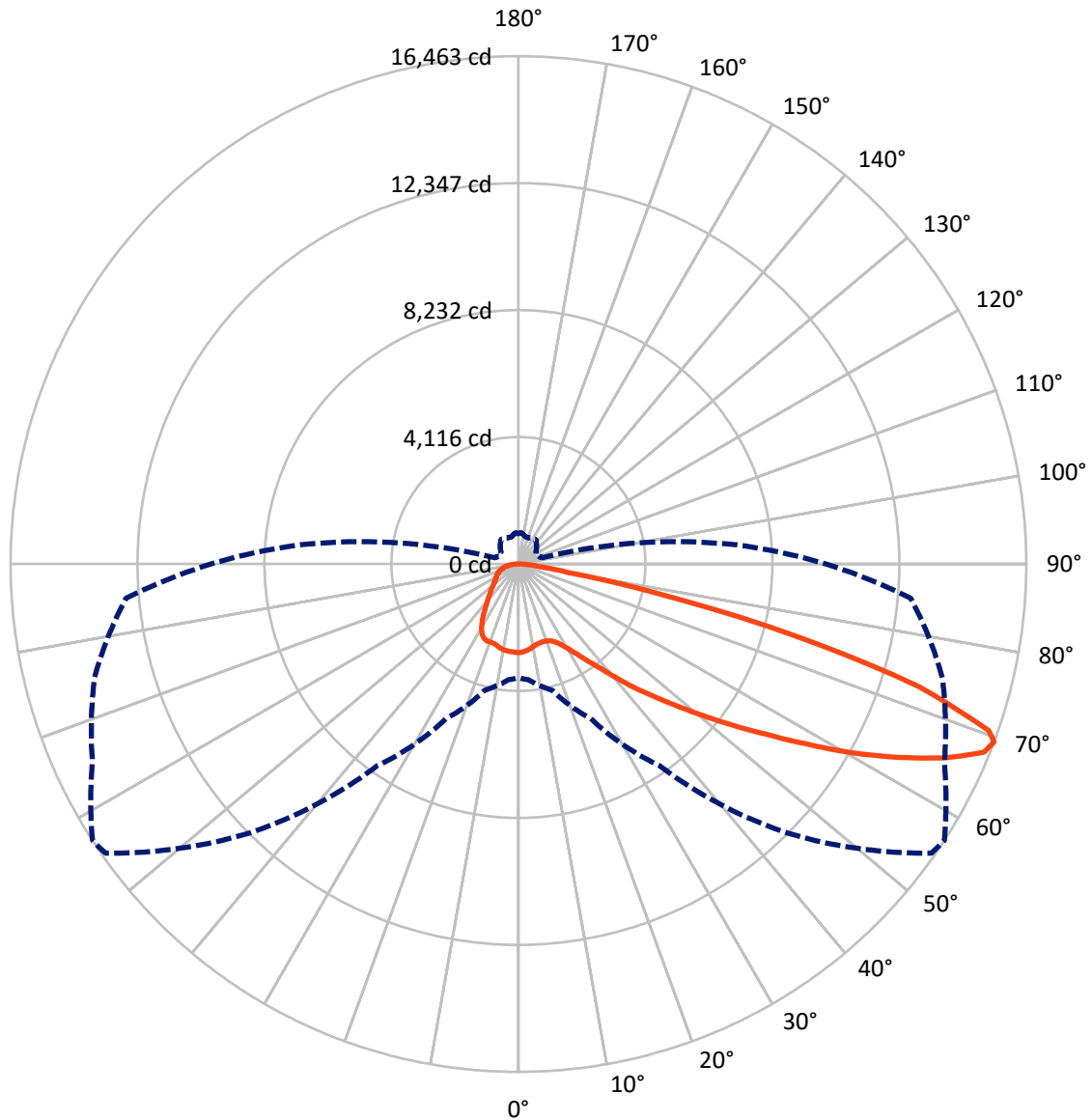
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type III - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5132.5	0.0	5132.5
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	18126.7	0.0	18126.7
	% Fixture	77.9	0.0	77.9
Total	Lumens	23259.1	0.0	23259.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.1	1.2
10°-20°	765.0	3.3
20°-30°	1272.5	5.5
30°-40°	2078.0	8.9
40°-50°	3507.2	15.1
50°-60°	5455.7	23.5
60°-70°	6498.9	27.9
70°-80°	3027.6	13.0
80°-90°	385.1	1.7
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°	23259.1	100.0
0°-180°	23259.1	100.0



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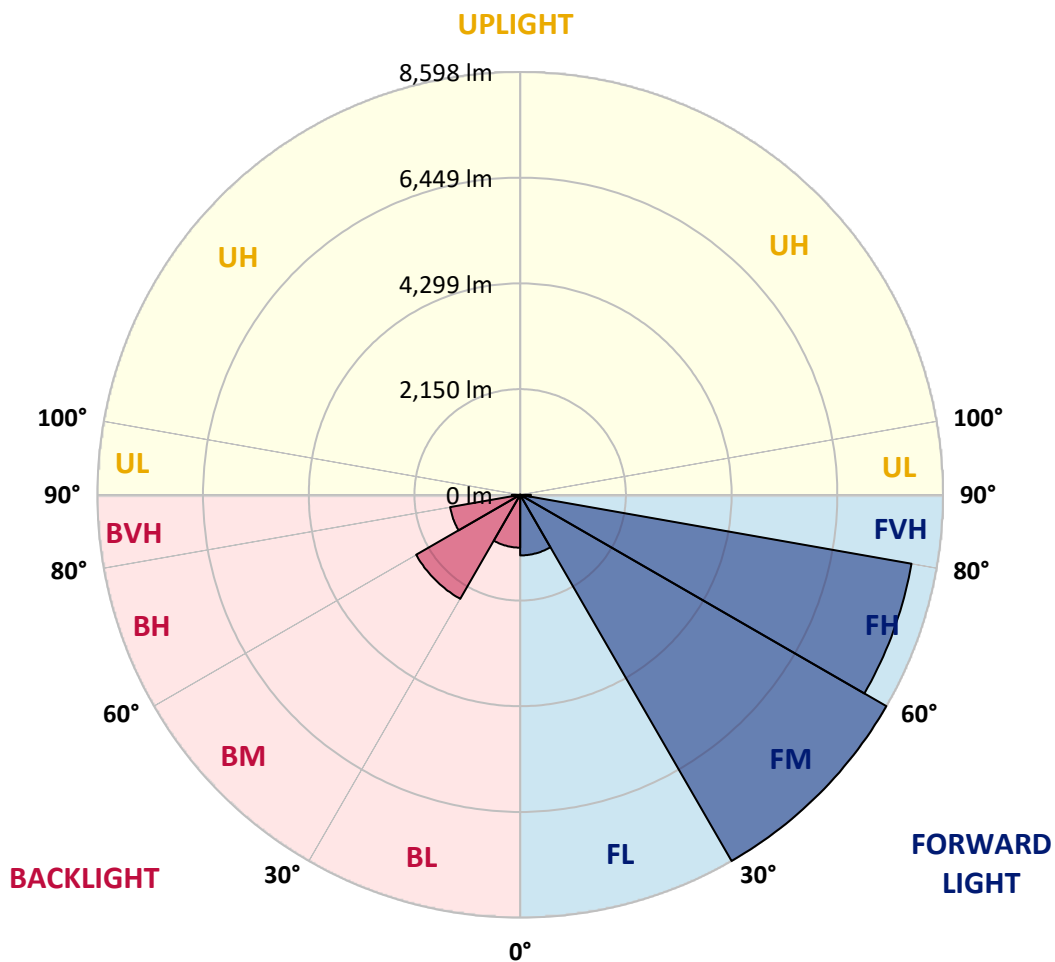
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1231.8	5.3			
FM	(30°-60°)	8598.2	37.0			
FH	(60°-80°)	8080.3	34.7			G4/12000
FVH	(80°-90°)	216.5	0.9			G2/225
BL	(0°-30°)	1074.8	4.6	B3/2500		
BM	(30°-60°)	2442.8	10.5	B2/2500		
BH	(60°-80°)	1446.3	6.2	B3/2500		G3/2500
BVH	(80°-90°)	168.6	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9
2.5°	2857.5	2857.5	2865.0	2865.0	2865.0	2862.0	2853.0	2856.0	2850.1	2845.7	2838.1
5°	2799.5	2802.4	2811.3	2814.3	2818.8	2820.3	2820.3	2818.8	2820.3	2820.3	2815.7
7.5°	2719.0	2722.0	2732.5	2738.5	2751.8	2763.6	2769.7	2769.7	2777.1	2783.0	2784.6
10°	2669.9	2669.9	2675.8	2675.8	2686.3	2692.2	2711.5	2710.0	2730.9	2750.3	2759.2
12.5°	2664.0	2664.0	2661.0	2650.4	2644.6	2643.2	2662.4	2665.5	2696.7	2730.9	2747.3
15°	2683.2	2683.2	2674.3	2653.6	2631.1	2620.7	2640.1	2646.0	2680.4	2720.5	2745.8
17.5°	2745.8	2744.3	2725.0	2683.2	2644.6	2628.3	2634.2	2640.1	2671.4	2717.6	2748.9
20°	2884.3	2884.3	2842.6	2766.7	2699.6	2661.0	2652.1	2656.5	2678.8	2722.0	2762.2
22.5°	3127.0	3131.5	3057.0	2932.0	2817.4	2735.3	2699.6	2704.2	2714.6	2756.3	2800.9
25°	3484.4	3472.5	3366.8	3189.6	3010.8	2871.0	2798.0	2802.4	2802.4	2841.1	2887.3
27.5°	3862.6	3865.5	3713.8	3523.2	3287.8	3079.4	2963.1	2961.7	2960.3	2997.5	3046.6
30°	4289.9	4291.6	4115.8	3895.4	3625.9	3359.3	3185.1	3183.7	3170.2	3216.4	3280.4
32.5°	4757.6	4756.0	4552.2	4303.4	4004.0	3701.8	3475.5	3473.9	3463.5	3526.0	3603.6
35°	5275.7	5275.7	5073.3	4766.4	4443.3	4106.8	3844.7	3843.3	3849.2	3934.0	4007.1
37.5°	5899.7	5913.1	5668.8	5296.5	4943.7	4584.8	4279.5	4270.6	4225.9	4368.8	4489.5
40°	6550.4	6587.6	6334.5	5899.7	5518.5	5147.6	4811.1	4805.3	4766.4	4918.4	5113.4
42.5°	7254.7	7339.6	7058.2	6614.4	6198.9	5798.4	5460.3	5444.0	5295.1	5531.9	5837.1
45°	8177.9	8233.1	7825.0	7423.0	7031.4	6574.2	6172.2	6084.3	5935.5	6239.2	6635.3
47.5°	8806.4	8779.6	8524.8	8255.3	8003.7	7566.0	6948.0	6836.3	6654.6	7056.6	7492.9
50°	9196.5	9215.8	9072.9	9059.4	9046.0	8740.8	7823.6	7689.5	7479.6	7956.1	8465.4
52.5°	9454.0	9366.2	9391.5	9695.2	10063.2	9917.2	8813.8	8665.0	8449.0	8925.5	9500.3
55°	9346.9	9230.8	9464.5	10063.2	10928.2	10960.9	9900.8	9747.4	9562.7	9955.8	10745.0
57.5°	8903.1	8961.2	9330.4	10162.9	11519.4	11896.2	11150.1	10993.7	10630.5	11029.5	11927.4
60°	8279.1	8396.8	8961.2	10005.1	11933.4	12624.3	12521.6	12417.4	11792.0	12074.8	13169.3
62.5°	7609.2	7725.2	8419.2	9735.6	11747.2	13269.0	13867.7	13803.6	13074.0	13081.5	13957.0
65°	6618.9	6666.5	7375.4	8999.8	11230.5	13851.2	15215.2	15158.7	14299.5	13940.6	14177.4
67.5°	4998.8	5058.4	5640.5	7104.3	9658.0	13535.7	16291.8	16282.9	15036.5	14259.2	13653.2
69°	3691.3	3764.3	4239.5	5515.6	7985.8	12332.4	16342.4	16463.1	15236.2	14226.5	12767.3
70°	2701.2	2784.6	3223.8	4377.9	6651.7	11004.1	15909.2	16168.2	15160.2	14019.6	12076.4
72.5°	1148.0	1176.4	1392.3	1976.0	3374.3	6635.3	13030.9	13575.7	13692.0	12561.8	9434.7
75°	719.3	728.2	813.1	1014.0	1501.0	2744.3	8438.5	9181.5	10222.4	9745.9	6316.6
77.5°	541.9	549.5	598.6	698.3	932.1	1024.4	3914.8	4668.2	5855.1	5733.0	3143.3
80°	415.5	419.9	452.7	507.8	656.8	641.7	1270.2	1596.3	2443.6	2156.1	1112.3
82.5°	326.2	327.6	355.9	366.2	458.7	431.8	637.3	710.3	987.2	820.5	543.6
85°	288.9	293.3	321.7	268.1	293.3	260.6	349.9	379.8	524.2	494.3	205.5
87.5°	147.4	154.9	269.5	229.2	147.4	123.5	153.4	165.3	213.0	230.9	99.7
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°	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9	2873.9
2.5°	2839.6	2841.1	2845.7	2853.0	2865.0	2879.8	2897.8	2915.5	2926.0	2933.4	2930.5
5°	2815.7	2817.4	2826.2	2839.6	2854.5	2876.9	2906.6	2929.1	2945.4	2955.9	2954.3
7.5°	2786.1	2790.6	2808.5	2823.3	2844.2	2862.0	2885.8	2906.6	2923.1	2933.4	2932.0
10°	2763.6	2768.1	2790.6	2809.9	2827.8	2830.6	2826.2	2820.3	2818.8	2826.2	2823.3
12.5°	2753.2	2762.2	2783.0	2796.5	2789.0	2760.8	2728.0	2714.6	2710.0	2725.0	2726.4
15°	2756.3	2763.6	2781.6	2772.7	2732.5	2684.8	2666.9	2677.4	2686.3	2695.3	2696.7
17.5°	2763.6	2768.1	2772.7	2739.9	2683.2	2652.1	2646.0	2635.6	2608.9	2593.9	2592.5
20°	2777.1	2783.0	2775.7	2723.5	2672.8	2631.1	2559.7	2495.8	2434.6	2401.9	2388.5
22.5°	2823.3	2827.8	2805.3	2754.7	2677.4	2541.8	2397.3	2287.3	2193.4	2142.7	2123.5
25°	2914.1	2921.6	2890.2	2826.2	2623.7	2386.9	2183.1	2034.0	1916.4	1855.4	1839.0
27.5°	3073.5	3080.8	3046.6	2879.8	2498.6	2179.9	1932.9	1785.4	1684.1	1632.0	1624.6
30°	3311.7	3322.1	3290.9	2878.3	2308.0	1916.4	1688.6	1602.2	1544.1	1508.4	1506.9
32.5°	3642.3	3681.0	3552.8	2827.8	2072.7	1649.8	1503.9	1474.2	1445.9	1422.0	1422.0
35°	4062.1	4153.0	3812.0	2722.0	1813.7	1468.2	1401.1	1372.9	1337.1	1311.9	1308.9
37.5°	4564.0	4705.4	3996.6	2534.4	1590.3	1380.3	1338.7	1292.5	1235.9	1186.8	1174.9
40°	5253.4	5286.2	4087.5	2229.1	1423.5	1332.7	1280.7	1222.6	1151.1	1095.9	1090.1
42.5°	5945.8	5838.7	4069.6	1901.5	1328.2	1289.5	1221.1	1156.9	1093.0	1046.9	1046.9
45°	6733.5	6321.1	3934.0	1572.5	1241.8	1240.4	1165.9	1104.8	1055.8	1021.6	1014.0
47.5°	7487.1	6754.4	3700.3	1329.8	1152.5	1191.2	1130.2	1081.1	1036.4	1003.6	997.7
50°	8401.3	7256.1	3451.6	1160.0	1066.2	1148.0	1115.3	1090.1	1046.9	990.2	984.3
52.5°	9309.7	7842.9	3259.6	1032.0	990.2	1113.8	1124.3	1127.3	1086.9	976.8	969.5
55°	10285.0	8469.8	3057.0	932.1	927.7	1097.4	1145.1	1142.1	1122.7	979.8	968.0
57.5°	11212.6	9099.7	2754.7	862.2	878.5	1081.1	1149.6	1102.0	1067.6	994.8	975.3
60°	11981.1	9620.8	2311.0	813.1	836.9	1048.3	1119.7	1048.3	990.2	991.6	973.9
62.5°	12354.7	9766.8	1767.5	756.5	802.5	994.8	1076.6	1008.1	954.4	997.7	987.2
65°	12070.3	9351.4	1259.8	704.4	761.0	932.1	1051.2	973.9	936.7	1027.4	1015.5
67.5°	11048.9	8219.6	914.2	658.2	720.7	868.1	1003.6	942.6	918.7	1049.8	1023.0
69°	9963.3	7096.9	792.1	631.4	692.5	833.8	972.3	926.2	905.3	1018.5	979.8
70°	9060.9	6231.7	731.1	615.0	668.6	814.6	948.5	915.8	891.9	981.3	935.1
72.5°	6496.8	4027.9	615.0	565.8	606.0	771.4	896.4	877.0	841.4	886.0	856.3
75°	3925.1	2102.6	522.6	515.2	540.5	711.7	835.3	811.6	775.7	780.3	765.4
77.5°	1803.3	970.9	437.7	455.7	472.0	637.3	761.0	734.2	701.3	689.4	690.9
80°	790.7	567.3	366.2	388.6	397.6	573.3	680.5	650.7	615.0	678.9	629.9
82.5°	427.4	329.0	285.9	300.8	326.2	498.7	591.2	552.5	518.2	603.0	486.9
85°	172.7	168.3	193.6	208.4	226.4	358.9	494.3	454.2	412.5	369.4	360.4
87.5°	74.5	80.4	95.3	101.2	120.6	223.4	332.1	290.3	291.9	250.2	245.6
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)