

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: P195827

Luminaire Tested: **NAV-AF-05-D-UNV-T3-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195827
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-05-D-UNV-T3-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24301 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

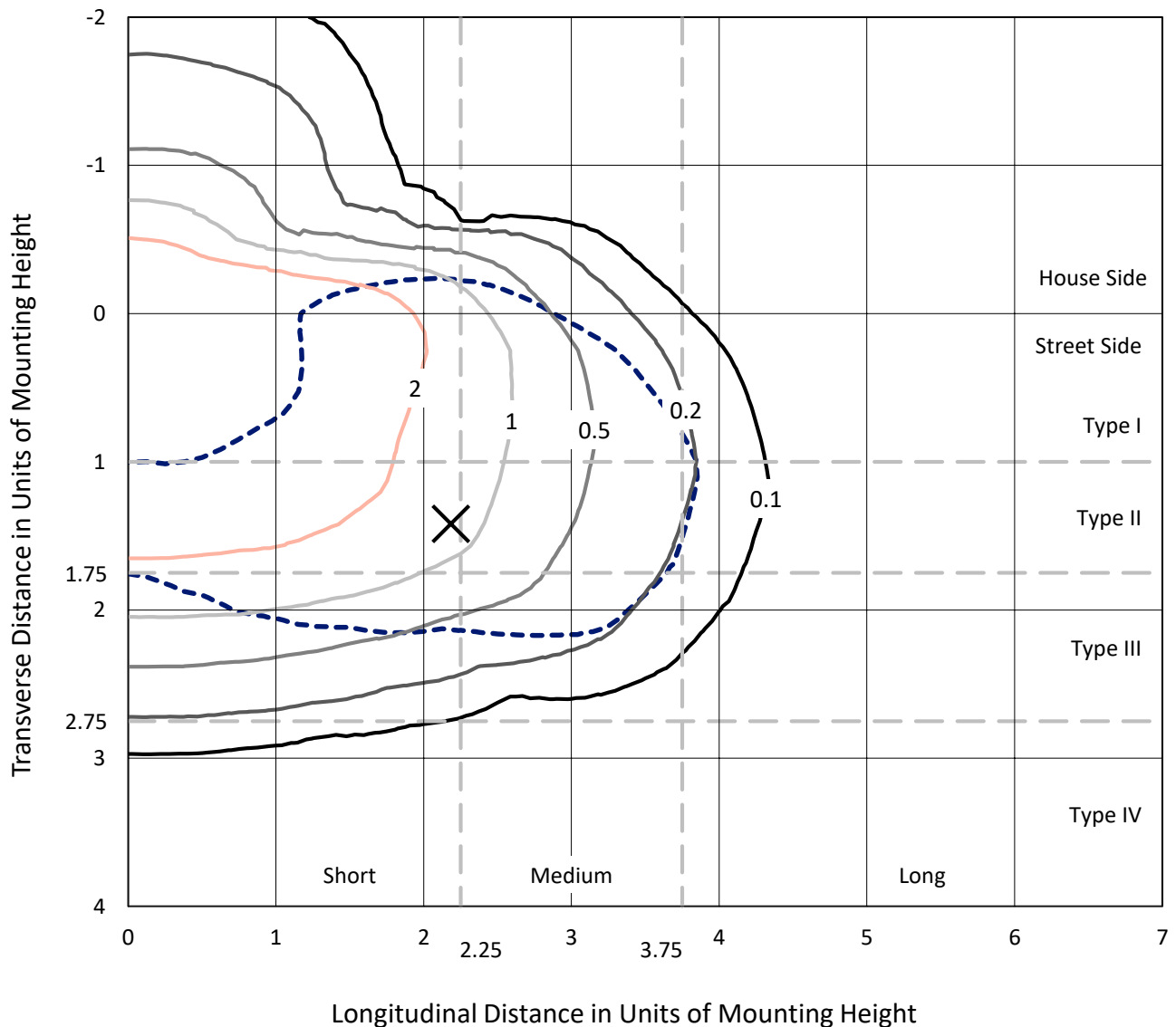
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

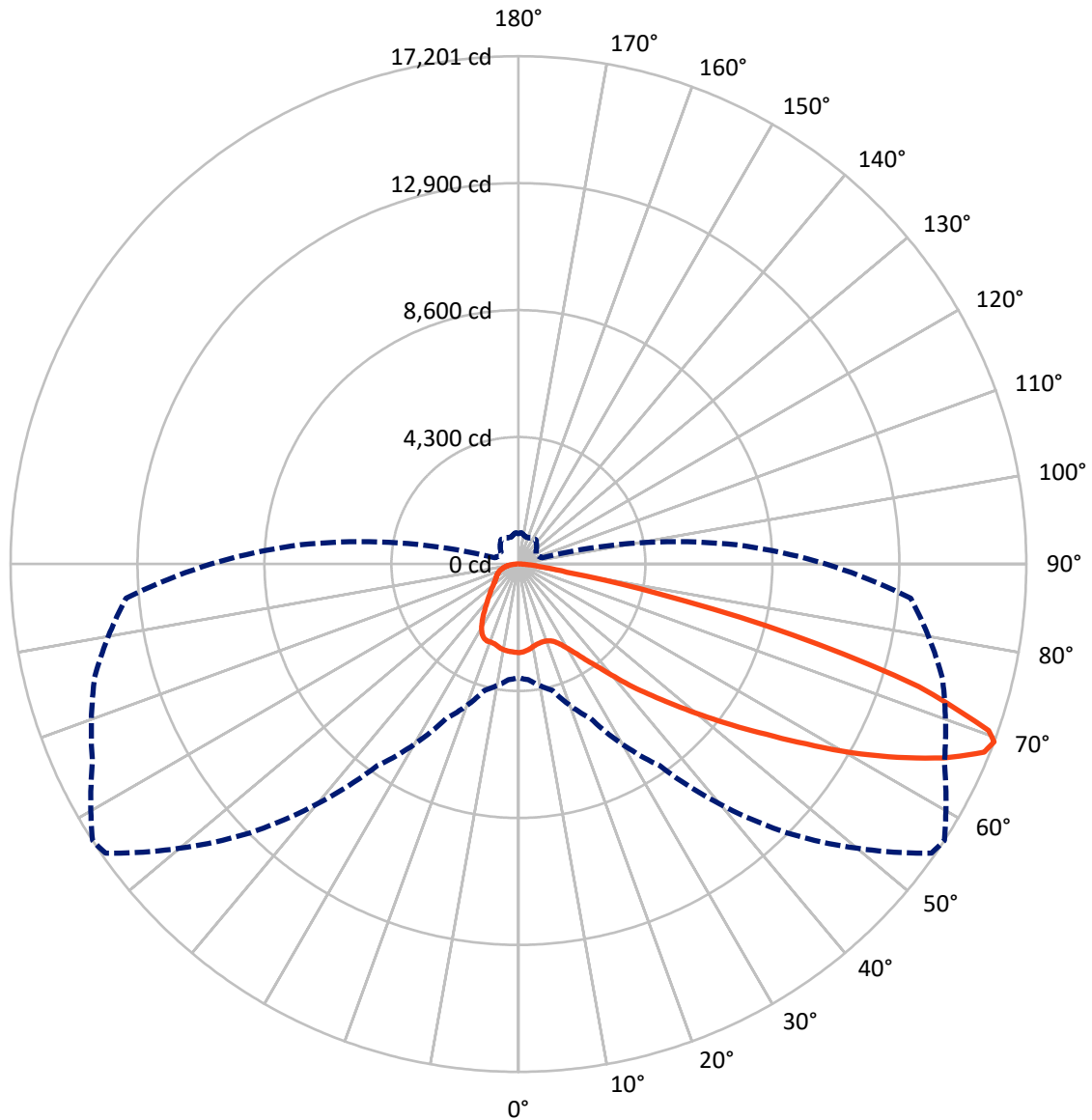
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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	5362.4	0.0	5362.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	18938.6	0.0	18938.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	24301.0	0.0	24301.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.1	1.2
10°-20°	799.3	3.3
20°-30°	1329.6	5.5
30°-40°	2171.1	8.9
40°-50°	3664.3	15.1
50°-60°	5700.1	23.5
60°-70°	6790.0	27.9
70°-80°	3163.2	13.0
80°-90°	402.3	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°	24301.0	100.0
0°-180°	24301.0	100.0



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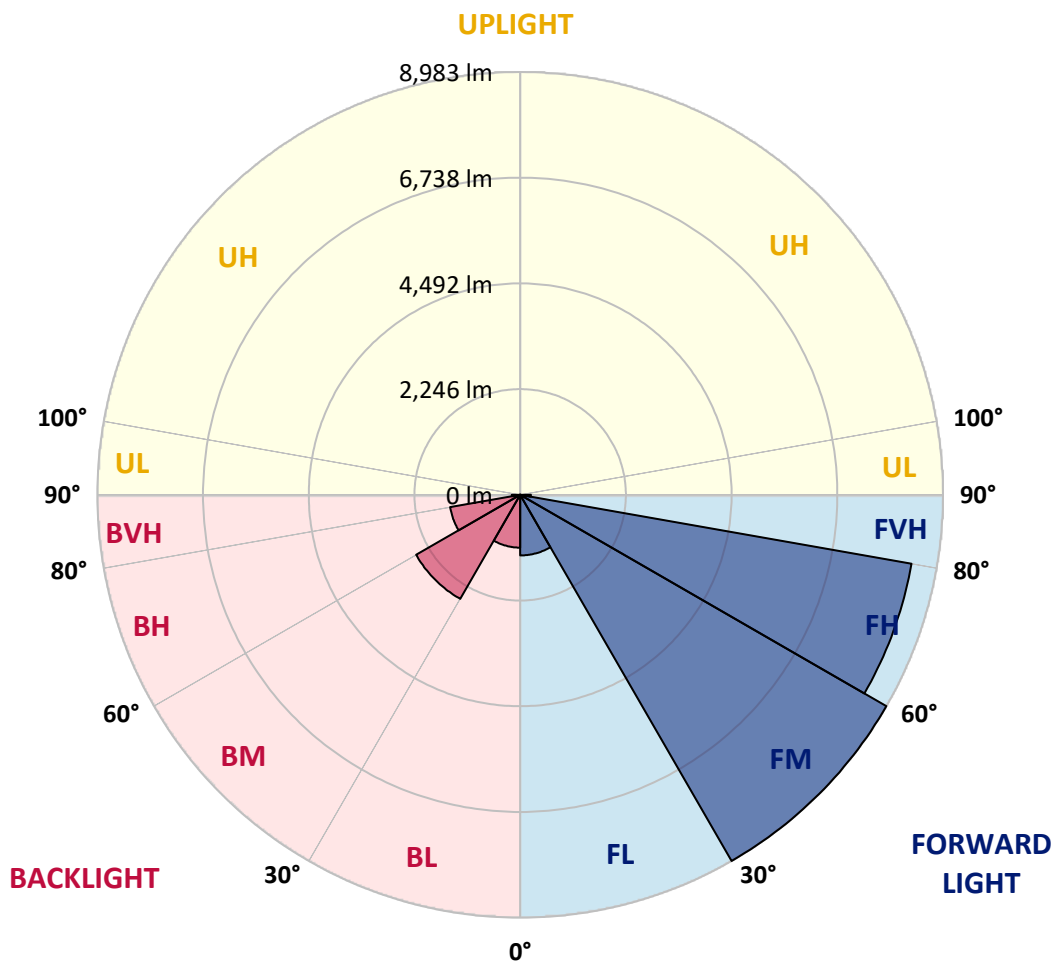
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1286.9	5.3			
FM	(30°-60°)	8983.3	37.0			
FH	(60°-80°)	8442.2	34.7			G4/12000
FVH	(80°-90°)	226.2	0.9			G3/500
BL	(0°-30°)	1123.0	4.6	B3/2500		
BM	(30°-60°)	2552.2	10.5	B3/5000		
BH	(60°-80°)	1511.0	6.2	B3/2500		G3/2500
BVH	(80°-90°)	176.2	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°	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6
2.5°	2985.5	2985.5	2993.3	2993.3	2993.3	2990.2	2980.8	2984.0	2977.7	2973.1	2965.3
5°	2924.8	2927.9	2937.3	2940.4	2945.1	2946.6	2946.6	2945.1	2946.6	2946.6	2942.0
7.5°	2840.8	2843.9	2854.8	2861.1	2875.1	2887.5	2893.7	2893.7	2901.5	2907.7	2909.3
10°	2789.5	2789.5	2795.7	2795.7	2806.6	2812.8	2833.0	2831.5	2853.3	2873.5	2882.8
12.5°	2783.3	2783.3	2780.2	2769.3	2763.0	2761.5	2781.7	2784.8	2817.5	2853.3	2870.4
15°	2803.5	2803.5	2794.2	2772.4	2749.0	2738.1	2758.4	2764.6	2800.4	2842.4	2868.8
17.5°	2868.8	2867.3	2847.0	2803.5	2763.0	2745.9	2752.1	2758.4	2791.0	2839.3	2871.9
20°	3013.5	3013.5	2970.0	2890.6	2820.6	2780.2	2770.8	2775.5	2798.8	2843.9	2885.9
22.5°	3267.1	3271.8	3194.0	3063.3	2943.5	2857.9	2820.6	2825.3	2836.2	2879.7	2926.4
25°	3640.5	3628.0	3517.6	3332.4	3145.8	2999.5	2923.3	2927.9	2927.9	2968.4	3016.6
27.5°	4035.7	4038.8	3880.1	3680.9	3435.1	3217.3	3096.0	3094.4	3092.9	3131.8	3183.1
30°	4482.2	4483.7	4300.1	4069.9	3788.3	3509.8	3327.8	3326.2	3312.2	3360.5	3427.3
32.5°	4970.7	4969.1	4756.0	4496.2	4183.5	3867.6	3631.2	3629.6	3618.7	3684.1	3765.0
35°	5512.1	5512.1	5300.5	4980.0	4642.4	4290.8	4017.0	4015.4	4021.7	4110.3	4186.6
37.5°	6163.9	6177.9	5922.8	5533.9	5165.1	4790.2	4471.3	4461.9	4415.3	4564.6	4690.6
40°	6843.8	6882.7	6618.2	6163.9	5765.7	5378.3	5026.7	5020.5	4980.0	5138.7	5342.5
42.5°	7579.7	7668.4	7374.3	6910.7	6476.6	6058.1	5705.0	5687.9	5532.3	5779.7	6098.6
45°	8544.3	8601.8	8175.5	7755.5	7346.3	6868.7	6448.6	6356.9	6201.3	6518.7	6932.5
47.5°	9200.8	9172.8	8906.8	8625.2	8362.2	7904.8	7259.2	7142.5	6952.7	7372.8	7828.6
50°	9608.4	9628.6	9479.3	9465.3	9451.3	9132.3	8174.0	8034.0	7814.6	8312.4	8844.5
52.5°	9877.5	9785.8	9812.2	10129.6	10513.9	10361.4	9208.6	9053.0	8827.4	9325.3	9925.8
55°	9765.5	9644.2	9888.4	10513.9	11417.8	11452.0	10344.3	10184.0	9991.1	10401.8	11226.4
57.5°	9301.9	9362.6	9748.4	10618.1	12035.4	12429.0	11649.6	11486.2	11106.6	11523.5	12461.7
60°	8650.1	8773.0	9362.6	10453.2	12467.9	13189.8	13082.4	12973.5	12320.1	12615.7	13759.2
62.5°	7950.0	8071.3	8796.3	10171.6	12273.4	13863.4	14488.8	14421.9	13659.6	13667.4	14582.2
65°	6915.4	6965.2	7705.7	9403.0	11733.6	14471.7	15896.8	15837.7	14940.0	14565.1	14812.4
67.5°	5222.7	5284.9	5893.2	7422.6	10090.7	14141.9	17021.6	17012.3	15710.1	14898.0	14264.8
69°	3856.7	3933.0	4429.3	5762.6	8343.6	12884.8	17074.5	17200.5	15918.6	14863.8	13339.1
70°	2822.2	2909.3	3368.2	4573.9	6949.6	11497.1	16621.8	16892.5	15839.2	14647.5	12617.3
72.5°	1199.5	1229.1	1454.6	2064.5	3525.4	6932.5	13614.5	14183.9	14305.3	13124.4	9857.3
75°	751.4	760.8	849.4	1059.5	1568.2	2867.3	8816.5	9592.8	10680.3	10182.5	6599.6
77.5°	566.3	574.1	625.4	729.7	973.9	1070.4	4090.1	4877.3	6117.3	5989.7	3284.2
80°	434.1	438.7	473.0	530.5	686.1	670.5	1327.1	1667.8	2553.0	2252.7	1162.2
82.5°	340.7	342.3	371.8	382.7	479.2	451.2	665.9	742.1	1031.5	857.2	567.9
85°	301.8	306.5	336.0	280.0	306.5	272.3	365.6	396.7	547.6	516.5	214.7
87.5°	154.0	161.8	281.6	239.6	154.0	129.1	160.2	172.7	222.5	241.1	104.2
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°	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6	3002.6
2.5°	2966.8	2968.4	2973.1	2980.8	2993.3	3008.8	3027.5	3046.2	3057.1	3064.9	3061.7
5°	2942.0	2943.5	2952.8	2966.8	2982.4	3005.7	3036.9	3060.2	3077.3	3088.2	3086.6
7.5°	2910.8	2915.5	2934.2	2949.7	2971.5	2990.2	3015.1	3036.9	3054.0	3064.9	3063.3
10°	2887.5	2892.2	2915.5	2935.7	2954.4	2957.5	2952.8	2946.6	2945.1	2952.8	2949.7
12.5°	2876.6	2885.9	2907.7	2921.7	2913.9	2884.4	2850.2	2836.2	2831.5	2847.0	2848.6
15°	2879.7	2887.5	2906.2	2896.8	2854.8	2805.0	2786.4	2797.3	2806.6	2815.9	2817.5
17.5°	2887.5	2892.2	2896.8	2862.6	2803.5	2770.8	2764.6	2753.7	2725.7	2710.1	2708.6
20°	2901.5	2907.7	2899.9	2845.5	2792.6	2749.0	2674.4	2607.5	2543.7	2509.4	2495.4
22.5°	2949.7	2954.4	2931.1	2878.2	2797.3	2655.7	2504.8	2389.7	2291.6	2238.7	2218.5
25°	3044.6	3052.4	3019.7	2952.8	2741.3	2493.9	2280.8	2125.2	2002.3	1938.5	1921.4
27.5°	3211.1	3218.9	3183.1	3008.8	2610.6	2277.6	2019.4	1865.4	1759.6	1705.1	1697.3
30°	3460.0	3470.9	3438.2	3007.3	2411.4	2002.3	1764.2	1674.0	1613.3	1576.0	1574.4
32.5°	3805.4	3845.8	3712.1	2954.4	2165.6	1723.8	1571.3	1540.2	1510.6	1485.8	1485.8
35°	4244.1	4339.0	3982.8	2843.9	1894.9	1534.0	1464.0	1434.4	1397.1	1370.6	1367.5
37.5°	4768.4	4916.2	4175.7	2647.9	1661.6	1442.2	1398.6	1350.4	1291.3	1239.9	1227.5
40°	5488.7	5523.0	4270.6	2329.0	1487.3	1392.4	1338.0	1277.3	1202.6	1145.0	1138.8
42.5°	6212.2	6100.2	4251.9	1986.7	1387.7	1347.3	1275.7	1208.8	1141.9	1093.7	1093.7
45°	7035.2	6604.2	4110.3	1642.9	1297.5	1296.0	1218.2	1154.4	1103.0	1067.3	1059.5
47.5°	7822.4	7056.9	3866.1	1389.3	1204.2	1244.6	1180.8	1129.5	1082.8	1048.6	1042.4
50°	8777.6	7581.2	3606.3	1211.9	1113.9	1199.5	1165.3	1138.8	1093.7	1034.6	1028.4
52.5°	9726.6	8194.2	3405.6	1078.1	1034.6	1163.7	1174.6	1177.7	1135.7	1020.6	1012.8
55°	10745.7	8849.2	3194.0	973.9	969.2	1146.6	1196.4	1193.3	1173.0	1023.7	1011.2
57.5°	11714.9	9507.3	2878.2	900.8	917.9	1129.5	1201.1	1151.3	1115.5	1039.3	1019.0
60°	12517.7	10051.8	2414.5	849.4	874.3	1095.3	1169.9	1095.3	1034.6	1036.1	1017.5
62.5°	12908.2	10204.3	1846.7	790.3	838.6	1039.3	1124.8	1053.3	997.2	1042.4	1031.5
65°	12611.0	9770.2	1316.2	735.9	795.0	973.9	1098.4	1017.5	978.6	1073.5	1061.0
67.5°	11543.8	8587.8	955.2	687.6	753.0	907.0	1048.6	984.8	959.9	1096.8	1068.8
69°	10409.6	7414.8	827.7	659.6	723.4	871.2	1015.9	967.7	945.9	1064.1	1023.7
70°	9466.8	6510.9	763.9	642.5	698.5	851.0	991.0	956.8	931.9	1025.2	977.0
72.5°	6787.8	4208.3	642.5	591.2	633.2	805.9	936.6	916.3	879.0	925.7	894.6
75°	4101.0	2196.7	546.1	538.3	564.7	743.7	872.8	847.9	810.6	815.2	799.7
77.5°	1884.0	1014.4	457.4	476.1	493.2	665.9	795.0	767.0	732.8	720.3	721.9
80°	826.1	592.7	382.7	406.1	415.4	599.0	711.0	679.9	642.5	709.4	658.1
82.5°	446.5	343.8	298.7	314.3	340.7	521.2	617.6	577.2	541.4	630.1	508.7
85°	180.5	175.8	202.2	217.8	236.5	374.9	516.5	474.5	430.9	385.8	376.5
87.5°	77.8	84.0	99.6	105.8	126.0	233.4	346.9	303.4	304.9	261.4	256.7
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)