

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: P195832

Luminaire Tested: **NAV-AF-04-D-UNV-T3-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195832
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-T3-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24404 lumens
Efficiency: N/A
Efficacy: 108.5 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

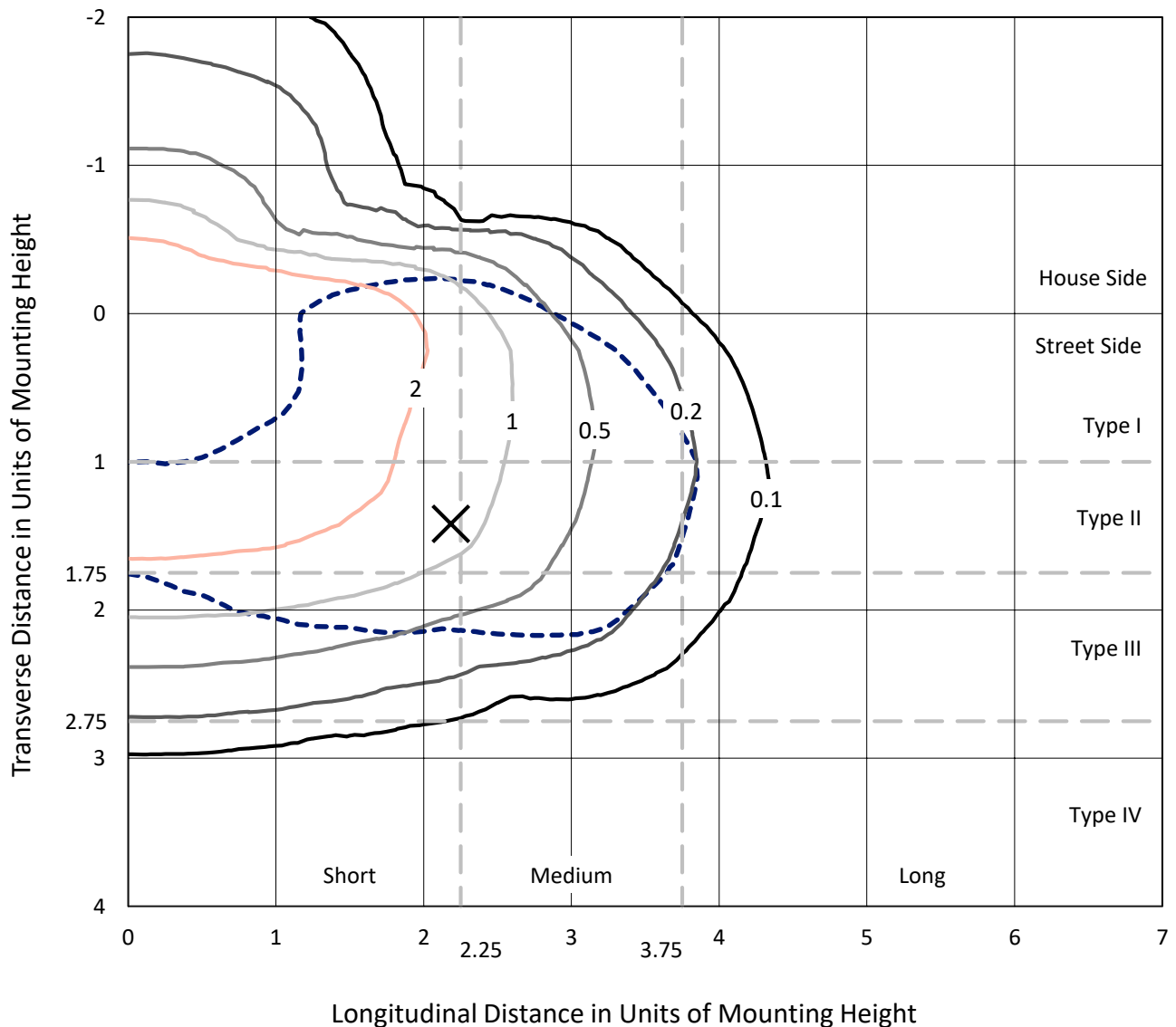
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

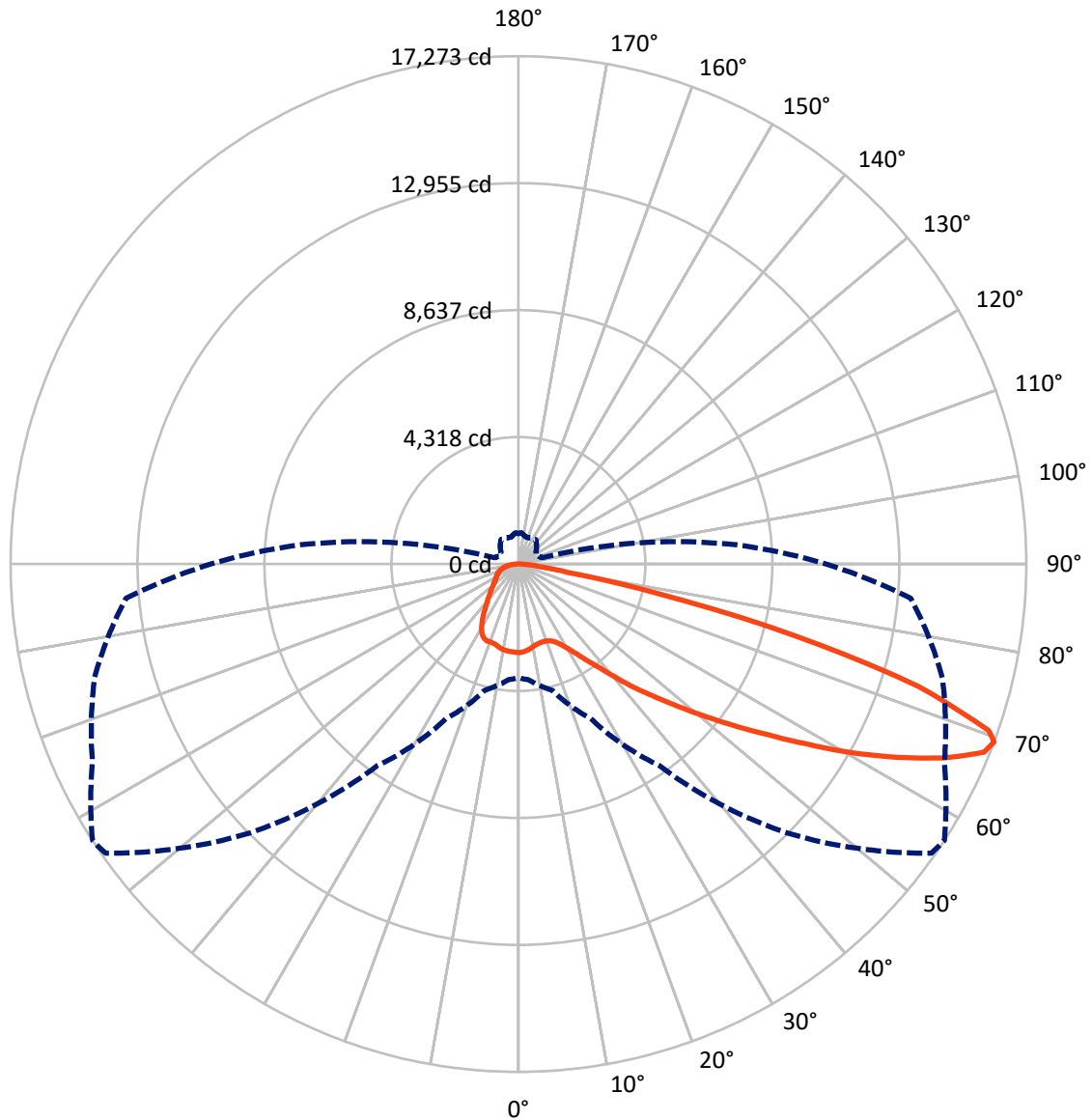
× Max cd
 - - - 1/2 Max cd



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	5385.1	0.0	5385.1
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	19018.9	0.0	19018.9
	% Fixture	77.9	0.0	77.9
Total	Lumens	24404.0	0.0	24404.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	282.3	1.2
10°-20°	802.6	3.3
20°-30°	1335.2	5.5
30°-40°	2180.3	8.9
40°-50°	3679.9	15.1
50°-60°	5724.2	23.5
60°-70°	6818.8	27.9
70°-80°	3176.6	13.0
80°-90°	404.0	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°	24404.0	100.0
0°-180°	24404.0	100.0



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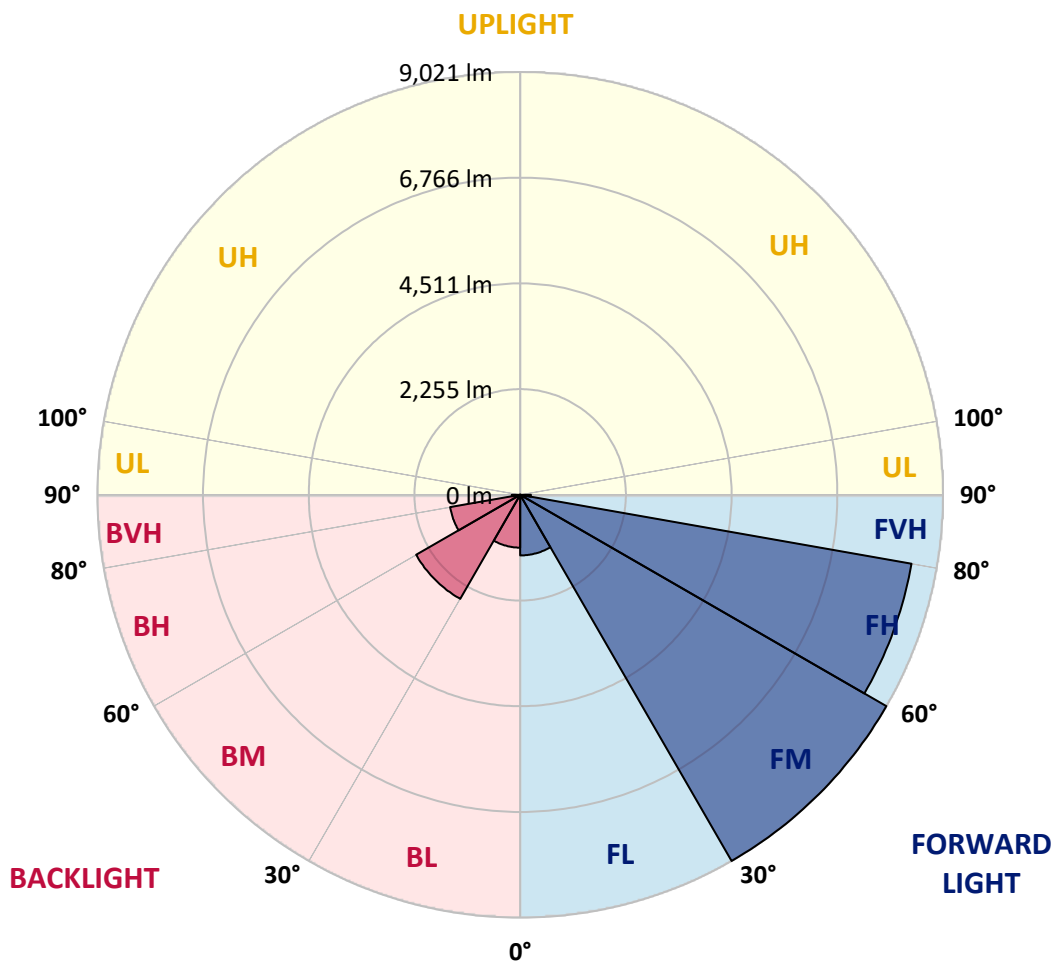
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1292.4	5.3			
FM	(30°-60°)	9021.4	37.0			
FH	(60°-80°)	8478.0	34.7			G4/12000
FVH	(80°-90°)	227.1	0.9			G3/500
BL	(0°-30°)	1127.7	4.6	B3/2500		
BM	(30°-60°)	2563.0	10.5	B3/5000		
BH	(60°-80°)	1517.5	6.2	B3/2500		G3/2500
BVH	(80°-90°)	176.9	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°	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4
2.5°	2998.2	2998.2	3006.0	3006.0	3006.0	3002.9	2993.5	2996.6	2990.4	2985.7	2977.9
5°	2937.2	2940.4	2949.7	2952.9	2957.5	2959.1	2959.1	2957.5	2959.1	2959.1	2954.4
7.5°	2852.9	2856.0	2866.9	2873.2	2887.2	2899.7	2906.0	2906.0	2913.8	2920.0	2921.6
10°	2801.3	2801.3	2807.6	2807.6	2818.5	2824.7	2845.1	2843.5	2865.4	2885.7	2895.1
12.5°	2795.1	2795.1	2791.9	2781.0	2774.7	2773.2	2793.5	2796.6	2829.4	2865.4	2882.6
15°	2815.4	2815.4	2806.0	2784.1	2760.7	2749.8	2770.1	2776.3	2812.2	2854.4	2881.0
17.5°	2881.0	2879.4	2859.1	2815.4	2774.7	2757.6	2763.8	2770.1	2802.9	2851.3	2884.1
20°	3026.3	3026.3	2982.5	2902.9	2832.6	2791.9	2782.6	2787.2	2810.7	2856.0	2898.2
22.5°	3281.0	3285.6	3207.5	3076.3	2956.0	2870.1	2832.6	2837.2	2848.2	2891.9	2938.8
25°	3655.9	3643.4	3532.5	3346.6	3159.1	3012.2	2935.7	2940.4	2940.4	2981.0	3029.4
27.5°	4052.8	4055.9	3896.5	3696.5	3449.7	3231.0	3109.1	3107.5	3106.0	3145.0	3196.6
30°	4501.2	4502.7	4318.4	4087.1	3804.3	3524.7	3341.9	3340.3	3326.3	3374.7	3441.9
32.5°	4991.7	4990.2	4776.1	4515.2	4201.2	3884.0	3646.5	3645.0	3634.0	3699.7	3780.9
35°	5535.4	5535.4	5323.0	5001.1	4662.1	4309.0	4034.0	4032.4	4038.7	4127.8	4204.3
37.5°	6190.1	6204.1	5947.9	5557.3	5187.0	4810.5	4490.2	4480.8	4434.0	4584.0	4710.5
40°	6872.8	6911.9	6646.3	6190.1	5790.1	5401.1	5048.0	5041.7	5001.1	5160.5	5365.1
42.5°	7611.8	7700.9	7405.6	6940.0	6504.1	6083.8	5729.2	5712.0	5555.7	5804.2	6124.4
45°	8580.5	8638.3	8210.2	7788.4	7377.5	6897.8	6476.0	6383.8	6227.6	6546.3	6961.9
47.5°	9239.8	9211.7	8944.5	8661.7	8397.7	7938.3	7290.0	7172.8	6982.2	7404.0	7861.8
50°	9649.1	9669.4	9519.5	9505.4	9491.3	9171.0	8208.6	8068.0	7847.7	8347.7	8882.0
52.5°	9919.4	9827.2	9853.8	10172.5	10558.4	10405.3	9247.6	9091.4	8864.8	9364.8	9967.8
55°	9806.9	9685.1	9930.4	10558.4	11466.2	11500.5	10388.1	10227.2	10033.5	10445.9	11274.0
57.5°	9341.3	9402.3	9789.7	10663.1	12086.4	12481.7	11698.9	11534.9	11153.7	11572.4	12514.5
60°	8686.7	8810.1	9402.3	10497.5	12520.7	13245.7	13137.9	13028.5	12372.3	12669.2	13817.5
62.5°	7983.7	8105.5	8833.6	10214.7	12325.4	13922.2	14550.2	14483.1	13717.5	13725.3	14644.0
65°	6944.7	6994.7	7738.4	9442.9	11783.3	14533.1	15964.2	15904.8	15003.3	14626.8	14875.2
67.5°	5244.8	5307.3	5918.2	7454.0	10133.5	14201.8	17093.8	17084.4	15776.7	14961.1	14325.3
69°	3873.1	3949.6	4448.0	5787.0	8378.9	12939.5	17146.9	17273.4	15986.1	14926.8	13395.7
70°	2834.1	2921.6	3382.5	4593.3	6979.1	11545.8	16692.2	16964.1	15906.4	14709.6	12670.7
72.5°	1204.6	1234.3	1460.8	2073.2	3540.3	6961.9	13672.2	14244.0	14365.9	13180.1	9899.1
75°	754.6	764.0	853.0	1064.0	1574.9	2879.4	8853.9	9633.5	10725.6	10225.6	6627.5
77.5°	568.7	576.5	628.1	732.7	978.0	1074.9	4107.4	4898.0	6143.2	6015.1	3298.1
80°	435.9	440.6	475.0	532.8	689.0	673.4	1332.7	1674.8	2563.8	2262.3	1167.1
82.5°	342.2	343.7	373.4	384.3	481.2	453.1	668.7	745.2	1035.8	860.9	570.3
85°	303.1	307.8	337.5	281.2	307.8	273.4	367.2	398.4	550.0	518.7	215.6
87.5°	154.7	162.5	282.8	240.6	154.7	129.7	160.9	173.4	223.4	242.2	104.7
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°	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4	3015.4
2.5°	2979.4	2981.0	2985.7	2993.5	3006.0	3021.6	3040.3	3059.1	3070.0	3077.8	3074.7
5°	2954.4	2956.0	2965.4	2979.4	2995.0	3018.5	3049.7	3073.2	3090.3	3101.3	3099.7
7.5°	2923.2	2927.9	2946.6	2962.2	2984.1	3002.9	3027.9	3049.7	3066.9	3077.8	3076.3
10°	2899.7	2904.4	2927.9	2948.2	2966.9	2970.0	2965.4	2959.1	2957.5	2965.4	2962.2
12.5°	2888.8	2898.2	2920.0	2934.1	2926.3	2896.6	2862.2	2848.2	2843.5	2859.1	2860.7
15°	2891.9	2899.7	2918.5	2909.1	2866.9	2816.9	2798.2	2809.1	2818.5	2827.9	2829.4
17.5°	2899.7	2904.4	2909.1	2874.7	2815.4	2782.6	2776.3	2765.4	2737.3	2721.6	2720.1
20°	2913.8	2920.0	2912.2	2857.6	2804.4	2760.7	2685.7	2618.5	2554.5	2520.1	2506.0
22.5°	2962.2	2966.9	2943.5	2890.4	2809.1	2666.9	2515.4	2399.8	2301.4	2248.2	2227.9
25°	3057.5	3065.3	3032.5	2965.4	2752.9	2504.5	2290.4	2134.2	2010.8	1946.7	1929.5
27.5°	3224.7	3232.5	3196.6	3021.6	2621.6	2287.3	2027.9	1873.3	1767.0	1712.3	1704.5
30°	3474.7	3485.6	3452.8	3020.0	2421.7	2010.8	1771.7	1681.1	1620.2	1582.7	1581.1
32.5°	3821.5	3862.2	3727.8	2966.9	2174.8	1731.1	1578.0	1546.7	1517.1	1492.1	1492.1
35°	4262.1	4357.4	3999.6	2856.0	1903.0	1540.5	1470.2	1440.5	1403.0	1376.4	1373.3
37.5°	4788.6	4937.1	4193.4	2659.1	1668.6	1448.3	1404.6	1356.1	1296.8	1245.2	1232.7
40°	5512.0	5546.4	4288.7	2338.9	1493.6	1398.3	1343.6	1282.7	1207.7	1149.9	1143.6
42.5°	6238.5	6126.0	4269.9	1995.1	1393.6	1353.0	1281.1	1214.0	1146.8	1098.3	1098.3
45°	7065.0	6632.2	4127.8	1649.9	1303.0	1301.4	1223.3	1159.3	1107.7	1071.8	1064.0
47.5°	7855.5	7086.9	3882.5	1395.2	1209.3	1249.9	1185.8	1134.3	1087.4	1053.0	1046.8
50°	8814.8	7613.4	3621.5	1217.1	1118.6	1204.6	1170.2	1143.6	1098.3	1039.0	1032.7
52.5°	9767.9	8228.9	3420.0	1082.7	1039.0	1168.6	1179.6	1182.7	1140.5	1024.9	1017.1
55°	10791.2	8886.7	3207.5	978.0	973.3	1151.5	1201.5	1198.3	1178.0	1028.0	1015.5
57.5°	11764.6	9547.6	2890.4	904.6	921.8	1134.3	1206.1	1156.1	1120.2	1043.7	1023.3
60°	12570.7	10094.4	2424.8	853.0	878.0	1099.9	1174.9	1099.9	1039.0	1040.5	1021.8
62.5°	12962.9	10247.5	1854.5	793.7	842.1	1043.7	1129.6	1057.7	1001.5	1046.8	1035.8
65°	12664.5	9811.6	1321.8	739.0	798.4	978.0	1103.0	1021.8	982.7	1078.0	1065.5
67.5°	11592.7	8624.2	959.3	690.6	756.2	910.9	1053.0	989.0	964.0	1101.5	1073.3
69°	10453.7	7446.2	831.2	662.4	726.5	874.9	1020.2	971.8	949.9	1068.7	1028.0
70°	9507.0	6538.5	767.1	645.3	701.5	854.6	995.2	960.9	935.9	1029.6	981.2
72.5°	6816.6	4226.2	645.3	593.7	635.9	809.3	940.5	920.2	882.7	929.6	898.4
75°	4118.4	2206.1	548.4	540.6	567.1	746.8	876.5	851.5	814.0	818.7	803.1
77.5°	1892.0	1018.7	459.3	478.1	495.3	668.7	798.4	770.2	735.9	723.4	724.9
80°	829.6	595.3	384.3	407.8	417.1	601.5	714.0	682.8	645.3	712.4	660.9
82.5°	448.4	345.3	300.0	315.6	342.2	523.4	620.3	579.6	543.7	632.8	510.9
85°	181.2	176.5	203.1	218.7	237.5	376.5	518.7	476.5	432.8	387.5	378.1
87.5°	78.1	84.4	100.0	106.2	126.6	234.4	348.4	304.7	306.2	262.5	257.8
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)