

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: P195861

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195861
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-T3R-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20211 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

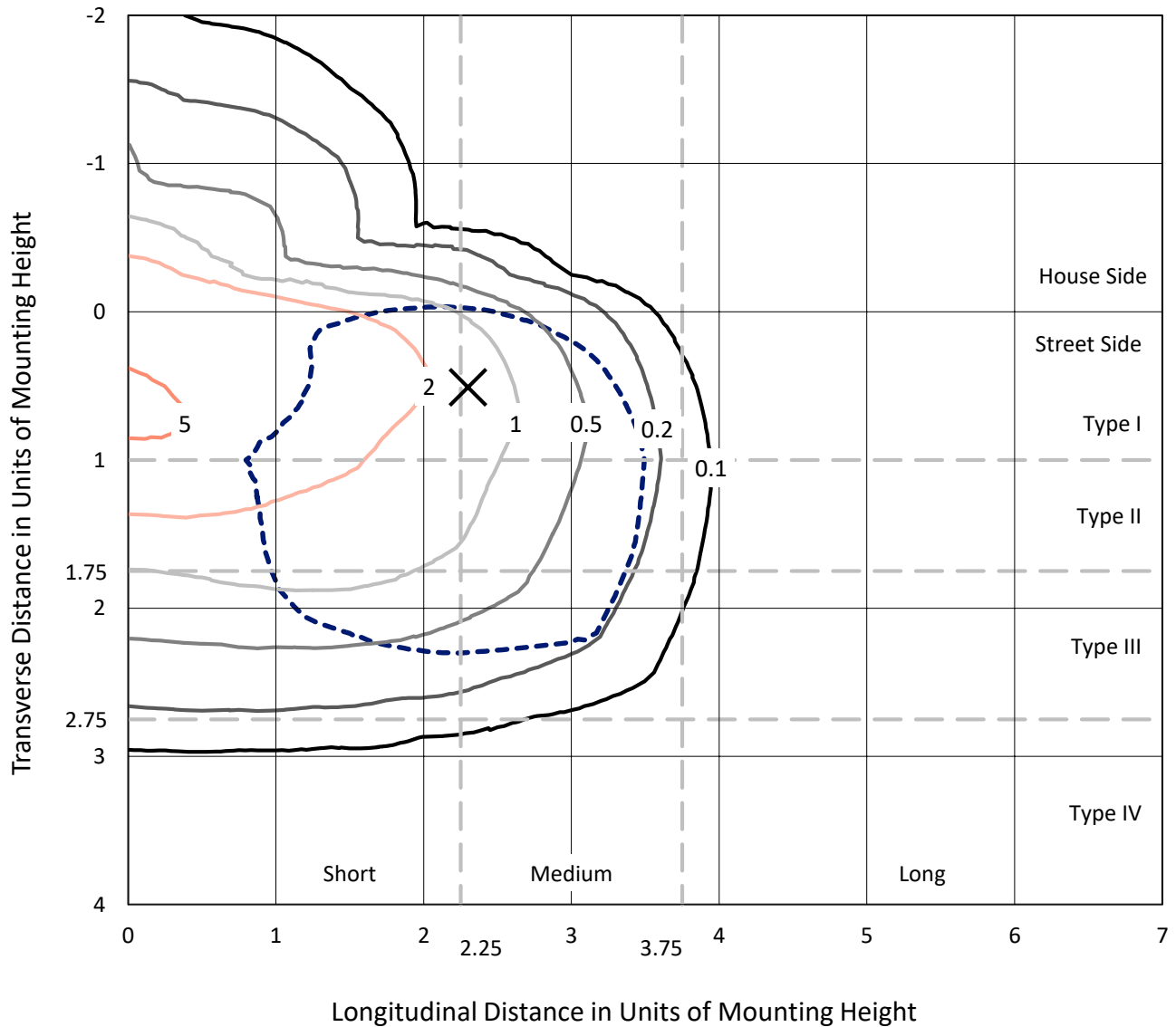
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

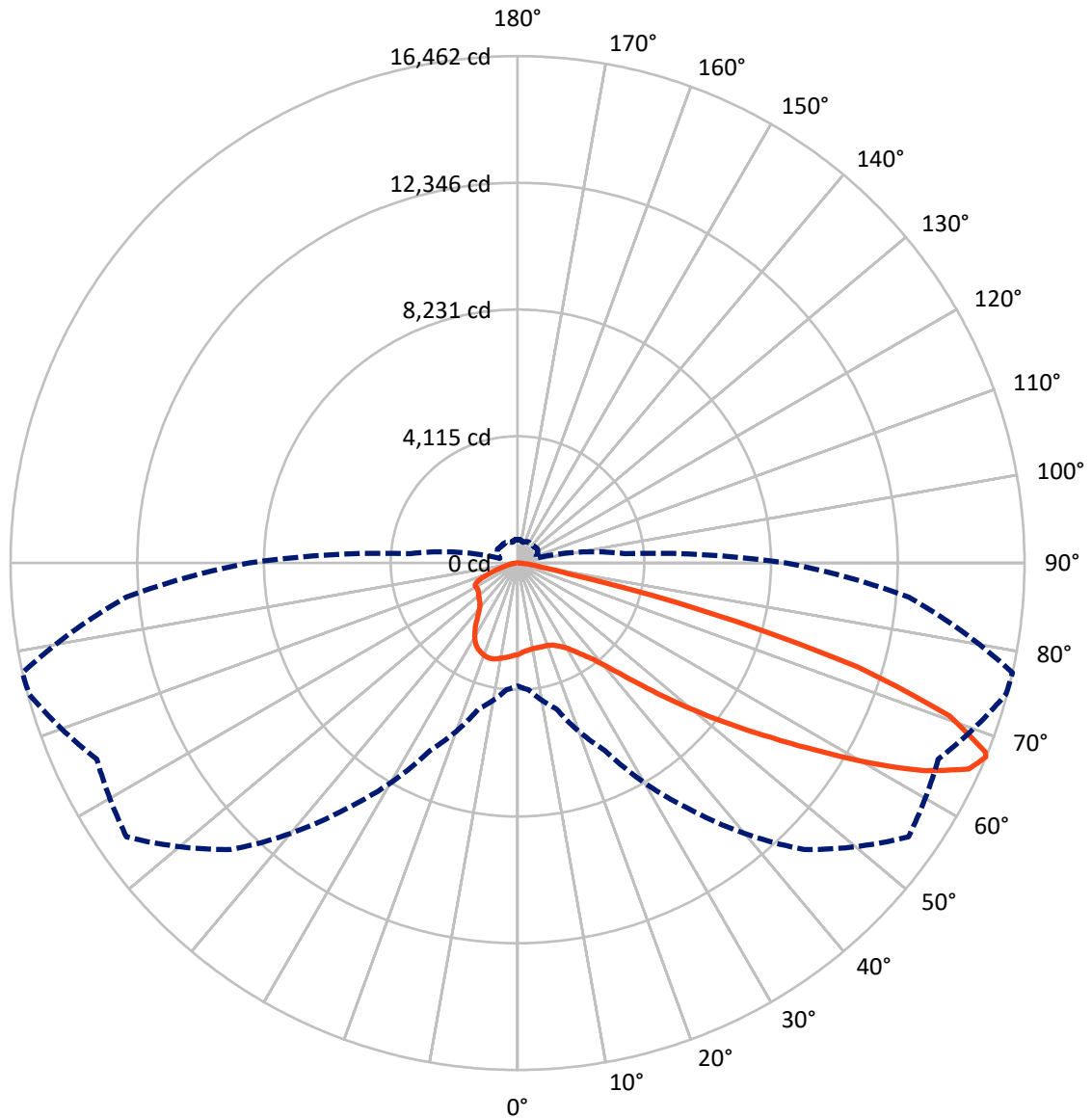
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3473.3	0.0	3473.3
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	16737.7	0.0	16737.7
	% Fixture	82.8	0.0	82.8
Total	Lumens	20211.0	0.0	20211.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.9	1.3
10°-20°	733.7	3.6
20°-30°	1246.6	6.2
30°-40°	1994.2	9.9
40°-50°	3070.1	15.2
50°-60°	4259.5	21.1
60°-70°	5681.9	28.1
70°-80°	2704.0	13.4
80°-90°	256.0	1.3
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°	20211.0	100.0
0°-180°	20211.0	100.0

Coefficient of Utilization



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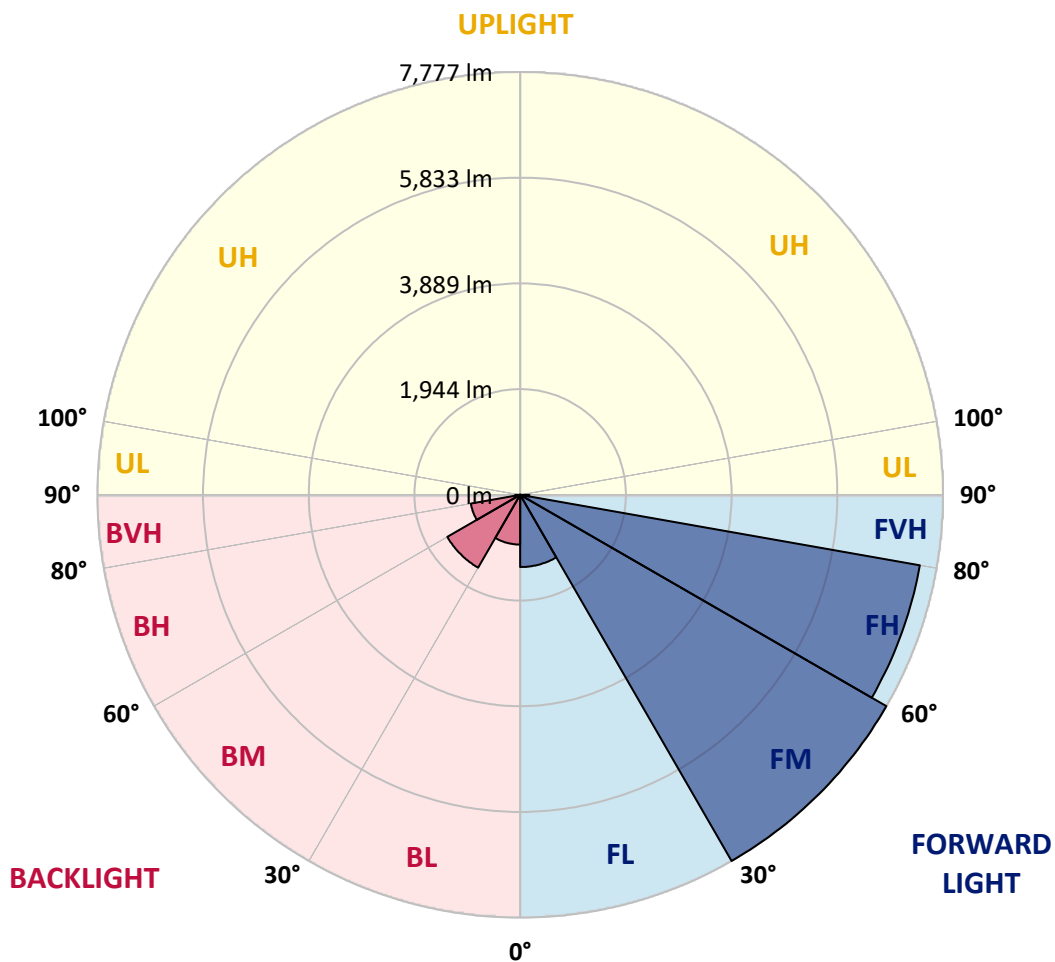
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1329.1	6.6			
FM	(30°-60°)	7777.4	38.5			
FH	(60°-80°)	7465.0	36.9			G3/7500
FVH	(80°-90°)	166.3	0.8			G2/225
BL	(0°-30°)	916.1	4.5	B2/1000		
BM	(30°-60°)	1546.5	7.7	B2/2500		
BH	(60°-80°)	920.9	4.6	B2/1000		G2/1000
BVH	(80°-90°)	89.7	0.4			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°	65°	75°	77.5°	85°
0°	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5
2.5°	2667.2	2679.7	2680.9	2717.2	2733.4	2774.6	2819.6	2859.6	2894.6	2907.1	2929.6
5°	2399.9	2399.9	2403.6	2427.3	2473.6	2539.8	2633.5	2735.9	2843.4	2869.6	2935.8
7.5°	2259.9	2262.4	2264.9	2288.7	2324.9	2383.6	2477.3	2617.2	2795.9	2839.6	2955.8
10°	2272.4	2268.7	2256.2	2251.2	2266.2	2303.7	2384.9	2528.5	2755.9	2823.4	2992.0
12.5°	2468.6	2461.1	2419.8	2359.9	2304.9	2291.2	2347.4	2483.6	2737.2	2823.4	3053.2
15°	2804.6	2809.6	2728.4	2603.5	2459.8	2362.4	2354.9	2467.3	2730.9	2830.9	3124.4
17.5°	3241.9	3244.4	3131.9	2950.8	2712.2	2511.0	2406.1	2467.3	2730.9	2838.4	3193.2
20°	3706.6	3689.1	3561.7	3334.3	3024.5	2717.2	2499.8	2482.3	2738.4	2849.6	3258.1
22.5°	4105.1	4088.9	3955.2	3716.6	3361.8	2960.8	2626.0	2532.3	2779.6	2895.8	3349.3
25°	4453.7	4463.7	4333.7	4065.1	3697.9	3235.6	2814.6	2647.2	2865.8	2979.5	3461.7
27.5°	4877.2	4858.4	4708.5	4452.4	4043.9	3520.5	3050.7	2792.1	2968.3	3080.7	3599.2
30°	5366.9	5358.1	5155.8	4892.2	4424.9	3839.0	3284.3	2948.3	3102.0	3219.4	3771.6
32.5°	5961.5	5960.3	5742.9	5419.4	4853.4	4198.8	3560.4	3161.9	3296.8	3415.5	4000.2
35°	6634.9	6633.7	6408.8	5981.5	5346.9	4597.3	3885.3	3421.8	3538.0	3662.9	4272.5
37.5°	7102.1	7094.6	6977.2	6562.5	5892.8	5060.8	4291.3	3771.6	3811.5	3951.5	4601.1
40°	7192.1	7237.1	7338.3	7093.4	6488.7	5575.5	4698.5	4147.6	4185.1	4365.0	5014.6
42.5°	7094.6	7153.4	7489.4	7558.1	7084.6	6198.9	5208.2	4668.5	4716.0	4939.6	5500.6
45°	7009.7	7060.9	7481.9	7815.5	7673.1	6878.5	5844.1	5304.4	5394.4	5671.7	6055.2
47.5°	6864.8	6912.2	7334.5	7861.7	8009.1	7533.1	6609.9	6069.0	6223.9	6560.0	6687.4
50°	6857.3	6878.5	7133.4	7706.8	8125.3	8030.4	7458.2	6963.5	7200.8	7588.1	7387.0
52.5°	6667.4	6816.1	7047.2	7459.4	8127.8	8320.2	8293.9	7944.2	8310.2	8738.7	8154.0
55°	5505.6	5676.7	6759.8	7338.3	8112.8	8568.8	9057.3	8987.3	9559.5	10010.5	9013.5
57.5°	5140.8	5213.2	5930.3	7374.5	8237.7	8979.8	9820.6	10107.9	10988.6	11480.9	10044.2
60°	5040.8	5117.0	5764.2	7392.0	8576.3	9728.1	10856.2	11373.4	12668.9	13191.1	11214.8
62.5°	4929.6	5028.3	5776.7	7408.2	9170.9	10835.0	12230.4	12746.4	14394.2	14860.1	12311.6
65°	4604.8	4736.0	5545.5	7305.8	9821.8	12224.2	14046.9	14178.0	15819.6	16115.7	12973.7
67°	3988.9	4132.6	4910.9	6713.6	9761.8	13159.9	15499.8	15073.8	16425.5	16461.7	12758.9
67.5°	3794.1	3942.7	4696.0	6467.5	9590.7	13282.3	15757.1	15197.5	16420.5	16380.5	12559.0
70°	2554.8	2722.2	3325.6	4748.5	7693.0	12361.6	15694.7	14816.4	15343.6	14885.1	10790.0
72.5°	1268.0	1273.0	1659.0	2601.0	4661.1	8866.1	13092.4	12675.2	12437.8	11572.1	7917.9
75°	610.9	622.1	783.3	1149.3	1965.1	4577.4	8928.6	8552.5	7282.0	6305.1	3962.7
77.5°	466.0	477.2	608.4	748.3	819.5	1492.9	4422.4	3574.2	2110.0	1685.3	1116.9
80°	359.8	381.0	513.5	574.7	542.2	598.4	1390.4	1094.4	820.8	753.3	553.4
82.5°	281.1	293.6	436.0	436.0	374.8	401.0	647.1	632.1	509.7	459.7	297.3
85°	198.6	223.6	351.0	324.8	246.1	248.6	387.3	371.0	262.3	211.1	116.2
87.5°	88.7	113.7	249.9	212.4	131.2	101.2	158.7	136.2	103.7	80.0	53.7
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°	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5	2974.5
2.5°	2954.5	2974.5	3005.8	3024.5	3049.5	3059.5	3069.5	3087.0	3100.7	3097.0	3090.7
5°	2982.0	3015.8	3054.5	3067.0	3067.0	3054.5	3047.0	3048.2	3044.5	3042.0	3034.5
7.5°	3022.0	3068.2	3095.7	3083.2	3044.5	2995.8	2949.5	2922.1	2895.8	2879.6	2884.6
10°	3078.2	3129.4	3130.7	3075.7	2983.3	2877.1	2785.9	2727.2	2671.0	2646.0	2653.5
12.5°	3159.4	3210.6	3166.9	3048.2	2885.8	2719.7	2552.3	2431.1	2322.4	2296.2	2288.7
15°	3246.9	3286.8	3189.4	2989.5	2745.9	2472.3	2191.2	2010.1	1888.9	1867.7	1860.2
17.5°	3323.1	3345.6	3178.2	2884.6	2524.8	2093.8	1766.5	1644.0	1619.1	1631.6	1631.6
20°	3390.5	3383.0	3129.4	2722.2	2176.2	1674.0	1484.1	1482.9	1516.6	1547.9	1550.4
22.5°	3475.5	3416.8	3052.0	2481.1	1760.2	1396.7	1364.2	1396.7	1434.2	1469.1	1472.9
25°	3576.7	3454.3	2948.3	2137.5	1415.4	1268.0	1281.8	1309.2	1333.0	1360.5	1361.7
27.5°	3677.9	3483.0	2802.1	1734.0	1228.0	1185.6	1200.6	1211.8	1218.0	1235.5	1235.5
30°	3795.3	3505.5	2591.0	1389.2	1141.8	1113.1	1104.4	1099.4	1104.4	1128.1	1129.3
32.5°	3942.7	3545.4	2302.4	1191.8	1101.9	1061.9	1016.9	991.9	1009.4	1051.9	1059.4
35°	4110.1	3592.9	1956.4	1113.1	1088.1	1036.9	954.4	915.7	922.0	960.7	966.9
37.5°	4320.0	3654.1	1615.3	1094.4	1101.9	1034.4	925.7	870.7	843.3	844.5	843.3
40°	4588.6	3715.3	1345.5	1099.4	1131.8	1040.6	912.0	825.8	768.3	770.8	775.8
42.5°	4869.7	3755.3	1174.3	1114.4	1168.1	1049.4	907.0	782.0	732.1	774.6	813.3
45°	5198.2	3744.1	1085.6	1128.1	1195.6	1053.1	888.2	777.1	735.8	863.3	935.7
47.5°	5575.5	3695.4	1035.7	1134.3	1203.1	1051.9	874.5	793.3	767.1	988.2	1070.6
50°	5985.3	3619.2	995.7	1124.3	1199.3	1046.9	889.5	813.3	779.5	1015.7	1079.4
52.5°	6433.8	3549.2	954.4	1101.9	1180.6	1031.9	908.2	804.5	744.6	935.7	984.4
55°	6964.7	3533.0	908.2	1063.1	1149.3	1015.7	898.2	777.1	705.8	829.5	859.5
57.5°	7571.9	3634.1	848.3	1015.7	1106.9	983.2	874.5	762.1	692.1	754.6	770.8
60°	8342.7	3857.8	784.5	965.7	1054.4	934.5	853.3	765.8	695.8	743.3	747.1
62.5°	8944.8	4058.9	727.1	904.5	984.4	875.7	830.8	769.6	707.1	758.3	752.1
65°	9163.4	3960.2	655.9	813.3	885.7	810.8	799.5	772.1	707.1	767.1	753.3
67°	8715.0	3489.2	588.4	722.1	792.0	753.3	769.6	762.1	694.6	765.8	742.1
67.5°	8501.3	3323.1	570.9	707.1	767.1	735.8	762.1	757.1	690.9	763.3	735.8
70°	7010.9	2383.6	482.2	593.4	642.1	648.4	715.8	724.6	660.9	717.1	667.1
72.5°	4988.4	1491.6	416.0	459.7	518.4	554.7	653.4	680.9	620.9	623.4	582.2
75°	2468.6	800.8	371.0	354.8	403.5	462.2	569.7	620.9	562.2	519.7	506.0
77.5°	833.3	453.5	313.6	286.1	313.6	371.0	472.2	542.2	496.0	439.7	431.0
80°	431.0	329.8	244.9	229.9	247.4	287.3	369.8	451.0	423.5	426.0	351.0
82.5°	268.6	201.1	176.1	174.9	187.4	219.9	272.3	366.0	363.5	311.1	226.1
85°	124.9	116.2	112.4	116.2	119.9	124.9	177.4	261.1	276.1	167.4	148.7
87.5°	52.5	51.2	45.0	48.7	53.7	52.5	71.2	111.2	154.9	104.9	96.2
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)