

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: P197351

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197351
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26599 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

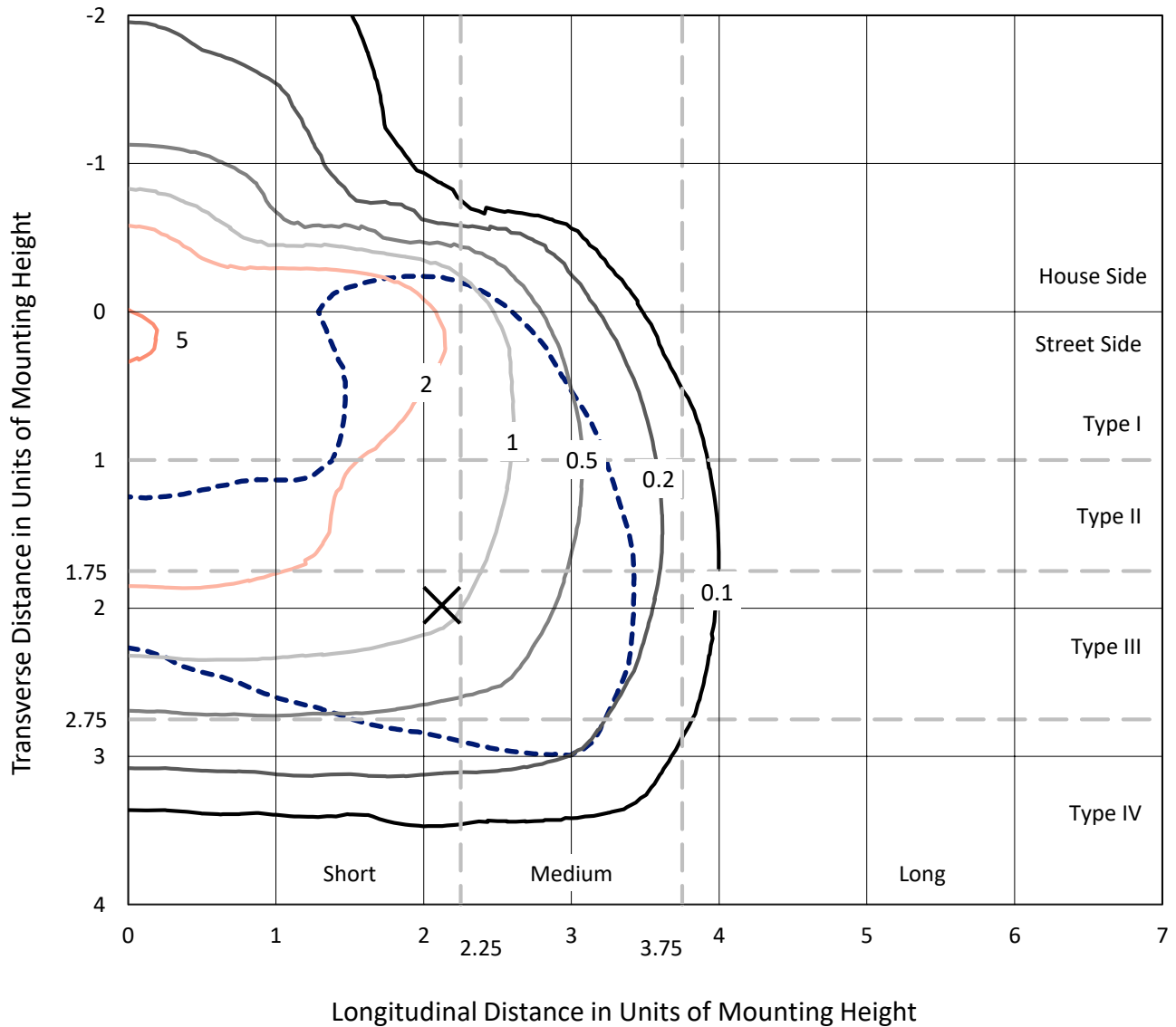
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

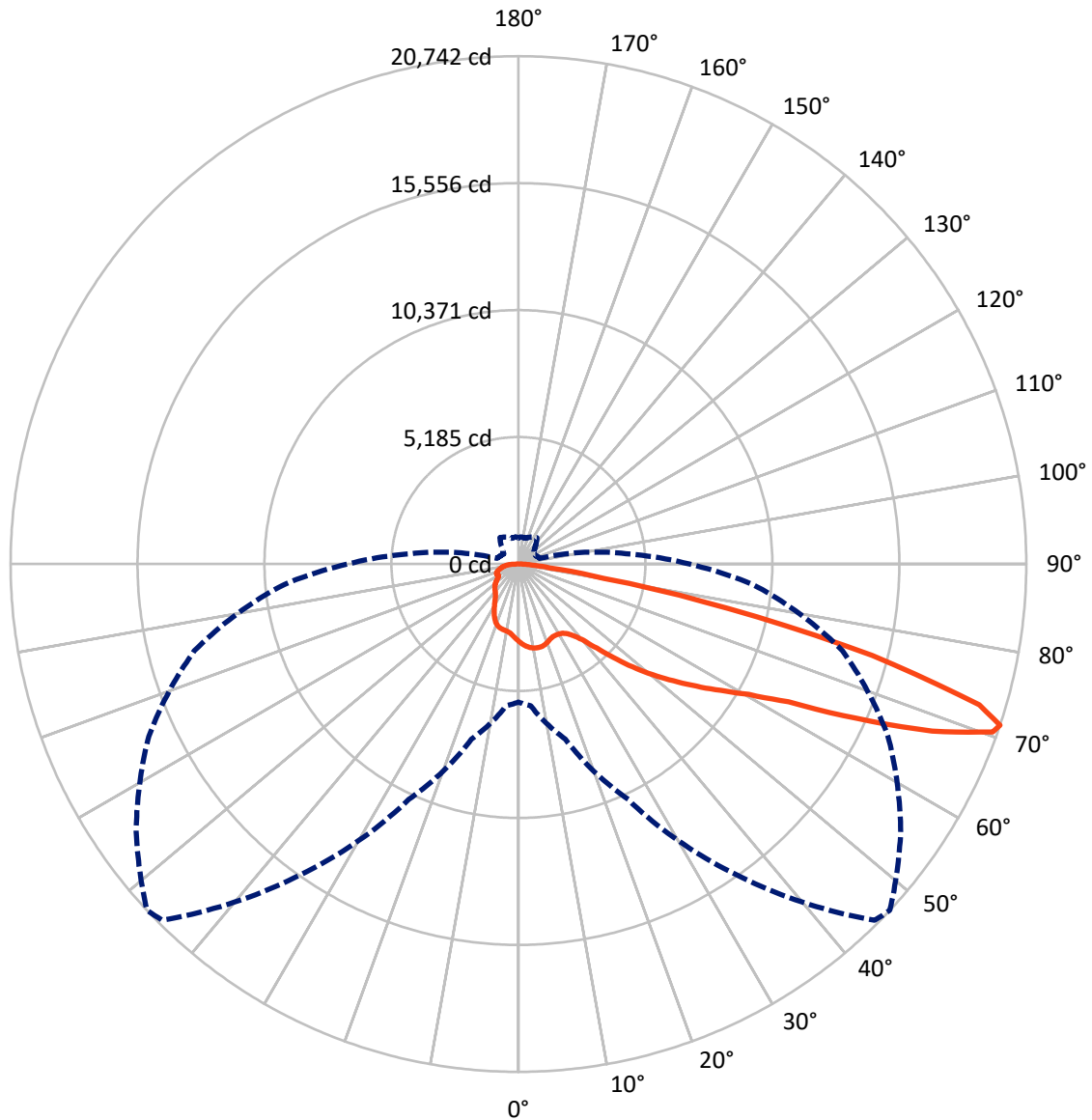
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5700.5	0.0	5700.5
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	20898.5	0.0	20898.5
	% Fixture	78.6	0.0	78.6
Total	Lumens	26599.0	0.0	26599.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.0	1.1
10°-20°	883.6	3.3
20°-30°	1312.9	4.9
30°-40°	1885.1	7.1
40°-50°	3342.4	12.6
50°-60°	5719.4	21.5
60°-70°	8119.6	30.5
70°-80°	4447.0	16.7
80°-90°	587.0	2.2
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°	26599.0	100.0
0°-180°	26599.0	100.0

Coefficient of Utilization



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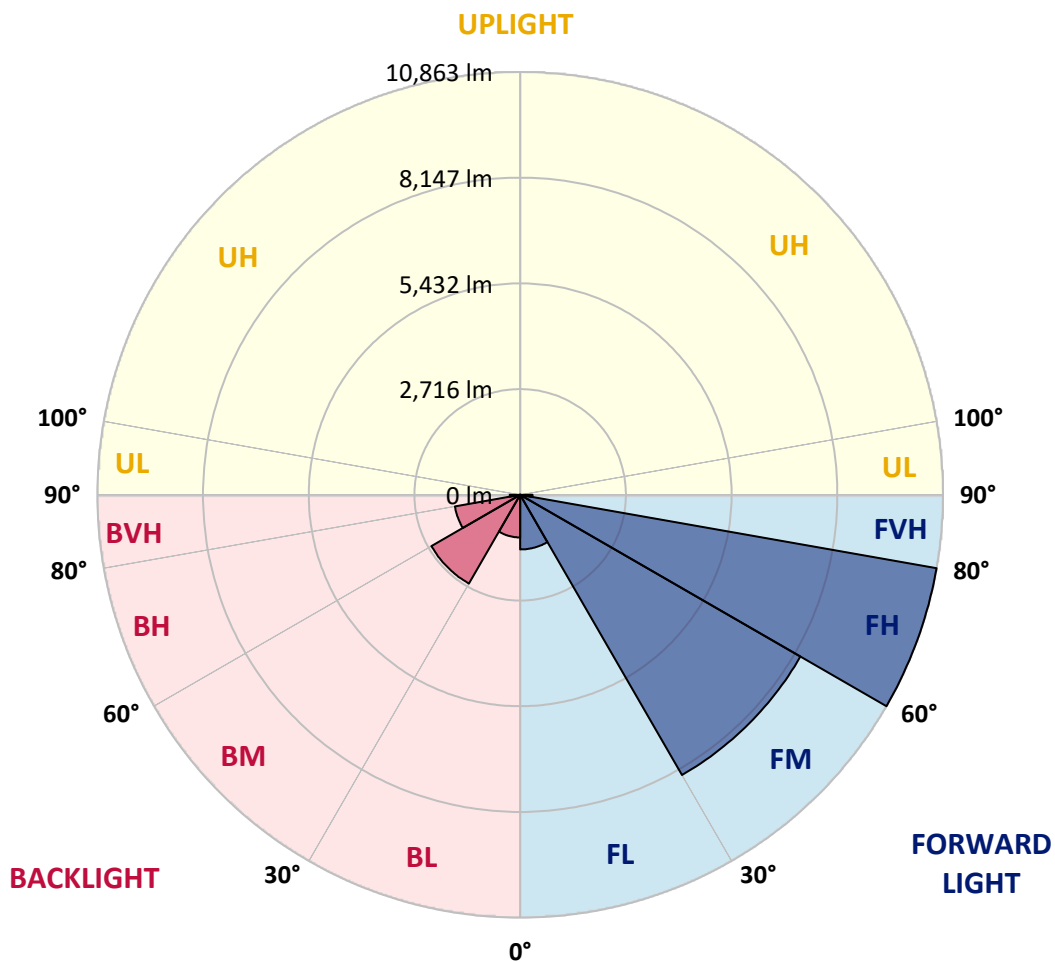
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1403.8	5.3			
FM	(30°-60°)	8313.0	31.3			
FH	(60°-80°)	10863.3	40.8			G4/12000
FVH	(80°-90°)	318.4	1.2			G3/500
BL	(0°-30°)	1094.7	4.1	B3/2500		
BM	(30°-60°)	2634.0	9.9	B3/5000		
BH	(60°-80°)	1703.2	6.4	B3/2500		G3/2500
BVH	(80°-90°)	268.6	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1
2.5°	3356.1	3349.2	3352.7	3340.6	3311.3	3280.3	3280.3	3247.5	3213.1	3178.6	3140.7
5°	3564.7	3554.4	3545.7	3507.8	3450.9	3387.2	3376.8	3311.3	3240.6	3170.0	3101.0
7.5°	3738.8	3728.5	3702.6	3633.6	3550.9	3456.1	3444.0	3357.8	3264.8	3166.5	3070.0
10°	3862.9	3856.0	3806.0	3718.1	3621.6	3509.5	3488.9	3400.9	3290.6	3168.2	3045.9
12.5°	3931.9	3921.5	3861.2	3757.8	3644.0	3530.2	3509.5	3425.1	3299.2	3164.8	3021.7
15°	3904.3	3899.1	3842.2	3737.1	3623.3	3525.1	3507.8	3421.6	3294.1	3152.7	2999.3
17.5°	3787.1	3799.1	3754.3	3650.9	3557.8	3488.9	3469.9	3388.9	3268.2	3123.4	2964.8
20°	3625.0	3638.8	3616.4	3511.3	3457.8	3413.0	3402.7	3337.2	3225.1	3080.3	2923.5
22.5°	3452.7	3464.7	3466.4	3368.2	3351.0	3333.7	3325.1	3278.6	3187.2	3054.5	2895.9
25°	3333.7	3347.5	3351.0	3264.8	3275.1	3280.3	3278.6	3245.8	3180.3	3054.5	2899.3
27.5°	3302.7	3309.6	3306.1	3226.8	3245.8	3275.1	3276.8	3269.9	3207.9	3088.9	2947.6
30°	3409.6	3413.0	3369.9	3251.0	3269.9	3307.9	3309.6	3306.1	3266.5	3178.6	3056.2
32.5°	3871.5	3868.1	3719.8	3413.0	3347.5	3361.3	3366.5	3397.5	3400.9	3326.8	3213.1
35°	4574.8	4573.1	4400.7	3876.7	3568.1	3495.7	3502.6	3550.9	3594.0	3544.0	3478.5
37.5°	5348.8	5353.9	5248.8	4538.6	4043.9	3742.2	3735.3	3771.5	3849.1	3866.4	3875.0
40°	6207.2	6233.1	6227.9	5298.8	4711.0	4162.8	4093.9	4052.5	4202.5	4297.3	4419.7
42.5°	7188.0	7181.1	7184.6	6133.1	5472.9	4824.8	4697.2	4504.1	4678.2	4842.0	5110.9
45°	8030.9	8058.5	8079.2	7020.8	6326.1	5581.5	5452.2	5100.6	5257.4	5502.2	5912.4
47.5°	8879.0	8830.7	8868.7	8008.5	7275.9	6445.1	6277.9	5803.8	5950.4	6295.1	6919.1
50°	9866.7	9844.3	9671.9	9297.9	8423.9	7320.7	7101.8	6538.2	6751.9	7212.1	8161.9
52.5°	10752.7	10632.0	10497.6	10311.4	9553.0	8206.7	7929.2	7301.8	7694.8	8265.3	9704.7
55°	11076.8	10995.8	11157.8	11399.1	10747.5	9110.0	8799.7	8192.9	8758.3	9470.2	11519.8
57.5°	11421.5	11449.1	11814.5	12302.3	11878.3	10073.5	9737.4	9247.9	9925.3	10818.2	13548.6
60°	11593.9	11704.2	12433.4	13348.7	12953.9	11130.2	10807.9	10459.7	11219.8	12307.5	15572.3
62.5°	11623.2	11771.4	12804.0	13715.8	14434.6	12748.8	12376.5	11999.0	12836.7	13953.7	17037.5
65°	11085.4	11312.9	12771.2	14167.4	15784.3	15453.3	15217.2	14558.7	15001.7	15403.4	17287.4
67.5°	9504.7	9752.9	11507.7	13981.3	16866.8	18259.6	18214.8	17242.6	16673.8	15963.6	15434.4
70°	6976.0	7175.9	8861.8	11952.4	16394.5	20462.5	20541.8	18981.8	17140.9	14774.2	11476.7
71°	5641.8	5814.2	7403.5	10611.4	15474.0	20576.3	20741.8	19059.4	16654.8	13700.3	9608.1
72.5°	3511.3	3607.8	4916.1	8008.5	13324.5	19404.2	19683.4	18066.5	15124.1	11580.1	6791.5
75°	1325.6	1363.5	1823.7	3531.9	7953.3	14577.7	14915.5	13653.8	10625.1	6610.6	2842.5
77.5°	711.9	730.9	905.0	1468.6	3187.2	8356.7	8791.1	7787.9	5097.1	2313.3	1161.8
80°	477.5	489.5	625.7	870.5	1465.2	3182.0	3544.0	3126.9	1908.2	1320.4	827.4
82.5°	308.5	315.4	425.8	572.3	946.3	1118.7	1277.3	1334.2	1191.1	946.3	499.9
85°	203.4	208.6	281.0	365.4	586.1	551.6	565.4	739.5	811.9	624.0	255.1
87.5°	117.2	120.7	168.9	187.9	263.7	206.8	224.1	351.6	482.6	406.8	146.5
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°	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1	3163.1
2.5°	3123.4	3109.6	3078.6	3059.6	3051.0	3047.6	3044.1	3051.0	3051.0	3047.6	3040.7
5°	3066.5	3040.7	2989.0	2952.8	2933.8	2928.6	2935.5	2944.2	2949.3	2949.3	2944.2
7.5°	3025.2	2987.2	2918.3	2868.3	2839.0	2830.4	2849.3	2880.4	2901.1	2911.4	2913.1
10°	2990.7	2939.0	2863.1	2811.4	2787.3	2783.8	2808.0	2847.6	2890.7	2909.7	2913.1
12.5°	2959.7	2901.1	2818.3	2770.1	2752.8	2761.4	2794.2	2830.4	2880.4	2908.0	2909.7
15°	2930.4	2870.0	2782.1	2732.1	2728.7	2742.5	2773.5	2802.8	2840.7	2875.2	2875.2
17.5°	2895.9	2830.4	2739.0	2692.5	2692.5	2704.6	2725.2	2740.7	2764.9	2797.6	2795.9
20°	2854.5	2787.3	2694.2	2645.9	2635.6	2628.7	2628.7	2632.2	2652.8	2682.1	2687.3
22.5°	2823.5	2754.5	2656.3	2597.7	2551.1	2506.3	2487.4	2480.5	2499.4	2527.0	2533.9
25°	2823.5	2754.5	2644.2	2546.0	2432.2	2346.0	2309.8	2299.5	2318.4	2344.3	2354.6
27.5°	2870.0	2801.1	2671.8	2499.4	2290.9	2153.0	2109.9	2101.2	2118.5	2139.2	2149.5
30°	2978.6	2911.4	2751.1	2446.0	2134.0	1953.0	1904.7	1896.1	1904.7	1913.4	1925.4
32.5°	3159.6	3102.7	2880.4	2397.7	1975.4	1772.0	1713.4	1699.6	1703.1	1704.8	1715.1
35°	3454.4	3428.5	3052.7	2340.8	1825.4	1623.8	1563.4	1535.9	1534.1	1542.7	1554.8
37.5°	3906.0	3921.5	3275.1	2258.1	1701.3	1518.6	1458.3	1430.7	1416.9	1434.2	1447.9
40°	4543.8	4580.0	3531.9	2146.1	1599.6	1456.6	1392.8	1366.9	1348.0	1342.8	1349.7
42.5°	5372.9	5362.6	3794.0	2003.0	1489.3	1415.2	1348.0	1320.4	1289.4	1249.7	1241.1
45°	6355.4	6207.2	4012.9	1827.2	1363.5	1375.5	1306.6	1268.7	1220.4	1161.8	1154.9
47.5°	7515.5	7107.0	4147.3	1639.3	1246.3	1323.8	1260.1	1201.4	1130.8	1092.9	1087.7
50°	8913.5	8160.2	4242.1	1447.9	1141.1	1258.3	1194.6	1117.0	1048.0	1037.7	1036.0
52.5°	10568.3	9403.0	4359.3	1275.6	1058.4	1173.9	1129.1	1049.8	994.6	999.8	999.8
55°	12328.2	10688.9	4362.8	1139.4	986.0	1075.6	1080.8	1017.0	973.9	991.2	996.3
57.5°	13933.0	11812.8	4019.8	1042.9	917.0	998.0	1065.3	1029.1	996.3	1056.7	1061.8
60°	15332.7	12678.1	3282.0	963.6	860.1	968.7	1099.7	1103.2	1096.3	1260.1	1272.1
62.5°	15844.6	12686.7	2330.5	896.3	829.1	986.0	1172.1	1177.3	1177.3	1329.0	1351.4
65°	15127.6	11630.1	1551.4	856.7	808.4	1023.9	1230.8	1208.3	1154.9	1260.1	1235.9
67.5°	12600.6	9053.1	1134.2	830.8	779.1	1025.6	1282.5	1225.6	1134.2	1223.9	1182.5
70°	8660.1	5760.7	949.8	806.7	744.7	980.8	1310.0	1220.4	1103.2	1141.1	1086.0
71°	6970.8	4597.2	901.5	798.1	730.9	955.0	1313.5	1213.5	1087.7	1111.8	1061.8
72.5°	4592.0	2832.1	842.9	779.1	710.2	910.1	1304.9	1198.0	1067.0	1068.7	1036.0
75°	1811.7	1173.9	758.4	736.0	651.6	837.7	1267.0	1165.2	1027.4	992.9	979.1
77.5°	915.3	767.1	667.1	675.7	582.6	763.6	1213.5	1111.8	972.2	925.6	915.3
80°	668.8	582.6	570.6	586.1	505.1	691.2	1146.3	1039.4	901.5	949.8	929.1
82.5°	406.8	355.1	446.4	484.4	422.3	617.1	1067.0	955.0	811.9	748.1	724.0
85°	193.1	208.6	322.3	356.8	312.0	493.0	975.6	861.9	708.5	611.9	622.3
87.5°	94.8	115.5	184.4	213.7	205.1	362.0	736.0	668.8	558.5	460.2	449.9
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)