

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: P196864

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196864
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-04-D-UNV-T4W-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23317 lumens
Efficiency: N/A
Efficacy: 103.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

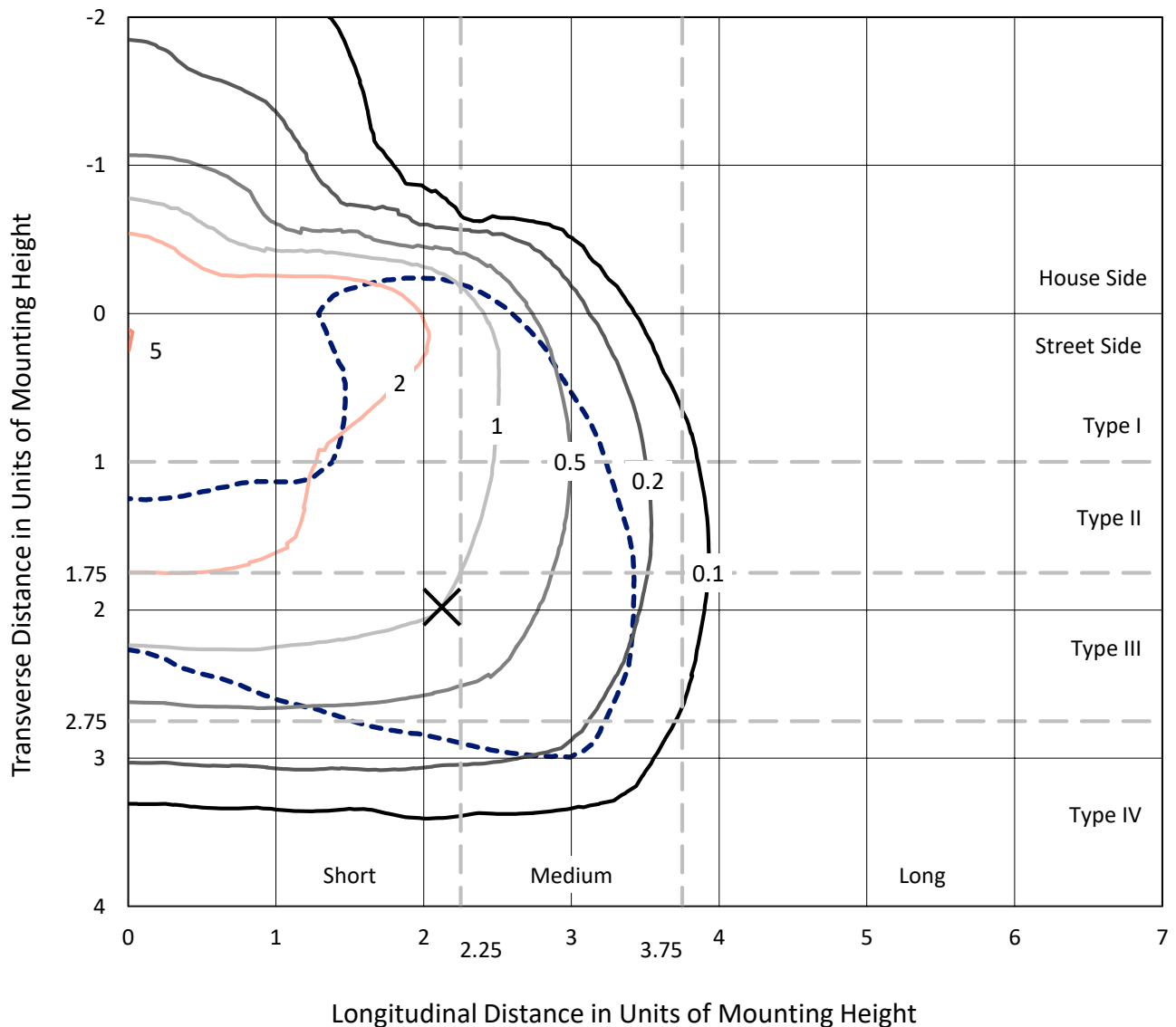
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

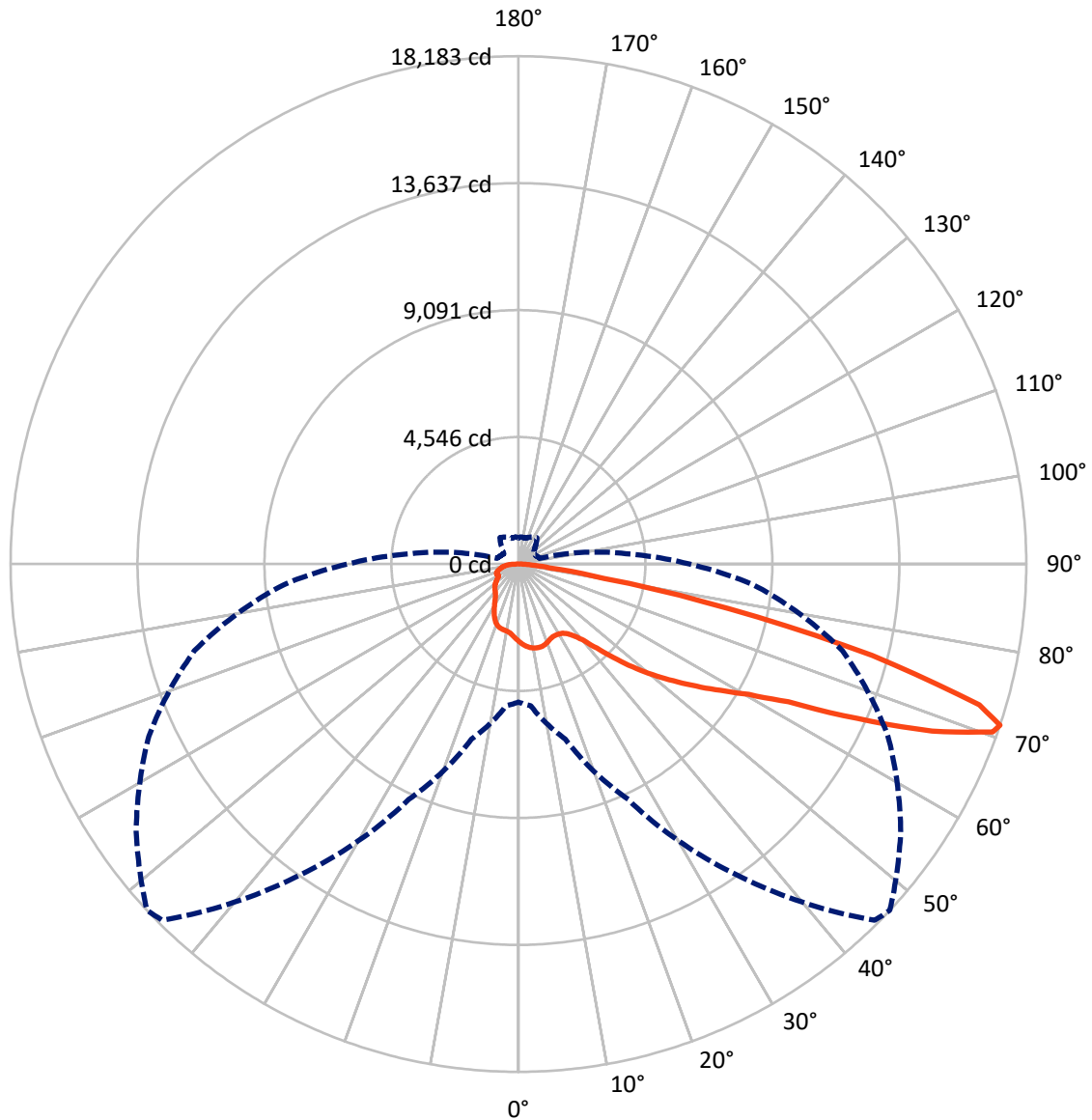
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 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	4997.2	0.0	4997.2
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	18319.8	0.0	18319.8
	% Fixture	78.6	0.0	78.6
Total	Lumens	23317.0	0.0	23317.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.7	1.1
10°-20°	774.5	3.3
20°-30°	1150.9	4.9
30°-40°	1652.5	7.1
40°-50°	2930.0	12.6
50°-60°	5013.7	21.5
60°-70°	7117.7	30.5
70°-80°	3898.3	16.7
80°-90°	514.6	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°	23317.0	100.0
0°-180°	23317.0	100.0



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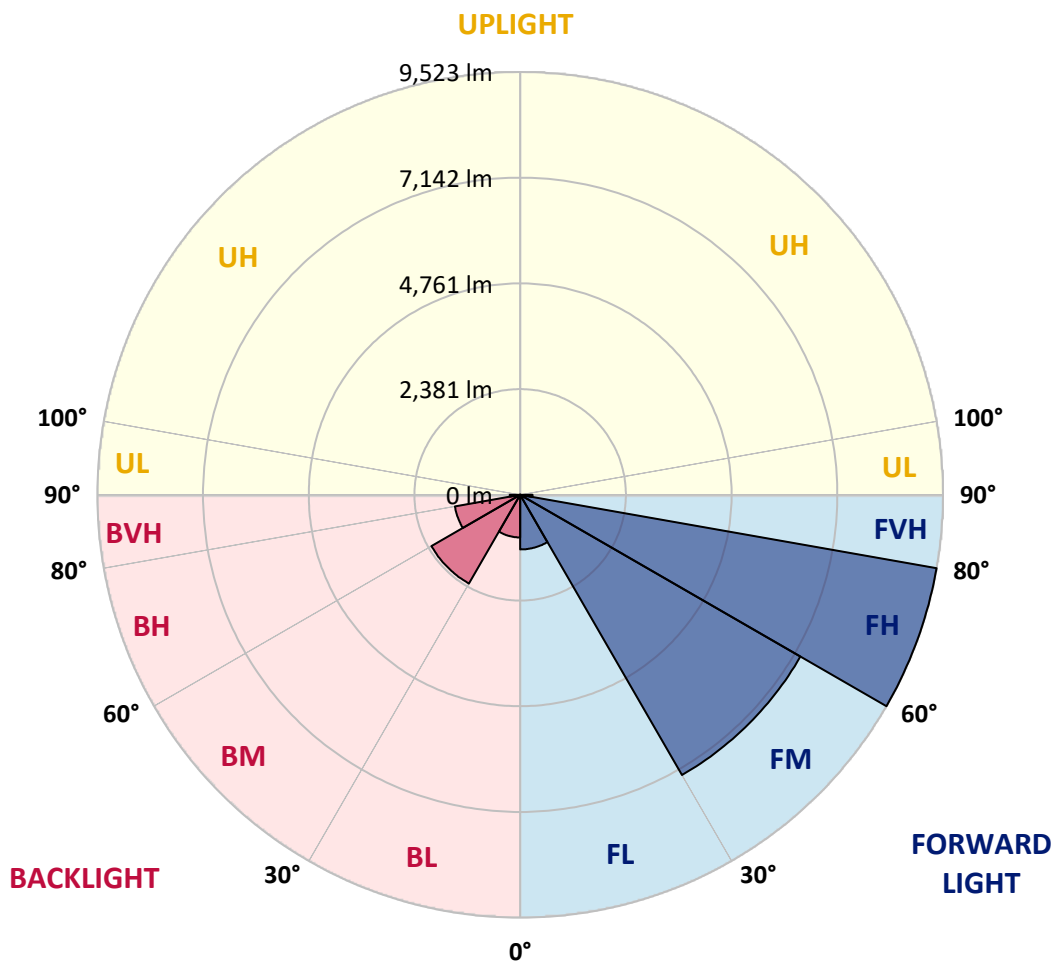
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1230.6	5.3			
FM	(30°-60°)	7287.3	31.3			
FH	(60°-80°)	9522.9	40.8			G4/12000
FVH	(80°-90°)	279.1	1.2			G3/500
BL	(0°-30°)	959.6	4.1	B2/1000		
BM	(30°-60°)	2309.0	9.9	B2/2500		
BH	(60°-80°)	1493.1	6.4	B3/2500		G3/2500
BVH	(80°-90°)	235.5	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°	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8
2.5°	2942.1	2936.1	2939.0	2928.4	2902.7	2875.4	2875.4	2846.9	2816.6	2786.3	2753.2
5°	3124.9	3115.7	3108.2	3075.0	3025.2	2969.2	2960.2	2902.7	2840.7	2778.8	2718.4
7.5°	3277.4	3268.4	3245.8	3185.4	3112.8	3029.6	3019.1	2943.6	2861.9	2775.8	2691.2
10°	3386.3	3380.3	3336.4	3259.3	3174.7	3076.5	3058.3	2981.3	2884.6	2777.4	2670.1
12.5°	3446.7	3437.7	3384.8	3294.0	3194.4	3094.7	3076.5	3002.5	2892.2	2774.3	2648.9
15°	3422.5	3417.9	3368.1	3275.9	3176.2	3090.1	3075.0	2999.5	2887.6	2763.7	2629.3
17.5°	3319.8	3330.3	3291.1	3200.4	3118.8	3058.3	3041.8	2970.8	2865.0	2738.0	2599.1
20°	3177.7	3189.9	3170.1	3078.1	3031.2	2991.8	2982.8	2925.4	2827.2	2700.3	2562.7
22.5°	3026.6	3037.2	3038.7	2952.6	2937.4	2922.3	2914.8	2874.1	2794.0	2677.6	2538.5
25°	2922.3	2934.4	2937.4	2861.9	2871.0	2875.4	2874.1	2845.3	2787.9	2677.6	2541.6
27.5°	2895.2	2901.3	2898.2	2828.7	2845.3	2871.0	2872.5	2866.4	2812.2	2707.8	2583.9
30°	2988.9	2991.8	2954.2	2849.8	2866.4	2899.7	2901.3	2898.2	2863.4	2786.3	2679.1
32.5°	3393.8	3390.8	3260.9	2991.8	2934.4	2946.5	2951.1	2978.3	2981.3	2916.3	2816.6
35°	4010.4	4008.8	3857.7	3398.4	3127.9	3064.4	3070.5	3112.8	3150.6	3106.7	3049.3
37.5°	4688.8	4693.3	4601.1	3978.5	3544.9	3280.5	3274.5	3306.1	3374.2	3389.3	3396.9
40°	5441.3	5463.9	5459.4	4644.9	4129.7	3649.2	3588.7	3552.4	3684.0	3767.0	3874.4
42.5°	6301.1	6295.1	6298.0	5376.3	4797.6	4229.4	4117.7	3948.4	4101.0	4244.5	4480.2
45°	7040.0	7064.1	7082.3	6154.6	5545.6	4892.7	4779.4	4471.2	4608.7	4823.2	5182.9
47.5°	7783.4	7741.1	7774.4	7020.4	6378.1	5649.8	5503.3	5087.7	5216.1	5518.3	6065.4
50°	8649.3	8629.7	8478.5	8150.6	7384.5	6417.5	6225.6	5731.4	5918.8	6322.3	7154.9
52.5°	9425.9	9320.2	9202.4	9039.1	8374.2	7194.1	6950.8	6400.9	6745.3	7245.5	8507.3
55°	9710.0	9639.0	9781.0	9992.7	9421.4	7985.9	7713.9	7182.0	7677.6	8301.7	10098.4
57.5°	10012.2	10036.4	10356.8	10784.4	10412.6	8830.6	8536.0	8106.8	8700.7	9483.3	11876.9
60°	10163.3	10260.1	10899.2	11701.5	11355.6	9756.9	9474.3	9169.0	9835.4	10789.0	13650.9
62.5°	10189.1	10319.0	11224.1	12023.4	12653.6	11175.8	10849.3	10518.5	11252.8	12232.0	14935.3
65°	9717.6	9917.0	11195.4	12419.4	13836.7	13546.6	13339.6	12762.3	13150.7	13502.8	15154.4
67.5°	8332.0	8549.5	10087.8	12256.1	14785.6	16006.6	15967.2	15115.0	14616.3	13993.8	13530.0
70°	6115.2	6290.5	7768.4	10477.6	14371.6	17937.7	18007.2	16639.7	15025.9	12951.3	10060.6
71°	4945.7	5096.8	6490.0	9302.0	13564.7	18037.5	18182.5	16707.7	14599.8	12009.9	8422.6
72.5°	3078.1	3162.6	4309.5	7020.4	11680.5	17009.9	17254.8	15837.3	13257.9	10151.3	5953.5
75°	1162.0	1195.3	1598.7	3096.2	6972.1	12779.0	13075.2	11969.1	9314.2	5794.9	2491.7
77.5°	624.1	640.7	793.3	1287.4	2794.0	7325.7	7706.4	6826.9	4468.1	2027.9	1018.4
80°	418.6	429.2	548.5	763.0	1284.4	2789.4	3106.7	2741.1	1672.8	1157.5	725.3
82.5°	270.5	276.5	373.2	501.7	829.6	980.7	1119.7	1169.5	1044.2	829.6	438.2
85°	178.3	182.8	246.3	320.3	513.7	483.6	495.6	648.2	711.8	547.0	223.7
87.5°	102.7	105.8	148.0	164.7	231.2	181.4	196.4	308.2	423.1	356.6	128.5
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°	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8	2772.8
2.5°	2738.0	2725.9	2698.7	2682.1	2674.5	2671.5	2668.5	2674.5	2674.5	2671.5	2665.5
5°	2688.3	2665.5	2620.1	2588.5	2571.9	2567.3	2573.3	2580.9	2585.4	2585.4	2580.9
7.5°	2651.9	2618.6	2558.2	2514.4	2488.7	2481.2	2497.7	2525.0	2543.1	2552.2	2553.7
10°	2621.6	2576.4	2509.9	2464.6	2443.4	2440.3	2461.5	2496.2	2534.0	2550.6	2553.7
12.5°	2594.5	2543.1	2470.6	2428.3	2413.1	2420.7	2449.4	2481.2	2525.0	2549.1	2550.6
15°	2568.8	2515.9	2438.8	2395.1	2392.0	2404.1	2431.2	2457.0	2490.2	2520.4	2520.4
17.5°	2538.5	2481.2	2401.1	2360.2	2360.2	2370.8	2389.0	2402.6	2423.7	2452.5	2450.9
20°	2502.2	2443.4	2361.7	2319.5	2310.4	2304.4	2304.4	2307.3	2325.5	2351.2	2355.7
22.5°	2475.2	2414.6	2328.6	2277.2	2236.3	2197.1	2180.5	2174.4	2190.9	2215.2	2221.2
25°	2475.2	2414.6	2317.9	2231.8	2132.0	2056.6	2024.8	2015.8	2032.3	2055.0	2064.1
27.5°	2515.9	2455.5	2342.1	2190.9	2008.1	1887.4	1849.5	1842.0	1857.1	1875.2	1884.2
30°	2611.1	2552.2	2411.7	2144.2	1870.7	1712.0	1669.7	1662.2	1669.7	1677.2	1687.8
32.5°	2769.7	2719.9	2525.0	2101.9	1731.6	1553.3	1502.0	1489.9	1492.9	1494.4	1503.5
35°	3028.1	3005.5	2676.1	2052.0	1600.2	1423.4	1370.5	1346.4	1344.9	1352.4	1363.0
37.5°	3424.0	3437.7	2871.0	1979.4	1491.4	1331.3	1278.4	1254.2	1242.1	1257.2	1269.3
40°	3983.1	4014.8	3096.2	1881.2	1402.3	1276.8	1221.0	1198.2	1181.6	1177.2	1183.2
42.5°	4709.9	4700.9	3325.9	1755.8	1305.5	1240.5	1181.6	1157.5	1130.3	1095.6	1088.0
45°	5571.2	5441.3	3517.7	1601.7	1195.3	1205.7	1145.4	1112.1	1069.8	1018.4	1012.4
47.5°	6588.3	6230.1	3635.6	1437.0	1092.5	1160.5	1104.6	1053.3	991.2	957.9	953.5
50°	7813.6	7153.3	3718.7	1269.3	1000.3	1103.1	1047.1	979.2	918.8	909.7	908.2
52.5°	9264.3	8242.8	3821.5	1118.2	927.8	1029.0	989.8	920.2	871.9	876.4	876.4
55°	10807.1	9370.1	3824.5	998.8	864.4	942.9	947.4	891.5	853.8	868.8	873.4
57.5°	12213.9	10355.3	3523.8	914.2	803.9	874.9	933.8	902.2	873.4	926.3	930.8
60°	13440.8	11113.9	2877.1	844.7	754.0	849.2	964.1	967.1	961.1	1104.6	1115.2
62.5°	13889.6	11121.4	2042.9	785.8	726.8	864.4	1027.5	1032.1	1032.1	1165.0	1184.7
65°	13261.1	10195.1	1360.0	751.0	708.6	897.6	1078.9	1059.3	1012.4	1104.6	1083.5
67.5°	11045.8	7936.0	994.3	728.3	683.0	899.1	1124.3	1074.3	994.3	1072.8	1036.6
70°	7591.6	5050.0	832.5	707.1	652.9	859.8	1148.5	1069.8	967.1	1000.3	951.9
71°	6110.7	4030.0	790.3	699.6	640.7	837.2	1151.4	1063.7	953.5	974.6	930.8
72.5°	4025.4	2482.7	738.9	683.0	622.6	797.8	1143.8	1050.2	935.4	936.9	908.2
75°	1588.1	1029.0	664.9	645.1	571.2	734.3	1110.6	1021.5	900.7	870.4	858.2
77.5°	802.4	672.4	584.7	592.3	510.8	669.4	1063.7	974.6	852.2	811.5	802.4
80°	586.2	510.8	500.2	513.7	442.7	606.0	1004.8	911.1	790.3	832.5	814.4
82.5°	356.6	311.3	391.3	424.6	370.2	541.0	935.4	837.2	711.8	655.8	634.7
85°	169.3	182.8	282.6	312.8	273.4	432.1	855.3	755.5	621.0	536.5	545.5
87.5°	83.1	101.3	161.7	187.4	179.8	317.3	645.1	586.2	489.6	403.5	394.4
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)