

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: P197350

Luminaire Tested: **NAV-AF-04-D-UNV-T4W-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197350
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-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 21582 lumens
Efficiency: N/A
Efficacy: 83.7 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

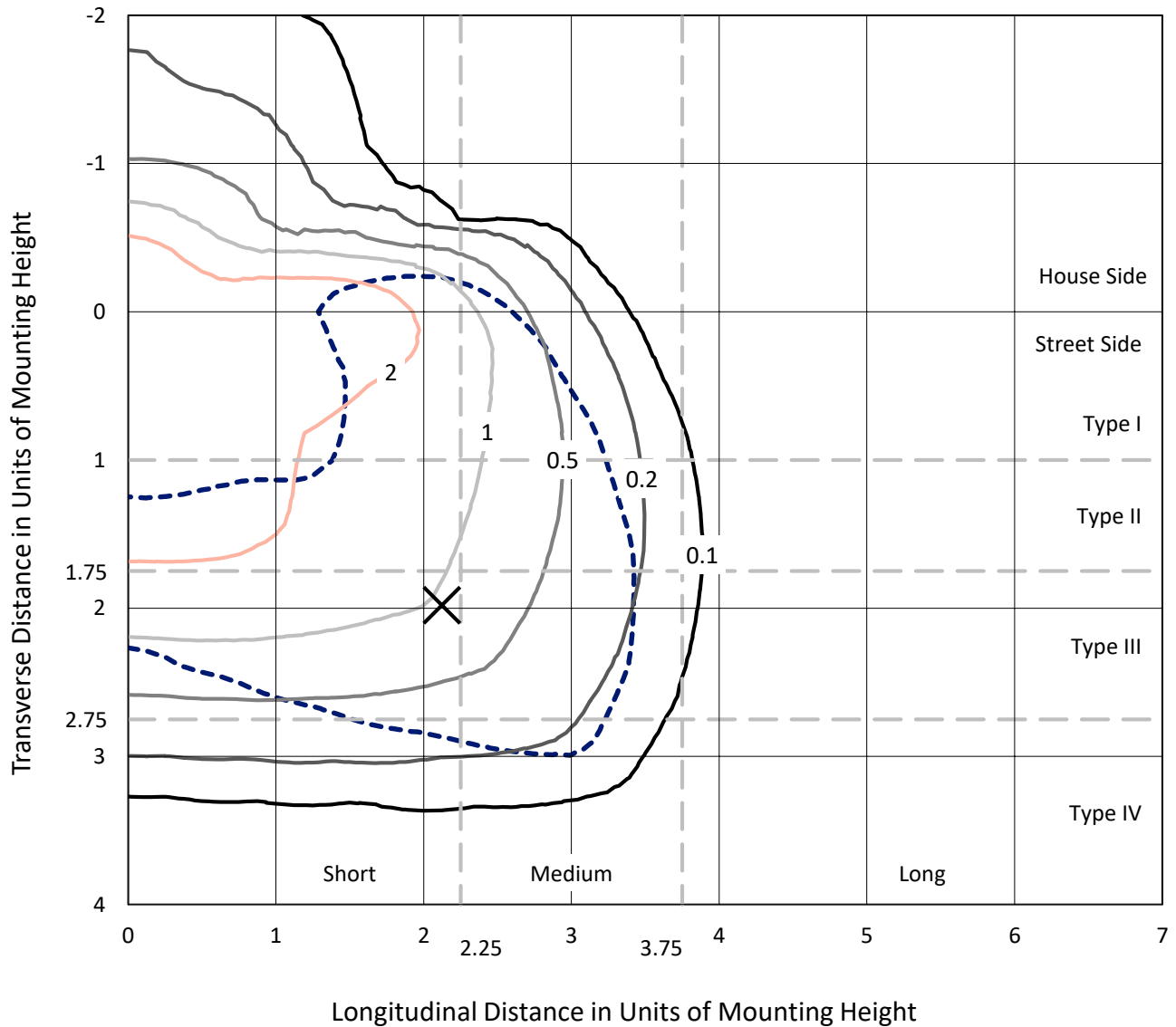
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

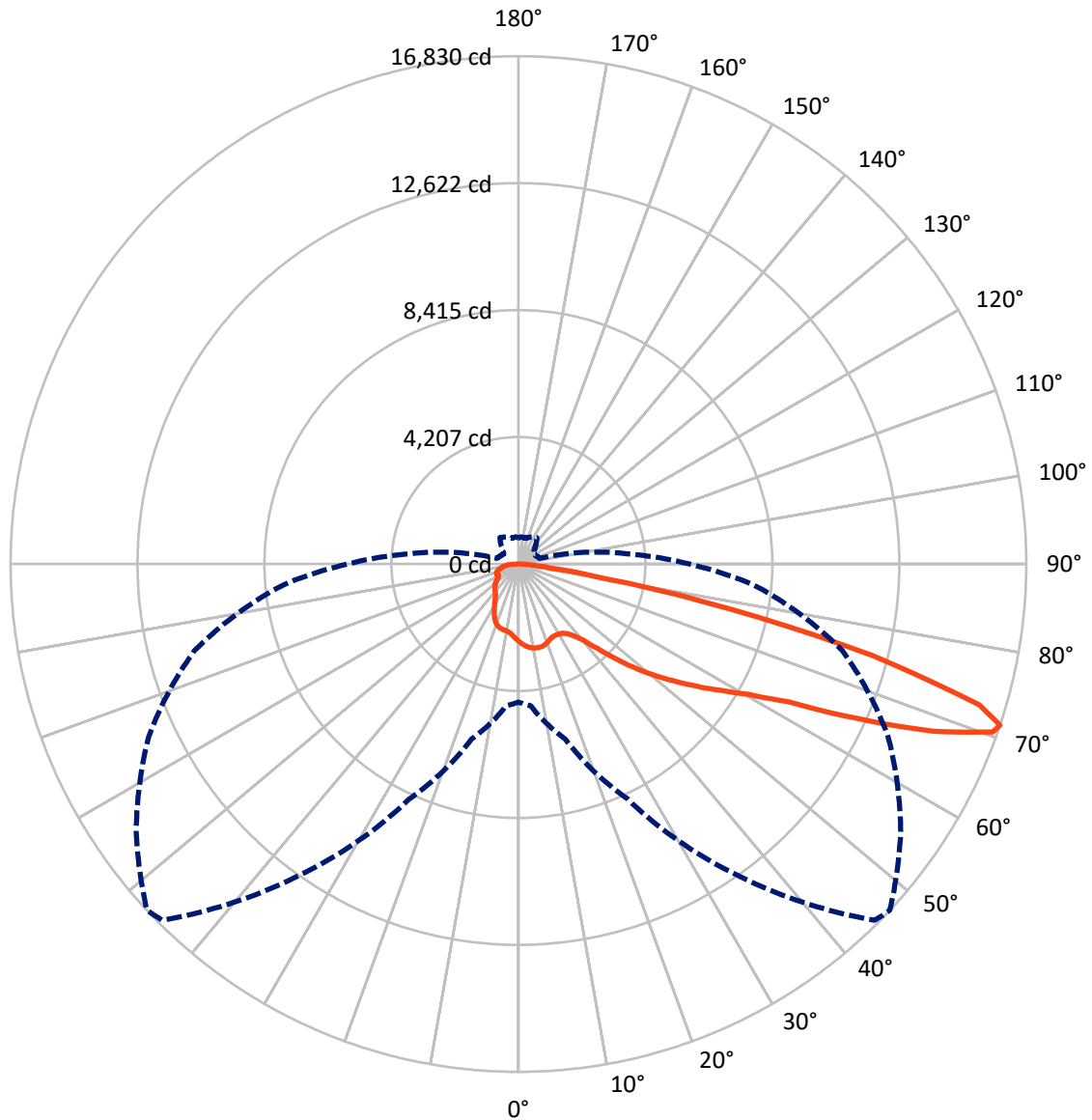
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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	4625.3	0.0	4625.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	16956.7	0.0	16956.7
	% Fixture	78.6	0.0	78.6
Total	Lumens	21582.0	0.0	21582.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.0	1.1
10°-20°	716.9	3.3
20°-30°	1065.3	4.9
30°-40°	1529.6	7.1
40°-50°	2712.0	12.6
50°-60°	4640.6	21.5
60°-70°	6588.1	30.5
70°-80°	3608.2	16.7
80°-90°	476.3	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°	21582.0	100.0
0°-180°	21582.0	100.0



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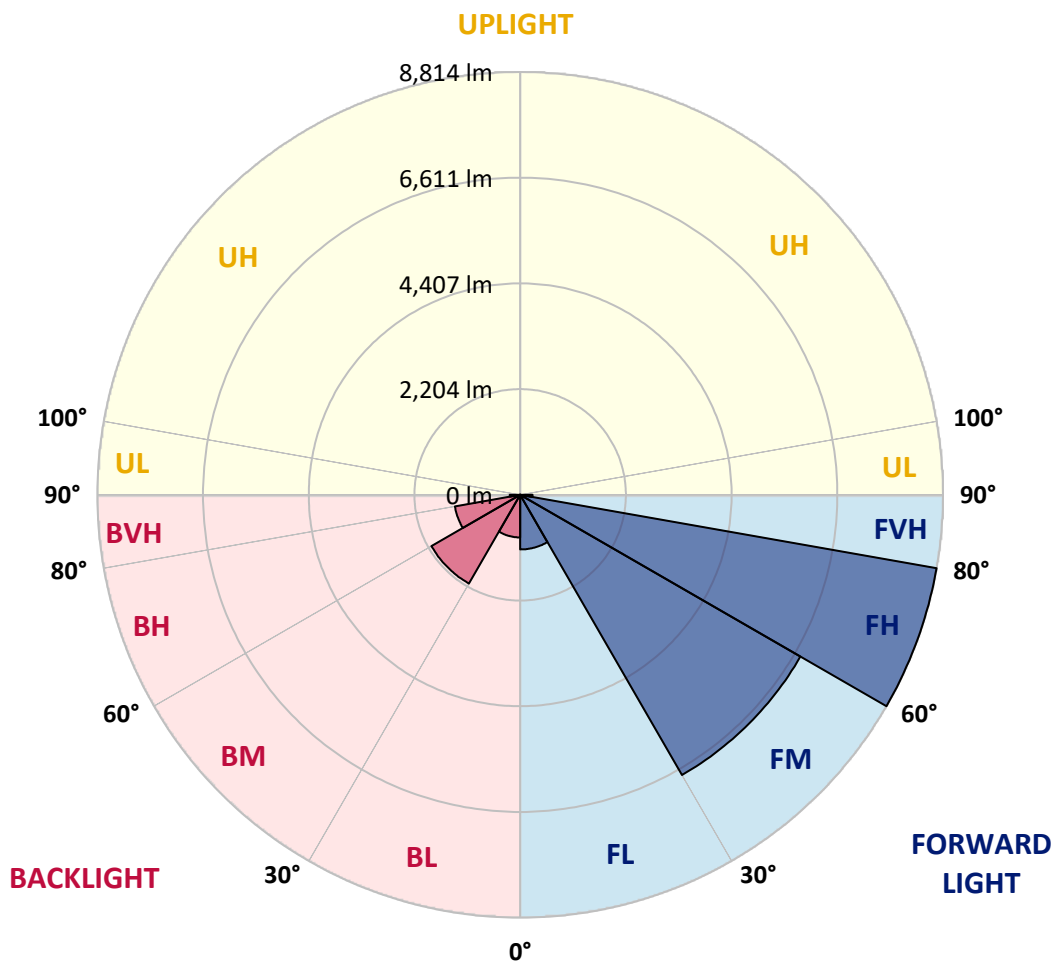
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1139.0	5.3			
FM	(30°-60°)	6745.0	31.3			
FH	(60°-80°)	8814.3	40.8			G4/12000
FVH	(80°-90°)	258.3	1.2			G3/500
BL	(0°-30°)	888.2	4.1	B2/1000		
BM	(30°-60°)	2137.2	9.9	B2/2500		
BH	(60°-80°)	1382.0	6.4	B3/2500		G3/2500
BVH	(80°-90°)	218.0	1.0			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5
2.5°	2723.1	2717.5	2720.3	2710.5	2686.7	2661.6	2661.6	2635.0	2607.0	2579.0	2548.3
5°	2892.3	2883.9	2877.0	2846.2	2800.0	2748.3	2739.9	2686.7	2629.4	2572.1	2516.1
7.5°	3033.6	3025.2	3004.2	2948.3	2881.2	2804.2	2794.4	2724.5	2649.0	2569.3	2490.9
10°	3134.3	3128.7	3088.1	3016.8	2938.5	2847.6	2830.8	2759.5	2670.0	2570.7	2471.4
12.5°	3190.2	3181.9	3132.9	3049.0	2956.7	2864.4	2847.6	2779.1	2677.0	2567.9	2451.8
15°	3167.9	3163.7	3117.5	3032.2	2939.9	2860.2	2846.2	2776.3	2672.8	2558.1	2433.6
17.5°	3072.8	3082.6	3046.2	2962.3	2886.7	2830.8	2815.4	2749.7	2651.8	2534.3	2405.6
20°	2941.3	2952.5	2934.3	2849.0	2805.6	2769.3	2760.9	2707.7	2616.8	2499.3	2372.1
22.5°	2801.4	2811.2	2812.6	2732.9	2718.9	2704.9	2697.9	2660.2	2586.0	2478.3	2349.7
25°	2704.9	2716.1	2718.9	2649.0	2657.4	2661.6	2660.2	2633.6	2580.4	2478.3	2352.5
27.5°	2679.7	2685.3	2682.5	2618.2	2633.6	2657.4	2658.8	2653.2	2602.8	2506.3	2391.6
30°	2766.5	2769.3	2734.3	2637.8	2653.2	2683.9	2685.3	2682.5	2650.4	2579.0	2479.7
32.5°	3141.3	3138.5	3018.2	2769.3	2716.1	2727.3	2731.5	2756.7	2759.5	2699.3	2607.0
35°	3711.9	3710.5	3570.7	3145.5	2895.1	2836.4	2842.0	2881.2	2916.1	2875.6	2822.4
37.5°	4339.9	4344.1	4258.8	3682.6	3281.2	3036.4	3030.8	3060.2	3123.1	3137.1	3144.1
40°	5036.4	5057.4	5053.2	4299.3	3822.4	3377.7	3321.7	3288.1	3409.8	3486.8	3586.1
42.5°	5832.2	5826.6	5829.4	4976.3	4440.6	3914.7	3811.2	3654.6	3795.8	3928.7	4146.9
45°	6516.2	6538.5	6555.3	5696.6	5132.9	4528.7	4423.8	4138.5	4265.8	4464.4	4797.3
47.5°	7204.3	7165.1	7195.9	6498.0	5903.6	5229.4	5093.8	4709.1	4828.0	5107.7	5614.0
50°	8005.7	7987.5	7847.6	7544.1	6835.0	5939.9	5762.3	5305.0	5478.4	5851.8	6622.4
52.5°	8724.6	8626.7	8517.6	8366.5	7751.1	6658.8	6433.6	5924.5	6243.4	6706.4	7874.2
55°	8987.5	8921.8	9053.2	9249.1	8720.4	7391.7	7139.9	6647.6	7106.4	7684.0	9347.0
57.5°	9267.2	9289.6	9586.1	9981.9	9637.9	8173.5	7900.8	7503.6	8053.2	8777.7	10993.1
60°	9407.1	9496.6	10088.2	10830.9	10510.6	9030.9	8769.3	8486.8	9103.6	9986.1	12635.1
62.5°	9430.9	9551.2	10388.9	11128.8	11712.0	10344.2	10042.1	9735.8	10415.5	11321.8	13823.9
65°	8994.5	9179.1	10362.3	11495.2	12807.1	12538.6	12347.0	11812.7	12172.2	12498.0	14026.7
67.5°	7712.0	7913.4	9337.2	11344.2	13685.5	14815.5	14779.2	13990.4	13528.8	12952.6	12523.2
70°	5660.2	5822.4	7190.3	9698.0	13302.2	16603.0	16667.3	15401.6	13907.8	11987.5	9312.0
71°	4577.7	4717.5	6007.1	8609.9	12555.4	16695.3	16829.6	15464.5	13513.4	11116.2	7795.9
72.5°	2849.0	2927.3	3988.9	6498.0	10811.3	15744.2	15970.8	14658.9	12271.5	9395.9	5510.5
75°	1075.5	1106.3	1479.7	2865.8	6453.2	11828.1	12102.2	11078.4	8621.1	5363.7	2306.3
77.5°	577.6	593.0	734.3	1191.6	2586.0	6780.5	7132.9	6318.9	4135.7	1876.9	942.7
80°	387.4	397.2	507.7	706.3	1188.8	2581.8	2875.6	2537.1	1548.3	1071.3	671.3
82.5°	250.4	255.9	345.5	464.3	767.8	907.7	1036.4	1082.5	966.4	767.8	405.6
85°	165.0	169.2	228.0	296.5	475.5	447.6	458.7	600.0	658.7	506.3	207.0
87.5°	95.1	97.9	137.1	152.4	214.0	167.8	181.8	285.3	391.6	330.1	118.9
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°	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5	2566.5
2.5°	2534.3	2523.1	2497.9	2482.5	2475.6	2472.8	2470.0	2475.6	2475.6	2472.8	2467.2
5°	2488.1	2467.2	2425.2	2395.8	2380.4	2376.2	2381.8	2388.8	2393.0	2393.0	2388.8
7.5°	2454.6	2423.8	2367.9	2327.3	2303.5	2296.5	2311.9	2337.1	2353.9	2362.3	2363.7
10°	2426.6	2384.6	2323.1	2281.1	2261.6	2258.8	2278.3	2310.5	2345.5	2360.9	2363.7
12.5°	2401.4	2353.9	2286.7	2247.6	2233.6	2240.6	2267.2	2296.5	2337.1	2359.5	2360.9
15°	2377.6	2328.7	2257.4	2216.8	2214.0	2225.2	2250.4	2274.2	2304.9	2332.9	2332.9
17.5°	2349.7	2296.5	2222.4	2184.6	2184.6	2194.4	2211.2	2223.8	2243.4	2270.0	2268.6
20°	2316.1	2261.6	2186.0	2146.9	2138.5	2132.9	2132.9	2135.7	2152.5	2176.2	2180.4
22.5°	2290.9	2235.0	2155.3	2107.7	2070.0	2033.6	2018.2	2012.6	2028.0	2050.4	2056.0
25°	2290.9	2235.0	2145.5	2065.8	1973.4	1903.5	1874.1	1865.8	1881.1	1902.1	1910.5
27.5°	2328.7	2272.8	2167.9	2028.0	1858.8	1746.9	1711.9	1704.9	1718.9	1735.7	1744.1
30°	2416.8	2362.3	2232.2	1984.6	1731.5	1584.6	1545.5	1538.5	1545.5	1552.5	1562.3
32.5°	2563.7	2517.5	2337.1	1945.5	1602.8	1437.8	1390.2	1379.0	1381.8	1383.2	1391.6
35°	2802.8	2781.8	2476.9	1899.3	1481.1	1317.5	1268.5	1246.2	1244.8	1251.8	1261.6
37.5°	3169.3	3181.9	2657.4	1832.2	1380.4	1232.2	1183.2	1160.9	1149.7	1163.6	1174.8
40°	3686.8	3716.1	2865.8	1741.3	1297.9	1181.8	1130.1	1109.1	1093.7	1089.5	1095.1
42.5°	4359.5	4351.1	3078.4	1625.2	1208.4	1148.3	1093.7	1071.3	1046.2	1014.0	1007.0
45°	5156.7	5036.4	3256.0	1482.5	1106.3	1116.1	1060.2	1029.4	990.2	942.7	937.1
47.5°	6098.0	5766.5	3365.1	1330.1	1011.2	1074.1	1022.4	974.8	917.5	886.7	882.5
50°	7232.2	6621.1	3442.0	1174.8	925.9	1021.0	969.2	906.3	850.4	842.0	840.6
52.5°	8574.9	7629.5	3537.1	1035.0	858.8	952.5	916.1	851.8	807.0	811.2	811.2
55°	10002.9	8672.8	3539.9	924.5	800.0	872.7	876.9	825.2	790.2	804.2	808.4
57.5°	11305.0	9584.7	3261.6	846.2	744.1	809.8	864.3	835.0	808.4	857.4	861.5
60°	12440.7	10286.8	2663.0	781.8	697.9	786.0	892.3	895.1	889.5	1022.4	1032.2
62.5°	12856.1	10293.8	1890.9	727.3	672.7	800.0	951.1	955.3	955.3	1078.3	1096.5
65°	12274.3	9436.5	1258.8	695.1	656.0	830.8	998.6	980.4	937.1	1022.4	1002.8
67.5°	10223.9	7345.5	920.3	674.1	632.2	832.2	1040.6	994.4	920.3	993.0	959.5
70°	7026.6	4674.2	770.6	654.6	604.2	795.8	1062.9	990.2	895.1	925.9	881.1
71°	5656.0	3730.1	731.5	647.6	593.0	774.8	1065.7	984.6	882.5	902.1	861.5
72.5°	3725.9	2297.9	683.9	632.2	576.2	738.5	1058.8	972.0	865.7	867.1	840.6
75°	1469.9	952.5	615.4	597.2	528.7	679.7	1028.0	945.5	833.6	805.6	794.4
77.5°	742.7	622.4	541.3	548.3	472.7	619.6	984.6	902.1	788.8	751.1	742.7
80°	542.7	472.7	462.9	475.5	409.8	560.8	930.1	843.4	731.5	770.6	753.9
82.5°	330.1	288.1	362.2	393.0	342.7	500.7	865.7	774.8	658.7	607.0	587.4
85°	156.6	169.2	261.5	289.5	253.1	400.0	791.6	699.3	574.8	496.5	504.9
87.5°	76.9	93.7	149.7	173.4	166.4	293.7	597.2	542.7	453.2	373.4	365.0
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)