

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: P196124

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196124
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-02-D-UNV-SL3-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11603.3 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G2

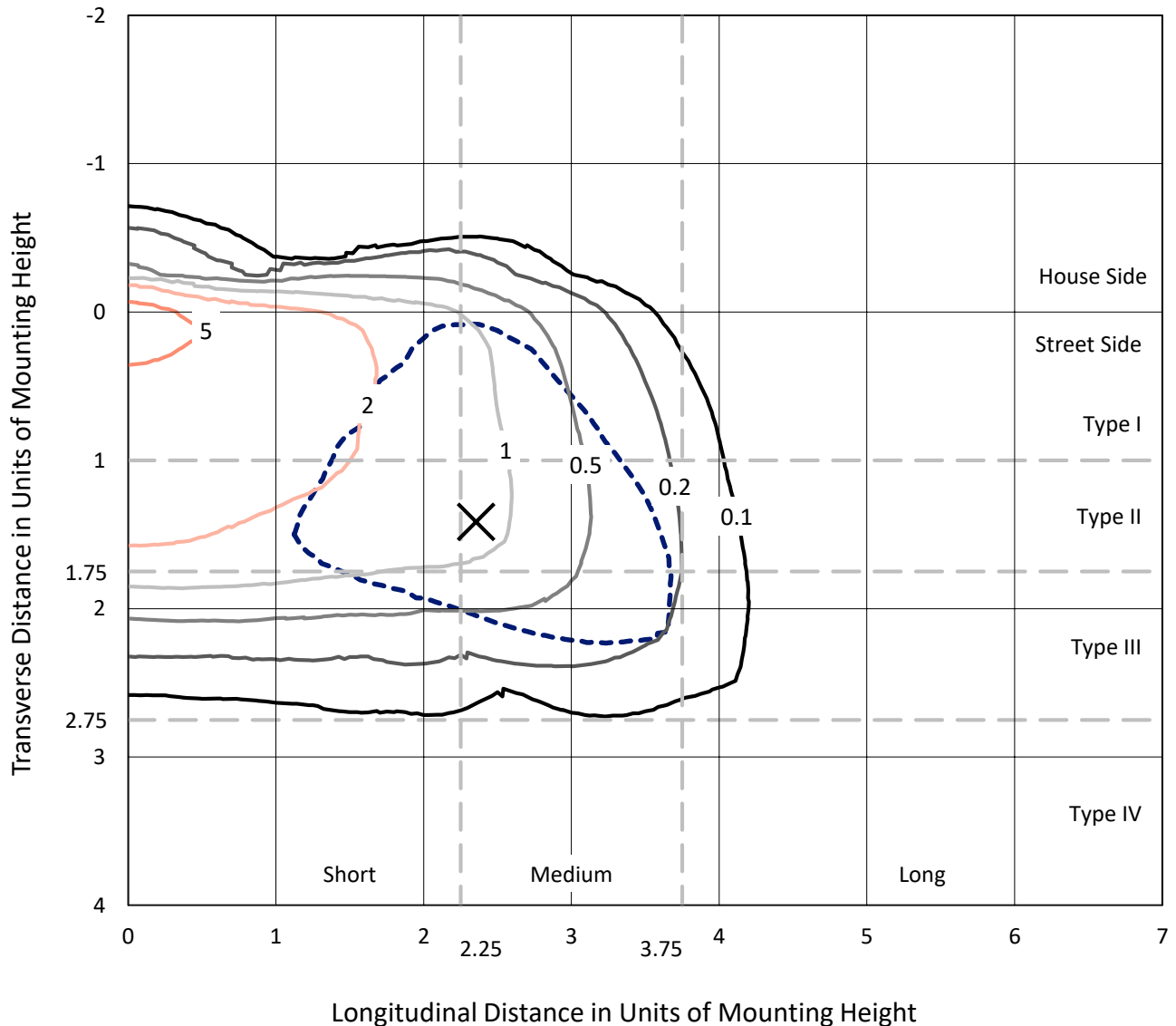
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

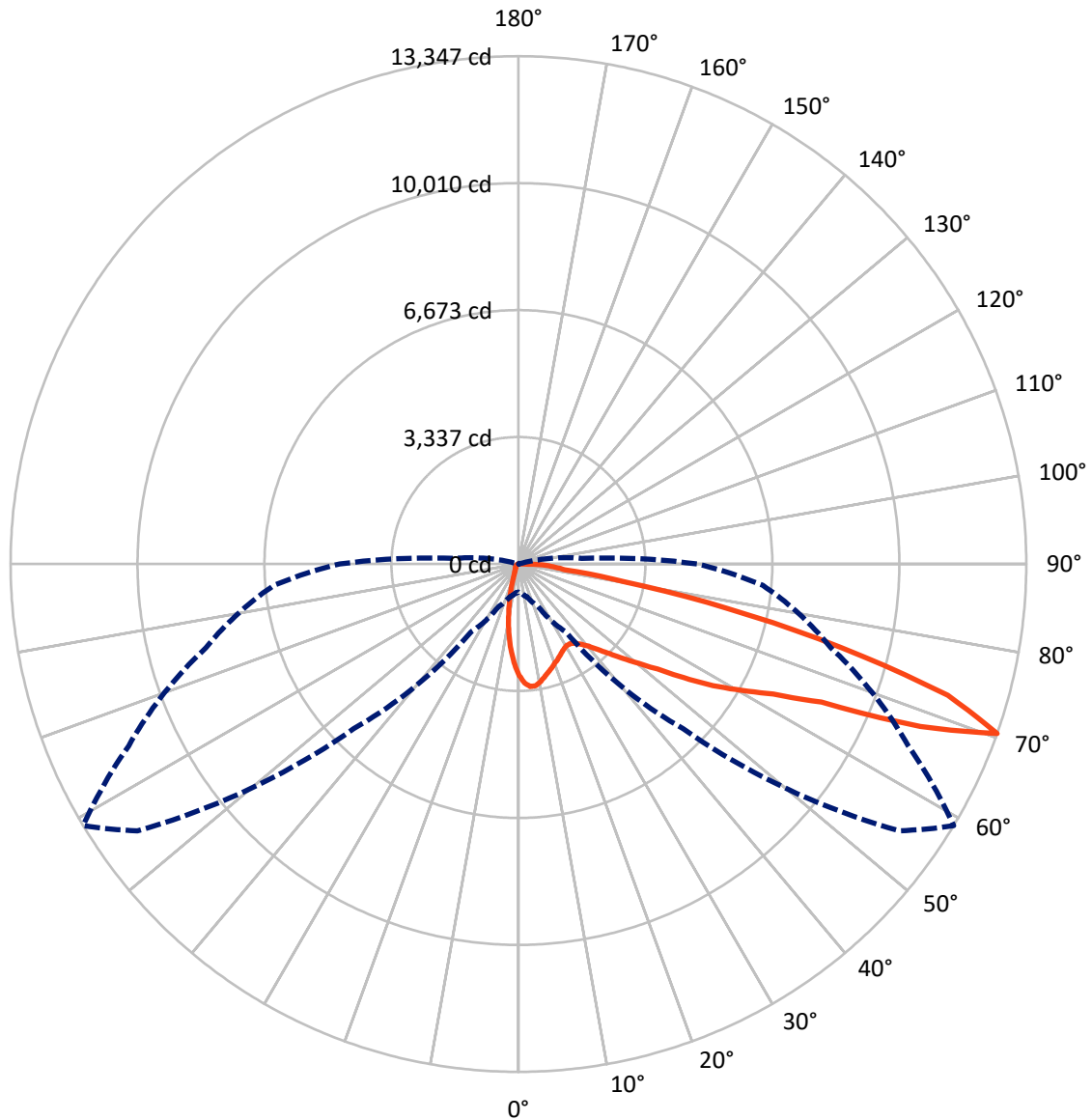
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.8 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	892.0	0.0	892.0
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	10711.3	0.0	10711.3
	% Fixture	92.3	0.0	92.3
Total	Lumens	11603.3	0.0	11603.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.3	2.1
10°-20°	506.0	4.4
20°-30°	685.0	5.9
30°-40°	988.6	8.5
40°-50°	1641.8	14.1
50°-60°	2511.3	21.6
60°-70°	3123.5	26.9
70°-80°	1726.7	14.9
80°-90°	179.0	1.5
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°	11603.3	100.0
0°-180°	11603.3	100.0

Coefficient of Utilization



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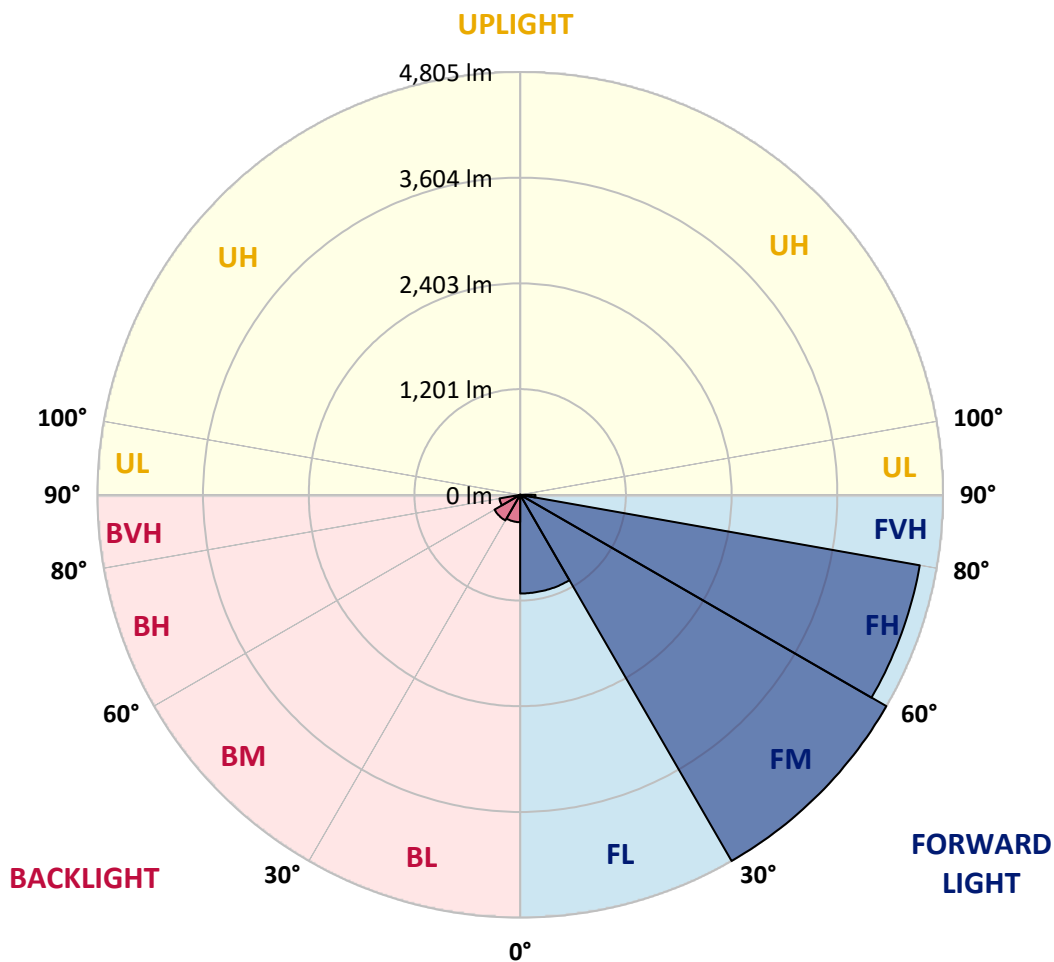
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1121.5	9.7			
FM	(30°-60°)	4805.1	41.4			
FH	(60°-80°)	4610.9	39.7			G2/5000
FVH	(80°-90°)	173.9	1.5			G2/225
BL	(0°-30°)	310.8	2.7	B1/500		
BM	(30°-60°)	336.7	2.9	B1/1000		
BH	(60°-80°)	239.3	2.1	B1/500		G1/500
BVH	(80°-90°)	5.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0
2.5°	3316.6	3311.3	3289.4	3285.1	3260.6	3211.6	3154.7	3131.9	3085.5	3012.0	2930.5
5°	3371.7	3374.3	3376.1	3366.4	3363.0	3322.7	3259.6	3232.5	3170.4	3049.6	2900.8
7.5°	3165.1	3172.2	3194.1	3203.7	3245.7	3261.5	3248.3	3230.8	3181.8	3039.1	2829.9
10°	2947.2	2960.3	2983.9	2999.7	3051.4	3093.4	3146.8	3151.1	3140.7	3004.1	2750.2
12.5°	2759.9	2772.1	2798.4	2829.9	2882.5	2936.7	3016.4	3044.4	3079.4	2981.3	2693.3
15°	2598.8	2602.3	2627.7	2667.1	2736.3	2810.7	2905.2	2946.3	3014.6	2972.6	2649.5
17.5°	2457.8	2458.8	2475.4	2511.2	2595.3	2693.3	2803.6	2857.9	2944.6	2960.3	2611.1
20°	2365.1	2364.2	2365.1	2384.4	2458.8	2575.2	2709.1	2766.0	2877.2	2945.5	2571.7
22.5°	2333.6	2329.3	2309.1	2302.0	2349.3	2451.8	2611.9	2686.4	2816.8	2941.1	2542.7
25°	2372.1	2369.5	2326.6	2286.3	2290.7	2354.6	2513.1	2604.0	2769.5	2956.8	2535.8
27.5°	2496.4	2491.2	2425.5	2346.8	2296.8	2308.2	2439.5	2534.9	2731.9	2995.3	2545.4
30°	2659.3	2660.1	2590.1	2494.7	2377.3	2312.6	2400.1	2490.3	2706.5	3053.1	2566.5
32.5°	2840.4	2839.5	2789.6	2679.3	2529.7	2393.1	2417.6	2493.7	2710.0	3138.0	2606.7
35°	3027.7	3018.1	3001.4	2904.3	2729.2	2534.1	2497.3	2553.3	2746.7	3250.0	2675.0
37.5°	3243.9	3240.4	3257.1	3154.7	2976.1	2741.5	2637.4	2675.0	2839.5	3415.5	2785.3
40°	3587.9	3568.7	3576.5	3437.4	3254.4	3020.7	2833.4	2843.0	2987.4	3634.3	2959.5
42.5°	4243.5	4165.7	4019.5	3758.6	3560.8	3330.6	3089.8	3073.3	3196.6	3899.6	3188.7
45°	5027.0	4937.7	4569.1	4113.1	3867.2	3663.2	3406.7	3362.1	3454.0	4215.6	3484.7
47.5°	5680.9	5584.5	5096.1	4483.4	4178.8	4006.3	3757.7	3705.2	3762.1	4582.3	3840.1
50°	5904.1	5850.7	5421.7	4791.5	4493.0	4391.4	4198.0	4110.5	4124.5	4977.9	4255.0
52.5°	5801.6	5783.3	5496.1	5002.4	4783.6	4816.9	4680.3	4588.4	4572.7	5410.4	4713.6
55°	5585.4	5576.6	5436.6	5119.8	5040.1	5206.4	5357.0	5277.3	5128.5	5869.9	5092.6
57.5°	5276.4	5309.6	5410.4	5345.5	5355.1	5617.7	5985.4	6026.6	5804.2	6235.8	5373.6
60°	4451.0	4540.3	5001.6	5588.1	6037.0	6302.3	6658.6	6735.6	6376.7	6486.1	5698.3
62.5°	3290.3	3418.1	4075.4	5153.0	6412.6	7603.9	7554.0	7519.8	6922.9	6821.3	6289.2
65°	1932.7	2082.4	2638.2	4026.4	5846.3	8440.7	9225.9	8753.2	7755.3	7518.1	7230.1
67.5°	962.8	963.7	1215.0	2125.3	4320.5	7856.9	11666.2	11393.1	9525.2	8544.8	7601.2
70°	740.5	760.7	899.0	1235.1	2184.8	6119.4	12225.6	13346.8	11303.8	8499.3	6449.3
72.5°	627.6	640.8	800.0	1074.9	1633.3	3359.5	10583.4	11797.5	10786.5	7181.1	4753.9
75°	451.6	462.2	708.1	975.1	1503.8	1666.6	7259.9	8749.7	8093.2	5051.4	2616.3
77.5°	112.0	111.2	246.8	791.3	1345.4	1388.2	4165.7	5610.8	4643.6	2068.4	672.3
80°	49.9	48.2	56.1	166.3	1251.7	1310.4	1832.0	2833.4	1781.3	335.2	205.7
82.5°	35.0	33.2	35.0	61.3	418.4	1215.8	1107.2	1228.1	652.1	114.7	87.6
85°	11.4	10.5	19.2	51.7	117.3	701.1	1080.1	917.4	484.9	49.0	58.6
87.5°	1.7	1.7	7.0	28.0	34.2	233.7	633.7	635.5	218.0	28.8	26.3
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°	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0
2.5°	2889.4	2837.8	2765.1	2692.5	2626.8	2559.4	2505.2	2479.7	2468.4	2452.6	2418.5
5°	2822.9	2729.2	2570.0	2413.2	2267.1	2127.0	2007.1	1938.8	1865.4	1861.8	1825.9
7.5°	2716.1	2583.1	2331.8	2088.6	1865.4	1651.8	1467.9	1348.9	1267.4	1216.7	1181.7
10°	2597.1	2426.3	2093.8	1751.5	1447.8	1162.4	926.1	772.0	678.4	631.1	604.0
12.5°	2502.5	2288.0	1859.2	1428.6	1047.7	720.4	500.6	388.6	338.7	319.5	310.8
15°	2421.1	2161.2	1639.5	1139.7	699.4	414.0	289.7	253.0	245.1	245.1	244.2
17.5°	2338.9	2038.6	1425.9	856.1	440.3	271.4	228.4	223.2	224.1	226.7	226.7
20°	2260.9	1922.2	1220.2	610.1	288.9	217.1	207.5	205.7	208.4	211.9	210.9
22.5°	2197.9	1819.8	1027.7	419.3	222.3	196.9	190.8	188.2	190.0	192.5	191.7
25°	2153.3	1732.3	850.8	292.4	193.4	179.4	172.5	168.9	167.2	168.9	168.1
27.5°	2126.1	1658.7	684.5	219.7	173.3	161.9	153.1	146.2	141.8	141.8	140.0
30°	2108.6	1589.6	536.5	182.1	156.7	144.4	132.2	122.5	115.5	113.8	112.9
32.5°	2107.8	1530.0	400.9	161.0	141.0	126.9	112.0	99.7	91.9	90.1	89.3
35°	2129.7	1481.9	295.0	145.3	126.9	110.3	93.7	80.5	73.6	73.6	72.6
37.5°	2186.6	1453.9	223.2	133.1	115.5	96.3	78.8	66.5	60.4	62.2	62.2
40°	2292.4	1448.6	182.1	123.5	105.9	84.0	63.9	54.3	51.7	54.3	54.3
42.5°	2454.4	1476.6	161.9	116.4	97.2	71.8	53.4	46.4	45.5	48.2	48.2
45°	2665.3	1531.8	150.6	110.3	87.6	59.5	44.6	40.3	39.4	42.9	42.9
47.5°	2920.9	1606.2	140.0	103.3	77.9	49.0	37.6	34.2	34.2	37.6	38.5
50°	3223.8	1706.9	129.5	96.3	70.1	41.1	31.5	28.8	29.8	33.2	34.2
52.5°	3572.1	1830.3	119.9	90.1	61.3	33.2	26.3	24.6	25.4	28.8	29.8
55°	3872.4	1938.0	108.5	84.0	49.9	27.1	21.9	21.0	21.9	26.3	26.3
57.5°	4134.2	2041.2	98.0	74.4	39.4	21.9	17.5	17.5	19.2	23.6	24.6
60°	4481.6	2204.0	89.3	63.0	29.8	16.7	14.0	14.8	17.5	21.0	21.9
62.5°	5097.0	2480.7	77.9	52.5	21.9	13.1	11.4	12.3	15.8	20.2	21.0
65°	5867.2	2742.3	64.8	43.8	16.7	9.6	8.8	11.4	15.8	20.2	21.0
67.5°	5788.5	2385.2	50.7	35.0	12.3	7.9	7.0	10.5	14.8	20.2	21.0
70°	4694.3	1671.8	37.6	23.6	9.6	7.0	7.0	10.5	14.8	19.2	20.2
72.5°	3256.2	930.5	28.8	15.8	8.8	7.0	6.1	9.6	14.0	19.2	20.2
75°	1549.4	285.4	22.7	11.4	7.9	6.1	5.2	9.6	14.0	19.2	20.2
77.5°	297.6	72.6	18.4	9.6	7.0	6.1	5.2	8.8	14.0	18.4	19.2
80°	100.7	32.4	14.8	8.8	7.0	6.1	5.2	8.8	13.1	17.5	18.4
82.5°	55.1	18.4	13.1	7.9	7.0	5.2	4.4	7.9	12.3	17.5	18.4
85°	42.9	13.1	10.5	7.9	7.0	5.2	4.4	7.9	12.3	16.7	17.5
87.5°	21.9	9.6	8.8	7.9	7.0	5.2	4.4	7.0	11.4	15.8	17.5
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)