

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: P270432

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7027-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270432
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7027-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12837.8 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 166
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

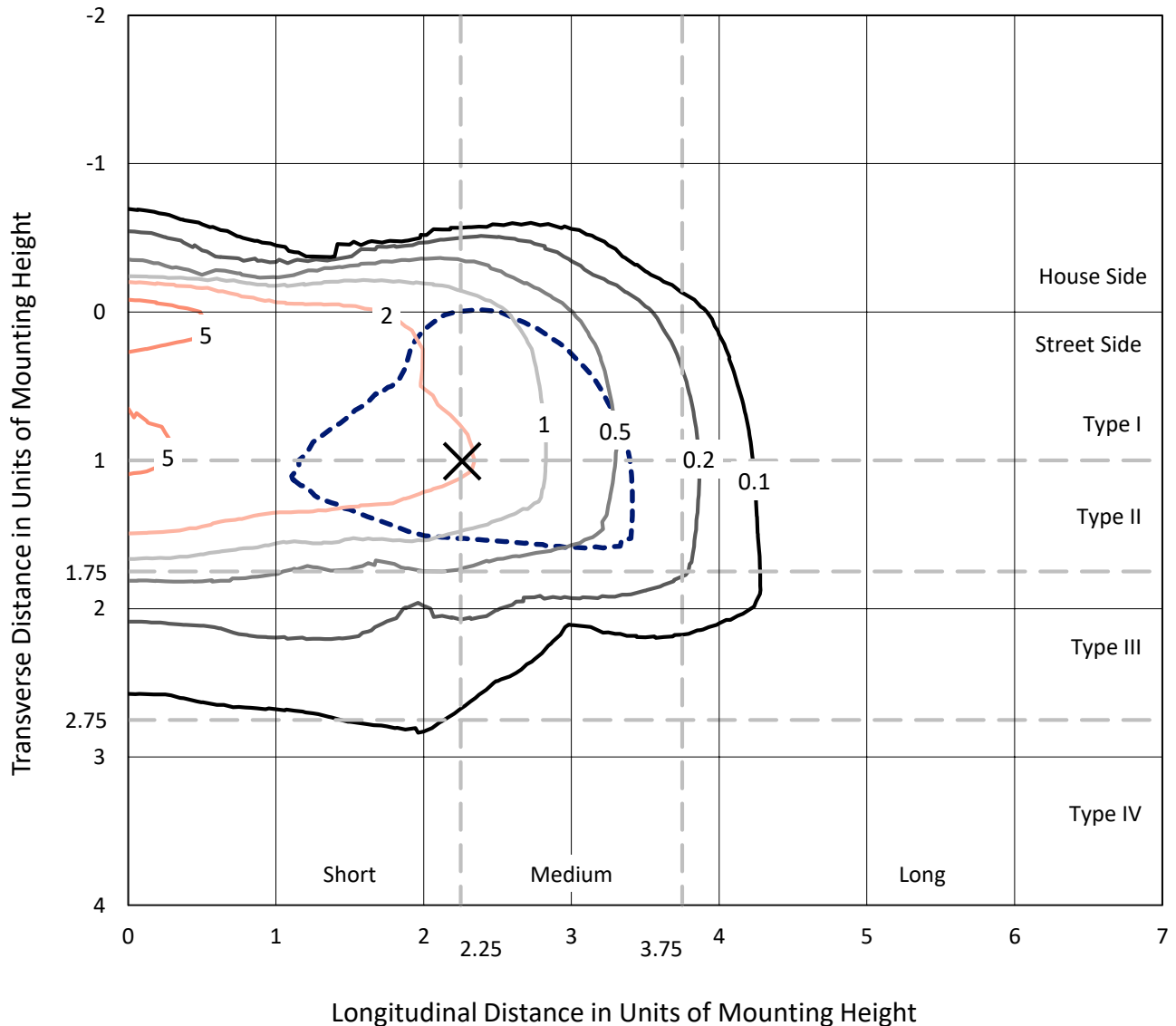


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

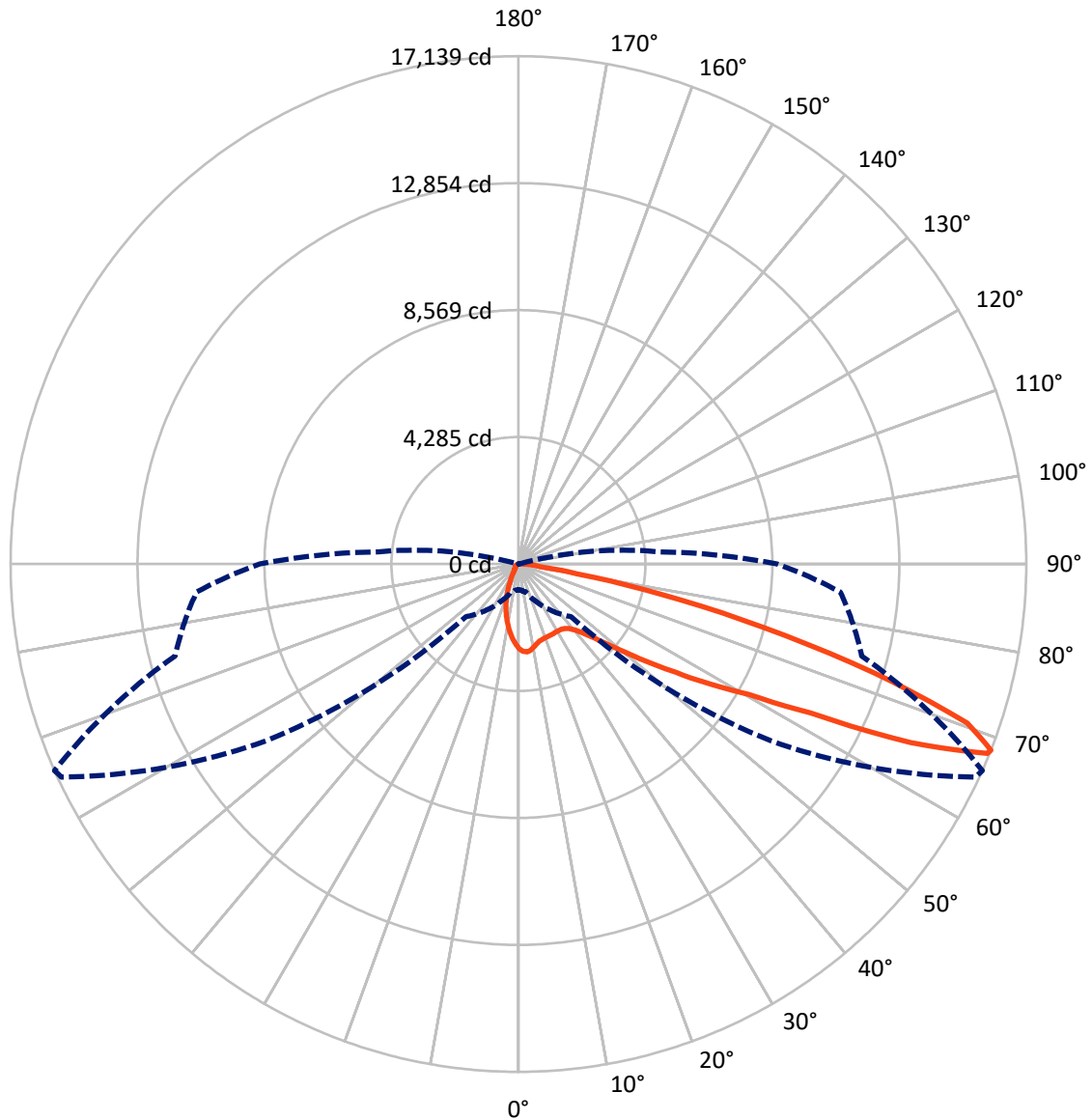


Based on 20 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1300.3	0.0	1300.3
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	11537.4	0.0	11537.4
	% Fixture	89.9	0.0	89.9
Total	Lumens	12837.8	0.0	12837.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.5	1.8
10°-20°	504.5	3.9
20°-30°	731.1	5.7
30°-40°	1119.1	8.7
40°-50°	1914.1	14.9
50°-60°	2994.3	23.3
60°-70°	3447.8	26.9
70°-80°	1725.3	13.4
80°-90°	167.1	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°	12837.8	100.0
0°-180°	12837.8	100.0



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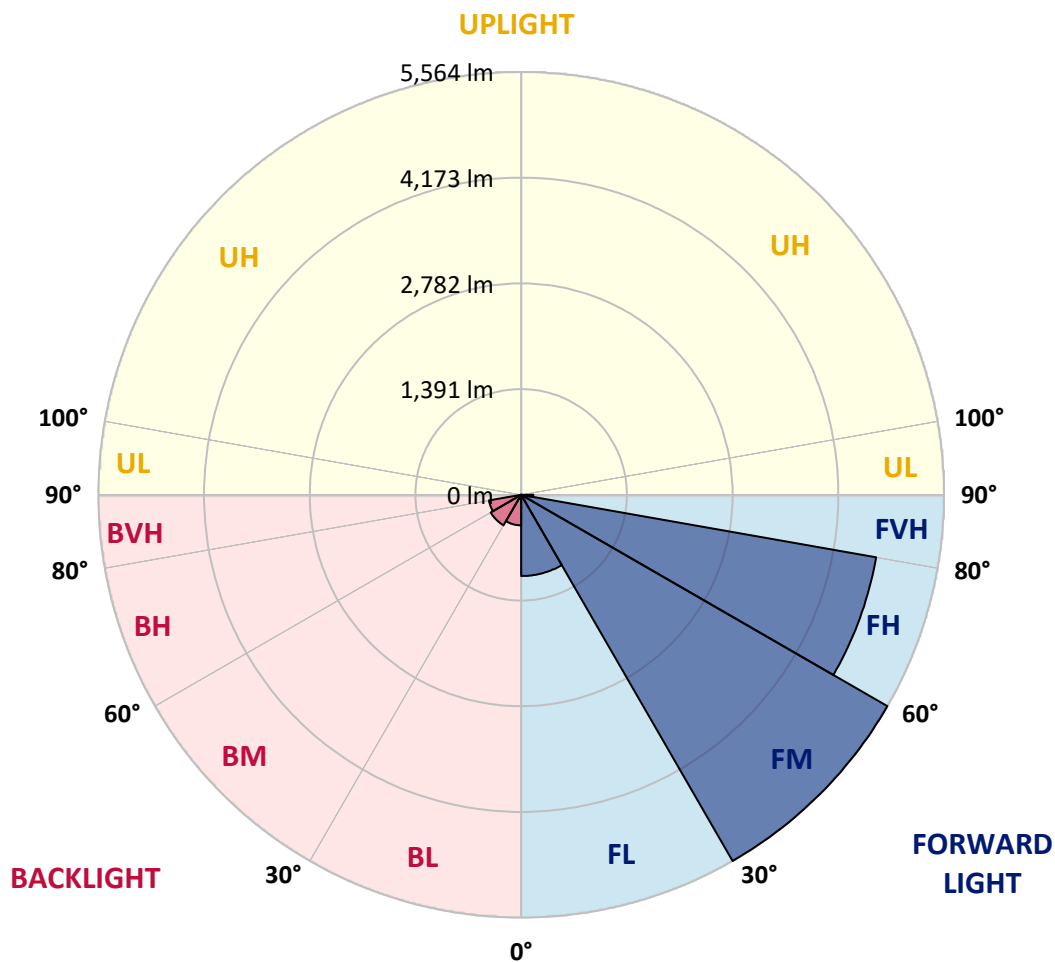
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1068.7	8.3			
FM (30°-60°)	5564.5	43.3			
FH (60°-80°)	4743.5	36.9			G2/5000
FVH (80°-90°)	160.8	1.3			G2/225
BL (0°-30°)	401.3	3.1	B1/500		
BM (30°-60°)	463.1	3.6	B1/1000		
BH (60°-80°)	429.6	3.3	B1/500		G1/500
BVH (80°-90°)	6.3	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2
2.5°	3008.2	3010.3	3009.3	3012.2	3010.3	2995.2	2979.0	2944.9	2947.8	2903.5	2854.1
5°	2796.7	2813.9	2830.9	2848.0	2889.4	2925.6	2969.0	2979.0	2979.0	2940.7	2868.2
7.5°	2581.0	2582.0	2601.1	2624.3	2679.7	2746.3	2847.1	2937.7	2939.8	2949.9	2870.3
10°	2418.7	2423.7	2436.8	2462.1	2517.5	2582.9	2695.9	2837.9	2849.1	2923.7	2850.1
12.5°	2292.7	2298.9	2312.9	2342.2	2392.5	2460.1	2578.9	2741.2	2756.3	2898.4	2844.0
15°	2195.9	2204.0	2215.1	2244.3	2298.9	2370.4	2500.3	2676.7	2694.8	2888.4	2863.2
17.5°	2155.8	2155.8	2154.7	2174.8	2229.2	2301.7	2437.9	2642.5	2665.6	2896.4	2895.3
20°	2172.8	2169.8	2148.7	2143.5	2176.9	2249.4	2388.6	2620.3	2646.4	2911.5	2934.8
22.5°	2263.5	2257.5	2210.1	2170.8	2160.8	2209.1	2355.3	2605.2	2636.3	2942.8	2987.1
25°	2456.0	2437.9	2372.3	2283.8	2204.0	2199.1	2332.0	2597.1	2630.3	2979.0	3044.5
27.5°	2706.0	2700.9	2596.1	2477.2	2323.9	2232.3	2325.1	2591.0	2624.3	3005.3	3090.9
30°	3016.4	3018.3	2897.5	2742.3	2510.5	2326.0	2347.2	2588.0	2622.3	3007.3	3111.1
32.5°	3336.8	3338.8	3238.1	3071.8	2765.4	2487.2	2409.7	2602.1	2633.4	2999.3	3110.1
35°	3645.2	3648.2	3587.8	3453.8	3106.0	2710.9	2527.7	2650.4	2672.6	3004.2	3108.0
37.5°	4035.2	4047.4	3972.8	3847.8	3533.4	3039.5	2720.1	2748.3	2766.4	3045.6	3123.1
40°	4700.4	4684.2	4470.7	4259.0	3996.9	3439.6	2998.3	2916.5	2922.6	3152.4	3180.5
42.5°	5475.3	5455.1	5089.3	4724.5	4473.6	3922.4	3353.9	3174.6	3173.5	3331.8	3305.7
45°	6142.5	6130.5	5745.5	5258.7	5001.8	4455.5	3792.4	3546.5	3534.3	3642.2	3533.4
47.5°	6616.1	6606.1	6314.8	5827.0	5612.4	5042.0	4339.6	4053.3	4028.2	4048.3	3903.2
50°	6662.5	6651.5	6549.7	6236.3	6326.0	5902.8	5015.9	4717.4	4685.3	4653.9	4462.5
52.5°	6229.1	6228.2	6281.6	6261.5	6825.9	7010.3	5845.2	5538.9	5500.6	5420.9	5230.6
55°	5343.4	5338.3	5540.8	5835.2	6814.7	8153.0	7110.1	6516.5	6466.0	6306.8	6056.9
57.5°	3904.3	3878.1	4301.3	4925.0	6336.0	8653.0	9118.5	7730.9	7647.2	7142.2	6757.3
60°	2155.8	2165.8	2709.9	3448.8	5202.3	8554.2	10966.9	9146.8	8927.0	7862.9	7474.8
62.5°	1208.4	1233.6	1638.7	2241.4	3316.6	7753.0	11958.5	11583.6	11054.5	8703.4	8381.8
65°	914.0	929.1	1132.8	1729.3	2091.2	5417.9	12116.8	14991.0	14534.4	9977.3	9826.0
67.5°	860.7	872.8	972.5	1434.1	1904.8	2809.8	10925.5	17006.6	17064.1	11714.6	10944.7
68°	866.8	881.9	981.6	1379.6	1901.7	2513.5	10417.6	17016.8	17138.7	11994.8	10906.4
70°	796.2	800.2	1038.0	1353.4	1843.2	1980.4	7536.3	15850.7	16069.4	12328.3	9900.6
72.5°	304.3	305.3	465.6	1172.1	1930.9	1991.5	3796.3	12527.9	12539.0	10729.0	7718.7
75°	158.2	132.9	146.2	366.9	1844.3	1941.0	1904.8	8554.2	8500.8	7256.1	4729.5
77.5°	108.9	92.7	97.7	127.0	767.0	1940.0	1375.7	4919.1	4908.0	3086.8	1349.4
80°	61.4	53.4	58.5	106.8	269.1	1821.1	1281.9	2114.4	1992.4	542.1	218.6
82.5°	31.3	26.2	31.3	89.7	167.4	1145.9	1246.7	829.5	738.8	128.9	142.1
85°	8.1	8.1	15.1	62.5	103.8	375.9	1117.6	598.6	538.2	56.5	100.8
87.5°	2.1	1.0	6.1	23.1	37.3	81.7	619.8	333.6	287.2	29.3	58.5
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°	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2	2860.2
2.5°	2834.0	2805.8	2750.3	2687.8	2643.4	2595.1	2566.8	2532.6	2506.5	2483.3	2500.3
5°	2823.8	2769.5	2646.4	2508.3	2392.5	2281.7	2199.1	2120.4	2060.9	2023.6	2038.8
7.5°	2797.6	2717.1	2517.5	2301.7	2112.4	1934.1	1788.9	1658.8	1558.1	1503.7	1520.8
10°	2753.3	2639.4	2371.3	2072.0	1807.0	1555.1	1339.4	1145.9	999.8	931.3	947.4
12.5°	2721.1	2570.9	2220.3	1850.2	1501.6	1143.8	857.6	635.9	522.0	453.6	459.6
15°	2707.0	2517.5	2079.0	1616.5	1168.1	734.6	463.5	335.5	296.4	282.2	283.1
17.5°	2709.0	2475.2	1945.1	1373.6	831.4	422.3	284.3	255.9	250.0	246.9	246.9
20°	2714.0	2432.8	1806.0	1120.6	532.2	272.0	236.9	227.8	224.8	220.8	221.7
22.5°	2729.1	2400.6	1665.8	866.8	327.5	221.7	209.7	201.6	196.5	190.5	191.5
25°	2752.2	2376.3	1527.8	623.9	230.8	193.4	182.4	171.3	162.2	155.1	156.2
27.5°	2766.4	2342.2	1380.7	425.3	191.5	169.3	154.1	139.1	128.9	123.0	121.9
30°	2756.3	2286.6	1213.4	279.2	169.3	146.2	128.0	110.9	100.8	95.7	95.7
32.5°	2729.1	2215.1	1029.0	203.6	150.1	126.0	103.8	88.8	81.7	78.6	79.6
35°	2697.9	2140.7	832.4	172.4	135.0	106.8	84.7	72.6	69.6	68.5	68.5
37.5°	2680.7	2076.1	643.9	156.2	120.9	88.8	69.6	62.5	59.5	59.5	59.5
40°	2699.9	2026.7	476.7	144.1	106.8	73.7	58.5	53.4	52.5	52.5	52.5
42.5°	2781.5	2009.6	348.7	134.0	92.7	61.4	50.3	46.4	45.4	46.4	46.4
45°	2940.7	2046.9	264.0	124.0	79.6	50.3	43.4	40.3	40.3	41.3	41.3
47.5°	3210.8	2142.5	216.8	113.8	66.6	42.3	37.3	35.3	35.3	36.3	36.3
50°	3630.1	2320.0	194.6	102.8	55.4	36.3	31.3	30.3	30.3	31.3	32.2
52.5°	4266.9	2657.5	183.4	91.6	45.4	30.3	26.2	25.2	26.2	27.2	27.2
55°	4975.5	3089.9	170.3	80.6	38.3	25.2	21.2	21.2	22.2	24.2	24.2
57.5°	5635.5	3507.2	158.2	66.6	33.2	20.1	17.2	17.2	19.1	21.2	21.2
60°	6333.1	3916.3	142.1	53.4	28.2	16.1	14.2	14.2	17.2	19.1	20.1
62.5°	7194.6	4392.1	120.9	42.3	22.2	12.0	10.2	13.0	16.1	19.1	19.1
65°	8440.4	4983.5	94.7	33.2	17.2	9.1	8.1	12.0	15.1	18.1	19.1
67.5°	8892.9	4908.0	71.5	27.2	13.0	7.0	7.0	11.0	15.1	18.1	18.1
68°	8727.6	4742.7	68.5	26.2	12.0	7.0	7.0	11.0	15.1	18.1	18.1
70°	7604.8	3877.1	56.5	20.1	10.2	6.1	6.1	10.2	15.1	17.2	18.1
72.5°	5694.0	2575.9	48.4	13.0	9.1	6.1	5.0	10.2	14.2	17.2	17.2
75°	3266.2	1069.3	41.3	10.2	8.1	5.0	5.0	9.1	14.2	17.2	17.2
77.5°	923.2	250.0	33.2	8.1	7.0	5.0	4.0	9.1	13.0	16.1	16.1
80°	169.3	74.6	26.2	7.0	6.1	5.0	4.0	9.1	13.0	16.1	16.1
82.5°	111.8	35.3	19.1	7.0	6.1	5.0	4.0	8.1	12.0	15.1	15.1
85°	83.6	25.2	12.0	7.0	6.1	5.0	4.0	8.1	12.0	15.1	15.1
87.5°	46.4	11.0	9.1	8.1	7.0	5.0	4.0	7.0	11.0	14.2	14.2
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)