

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: P196173

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196173
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
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-SL4-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16559.5 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

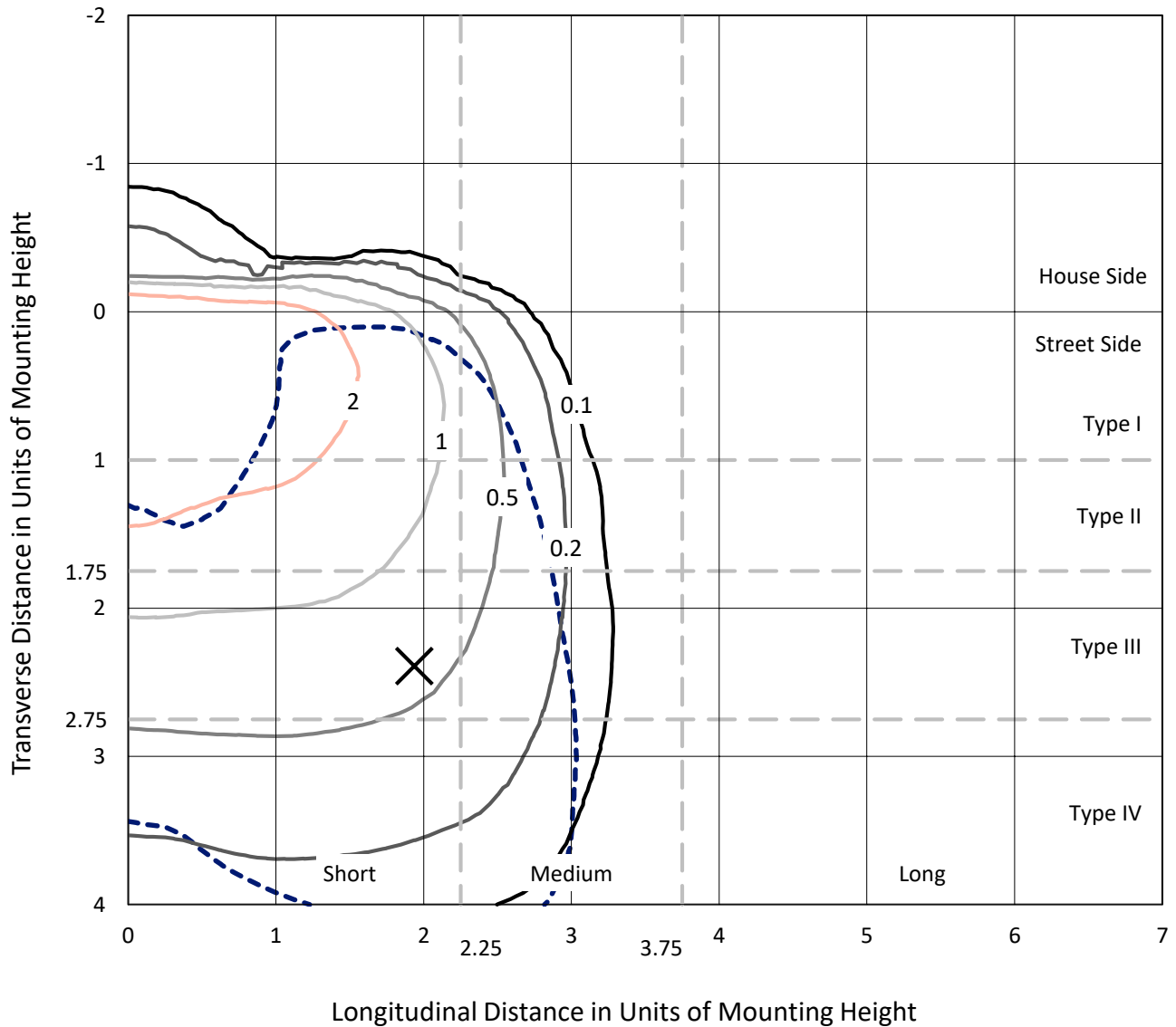
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

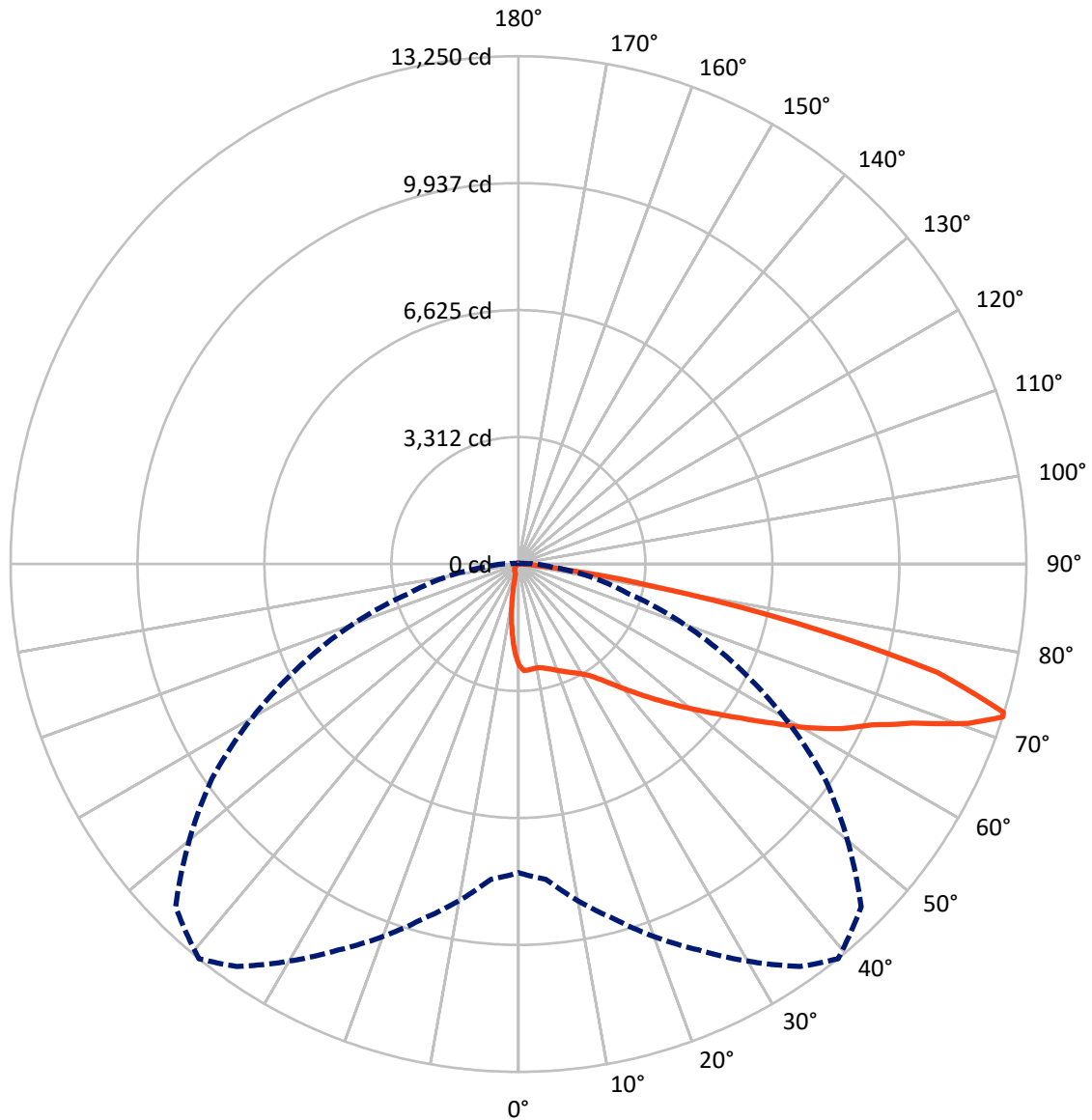
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1085.3	0.0	1085.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15474.3	0.0	15474.3
	% Fixture	93.4	0.0	93.4
Total	Lumens	16559.5	0.0	16559.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.6	1.3
10°-20°	521.9	3.2
20°-30°	866.8	5.2
30°-40°	1381.5	8.3
40°-50°	2280.4	13.8
50°-60°	3443.8	20.8
60°-70°	4486.1	27.1
70°-80°	3031.3	18.3
80°-90°	332.0	2.0
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°	16559.5	100.0
0°-180°	16559.5	100.0

Coefficient of Utilization



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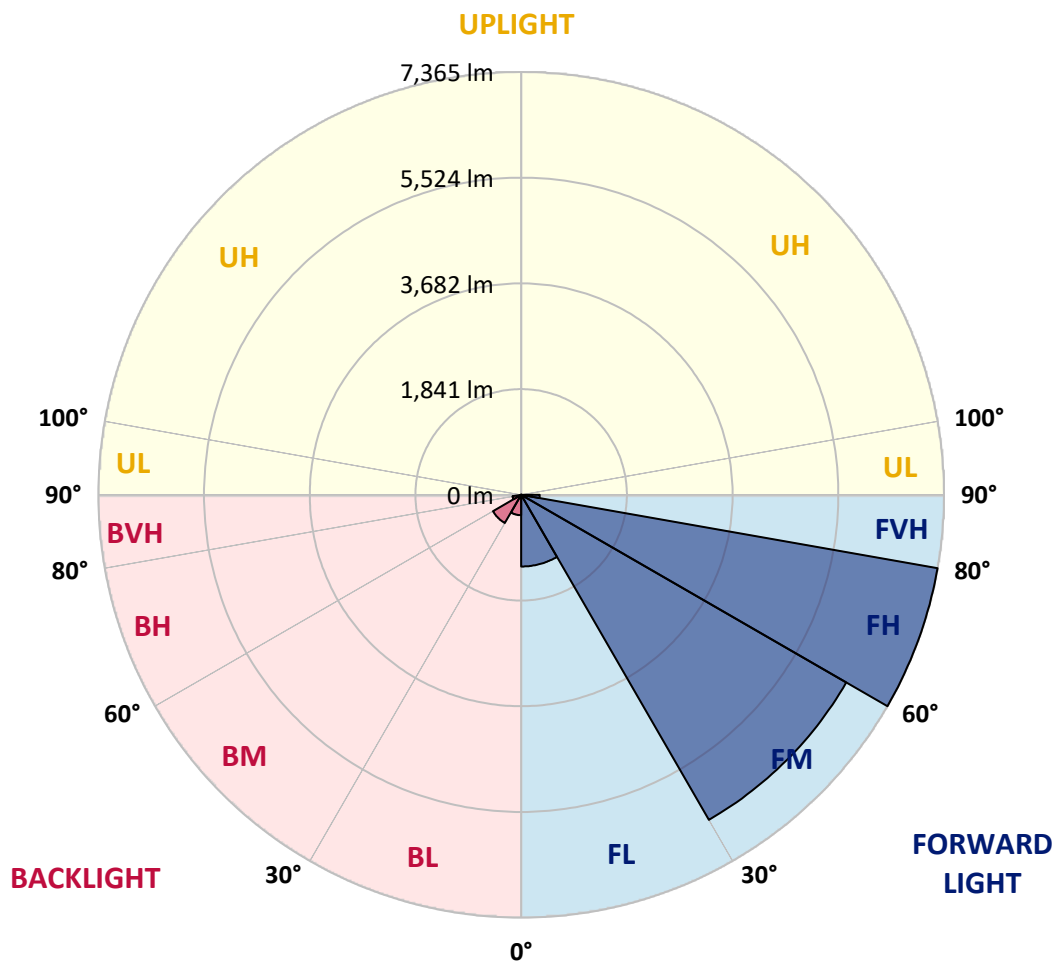
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1249.0	7.5			
FM	(30°-60°)	6537.9	39.5			
FH	(60°-80°)	7364.9	44.5			G3/7500
FVH	(80°-90°)	322.4	1.9			G3/500
BL	(0°-30°)	355.4	2.1	B1/500		
BM	(30°-60°)	567.8	3.4	B1/1000		
BH	(60°-80°)	152.5	0.9	B1/500		G1/500
BVH	(80°-90°)	9.6	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5
2.5°	2822.3	2827.5	2821.0	2809.3	2792.3	2781.9	2767.6	2736.4	2697.3	2663.5	2624.4
5°	2844.4	2847.1	2839.2	2817.1	2791.0	2776.7	2758.5	2724.6	2684.3	2637.5	2567.1
7.5°	2851.0	2849.6	2840.5	2813.2	2772.8	2754.6	2723.4	2681.7	2640.0	2597.1	2517.7
10°	2848.3	2848.3	2841.9	2815.8	2770.3	2753.3	2718.2	2673.9	2621.8	2578.9	2494.3
12.5°	2839.2	2844.4	2840.5	2826.2	2792.3	2779.4	2748.1	2703.9	2654.4	2610.1	2520.2
15°	2851.0	2858.7	2866.5	2861.4	2841.9	2830.1	2801.5	2755.9	2715.5	2668.7	2572.3
17.5°	2897.8	2914.7	2932.9	2934.2	2913.5	2892.6	2860.1	2813.2	2774.1	2731.2	2627.0
20°	2986.3	2999.3	3033.2	3039.7	2998.1	2968.1	2922.6	2867.8	2828.8	2792.3	2677.8
22.5°	3117.9	3132.2	3159.5	3150.4	3080.0	3044.9	2987.6	2925.1	2884.8	2864.0	2736.4
25°	3317.0	3320.9	3327.4	3287.0	3171.1	3132.2	3061.8	2991.5	2959.0	2956.4	2819.7
27.5°	3551.3	3556.5	3527.9	3438.0	3272.7	3222.0	3142.5	3078.8	3063.1	3082.7	2925.1
30°	3819.5	3820.8	3741.3	3595.6	3389.9	3333.9	3251.9	3181.6	3195.9	3244.1	3060.6
32.5°	4094.2	4081.2	3971.8	3781.7	3550.0	3482.3	3412.1	3341.7	3383.4	3481.0	3258.4
35°	4345.4	4340.2	4211.3	3990.0	3758.3	3698.4	3647.6	3573.5	3641.1	3800.0	3527.9
37.5°	4596.6	4592.7	4445.6	4215.2	4014.8	3971.8	3934.1	3876.8	3987.4	4220.4	3888.4
40°	4874.0	4867.4	4686.4	4465.2	4312.9	4289.4	4267.3	4242.6	4431.3	4755.5	4337.6
42.5°	5216.3	5187.7	4941.7	4737.3	4640.9	4647.4	4648.7	4673.5	4969.0	5392.1	4867.4
45°	5609.5	5545.6	5198.1	5028.8	5001.5	5040.6	5079.6	5182.5	5595.1	6124.9	5453.2
47.5°	5990.9	5888.0	5493.6	5342.6	5398.5	5479.2	5573.0	5773.4	6298.1	6891.7	5984.4
50°	6319.0	6213.5	5786.5	5661.5	5839.8	5959.6	6126.2	6429.6	7040.2	7540.0	6319.0
52.5°	6576.7	6493.4	6096.3	6013.0	6329.3	6493.4	6755.1	7153.4	7740.5	7967.0	6553.2
55°	6766.7	6725.1	6393.1	6404.8	6873.5	7110.4	7435.8	7886.3	8331.5	8299.0	6729.0
57.5°	6981.5	6949.0	6704.2	6867.0	7528.3	7834.2	8210.4	8572.3	8761.1	8565.8	6900.8
60°	7201.6	7212.0	7081.8	7426.7	8338.0	8676.5	9004.5	9094.3	9129.5	8836.6	7081.8
62.5°	7368.2	7412.4	7424.2	8030.8	9168.6	9457.6	9599.5	9535.6	9527.9	9199.8	7067.5
65°	7559.5	7675.4	7868.0	8693.4	9923.6	10113.7	10215.2	10307.7	10112.4	9307.8	6372.3
67.5°	7890.2	8072.4	8505.9	9505.8	10795.8	11077.0	11364.7	11267.1	10199.5	8210.4	4854.4
70°	8335.4	8558.0	9323.5	10566.7	11979.2	12450.4	12691.2	11190.3	8659.6	5673.2	2560.7
72°	8054.2	8256.0	9576.0	11108.2	12817.5	13249.7	12646.9	9760.9	6277.2	2940.8	857.8
72.5°	7780.9	7989.1	9495.3	11101.8	12900.8	13231.5	12359.3	9197.2	5554.7	2288.5	591.1
75°	5398.5	5661.5	8140.1	9979.6	11649.8	11286.6	9456.3	5569.0	2012.6	393.1	195.3
77.5°	2791.0	2994.2	4937.7	7051.8	8119.3	7435.8	5588.6	2416.1	557.2	208.3	128.9
80°	1730.1	1830.4	2309.4	3474.5	4217.8	3689.3	2465.6	976.3	356.7	123.7	102.8
82.5°	895.6	972.4	1454.1	1402.1	1558.3	1295.3	909.9	817.5	220.0	76.8	105.5
85°	294.2	312.4	893.0	932.1	666.6	447.8	403.6	779.8	63.8	49.5	89.8
87.5°	39.1	45.5	313.7	533.8	328.1	203.1	242.1	274.7	22.1	27.3	24.8
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°	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5
2.5°	2598.4	2581.4	2528.1	2474.7	2413.6	2357.6	2313.3	2284.7	2297.6	2254.7	2261.2
5°	2524.2	2481.3	2364.0	2237.8	2101.1	1973.5	1872.0	1796.5	1782.2	1717.0	1719.7
7.5°	2452.6	2382.2	2192.2	1983.9	1757.4	1573.9	1407.3	1261.4	1209.3	1156.0	1124.7
10°	2413.6	2317.2	2047.7	1744.4	1425.5	1156.0	921.7	738.2	661.3	605.4	578.0
12.5°	2425.2	2297.6	1939.7	1527.0	1107.9	765.5	520.7	386.7	339.7	313.7	304.6
15°	2464.3	2301.5	1842.0	1314.8	805.8	463.4	306.0	261.7	257.8	256.5	255.1
17.5°	2500.7	2305.5	1739.2	1093.5	539.0	295.5	246.0	242.1	242.1	242.1	242.1
20°	2538.6	2306.8	1626.0	861.8	354.0	242.1	231.7	229.1	231.7	231.7	231.7
22.5°	2582.7	2315.9	1516.6	636.6	261.7	227.8	221.3	220.0	221.3	221.3	220.0
25°	2637.5	2335.4	1398.2	455.6	236.9	218.7	212.2	210.9	212.2	210.9	210.9
27.5°	2710.3	2361.5	1260.2	326.7	226.5	209.6	203.1	203.1	203.1	201.8	201.8
30°	2804.1	2392.7	1075.3	257.8	216.1	200.5	195.3	195.3	194.0	192.6	192.6
32.5°	2938.1	2443.5	873.5	233.0	204.4	188.7	183.5	184.8	183.5	182.3	181.0
35°	3128.2	2522.9	674.3	220.0	192.6	177.1	171.9	171.9	171.9	169.2	169.2
37.5°	3397.7	2643.9	505.1	206.9	181.0	165.3	158.9	158.9	157.5	154.9	156.2
40°	3730.9	2796.2	365.8	195.3	169.2	152.3	147.1	144.5	141.9	139.3	139.3
42.5°	4131.9	2944.7	274.7	183.5	157.5	141.9	135.3	132.8	127.6	125.0	123.7
45°	4581.0	3102.2	227.8	169.2	144.5	130.2	125.0	119.8	113.2	109.4	108.0
47.5°	4959.9	3198.6	203.1	154.9	131.4	118.5	113.2	105.5	97.6	95.0	95.0
50°	5187.7	3158.2	182.3	140.6	118.5	106.8	100.2	89.8	84.6	82.0	80.7
52.5°	5315.3	3038.4	165.3	128.9	106.8	93.7	84.6	75.5	72.9	70.3	70.3
55°	5402.5	2865.3	147.1	117.1	96.4	82.0	71.6	65.1	62.5	61.2	59.8
57.5°	5485.8	2654.4	130.2	106.8	85.9	72.9	61.2	58.6	53.4	52.1	52.1
60°	5510.5	2364.0	114.6	95.0	76.8	63.8	53.4	49.5	44.3	43.0	43.0
62.5°	5195.5	1881.1	101.6	80.7	67.7	54.6	46.9	41.6	36.4	36.4	36.4
65°	4341.5	1277.1	87.3	70.3	59.8	46.9	40.4	33.9	31.2	31.2	31.2
67.5°	3024.0	712.1	74.2	59.8	50.7	39.1	33.9	28.6	27.3	28.6	28.6
70°	1363.0	282.5	62.5	49.5	41.6	32.5	28.6	24.8	27.3	27.3	27.3
72°	408.8	151.0	52.1	40.4	33.9	28.6	24.8	23.4	26.1	27.3	27.3
72.5°	303.3	135.3	49.5	39.1	33.9	27.3	23.4	23.4	26.1	27.3	27.3
75°	156.2	92.5	37.7	28.6	24.8	22.1	19.5	22.1	26.1	26.1	26.1
77.5°	122.3	75.5	31.2	22.1	20.9	19.5	18.2	20.9	23.4	23.4	23.4
80°	114.6	49.5	24.8	20.9	18.2	16.9	16.9	18.2	20.9	22.1	22.1
82.5°	115.9	40.4	22.1	19.5	16.9	15.7	15.7	16.9	19.5	20.9	20.9
85°	74.2	27.3	19.5	16.9	15.7	14.3	14.3	15.7	18.2	19.5	19.5
87.5°	24.8	20.9	16.9	15.7	13.0	13.0	13.0	13.0	15.7	16.9	18.2
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)