

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: P270431

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7027-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270431
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-SL2-7027-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1200mA 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: 14082.3 lumens
Efficiency: N/A
Efficacy: 73.7 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 - 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

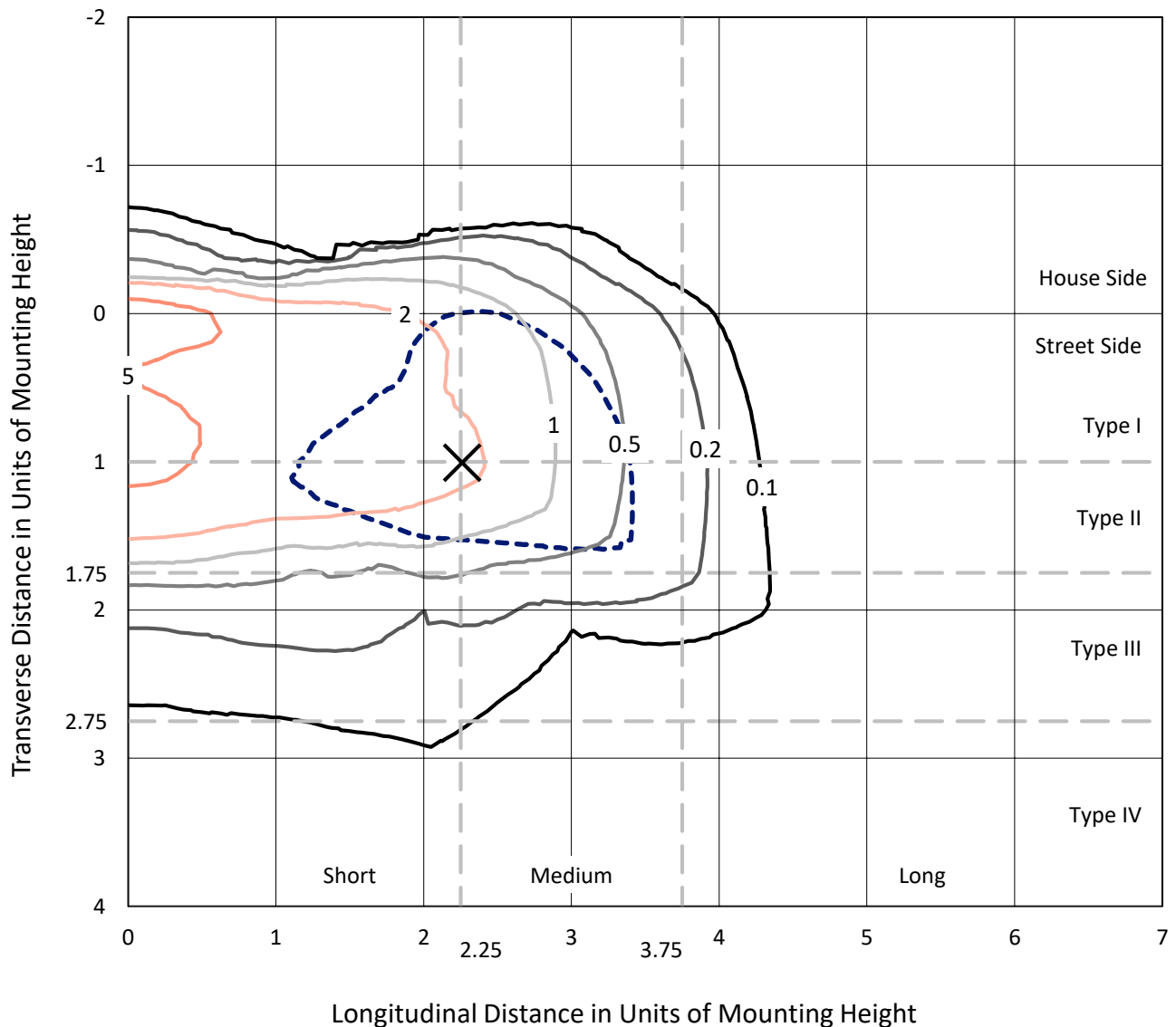


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

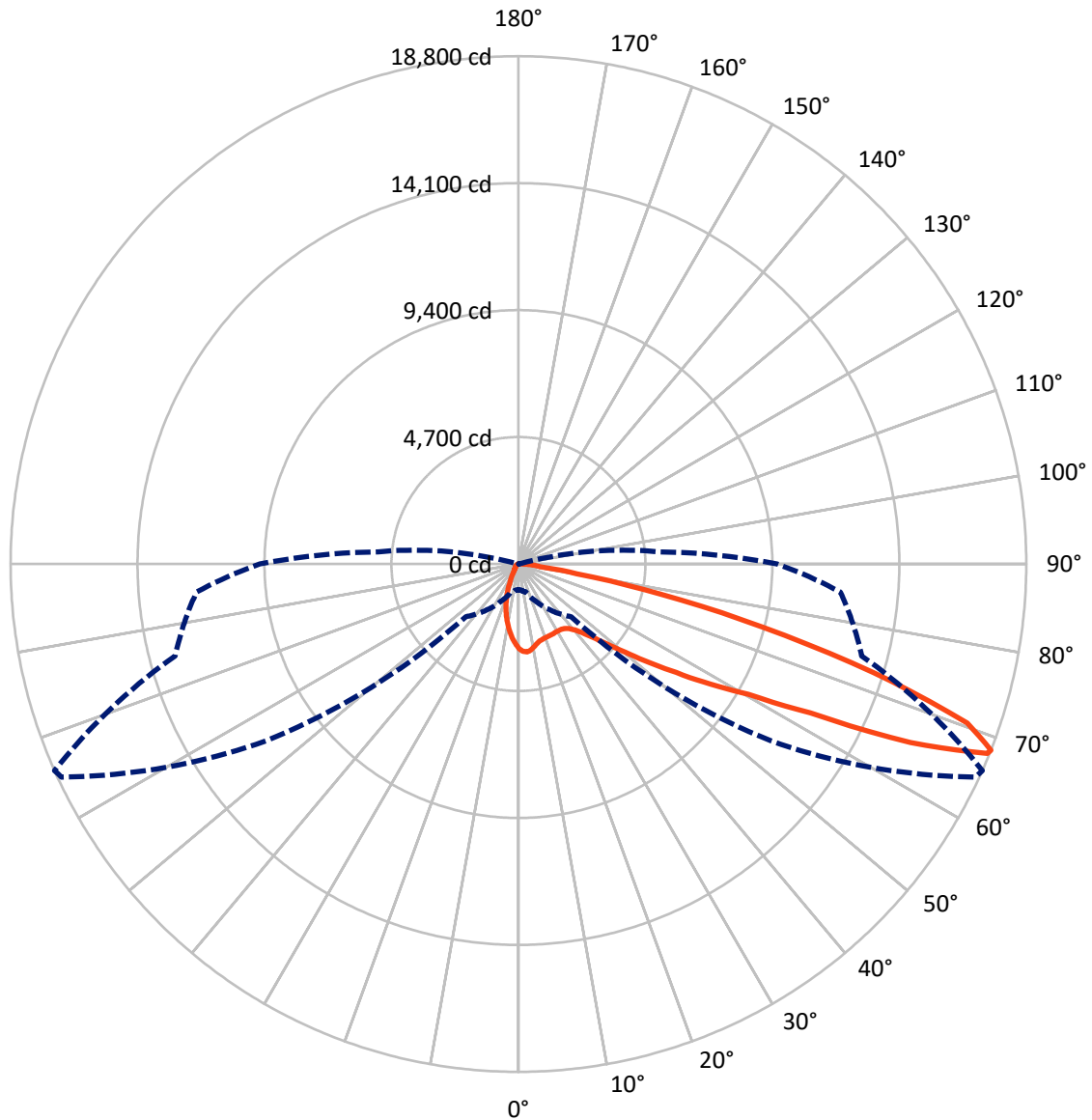


Based on 20 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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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	1426.4	0.0	1426.4
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	12655.9	0.0	12655.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	14082.3	0.0	14082.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.2	1.8
10°-20°	553.4	3.9
20°-30°	801.9	5.7
30°-40°	1227.6	8.7
40°-50°	2099.7	14.9
50°-60°	3284.6	23.3
60°-70°	3782.0	26.9
70°-80°	1892.6	13.4
80°-90°	183.3	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°	14082.3	100.0
0°-180°	14082.3	100.0



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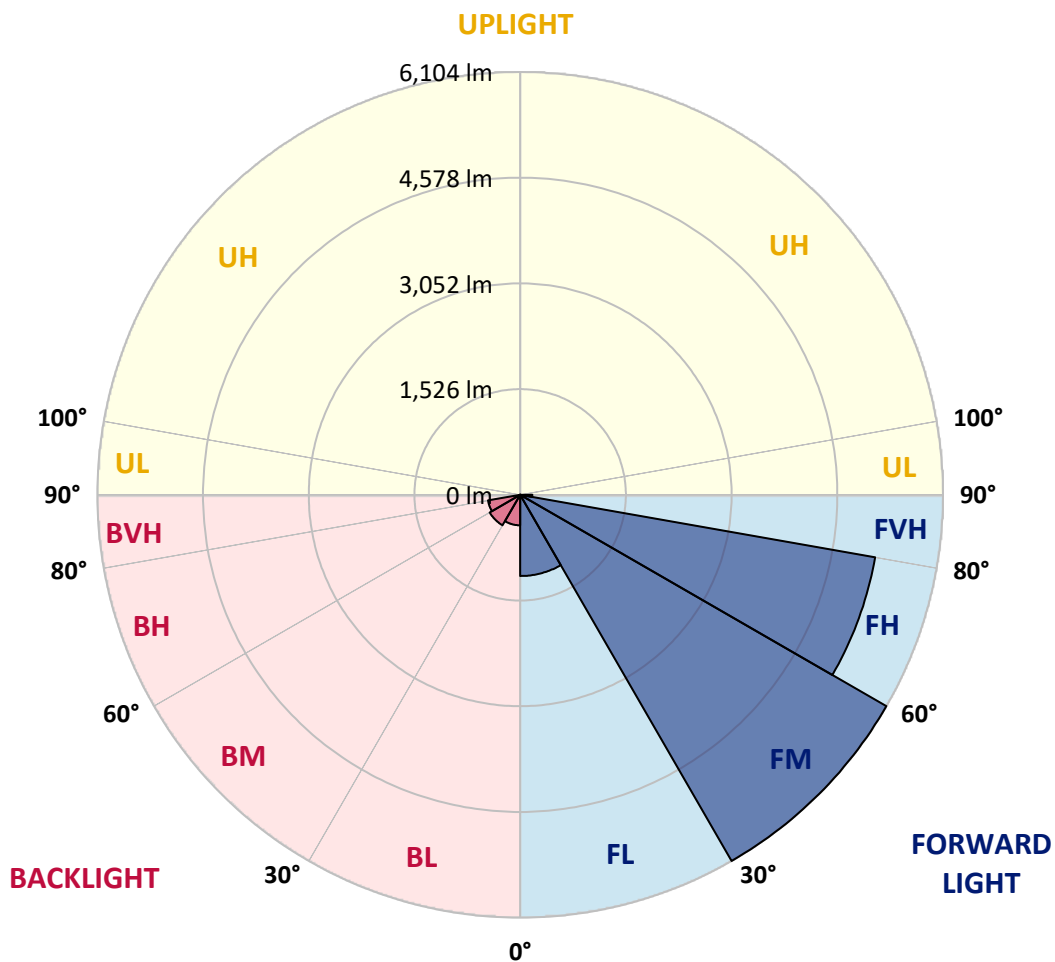
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1172.3	8.3			
FM	(30°-60°)	6103.9	43.3			
FH	(60°-80°)	5203.4	36.9			G3/7500
FVH	(80°-90°)	176.4	1.3			G2/225
BL	(0°-30°)	440.2	3.1	B1/500		
BM	(30°-60°)	507.9	3.6	B1/1000		
BH	(60°-80°)	471.3	3.3	B1/500		G1/500
BVH	(80°-90°)	6.9	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4
2.5°	3300.0	3302.1	3301.0	3304.3	3302.1	3285.6	3267.9	3230.2	3233.5	3184.9	3130.8
5°	3067.7	3086.5	3105.4	3124.1	3169.5	3209.3	3256.7	3267.9	3267.9	3225.9	3146.3
7.5°	2831.2	2832.3	2853.2	2878.7	2939.6	3012.5	3123.0	3222.5	3224.7	3235.8	3148.5
10°	2653.2	2658.8	2673.0	2700.8	2761.5	2833.4	2957.2	3113.0	3125.3	3207.0	3126.3
12.5°	2515.1	2521.6	2537.2	2569.2	2624.5	2698.5	2828.9	3006.9	3023.5	3179.5	3119.8
15°	2408.8	2417.7	2429.8	2462.0	2521.6	2600.1	2742.7	2936.2	2956.1	3168.3	3140.7
17.5°	2364.7	2364.7	2363.5	2385.7	2445.4	2525.0	2674.3	2898.7	2924.1	3177.1	3176.0
20°	2383.5	2380.1	2357.0	2351.5	2387.9	2467.5	2620.0	2874.2	2903.1	3193.7	3219.2
22.5°	2482.9	2476.3	2424.3	2381.2	2370.2	2423.3	2583.5	2857.7	2892.0	3228.1	3276.7
25°	2694.0	2674.3	2602.3	2505.1	2417.7	2412.2	2558.2	2848.9	2885.4	3267.9	3339.7
27.5°	2968.3	2962.7	2847.7	2717.4	2549.3	2448.7	2550.4	2842.2	2878.7	3296.6	3390.6
30°	3308.7	3311.0	3178.4	3008.1	2753.8	2551.5	2574.7	2839.0	2876.6	3298.8	3412.8
32.5°	3660.4	3662.5	3552.0	3369.5	3033.4	2728.3	2643.3	2854.5	2888.7	3290.0	3411.6
35°	3998.5	4001.9	3935.6	3788.5	3407.1	2973.7	2772.6	2907.5	2931.8	3295.5	3409.3
37.5°	4426.4	4439.7	4357.9	4220.7	3875.8	3334.1	2983.7	3014.7	3034.6	3340.7	3426.0
40°	5156.0	5138.3	4903.9	4671.8	4384.4	3773.2	3288.9	3199.4	3206.0	3457.9	3488.9
42.5°	6006.2	5984.1	5582.7	5182.6	4907.4	4302.6	3679.1	3482.3	3481.2	3654.8	3626.0
45°	6737.9	6724.7	6302.5	5768.5	5486.6	4887.4	4160.1	3890.2	3876.9	3995.3	3875.8
47.5°	7257.5	7246.5	6927.0	6392.0	6156.5	5530.9	4760.3	4446.3	4418.7	4440.9	4281.6
50°	7308.4	7296.4	7184.6	6840.9	6939.1	6475.0	5502.1	5174.9	5139.5	5105.2	4895.1
52.5°	6833.0	6832.0	6890.5	6868.5	7487.6	7689.9	6411.9	6075.9	6033.8	5946.5	5737.6
55°	5861.4	5855.8	6078.0	6400.9	7475.3	8943.4	7799.3	7148.2	7092.8	6918.1	6644.0
57.5°	4282.7	4254.0	4718.3	5402.5	6950.2	9491.9	10002.5	8480.3	8388.6	7834.7	7412.4
60°	2364.7	2375.7	2972.8	3783.0	5706.7	9383.4	12030.0	10033.4	9792.6	8625.0	8199.5
62.5°	1325.4	1353.1	1797.6	2458.7	3638.1	8504.7	13117.8	12706.5	12126.2	9547.0	9194.4
65°	1002.7	1019.2	1242.5	1897.0	2293.9	5943.1	13291.4	16444.3	15943.5	10944.4	10778.7
67.5°	944.1	957.4	1066.7	1573.1	2089.4	3082.2	11984.6	18655.3	18718.3	12850.3	12005.7
68°	950.8	967.4	1076.8	1513.5	2086.0	2757.1	11427.5	18666.3	18800.1	13157.7	11963.6
70°	873.3	877.7	1138.6	1484.7	2021.9	2172.3	8266.9	17387.2	17627.1	13523.5	10860.4
72.5°	333.9	335.0	510.7	1285.7	2118.2	2184.5	4164.5	13742.5	13754.6	11769.1	8467.1
75°	173.6	146.0	160.3	402.4	2023.1	2129.3	2089.4	9383.4	9324.9	7959.6	5188.2
77.5°	119.4	101.7	107.3	139.2	841.4	2128.1	1509.1	5395.8	5383.8	3386.2	1480.2
80°	67.5	58.6	64.0	117.1	295.2	1997.7	1406.1	2319.3	2185.5	594.8	239.8
82.5°	34.2	28.7	34.2	98.4	183.6	1257.0	1367.5	909.9	810.4	141.6	155.9
85°	8.9	8.9	16.6	68.5	113.8	412.3	1225.9	656.8	590.4	62.0	110.5
87.5°	2.2	1.1	6.6	25.4	41.0	89.6	679.8	365.9	315.0	32.1	64.0
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°	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4	3137.4
2.5°	3108.7	3077.8	3016.9	2948.3	2899.6	2846.6	2815.6	2778.1	2749.4	2723.9	2742.7
5°	3097.5	3037.9	2903.1	2751.6	2624.5	2502.9	2412.2	2326.0	2260.8	2219.8	2236.4
7.5°	3068.9	2980.4	2761.5	2525.0	2317.1	2121.4	1962.3	1819.6	1709.0	1649.4	1668.2
10°	3020.2	2895.2	2601.2	2272.9	1982.2	1705.8	1469.2	1257.0	1096.7	1021.6	1039.2
12.5°	2984.9	2820.0	2435.5	2029.7	1647.2	1254.8	940.7	697.5	572.7	497.5	504.0
15°	2969.3	2761.5	2280.6	1773.3	1281.3	805.9	508.5	368.1	324.9	309.6	310.6
17.5°	2971.6	2715.0	2133.7	1506.7	912.0	463.2	311.7	280.8	274.2	270.8	270.8
20°	2977.2	2668.7	1981.0	1229.3	583.7	298.4	259.8	249.9	246.6	242.2	243.3
22.5°	2993.7	2633.3	1827.4	950.8	359.3	243.3	230.0	221.2	215.6	208.9	210.1
25°	3019.2	2606.7	1676.0	684.2	253.1	212.3	200.1	187.9	178.0	170.3	171.3
27.5°	3034.6	2569.2	1514.5	466.5	210.1	185.7	169.2	152.5	141.6	134.8	133.8
30°	3023.5	2508.3	1331.0	306.2	185.7	160.3	140.3	121.6	110.5	105.0	105.0
32.5°	2993.7	2429.8	1128.7	223.3	164.7	138.2	113.8	97.2	89.6	86.2	87.3
35°	2959.5	2348.1	913.1	189.1	148.1	117.1	92.9	79.6	76.3	75.2	75.2
37.5°	2940.6	2277.4	706.3	171.3	132.7	97.2	76.3	68.5	65.2	65.2	65.2
40°	2961.6	2223.1	523.0	158.1	117.1	80.7	64.0	58.6	57.5	57.5	57.5
42.5°	3051.2	2204.4	382.5	147.1	101.7	67.5	55.2	50.8	49.8	50.8	50.8
45°	3225.9	2245.3	289.7	136.0	87.3	55.2	47.5	44.2	44.2	45.4	45.4
47.5°	3522.2	2350.2	237.7	125.0	72.9	46.4	41.0	38.6	38.6	39.7	39.7
50°	3981.9	2544.9	213.3	112.7	60.7	39.7	34.2	33.1	33.1	34.2	35.4
52.5°	4680.7	2915.2	201.2	100.6	49.8	33.1	28.7	27.7	28.7	29.9	29.9
55°	5457.8	3389.5	186.8	88.5	42.0	27.7	23.3	23.3	24.3	26.5	26.5
57.5°	6182.0	3847.1	173.6	72.9	36.6	22.1	18.8	18.8	21.0	23.3	23.3
60°	6947.0	4296.0	155.9	58.6	30.9	17.6	15.5	15.5	18.8	21.0	22.1
62.5°	7892.1	4817.8	132.7	46.4	24.3	13.2	11.0	14.4	17.6	21.0	21.0
65°	9258.6	5466.6	103.9	36.6	18.8	9.9	8.9	13.2	16.6	19.9	21.0
67.5°	9755.0	5383.8	78.5	29.9	14.4	7.7	7.7	12.1	16.6	19.9	19.9
68°	9573.5	5202.4	75.2	28.7	13.2	7.7	7.7	12.1	16.6	19.9	19.9
70°	8342.1	4252.8	62.0	22.1	11.0	6.6	6.6	11.0	16.6	18.8	19.9
72.5°	6246.1	2825.7	53.1	14.4	9.9	6.6	5.5	11.0	15.5	18.8	18.8
75°	3582.9	1172.9	45.4	11.0	8.9	5.5	5.5	9.9	15.5	18.8	18.8
77.5°	1012.6	274.2	36.6	8.9	7.7	5.5	4.4	9.9	14.4	17.6	17.6
80°	185.7	81.8	28.7	7.7	6.6	5.5	4.4	9.9	14.4	17.6	17.6
82.5°	122.7	38.6	21.0	7.7	6.6	5.5	4.4	8.9	13.2	16.6	16.6
85°	91.7	27.7	13.2	7.7	6.6	5.5	4.4	8.9	13.2	16.6	16.6
87.5°	50.8	12.1	9.9	8.9	7.7	5.5	4.4	7.7	12.1	15.5	15.5
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)