

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: P196541

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196541
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-05-D-UNV-SL2-7030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 615mA 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: 15630.6 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 162
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

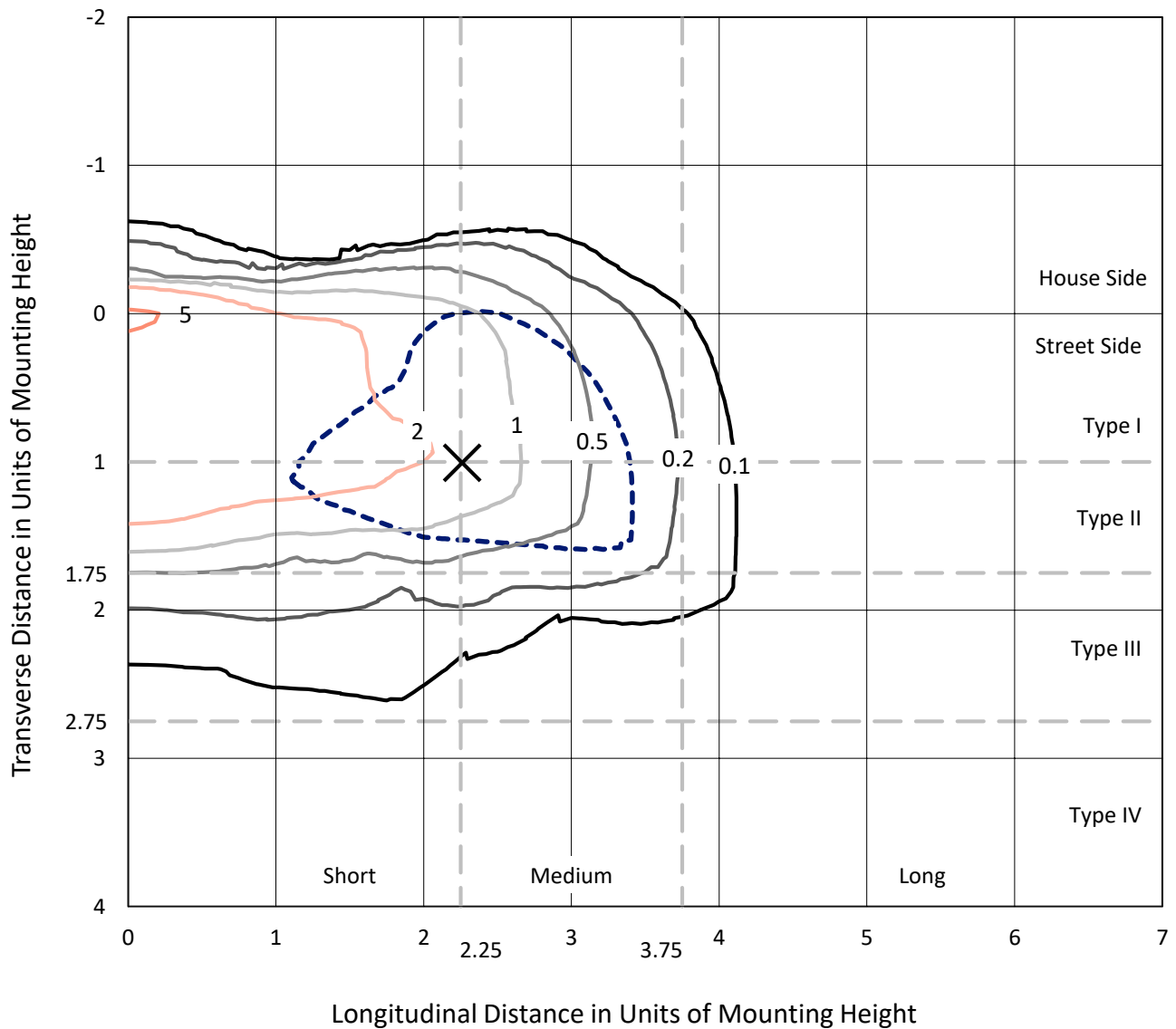


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

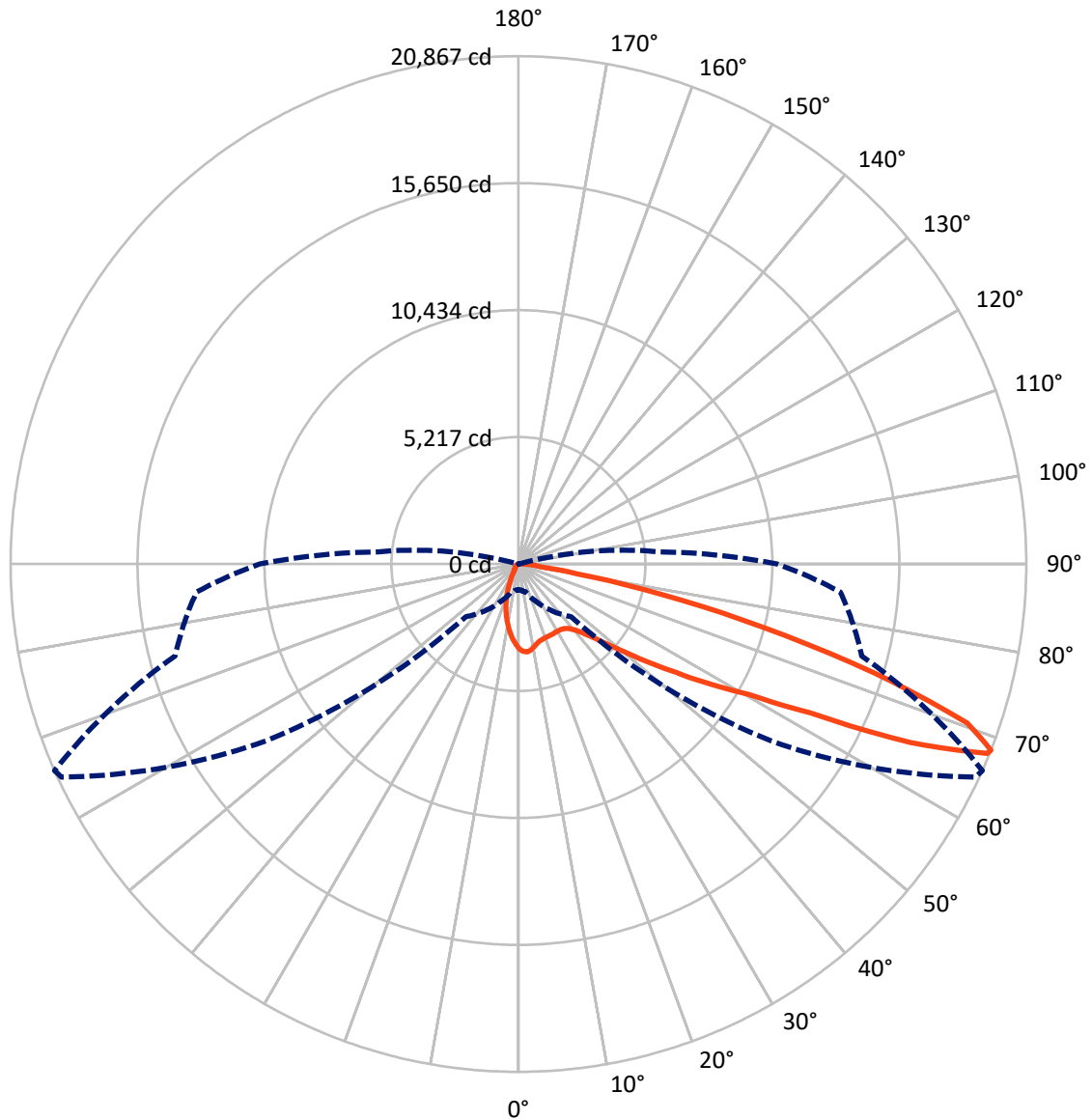


Based on 25 foot mounting height. Maximum calculated value = 5.6 fc
 Type II - Medium - Semi-Cutoff

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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	1583.2	0.0	1583.2
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14047.4	0.0	14047.4
	% Fixture	89.9	0.0	89.9
Total	Lumens	15630.6	0.0	15630.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.5	1.8
10°-20°	614.2	3.9
20°-30°	890.1	5.7
30°-40°	1362.6	8.7
40°-50°	2330.6	14.9
50°-60°	3645.7	23.3
60°-70°	4197.9	26.9
70°-80°	2100.7	13.4
80°-90°	203.4	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°	15630.6	100.0
0°-180°	15630.6	100.0



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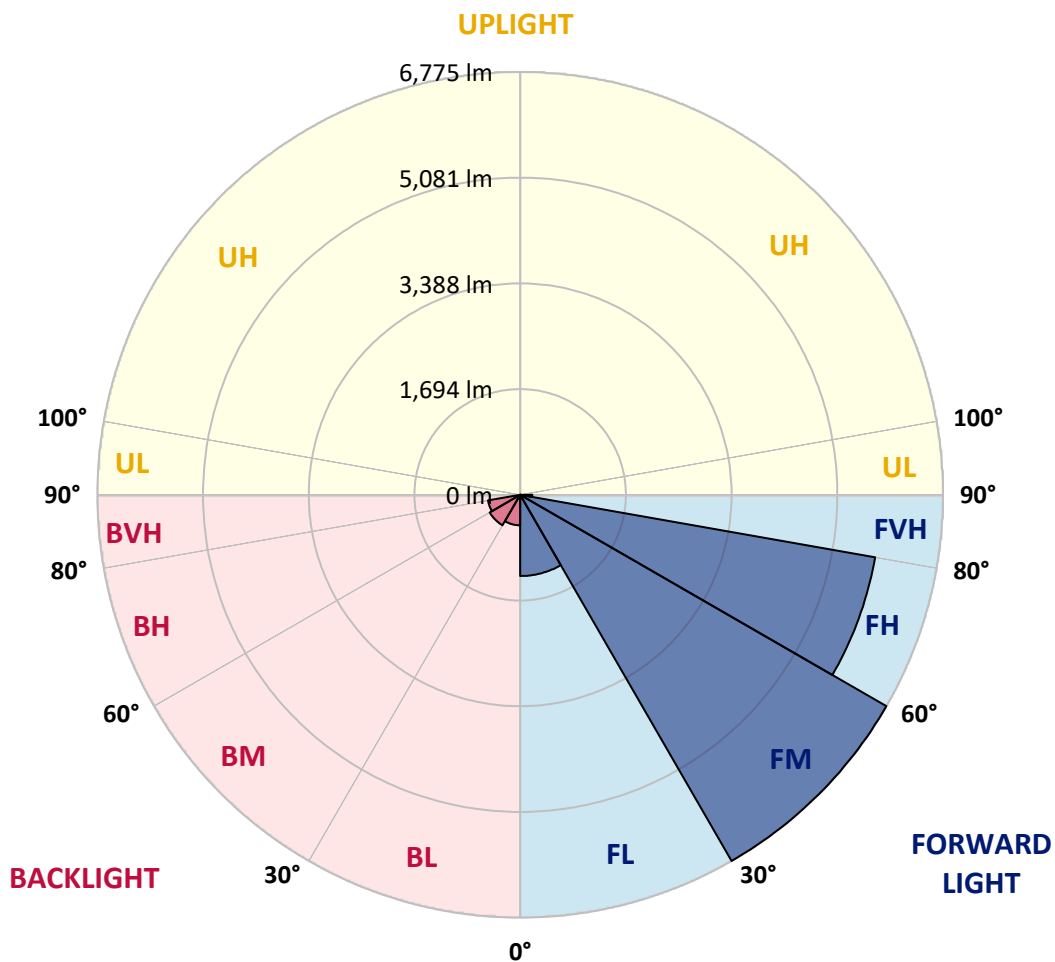
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1301.2	8.3			
FM	(30°-60°)	6775.0	43.3			
FH	(60°-80°)	5775.5	36.9			G3/7500
FVH	(80°-90°)	195.7	1.3			G2/225
BL	(0°-30°)	488.7	3.1	B1/500		
BM	(30°-60°)	563.8	3.6	B1/1000		
BH	(60°-80°)	523.1	3.3	B2/1000		G2/1000
BVH	(80°-90°)	7.7	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3
2.5°	3662.7	3665.2	3664.0	3667.7	3665.2	3646.7	3627.2	3585.5	3589.0	3535.1	3475.0
5°	3405.1	3426.0	3446.8	3467.7	3517.9	3562.1	3614.9	3627.2	3627.2	3580.5	3492.2
7.5°	3142.6	3143.7	3167.0	3195.2	3262.7	3343.7	3466.4	3576.8	3579.4	3591.6	3494.6
10°	2944.9	2951.1	2967.1	2997.6	3065.2	3144.9	3282.3	3455.4	3468.9	3559.6	3470.1
12.5°	2791.6	2798.9	2816.0	2851.6	2913.0	2995.3	3140.0	3337.6	3356.0	3529.0	3462.8
15°	2673.7	2683.5	2697.1	2732.7	2798.9	2886.0	3044.3	3258.9	3281.2	3516.7	3486.0
17.5°	2624.6	2624.6	2623.5	2648.0	2714.2	2802.6	2968.2	3217.3	3245.5	3526.6	3525.2
20°	2645.5	2641.8	2616.1	2609.8	2650.4	2738.8	2908.1	3190.4	3222.3	3544.9	3573.1
22.5°	2755.9	2748.6	2690.9	2643.1	2630.8	2689.6	2867.6	3171.9	3209.9	3582.9	3636.9
25°	2990.3	2968.2	2888.5	2780.5	2683.5	2677.4	2839.4	3162.1	3202.6	3627.2	3706.9
27.5°	3294.6	3288.4	3160.9	3016.1	2829.6	2718.0	2830.8	3154.8	3195.2	3659.1	3763.3
30°	3672.5	3675.1	3527.8	3338.8	3056.5	2832.0	2857.7	3151.0	3192.8	3661.5	3787.9
32.5°	4062.7	4065.2	3942.5	3740.1	3367.1	3028.3	2933.8	3168.2	3206.3	3651.7	3786.7
35°	4438.2	4441.9	4368.3	4205.1	3781.8	3300.7	3077.4	3227.1	3254.2	3657.8	3784.2
37.5°	4913.1	4927.8	4837.0	4684.8	4302.0	3700.7	3311.7	3346.2	3368.3	3708.2	3802.7
40°	5722.9	5703.4	5443.2	5185.5	4866.5	4187.9	3650.5	3551.0	3558.5	3838.2	3872.5
42.5°	6666.6	6642.0	6196.5	5752.4	5446.9	4775.6	4083.6	3865.1	3864.0	4056.6	4024.7
45°	7478.8	7464.1	6995.5	6402.7	6089.8	5424.7	4617.4	4317.9	4303.2	4434.5	4302.0
47.5°	8055.5	8043.3	7688.7	7094.7	6833.4	6138.9	5283.7	4935.1	4904.5	4929.0	4752.3
50°	8112.0	8098.6	7974.7	7593.0	7702.1	7186.8	6107.0	5743.8	5704.5	5666.5	5433.4
52.5°	7584.3	7583.1	7648.1	7623.7	8310.8	8535.4	7116.8	6743.8	6697.3	6600.3	6368.4
55°	6505.9	6499.7	6746.3	7104.6	8297.2	9926.8	8656.8	7934.1	7872.6	7678.8	7374.6
57.5°	4753.6	4721.6	5237.1	5996.5	7714.5	10535.5	11102.3	9412.6	9310.8	8696.1	8227.3
60°	2624.6	2637.0	3299.5	4199.0	6334.0	10415.1	13352.7	11136.7	10869.2	9573.4	9101.0
62.5°	1471.1	1501.9	1995.2	2729.0	4038.2	9439.7	14560.1	14103.6	13459.4	10596.7	10205.4
65°	1113.0	1131.4	1379.2	2105.7	2546.1	6596.6	14752.7	18252.3	17696.5	12147.8	11963.7
67.5°	1047.9	1062.6	1184.2	1746.1	2319.1	3421.0	13302.5	20706.4	20776.3	14263.1	13325.7
68°	1055.2	1073.7	1195.2	1679.9	2315.4	3060.3	12684.0	20718.8	20867.1	14604.2	13279.1
70°	969.3	974.3	1263.9	1647.9	2244.3	2411.2	9175.8	19299.0	19565.3	15010.5	12054.5
72.5°	370.6	371.8	566.9	1427.0	2351.0	2424.7	4622.3	15253.3	15266.9	13063.1	9397.9
75°	192.7	161.9	177.9	446.7	2245.5	2363.3	2319.1	10415.1	10350.1	8834.7	5758.5
77.5°	132.5	112.9	119.0	154.6	933.7	2362.0	1675.0	5989.3	5975.7	3758.4	1643.0
80°	74.9	65.0	71.1	130.0	327.7	2217.3	1560.8	2574.3	2425.9	660.2	266.3
82.5°	38.0	31.9	38.0	109.3	203.7	1395.1	1517.8	1009.9	899.4	157.2	173.0
85°	9.9	9.9	18.3	76.1	126.4	457.7	1360.9	728.9	655.2	68.8	122.7
87.5°	2.4	1.2	7.3	28.2	45.5	99.4	754.7	406.1	349.7	35.6	71.1
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°	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3	3482.3
2.5°	3450.4	3416.1	3348.6	3272.6	3218.6	3159.7	3125.3	3083.6	3051.6	3023.4	3044.3
5°	3438.2	3372.0	3222.3	3054.2	2913.0	2778.0	2677.4	2581.7	2509.3	2463.9	2482.3
7.5°	3406.2	3308.2	3065.2	2802.6	2571.9	2354.7	2178.0	2019.7	1897.0	1830.7	1851.6
10°	3352.3	3213.7	2887.2	2522.8	2200.1	1893.4	1630.7	1395.1	1217.2	1133.8	1153.4
12.5°	3313.1	3130.2	2703.2	2252.8	1828.4	1392.7	1044.2	774.3	635.6	552.2	559.5
15°	3295.8	3065.2	2531.4	1968.2	1422.1	894.5	564.5	408.6	360.8	343.6	344.8
17.5°	3298.3	3013.6	2368.2	1672.4	1012.3	514.2	346.1	311.7	304.3	300.6	300.6
20°	3304.4	2962.1	2198.9	1364.4	647.9	331.3	288.3	277.3	273.5	268.7	270.0
22.5°	3322.8	2922.8	2028.3	1055.2	398.8	270.0	255.2	245.4	239.3	231.9	233.2
25°	3351.1	2893.4	1860.2	759.6	281.1	235.6	222.2	208.5	197.5	189.0	190.2
27.5°	3368.3	2851.6	1681.1	517.8	233.2	206.2	187.7	169.4	157.2	149.6	148.5
30°	3356.0	2784.2	1477.4	339.9	206.2	177.9	155.8	134.9	122.7	116.6	116.6
32.5°	3322.8	2697.1	1252.7	247.9	182.8	153.4	126.4	107.9	99.4	95.7	96.9
35°	3284.8	2606.3	1013.5	209.8	164.4	130.0	103.0	88.4	84.6	83.5	83.5
37.5°	3263.9	2527.7	784.1	190.2	147.3	107.9	84.6	76.1	72.4	72.4	72.4
40°	3287.3	2467.6	580.3	175.5	130.0	89.6	71.1	65.0	63.8	63.8	63.8
42.5°	3386.6	2446.8	424.6	163.3	112.9	74.9	61.4	56.5	55.1	56.5	56.5
45°	3580.5	2492.1	321.4	150.9	96.9	61.4	52.8	49.0	49.0	50.3	50.3
47.5°	3909.4	2608.7	263.9	138.6	81.0	51.6	45.5	42.9	42.9	44.1	44.1
50°	4419.9	2824.7	236.9	125.2	67.5	44.1	38.0	36.8	36.8	38.0	39.3
52.5°	5195.3	3235.7	223.3	111.7	55.1	36.8	31.9	30.7	31.9	33.1	33.1
55°	6057.9	3762.2	207.4	98.2	46.7	30.7	25.7	25.7	27.0	29.5	29.5
57.5°	6861.6	4270.1	192.7	81.0	40.5	24.6	20.9	20.9	23.3	25.7	25.7
60°	7710.8	4768.3	173.0	65.0	34.3	19.6	17.2	17.2	20.9	23.3	24.6
62.5°	8759.9	5347.4	147.3	51.6	27.0	14.7	12.2	16.0	19.6	23.3	23.3
65°	10276.5	6067.7	115.4	40.5	20.9	11.0	9.9	14.7	18.3	22.1	23.3
67.5°	10827.5	5975.7	87.1	33.1	16.0	8.6	8.6	13.5	18.3	22.1	22.1
68°	10626.2	5774.5	83.5	31.9	14.7	8.6	8.6	13.5	18.3	22.1	22.1
70°	9259.2	4720.4	68.8	24.6	12.2	7.3	7.3	12.2	18.3	20.9	22.1
72.5°	6932.8	3136.3	58.9	16.0	11.0	7.3	6.1	12.2	17.2	20.9	20.9
75°	3976.8	1302.0	50.3	12.2	9.9	6.1	6.1	11.0	17.2	20.9	20.9
77.5°	1124.0	304.3	40.5	9.9	8.6	6.1	4.9	11.0	16.0	19.6	19.6
80°	206.2	90.8	31.9	8.6	7.3	6.1	4.9	11.0	16.0	19.6	19.6
82.5°	136.2	42.9	23.3	8.6	7.3	6.1	4.9	9.9	14.7	18.3	18.3
85°	101.8	30.7	14.7	8.6	7.3	6.1	4.9	9.9	14.7	18.3	18.3
87.5°	56.5	13.5	11.0	9.9	8.6	6.1	4.9	8.6	13.5	17.2	17.2
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)