

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: P196546

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196546
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-04-D-UNV-SL2-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 800mA 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: 15550.9 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 171
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

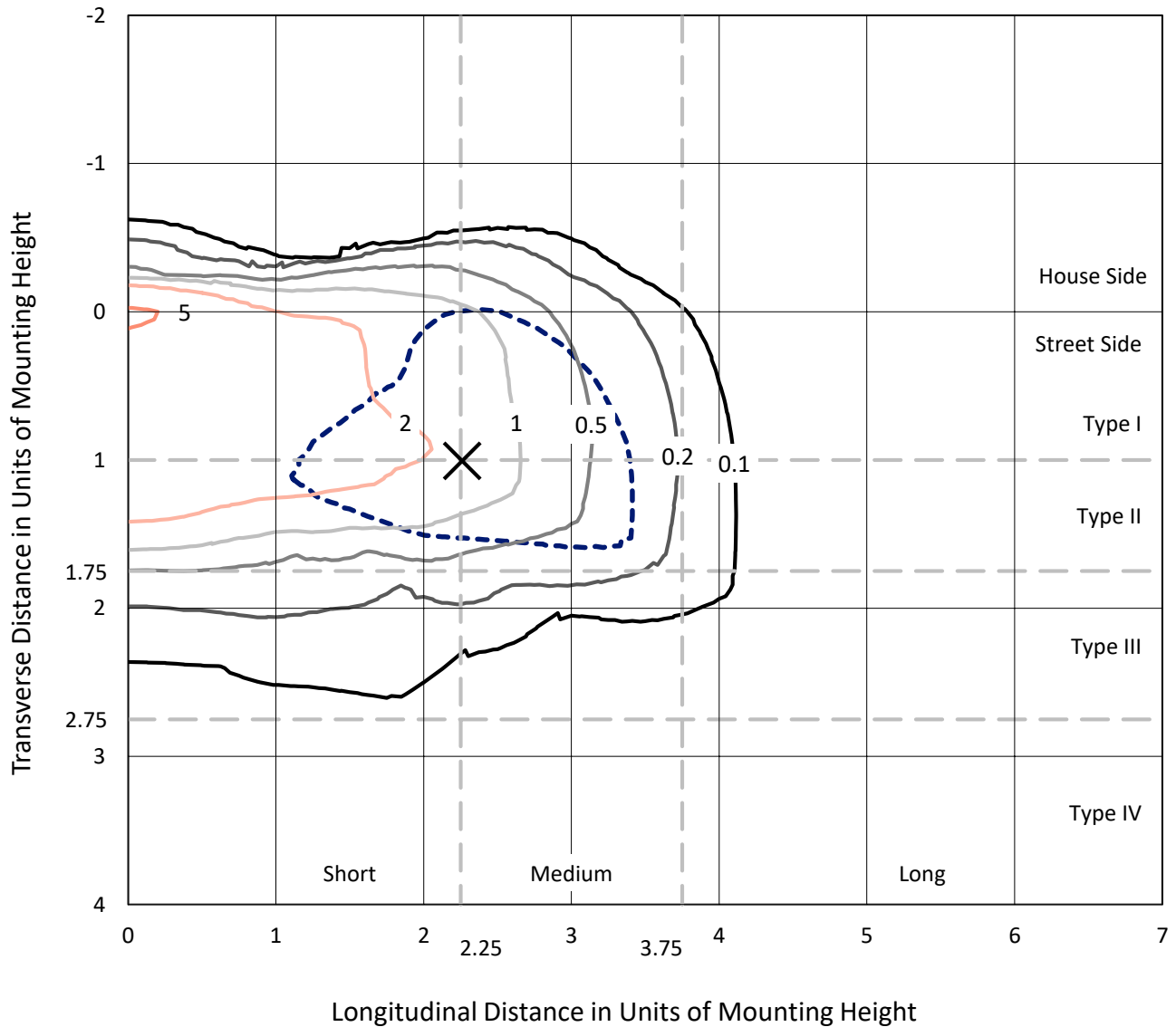


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

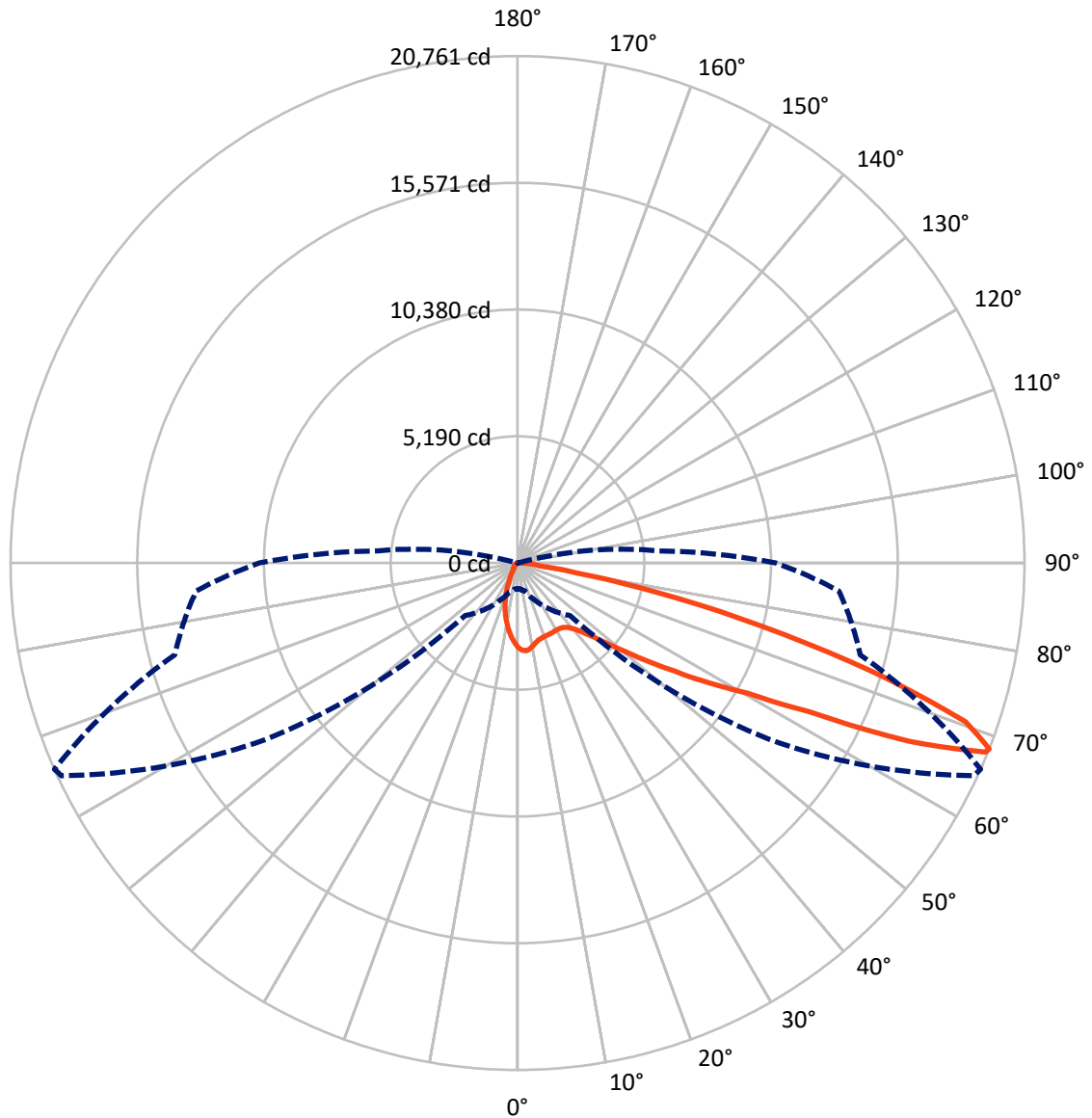


Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type II - Medium - Semi-Cutoff

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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	1575.1	0.0	1575.1
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	13975.7	0.0	13975.7
	% Fixture	89.9	0.0	89.9
Total	Lumens	15550.9	0.0	15550.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.0	1.8
10°-20°	611.1	3.9
20°-30°	885.6	5.7
30°-40°	1355.6	8.7
40°-50°	2318.7	14.9
50°-60°	3627.1	23.3
60°-70°	4176.5	26.9
70°-80°	2090.0	13.4
80°-90°	202.4	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°	15550.9	100.0
0°-180°	15550.9	100.0



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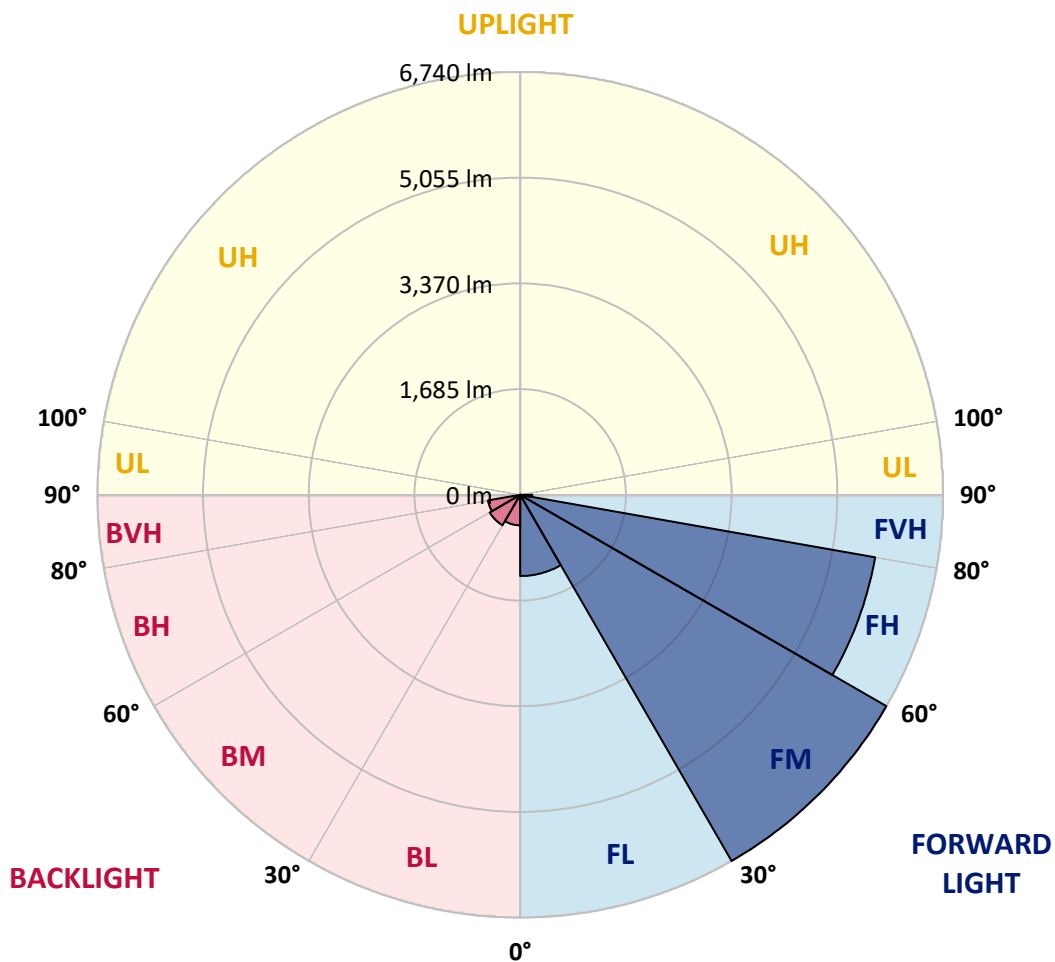
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1294.5	8.3			
FM (30°-60°)	6740.5	43.3			
FH (60°-80°)	5746.0	36.9			G3/7500
FVH (80°-90°)	194.7	1.3			G2/225
BL (0°-30°)	486.2	3.1	B1/500		
BM (30°-60°)	560.9	3.6	B1/1000		
BH (60°-80°)	520.4	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°	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6
2.5°	3644.1	3646.5	3645.2	3648.9	3646.5	3628.2	3608.7	3567.1	3570.8	3517.0	3457.3
5°	3387.7	3408.5	3429.2	3450.0	3500.0	3544.0	3596.4	3608.7	3608.7	3562.3	3474.3
7.5°	3126.5	3127.6	3150.8	3178.9	3246.1	3326.6	3448.8	3558.6	3561.0	3573.3	3476.8
10°	2929.9	2936.1	2951.8	2982.3	3049.5	3128.8	3265.6	3437.8	3451.2	3541.5	3452.4
12.5°	2777.3	2784.6	2801.7	2837.1	2898.1	2979.9	3123.9	3320.5	3338.9	3510.9	3445.1
15°	2660.1	2669.9	2683.3	2718.7	2784.6	2871.4	3028.7	3242.4	3264.3	3498.8	3468.2
17.5°	2611.3	2611.3	2609.9	2634.5	2700.4	2788.3	2953.1	3200.9	3228.9	3508.6	3507.3
20°	2632.0	2628.3	2602.7	2596.6	2636.9	2724.8	2893.3	3174.1	3205.7	3526.9	3555.0
22.5°	2741.9	2734.5	2677.2	2629.6	2617.5	2676.0	2853.0	3155.7	3193.5	3564.7	3618.4
25°	2975.0	2953.1	2873.7	2766.3	2669.9	2663.7	2824.9	3146.0	3186.2	3608.7	3687.9
27.5°	3277.8	3271.7	3144.7	3000.7	2815.2	2704.0	2816.3	3138.7	3178.9	3640.4	3744.1
30°	3653.8	3656.3	3509.7	3321.8	3041.0	2817.6	2843.3	3134.9	3176.5	3642.8	3768.6
32.5°	4042.0	4044.4	3922.4	3721.0	3349.8	3013.0	2918.9	3152.0	3190.0	3633.1	3767.4
35°	4415.6	4419.2	4346.0	4183.6	3762.5	3283.9	3061.8	3210.7	3237.6	3639.2	3764.8
37.5°	4888.0	4902.7	4812.4	4661.0	4280.1	3681.9	3294.9	3329.1	3351.1	3689.2	3783.2
40°	5693.7	5674.2	5415.4	5159.0	4841.6	4166.5	3631.9	3532.9	3540.3	3818.6	3852.8
42.5°	6632.5	6608.1	6165.0	5723.0	5419.0	4751.2	4062.8	3845.5	3844.3	4035.9	4004.2
45°	7440.7	7426.1	6959.7	6370.1	6058.8	5397.1	4593.8	4296.0	4281.4	4411.9	4280.1
47.5°	8014.5	8002.2	7649.5	7058.5	6798.5	6107.6	5256.7	4910.0	4879.5	4903.9	4728.0
50°	8070.7	8057.3	7933.9	7554.1	7662.9	7150.2	6075.8	5714.5	5675.5	5637.6	5405.6
52.5°	7545.7	7544.5	7609.2	7584.8	8268.4	8491.7	7080.5	6709.4	6663.0	6566.6	6335.8
55°	6472.6	6466.5	6711.9	7068.3	8255.0	9876.2	8612.7	7893.6	7832.6	7639.6	7336.9
57.5°	4729.3	4697.6	5210.3	5966.0	7675.0	10481.7	11045.7	9364.6	9263.3	8651.7	8185.3
60°	2611.3	2623.5	3282.7	4177.5	6301.6	10362.0	13284.7	11079.9	10813.7	9524.5	9054.6
62.5°	1463.7	1494.2	1985.0	2715.0	4017.6	9391.5	14485.8	14031.7	13390.9	10542.7	10153.3
65°	1107.3	1125.6	1372.2	2094.8	2533.1	6562.9	14677.5	18159.2	17606.1	12085.8	11902.7
67.5°	1042.6	1057.2	1178.1	1737.2	2307.3	3403.5	13234.6	20600.8	20670.3	14190.4	13257.7
68°	1049.9	1068.2	1189.1	1671.2	2303.6	3044.6	12619.2	20613.0	20760.7	14529.8	13211.3
70°	964.4	969.3	1257.3	1639.6	2232.8	2398.9	9129.0	19200.4	19465.4	14933.9	11993.0
72.5°	368.6	370.0	564.0	1419.9	2339.0	2412.2	4598.7	15175.6	15189.0	12996.5	9350.0
75°	191.6	161.1	177.0	444.3	2234.1	2351.3	2307.3	10362.0	10297.3	8789.7	5729.1
77.5°	131.8	112.3	118.4	153.8	929.0	2350.0	1666.4	5958.7	5945.3	3739.3	1634.6
80°	74.6	64.7	70.8	129.4	325.9	2206.0	1552.8	2561.2	2413.5	656.7	265.0
82.5°	37.8	31.8	37.8	108.6	202.6	1388.0	1510.1	1004.7	894.9	156.2	172.1
85°	9.8	9.8	18.3	75.7	125.7	455.4	1353.8	725.2	651.9	68.4	122.1
87.5°	2.4	1.2	7.3	28.1	45.2	98.9	750.8	404.0	347.9	35.4	70.8
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°	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6	3464.6
2.5°	3432.8	3398.6	3331.6	3255.8	3202.2	3143.5	3109.3	3067.8	3036.1	3008.0	3028.7
5°	3420.7	3354.7	3205.7	3038.5	2898.1	2763.8	2663.7	2568.5	2496.5	2451.3	2469.7
7.5°	3388.9	3291.2	3049.5	2788.3	2558.8	2342.7	2166.9	2009.4	1887.4	1821.5	1842.1
10°	3335.1	3197.3	2872.5	2509.9	2188.9	1883.6	1622.4	1388.0	1211.0	1128.0	1147.5
12.5°	3296.2	3114.2	2689.4	2241.4	1818.9	1385.6	1038.8	770.3	632.4	549.3	556.6
15°	3279.0	3049.5	2518.4	1958.2	1414.9	889.9	561.6	406.6	358.9	341.9	343.1
17.5°	3281.5	2998.3	2356.0	1663.9	1007.2	511.6	344.2	310.1	302.7	299.1	299.1
20°	3287.6	2946.9	2187.7	1357.5	644.5	329.6	287.0	275.9	272.3	267.3	268.6
22.5°	3305.8	2907.9	2017.9	1049.9	396.7	268.6	253.9	244.2	238.0	230.7	231.9
25°	3333.9	2878.7	1850.8	755.6	279.6	234.4	220.9	207.5	196.5	188.0	189.2
27.5°	3351.1	2837.1	1672.4	515.1	231.9	205.1	186.9	168.5	156.2	148.9	147.7
30°	3338.9	2769.9	1469.9	338.1	205.1	177.0	155.0	134.3	122.1	116.0	116.0
32.5°	3305.8	2683.3	1246.4	246.6	181.9	152.6	125.7	107.4	98.9	95.3	96.4
35°	3268.1	2592.9	1008.4	208.8	163.6	129.4	102.6	87.9	84.2	83.0	83.0
37.5°	3247.3	2514.8	780.1	189.2	146.5	107.4	84.2	75.7	72.0	72.0	72.0
40°	3270.4	2454.9	577.4	174.6	129.4	89.1	70.8	64.7	63.5	63.5	63.5
42.5°	3369.3	2434.3	422.4	162.4	112.3	74.6	61.0	56.2	54.9	56.2	56.2
45°	3562.3	2479.4	319.8	150.1	96.4	61.0	52.5	48.8	48.8	50.0	50.0
47.5°	3889.4	2595.4	262.4	138.0	80.6	51.3	45.2	42.7	42.7	43.9	43.9
50°	4397.2	2810.2	235.6	124.5	67.2	43.9	37.8	36.6	36.6	37.8	39.2
52.5°	5168.8	3219.3	222.3	111.1	54.9	36.6	31.8	30.5	31.8	33.0	33.0
55°	6027.1	3742.9	206.3	97.7	46.4	30.5	25.6	25.6	26.9	29.3	29.3
57.5°	6826.6	4248.3	191.6	80.6	40.3	24.4	20.8	20.8	23.2	25.6	25.6
60°	7671.4	4743.9	172.1	64.7	34.2	19.5	17.1	17.1	20.8	23.2	24.4
62.5°	8715.2	5320.2	146.5	51.3	26.9	14.6	12.2	15.9	19.5	23.2	23.2
65°	10224.1	6036.8	114.7	40.3	20.8	11.0	9.8	14.6	18.3	22.0	23.2
67.5°	10772.2	5945.3	86.7	33.0	15.9	8.5	8.5	13.4	18.3	22.0	22.0
68°	10572.0	5745.0	83.0	31.8	14.6	8.5	8.5	13.4	18.3	22.0	22.0
70°	9212.0	4696.4	68.4	24.4	12.2	7.3	7.3	12.2	18.3	20.8	22.0
72.5°	6897.4	3120.3	58.6	15.9	11.0	7.3	6.1	12.2	17.1	20.8	20.8
75°	3956.6	1295.3	50.0	12.2	9.8	6.1	6.1	11.0	17.1	20.8	20.8
77.5°	1118.3	302.7	40.3	9.8	8.5	6.1	4.9	11.0	15.9	19.5	19.5
80°	205.1	90.3	31.8	8.5	7.3	6.1	4.9	11.0	15.9	19.5	19.5
82.5°	135.5	42.7	23.2	8.5	7.3	6.1	4.9	9.8	14.6	18.3	18.3
85°	101.3	30.5	14.6	8.5	7.3	6.1	4.9	9.8	14.6	18.3	18.3
87.5°	56.2	13.4	11.0	9.8	8.5	6.1	4.9	8.5	13.4	17.1	17.1
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)