

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: P196113

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196113  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
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-SL3-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12709.1 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G3

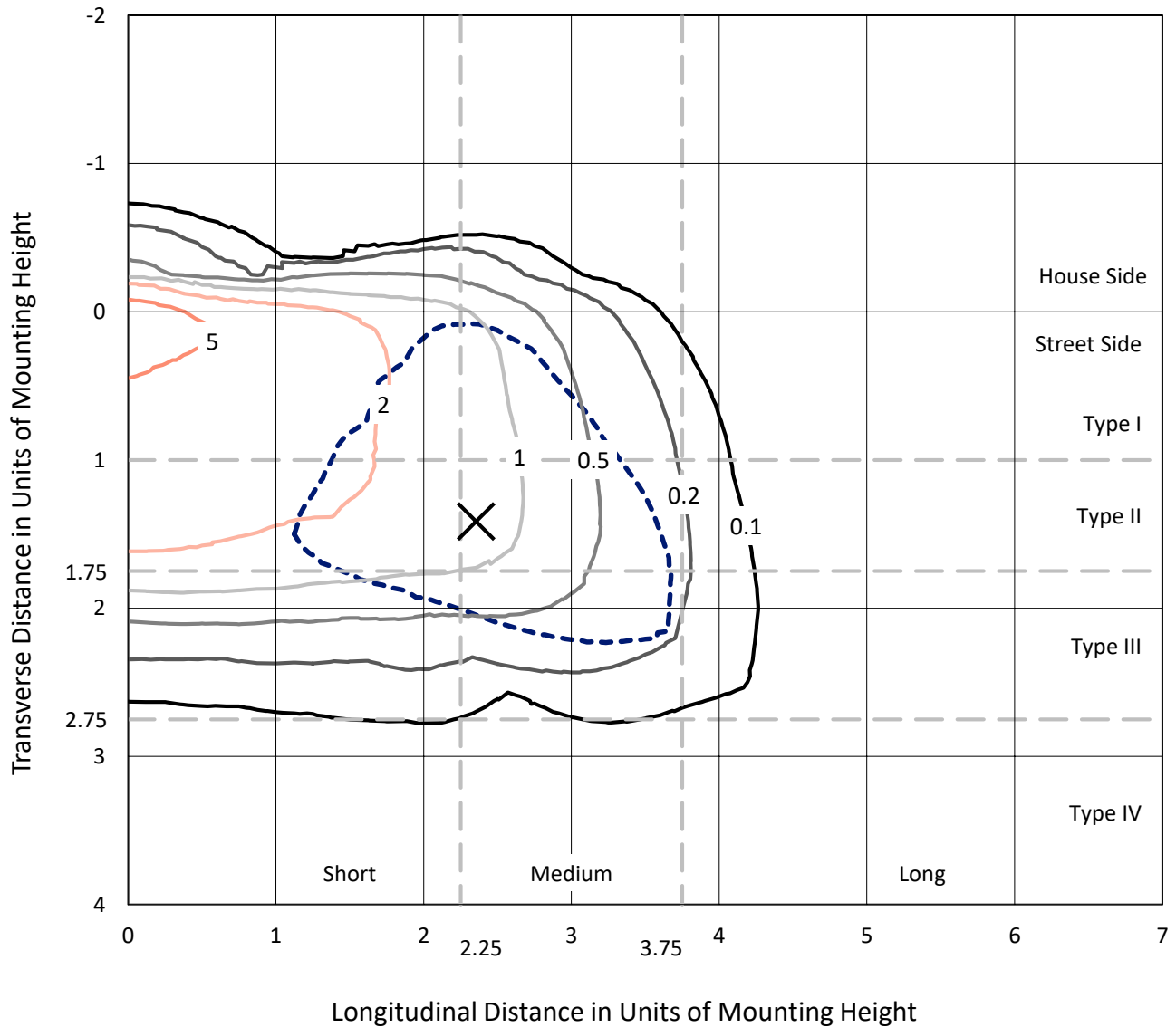
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

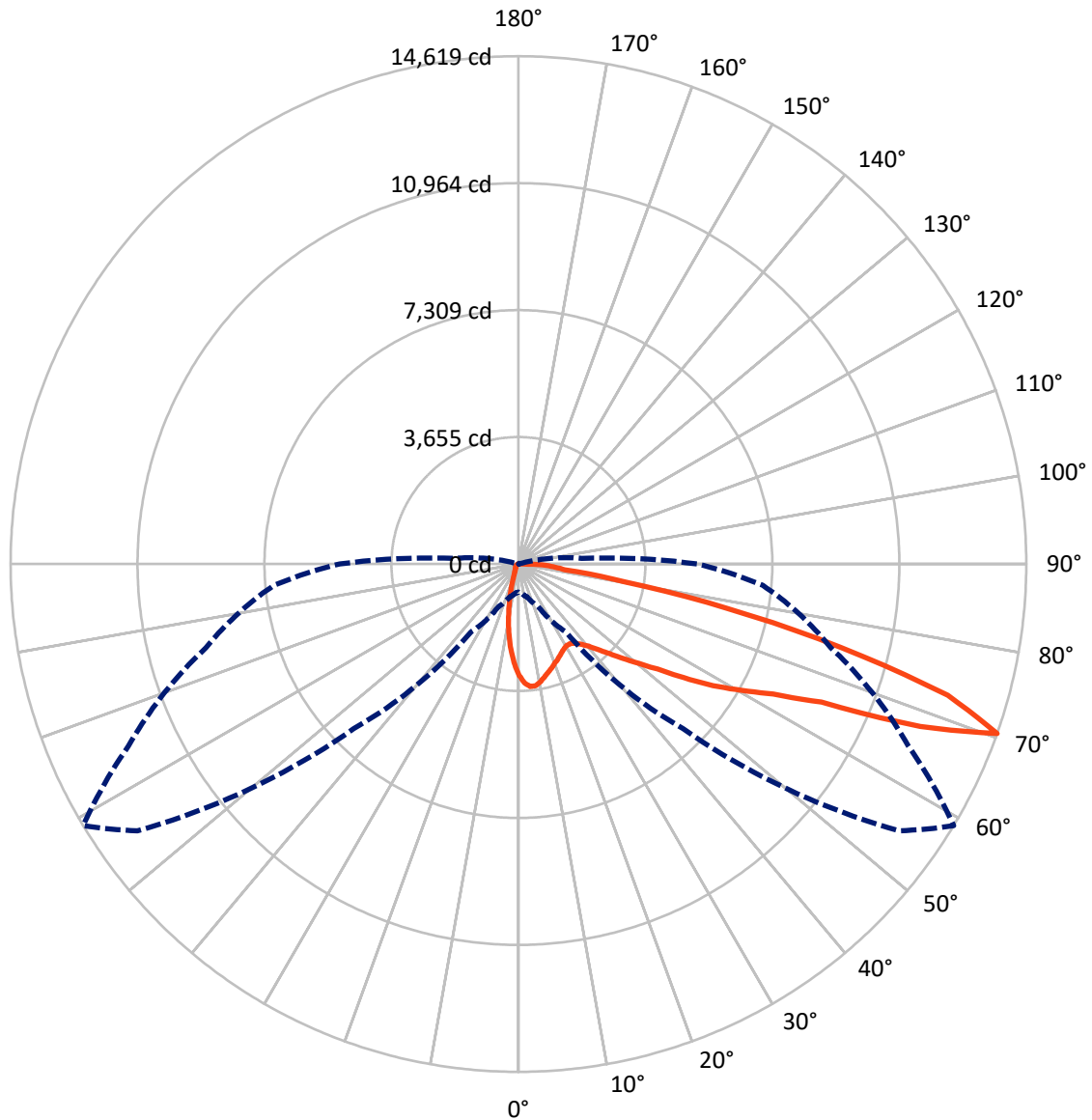
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.6 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	977.0	0.0	977.0
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	11732.2	0.0	11732.2
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	12709.1	0.0	12709.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	264.3	2.1
10°-20°	554.3	4.4
20°-30°	750.3	5.9
30°-40°	1082.8	8.5
40°-50°	1798.3	14.1
50°-60°	2750.7	21.6
60°-70°	3421.2	26.9
70°-80°	1891.2	14.9
80°-90°	196.1	1.5
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°	12709.1	100.0
0°-180°	12709.1	100.0



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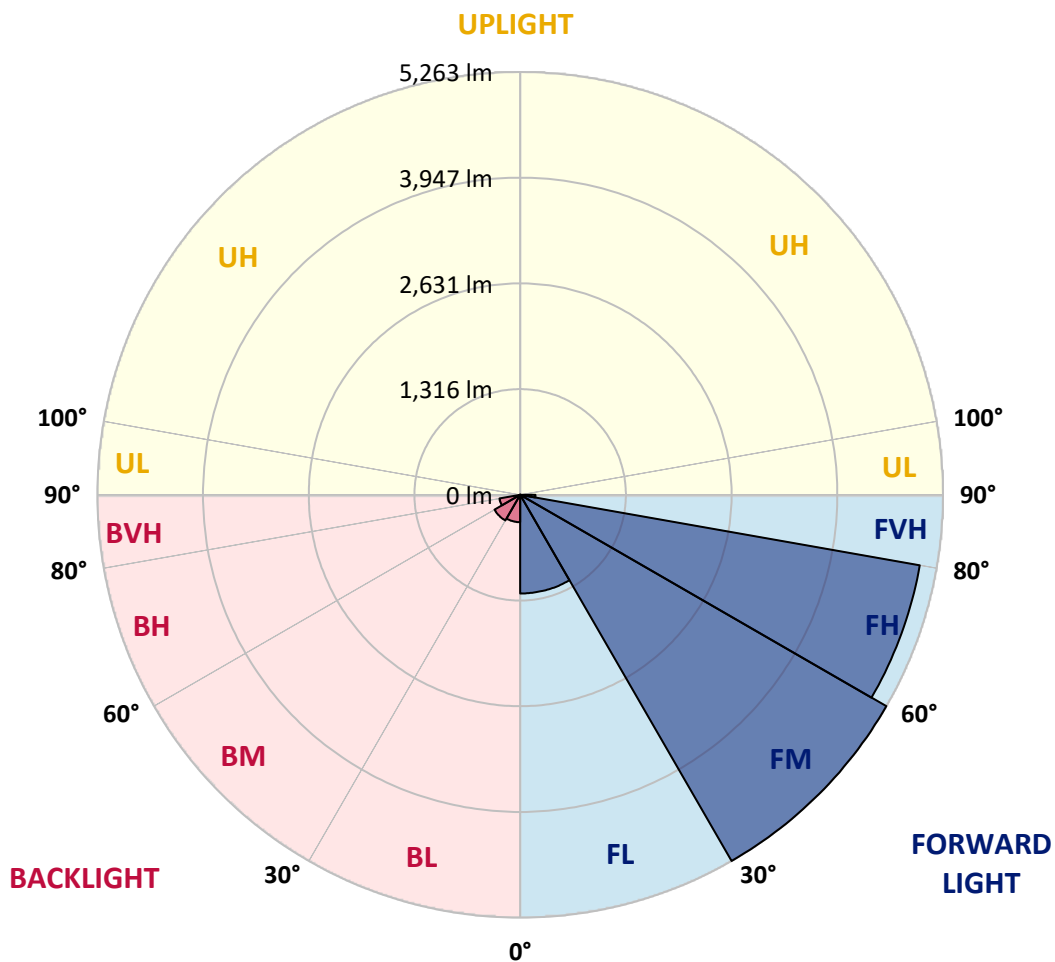
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1228.4	9.7			
FM	(30°-60°)	5263.0	41.4			
FH	(60°-80°)	5050.4	39.7			G3/7500
FVH	(80°-90°)	190.4	1.5			G2/225
BL	(0°-30°)	340.5	2.7	B1/500		
BM	(30°-60°)	368.8	2.9	B1/1000		
BH	(60°-80°)	262.1	2.1	B1/500		G1/500
BVH	(80°-90°)	5.7	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7
2.5°	3632.7	3626.9	3602.9	3598.1	3571.3	3517.6	3455.3	3430.4	3379.5	3299.0	3209.8
5°	3693.1	3695.9	3697.9	3687.3	3683.4	3639.4	3570.3	3540.6	3472.5	3340.2	3177.3
7.5°	3466.8	3474.5	3498.4	3508.9	3555.0	3572.2	3557.8	3538.7	3485.0	3328.7	3099.6
10°	3228.0	3242.4	3268.3	3285.6	3342.2	3388.2	3446.6	3451.4	3440.0	3290.4	3012.4
12.5°	3022.9	3036.3	3065.1	3099.6	3157.1	3216.6	3303.8	3334.5	3372.9	3265.5	2950.0
15°	2846.5	2850.4	2878.2	2921.2	2997.0	3078.5	3182.1	3227.1	3301.9	3255.8	2902.1
17.5°	2692.1	2693.1	2711.3	2750.6	2842.7	2950.0	3070.8	3130.2	3225.2	3242.4	2859.9
20°	2590.5	2589.5	2590.5	2611.6	2693.1	2820.6	2967.3	3029.6	3151.4	3226.2	2816.8
22.5°	2555.9	2551.2	2529.1	2521.5	2573.2	2685.5	2860.9	2942.3	3085.2	3221.4	2785.1
25°	2598.2	2595.3	2548.3	2504.2	2509.0	2579.0	2752.6	2852.2	3033.5	3238.7	2777.4
27.5°	2734.3	2728.5	2656.7	2570.4	2515.7	2528.2	2671.9	2776.5	2992.2	3280.8	2788.1
30°	2912.6	2913.6	2836.9	2732.4	2603.9	2533.0	2628.9	2727.6	2964.4	3344.0	2811.0
32.5°	3111.1	3110.2	3055.5	2934.6	2770.8	2621.2	2648.0	2731.5	2968.3	3437.1	2855.2
35°	3316.3	3305.8	3287.5	3181.1	2989.4	2775.6	2735.3	2796.6	3008.5	3559.8	2929.9
37.5°	3553.1	3549.2	3567.4	3455.3	3259.7	3002.8	2888.7	2929.9	3110.2	3741.0	3050.7
40°	3929.9	3908.8	3917.4	3765.0	3564.6	3308.6	3103.4	3114.0	3272.2	3980.7	3241.5
42.5°	4648.0	4562.7	4402.5	4116.8	3900.1	3647.9	3384.3	3366.1	3501.4	4271.1	3492.7
45°	5506.0	5408.2	5004.6	4505.1	4235.7	4012.3	3731.4	3682.5	3783.2	4617.3	3816.7
47.5°	6222.2	6116.7	5581.7	4910.7	4577.0	4388.2	4115.8	4058.4	4120.7	5019.0	4206.0
50°	6466.7	6408.2	5938.4	5248.1	4921.2	4810.0	4598.1	4502.2	4517.6	5452.3	4660.5
52.5°	6354.5	6334.4	6019.9	5479.1	5239.5	5276.0	5126.3	5025.7	5008.5	5926.0	5162.8
55°	6117.7	6108.1	5954.7	5607.6	5520.4	5702.5	5867.4	5780.2	5617.2	6429.2	5577.9
57.5°	5779.3	5815.7	5926.0	5855.0	5865.6	6153.2	6555.9	6600.9	6357.3	6830.0	5885.6
60°	4875.2	4973.0	5478.2	6120.6	6612.4	6902.9	7293.1	7377.5	6984.4	7104.2	6241.3
62.5°	3603.9	3743.9	4463.9	5644.1	7023.7	8328.6	8273.9	8236.5	7582.6	7471.4	6888.6
65°	2116.9	2280.9	2889.6	4410.1	6403.4	9245.1	10105.1	9587.4	8494.4	8234.5	7919.2
67.5°	1054.6	1055.6	1330.8	2327.8	4732.3	8605.6	12778.1	12478.9	10433.0	9359.2	8325.7
70°	811.1	833.1	984.6	1352.8	2393.0	6702.5	13390.6	14618.8	12381.1	9309.4	7064.0
72.5°	687.4	701.7	876.3	1177.3	1789.0	3679.7	11592.1	12921.8	11814.5	7865.5	5206.9
75°	494.7	506.3	775.6	1068.1	1647.2	1825.5	7951.8	9583.5	8864.5	5532.8	2865.7
77.5°	122.8	121.7	270.4	866.7	1473.6	1520.5	4562.7	6145.5	5086.1	2265.5	736.3
80°	54.6	52.7	61.4	182.2	1371.0	1435.2	2006.6	3103.4	1951.1	367.2	225.3
82.5°	38.4	36.4	38.4	67.1	458.3	1331.7	1212.8	1345.1	714.2	125.6	95.9
85°	12.5	11.5	21.1	56.6	128.5	767.9	1183.0	1004.7	531.1	53.7	64.2
87.5°	1.9	1.9	7.7	30.7	37.4	255.9	694.2	696.0	238.8	31.6	28.7
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°	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7	3213.7
2.5°	3164.8	3108.2	3028.7	2949.1	2877.2	2803.3	2743.9	2716.1	2703.7	2686.4	2649.0
5°	3092.0	2989.4	2814.9	2643.2	2483.1	2329.8	2198.4	2123.6	2043.0	2039.3	2000.0
7.5°	2974.9	2829.3	2554.1	2287.5	2043.0	1809.1	1607.8	1477.4	1388.2	1332.6	1294.3
10°	2844.6	2657.6	2293.3	1918.4	1585.8	1273.2	1014.4	845.6	743.1	691.2	661.5
12.5°	2741.0	2506.1	2036.4	1564.7	1147.6	789.0	548.4	425.6	371.0	350.0	340.3
15°	2651.9	2367.1	1795.7	1248.3	766.0	453.5	317.3	277.1	268.4	268.4	267.5
17.5°	2561.8	2232.9	1561.7	937.6	482.2	297.2	250.2	244.5	245.4	248.3	248.3
20°	2476.5	2105.3	1336.5	668.2	316.4	237.7	227.2	225.3	228.2	232.0	231.1
22.5°	2407.4	1993.2	1125.6	459.2	243.6	215.7	209.0	206.1	208.1	210.9	210.0
25°	2358.5	1897.4	931.9	320.2	211.9	196.5	188.8	185.1	183.1	185.1	184.0
27.5°	2328.7	1816.8	749.7	240.6	189.9	177.4	167.8	160.1	155.3	155.3	153.4
30°	2309.6	1741.1	587.7	199.4	171.7	158.1	144.7	134.2	126.5	124.6	123.7
32.5°	2308.6	1675.9	439.1	176.4	154.4	139.0	122.8	109.3	100.7	98.7	97.8
35°	2332.6	1623.1	323.0	159.2	139.0	120.8	102.6	88.2	80.5	80.5	79.6
37.5°	2394.9	1592.4	244.5	145.8	126.5	105.5	86.3	72.8	66.2	68.0	68.0
40°	2510.9	1586.7	199.4	135.1	116.0	92.1	70.0	59.4	56.6	59.4	59.4
42.5°	2688.3	1617.4	177.4	127.6	106.4	78.7	58.5	50.8	49.8	52.7	52.7
45°	2919.4	1677.7	164.9	120.8	95.9	65.2	48.9	44.1	43.2	47.0	47.0
47.5°	3199.3	1759.3	153.4	113.1	85.3	53.7	41.2	37.4	37.4	41.2	42.1
50°	3531.0	1869.5	141.9	105.5	76.7	45.0	34.5	31.6	32.6	36.4	37.4
52.5°	3912.6	2004.7	131.3	98.7	67.1	36.4	28.7	26.8	27.8	31.6	32.6
55°	4241.5	2122.6	118.9	92.1	54.6	29.8	23.9	23.0	23.9	28.7	28.7
57.5°	4528.1	2235.8	107.4	81.5	43.2	23.9	19.1	19.1	21.1	25.9	26.8
60°	4908.7	2414.1	97.8	69.0	32.6	18.2	15.3	16.3	19.1	23.0	23.9
62.5°	5582.8	2717.1	85.3	57.5	23.9	14.4	12.5	13.4	17.3	22.1	23.0
65°	6426.4	3003.7	71.0	48.0	18.2	10.5	9.6	12.5	17.3	22.1	23.0
67.5°	6340.1	2612.5	55.6	38.4	13.4	8.6	7.7	11.5	16.3	22.1	23.0
70°	5141.7	1831.2	41.2	25.9	10.5	7.7	7.7	11.5	16.3	21.1	22.1
72.5°	3566.5	1019.2	31.6	17.3	9.6	7.7	6.8	10.5	15.3	21.1	22.1
75°	1697.0	312.5	25.0	12.5	8.6	6.8	5.7	10.5	15.3	21.1	22.1
77.5°	326.0	79.6	20.2	10.5	7.7	6.8	5.7	9.6	15.3	20.2	21.1
80°	110.3	35.5	16.3	9.6	7.7	6.8	5.7	9.6	14.4	19.1	20.2
82.5°	60.4	20.2	14.4	8.6	7.7	5.7	4.8	8.6	13.4	19.1	20.2
85°	47.0	14.4	11.5	8.6	7.7	5.7	4.8	8.6	13.4	18.2	19.1
87.5°	23.9	10.5	9.6	8.6	7.7	5.7	4.8	7.7	12.5	17.3	19.1
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)