

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: P270509

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270509  
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-SL2-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 2700K, 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: 13969.4 lumens  
Efficiency: N/A  
Efficacy: 81.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B1 - 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

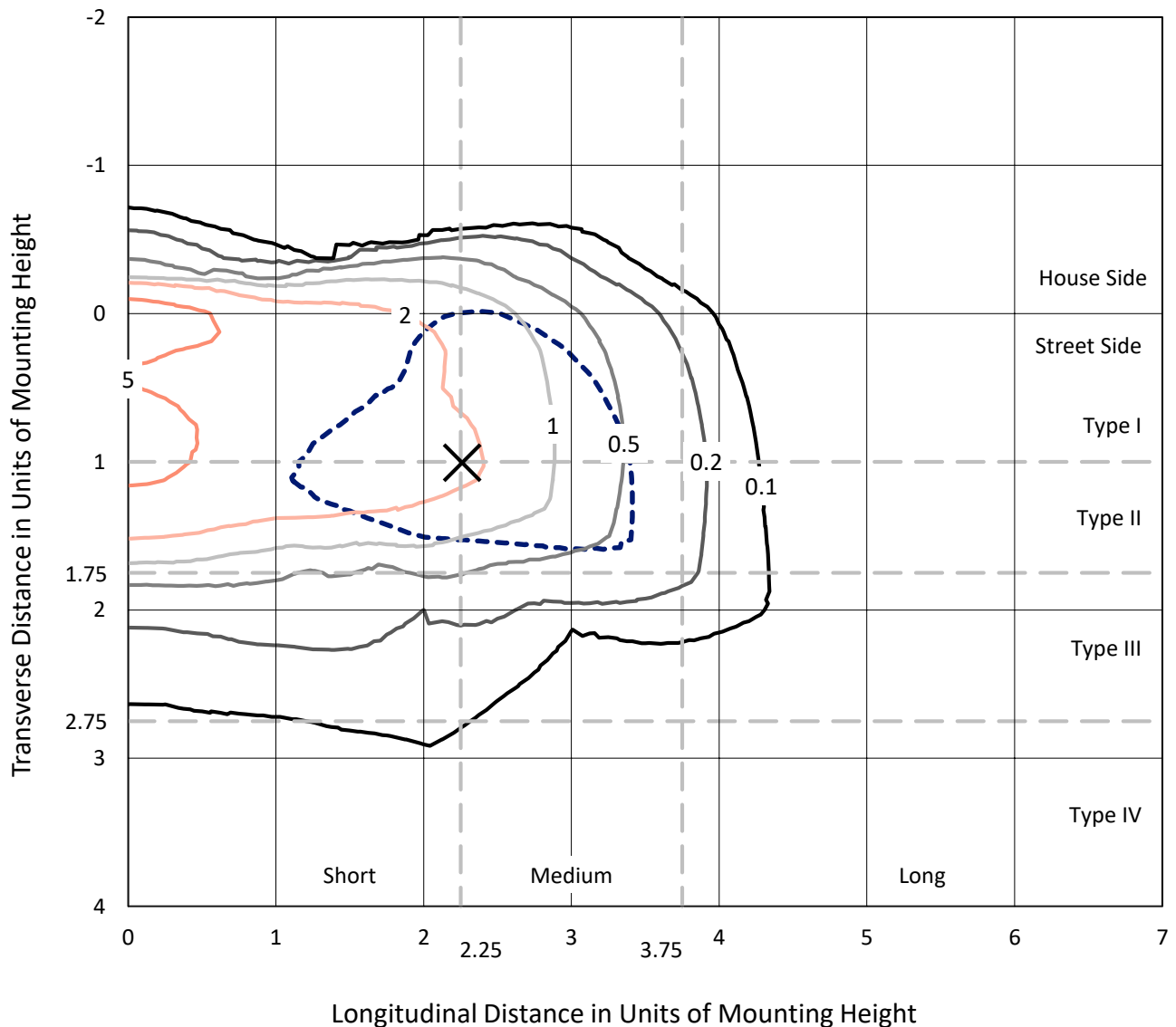


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

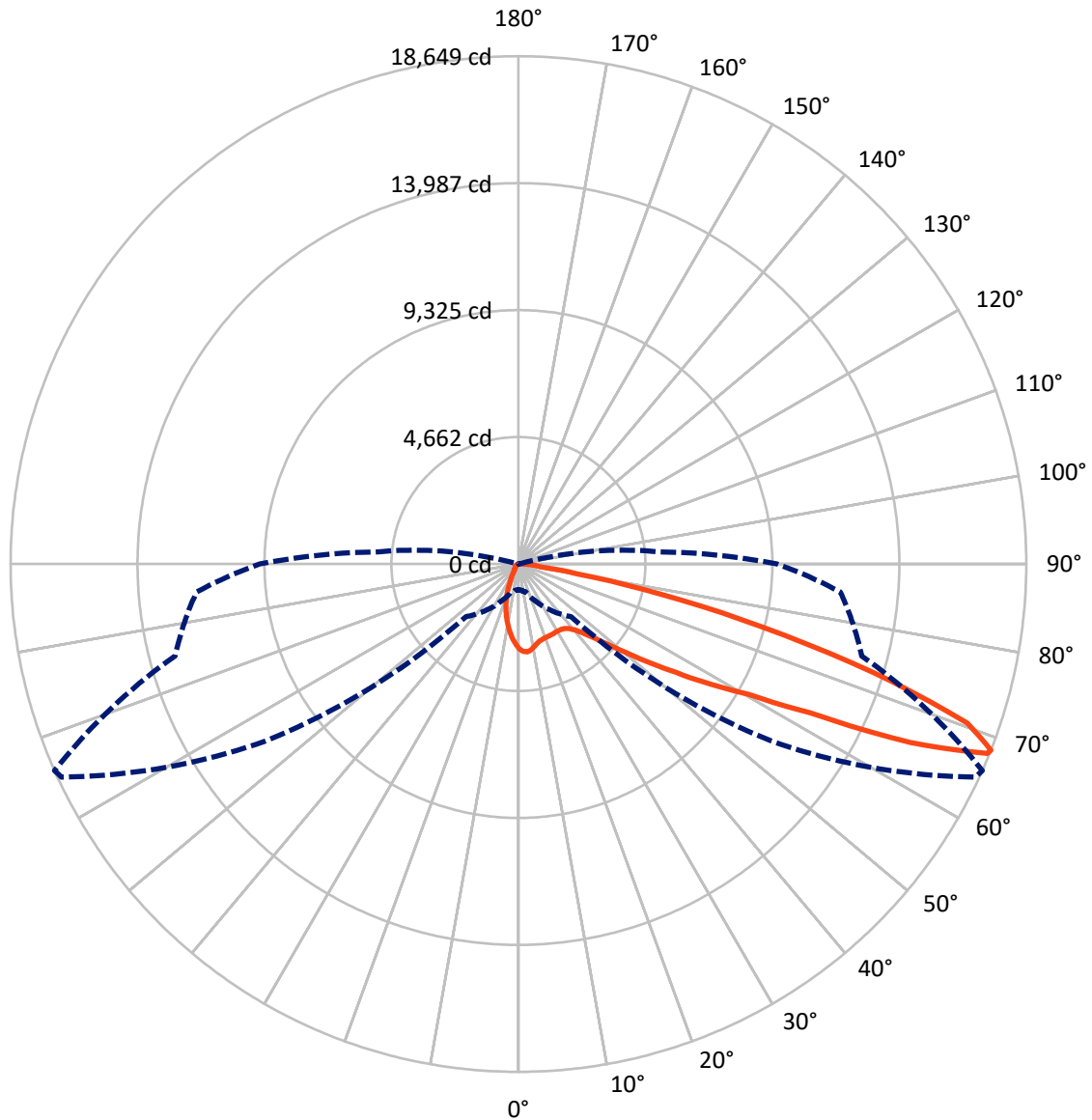


Based on 20 foot mounting height. Maximum calculated value = 7.8 fc  
 Type II - Medium - Semi-Cutoff

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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
<b>House Side</b>	Lumens	1415.0	0.0	1415.0
	% Fixture	10.1	0.0	10.1
<b>Street Side</b>	Lumens	12554.5	0.0	12554.5
	% Fixture	89.9	0.0	89.9
<b>Total</b>	Lumens	13969.4	0.0	13969.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.1	1.8
10°-20°	549.0	3.9
20°-30°	795.5	5.7
30°-40°	1217.8	8.7
40°-50°	2082.9	14.9
50°-60°	3258.2	23.3
60°-70°	3751.7	26.9
70°-80°	1877.4	13.4
80°-90°	181.8	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°	13969.4	100.0
0°-180°	13969.4	100.0



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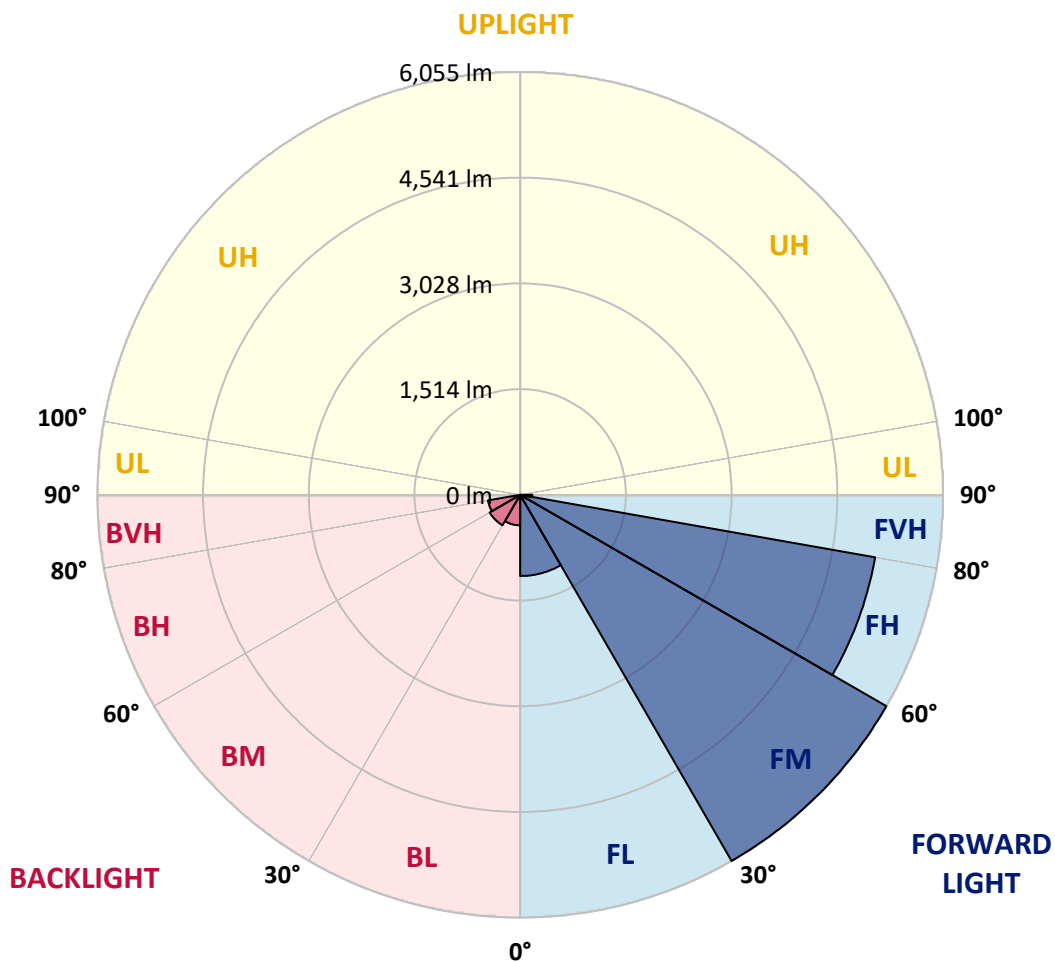
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1162.9	8.3			
FM (30°-60°)	6055.0	43.3			
FH (60°-80°)	5161.7	36.9			G3/7500
FVH (80°-90°)	174.9	1.3			G2/225
BL (0°-30°)	436.7	3.1	B1/500		
BM (30°-60°)	503.9	3.6	B1/1000		
BH (60°-80°)	467.5	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°	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3
2.5°	3273.5	3275.7	3274.5	3277.8	3275.7	3259.2	3241.7	3204.3	3207.7	3159.3	3105.7
5°	3043.2	3061.9	3080.5	3099.2	3144.1	3183.6	3230.7	3241.7	3241.7	3200.0	3121.0
7.5°	2808.6	2809.5	2830.4	2855.6	2916.0	2988.3	3098.1	3196.7	3198.9	3209.9	3123.2
10°	2631.9	2637.5	2651.6	2679.0	2739.4	2810.6	2933.5	3088.2	3100.2	3181.3	3101.3
12.5°	2494.9	2501.4	2516.8	2548.6	2603.4	2676.9	2806.2	2982.8	2999.4	3153.9	3094.8
15°	2389.6	2398.4	2410.4	2442.2	2501.4	2579.4	2720.7	2912.7	2932.3	3143.0	3115.5
17.5°	2345.7	2345.7	2344.5	2366.6	2425.8	2504.7	2652.8	2875.4	2900.5	3151.8	3150.6
20°	2364.3	2361.0	2338.0	2332.5	2368.7	2447.7	2599.1	2851.3	2879.7	3168.2	3193.5
22.5°	2463.1	2456.4	2404.9	2362.2	2351.3	2403.9	2562.9	2834.8	2868.7	3202.2	3250.4
25°	2672.5	2652.8	2581.5	2485.0	2398.4	2392.8	2537.6	2826.1	2862.2	3241.7	3312.9
27.5°	2944.5	2939.0	2824.9	2695.5	2528.9	2429.0	2529.9	2819.5	2855.6	3270.2	3363.3
30°	3282.2	3284.5	3152.8	2984.0	2731.7	2531.1	2554.2	2816.1	2853.5	3272.3	3385.4
32.5°	3630.9	3633.1	3523.5	3342.6	3009.1	2706.6	2622.1	2831.5	2865.6	3263.6	3384.3
35°	3966.6	3969.8	3904.0	3758.1	3379.9	2949.9	2750.4	2884.2	2908.4	3269.1	3381.9
37.5°	4390.9	4404.1	4323.0	4187.0	3844.8	3307.5	2959.8	2990.5	3010.3	3314.0	3398.5
40°	5114.7	5097.2	4864.7	4634.4	4349.2	3742.8	3262.6	3173.6	3180.3	3430.3	3461.0
42.5°	5958.0	5936.1	5538.1	5141.0	4867.9	4268.0	3649.6	3454.4	3453.4	3625.5	3597.0
45°	6684.0	6670.9	6251.9	5722.3	5442.7	4848.2	4126.6	3859.1	3846.0	3963.2	3844.8
47.5°	7199.5	7188.4	6871.6	6340.7	6107.1	5486.5	4722.1	4410.7	4383.3	4405.2	4247.2
50°	7250.0	7237.9	7127.1	6785.9	6883.6	6423.1	5457.9	5133.4	5098.3	5064.3	4855.9
52.5°	6778.3	6777.3	6835.4	6813.5	7427.5	7628.1	6360.4	6027.1	5985.4	5898.8	5691.5
55°	5814.4	5808.9	6029.3	6349.5	7415.5	8871.8	7736.8	7090.9	7036.1	6862.7	6590.8
57.5°	4248.4	4219.9	4680.4	5359.3	6894.5	9415.8	9922.4	8412.3	8321.3	7771.9	7352.9
60°	2345.7	2356.7	2948.9	3752.7	5660.8	9308.2	11933.7	9953.1	9714.0	8555.9	8133.8
62.5°	1314.8	1342.2	1783.1	2438.9	3609.0	8436.4	13012.7	12604.7	12029.1	9470.6	9120.8
65°	994.7	1011.1	1232.7	1881.8	2275.5	5895.5	13184.9	16312.5	15815.6	10856.7	10692.3
67.5°	936.6	949.7	1058.3	1560.5	2072.7	3057.4	11888.7	18505.8	18568.2	12747.3	11909.5
68°	943.1	959.6	1068.2	1501.2	2069.3	2735.0	11335.9	18516.8	18649.4	13052.2	11867.8
70°	866.3	870.7	1129.4	1472.9	2005.7	2154.9	8200.6	17247.8	17485.9	13415.2	10773.4
72.5°	331.1	332.4	506.6	1275.5	2101.1	2166.9	4131.0	13632.3	13644.4	11674.8	8399.2
75°	172.1	144.7	159.0	399.1	2006.9	2112.2	2072.7	9308.2	9250.1	7895.8	5146.5
77.5°	118.4	100.9	106.4	138.2	834.5	2111.0	1496.9	5352.7	5340.7	3359.0	1468.4
80°	67.0	58.1	63.6	116.2	292.8	1981.7	1394.9	2300.7	2168.1	589.9	238.1
82.5°	34.0	28.6	34.0	97.6	182.0	1246.8	1356.5	902.5	803.9	140.3	154.6
85°	8.8	8.8	16.4	68.0	112.9	409.1	1216.1	651.5	585.6	61.4	109.7
87.5°	2.2	1.1	6.6	25.2	40.6	88.8	674.4	362.9	312.5	31.8	63.6
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°	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3	3112.3
2.5°	3083.7	3053.0	2992.8	2924.7	2876.6	2823.8	2793.1	2755.8	2727.3	2702.1	2720.7
5°	3072.8	3013.5	2879.7	2729.5	2603.4	2482.7	2392.8	2307.3	2242.6	2202.0	2218.5
7.5°	3044.3	2956.5	2739.4	2504.7	2298.6	2104.5	1946.5	1805.1	1695.5	1636.3	1654.8
10°	2995.9	2872.2	2580.4	2254.7	1966.3	1692.0	1457.4	1246.8	1087.8	1013.3	1030.8
12.5°	2961.0	2797.5	2415.9	2013.5	1633.9	1244.7	933.2	692.0	568.1	493.4	500.0
15°	2945.5	2739.4	2262.3	1759.1	1271.0	799.4	504.5	365.3	322.4	307.1	308.2
17.5°	2947.8	2693.4	2116.4	1494.7	904.8	459.6	309.2	278.6	271.9	268.7	268.7
20°	2953.3	2647.2	1965.2	1219.4	579.0	296.1	257.8	247.8	244.6	240.1	241.3
22.5°	2969.6	2612.2	1812.7	943.1	356.4	241.3	228.1	219.4	213.8	207.2	208.3
25°	2994.9	2586.0	1662.6	678.8	251.2	210.6	198.4	186.4	176.5	168.9	170.0
27.5°	3010.3	2548.6	1502.3	462.7	208.3	184.2	167.9	151.4	140.3	133.8	132.7
30°	2999.4	2488.2	1320.4	303.7	184.2	159.0	139.2	120.6	109.7	104.2	104.2
32.5°	2969.6	2410.4	1119.6	221.5	163.4	137.1	112.9	96.5	88.8	85.6	86.6
35°	2935.8	2329.2	905.9	187.6	147.0	116.2	92.2	79.0	75.6	74.6	74.6
37.5°	2917.1	2259.1	700.8	170.0	131.6	96.5	75.6	68.0	64.7	64.7	64.7
40°	2937.8	2205.2	518.7	156.8	116.2	80.0	63.6	58.1	57.0	57.0	57.0
42.5°	3026.7	2186.7	379.4	145.9	100.9	67.0	54.8	50.5	49.3	50.5	50.5
45°	3200.0	2227.3	287.3	134.8	86.6	54.8	47.2	43.8	43.8	44.9	44.9
47.5°	3493.9	2331.5	235.7	124.0	72.4	46.1	40.6	38.4	38.4	39.4	39.4
50°	3950.0	2524.4	211.6	111.8	60.4	39.4	34.0	32.9	32.9	34.0	35.2
52.5°	4643.2	2891.9	199.7	99.8	49.3	32.9	28.6	27.4	28.6	29.6	29.6
55°	5414.2	3362.3	185.3	87.8	41.7	27.4	23.0	23.0	24.2	26.3	26.3
57.5°	6132.4	3816.3	172.1	72.4	36.2	21.9	18.7	18.7	20.8	23.0	23.0
60°	6891.3	4261.5	154.6	58.1	30.7	17.5	15.4	15.4	18.7	20.8	21.9
62.5°	7828.9	4779.2	131.6	46.1	24.2	13.1	11.0	14.3	17.5	20.8	20.8
65°	9184.4	5422.9	103.0	36.2	18.7	9.9	8.8	13.1	16.4	19.8	20.8
67.5°	9676.7	5340.7	77.9	29.6	14.3	7.6	7.6	12.0	16.4	19.8	19.8
68°	9496.9	5160.8	74.6	28.6	13.1	7.6	7.6	12.0	16.4	19.8	19.8
70°	8275.2	4218.8	61.4	21.9	11.0	6.6	6.6	11.0	16.4	18.7	19.8
72.5°	6196.0	2803.0	52.6	14.3	9.9	6.6	5.5	11.0	15.4	18.7	18.7
75°	3554.2	1163.6	44.9	11.0	8.8	5.5	5.5	9.9	15.4	18.7	18.7
77.5°	1004.6	271.9	36.2	8.8	7.6	5.5	4.4	9.9	14.3	17.5	17.5
80°	184.2	81.1	28.6	7.6	6.6	5.5	4.4	9.9	14.3	17.5	17.5
82.5°	121.7	38.4	20.8	7.6	6.6	5.5	4.4	8.8	13.1	16.4	16.4
85°	91.0	27.4	13.1	7.6	6.6	5.5	4.4	8.8	13.1	16.4	16.4
87.5°	50.5	12.0	9.9	8.8	7.6	5.5	4.4	7.6	12.0	15.4	15.4
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)