

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: P195591

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7050-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195591  
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-SL2-7050-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 5000K, 1050mA 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: 14776 lumens  
Efficiency: N/A  
Efficacy: 89.0 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

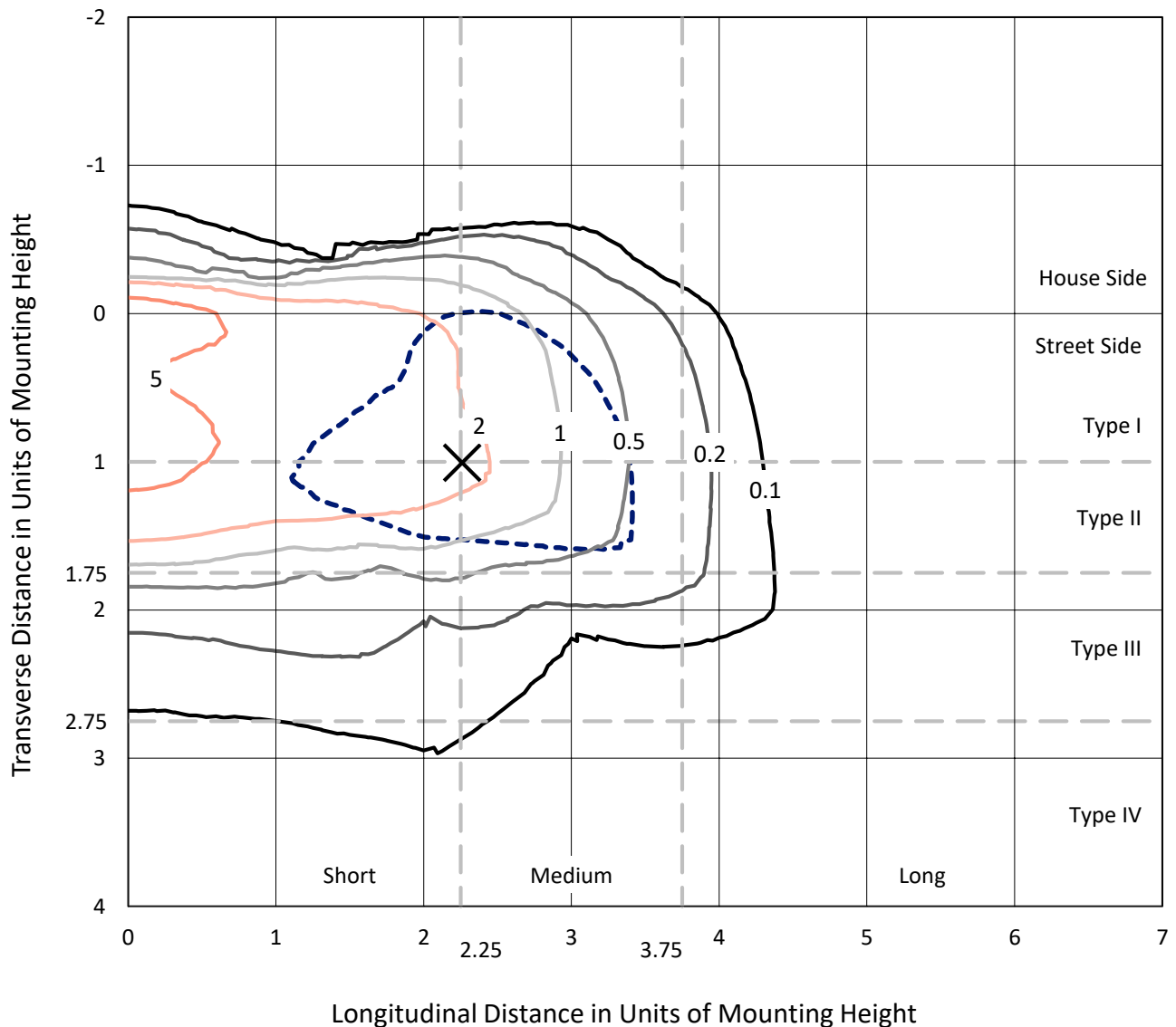
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

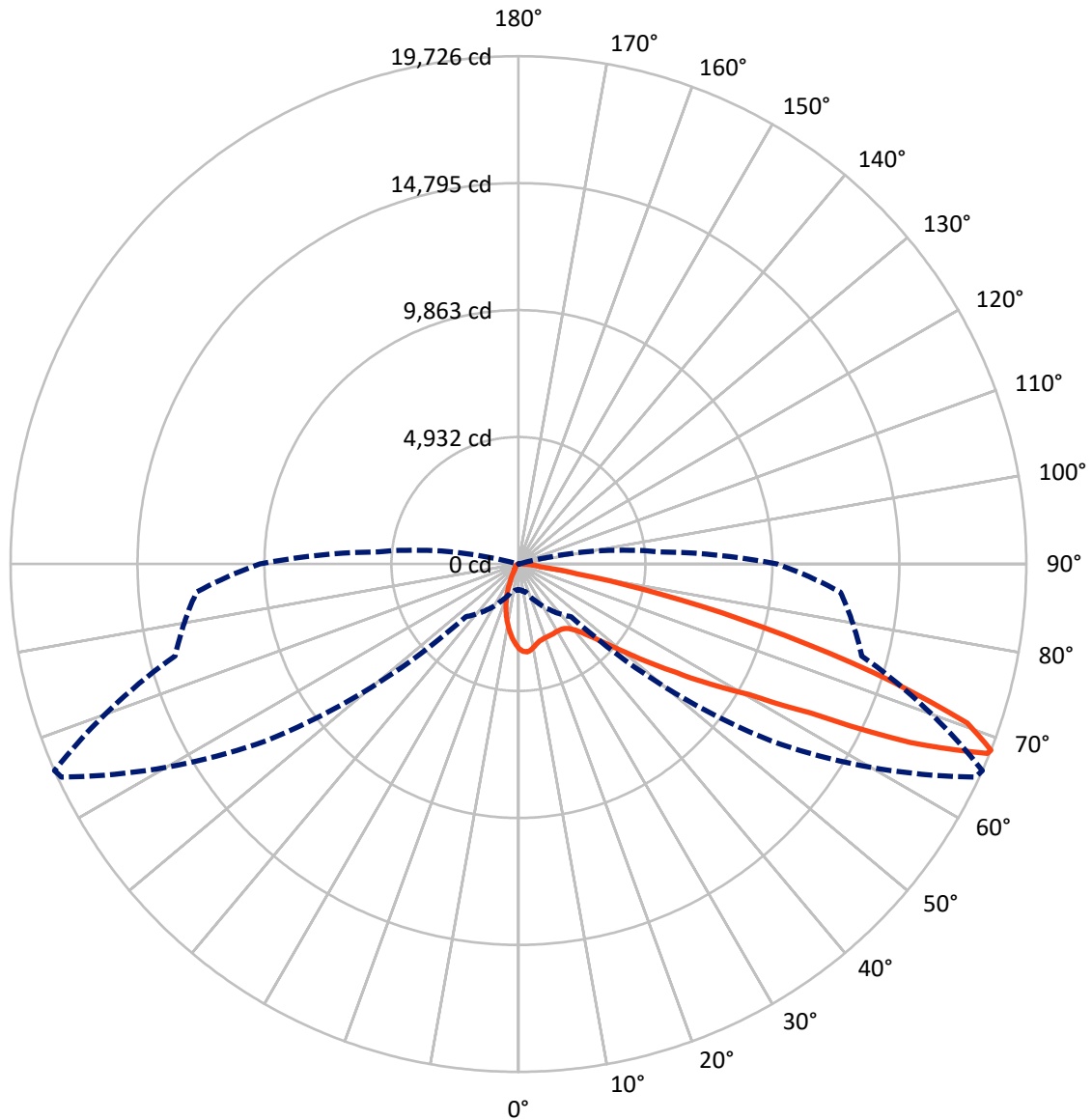
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.2 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	1496.7	0.0	1496.7
	% Fixture	10.1	0.0	10.1
<b>Street Side</b>	Lumens	13279.4	0.0	13279.4
	% Fixture	89.9	0.0	89.9
<b>Total</b>	Lumens	14776.0	0.0	14776.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	269.9	1.8
10°-20°	580.7	3.9
20°-30°	841.4	5.7
30°-40°	1288.1	8.7
40°-50°	2203.1	14.9
50°-60°	3446.3	23.3
60°-70°	3968.3	26.9
70°-80°	1985.8	13.4
80°-90°	192.3	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°	14776.0	100.0
0°-180°	14776.0	100.0



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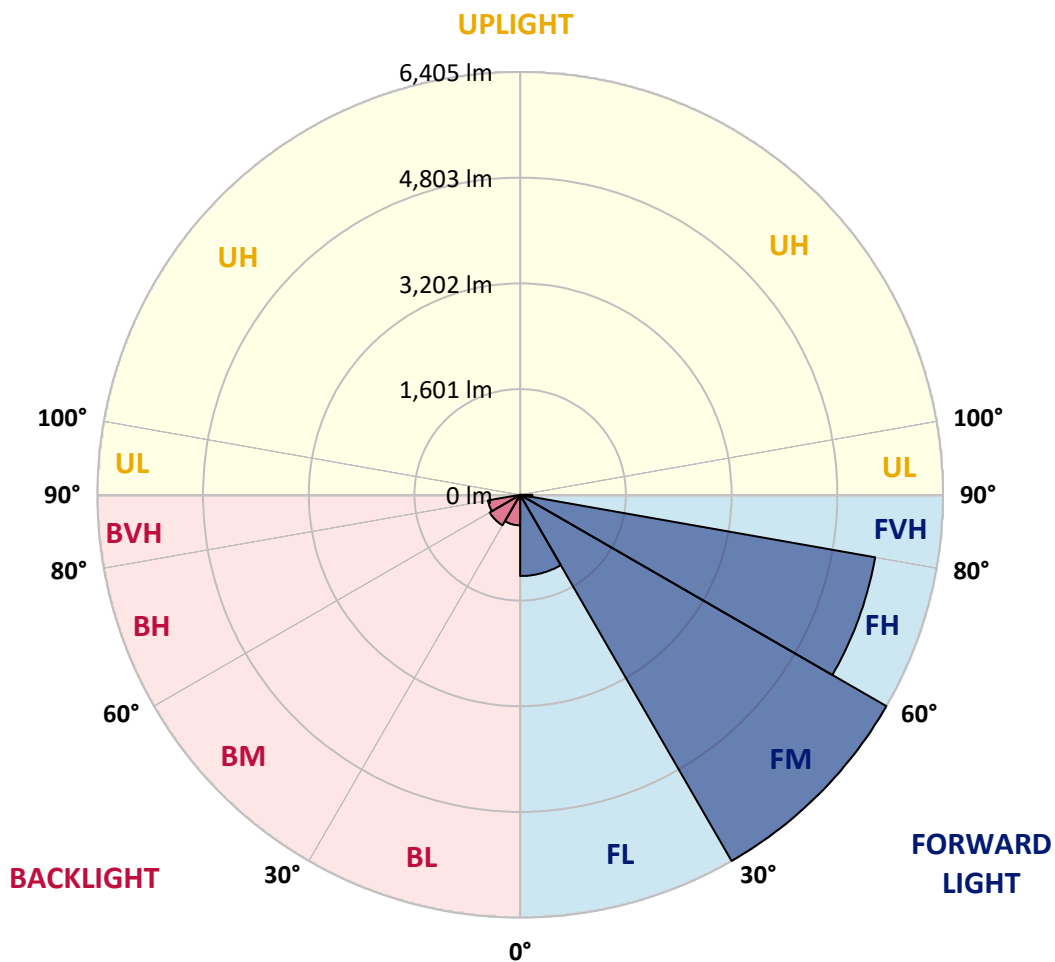
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1230.0	8.3			
FM (30°-60°)	6404.6	43.3			
FH (60°-80°)	5459.7	36.9			G3/7500
FVH (80°-90°)	185.0	1.3			G2/225
BL (0°-30°)	461.9	3.1	B1/500		
BM (30°-60°)	533.0	3.6	B1/1000		
BH (60°-80°)	494.5	3.3	B1/500		G1/500
BVH (80°-90°)	7.3	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°	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0
2.5°	3462.5	3464.8	3463.6	3467.1	3464.8	3447.4	3428.8	3389.4	3392.9	3341.8	3285.0
5°	3218.9	3238.6	3258.3	3278.0	3325.6	3367.4	3417.2	3428.8	3428.8	3384.7	3301.2
7.5°	2970.6	2971.8	2993.8	3020.5	3084.3	3160.9	3276.9	3381.3	3383.6	3395.2	3303.6
10°	2783.9	2789.7	2804.8	2833.8	2897.6	2973.0	3102.9	3266.4	3279.2	3365.0	3280.4
12.5°	2638.9	2645.9	2662.1	2695.7	2753.7	2831.5	2968.3	3155.1	3172.5	3336.0	3273.4
15°	2527.5	2536.8	2549.6	2583.2	2645.9	2728.2	2877.8	3080.8	3101.7	3324.4	3295.4
17.5°	2481.1	2481.1	2480.0	2503.2	2565.8	2649.3	2805.9	3041.4	3068.1	3333.7	3332.6
20°	2500.9	2497.4	2473.0	2467.2	2505.5	2589.0	2749.1	3015.9	3046.0	3351.1	3377.8
22.5°	2605.3	2598.3	2543.8	2498.5	2486.9	2542.6	2710.8	2998.5	3034.4	3387.1	3438.1
25°	2826.8	2805.9	2730.5	2628.5	2536.8	2531.0	2684.1	2989.2	3027.5	3428.8	3504.2
27.5°	3114.5	3108.7	2988.0	2851.2	2674.9	2569.3	2676.0	2982.2	3020.5	3459.0	3557.6
30°	3471.7	3474.1	3334.9	3156.2	2889.4	2677.2	2701.5	2978.8	3018.2	3461.3	3580.8
32.5°	3840.6	3842.9	3726.9	3535.5	3182.9	2862.8	2773.5	2995.0	3031.0	3452.0	3579.6
35°	4195.6	4199.0	4129.4	3975.2	3575.0	3120.3	2909.2	3050.7	3076.2	3457.8	3577.3
37.5°	4644.5	4658.4	4572.5	4428.7	4066.8	3498.4	3130.7	3163.2	3184.1	3505.4	3594.7
40°	5410.0	5391.5	5145.6	4902.0	4600.4	3958.9	3450.9	3356.9	3363.9	3628.3	3660.8
42.5°	6302.0	6278.8	5857.8	5437.9	5149.0	4514.5	3860.3	3653.9	3652.7	3834.8	3804.7
45°	7069.9	7056.0	6612.9	6052.6	5756.9	5128.2	4364.9	4081.9	4068.0	4192.1	4066.8
47.5°	7615.1	7603.5	7268.3	6706.9	6459.8	5803.3	4994.8	4665.3	4636.3	4659.5	4492.5
50°	7668.5	7655.7	7538.5	7177.8	7281.0	6793.9	5773.1	5429.8	5392.6	5356.7	5136.3
52.5°	7169.7	7168.5	7230.0	7206.8	7856.4	8068.6	6727.7	6375.1	6331.0	6239.4	6020.2
55°	6150.1	6144.3	6377.4	6716.1	7843.6	9384.0	8183.5	7500.3	7442.3	7259.0	6971.3
57.5°	4493.7	4463.5	4950.7	5668.7	7292.6	9959.4	10495.3	8898.0	8801.7	8220.6	7777.5
60°	2481.1	2492.7	3119.1	3969.4	5987.7	9845.7	12622.6	10527.8	10274.9	9050.0	8603.4
62.5°	1390.8	1419.8	1886.1	2579.7	3817.4	8923.5	13764.0	13332.5	12723.5	10017.4	9647.3
65°	1052.1	1069.5	1303.8	1990.5	2406.9	6235.9	13946.1	17254.3	16728.9	11483.6	11309.6
67.5°	990.6	1004.5	1119.4	1650.6	2192.3	3234.0	12575.1	19574.2	19640.4	13483.3	12597.1
68°	997.6	1015.0	1129.8	1588.0	2188.8	2892.9	11990.5	19585.8	19726.2	13805.8	12553.0
70°	916.4	921.0	1194.8	1557.8	2121.6	2279.3	8674.1	18243.8	18495.5	14189.7	11395.4
72.5°	350.3	351.5	535.9	1349.0	2222.5	2292.1	4369.6	14419.4	14432.2	12348.9	8884.1
75°	182.1	153.1	168.2	422.2	2122.7	2234.1	2192.3	9845.7	9784.2	8351.7	5443.7
77.5°	125.3	106.7	112.5	146.2	882.7	2232.9	1583.3	5661.7	5649.0	3552.9	1553.2
80°	70.8	61.5	67.3	123.0	309.7	2096.0	1475.5	2433.6	2293.2	624.1	251.7
82.5°	36.0	30.2	36.0	103.2	192.6	1318.9	1434.9	954.6	850.2	148.5	163.6
85°	9.3	9.3	17.4	71.9	119.5	432.7	1286.4	689.0	619.4	65.0	116.0
87.5°	2.3	1.2	7.0	26.7	42.9	94.0	713.4	383.9	330.6	33.6	67.3
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°	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0	3292.0
2.5°	3261.8	3229.3	3165.5	3093.6	3042.6	2986.9	2954.4	2915.0	2884.8	2858.1	2877.8
5°	3250.2	3187.6	3046.0	2887.1	2753.7	2626.1	2531.0	2440.5	2372.1	2329.2	2346.6
7.5°	3220.0	3127.2	2897.6	2649.3	2431.3	2226.0	2058.9	1909.3	1793.3	1730.7	1750.4
10°	3169.0	3037.9	2729.4	2384.9	2079.8	1789.8	1541.6	1318.9	1150.7	1071.8	1090.4
12.5°	3131.9	2959.0	2555.4	2129.7	1728.3	1316.5	987.1	731.9	600.9	522.0	528.9
15°	3115.6	2897.6	2393.0	1860.6	1344.4	845.6	533.6	386.3	341.0	324.8	325.9
17.5°	3118.0	2848.9	2238.7	1581.0	957.0	486.0	327.1	294.6	287.7	284.2	284.2
20°	3123.8	2800.1	2078.6	1289.9	612.5	313.2	272.6	262.1	258.7	254.0	255.2
22.5°	3141.2	2763.0	1917.4	997.6	377.0	255.2	241.3	232.0	226.2	219.2	220.4
25°	3167.8	2735.2	1758.5	718.0	265.6	222.7	210.0	197.2	186.8	178.6	179.8
27.5°	3184.1	2695.7	1589.1	489.5	220.4	194.9	177.5	160.1	148.5	141.5	140.4
30°	3172.5	2631.9	1396.6	321.3	194.9	168.2	147.3	127.6	116.0	110.2	110.2
32.5°	3141.2	2549.6	1184.3	234.3	172.8	145.0	119.5	102.1	94.0	90.5	91.6
35°	3105.2	2463.7	958.1	198.4	155.4	123.0	97.4	83.5	80.0	78.9	78.9
37.5°	3085.5	2389.5	741.2	179.8	139.2	102.1	80.0	71.9	68.4	68.4	68.4
40°	3107.5	2332.7	548.7	165.9	123.0	84.7	67.3	61.5	60.3	60.3	60.3
42.5°	3201.5	2313.0	401.3	154.3	106.7	70.8	58.0	53.4	52.2	53.4	53.4
45°	3384.7	2355.9	303.9	142.7	91.6	58.0	49.9	46.4	46.4	47.6	47.6
47.5°	3695.6	2466.1	249.4	131.1	76.6	48.7	42.9	40.6	40.6	41.8	41.8
50°	4178.2	2670.2	223.9	118.3	63.8	41.8	36.0	34.8	34.8	36.0	37.1
52.5°	4911.3	3058.8	211.1	105.6	52.2	34.8	30.2	29.0	30.2	31.3	31.3
55°	5726.7	3556.4	196.0	92.8	44.1	29.0	24.4	24.4	25.5	27.8	27.8
57.5°	6486.5	4036.6	182.1	76.6	38.3	23.2	19.7	19.7	22.0	24.4	24.4
60°	7289.2	4507.6	163.6	61.5	32.5	18.6	16.2	16.2	19.7	22.0	23.2
62.5°	8280.9	5055.1	139.2	48.7	25.5	13.9	11.6	15.1	18.6	22.0	22.0
65°	9714.6	5736.0	109.0	38.3	19.7	10.4	9.3	13.9	17.4	20.9	22.0
67.5°	10235.4	5649.0	82.4	31.3	15.1	8.1	8.1	12.8	17.4	20.9	20.9
68°	10045.2	5458.7	78.9	30.2	13.9	8.1	8.1	12.8	17.4	20.9	20.9
70°	8753.0	4462.3	65.0	23.2	11.6	7.0	7.0	11.6	17.4	19.7	20.9
72.5°	6553.7	2964.8	55.7	15.1	10.4	7.0	5.8	11.6	16.2	19.7	19.7
75°	3759.4	1230.7	47.6	11.6	9.3	5.8	5.8	10.4	16.2	19.7	19.7
77.5°	1062.5	287.7	38.3	9.3	8.1	5.8	4.6	10.4	15.1	18.6	18.6
80°	194.9	85.8	30.2	8.1	7.0	5.8	4.6	10.4	15.1	18.6	18.6
82.5°	128.8	40.6	22.0	8.1	7.0	5.8	4.6	9.3	13.9	17.4	17.4
85°	96.3	29.0	13.9	8.1	7.0	5.8	4.6	9.3	13.9	17.4	17.4
87.5°	53.4	12.8	10.4	9.3	8.1	5.8	4.6	8.1	12.8	16.2	16.2
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)