

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: P196065

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196065  
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-SL2-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 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: 12212 lumens  
Efficiency: N/A  
Efficacy: 98.5 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 - G2

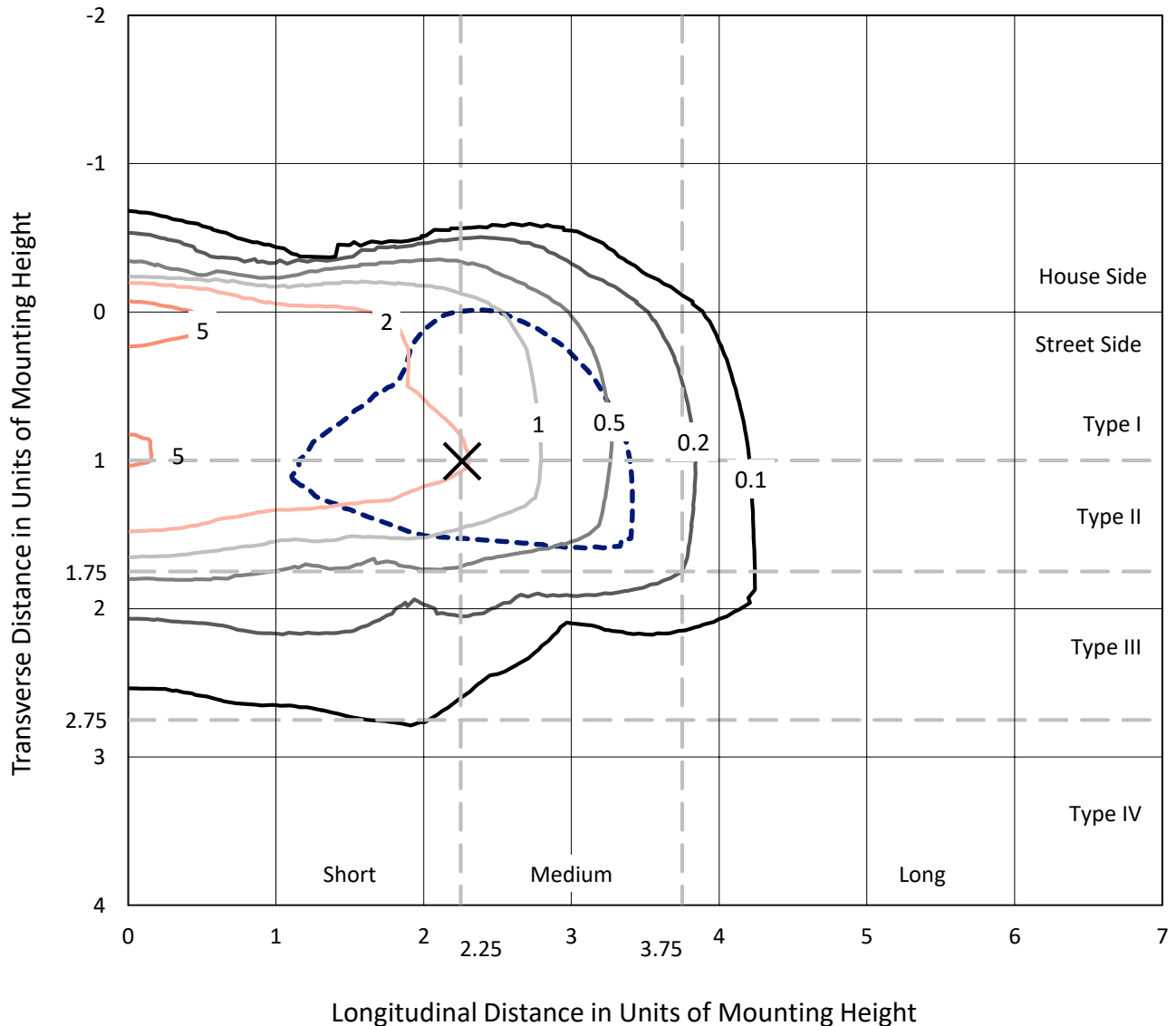
Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

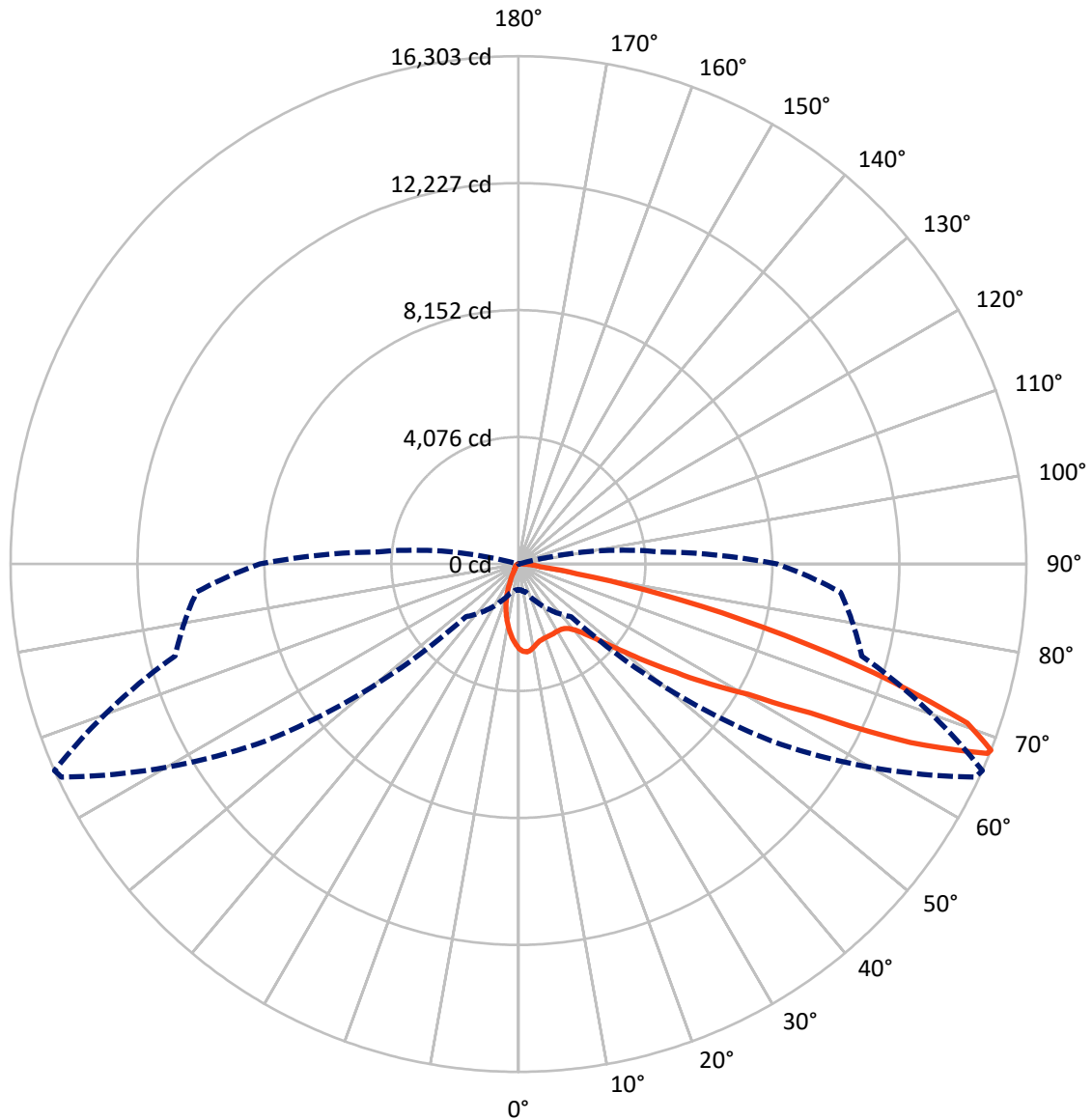
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.8 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	1236.9	0.0	1236.9
	% Fixture	10.1	0.0	10.1
<b>Street Side</b>	Lumens	10975.1	0.0	10975.1
	% Fixture	89.9	0.0	89.9
<b>Total</b>	Lumens	12212.0	0.0	12212.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.0	1.8
10°-20°	479.9	3.9
20°-30°	695.4	5.7
30°-40°	1064.6	8.7
40°-50°	1820.8	14.9
50°-60°	2848.3	23.3
60°-70°	3279.7	26.9
70°-80°	1641.2	13.4
80°-90°	159.0	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°	12212.0	100.0
0°-180°	12212.0	100.0

**Coefficient of Utilization**



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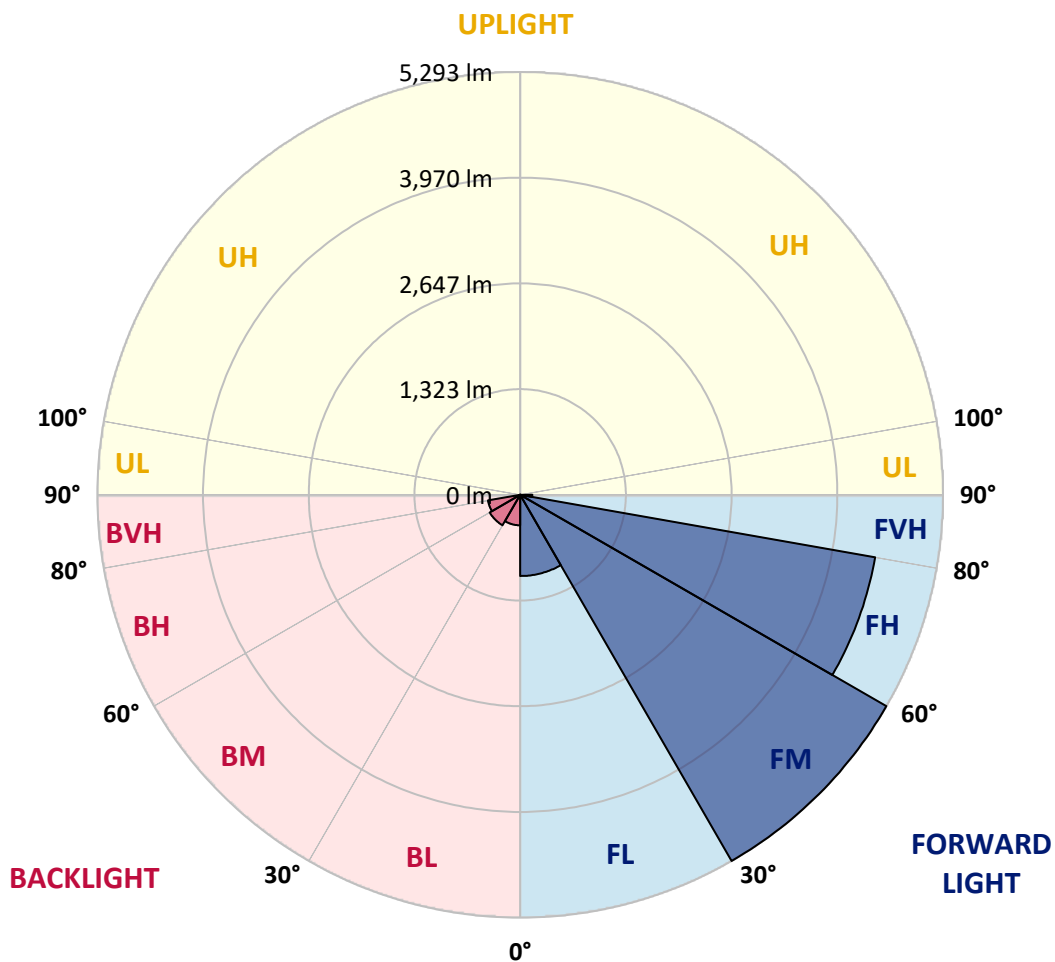
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1016.6	8.3			
FM	(30°-60°)	5293.2	43.3			
FH	(60°-80°)	4512.3	36.9			G2/5000
FVH	(80°-90°)	152.9	1.3			G2/225
BL	(0°-30°)	381.8	3.1	B1/500		
BM	(30°-60°)	440.5	3.6	B1/1000		
BH	(60°-80°)	408.7	3.3	B1/500		G1/500
BVH	(80°-90°)	6.0	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-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7
2.5°	2861.6	2863.5	2862.6	2865.5	2863.5	2849.2	2833.9	2801.2	2804.1	2762.0	2715.0
5°	2660.3	2676.7	2692.9	2709.2	2748.6	2783.0	2824.3	2833.9	2833.9	2797.4	2728.4
7.5°	2455.2	2456.1	2474.3	2496.4	2549.1	2612.4	2708.3	2794.5	2796.4	2806.1	2730.3
10°	2300.8	2305.6	2318.1	2342.0	2394.7	2457.1	2564.4	2699.7	2710.2	2781.1	2711.1
12.5°	2180.9	2186.8	2200.2	2228.0	2275.9	2340.1	2453.2	2607.6	2621.9	2757.2	2705.4
15°	2089.0	2096.6	2107.2	2135.0	2186.8	2254.8	2378.5	2546.2	2563.5	2747.5	2723.6
17.5°	2050.6	2050.6	2049.7	2068.8	2120.6	2189.6	2319.0	2513.6	2535.7	2755.2	2754.3
20°	2066.9	2064.0	2043.9	2039.0	2070.8	2139.8	2272.1	2492.5	2517.5	2769.6	2791.6
22.5°	2153.2	2147.4	2102.4	2065.0	2055.4	2101.4	2240.5	2478.2	2507.9	2799.3	2841.6
25°	2336.3	2319.0	2256.7	2172.3	2096.6	2091.8	2218.4	2470.5	2502.1	2833.9	2896.2
27.5°	2574.1	2569.2	2469.5	2356.5	2210.7	2123.4	2211.6	2464.8	2496.4	2858.7	2940.3
30°	2869.3	2871.2	2756.1	2608.5	2388.1	2212.6	2232.8	2461.8	2494.5	2860.7	2959.4
32.5°	3174.2	3176.1	3080.2	2922.1	2630.6	2366.0	2292.2	2475.3	2505.0	2853.0	2958.5
35°	3467.5	3470.4	3412.9	3285.4	2954.6	2578.9	2404.3	2521.3	2542.4	2857.8	2956.5
37.5°	3838.5	3850.1	3779.1	3660.2	3361.1	2891.4	2587.5	2614.3	2631.5	2897.1	2971.0
40°	4471.2	4455.9	4252.7	4051.4	3802.1	3271.9	2852.1	2774.4	2780.2	2998.8	3025.6
42.5°	5208.5	5189.3	4841.3	4494.2	4255.6	3731.1	3190.5	3019.9	3018.8	3169.4	3144.4
45°	5843.1	5831.6	5465.4	5002.3	4757.8	4238.3	3607.5	3373.6	3362.0	3464.6	3361.1
47.5°	6293.7	6284.1	6007.1	5543.1	5338.9	4796.2	4128.0	3855.8	3831.8	3851.0	3712.9
50°	6337.8	6327.3	6230.4	5932.3	6017.6	5615.0	4771.3	4487.6	4456.9	4427.1	4245.0
52.5°	5925.5	5924.6	5975.4	5956.2	6493.1	6668.5	5560.4	5268.9	5232.4	5156.7	4975.5
55°	5082.8	5078.1	5270.8	5550.7	6482.5	7755.7	6763.4	6198.8	6150.8	5999.4	5761.7
57.5°	3713.9	3689.0	4091.6	4685.0	6027.2	8231.2	8674.1	7354.0	7274.4	6794.1	6427.9
60°	2050.6	2060.2	2577.8	3280.6	4948.6	8137.3	10432.3	8700.9	8491.9	7479.6	7110.5
62.5°	1149.5	1173.4	1558.8	2132.1	3155.0	7375.1	11375.6	11019.0	10515.7	8279.2	7973.3
65°	869.5	883.9	1077.6	1645.1	1989.2	5153.8	11526.1	14260.2	13826.0	9490.8	9347.1
67.5°	818.7	830.2	925.2	1364.2	1811.9	2672.8	10393.0	16177.7	16232.3	11143.6	10411.2
68°	824.5	838.8	933.7	1312.4	1809.0	2390.9	9909.8	16187.2	16303.2	11410.1	10374.8
70°	757.4	761.2	987.5	1287.5	1753.4	1883.8	7168.9	15078.0	15286.1	11727.4	9418.0
72.5°	289.5	290.5	442.9	1114.9	1836.8	1894.3	3611.3	11917.3	11927.8	10206.1	7342.4
75°	150.5	126.5	139.0	348.9	1754.4	1846.4	1811.9	8137.3	8086.4	6902.5	4499.0
77.5°	103.5	88.2	93.0	120.8	729.6	1845.4	1308.6	4679.3	4668.7	2936.4	1283.7
80°	58.5	50.8	55.6	101.6	255.9	1732.4	1219.5	2011.3	1895.3	515.8	208.1
82.5°	29.8	25.0	29.8	85.3	159.2	1090.1	1185.9	789.0	702.7	122.8	135.1
85°	7.7	7.7	14.4	59.4	98.7	357.6	1063.2	569.5	511.9	53.7	95.9
87.5°	1.9	0.9	5.7	22.1	35.5	77.6	589.6	317.3	273.2	27.8	55.6
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°	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7	2720.7
2.5°	2695.8	2669.0	2616.2	2556.8	2514.6	2468.6	2441.8	2409.2	2384.2	2362.2	2378.5
5°	2686.2	2634.4	2517.5	2386.1	2275.9	2170.4	2091.8	2017.1	1960.5	1925.0	1939.4
7.5°	2661.3	2584.6	2394.7	2189.6	2009.4	1839.7	1701.7	1578.0	1482.2	1430.3	1446.7
10°	2619.1	2510.7	2255.7	1971.0	1718.9	1479.2	1274.1	1090.1	951.0	885.8	901.1
12.5°	2588.4	2445.6	2112.0	1760.1	1428.4	1088.1	815.8	605.0	496.6	431.4	437.1
15°	2575.0	2394.7	1977.8	1537.7	1111.1	698.9	441.0	319.3	281.8	268.4	269.3
17.5°	2576.9	2354.5	1850.2	1306.7	790.9	401.7	270.4	243.5	237.7	234.9	234.9
20°	2581.7	2314.2	1717.9	1066.0	506.2	258.8	225.3	216.7	213.8	209.9	210.9
22.5°	2596.0	2283.5	1584.7	824.5	311.6	210.9	199.4	191.7	186.9	181.2	182.2
25°	2618.1	2260.5	1453.3	593.4	219.5	184.0	173.5	163.0	154.4	147.6	148.6
27.5°	2631.5	2228.0	1313.4	404.6	182.2	161.0	146.7	132.3	122.8	116.9	116.0
30°	2621.9	2175.2	1154.2	265.6	161.0	139.0	121.7	105.5	95.9	91.0	91.0
32.5°	2596.0	2107.2	978.8	193.6	142.8	119.8	98.7	84.4	77.6	74.8	75.7
35°	2566.4	2036.2	791.9	164.0	128.5	101.6	80.5	69.0	66.2	65.2	65.2
37.5°	2550.1	1974.9	612.5	148.6	115.1	84.4	66.2	59.4	56.6	56.6	56.6
40°	2568.3	1927.9	453.5	137.1	101.6	70.0	55.6	50.8	49.8	49.8	49.8
42.5°	2646.0	1911.6	331.7	127.5	88.2	58.5	48.0	44.1	43.2	44.1	44.1
45°	2797.4	1947.1	251.1	117.9	75.7	48.0	41.2	38.4	38.4	39.3	39.3
47.5°	3054.3	2038.1	206.1	108.3	63.3	40.3	35.5	33.6	33.6	34.5	34.5
50°	3453.2	2206.9	185.1	97.8	52.7	34.5	29.8	28.7	28.7	29.8	30.7
52.5°	4059.1	2528.0	174.5	87.3	43.2	28.7	25.0	23.9	25.0	25.9	25.9
55°	4733.0	2939.2	162.0	76.7	36.4	23.9	20.2	20.2	21.1	23.0	23.0
57.5°	5360.9	3336.1	150.5	63.3	31.6	19.1	16.3	16.3	18.2	20.2	20.2
60°	6024.3	3725.4	135.1	50.8	26.8	15.3	13.4	13.4	16.3	18.2	19.1
62.5°	6844.0	4177.9	115.1	40.3	21.1	11.5	9.6	12.5	15.3	18.2	18.2
65°	8028.9	4740.7	90.1	31.6	16.3	8.6	7.7	11.5	14.4	17.3	18.2
67.5°	8459.3	4668.7	68.0	25.9	12.5	6.8	6.8	10.5	14.4	17.3	17.3
68°	8302.1	4511.5	65.2	25.0	11.5	6.8	6.8	10.5	14.4	17.3	17.3
70°	7234.1	3688.0	53.7	19.1	9.6	5.7	5.7	9.6	14.4	16.3	17.3
72.5°	5416.5	2450.4	46.0	12.5	8.6	5.7	4.8	9.6	13.4	16.3	16.3
75°	3107.1	1017.1	39.3	9.6	7.7	4.8	4.8	8.6	13.4	16.3	16.3
77.5°	878.1	237.7	31.6	7.7	6.8	4.8	3.8	8.6	12.5	15.3	15.3
80°	161.0	71.0	25.0	6.8	5.7	4.8	3.8	8.6	12.5	15.3	15.3
82.5°	106.4	33.6	18.2	6.8	5.7	4.8	3.8	7.7	11.5	14.4	14.4
85°	79.6	23.9	11.5	6.8	5.7	4.8	3.8	7.7	11.5	14.4	14.4
87.5°	44.1	10.5	8.6	7.7	6.8	4.8	3.8	6.8	10.5	13.4	13.4
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)