

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: P196076

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196076
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-02-D-UNV-SL2-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 1200mA 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: 11150.1 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

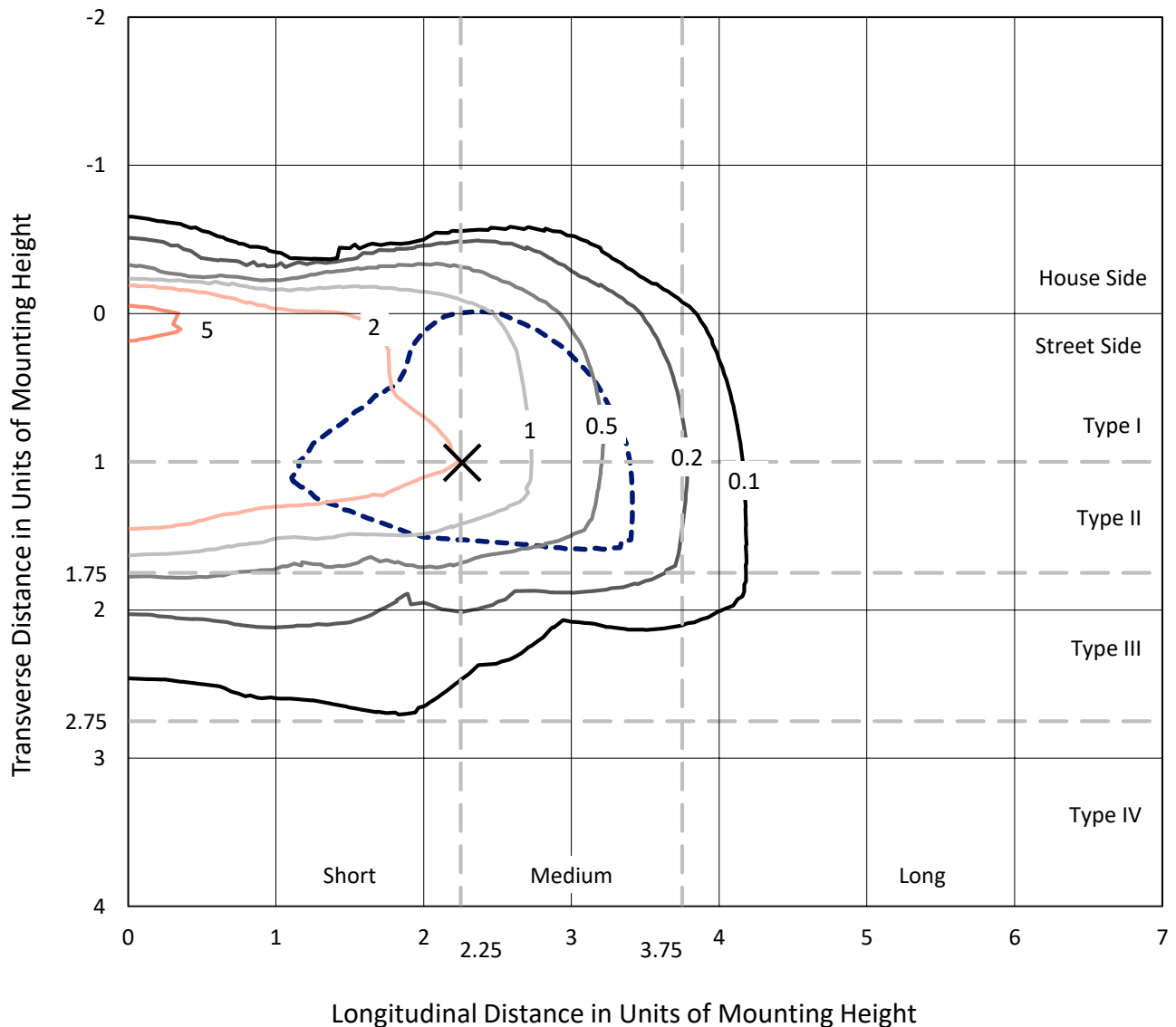
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

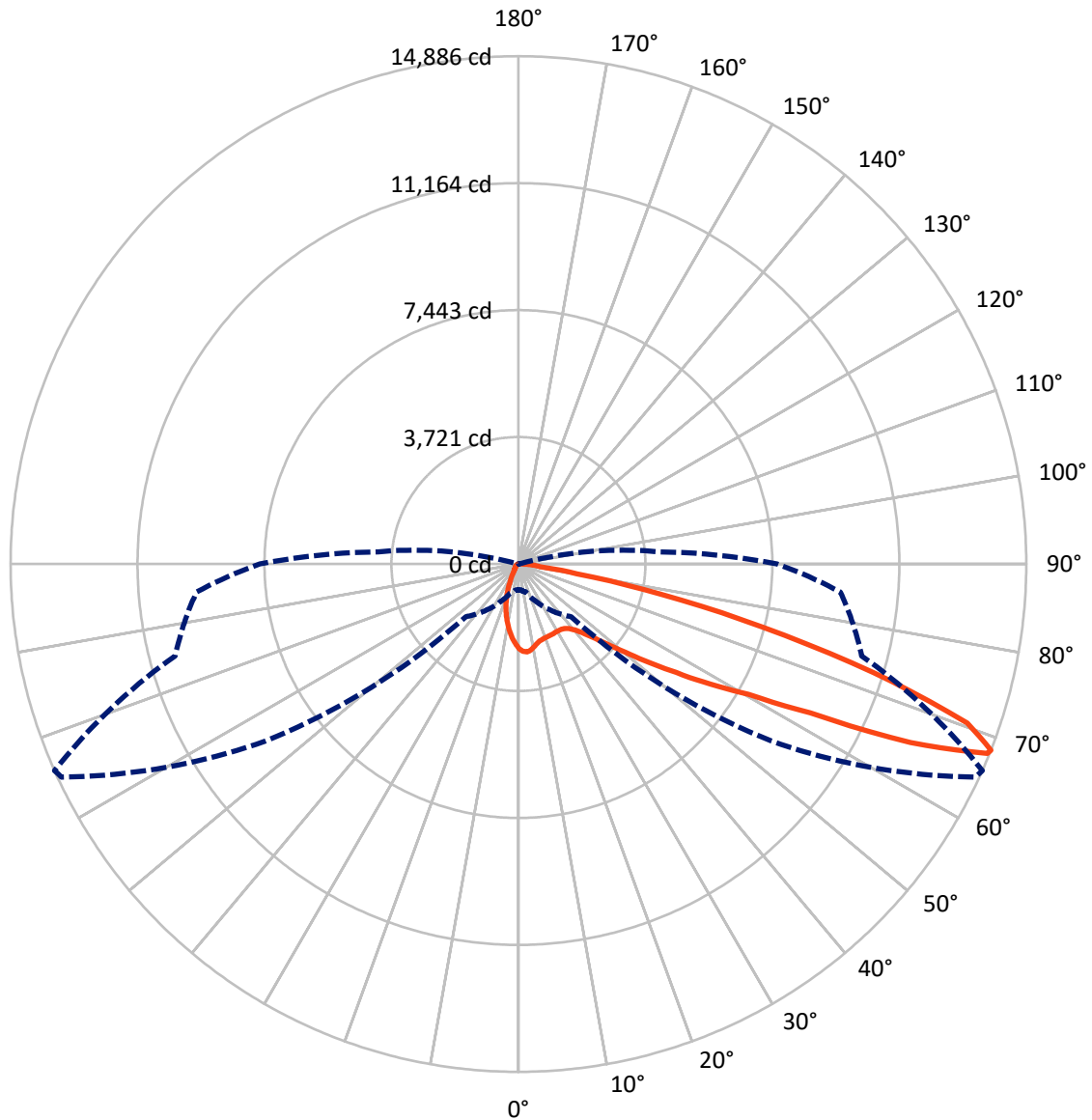
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 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
House Side	Lumens	1129.4	0.0	1129.4
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	10020.8	0.0	10020.8
	% Fixture	89.9	0.0	89.9
Total	Lumens	11150.1	0.0	11150.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.6	1.8
10°-20°	438.2	3.9
20°-30°	635.0	5.7
30°-40°	972.0	8.7
40°-50°	1662.5	14.9
50°-60°	2600.7	23.3
60°-70°	2994.6	26.9
70°-80°	1498.5	13.4
80°-90°	145.1	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°	11150.1	100.0
0°-180°	11150.1	100.0

Coefficient of Utilization



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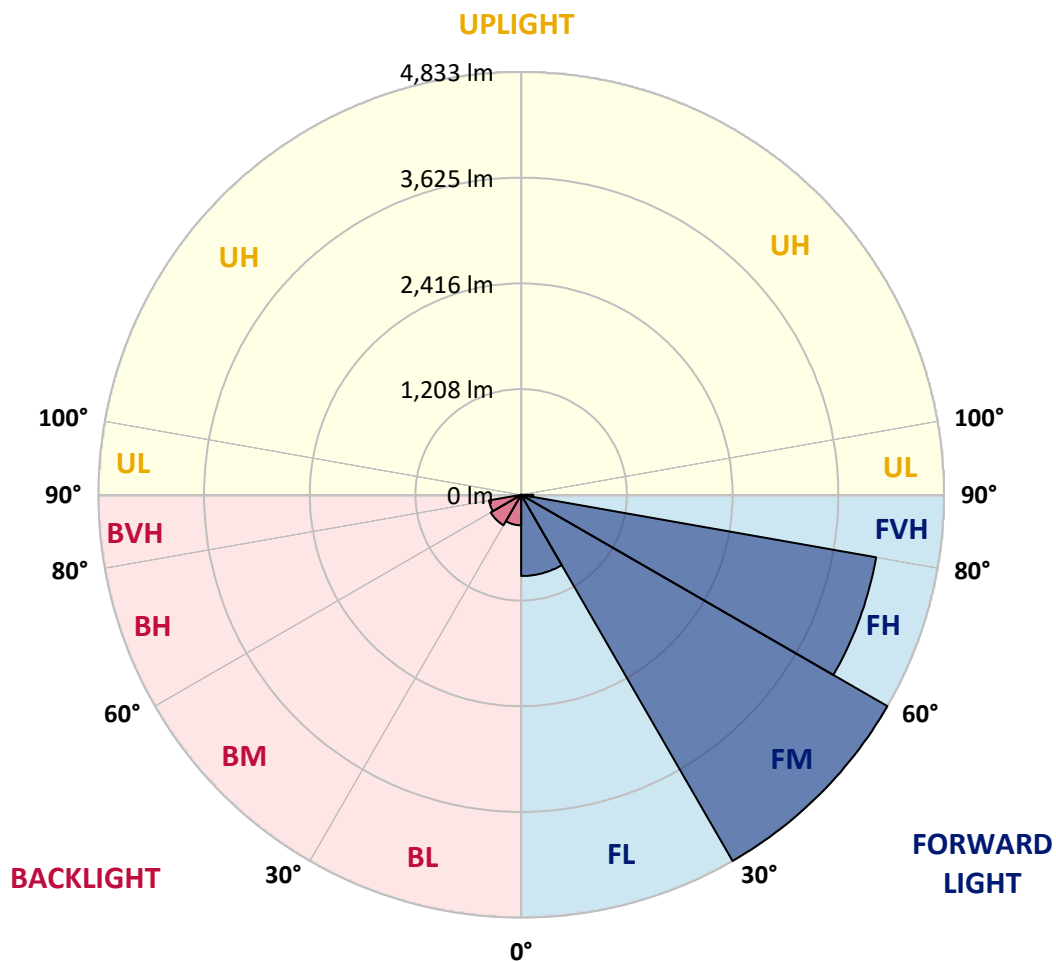
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	928.2	8.3			
FM (30°-60°)	4833.0	43.3			
FH (60°-80°)	4119.9	36.9			G2/5000
FVH (80°-90°)	139.6	1.3			G2/225
BL (0°-30°)	348.6	3.1	B1/500		
BM (30°-60°)	402.2	3.6	B1/1000		
BH (60°-80°)	373.1	3.3	B1/500		G1/500
BVH (80°-90°)	5.5	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°	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1
2.5°	2612.8	2614.6	2613.7	2616.3	2614.6	2601.5	2587.5	2557.7	2560.3	2521.8	2478.9
5°	2429.0	2443.9	2458.8	2473.6	2509.5	2541.0	2578.7	2587.5	2587.5	2554.2	2491.2
7.5°	2241.7	2242.5	2259.2	2279.3	2327.5	2385.2	2472.8	2551.5	2553.3	2562.1	2492.9
10°	2100.7	2105.1	2116.5	2138.4	2186.6	2243.4	2341.4	2464.9	2474.5	2539.3	2475.4
12.5°	1991.4	1996.6	2008.9	2034.2	2078.0	2136.6	2240.0	2380.8	2394.0	2517.4	2470.1
15°	1907.3	1914.4	1924.0	1949.3	1996.6	2058.8	2171.6	2324.9	2340.6	2508.7	2486.8
17.5°	1872.3	1872.3	1871.4	1889.0	1936.2	1999.3	2117.4	2295.1	2315.2	2515.6	2514.8
20°	1887.1	1884.6	1866.2	1861.8	1890.7	1953.7	2074.5	2275.9	2298.6	2528.8	2548.9
22.5°	1966.0	1960.7	1919.6	1885.4	1876.7	1918.6	2045.6	2262.7	2289.9	2555.9	2594.4
25°	2133.2	2117.4	2060.5	1983.5	1914.4	1910.0	2025.4	2255.7	2284.6	2587.5	2644.3
27.5°	2350.2	2345.8	2254.8	2151.6	2018.5	1938.8	2019.4	2250.5	2279.3	2610.2	2684.6
30°	2619.8	2621.6	2516.6	2381.7	2180.4	2020.2	2038.6	2247.8	2277.6	2611.9	2702.1
32.5°	2898.2	2900.0	2812.4	2668.0	2401.9	2160.3	2092.9	2260.1	2287.2	2604.9	2701.2
35°	3166.0	3168.7	3116.1	2999.7	2697.7	2354.6	2195.3	2302.0	2321.4	2609.3	2699.5
37.5°	3504.7	3515.3	3450.5	3342.0	3068.9	2639.9	2362.5	2387.0	2402.7	2645.2	2712.6
40°	4082.5	4068.5	3882.9	3699.1	3471.5	2987.4	2604.0	2533.1	2538.5	2738.0	2762.5
42.5°	4755.6	4738.1	4420.4	4103.5	3885.6	3406.7	2913.1	2757.3	2756.3	2893.8	2871.0
45°	5335.1	5324.6	4990.2	4567.4	4344.2	3869.8	3293.8	3080.2	3069.8	3163.4	3068.9
47.5°	5746.4	5737.7	5484.8	5061.0	4874.7	4379.3	3769.2	3520.5	3498.6	3516.2	3390.1
50°	5786.7	5777.1	5688.7	5416.4	5494.4	5126.7	4356.4	4097.3	4069.4	4042.2	3875.9
52.5°	5410.4	5409.5	5455.8	5438.3	5928.5	6088.7	5076.8	4810.7	4777.5	4708.3	4542.9
55°	4640.9	4636.5	4812.5	5068.1	5918.9	7081.3	6175.3	5659.8	5616.0	5477.7	5260.6
57.5°	3391.0	3368.3	3735.8	4277.7	5503.2	7515.5	7919.9	6714.5	6641.9	6203.4	5869.0
60°	1872.3	1881.1	2353.7	2995.3	4518.4	7429.7	9525.2	7944.3	7753.6	6829.2	6492.3
62.5°	1049.5	1071.4	1423.2	1946.7	2880.6	6733.8	10386.5	10060.9	9601.3	7559.2	7280.0
65°	793.9	807.0	983.9	1502.0	1816.2	4705.7	10523.9	13020.3	12623.8	8665.6	8534.4
67.5°	747.5	758.0	844.7	1245.5	1654.3	2440.4	9489.3	14771.0	14820.9	10174.7	9506.0
68°	752.8	765.9	852.5	1198.3	1651.8	2183.1	9048.2	14779.7	14885.7	10418.0	9472.7
70°	691.5	695.0	901.5	1175.6	1600.9	1720.0	6545.7	13767.0	13956.9	10707.7	8599.1
72.5°	264.3	265.3	404.4	1018.0	1677.1	1729.6	3297.3	10881.0	10890.7	9318.7	6704.0
75°	137.4	115.5	126.9	318.6	1601.8	1685.8	1654.3	7429.7	7383.4	6302.3	4107.9
77.5°	94.5	80.5	84.9	110.3	666.1	1685.0	1194.8	4272.5	4262.8	2681.1	1172.1
80°	53.4	46.4	50.7	92.8	233.7	1581.7	1113.4	1836.4	1730.5	471.0	190.0
82.5°	27.1	22.7	27.1	77.9	145.3	995.2	1082.8	720.4	641.6	112.0	123.5
85°	7.0	7.0	13.1	54.3	90.1	326.5	970.7	520.0	467.4	49.0	87.6
87.5°	1.7	0.9	5.2	20.2	32.4	70.9	538.3	289.7	249.5	25.4	50.7
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°	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1	2484.1
2.5°	2461.4	2436.9	2388.7	2334.5	2295.9	2254.0	2229.4	2199.7	2176.9	2156.8	2171.6
5°	2452.6	2405.4	2298.6	2178.7	2078.0	1981.8	1910.0	1841.6	1790.1	1757.6	1770.7
7.5°	2429.9	2359.8	2186.6	1999.3	1834.7	1679.7	1553.7	1440.7	1353.3	1306.0	1320.8
10°	2391.4	2292.4	2059.6	1799.7	1569.4	1350.6	1163.3	995.2	868.3	808.7	822.8
12.5°	2363.3	2232.9	1928.4	1607.1	1304.3	993.5	744.9	552.3	453.4	393.9	399.2
15°	2351.2	2186.6	1805.8	1404.0	1014.5	638.1	402.6	291.4	257.4	245.1	245.9
17.5°	2352.9	2149.7	1689.4	1193.1	722.1	366.7	246.8	222.3	217.1	214.4	214.4
20°	2357.2	2113.0	1568.6	973.3	462.2	236.3	205.7	197.8	195.2	191.7	192.5
22.5°	2370.4	2085.0	1446.9	752.8	284.5	192.5	182.1	175.0	170.7	165.4	166.3
25°	2390.5	2064.0	1327.0	541.9	200.5	168.1	158.5	148.8	141.0	134.8	135.6
27.5°	2402.7	2034.2	1199.2	369.4	166.3	147.1	133.9	120.8	112.0	106.8	105.9
30°	2394.0	1986.1	1053.8	242.4	147.1	126.9	111.2	96.3	87.6	83.2	83.2
32.5°	2370.4	1924.0	893.6	176.8	130.4	109.5	90.1	77.0	70.9	68.2	69.2
35°	2343.3	1859.2	723.0	149.7	117.3	92.8	73.6	63.0	60.4	59.5	59.5
37.5°	2328.3	1803.2	559.3	135.6	105.1	77.0	60.4	54.3	51.7	51.7	51.7
40°	2345.0	1760.3	414.0	125.2	92.8	63.9	50.7	46.4	45.5	45.5	45.5
42.5°	2415.9	1745.4	302.9	116.4	80.5	53.4	43.8	40.3	39.4	40.3	40.3
45°	2554.2	1777.8	229.3	107.6	69.2	43.8	37.6	35.0	35.0	35.9	35.9
47.5°	2788.8	1861.0	188.2	98.9	57.8	36.7	32.4	30.6	30.6	31.5	31.5
50°	3152.9	2015.0	168.9	89.3	48.2	31.5	27.1	26.3	26.3	27.1	28.0
52.5°	3706.0	2308.2	159.3	79.7	39.4	26.3	22.7	21.9	22.7	23.6	23.6
55°	4321.5	2683.7	147.9	70.1	33.2	21.9	18.4	18.4	19.2	21.0	21.0
57.5°	4894.8	3046.1	137.4	57.8	28.8	17.5	14.8	14.8	16.7	18.4	18.4
60°	5500.5	3401.5	123.5	46.4	24.6	14.0	12.3	12.3	14.8	16.7	17.5
62.5°	6248.9	3814.6	105.1	36.7	19.2	10.5	8.8	11.4	14.0	16.7	16.7
65°	7330.8	4328.4	82.2	28.8	14.8	7.9	7.0	10.5	13.1	15.8	16.7
67.5°	7723.8	4262.8	62.2	23.6	11.4	6.1	6.1	9.6	13.1	15.8	15.8
68°	7580.3	4119.2	59.5	22.7	10.5	6.1	6.1	9.6	13.1	15.8	15.8
70°	6605.2	3367.3	49.0	17.5	8.8	5.2	5.2	8.8	13.1	14.8	15.8
72.5°	4945.6	2237.3	42.0	11.4	7.9	5.2	4.4	8.8	12.3	14.8	14.8
75°	2836.9	928.7	35.9	8.8	7.0	4.4	4.4	7.9	12.3	14.8	14.8
77.5°	801.8	217.1	28.8	7.0	6.1	4.4	3.5	7.9	11.4	14.0	14.0
80°	147.1	64.8	22.7	6.1	5.2	4.4	3.5	7.9	11.4	14.0	14.0
82.5°	97.2	30.6	16.7	6.1	5.2	4.4	3.5	7.0	10.5	13.1	13.1
85°	72.6	21.9	10.5	6.1	5.2	4.4	3.5	7.0	10.5	13.1	13.1
87.5°	40.3	9.6	7.9	7.0	6.1	4.4	3.5	6.1	9.6	12.3	12.3
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)