

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: P197114

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197114
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
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-SL4-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5335 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 66
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

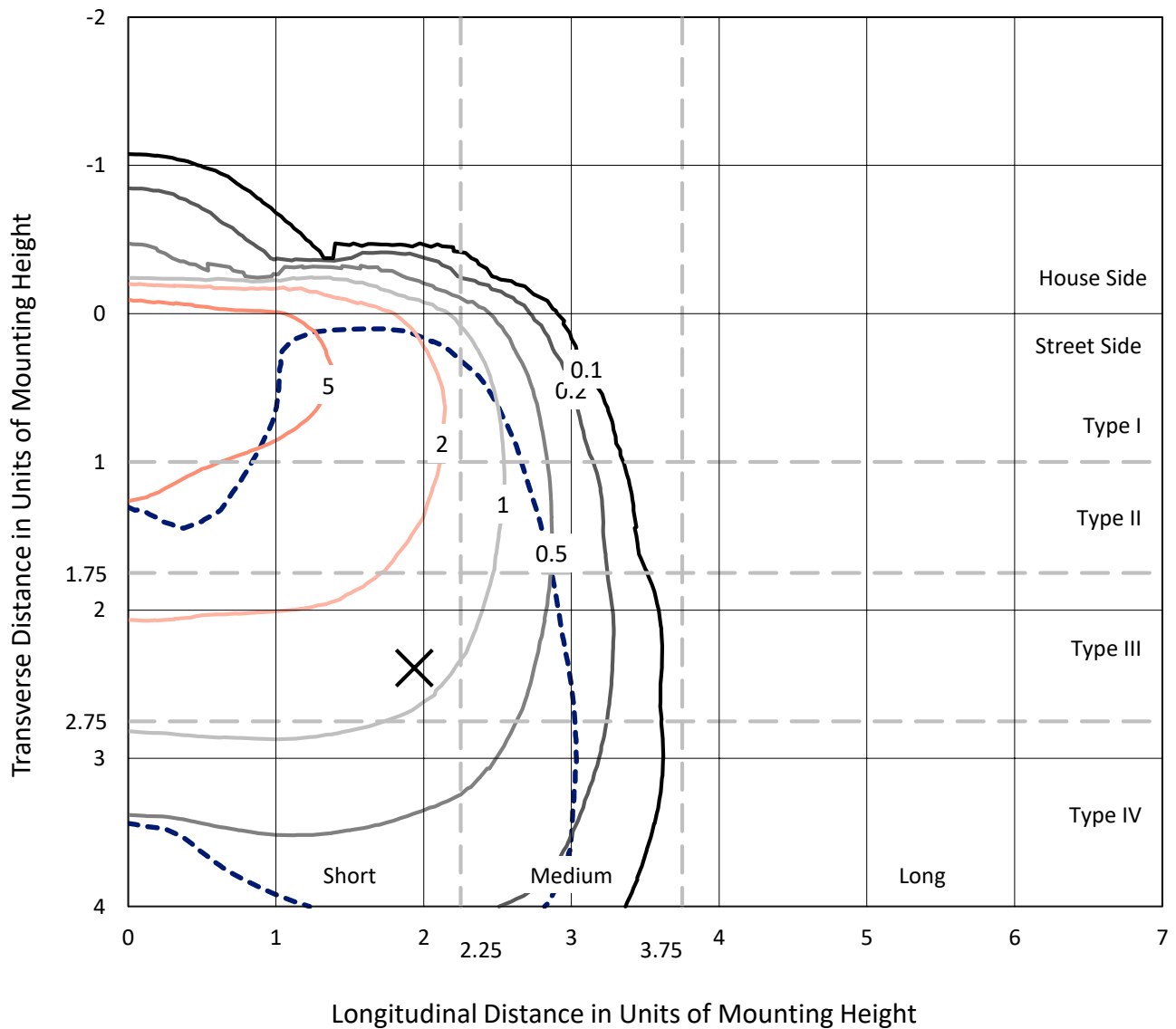


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

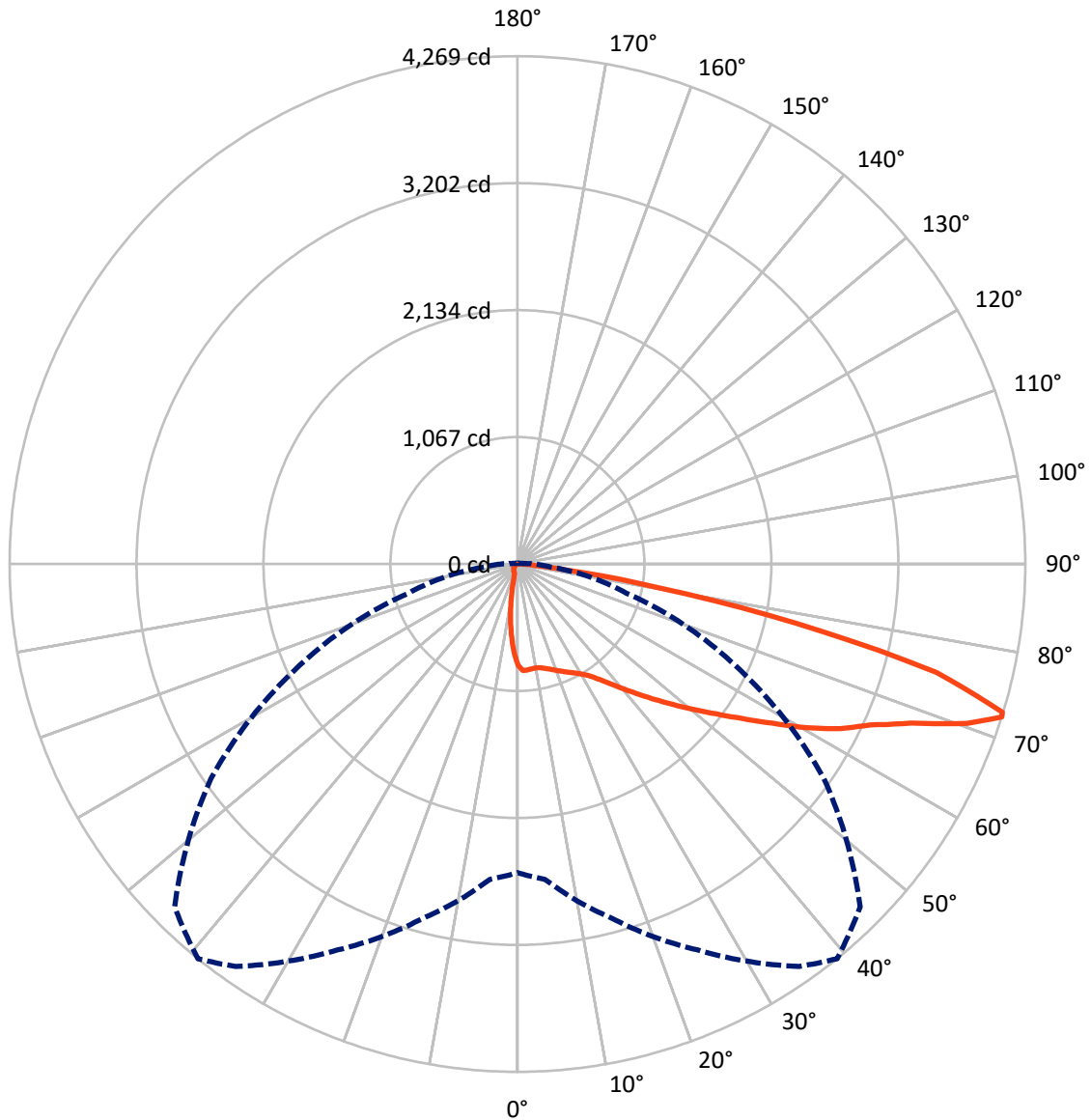


Based on 10 foot mounting height. Maximum calculated value = 9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	349.6	0.0	349.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	4985.4	0.0	4985.4
	% Fixture	93.4	0.0	93.4
Total	Lumens	5335.0	0.0	5335.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.5	1.3
10°-20°	168.2	3.2
20°-30°	279.3	5.2
30°-40°	445.1	8.3
40°-50°	734.7	13.8
50°-60°	1109.5	20.8
60°-70°	1445.3	27.1
70°-80°	976.6	18.3
80°-90°	107.0	2.0
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°	5335.0	100.0
0°-180°	5335.0	100.0



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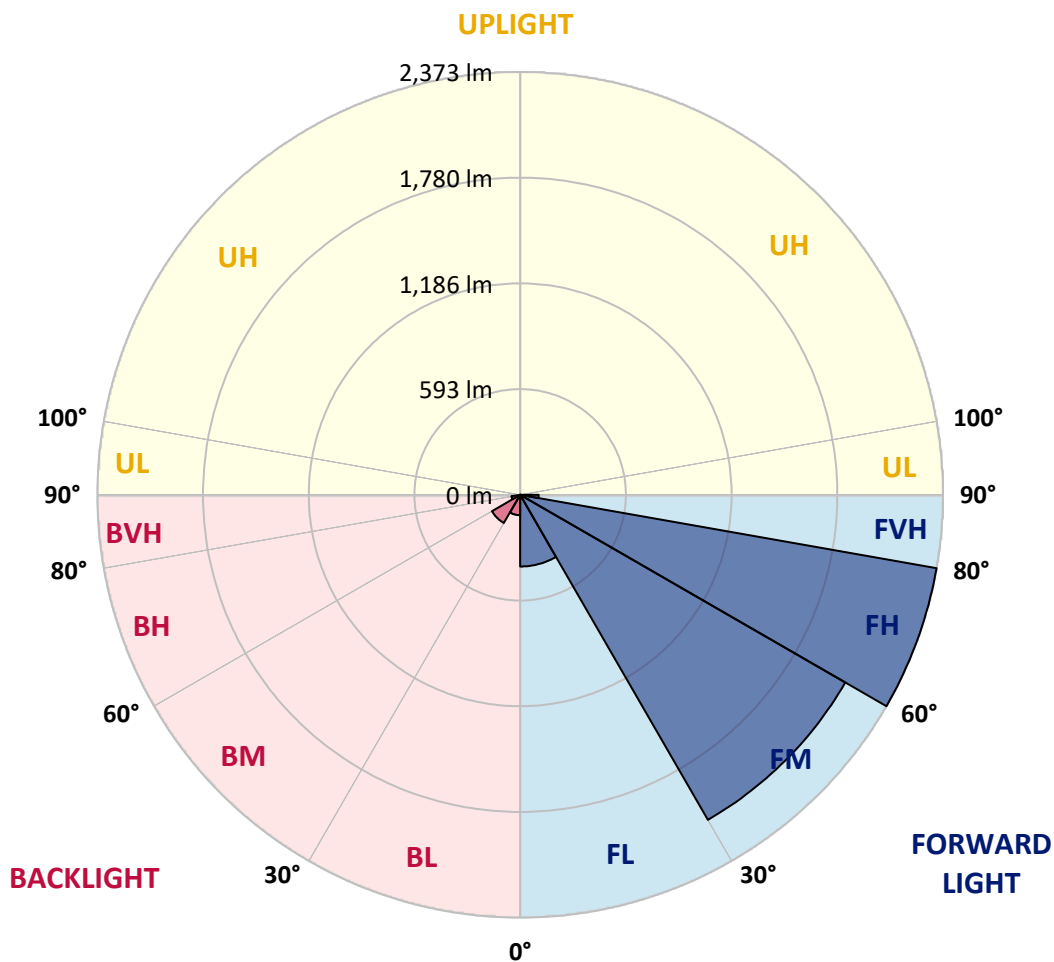
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	402.4	7.5			
FM	(30°-60°)	2106.3	39.5			
FH	(60°-80°)	2372.8	44.5			G2/5000
FVH	(80°-90°)	103.9	1.9			G2/225
BL	(0°-30°)	114.5	2.1	B1/500		
BM	(30°-60°)	182.9	3.4	B0/220		
BH	(60°-80°)	49.1	0.9	B0/110		G0/110
BVH	(80°-90°)	3.1	0.1			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	909.3	910.9	908.8	905.1	899.6	896.3	891.6	881.6	869.0	858.1	845.5
5°	916.4	917.2	914.7	907.6	899.2	894.6	888.7	877.8	864.8	849.7	827.1
7.5°	918.5	918.1	915.1	906.3	893.3	887.5	877.4	864.0	850.5	836.7	811.1
10°	917.7	917.7	915.6	907.2	892.5	887.0	875.7	861.5	844.7	830.8	803.6
12.5°	914.7	916.4	915.1	910.5	899.6	895.4	885.4	871.1	855.2	840.9	812.0
15°	918.5	921.0	923.5	921.8	915.6	911.8	902.6	887.9	874.9	859.8	828.7
17.5°	933.6	939.0	944.9	945.3	938.6	931.9	921.4	906.3	893.7	879.9	846.4
20°	962.1	966.3	977.2	979.3	965.9	956.2	941.6	923.9	911.4	899.6	862.7
22.5°	1004.5	1009.1	1017.9	1015.0	992.3	981.0	962.5	942.4	929.4	922.7	881.6
25°	1068.6	1069.9	1072.0	1059.0	1021.7	1009.1	986.4	963.8	953.3	952.5	908.4
27.5°	1144.1	1145.8	1136.6	1107.6	1054.4	1038.0	1012.4	991.9	986.9	993.1	942.4
30°	1230.5	1230.9	1205.4	1158.4	1092.1	1074.1	1047.7	1025.0	1029.6	1045.1	986.0
32.5°	1319.0	1314.8	1279.6	1218.4	1143.7	1121.9	1099.3	1076.6	1090.0	1121.5	1049.8
35°	1400.0	1398.3	1356.8	1285.5	1210.8	1191.5	1175.2	1151.3	1173.1	1224.2	1136.6
37.5°	1480.9	1479.6	1432.3	1358.0	1293.4	1279.6	1267.4	1249.0	1284.6	1359.7	1252.8
40°	1570.2	1568.1	1509.8	1438.5	1389.5	1381.9	1374.8	1366.8	1427.6	1532.1	1397.4
42.5°	1680.5	1671.3	1592.0	1526.2	1495.2	1497.3	1497.7	1505.7	1600.9	1737.2	1568.1
45°	1807.2	1786.6	1674.7	1620.1	1611.3	1623.9	1636.5	1669.6	1802.6	1973.3	1756.9
47.5°	1930.1	1897.0	1769.9	1721.2	1739.3	1765.3	1795.5	1860.0	2029.1	2220.3	1928.0
50°	2035.8	2001.8	1864.2	1824.0	1881.4	1920.0	1973.7	2071.4	2268.1	2429.2	2035.8
52.5°	2118.8	2092.0	1964.1	1937.2	2039.1	2092.0	2176.3	2304.6	2493.8	2566.7	2111.3
55°	2180.0	2166.6	2059.7	2063.5	2214.4	2290.8	2395.6	2540.7	2684.2	2673.7	2167.9
57.5°	2249.2	2238.8	2159.9	2212.3	2425.4	2524.0	2645.2	2761.8	2822.6	2759.7	2223.2
60°	2320.1	2323.5	2281.5	2392.7	2686.3	2795.3	2901.0	2929.9	2941.3	2846.9	2281.5
62.5°	2373.8	2388.1	2391.8	2587.3	2953.8	3047.0	3092.7	3072.1	3069.6	2963.9	2276.9
65°	2435.5	2472.8	2534.9	2800.8	3197.1	3258.3	3291.0	3320.8	3257.9	2998.7	2053.0
67.5°	2542.0	2600.7	2740.4	3062.5	3478.1	3568.7	3661.4	3629.9	3286.0	2645.2	1563.9
70°	2685.4	2757.1	3003.8	3404.3	3859.3	4011.2	4088.7	3605.2	2789.9	1827.8	825.0
72°	2594.8	2659.8	3085.1	3578.8	4129.4	4268.7	4074.5	3144.7	2022.4	947.4	276.4
72.5°	2506.8	2573.9	3059.1	3576.7	4156.3	4262.8	3981.8	2963.1	1789.6	737.3	190.4
75°	1739.3	1824.0	2622.5	3215.1	3753.2	3636.2	3046.5	1794.2	648.4	126.7	62.9
77.5°	899.2	964.6	1590.8	2271.9	2615.8	2395.6	1800.5	778.4	179.5	67.1	41.5
80°	557.4	589.7	744.0	1119.4	1358.9	1188.6	794.3	314.6	114.9	39.8	33.1
82.5°	288.5	313.3	468.5	451.7	502.0	417.3	293.2	263.4	70.9	24.7	34.0
85°	94.8	100.7	287.7	300.3	214.7	144.3	130.0	251.2	20.6	15.9	28.9
87.5°	12.6	14.7	101.1	172.0	105.7	65.4	78.0	88.5	7.1	8.8	8.0
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°	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9	853.9
2.5°	837.1	831.7	814.5	797.3	777.6	759.5	745.3	736.0	740.2	726.4	728.5
5°	813.2	799.4	761.6	721.0	676.9	635.8	603.1	578.8	574.2	553.2	554.0
7.5°	790.2	767.5	706.3	639.2	566.2	507.1	453.4	406.4	389.6	372.4	362.4
10°	777.6	746.5	659.7	562.0	459.2	372.4	296.9	237.8	213.1	195.0	186.2
12.5°	781.3	740.2	624.9	492.0	356.9	246.6	167.8	124.6	109.5	101.1	98.1
15°	793.9	741.5	593.5	423.6	259.6	149.3	98.6	84.3	83.0	82.6	82.2
17.5°	805.7	742.8	560.3	352.3	173.6	95.2	79.3	78.0	78.0	78.0	78.0
20°	817.8	743.2	523.8	277.6	114.1	78.0	74.7	73.8	74.7	74.7	74.7
22.5°	832.1	746.1	488.6	205.1	84.3	73.4	71.3	70.9	71.3	71.3	70.9
25°	849.7	752.4	450.4	146.8	76.3	70.5	68.4	67.9	68.4	67.9	67.9
27.5°	873.2	760.8	406.0	105.3	73.0	67.5	65.4	65.4	65.4	65.0	65.0
30°	903.4	770.9	346.4	83.0	69.6	64.6	62.9	62.9	62.5	62.1	62.1
32.5°	946.6	787.2	281.4	75.1	65.8	60.8	59.1	59.6	59.1	58.7	58.3
35°	1007.8	812.8	217.2	70.9	62.1	57.0	55.4	55.4	55.4	54.5	54.5
37.5°	1094.6	851.8	162.7	66.7	58.3	53.3	51.2	51.2	50.7	49.9	50.3
40°	1202.0	900.9	117.9	62.9	54.5	49.1	47.4	46.6	45.7	44.9	44.9
42.5°	1331.2	948.7	88.5	59.1	50.7	45.7	43.6	42.8	41.1	40.3	39.8
45°	1475.9	999.4	73.4	54.5	46.6	41.9	40.3	38.6	36.5	35.2	34.8
47.5°	1597.9	1030.5	65.4	49.9	42.4	38.2	36.5	34.0	31.5	30.6	30.6
50°	1671.3	1017.5	58.7	45.3	38.2	34.4	32.3	28.9	27.3	26.4	26.0
52.5°	1712.4	978.9	53.3	41.5	34.4	30.2	27.3	24.3	23.5	22.6	22.6
55°	1740.5	923.1	47.4	37.7	31.0	26.4	23.1	21.0	20.1	19.7	19.3
57.5°	1767.4	855.2	41.9	34.4	27.7	23.5	19.7	18.9	17.2	16.8	16.8
60°	1775.3	761.6	36.9	30.6	24.7	20.6	17.2	15.9	14.3	13.8	13.8
62.5°	1673.8	606.0	32.7	26.0	21.8	17.6	15.1	13.4	11.7	11.7	11.7
65°	1398.7	411.4	28.1	22.6	19.3	15.1	13.0	10.9	10.1	10.1	10.1
67.5°	974.3	229.4	23.9	19.3	16.4	12.6	10.9	9.2	8.8	9.2	9.2
70°	439.1	91.0	20.1	15.9	13.4	10.5	9.2	8.0	8.8	8.8	8.8
72°	131.7	48.7	16.8	13.0	10.9	9.2	8.0	7.5	8.4	8.8	8.8
72.5°	97.7	43.6	15.9	12.6	10.9	8.8	7.5	7.5	8.4	8.8	8.8
75°	50.3	29.8	12.2	9.2	8.0	7.1	6.3	7.1	8.4	8.4	8.4
77.5°	39.4	24.3	10.1	7.1	6.7	6.3	5.9	6.7	7.5	7.5	7.5
80°	36.9	15.9	8.0	6.7	5.9	5.5	5.5	5.9	6.7	7.1	7.1
82.5°	37.3	13.0	7.1	6.3	5.5	5.0	5.0	5.5	6.3	6.7	6.7
85°	23.9	8.8	6.3	5.5	5.0	4.6	4.6	5.0	5.9	6.3	6.3
87.5°	8.0	6.7	5.5	5.0	4.2	4.2	4.2	4.2	5.0	5.5	5.9
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)