

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: P196159

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196159  
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-01-D-UNV-SL4-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE 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: 4114.3 lumens  
Efficiency: N/A  
Efficacy: 93.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G2

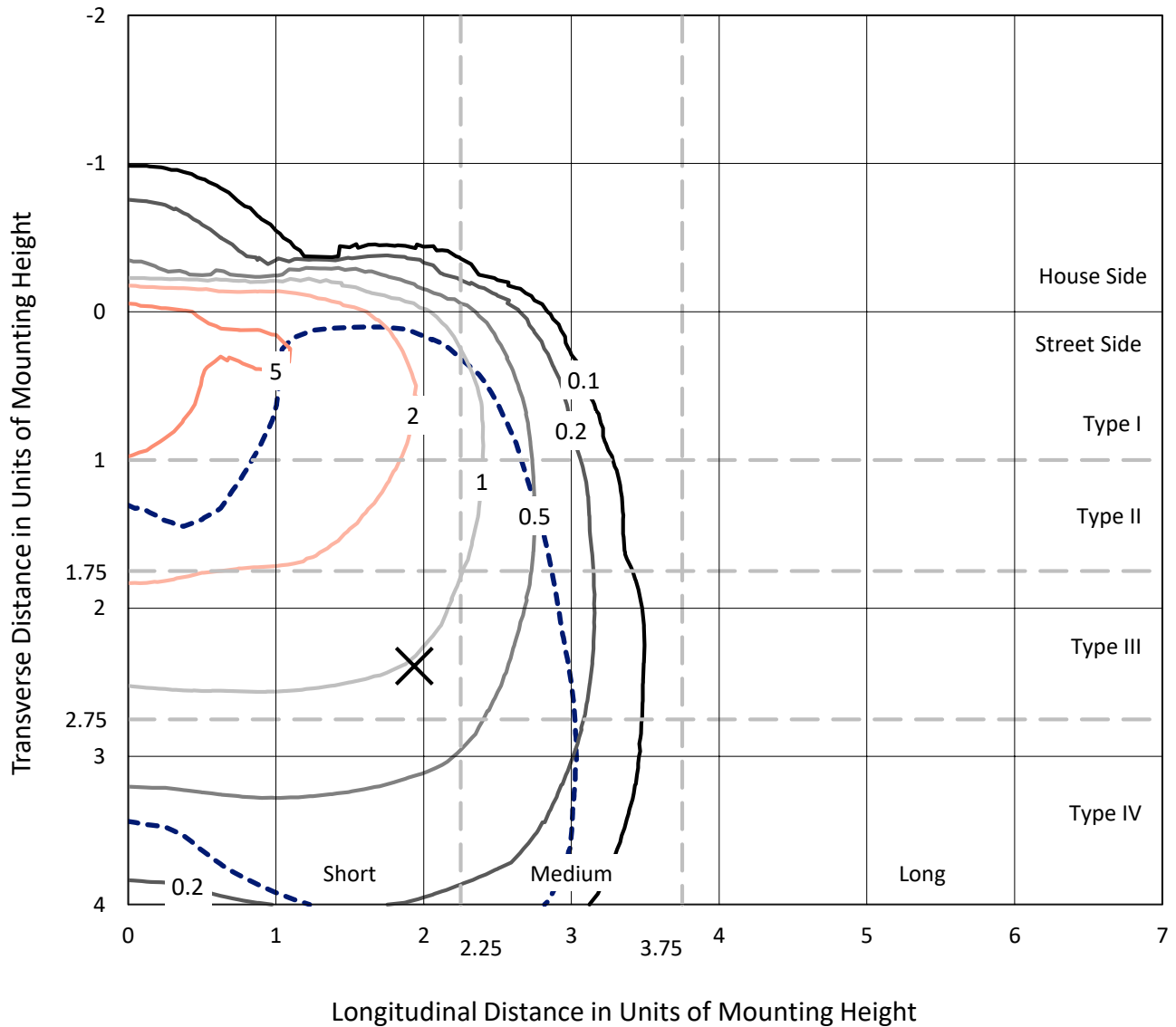
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

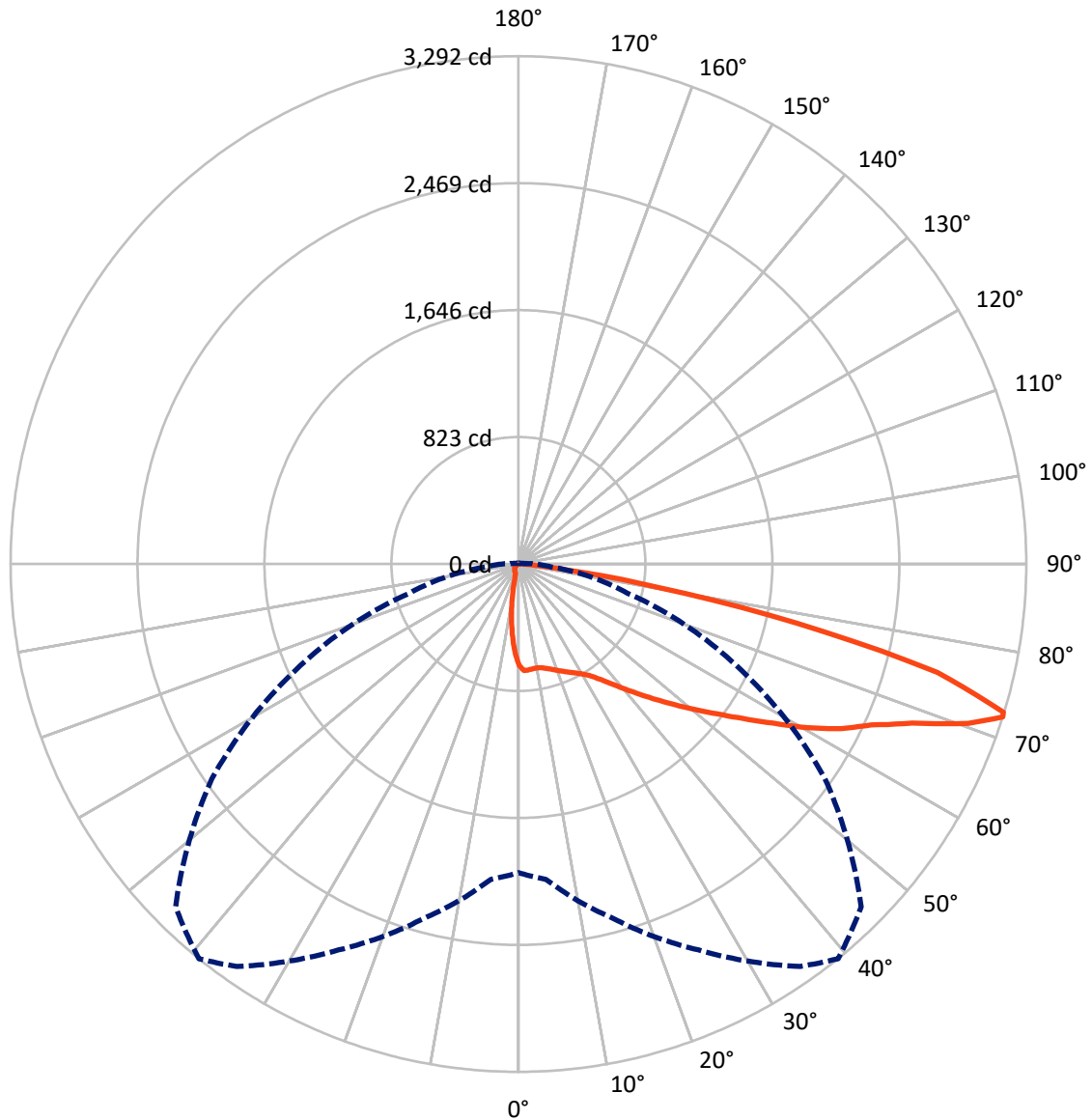
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.9 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
<b>House Side</b>	Lumens	269.6	0.0	269.6
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	3844.7	0.0	3844.7
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	4114.3	0.0	4114.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.6	1.3
10°-20°	129.7	3.2
20°-30°	215.4	5.2
30°-40°	343.2	8.3
40°-50°	566.6	13.8
50°-60°	855.6	20.8
60°-70°	1114.6	27.1
70°-80°	753.1	18.3
80°-90°	82.5	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°	4114.3	100.0
0°-180°	4114.3	100.0



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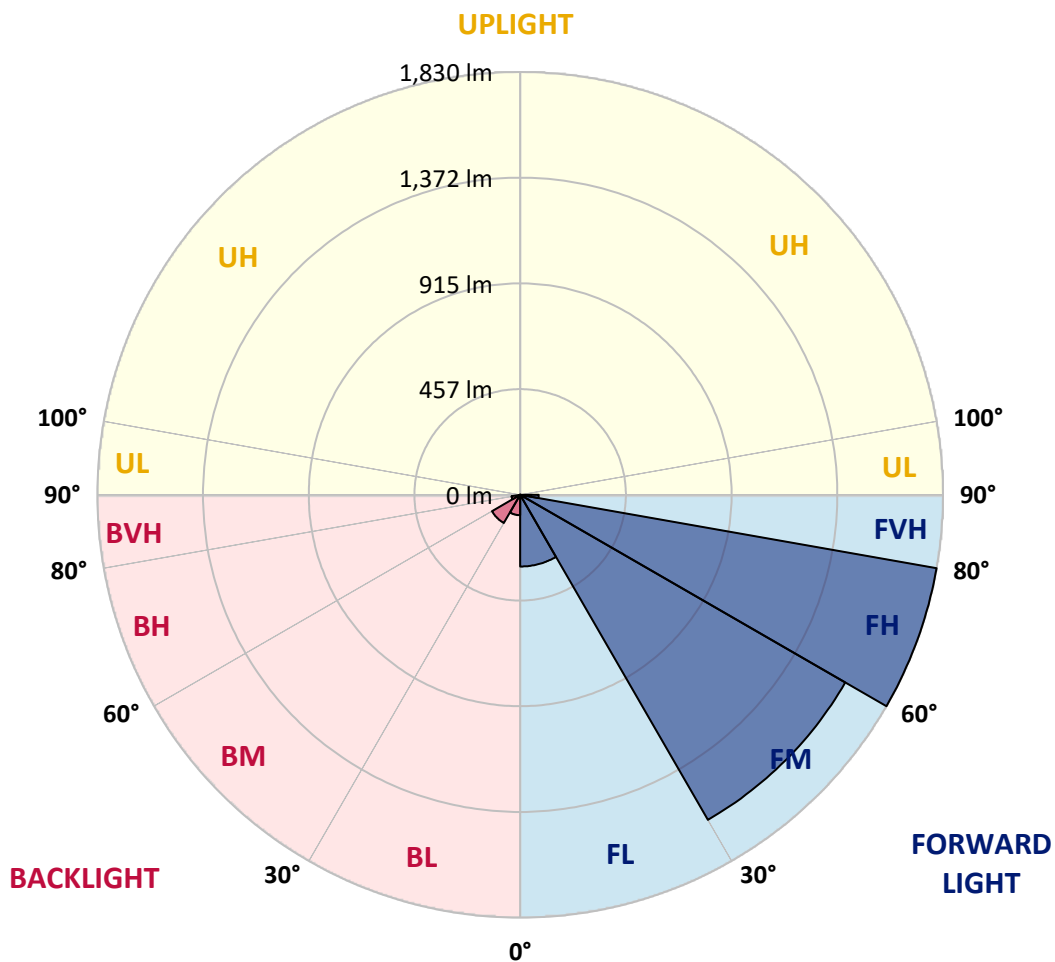
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	310.3	7.5			
FM	(30°-60°)	1624.4	39.5			
FH	(60°-80°)	1829.9	44.5			G2/5000
FVH	(80°-90°)	80.1	1.9			G1/100
BL	(0°-30°)	88.3	2.1	B0/110		
BM	(30°-60°)	141.1	3.4	B0/220		
BH	(60°-80°)	37.9	0.9	B0/110		G0/110
BVH	(80°-90°)	2.4	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5
2.5°	701.2	702.5	700.9	698.0	693.8	691.2	687.6	679.9	670.1	661.7	652.0
5°	706.8	707.4	705.4	699.9	693.5	689.9	685.4	677.0	667.0	655.3	637.8
7.5°	708.3	708.0	705.7	699.0	689.0	684.4	676.7	666.2	655.9	645.3	625.5
10°	707.7	707.7	706.0	699.6	688.2	684.0	675.4	664.3	651.4	640.8	619.7
12.5°	705.4	706.8	705.7	702.2	693.8	690.5	682.8	671.8	659.5	648.4	626.1
15°	708.3	710.2	712.2	711.0	706.0	703.2	696.0	684.8	674.7	663.1	639.1
17.5°	720.0	724.1	728.8	729.1	723.8	718.7	710.6	699.0	689.3	678.6	652.7
20°	741.9	745.2	753.6	755.2	744.9	737.4	726.1	712.5	702.9	693.8	665.3
22.5°	774.7	778.2	785.0	782.8	765.3	756.6	742.3	726.8	716.8	711.6	679.9
25°	824.1	825.1	826.7	816.7	787.9	778.2	760.8	743.3	735.2	734.5	700.6
27.5°	882.3	883.6	876.6	854.2	813.1	800.6	780.8	765.0	761.1	765.9	726.8
30°	949.0	949.3	929.6	893.3	842.2	828.3	807.9	790.4	794.0	806.0	760.4
32.5°	1017.2	1013.9	986.8	939.6	882.0	865.2	847.7	830.2	840.7	864.9	809.6
35°	1079.6	1078.4	1046.3	991.3	933.7	918.9	906.2	887.8	904.7	944.1	876.6
37.5°	1142.0	1141.1	1104.6	1047.3	997.5	986.8	977.4	963.2	990.7	1048.6	966.1
40°	1211.0	1209.3	1164.4	1109.4	1071.5	1065.7	1060.2	1054.0	1101.0	1181.5	1077.7
42.5°	1296.0	1288.9	1227.7	1177.0	1153.1	1154.7	1155.0	1161.2	1234.6	1339.7	1209.3
45°	1393.7	1377.8	1291.5	1249.4	1242.7	1252.4	1262.0	1287.6	1390.2	1521.7	1354.9
47.5°	1488.5	1462.9	1364.9	1327.4	1341.3	1361.3	1384.7	1434.5	1564.8	1712.3	1486.9
50°	1569.9	1543.7	1437.7	1406.7	1451.0	1480.7	1522.2	1597.4	1749.1	1873.3	1569.9
52.5°	1634.1	1613.3	1514.7	1493.9	1572.6	1613.3	1678.4	1777.3	1923.1	1979.4	1628.2
55°	1681.2	1670.9	1588.4	1591.3	1707.7	1766.6	1847.4	1959.4	2070.0	2062.0	1671.8
57.5°	1734.6	1726.5	1665.7	1706.2	1870.5	1946.5	2040.0	2129.9	2176.7	2128.2	1714.6
60°	1789.2	1791.8	1759.5	1845.2	2071.6	2155.8	2237.2	2259.5	2268.3	2195.5	1759.5
62.5°	1830.7	1841.6	1844.6	1995.3	2278.0	2349.8	2385.0	2369.2	2367.2	2285.8	1756.0
65°	1878.2	1907.0	1954.9	2160.0	2465.6	2512.8	2538.0	2561.0	2512.5	2312.6	1583.2
67.5°	1960.4	2005.6	2113.3	2361.8	2682.3	2752.1	2823.7	2799.4	2534.2	2040.0	1206.1
70°	2071.0	2126.3	2316.5	2625.4	2976.3	3093.4	3153.2	2780.3	2151.5	1409.5	636.2
72°	2001.1	2051.2	2379.2	2759.9	3184.5	3292.0	3142.2	2425.1	1559.6	730.7	213.2
72.5°	1933.2	1984.9	2359.1	2758.3	3205.3	3287.5	3070.7	2285.1	1380.1	568.6	146.8
75°	1341.3	1406.7	2022.5	2479.5	2894.4	2804.2	2349.4	1383.6	500.0	97.7	48.5
77.5°	693.5	743.9	1226.8	1752.1	2017.3	1847.4	1388.6	600.3	138.4	51.8	32.0
80°	429.8	454.8	573.8	863.3	1047.9	916.7	612.5	242.5	88.6	30.7	25.6
82.5°	222.5	241.6	361.3	348.3	387.2	321.8	226.1	203.2	54.6	19.1	26.2
85°	73.1	77.6	221.9	231.6	165.6	111.3	100.2	193.7	15.9	12.3	22.3
87.5°	9.7	11.4	77.9	132.6	81.5	50.4	60.1	68.2	5.5	6.8	6.1
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°	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5	658.5
2.5°	645.6	641.4	628.1	614.9	599.7	585.7	574.8	567.6	570.9	560.2	561.8
5°	627.2	616.4	587.4	556.0	522.0	490.3	465.1	446.3	442.8	426.6	427.3
7.5°	609.4	591.9	544.7	493.0	436.6	391.1	349.6	313.4	300.4	287.2	279.5
10°	599.7	575.7	508.8	433.4	354.1	287.2	229.0	183.4	164.3	150.4	143.6
12.5°	602.5	570.9	481.9	379.4	275.3	190.2	129.4	96.1	84.4	77.9	75.7
15°	612.2	571.8	457.7	326.6	200.2	115.2	76.0	65.1	64.0	63.7	63.4
17.5°	621.3	572.9	432.1	271.7	133.9	73.4	61.2	60.1	60.1	60.1	60.1
20°	630.8	573.2	404.0	214.1	88.0	60.1	57.6	56.9	57.6	57.6	57.6
22.5°	641.7	575.4	376.9	158.1	65.1	56.6	55.0	54.6	55.0	55.0	54.6
25°	655.3	580.2	347.4	113.2	58.8	54.3	52.7	52.4	52.7	52.4	52.4
27.5°	673.4	586.8	313.1	81.2	56.3	52.1	50.4	50.4	50.4	50.1	50.1
30°	696.7	594.4	267.2	64.0	53.7	49.8	48.5	48.5	48.2	47.9	47.9
32.5°	730.0	607.1	217.1	57.9	50.7	46.9	45.6	45.9	45.6	45.3	44.9
35°	777.2	626.9	167.6	54.6	47.9	44.0	42.7	42.7	42.7	42.0	42.0
37.5°	844.1	656.9	125.5	51.5	44.9	41.1	39.5	39.5	39.2	38.5	38.8
40°	927.0	694.8	90.8	48.5	42.0	37.8	36.5	35.9	35.3	34.6	34.6
42.5°	1026.6	731.6	68.2	45.6	39.2	35.3	33.7	33.0	31.7	31.1	30.7
45°	1138.1	770.8	56.6	42.0	35.9	32.3	31.1	29.8	28.1	27.2	26.8
47.5°	1232.3	794.7	50.4	38.5	32.6	29.5	28.1	26.2	24.2	23.6	23.6
50°	1288.9	784.7	45.3	34.9	29.5	26.5	24.9	22.3	21.1	20.4	20.0
52.5°	1320.6	754.9	41.1	32.0	26.5	23.3	21.1	18.7	18.1	17.5	17.5
55°	1342.3	711.9	36.5	29.2	23.9	20.4	17.8	16.2	15.5	15.2	14.8
57.5°	1363.0	659.5	32.3	26.5	21.4	18.1	15.2	14.5	13.3	12.9	12.9
60°	1369.1	587.4	28.4	23.6	19.1	15.9	13.3	12.3	11.0	10.6	10.6
62.5°	1290.9	467.4	25.3	20.0	16.8	13.6	11.7	10.3	9.1	9.1	9.1
65°	1078.7	317.3	21.7	17.5	14.8	11.7	10.0	8.4	7.8	7.8	7.8
67.5°	751.4	177.0	18.4	14.8	12.6	9.7	8.4	7.2	6.8	7.2	7.2
70°	338.6	70.2	15.5	12.3	10.3	8.1	7.2	6.1	6.8	6.8	6.8
72°	101.6	37.5	12.9	10.0	8.4	7.2	6.1	5.8	6.4	6.8	6.8
72.5°	75.4	33.7	12.3	9.7	8.4	6.8	5.8	5.8	6.4	6.8	6.8
75°	38.8	22.9	9.4	7.2	6.1	5.5	4.8	5.5	6.4	6.4	6.4
77.5°	30.4	18.7	7.8	5.5	5.2	4.8	4.5	5.2	5.8	5.8	5.8
80°	28.4	12.3	6.1	5.2	4.5	4.2	4.2	4.5	5.2	5.5	5.5
82.5°	28.7	10.0	5.5	4.8	4.2	3.9	3.9	4.2	4.8	5.2	5.2
85°	18.4	6.8	4.8	4.2	3.9	3.6	3.6	3.9	4.5	4.8	4.8
87.5°	6.1	5.2	4.2	3.9	3.3	3.3	3.3	3.3	3.9	4.2	4.5
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)