

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: P270281

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270281
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 2700K, 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5063.5 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

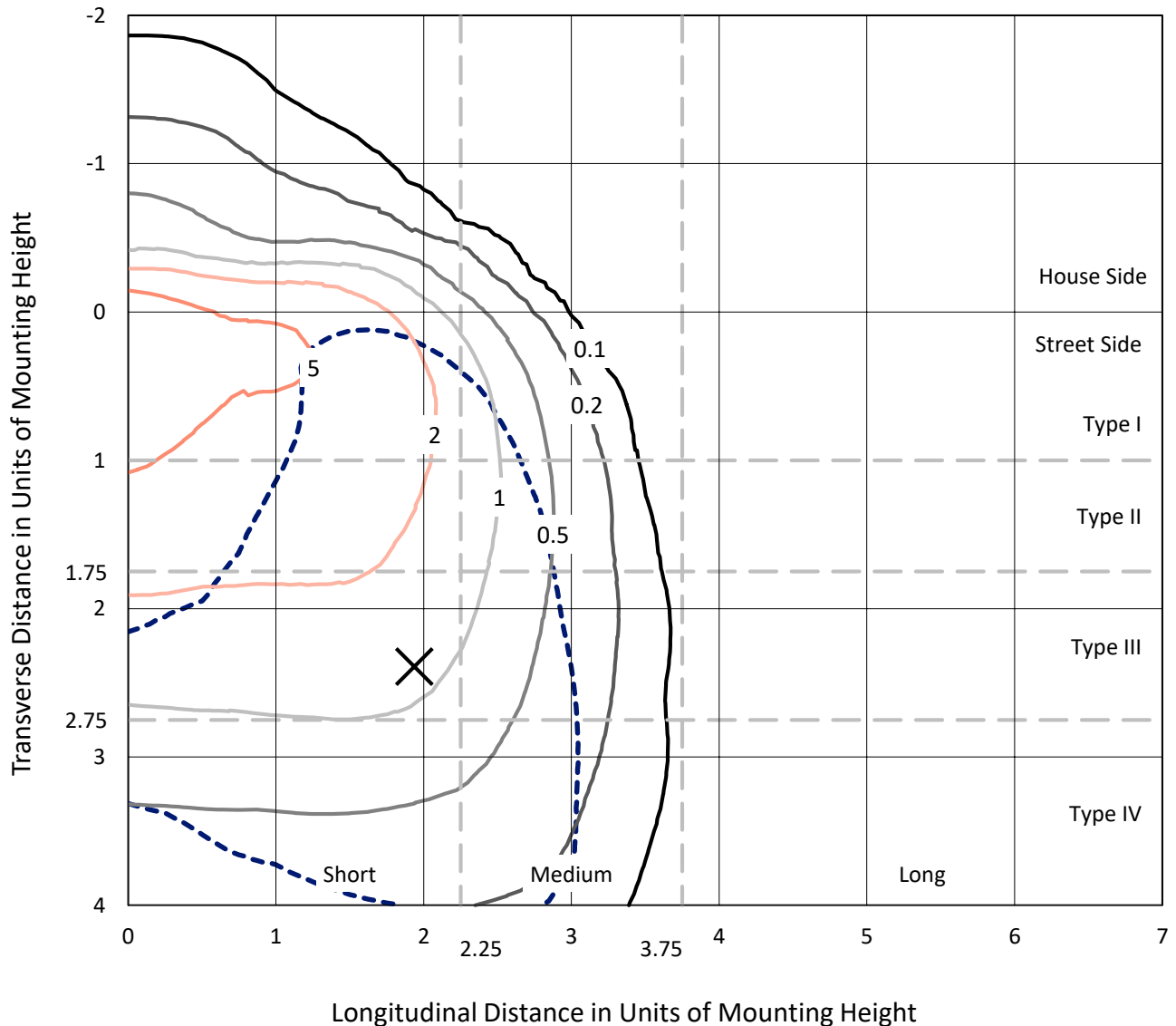
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

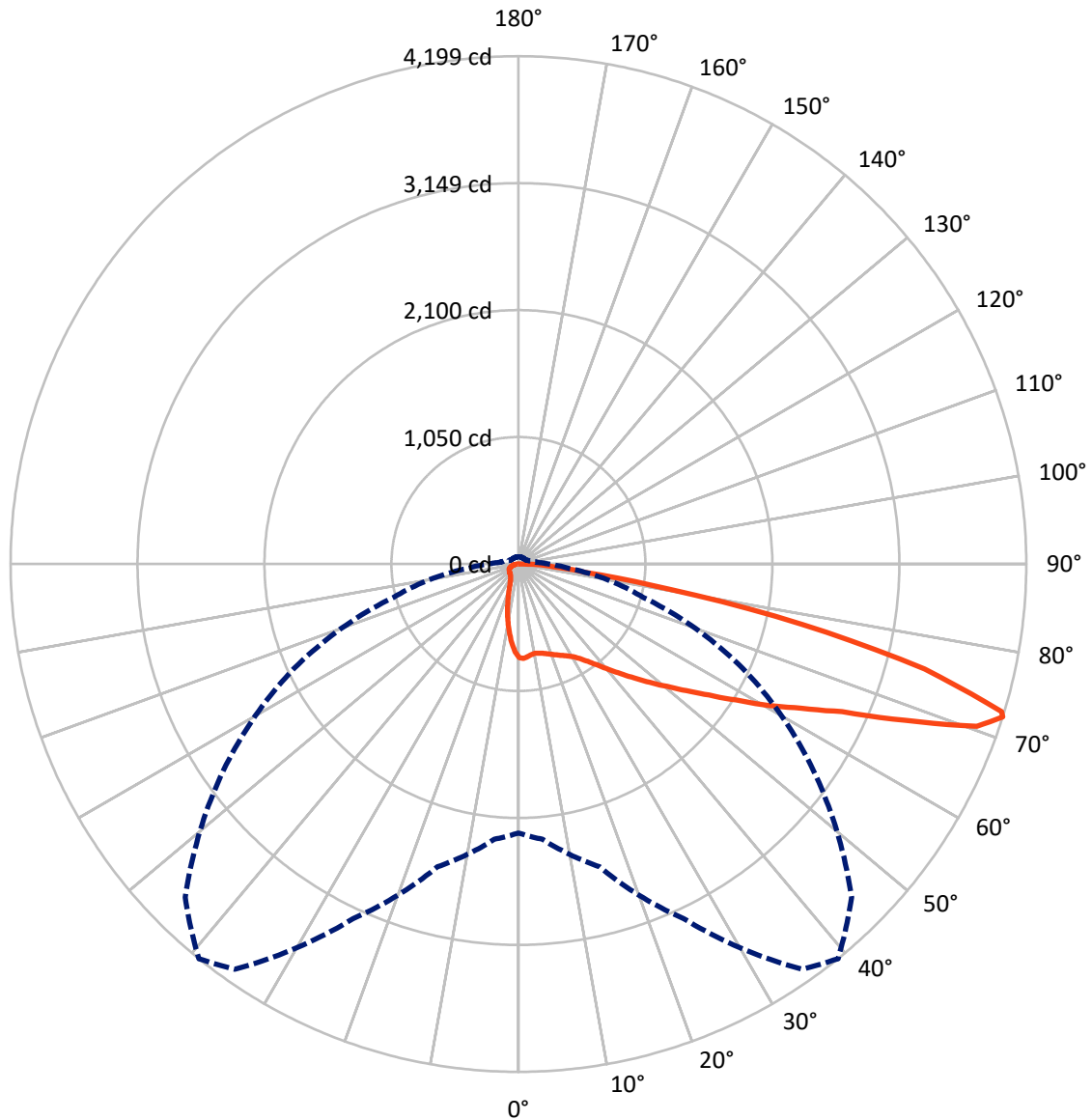
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 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	580.6	0.0	580.6
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	4482.9	0.0	4482.9
	% Fixture	88.5	0.0	88.5
Total	Lumens	5063.5	0.0	5063.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.3
10°-20°	167.0	3.3
20°-30°	260.2	5.1
30°-40°	400.7	7.9
40°-50°	653.2	12.9
50°-60°	1015.0	20.0
60°-70°	1358.5	26.8
70°-80°	976.9	19.3
80°-90°	165.6	3.3
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°	5063.5	100.0
0°-180°	5063.5	100.0



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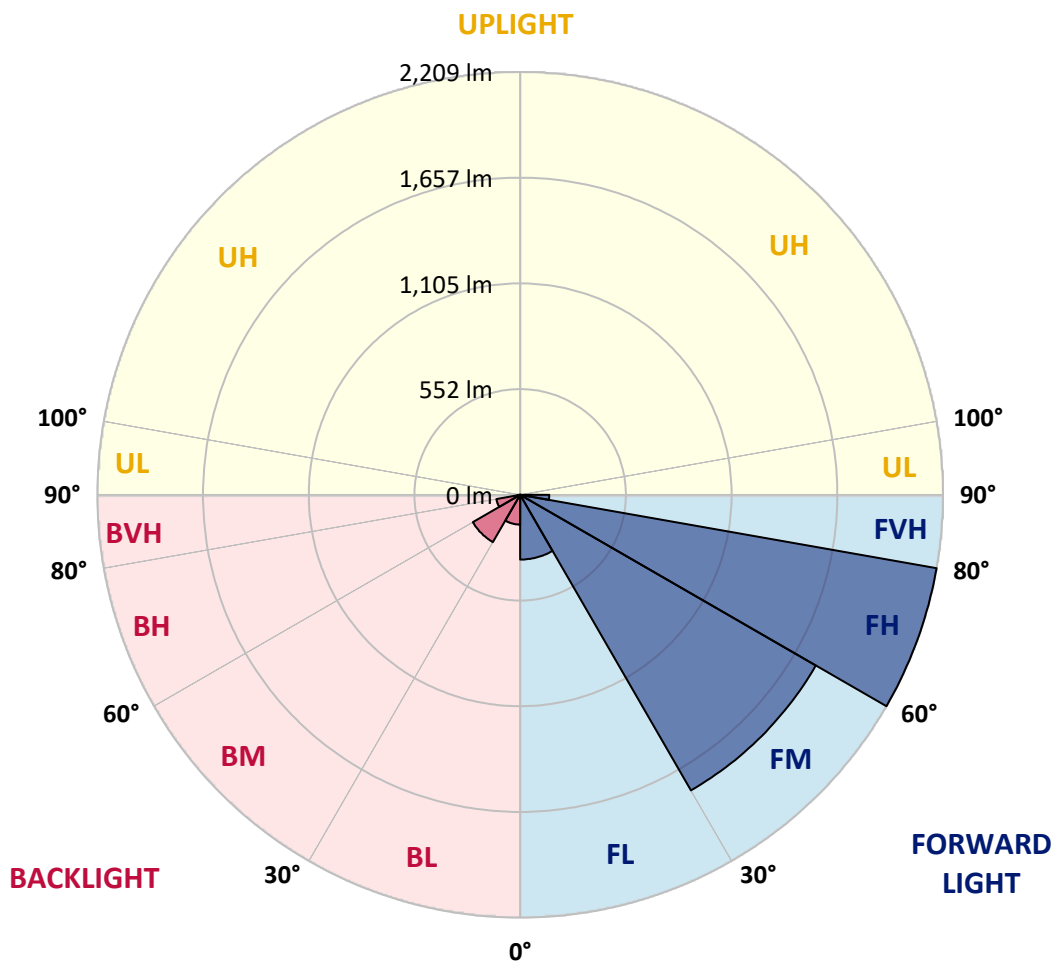
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	338.2	6.7			
FM	(30°-60°)	1783.5	35.2			
FH	(60°-80°)	2209.3	43.6			G2/5000
FVH	(80°-90°)	151.9	3.0			G2/225
BL	(0°-30°)	155.4	3.1	B1/500		
BM	(30°-60°)	285.3	5.6	B1/1000		
BH	(60°-80°)	126.2	2.5	B1/500		G1/500
BVH	(80°-90°)	13.7	0.3			G1/100
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°	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4
2.5°	789.9	790.2	789.3	786.1	783.5	782.2	779.8	775.6	770.2	766.4	763.4
5°	782.5	783.5	782.9	777.8	772.9	770.2	766.4	760.8	753.6	750.5	743.3
7.5°	776.7	777.4	775.2	769.6	760.3	756.9	750.2	742.7	736.3	731.8	723.3
10°	772.6	773.4	771.6	765.9	755.7	751.5	743.3	735.3	726.6	721.2	711.7
12.5°	766.9	768.2	768.2	765.4	758.7	756.0	747.7	738.9	731.1	725.3	713.4
15°	765.9	767.5	770.6	770.2	768.2	766.2	759.6	750.9	744.1	737.2	722.6
17.5°	774.2	778.0	784.2	786.1	784.8	780.4	772.9	764.7	757.4	750.9	732.8
20°	795.7	797.8	806.9	811.0	804.3	797.8	788.0	777.4	770.6	765.4	742.4
22.5°	828.0	830.8	838.2	838.6	824.3	816.5	803.9	791.0	784.5	782.5	755.2
25°	879.7	879.0	881.1	872.6	846.7	837.5	822.2	807.2	802.8	806.9	774.2
27.5°	941.6	939.8	933.3	911.3	872.3	860.2	841.9	828.6	828.6	838.2	800.1
30°	1012.8	1011.2	990.1	953.1	902.4	888.9	869.5	855.5	862.7	881.1	835.2
32.5°	1088.3	1082.3	1052.6	1003.0	945.6	930.6	912.0	897.6	911.3	942.5	885.5
35°	1159.4	1155.9	1119.6	1060.9	1001.4	988.8	975.9	958.2	980.0	1028.6	956.4
37.5°	1232.8	1230.0	1185.7	1123.1	1069.3	1060.9	1049.9	1037.7	1072.8	1136.6	1052.6
40°	1314.8	1309.3	1253.2	1190.7	1148.6	1144.5	1138.7	1135.3	1191.7	1286.9	1174.4
42.5°	1407.6	1397.0	1324.6	1265.2	1234.9	1238.3	1235.2	1248.9	1335.2	1460.3	1319.3
45°	1513.6	1492.5	1395.6	1344.4	1330.4	1344.0	1350.4	1385.0	1504.8	1660.4	1480.9
47.5°	1612.8	1585.7	1473.5	1430.3	1438.1	1461.6	1480.0	1541.1	1690.7	1858.2	1646.1
50°	1704.3	1673.7	1556.8	1519.4	1557.4	1590.8	1628.8	1715.1	1888.4	2061.9	1797.8
52.5°	1771.9	1749.8	1640.0	1616.6	1694.5	1738.6	1799.5	1908.5	2088.4	2256.0	1933.1
55°	1824.3	1812.4	1721.3	1728.1	1849.4	1912.6	1986.4	2111.8	2299.8	2429.9	2041.8
57.5°	1884.7	1875.9	1814.0	1862.6	2041.8	2121.3	2208.4	2347.7	2501.1	2583.3	2127.1
60°	1948.7	1948.7	1917.4	2024.8	2282.5	2373.5	2460.2	2568.7	2701.6	2721.2	2161.9
62.5°	1996.9	2009.5	2020.7	2197.4	2510.9	2624.0	2719.2	2823.3	2909.3	2789.2	2080.3
65°	2067.0	2093.8	2157.0	2396.9	2793.6	2941.9	3070.3	3157.7	3077.6	2735.2	1814.0
67.5°	2187.4	2227.1	2361.6	2694.0	3226.7	3448.7	3573.4	3422.5	3044.5	2395.1	1389.5
70°	2295.7	2351.9	2581.9	3071.0	3789.6	4020.1	3962.7	3361.0	2651.5	1755.6	854.8
72°	2223.7	2284.7	2592.1	3235.2	4090.4	4199.1	3896.3	2978.6	2048.9	1071.4	421.5
72.5°	2176.5	2240.0	2559.1	3231.2	4098.5	4176.4	3804.2	2826.6	1859.9	937.4	340.9
75°	1818.2	1872.5	2200.6	2863.6	3611.8	3469.1	2968.7	1829.4	854.8	302.9	175.3
77.5°	1187.3	1228.7	1517.3	1984.0	2529.8	2392.5	1806.9	856.5	320.5	184.0	132.0
80°	596.6	626.1	812.1	1043.1	1365.5	1256.3	834.2	414.4	214.4	132.9	103.7
82.5°	415.0	442.2	559.1	532.6	570.8	552.4	392.3	345.7	160.4	83.9	54.3
85°	348.1	376.3	462.5	379.7	310.6	283.1	281.1	326.7	106.1	41.5	46.0
87.5°	303.5	346.3	381.7	277.3	213.1	187.9	207.0	299.4	33.6	22.7	14.0
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°	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4	773.4
2.5°	758.3	757.4	752.2	744.3	738.5	734.9	727.7	727.4	728.0	722.0	724.4
5°	736.9	732.8	719.6	701.5	686.9	673.0	657.6	652.6	648.1	639.1	640.0
7.5°	714.5	707.3	684.1	654.7	626.5	600.5	575.2	562.6	553.0	541.0	541.0
10°	701.2	690.0	654.7	611.4	566.7	528.9	490.8	468.0	451.4	436.0	435.0
12.5°	700.6	683.5	634.3	574.7	513.2	460.2	408.2	373.2	348.5	330.3	328.7
15°	706.0	682.3	617.2	540.4	462.9	393.9	329.7	285.2	253.6	233.5	231.5
17.5°	710.6	680.5	598.9	504.4	413.9	330.0	258.6	212.4	182.5	166.1	164.5
20°	715.2	676.8	575.5	466.3	360.0	270.2	202.3	164.8	145.2	136.0	134.9
22.5°	721.6	673.4	551.0	423.6	307.0	219.9	166.8	140.0	129.4	125.0	124.4
25°	732.2	673.6	527.1	379.7	258.4	183.3	144.4	127.7	122.0	118.9	118.9
27.5°	747.5	677.9	503.7	335.2	217.2	158.0	131.2	121.4	117.6	115.3	114.5
30°	769.8	685.2	478.9	292.9	184.6	140.8	123.3	117.3	114.3	112.2	111.7
32.5°	802.5	698.5	452.7	254.6	159.8	128.5	117.6	113.8	111.5	109.9	109.5
35°	851.1	722.0	427.2	221.9	142.1	119.7	112.8	109.9	108.4	107.7	107.3
37.5°	922.5	759.6	403.1	196.5	130.6	113.8	108.1	106.4	105.7	105.7	105.7
40°	1012.2	809.4	381.4	178.5	124.1	109.5	104.7	103.3	103.3	103.7	103.7
42.5°	1121.4	871.5	362.6	166.1	120.4	106.4	102.2	101.6	101.2	101.2	101.6
45°	1248.1	944.9	351.1	156.8	117.6	104.7	100.6	100.3	99.0	98.3	98.3
47.5°	1375.6	1023.4	350.5	151.3	114.3	102.6	99.0	99.0	96.2	94.9	95.2
50°	1494.6	1093.7	358.0	149.8	112.2	99.6	97.1	97.6	93.9	92.2	91.7
52.5°	1590.4	1147.6	367.0	151.6	112.2	96.8	94.1	95.8	91.7	89.7	89.4
55°	1664.5	1185.0	370.6	155.3	113.5	94.5	91.4	94.1	91.1	88.4	88.4
57.5°	1717.5	1196.8	355.9	157.1	115.5	94.1	88.8	93.9	92.2	88.8	88.8
60°	1698.2	1127.8	301.6	150.6	115.3	93.5	86.6	94.5	95.5	91.7	91.7
62.5°	1546.9	943.6	242.1	136.0	109.5	91.1	84.4	93.9	97.8	96.6	95.8
65°	1259.3	692.1	187.7	118.7	99.6	86.0	79.2	87.7	92.4	93.9	94.1
67.5°	887.4	438.2	145.9	101.0	87.3	78.5	73.4	77.6	79.2	79.9	81.2
70°	485.4	237.2	115.9	85.0	74.7	71.1	67.4	67.6	67.0	66.3	67.0
72°	243.7	155.0	97.8	73.8	66.3	63.9	62.3	61.2	61.2	60.1	60.5
72.5°	209.8	144.1	94.5	71.1	64.3	62.3	60.8	59.8	59.5	58.7	59.2
75°	139.6	114.3	78.8	59.5	54.7	53.4	54.1	53.0	53.4	52.7	53.0
77.5°	112.8	98.3	67.0	50.3	46.9	44.8	46.3	46.5	47.3	46.5	46.3
80°	94.5	83.6	56.1	41.5	39.0	37.4	38.1	40.5	40.9	38.7	38.4
82.5°	61.2	67.4	44.1	32.2	30.0	29.3	30.9	33.2	34.0	31.4	30.6
85°	51.4	54.1	32.0	22.1	19.8	19.0	22.5	24.9	26.5	23.7	23.0
87.5°	14.3	26.5	15.6	10.5	8.9	8.9	10.9	12.9	15.4	15.6	15.6
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)