

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: P196189

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196189  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 70 CRI, 4000K, 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: 5961.8 lumens  
Efficiency: N/A  
Efficacy: 101.0 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

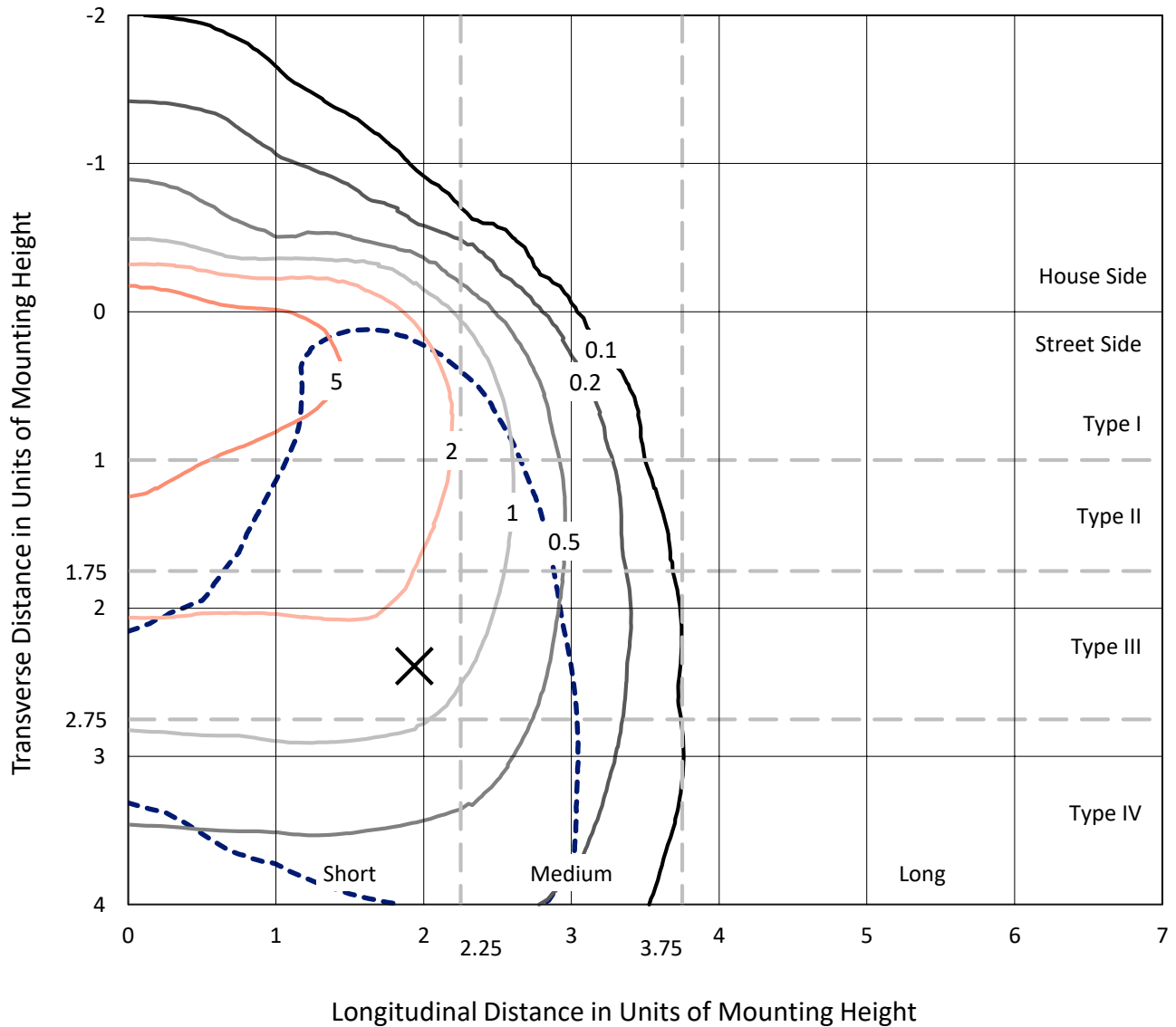
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

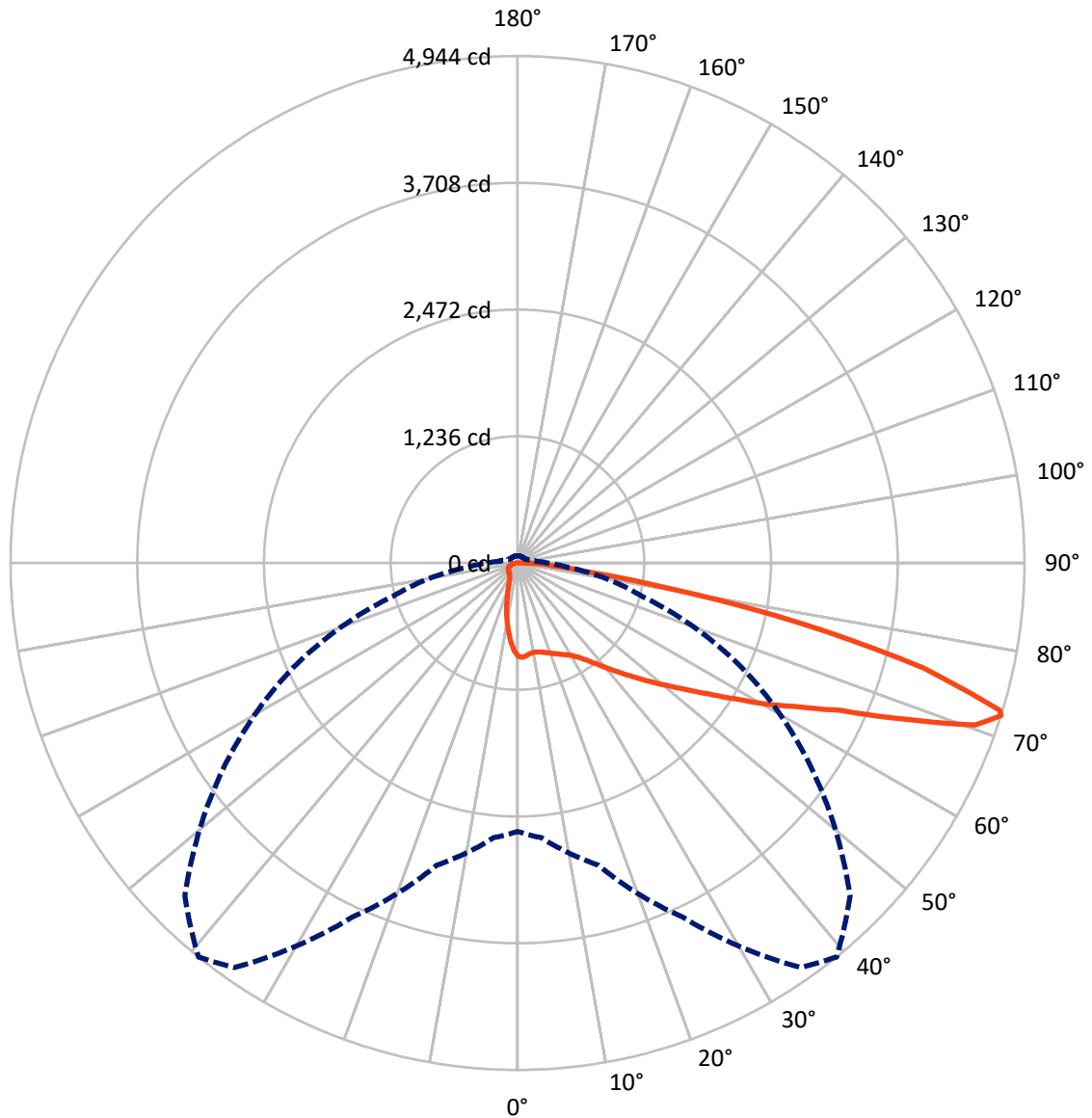
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.1 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	683.6	0.0	683.6
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	5278.2	0.0	5278.2
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	5961.8	0.0	5961.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.2	1.3
10°-20°	196.6	3.3
20°-30°	306.4	5.1
30°-40°	471.7	7.9
40°-50°	769.0	12.9
50°-60°	1195.0	20.0
60°-70°	1599.5	26.8
70°-80°	1150.3	19.3
80°-90°	195.0	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°	5961.8	100.0
0°-180°	5961.8	100.0

**Coefficient of Utilization**



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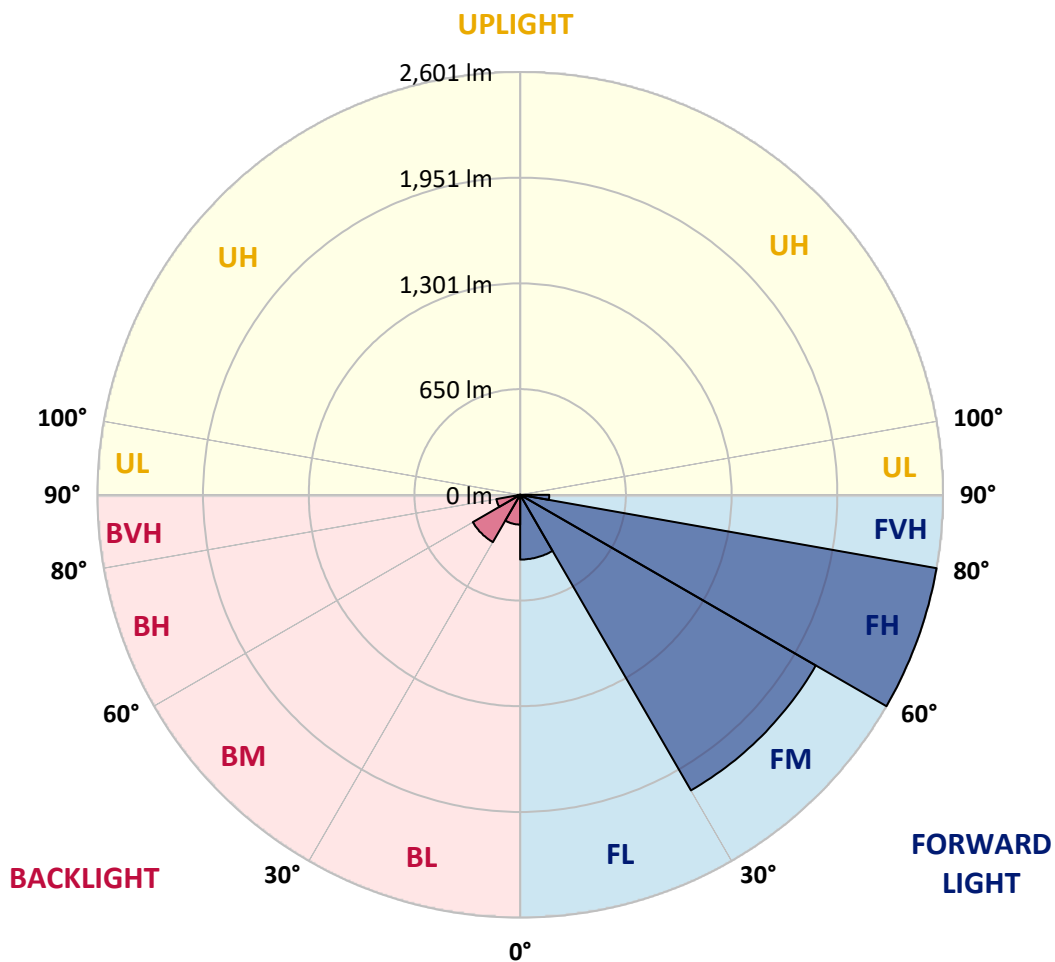
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	398.2	6.7			
FM	(30°-60°)	2099.9	35.2			
FH	(60°-80°)	2601.2	43.6			G2/5000
FVH	(80°-90°)	178.9	3.0			G2/225
BL	(0°-30°)	183.0	3.1	B1/500		
BM	(30°-60°)	336.0	5.6	B1/1000		
BH	(60°-80°)	148.5	2.5	B1/500		G1/500
BVH	(80°-90°)	16.1	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°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	930.1	930.5	929.2	925.7	922.5	920.9	918.1	913.3	906.8	902.4	898.9
5°	921.3	922.5	921.7	915.6	910.0	906.8	902.4	895.7	887.2	883.6	875.2
7.5°	914.5	915.2	912.9	906.0	895.3	891.3	883.2	874.4	866.8	861.6	851.6
10°	909.7	910.4	908.5	901.6	889.7	884.9	875.2	865.6	855.6	849.3	838.0
12.5°	902.9	904.5	904.5	901.2	893.2	890.1	880.5	870.0	860.8	854.1	840.0
15°	901.6	903.7	907.3	906.8	904.5	902.0	894.5	884.0	876.1	868.1	850.8
17.5°	911.7	916.1	923.3	925.7	924.0	918.9	910.0	900.5	891.7	884.0	862.9
20°	936.9	939.3	950.1	954.9	946.8	939.3	927.7	915.2	907.3	901.2	874.0
22.5°	974.9	978.1	986.9	987.4	970.5	961.3	946.5	931.3	923.7	921.3	889.3
25°	1035.7	1034.9	1037.4	1027.3	996.9	986.1	968.1	950.5	945.3	950.1	911.7
27.5°	1108.6	1106.5	1099.0	1073.0	1026.9	1012.9	991.3	975.7	975.7	986.9	942.0
30°	1192.7	1190.6	1165.8	1122.2	1062.5	1046.6	1023.8	1007.3	1015.7	1037.4	983.3
32.5°	1281.5	1274.3	1239.4	1181.0	1113.4	1095.8	1073.8	1056.9	1073.0	1109.8	1042.5
35°	1365.1	1361.1	1318.3	1249.0	1179.1	1164.2	1149.0	1128.2	1153.8	1211.1	1126.2
37.5°	1451.6	1448.3	1395.9	1322.3	1259.0	1249.0	1236.2	1221.8	1263.0	1338.3	1239.4
40°	1548.0	1541.6	1475.6	1402.0	1352.3	1347.5	1340.7	1336.7	1403.1	1515.2	1382.7
42.5°	1657.3	1644.8	1559.6	1489.5	1453.9	1457.9	1454.3	1470.4	1572.0	1719.3	1553.1
45°	1782.1	1757.3	1643.3	1582.8	1566.4	1582.4	1590.0	1630.8	1771.8	1955.0	1743.7
47.5°	1899.0	1867.0	1734.9	1684.1	1693.3	1720.9	1742.5	1814.5	1990.7	2187.9	1938.2
50°	2006.6	1970.6	1832.9	1788.9	1833.7	1872.9	1917.8	2019.4	2223.6	2427.7	2116.7
52.5°	2086.3	2060.2	1931.0	1903.4	1995.1	2047.0	2118.7	2247.1	2458.9	2656.2	2276.0
55°	2147.9	2133.9	2026.7	2034.6	2177.6	2251.9	2338.8	2486.5	2707.8	2861.1	2404.0
57.5°	2219.2	2208.8	2135.9	2193.1	2404.0	2497.6	2600.1	2764.2	2944.7	3041.5	2504.5
60°	2294.4	2294.4	2257.6	2384.0	2687.4	2794.6	2896.7	3024.4	3180.9	3204.1	2545.3
62.5°	2351.3	2366.0	2379.2	2587.3	2956.3	3089.6	3201.6	3324.1	3425.4	3284.1	2449.3
65°	2433.6	2465.3	2539.7	2822.2	3289.3	3463.8	3615.0	3717.9	3623.5	3220.5	2135.9
67.5°	2575.3	2622.1	2780.6	3172.1	3799.1	4060.5	4207.4	4029.7	3584.6	2819.9	1636.0
70°	2702.9	2769.0	3040.0	3615.8	4461.9	4733.2	4665.6	3957.2	3122.0	2067.1	1006.5
72°	2618.1	2690.2	3052.0	3809.2	4816.1	4944.1	4587.5	3507.0	2412.4	1261.4	496.2
72.5°	2562.5	2637.4	3013.1	3804.4	4825.7	4917.3	4479.1	3328.1	2189.9	1103.8	401.4
75°	2140.7	2204.8	2590.9	3371.7	4252.6	4084.5	3495.4	2153.9	1006.5	356.6	206.5
77.5°	1398.0	1446.8	1786.5	2336.0	2978.7	2817.0	2127.5	1008.5	377.4	216.6	155.3
80°	702.4	737.1	956.0	1228.3	1607.7	1479.2	982.1	487.8	252.6	156.5	122.0
82.5°	488.7	520.7	658.4	627.2	672.0	650.3	461.9	407.0	188.9	98.8	64.0
85°	409.8	443.0	544.7	447.0	365.8	333.4	330.9	384.6	124.9	48.8	54.0
87.5°	357.4	407.9	449.4	326.5	250.9	221.3	243.8	352.6	39.6	26.8	16.4
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°	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4	910.4
2.5°	892.8	891.7	885.7	876.5	869.6	865.2	856.8	856.4	857.2	850.1	852.8
5°	867.7	862.9	847.2	826.0	808.8	792.4	774.4	768.4	763.2	752.4	753.6
7.5°	841.3	832.8	805.6	770.8	737.5	707.2	677.2	662.4	651.1	637.1	637.1
10°	825.6	812.4	770.8	720.0	667.2	622.7	577.9	551.1	531.4	513.4	512.3
12.5°	824.8	804.9	746.8	676.8	604.4	541.9	480.7	439.5	410.2	389.0	387.0
15°	831.2	803.2	726.8	636.4	545.1	463.8	388.2	335.7	298.6	275.0	272.5
17.5°	836.9	801.2	705.1	593.9	487.4	388.6	304.5	250.1	214.9	195.7	193.7
20°	842.0	796.8	677.5	549.1	423.8	318.1	238.1	194.1	170.9	160.1	158.9
22.5°	849.7	792.8	648.8	498.7	361.4	258.9	196.5	164.9	152.5	147.3	146.5
25°	862.0	793.2	620.7	447.0	304.1	215.7	170.1	150.5	143.7	140.0	140.0
27.5°	880.0	798.0	593.1	394.6	255.7	186.1	154.5	142.9	138.5	135.6	134.8
30°	906.4	806.8	563.9	344.9	217.3	165.7	145.3	138.1	134.5	132.1	131.7
32.5°	944.9	822.5	533.1	299.7	188.1	151.3	138.5	134.1	131.2	129.3	128.9
35°	1002.1	850.1	503.1	261.4	167.3	140.9	132.9	129.3	127.7	126.8	126.4
37.5°	1086.2	894.5	474.6	231.3	153.6	134.1	127.3	125.3	124.5	124.5	124.5
40°	1191.8	952.9	449.1	210.1	146.1	128.9	123.3	121.6	121.6	122.0	122.0
42.5°	1320.3	1026.1	427.0	195.7	141.7	125.3	120.5	119.7	119.3	119.3	119.7
45°	1469.6	1112.6	413.4	184.5	138.5	123.3	118.5	118.0	116.4	115.7	115.7
47.5°	1619.6	1205.0	412.7	178.1	134.5	120.9	116.4	116.4	113.2	111.7	112.0
50°	1759.7	1287.9	421.5	176.5	132.1	117.2	114.5	114.9	110.5	108.4	108.0
52.5°	1872.5	1351.1	432.2	178.5	132.1	114.1	110.9	112.8	108.0	105.7	105.3
55°	1959.8	1395.1	436.2	182.9	133.7	111.3	107.6	110.9	107.2	104.0	104.0
57.5°	2022.3	1409.1	419.0	184.8	136.1	110.9	104.4	110.5	108.4	104.4	104.4
60°	1999.5	1327.9	355.0	177.3	135.6	110.1	102.1	111.3	112.4	108.0	108.0
62.5°	1821.4	1110.9	285.0	160.1	128.9	107.2	99.2	110.5	115.3	113.6	112.8
65°	1482.8	814.8	221.0	139.6	117.2	101.3	93.3	103.2	108.8	110.5	110.9
67.5°	1044.9	515.9	171.7	118.9	102.8	92.5	86.4	91.2	93.3	94.0	95.6
70°	571.5	279.4	136.5	100.0	88.1	83.7	79.3	79.7	78.9	78.1	78.9
72°	286.9	182.5	115.3	86.8	78.1	75.3	73.2	72.0	72.0	70.8	71.2
72.5°	246.9	169.7	111.3	83.7	75.6	73.2	71.6	70.5	70.1	69.3	69.7
75°	164.5	134.5	92.9	70.1	64.4	62.8	63.6	62.4	62.8	62.0	62.4
77.5°	132.9	115.7	78.9	59.2	55.2	52.8	54.4	54.8	55.6	54.8	54.4
80°	111.3	98.4	66.1	48.8	46.0	44.0	44.8	47.7	48.0	45.6	45.2
82.5°	72.0	79.3	52.1	38.1	35.2	34.4	36.4	39.2	40.0	36.8	36.0
85°	60.5	63.6	37.6	26.0	23.2	22.4	26.4	29.3	31.2	28.0	27.2
87.5°	16.8	31.2	18.4	12.4	10.4	10.4	12.8	15.2	18.0	18.4	18.4
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)