

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: P195229

Luminaire Tested: **NAV-AF-01-D-UNV-SL4-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195229
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-SL4-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5700K, 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: 5828 lumens
Efficiency: N/A
Efficacy: 98.8 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

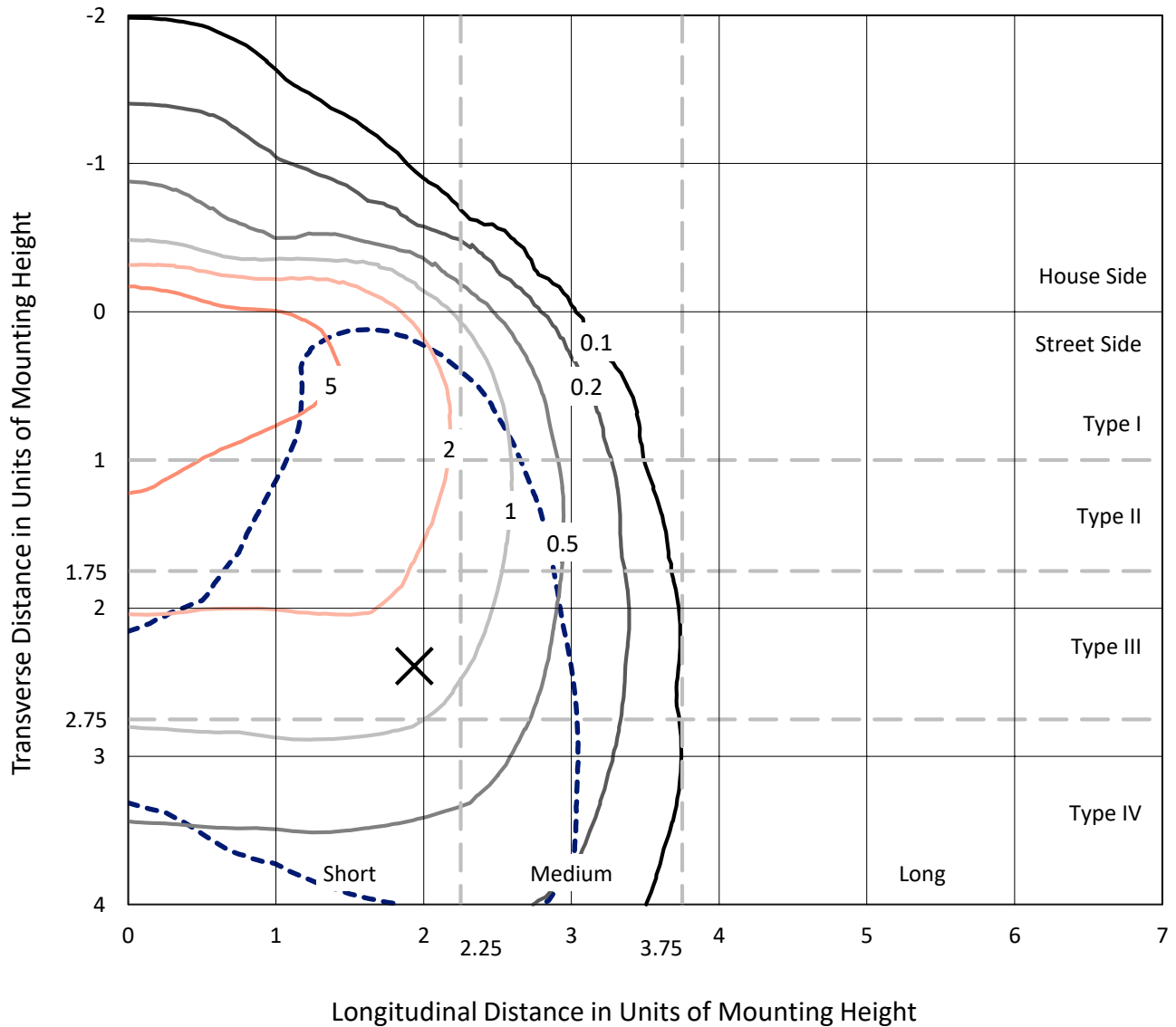
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

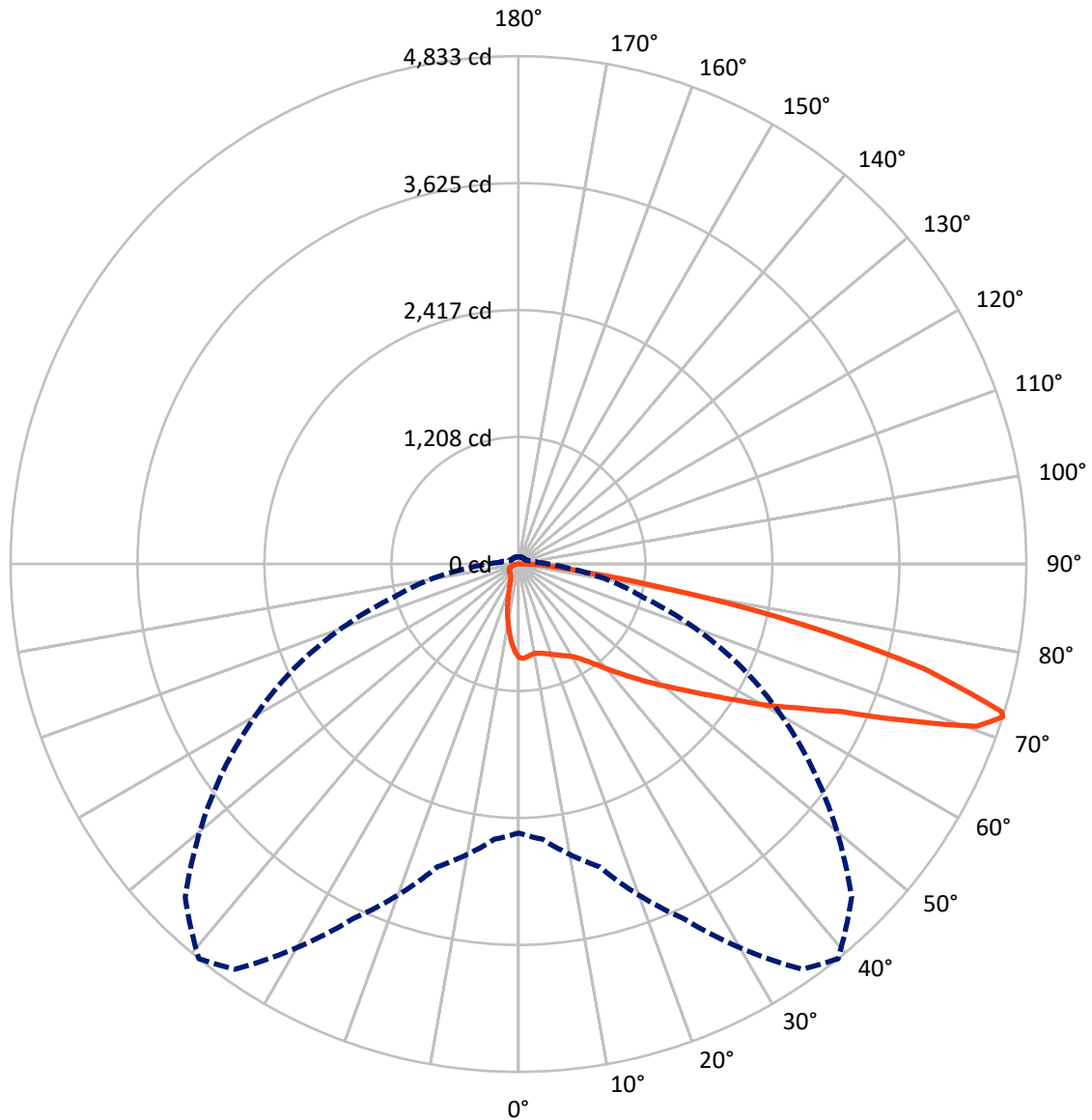
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.9 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	668.3	0.0	668.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	5159.7	0.0	5159.7
	% Fixture	88.5	0.0	88.5
Total	Lumens	5828.0	0.0	5828.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.5	1.3
10°-20°	192.2	3.3
20°-30°	299.5	5.1
30°-40°	461.2	7.9
40°-50°	751.8	12.9
50°-60°	1168.2	20.0
60°-70°	1563.6	26.8
70°-80°	1124.5	19.3
80°-90°	190.6	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°	5828.0	100.0
0°-180°	5828.0	100.0



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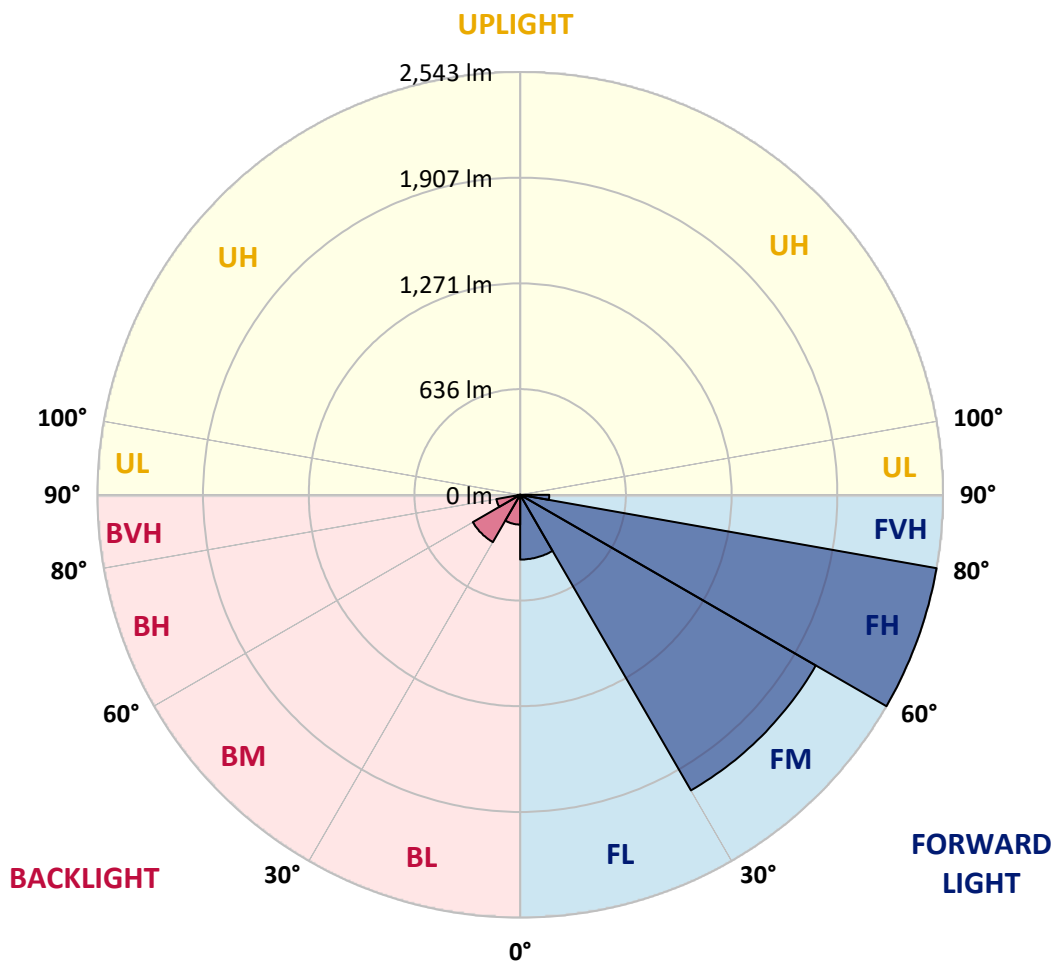
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	389.3	6.7			
FM	(30°-60°)	2052.7	35.2			
FH	(60°-80°)	2542.9	43.6			G2/5000
FVH	(80°-90°)	174.9	3.0			G2/225
BL	(0°-30°)	178.9	3.1	B1/500		
BM	(30°-60°)	328.4	5.6	B1/1000		
BH	(60°-80°)	145.2	2.5	B1/500		G1/500
BVH	(80°-90°)	15.8	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°	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0
2.5°	909.2	909.6	908.4	904.9	901.8	900.2	897.5	892.8	886.5	882.2	878.7
5°	900.6	901.8	901.0	895.1	889.6	886.5	882.2	875.6	867.3	863.8	855.6
7.5°	894.0	894.7	892.4	885.7	875.2	871.3	863.4	854.8	847.4	842.3	832.5
10°	889.3	890.0	888.1	881.4	869.7	865.0	855.6	846.2	836.4	830.2	819.2
12.5°	882.6	884.2	884.2	881.0	873.2	870.1	860.7	850.5	841.5	834.9	821.2
15°	881.4	883.4	886.9	886.5	884.2	881.8	874.4	864.2	856.4	848.6	831.7
17.5°	891.2	895.5	902.6	904.9	903.3	898.3	889.6	880.3	871.7	864.2	843.5
20°	915.9	918.2	928.8	933.5	925.6	918.2	906.9	894.7	886.9	881.0	854.4
22.5°	953.0	956.2	964.8	965.2	948.7	939.7	925.3	910.4	903.0	900.6	869.3
25°	1012.5	1011.7	1014.1	1004.3	974.5	964.0	946.4	929.2	924.1	928.8	891.2
27.5°	1083.7	1081.7	1074.3	1048.9	1003.9	990.2	969.1	953.8	953.8	964.8	920.9
30°	1165.9	1163.9	1139.6	1097.0	1038.7	1023.1	1000.8	984.7	992.9	1014.1	961.2
32.5°	1252.7	1245.7	1211.6	1154.5	1088.4	1071.2	1049.7	1033.2	1048.9	1084.9	1019.1
35°	1334.5	1330.6	1288.7	1221.0	1152.6	1138.1	1123.2	1102.9	1127.9	1183.9	1100.9
37.5°	1419.0	1415.8	1364.6	1292.6	1230.8	1221.0	1208.5	1194.4	1234.7	1308.3	1211.6
40°	1513.3	1507.0	1442.5	1370.5	1322.0	1317.3	1310.6	1306.7	1371.6	1481.2	1351.7
42.5°	1620.1	1607.9	1524.6	1456.1	1421.3	1425.2	1421.7	1437.4	1536.7	1680.7	1518.3
45°	1742.1	1717.9	1606.4	1547.3	1531.3	1546.9	1554.3	1594.2	1732.0	1911.1	1704.6
47.5°	1856.4	1825.1	1696.0	1646.3	1655.3	1682.3	1703.4	1773.8	1946.0	2138.8	1894.7
50°	1961.6	1926.4	1791.8	1748.8	1792.6	1830.9	1874.8	1974.1	2173.7	2373.2	2069.2
52.5°	2039.5	2014.0	1887.7	1860.7	1950.3	2001.1	2071.2	2196.7	2403.7	2596.6	2224.9
55°	2099.7	2086.0	1981.2	1989.0	2128.7	2201.4	2286.3	2430.7	2647.0	2796.9	2350.1
57.5°	2169.4	2159.2	2088.0	2143.9	2350.1	2441.6	2541.8	2702.2	2878.6	2973.3	2448.3
60°	2242.9	2242.9	2206.9	2330.5	2627.1	2731.9	2831.7	2956.5	3109.5	3132.2	2488.2
62.5°	2298.5	2312.9	2325.8	2529.3	2890.0	3020.3	3129.8	3249.5	3348.5	3210.4	2394.3
65°	2379.0	2410.0	2482.7	2758.9	3215.5	3386.1	3533.9	3634.5	3542.2	3148.2	2088.0
67.5°	2517.5	2563.3	2718.2	3100.9	3713.9	3969.4	4113.0	3939.3	3504.2	2756.6	1599.3
70°	2642.3	2706.9	2971.8	3534.7	4361.8	4627.0	4560.9	3868.4	3052.0	2020.7	983.9
72°	2559.4	2629.8	2983.5	3723.7	4708.0	4833.2	4484.6	3428.3	2358.3	1233.1	485.1
72.5°	2505.0	2578.2	2945.5	3719.0	4717.4	4807.0	4378.6	3253.4	2140.8	1079.0	392.4
75°	2092.7	2155.3	2532.8	3296.1	4157.2	3992.9	3417.0	2105.6	983.9	348.6	201.9
77.5°	1366.6	1414.3	1746.4	2283.6	2911.9	2753.8	2079.8	985.9	368.9	211.7	151.8
80°	686.6	720.6	934.6	1200.7	1571.6	1446.0	960.1	476.9	246.9	153.0	119.3
82.5°	477.7	509.0	643.6	613.1	656.9	635.7	451.5	397.9	184.7	96.6	62.6
85°	400.6	433.1	532.5	437.0	357.6	325.9	323.5	376.0	122.1	47.7	52.8
87.5°	349.4	398.7	439.3	319.2	245.3	216.3	238.3	344.7	38.7	26.2	16.0
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°	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0	890.0
2.5°	872.8	871.7	865.8	856.8	850.1	845.8	837.6	837.2	838.0	831.0	833.7
5°	848.2	843.5	828.2	807.5	790.7	774.6	757.0	751.2	746.1	735.5	736.7
7.5°	822.4	814.1	787.5	753.5	721.0	691.3	662.0	647.5	636.5	622.8	622.8
10°	807.1	794.2	753.5	703.8	652.2	608.7	564.9	538.7	519.5	501.9	500.8
12.5°	806.3	786.8	730.0	661.6	590.8	529.7	469.9	429.6	401.0	380.3	378.3
15°	812.6	785.2	710.5	622.1	532.9	453.4	379.5	328.2	291.9	268.8	266.4
17.5°	818.1	783.2	689.3	580.6	476.5	379.9	297.7	244.5	210.1	191.3	189.4
20°	823.1	778.9	662.3	536.8	414.3	311.0	232.8	189.7	167.1	156.5	155.3
22.5°	830.6	775.0	634.2	487.5	353.3	253.1	192.1	161.2	149.1	144.0	143.2
25°	842.7	775.4	606.8	437.0	297.3	210.9	166.3	147.1	140.5	136.9	136.9
27.5°	860.3	780.1	579.8	385.7	250.0	181.9	151.0	139.7	135.4	132.6	131.8
30°	886.1	788.7	551.2	337.2	212.4	162.0	142.0	135.0	131.5	129.1	128.7
32.5°	923.7	804.0	521.1	293.0	183.9	147.9	135.4	131.1	128.3	126.4	126.0
35°	979.6	831.0	491.8	255.5	163.5	137.7	129.9	126.4	124.8	124.0	123.6
37.5°	1061.8	874.4	464.0	226.1	150.2	131.1	124.4	122.5	121.7	121.7	121.7
40°	1165.1	931.5	439.0	205.4	142.8	126.0	120.5	118.9	118.9	119.3	119.3
42.5°	1290.7	1003.1	417.4	191.3	138.5	122.5	117.8	117.0	116.6	116.6	117.0
45°	1436.6	1087.6	404.1	180.4	135.4	120.5	115.8	115.4	113.8	113.1	113.1
47.5°	1583.3	1178.0	403.4	174.1	131.5	118.2	113.8	113.8	110.7	109.2	109.5
50°	1720.2	1259.0	412.0	172.5	129.1	114.6	111.9	112.3	108.0	106.0	105.6
52.5°	1830.5	1320.8	422.5	174.5	129.1	111.5	108.4	110.3	105.6	103.3	102.9
55°	1915.8	1363.8	426.4	178.8	130.7	108.8	105.2	108.4	104.8	101.7	101.7
57.5°	1976.9	1377.5	409.6	180.7	133.0	108.4	102.1	108.0	106.0	102.1	102.1
60°	1954.6	1298.1	347.0	173.3	132.6	107.6	99.8	108.8	109.9	105.6	105.6
62.5°	1780.5	1086.0	278.6	156.5	126.0	104.8	97.0	108.0	112.7	111.1	110.3
65°	1449.5	796.5	216.0	136.5	114.6	99.0	91.2	100.9	106.4	108.0	108.4
67.5°	1021.5	504.3	167.8	116.2	100.5	90.4	84.5	89.2	91.2	91.9	93.5
70°	558.7	273.1	133.4	97.8	86.1	81.8	77.5	77.9	77.1	76.3	77.1
72°	280.5	178.4	112.7	84.9	76.3	73.6	71.6	70.4	70.4	69.2	69.6
72.5°	241.4	165.9	108.8	81.8	73.9	71.6	70.0	68.9	68.5	67.7	68.1
75°	160.8	131.5	90.8	68.5	63.0	61.4	62.2	61.0	61.4	60.6	61.0
77.5°	129.9	113.1	77.1	57.9	54.0	51.6	53.2	53.6	54.4	53.6	53.2
80°	108.8	96.2	64.6	47.7	45.0	43.0	43.8	46.6	46.9	44.6	44.2
82.5°	70.4	77.5	50.9	37.2	34.4	33.6	35.6	38.3	39.1	36.0	35.2
85°	59.1	62.2	36.8	25.4	22.7	21.9	25.8	28.6	30.5	27.4	26.6
87.5°	16.4	30.5	18.0	12.1	10.2	10.2	12.5	14.9	17.6	18.0	18.0
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)