

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: P196064

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196064
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8212.3 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

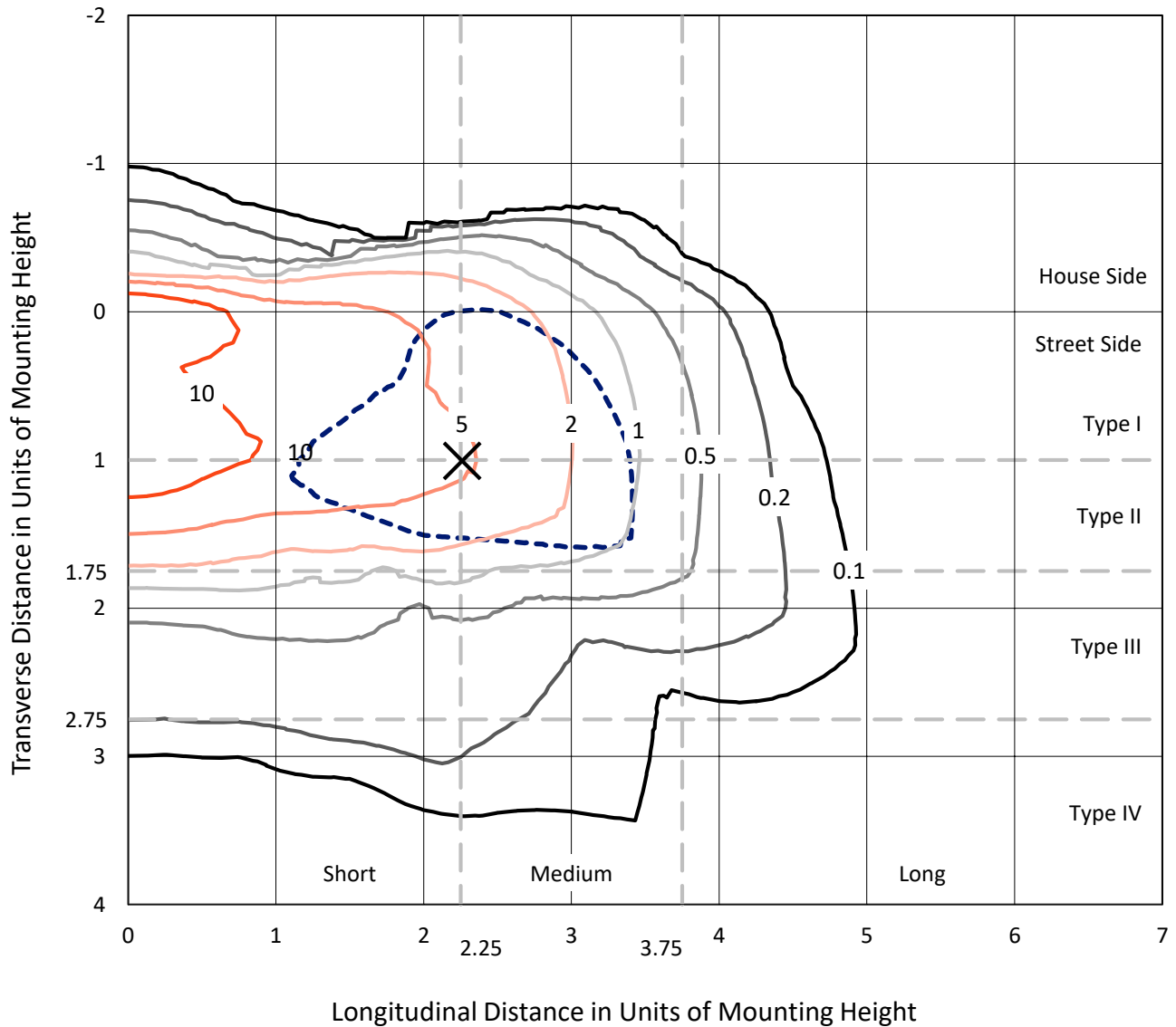
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

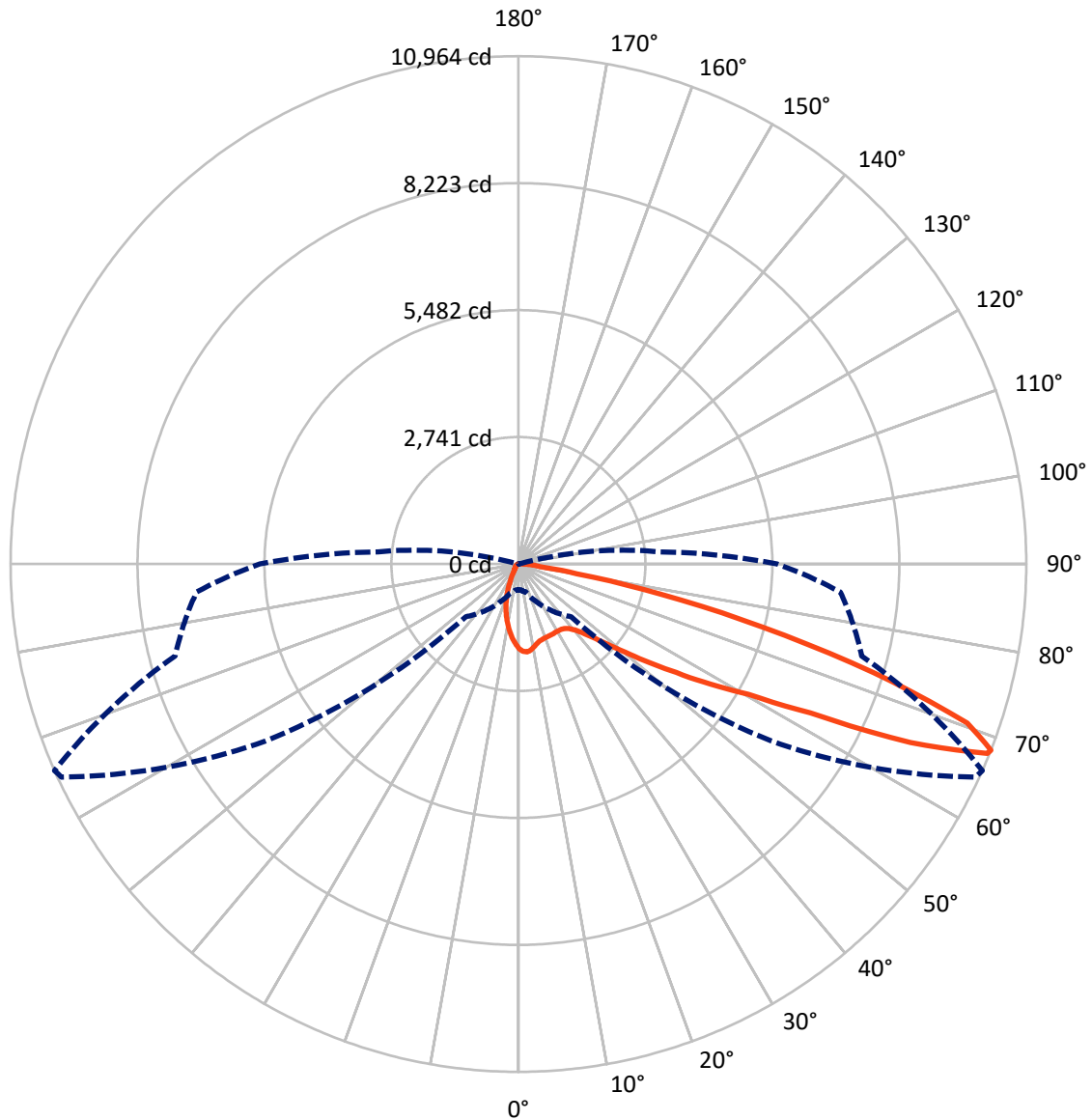
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	831.8	0.0	831.8
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	7380.4	0.0	7380.4
	% Fixture	89.9	0.0	89.9
Total	Lumens	8212.3	0.0	8212.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	1.8
10°-20°	322.7	3.9
20°-30°	467.7	5.7
30°-40°	715.9	8.7
40°-50°	1224.5	14.9
50°-60°	1915.4	23.3
60°-70°	2205.5	26.9
70°-80°	1103.7	13.4
80°-90°	106.9	1.3
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°	8212.3	100.0
0°-180°	8212.3	100.0



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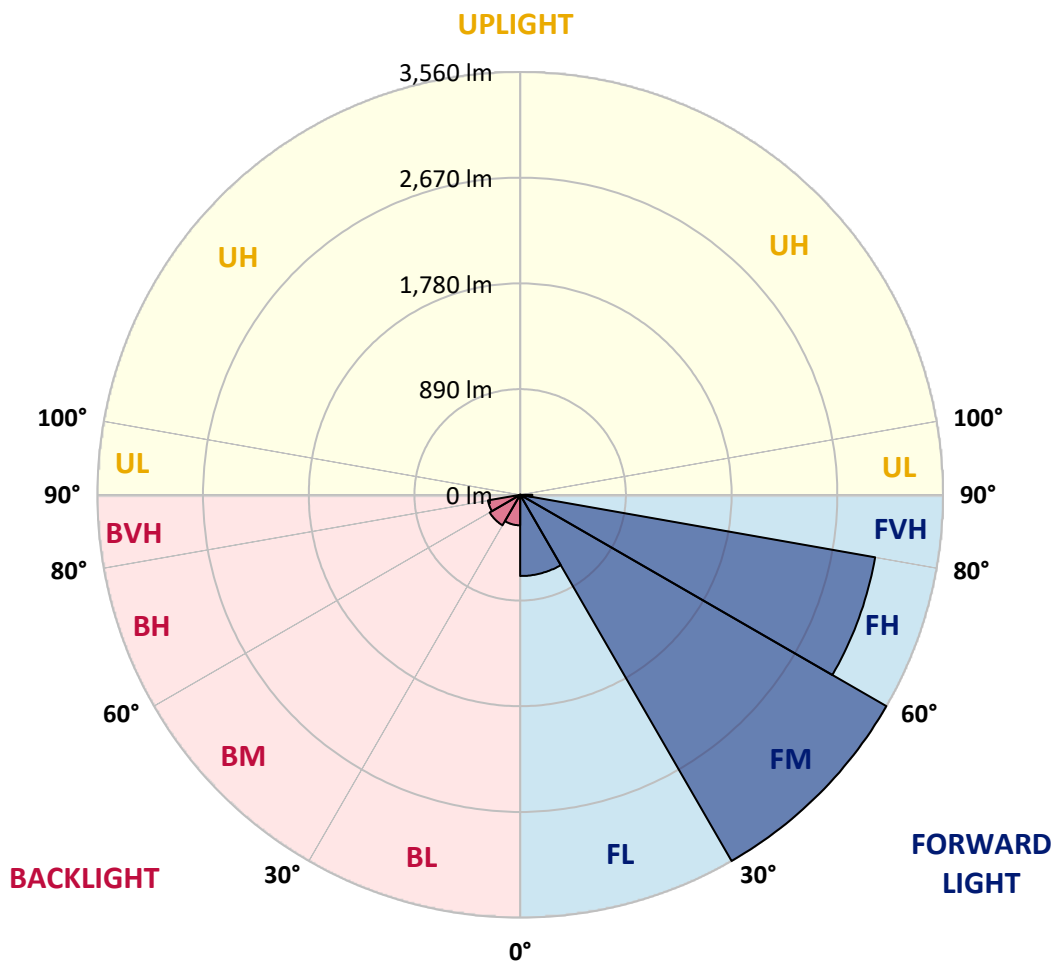
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	683.6	8.3			
FM	(30°-60°)	3559.6	43.3			
FH	(60°-80°)	3034.4	36.9			G2/5000
FVH	(80°-90°)	102.8	1.3			G2/225
BL	(0°-30°)	256.7	3.1	B1/500		
BM	(30°-60°)	296.2	3.6	B1/1000		
BH	(60°-80°)	274.8	3.3	B1/500		G1/500
BVH	(80°-90°)	4.1	0.0			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6
2.5°	1924.4	1925.7	1925.0	1926.9	1925.7	1916.0	1905.7	1883.8	1885.7	1857.4	1825.8
5°	1789.0	1800.0	1810.9	1821.9	1848.3	1871.5	1899.2	1905.7	1905.7	1881.2	1834.8
7.5°	1651.0	1651.7	1663.9	1678.8	1714.3	1756.7	1821.3	1879.3	1880.5	1887.0	1836.1
10°	1547.2	1550.5	1558.9	1574.9	1610.4	1652.4	1724.5	1815.4	1822.5	1870.3	1823.2
12.5°	1466.6	1470.5	1479.6	1498.2	1530.4	1573.7	1649.7	1753.5	1763.2	1854.1	1819.3
15°	1404.7	1409.9	1417.0	1435.7	1470.5	1516.3	1599.5	1712.3	1723.9	1847.7	1831.6
17.5°	1378.9	1378.9	1378.3	1391.2	1426.0	1472.4	1559.5	1690.3	1705.2	1852.9	1852.2
20°	1390.0	1388.0	1374.4	1371.3	1392.5	1438.9	1527.9	1676.2	1693.0	1862.5	1877.3
22.5°	1448.0	1444.1	1413.8	1388.7	1382.2	1413.1	1506.6	1666.5	1686.5	1882.4	1910.9
25°	1571.0	1559.5	1517.5	1460.9	1409.9	1406.7	1491.8	1661.4	1682.7	1905.7	1947.6
27.5°	1730.9	1727.8	1660.7	1584.7	1486.7	1427.9	1487.3	1657.5	1678.8	1922.4	1977.3
30°	1929.5	1930.8	1853.5	1754.2	1605.9	1487.9	1501.5	1655.5	1677.4	1923.8	1990.2
32.5°	2134.6	2135.8	2071.4	1965.0	1769.0	1591.1	1541.5	1664.5	1684.6	1918.5	1989.5
35°	2331.8	2333.8	2295.1	2209.4	1986.9	1734.2	1616.9	1695.5	1709.7	1921.8	1988.2
37.5°	2581.3	2589.1	2541.3	2461.4	2260.2	1944.3	1740.0	1758.0	1769.7	1948.2	1997.8
40°	3006.8	2996.5	2859.9	2724.4	2556.8	2200.3	1917.9	1865.8	1869.5	2016.5	2034.6
42.5°	3502.6	3489.7	3255.6	3022.3	2861.7	2509.1	2145.5	2030.8	2030.1	2131.3	2114.5
45°	3929.4	3921.6	3675.4	3364.0	3199.6	2850.1	2425.9	2268.6	2260.9	2329.9	2260.2
47.5°	4232.4	4225.9	4039.6	3727.5	3590.3	3225.4	2776.0	2592.9	2576.8	2589.7	2496.8
50°	4262.0	4254.9	4189.8	3989.3	4046.7	3775.9	3208.6	3017.8	2997.1	2977.2	2854.6
52.5°	3984.8	3984.2	4018.4	4005.5	4366.5	4484.4	3739.2	3543.2	3518.6	3467.7	3345.9
55°	3418.1	3414.9	3544.4	3732.7	4359.3	5215.5	4548.2	4168.5	4136.3	4034.4	3874.5
57.5°	2497.5	2480.8	2751.5	3150.6	4053.1	5535.3	5833.1	4945.4	4891.9	4568.9	4322.6
60°	1378.9	1385.4	1733.6	2206.1	3327.9	5472.1	7015.4	5851.2	5710.6	5029.8	4781.6
62.5°	772.9	789.1	1048.2	1433.8	2121.7	4959.6	7649.8	7409.9	7071.6	5567.5	5361.8
65°	584.7	594.4	724.7	1106.3	1337.7	3465.9	7751.0	9589.7	9297.6	6382.4	6285.6
67.5°	550.6	558.3	622.2	917.4	1218.4	1797.4	6989.0	10879.1	10915.8	7493.8	7001.3
68°	554.4	564.1	627.9	882.6	1216.5	1607.9	6664.1	10885.5	10963.5	7673.1	6976.7
70°	509.3	511.9	664.0	865.8	1179.2	1266.8	4821.0	10139.6	10279.4	7886.4	6333.4
72.5°	194.7	195.4	297.9	749.7	1235.2	1273.9	2428.5	8014.1	8021.2	6863.3	4937.6
75°	101.2	85.1	93.5	234.7	1179.8	1241.7	1218.4	5472.1	5437.9	4641.7	3025.5
77.5°	69.7	59.3	62.5	81.2	490.6	1241.0	879.9	3146.7	3139.6	1974.7	863.3
80°	39.3	34.2	37.4	68.3	172.2	1164.9	820.0	1352.5	1274.5	346.9	139.9
82.5°	19.9	16.8	19.9	57.4	107.0	733.0	797.5	530.6	472.6	82.6	90.9
85°	5.1	5.1	9.7	40.0	66.4	240.5	714.9	383.0	344.2	36.1	64.4
87.5°	1.3	0.6	3.9	14.8	23.8	52.2	396.5	213.4	183.7	18.7	37.4
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°	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6	1829.6
2.5°	1812.9	1794.8	1759.4	1719.4	1691.0	1660.0	1642.0	1620.0	1603.4	1588.5	1599.5
5°	1806.4	1771.5	1693.0	1604.6	1530.4	1459.5	1406.7	1356.4	1318.4	1294.5	1304.2
7.5°	1789.7	1738.1	1610.4	1472.4	1351.2	1237.2	1144.3	1061.1	996.7	961.9	972.8
10°	1761.3	1688.4	1516.9	1325.4	1155.9	994.7	856.8	733.0	639.5	595.7	606.0
12.5°	1740.7	1644.6	1420.3	1183.7	960.6	731.7	548.6	406.8	334.0	290.1	294.0
15°	1731.7	1610.4	1329.9	1034.1	747.2	469.9	296.6	214.7	189.6	180.6	181.2
17.5°	1732.9	1583.3	1244.2	878.7	531.8	270.2	181.8	163.8	159.9	157.9	157.9
20°	1736.2	1556.2	1155.3	716.9	340.4	174.1	151.5	145.7	143.7	141.2	141.8
22.5°	1745.8	1535.7	1065.7	554.4	209.5	141.8	134.1	128.9	125.7	121.8	122.4
25°	1760.6	1520.2	977.3	399.1	147.6	123.8	116.7	109.6	103.8	99.3	99.9
27.5°	1769.7	1498.2	883.2	272.1	122.4	108.3	98.6	89.0	82.6	78.7	78.1
30°	1763.2	1462.8	776.2	178.6	108.3	93.5	81.8	70.9	64.4	61.3	61.3
32.5°	1745.8	1417.0	658.3	130.2	96.1	80.6	66.4	56.8	52.2	50.3	50.9
35°	1725.8	1369.3	532.5	110.3	86.3	68.3	54.1	46.4	44.5	43.9	43.9
37.5°	1714.9	1328.1	411.9	99.9	77.3	56.8	44.5	40.0	38.1	38.1	38.1
40°	1727.2	1296.5	304.9	92.2	68.3	47.1	37.4	34.2	33.6	33.6	33.6
42.5°	1779.3	1285.5	223.1	85.7	59.3	39.3	32.2	29.7	29.1	29.7	29.7
45°	1881.2	1309.4	168.9	79.3	50.9	32.2	27.7	25.8	25.8	26.4	26.4
47.5°	2054.0	1370.5	138.6	72.8	42.6	27.1	23.8	22.6	22.6	23.2	23.2
50°	2322.2	1484.1	124.4	65.8	35.5	23.2	19.9	19.3	19.3	19.9	20.7
52.5°	2729.5	1700.0	117.3	58.6	29.1	19.3	16.8	16.2	16.8	17.4	17.4
55°	3182.8	1976.6	108.9	51.6	24.4	16.2	13.5	13.5	14.2	15.4	15.4
57.5°	3605.1	2243.5	101.2	42.6	21.3	12.9	10.9	10.9	12.3	13.5	13.5
60°	4051.2	2505.2	90.9	34.2	18.0	10.3	9.0	9.0	10.9	12.3	12.9
62.5°	4602.4	2809.5	77.3	27.1	14.2	7.8	6.4	8.4	10.3	12.3	12.3
65°	5399.2	3187.9	60.6	21.3	10.9	5.8	5.1	7.8	9.7	11.6	12.3
67.5°	5688.7	3139.6	45.7	17.4	8.4	4.5	4.5	7.1	9.7	11.6	11.6
68°	5583.0	3033.9	43.9	16.8	7.8	4.5	4.5	7.1	9.7	11.6	11.6
70°	4864.7	2480.1	36.1	12.9	6.4	3.9	3.9	6.4	9.7	10.9	11.6
72.5°	3642.4	1647.8	31.0	8.4	5.8	3.9	3.3	6.4	9.0	10.9	10.9
75°	2089.4	684.0	26.4	6.4	5.1	3.3	3.3	5.8	9.0	10.9	10.9
77.5°	590.5	159.9	21.3	5.1	4.5	3.3	2.6	5.8	8.4	10.3	10.3
80°	108.3	47.7	16.8	4.5	3.9	3.3	2.6	5.8	8.4	10.3	10.3
82.5°	71.6	22.6	12.3	4.5	3.9	3.3	2.6	5.1	7.8	9.7	9.7
85°	53.5	16.2	7.8	4.5	3.9	3.3	2.6	5.1	7.8	9.7	9.7
87.5°	29.7	7.1	5.8	5.1	4.5	3.3	2.6	4.5	7.1	9.0	9.0
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)