

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: P195686

Luminaire Tested: **NAV-AF-02-D-UNV-SL4-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195686
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-02-D-UNV-SL4-7050-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1050mA LIGHTSQUARES 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: 9923 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

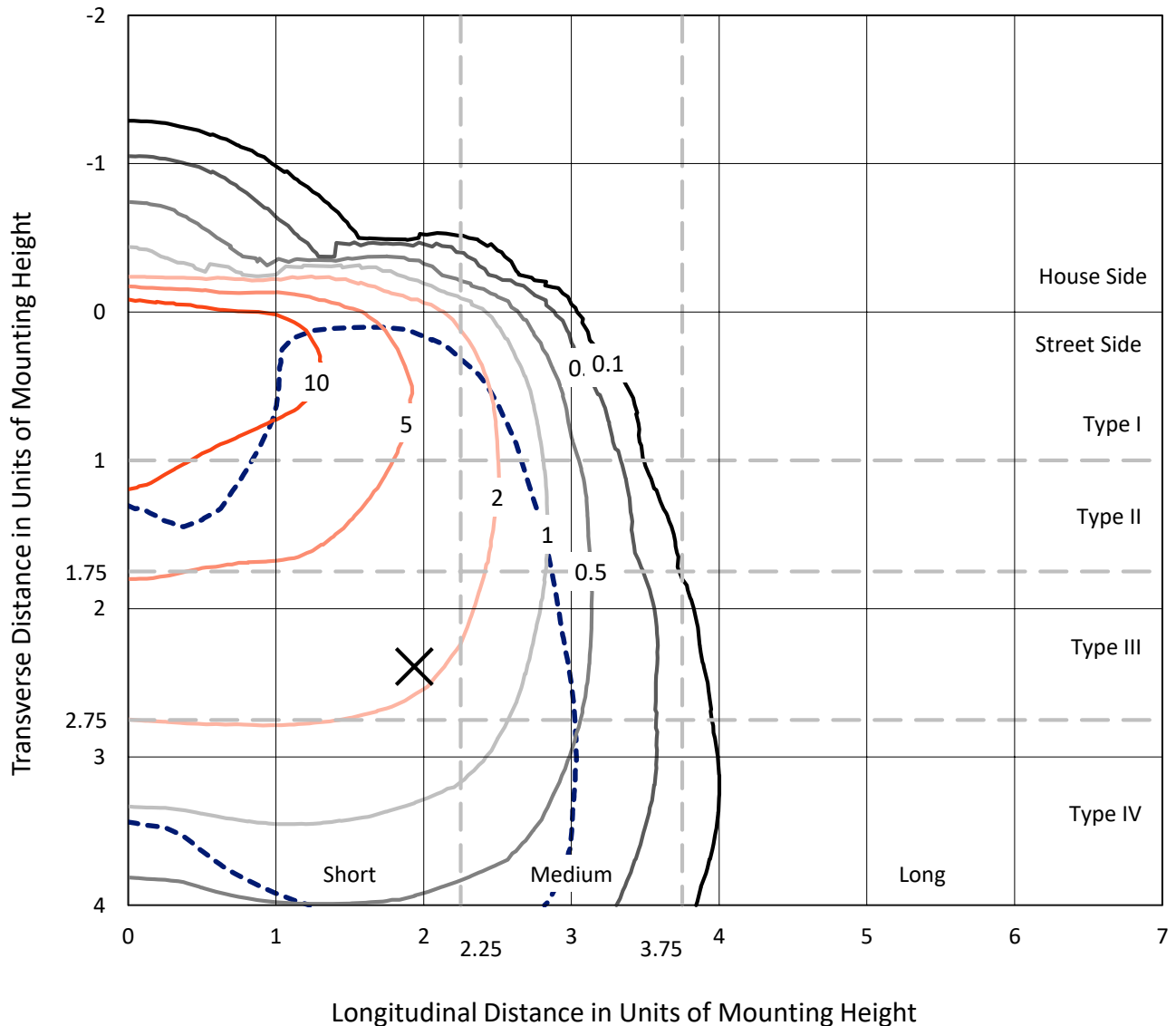
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

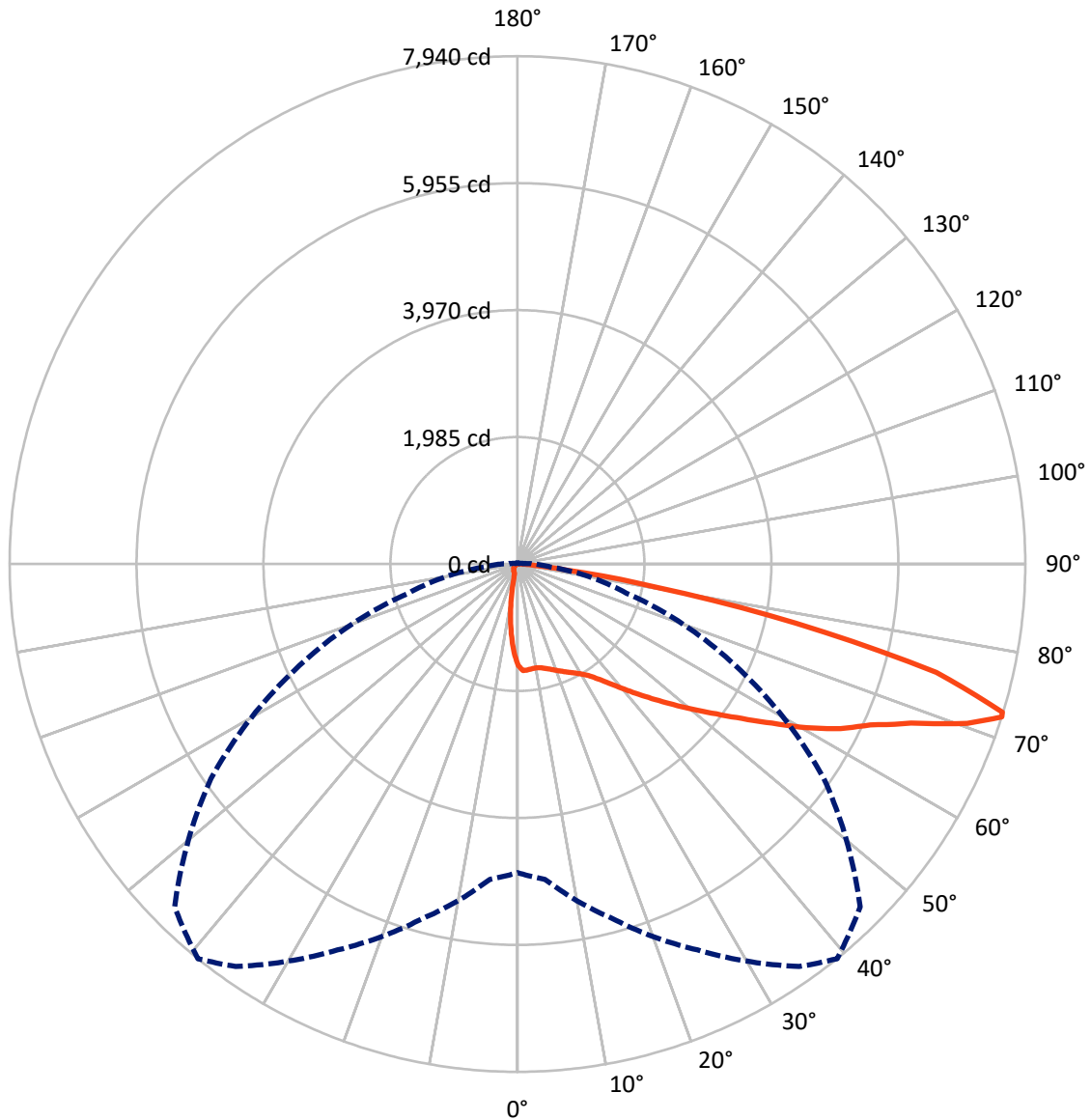
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.7 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	650.3	0.0	650.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	9272.7	0.0	9272.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	9923.0	0.0	9923.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	1.3
10°-20°	312.8	3.2
20°-30°	519.4	5.2
30°-40°	827.9	8.3
40°-50°	1366.5	13.8
50°-60°	2063.6	20.8
60°-70°	2688.2	27.1
70°-80°	1816.5	18.3
80°-90°	198.9	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°	9923.0	100.0
0°-180°	9923.0	100.0

Coefficient of Utilization



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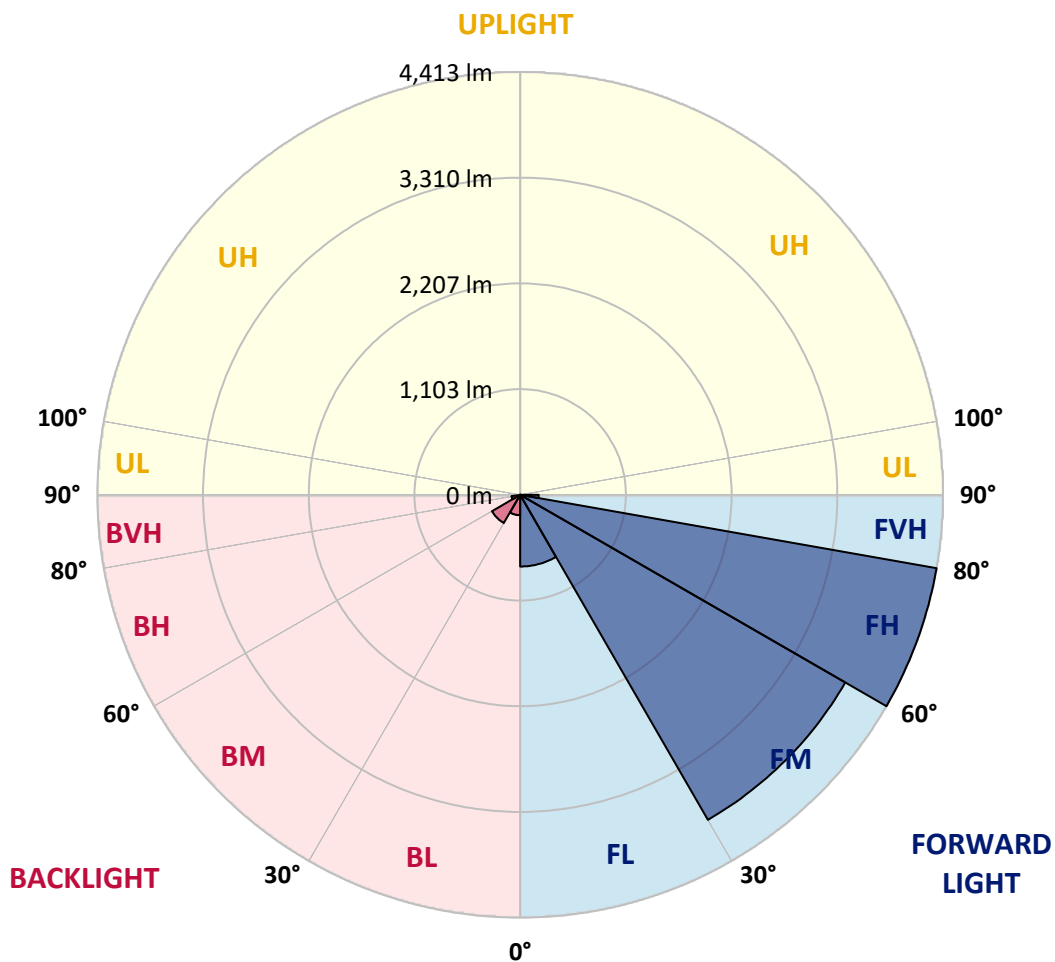
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	748.4	7.5			
FM	(30°-60°)	3917.7	39.5			
FH	(60°-80°)	4413.3	44.5			G2/5000
FVH	(80°-90°)	193.2	1.9			G2/225
BL	(0°-30°)	212.9	2.1	B1/500		
BM	(30°-60°)	340.3	3.4	B1/1000		
BH	(60°-80°)	91.4	0.9	B0/110		G0/110
BVH	(80°-90°)	5.7	0.1			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2
2.5°	1691.2	1694.3	1690.4	1683.4	1673.3	1667.0	1658.4	1639.7	1616.3	1596.0	1572.6
5°	1704.5	1706.0	1701.4	1688.1	1672.5	1663.9	1653.0	1632.7	1608.5	1580.4	1538.3
7.5°	1708.4	1707.6	1702.1	1685.8	1661.6	1650.6	1631.9	1607.0	1582.0	1556.3	1508.7
10°	1706.8	1706.8	1702.9	1687.3	1660.0	1649.9	1628.8	1602.3	1571.1	1545.3	1494.6
12.5°	1701.4	1704.5	1702.1	1693.6	1673.3	1665.5	1646.7	1620.2	1590.6	1564.1	1510.2
15°	1708.4	1713.1	1717.7	1714.6	1702.9	1695.9	1678.7	1651.4	1627.2	1599.2	1541.4
17.5°	1736.5	1746.6	1757.5	1758.3	1745.8	1733.3	1713.8	1685.8	1662.3	1636.6	1574.2
20°	1789.5	1797.3	1817.6	1821.5	1796.5	1778.6	1751.3	1718.5	1695.1	1673.3	1604.6
22.5°	1868.3	1876.9	1893.3	1887.8	1845.7	1824.6	1790.3	1752.8	1728.7	1716.2	1639.7
25°	1987.6	1990.0	1993.9	1969.7	1900.3	1876.9	1834.7	1792.6	1773.1	1771.6	1689.7
27.5°	2128.1	2131.2	2114.0	2060.2	1961.1	1930.7	1883.1	1844.9	1835.5	1847.2	1752.8
30°	2288.8	2289.5	2241.9	2154.6	2031.3	1997.8	1948.6	1906.5	1915.1	1944.0	1834.0
32.5°	2453.3	2445.5	2380.0	2266.1	2127.3	2086.7	2044.6	2002.5	2027.4	2085.9	1952.5
35°	2603.9	2600.8	2523.6	2390.9	2252.1	2216.2	2185.8	2141.3	2181.9	2277.0	2114.0
37.5°	2754.5	2752.1	2664.0	2525.9	2405.8	2380.0	2357.4	2323.1	2389.4	2529.0	2330.1
40°	2920.6	2916.7	2808.3	2675.7	2584.4	2570.4	2557.1	2542.3	2655.4	2849.6	2599.2
42.5°	3125.8	3108.6	2961.2	2838.7	2781.0	2784.9	2785.7	2800.5	2977.6	3231.1	2916.7
45°	3361.4	3323.1	3114.9	3013.4	2997.1	3020.5	3043.9	3105.5	3352.8	3670.3	3267.7
47.5°	3589.9	3528.3	3291.9	3201.4	3235.0	3283.4	3339.5	3459.6	3774.0	4129.7	3586.0
50°	3786.5	3723.3	3467.5	3392.6	3499.4	3571.2	3671.1	3852.8	4218.7	4518.2	3786.5
52.5°	3941.0	3891.0	3653.1	3603.2	3792.7	3891.0	4047.8	4286.5	4638.3	4774.1	3926.9
55°	4054.8	4029.9	3831.0	3838.0	4118.8	4260.8	4455.8	4725.7	4992.5	4973.0	4032.2
57.5°	4183.6	4164.1	4017.4	4114.9	4511.2	4694.5	4920.0	5136.8	5249.9	5132.9	4135.2
60°	4315.4	4321.6	4243.6	4450.3	4996.4	5199.2	5395.8	5449.6	5470.7	5295.2	4243.6
62.5°	4415.2	4441.8	4448.8	4812.3	5494.1	5667.3	5752.3	5714.1	5709.4	5512.8	4235.0
65°	4529.9	4599.3	4714.8	5209.4	5946.5	6060.4	6121.3	6176.7	6059.7	5577.6	3818.5
67.5°	4728.1	4837.3	5097.0	5696.1	6469.2	6637.7	6810.1	6751.6	6111.9	4920.0	2908.9
70°	4994.8	5128.2	5586.9	6331.9	7178.3	7460.7	7605.0	6705.6	5189.1	3399.6	1534.4
72°	4826.3	4947.3	5738.3	6656.4	7680.7	7939.6	7578.5	5849.0	3761.5	1762.2	514.1
72.5°	4662.5	4787.3	5689.9	6652.5	7730.6	7928.7	7406.1	5511.3	3328.6	1371.4	354.2
75°	3235.0	3392.6	4877.8	5980.1	6980.9	6763.3	5666.5	3337.2	1206.0	235.6	117.0
77.5°	1672.5	1794.2	2958.8	4225.7	4865.4	4455.8	3348.9	1447.8	333.9	124.8	77.2
80°	1036.7	1096.8	1383.9	2082.0	2527.5	2210.7	1477.5	585.1	213.7	74.1	61.6
82.5°	536.7	582.7	871.3	840.1	933.8	776.2	545.3	489.9	131.8	46.0	63.2
85°	176.3	187.2	535.1	558.5	399.4	268.3	241.8	467.3	38.2	29.6	53.8
87.5°	23.4	27.3	188.0	319.8	196.6	121.7	145.1	164.6	13.3	16.4	14.8
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°	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2	1588.2
2.5°	1557.0	1546.9	1514.9	1482.9	1446.3	1412.7	1386.2	1369.0	1376.8	1351.1	1355.0
5°	1512.6	1486.8	1416.6	1341.0	1259.0	1182.6	1121.8	1076.5	1067.9	1028.9	1030.5
7.5°	1469.7	1427.5	1313.7	1188.8	1053.1	943.1	843.3	755.9	724.7	692.7	674.0
10°	1446.3	1388.5	1227.1	1045.3	854.2	692.7	552.3	442.3	396.3	362.7	346.4
12.5°	1453.3	1376.8	1162.3	915.0	663.8	458.7	312.0	231.7	203.6	188.0	182.5
15°	1476.7	1379.2	1103.8	787.9	482.9	277.7	183.3	156.8	154.5	153.7	152.9
17.5°	1498.5	1381.5	1042.2	655.3	323.0	177.1	147.4	145.1	145.1	145.1	145.1
20°	1521.2	1382.3	974.3	516.4	212.2	145.1	138.9	137.3	138.9	138.9	138.9
22.5°	1547.7	1387.8	908.8	381.5	156.8	136.5	132.6	131.8	132.6	132.6	131.8
25°	1580.4	1399.5	837.8	273.0	142.0	131.1	127.2	126.4	127.2	126.4	126.4
27.5°	1624.1	1415.1	755.1	195.8	135.7	125.6	121.7	121.7	121.7	120.9	120.9
30°	1680.3	1433.8	644.3	154.5	129.5	120.1	117.0	117.0	116.2	115.5	115.5
32.5°	1760.6	1464.2	523.4	139.6	122.5	113.1	110.0	110.8	110.0	109.2	108.4
35°	1874.5	1511.8	404.1	131.8	115.5	106.1	103.0	103.0	103.0	101.4	101.4
37.5°	2036.0	1584.3	302.7	124.0	108.4	99.1	95.2	95.2	94.4	92.8	93.6
40°	2235.7	1675.6	219.2	117.0	101.4	91.3	88.1	86.6	85.0	83.5	83.5
42.5°	2476.0	1764.5	164.6	110.0	94.4	85.0	81.1	79.6	76.4	74.9	74.1
45°	2745.1	1858.9	136.5	101.4	86.6	78.0	74.9	71.8	67.9	65.5	64.7
47.5°	2972.1	1916.7	121.7	92.8	78.8	71.0	67.9	63.2	58.5	56.9	56.9
50°	3108.6	1892.5	109.2	84.2	71.0	64.0	60.1	53.8	50.7	49.1	48.4
52.5°	3185.1	1820.7	99.1	77.2	64.0	56.2	50.7	45.2	43.7	42.1	42.1
55°	3237.3	1717.0	88.1	70.2	57.7	49.1	42.9	39.0	37.4	36.7	35.9
57.5°	3287.3	1590.6	78.0	64.0	51.5	43.7	36.7	35.1	32.0	31.2	31.2
60°	3302.1	1416.6	68.6	56.9	46.0	38.2	32.0	29.6	26.5	25.7	25.7
62.5°	3113.3	1127.2	60.8	48.4	40.6	32.8	28.1	25.0	21.8	21.8	21.8
65°	2601.6	765.3	52.3	42.1	35.9	28.1	24.2	20.3	18.7	18.7	18.7
67.5°	1812.1	426.7	44.5	35.9	30.4	23.4	20.3	17.2	16.4	17.2	17.2
70°	816.7	169.3	37.4	29.6	25.0	19.5	17.2	14.8	16.4	16.4	16.4
72°	244.9	90.5	31.2	24.2	20.3	17.2	14.8	14.0	15.6	16.4	16.4
72.5°	181.8	81.1	29.6	23.4	20.3	16.4	14.0	14.0	15.6	16.4	16.4
75°	93.6	55.4	22.6	17.2	14.8	13.3	11.7	13.3	15.6	15.6	15.6
77.5°	73.3	45.2	18.7	13.3	12.5	11.7	10.9	12.5	14.0	14.0	14.0
80°	68.6	29.6	14.8	12.5	10.9	10.1	10.1	10.9	12.5	13.3	13.3
82.5°	69.4	24.2	13.3	11.7	10.1	9.4	9.4	10.1	11.7	12.5	12.5
85°	44.5	16.4	11.7	10.1	9.4	8.6	8.6	9.4	10.9	11.7	11.7
87.5°	14.8	12.5	10.1	9.4	7.8	7.8	7.8	7.8	9.4	10.1	10.9
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)