

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: P196059

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196059
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-03-D-UNV-SL2-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 615mA 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: 9958.4 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

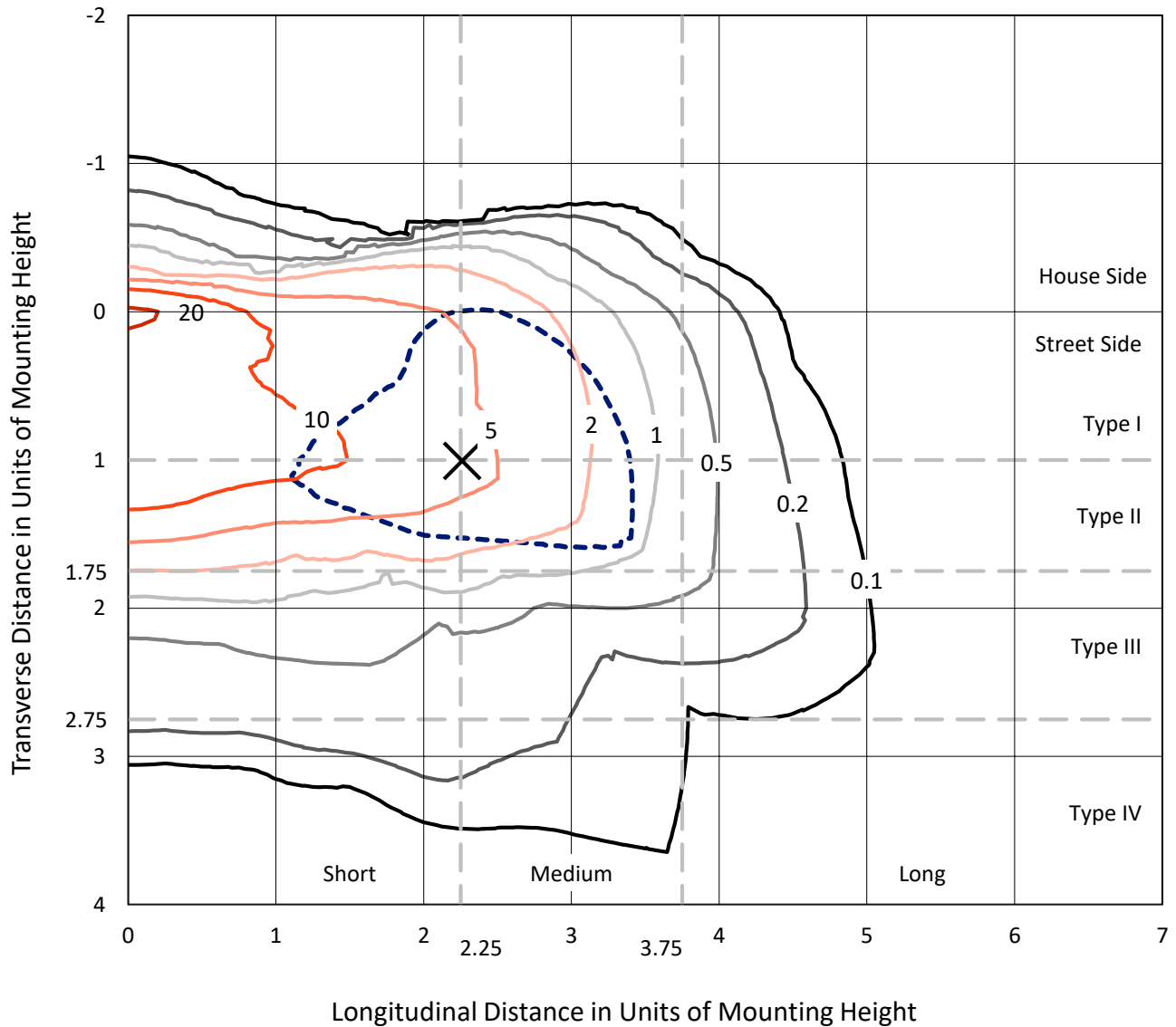
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

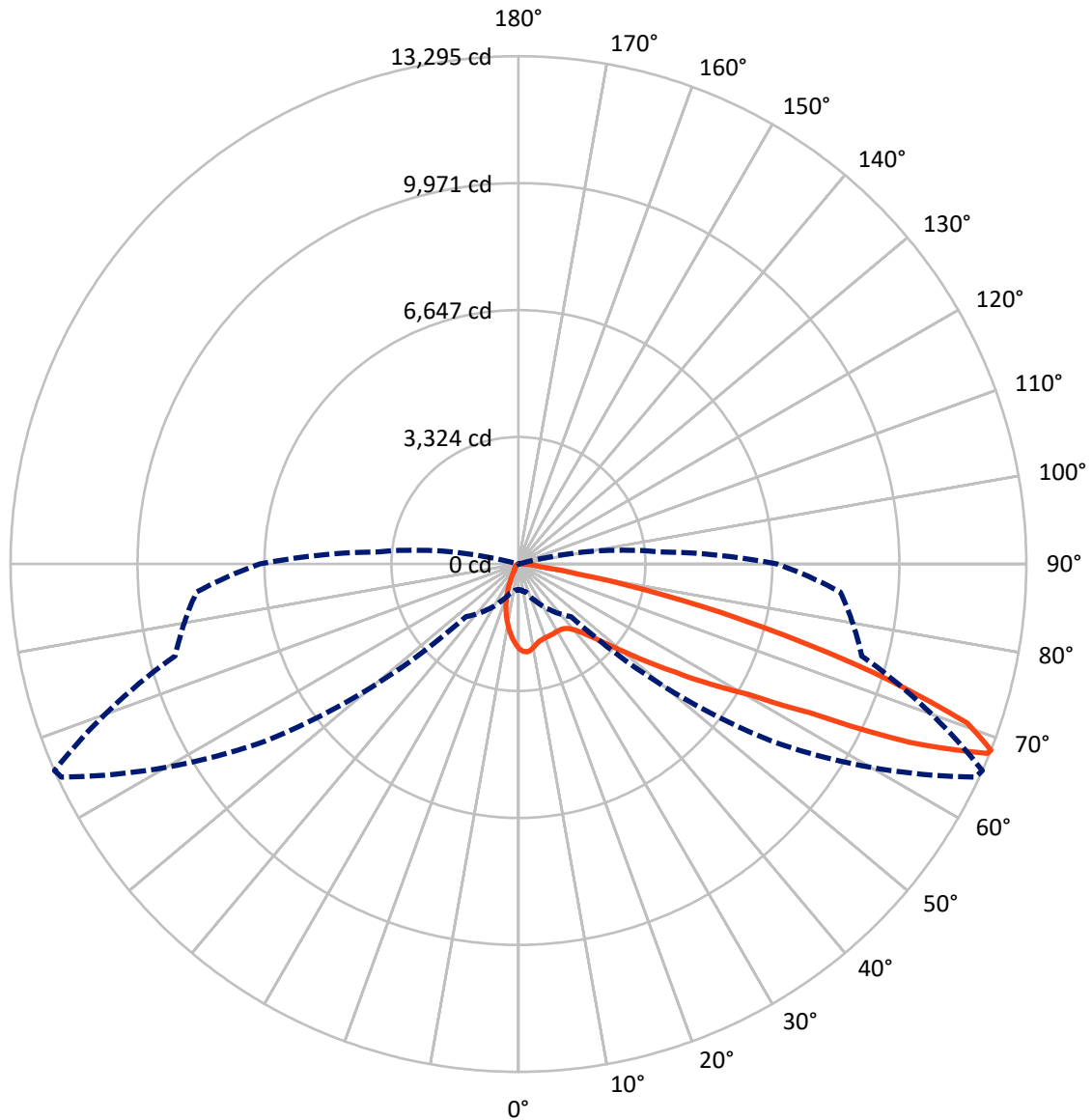
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 22.2 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	1008.7	0.0	1008.7
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	8949.8	0.0	8949.8
	% Fixture	89.9	0.0	89.9
Total	Lumens	9958.4	0.0	9958.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	1.8
10°-20°	391.3	3.9
20°-30°	567.1	5.7
30°-40°	868.1	8.7
40°-50°	1484.8	14.9
50°-60°	2322.7	23.3
60°-70°	2674.5	26.9
70°-80°	1338.4	13.4
80°-90°	129.6	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°	9958.4	100.0
0°-180°	9958.4	100.0



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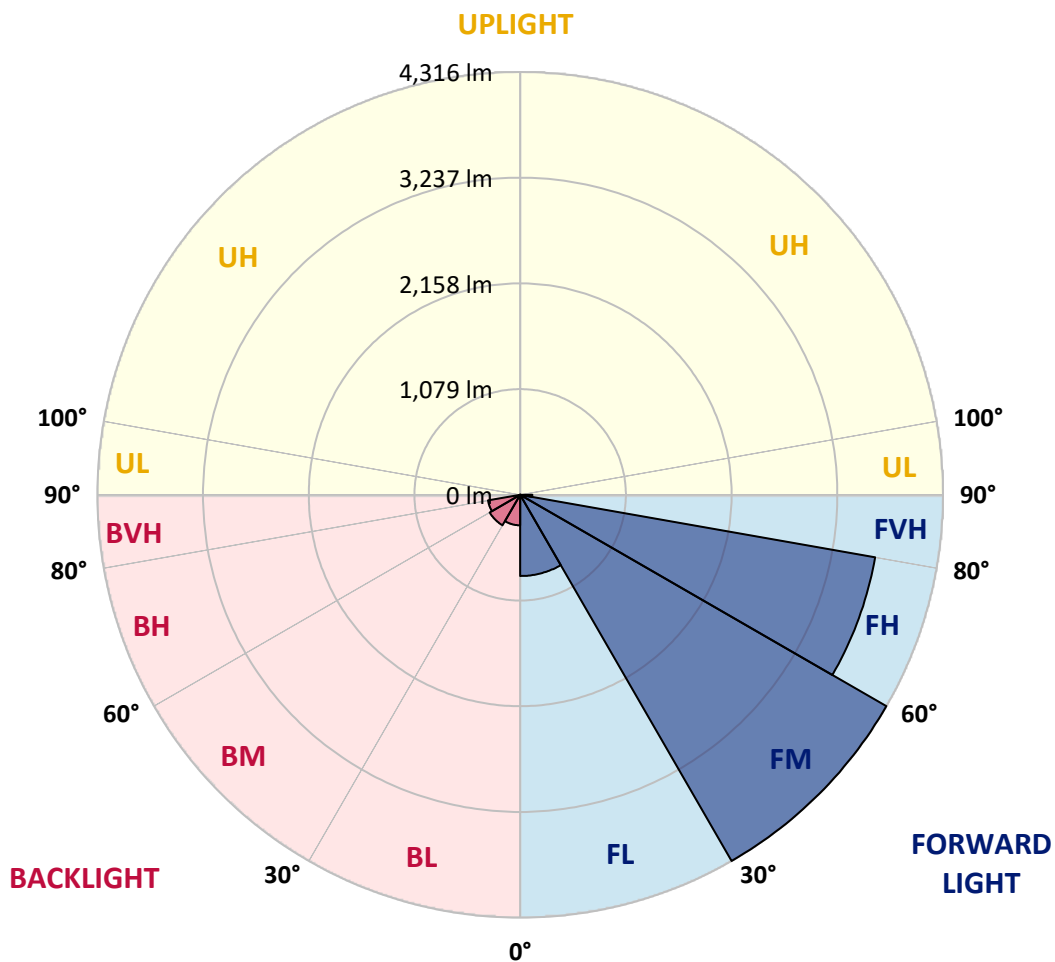
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	829.0	8.3			
FM (30°-60°)	4316.4	43.3			
FH (60°-80°)	3679.6	36.9			G2/5000
FVH (80°-90°)	124.7	1.3			G2/225
BL (0°-30°)	311.3	3.1	B1/500		
BM (30°-60°)	359.2	3.6	B1/1000		
BH (60°-80°)	333.3	3.3	B1/500		G1/500
BVH (80°-90°)	4.9	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°	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7
2.5°	2333.6	2335.1	2334.4	2336.7	2335.1	2323.4	2310.8	2284.4	2286.7	2252.2	2214.0
5°	2169.4	2182.7	2196.0	2209.3	2241.3	2269.4	2303.1	2310.8	2310.8	2281.2	2224.9
7.5°	2002.1	2002.8	2017.8	2035.7	2078.7	2130.3	2208.4	2278.8	2280.4	2288.2	2226.5
10°	1876.2	1880.2	1890.3	1909.8	1952.8	2003.7	2091.2	2201.5	2210.1	2267.9	2210.8
12.5°	1778.5	1783.2	1794.2	1816.9	1855.9	1908.3	2000.5	2126.4	2138.2	2248.3	2206.1
15°	1703.4	1709.8	1718.4	1741.0	1783.2	1838.8	1939.5	2076.4	2090.4	2240.6	2221.0
17.5°	1672.2	1672.2	1671.4	1687.1	1729.3	1785.6	1891.1	2049.8	2067.8	2246.8	2246.0
20°	1685.5	1683.2	1666.7	1662.8	1688.6	1744.8	1852.8	2032.6	2053.0	2258.5	2276.5
22.5°	1755.8	1751.2	1714.4	1683.9	1676.1	1713.6	1827.0	2020.8	2045.1	2282.7	2317.2
25°	1905.1	1891.1	1840.3	1771.4	1709.8	1705.8	1809.0	2014.6	2040.4	2310.8	2361.7
27.5°	2099.0	2095.1	2013.8	1921.6	1802.7	1731.7	1803.6	2009.9	2035.7	2331.2	2397.7
30°	2339.8	2341.3	2247.5	2127.2	1947.4	1804.3	1820.8	2007.5	2034.1	2332.7	2413.3
32.5°	2588.4	2590.0	2511.8	2382.9	2145.1	1929.4	1869.2	2018.5	2042.7	2326.5	2412.5
35°	2827.6	2830.0	2783.0	2679.1	2409.4	2103.0	1960.7	2056.0	2073.2	2330.4	2411.0
37.5°	3130.2	3139.5	3081.7	2984.8	2740.9	2357.8	2109.9	2131.8	2145.9	2362.5	2422.7
40°	3646.1	3633.6	3467.9	3303.7	3100.5	2668.2	2325.8	2262.5	2267.1	2445.4	2467.3
42.5°	4247.3	4231.6	3947.9	3664.9	3470.3	3042.7	2601.7	2462.5	2461.7	2584.5	2564.2
45°	4764.8	4755.5	4456.8	4079.2	3879.8	3456.1	2941.8	2751.0	2741.6	2825.3	2740.9
47.5°	5132.2	5124.5	4898.5	4520.1	4353.7	3911.2	3366.2	3144.2	3124.7	3140.4	3027.7
50°	5168.3	5159.7	5080.7	4837.5	4907.1	4578.8	3890.8	3659.4	3634.4	3610.2	3461.7
52.5°	4832.1	4831.3	4872.7	4857.1	5294.9	5437.9	4534.2	4296.6	4266.8	4205.1	4057.3
55°	4144.9	4141.0	4298.1	4526.5	5286.3	6324.5	5515.3	5054.9	5015.8	4892.3	4698.4
57.5°	3028.5	3008.2	3336.6	3820.5	4915.0	6712.2	7073.4	5996.9	5932.0	5540.4	5241.7
60°	1672.2	1680.0	2102.2	2675.2	4035.4	6635.6	8507.2	7095.3	6924.9	6099.3	5798.3
62.5°	937.3	956.9	1271.1	1738.6	2572.8	6014.1	9276.4	8985.6	8575.2	6751.3	6501.9
65°	709.1	720.8	878.7	1341.5	1622.2	4202.8	9399.2	11628.7	11274.6	7739.4	7622.2
67.5°	667.6	677.0	754.4	1112.5	1477.6	2179.6	8475.0	13192.3	13236.8	9087.2	8490.0
68°	672.3	684.0	761.5	1070.2	1475.2	1949.7	8081.1	13200.1	13294.7	9304.6	8460.2
70°	617.6	620.7	805.3	1050.0	1429.9	1536.2	5846.1	12295.6	12465.2	9563.3	7680.0
72.5°	236.1	236.9	361.2	909.2	1497.9	1544.8	2944.9	9718.1	9726.7	8322.6	5987.5
75°	122.8	103.2	113.3	284.6	1430.6	1505.7	1477.6	6635.6	6594.1	5628.7	3668.8
77.5°	84.4	71.9	75.8	98.5	594.9	1504.9	1067.1	3815.8	3807.2	2394.5	1046.8
80°	47.7	41.4	45.3	82.9	208.7	1412.7	994.4	1640.1	1545.6	420.6	169.6
82.5°	24.2	20.4	24.2	69.6	129.8	888.8	967.0	643.4	573.1	100.0	110.3
85°	6.2	6.2	11.8	48.5	80.5	291.6	867.0	464.3	417.5	43.8	78.2
87.5°	1.5	0.8	4.7	18.0	28.9	63.3	480.8	258.8	222.8	22.7	45.3
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°	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7	2218.7
2.5°	2198.3	2176.4	2133.5	2085.0	2050.6	2013.1	1991.2	1964.6	1944.2	1926.2	1939.5
5°	2190.5	2148.3	2053.0	1945.9	1855.9	1769.9	1705.8	1644.8	1598.7	1569.8	1581.5
7.5°	2170.2	2107.6	1952.8	1785.6	1638.6	1500.2	1387.6	1286.8	1208.6	1166.4	1179.7
10°	2135.8	2047.4	1839.5	1607.3	1401.7	1206.3	1039.0	888.8	775.5	722.3	734.9
12.5°	2110.8	1994.2	1722.2	1435.3	1164.8	887.3	665.3	493.3	405.0	351.8	356.5
15°	2099.8	1952.8	1612.8	1253.9	906.0	569.9	359.6	260.3	229.9	218.9	219.6
17.5°	2101.3	1920.0	1508.9	1065.5	645.0	327.5	220.4	198.6	193.8	191.5	191.5
20°	2105.3	1887.1	1400.9	869.3	412.8	211.0	183.7	176.7	174.3	171.2	172.0
22.5°	2117.0	1862.2	1292.3	672.3	254.1	172.0	162.6	156.3	152.4	147.7	148.5
25°	2135.0	1843.4	1185.2	484.0	179.0	150.1	141.5	132.9	125.8	120.4	121.2
27.5°	2145.9	1816.9	1071.0	329.9	148.5	131.3	119.6	107.9	100.0	95.3	94.6
30°	2138.2	1773.8	941.2	216.6	131.3	113.3	99.3	86.0	78.2	74.3	74.3
32.5°	2117.0	1718.4	798.2	157.9	116.5	97.7	80.5	68.8	63.3	61.0	61.8
35°	2092.8	1660.5	645.7	133.7	104.8	82.9	65.7	56.3	53.9	53.2	53.2
37.5°	2079.5	1610.4	499.5	121.2	93.8	68.8	53.9	48.5	46.1	46.1	46.1
40°	2094.4	1572.2	369.8	111.8	82.9	57.1	45.3	41.4	40.6	40.6	40.6
42.5°	2157.7	1558.9	270.5	103.9	71.9	47.7	39.1	36.0	35.2	36.0	36.0
45°	2281.2	1587.7	204.8	96.2	61.8	39.1	33.7	31.3	31.3	32.0	32.0
47.5°	2490.7	1662.0	168.1	88.4	51.6	32.8	28.9	27.3	27.3	28.1	28.1
50°	2815.9	1799.6	150.9	79.8	43.0	28.1	24.2	23.4	23.4	24.2	25.1
52.5°	3310.0	2061.6	142.3	71.1	35.2	23.4	20.4	19.5	20.4	21.1	21.1
55°	3859.6	2396.9	132.2	62.5	29.7	19.5	16.4	16.4	17.2	18.7	18.7
57.5°	4371.6	2720.5	122.8	51.6	25.8	15.7	13.3	13.3	14.8	16.4	16.4
60°	4912.6	3038.0	110.3	41.4	21.9	12.5	10.9	10.9	13.3	14.8	15.7
62.5°	5581.0	3406.9	93.8	32.8	17.2	9.4	7.8	10.1	12.5	14.8	14.8
65°	6547.3	3865.8	73.4	25.8	13.3	7.1	6.2	9.4	11.8	14.1	14.8
67.5°	6898.3	3807.2	55.5	21.1	10.1	5.4	5.4	8.6	11.8	14.1	14.1
68°	6770.1	3678.9	53.2	20.4	9.4	5.4	5.4	8.6	11.8	14.1	14.1
70°	5899.2	3007.5	43.8	15.7	7.8	4.7	4.7	7.8	11.8	13.3	14.1
72.5°	4417.0	1998.2	37.5	10.1	7.1	4.7	3.9	7.8	10.9	13.3	13.3
75°	2533.6	829.4	32.0	7.8	6.2	3.9	3.9	7.1	10.9	13.3	13.3
77.5°	716.1	193.8	25.8	6.2	5.4	3.9	3.2	7.1	10.1	12.5	12.5
80°	131.3	57.9	20.4	5.4	4.7	3.9	3.2	7.1	10.1	12.5	12.5
82.5°	86.7	27.3	14.8	5.4	4.7	3.9	3.2	6.2	9.4	11.8	11.8
85°	64.9	19.5	9.4	5.4	4.7	3.9	3.2	6.2	9.4	11.8	11.8
87.5°	36.0	8.6	7.1	6.2	5.4	3.9	3.2	5.4	8.6	10.9	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)