

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: P197020

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197020
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-04-D-UNV-SL2-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 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: 10699 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 129
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

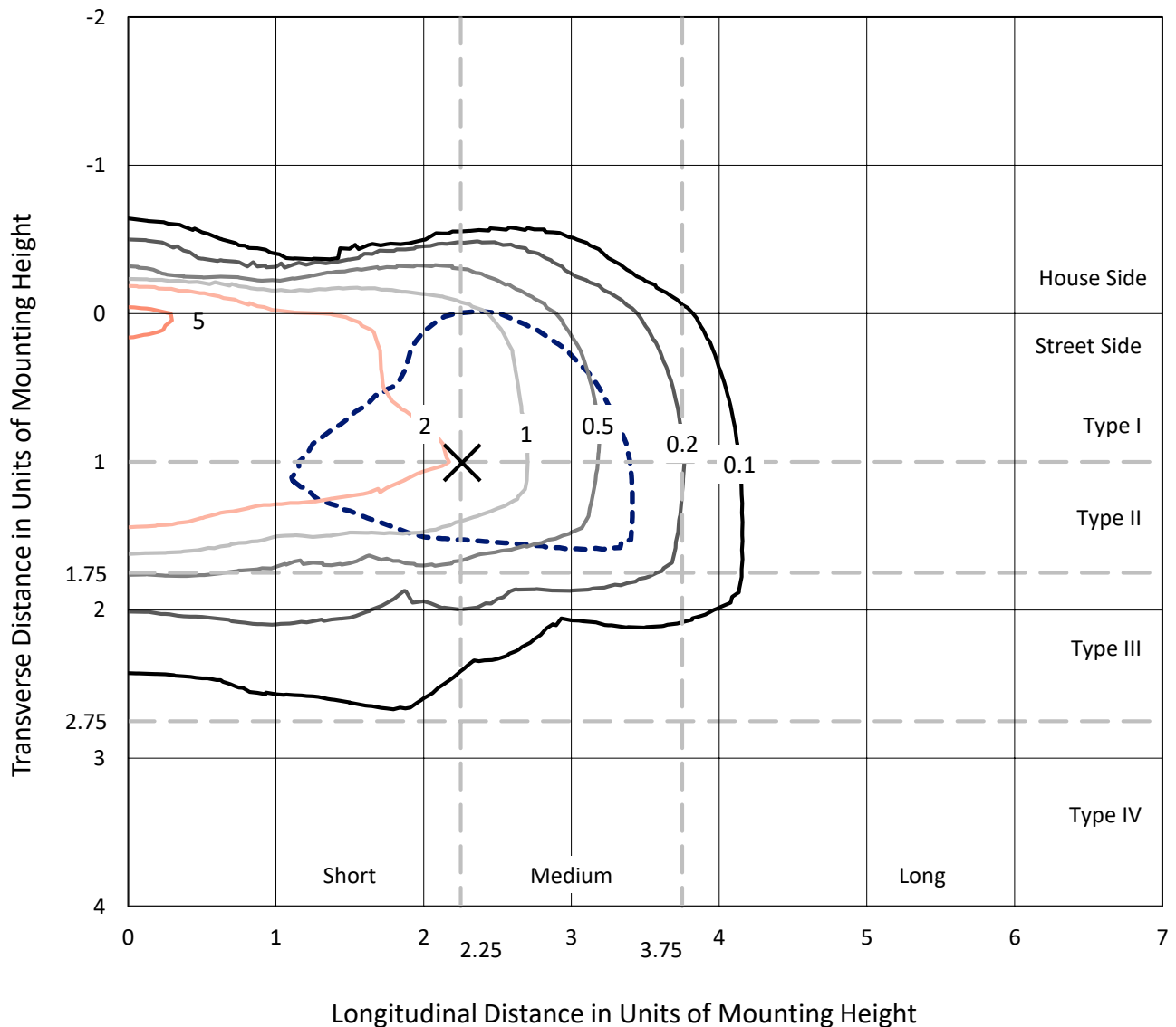


REPORT NUMBER: P197020

CATALOG NUMBER: NAV-AF-04-D-UNV-SL2-8030-600-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

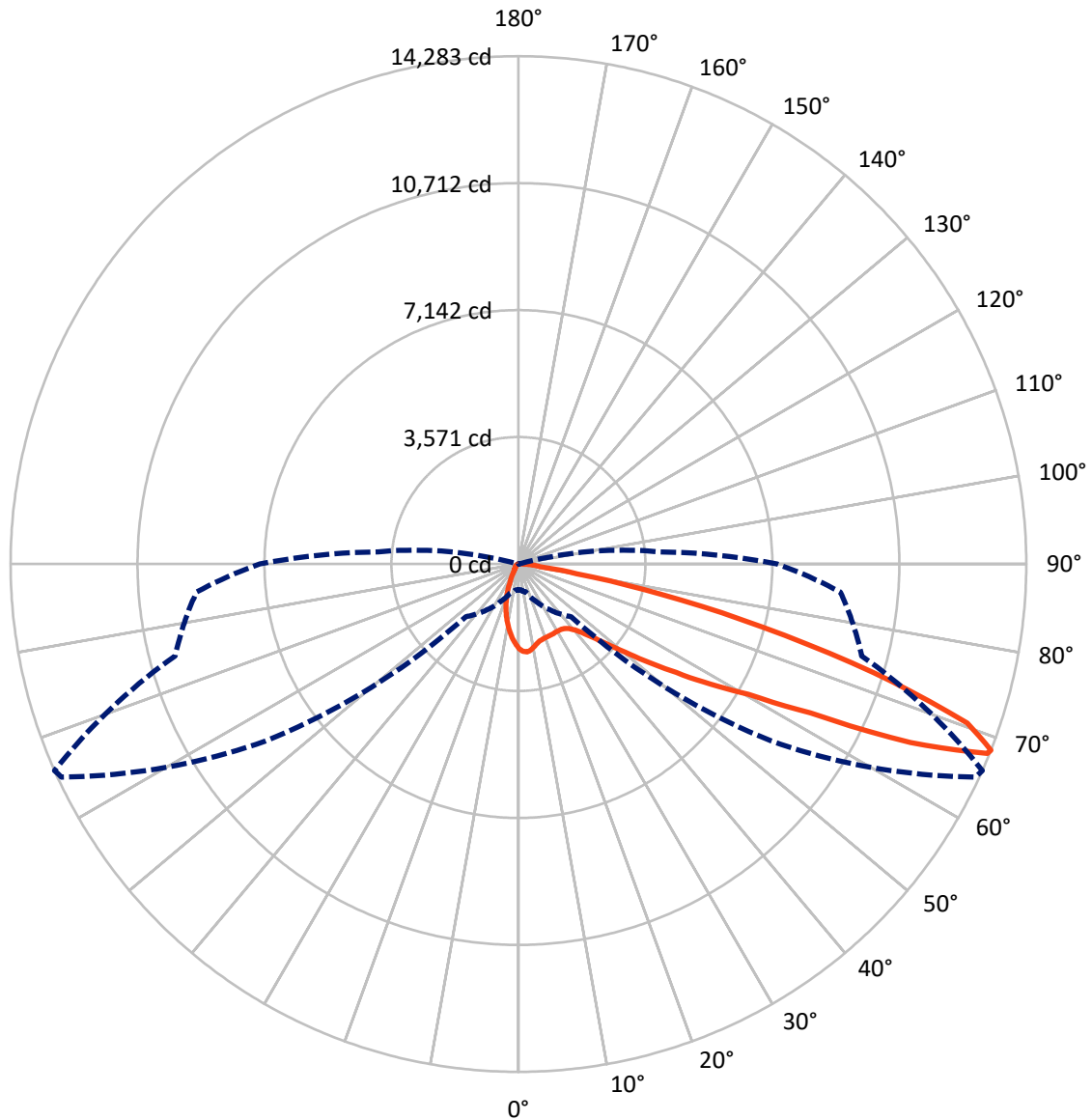


Based on 20 foot mounting height. Maximum calculated value = 6 fc
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P197020

CATALOG NUMBER: NAV-AF-04-D-UNV-SL2-8030-600-HSS

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	1083.7	0.0	1083.7
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	9615.3	0.0	9615.3
	% Fixture	89.9	0.0	89.9
Total	Lumens	10699.0	0.0	10699.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.4	1.8
10°-20°	420.4	3.9
20°-30°	609.3	5.7
30°-40°	932.7	8.7
40°-50°	1595.2	14.9
50°-60°	2495.4	23.3
60°-70°	2873.4	26.9
70°-80°	1437.9	13.4
80°-90°	139.3	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°	10699.0	100.0
0°-180°	10699.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197020

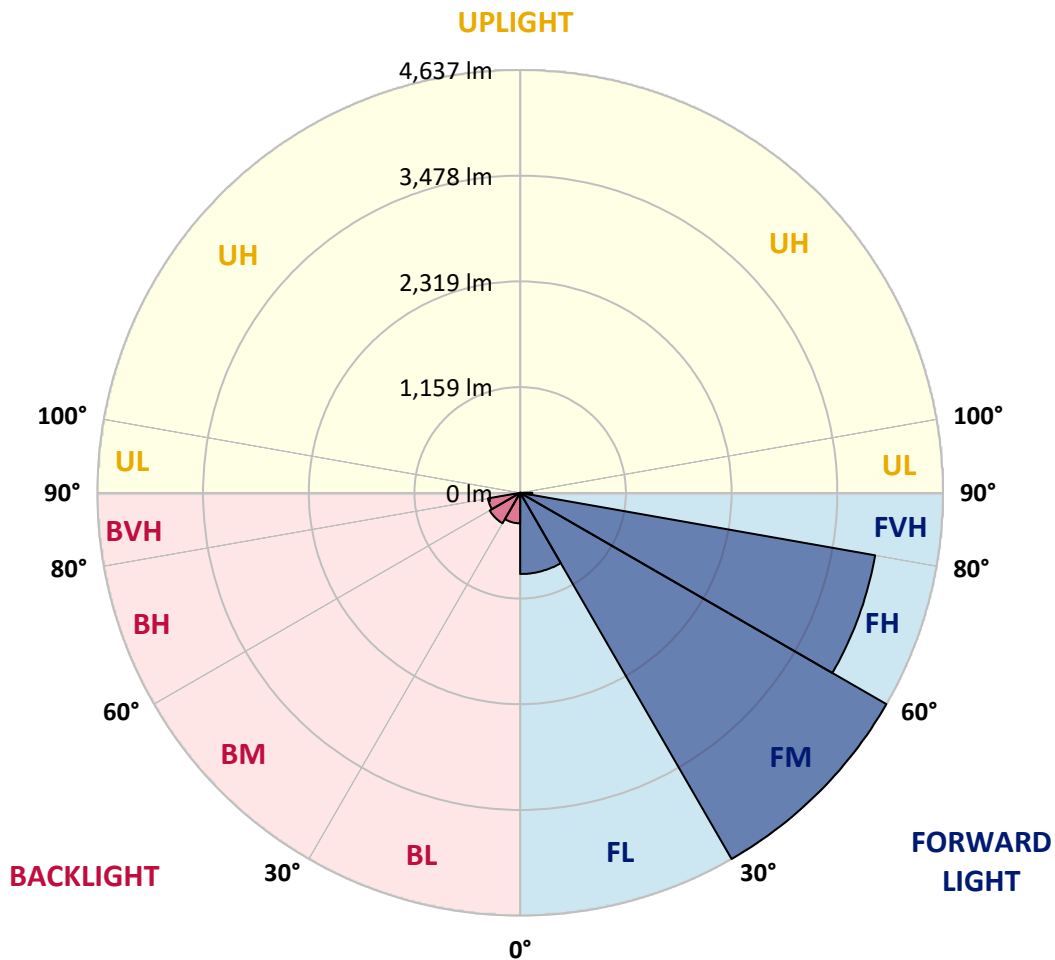
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	890.6	8.3			
FM (30°-60°)	4637.4	43.3			
FH (60°-80°)	3953.2	36.9			G2/5000
FVH (80°-90°)	134.0	1.3			G2/225
BL (0°-30°)	334.5	3.1	B1/500		
BM (30°-60°)	385.9	3.6	B1/1000		
BH (60°-80°)	358.0	3.3	B1/500		G1/500
BVH (80°-90°)	5.3	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





REPORT NUMBER: P197020

CATALOG NUMBER: NAV-AF-04-D-UNV-SL2-8030-600-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6
2.5°	2507.1	2508.8	2507.9	2510.5	2508.8	2496.2	2482.7	2454.2	2456.7	2419.8	2378.6
5°	2330.7	2345.0	2359.3	2373.6	2408.0	2438.2	2474.3	2482.7	2482.7	2450.8	2390.4
7.5°	2151.0	2151.8	2167.8	2187.1	2233.3	2288.7	2372.7	2448.3	2450.0	2458.4	2392.0
10°	2015.8	2020.0	2030.9	2051.9	2098.1	2152.7	2246.7	2365.2	2374.4	2436.5	2375.2
12.5°	1910.8	1915.8	1927.6	1951.9	1993.9	2050.2	2149.3	2284.5	2297.1	2415.6	2370.2
15°	1830.1	1836.9	1846.1	1870.5	1915.8	1975.4	2083.8	2230.8	2245.9	2407.2	2386.2
17.5°	1796.5	1796.5	1795.7	1812.5	1857.9	1918.3	2031.7	2202.2	2221.5	2413.9	2413.0
20°	1810.8	1808.3	1790.7	1786.5	1814.2	1874.7	1990.6	2183.7	2205.6	2426.5	2445.8
22.5°	1886.4	1881.4	1841.9	1809.1	1800.7	1841.1	1962.8	2171.1	2197.2	2452.5	2489.5
25°	2046.8	2031.7	1977.1	1903.2	1836.9	1832.7	1943.5	2164.4	2192.1	2482.7	2537.3
27.5°	2255.1	2250.9	2163.6	2064.5	1936.8	1860.4	1937.6	2159.4	2187.1	2504.6	2576.0
30°	2513.8	2515.5	2414.7	2285.4	2092.2	1938.5	1956.1	2156.9	2185.4	2506.3	2592.8
32.5°	2780.9	2782.6	2698.6	2560.0	2304.7	2072.9	2008.2	2168.6	2194.7	2499.5	2591.9
35°	3037.9	3040.4	2990.0	2878.3	2588.6	2259.3	2106.5	2208.9	2227.4	2503.7	2590.3
37.5°	3363.0	3373.0	3310.9	3206.7	2944.7	2533.1	2266.9	2290.4	2305.5	2538.2	2602.8
40°	3917.3	3903.9	3725.8	3549.4	3331.0	2866.6	2498.7	2430.7	2435.7	2627.2	2650.7
42.5°	4563.2	4546.4	4241.5	3937.5	3728.3	3268.9	2795.2	2645.7	2644.8	2776.7	2754.9
45°	5119.2	5109.1	4788.3	4382.6	4168.4	3713.2	3160.5	2955.6	2945.5	3035.4	2944.7
47.5°	5513.9	5505.5	5262.8	4856.3	4677.4	4202.0	3616.6	3378.1	3357.1	3373.9	3252.9
50°	5552.6	5543.3	5458.5	5197.3	5272.1	4919.3	4180.2	3931.6	3904.7	3878.7	3719.1
52.5°	5191.4	5190.6	5235.1	5218.3	5688.6	5842.3	4871.4	4616.1	4584.2	4517.8	4359.1
55°	4453.1	4449.0	4617.8	4863.0	5679.4	6794.8	5925.5	5430.8	5388.8	5256.1	5047.8
57.5°	3253.8	3231.9	3584.7	4104.6	5280.5	7211.4	7599.4	6442.9	6373.2	5952.4	5631.5
60°	1796.5	1804.9	2258.5	2874.1	4335.6	7129.1	9139.8	7622.9	7439.8	6552.9	6229.5
62.5°	1007.0	1028.0	1365.7	1867.9	2764.1	6461.4	9966.3	9653.8	9212.9	7253.4	6985.4
65°	761.8	774.4	944.0	1441.3	1742.8	4515.3	10098.1	12493.5	12113.0	8315.0	8189.0
67.5°	717.3	727.4	810.5	1195.2	1587.4	2341.6	9105.4	14173.3	14221.2	9763.0	9121.3
68°	722.3	734.9	818.1	1149.8	1584.9	2094.7	8682.0	14181.7	14283.3	9996.5	9089.4
70°	663.5	666.9	865.1	1128.0	1536.2	1650.4	6280.8	13209.9	13392.2	10274.5	8251.2
72.5°	253.6	254.5	388.0	976.8	1609.2	1659.6	3163.9	10440.8	10450.0	8941.6	6432.8
75°	131.9	110.9	121.8	305.7	1537.0	1617.6	1587.4	7129.1	7084.6	6047.3	3941.7
77.5°	90.7	77.3	81.5	105.8	639.2	1616.8	1146.5	4099.6	4090.3	2572.6	1124.6
80°	51.2	44.5	48.7	89.0	224.3	1517.7	1068.4	1762.1	1660.5	451.9	182.3
82.5°	26.0	21.8	26.0	74.8	139.4	955.0	1039.0	691.2	615.6	107.5	118.4
85°	6.7	6.7	12.6	52.1	86.5	313.3	931.4	498.9	448.5	47.0	84.0
87.5°	1.7	0.8	5.0	19.3	31.1	68.0	516.5	278.0	239.4	24.4	48.7
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°	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6	2383.6
2.5°	2361.8	2338.3	2292.1	2240.0	2203.1	2162.7	2139.2	2110.7	2088.8	2069.5	2083.8
5°	2353.4	2308.0	2205.6	2090.5	1993.9	1901.5	1832.7	1767.1	1717.6	1686.5	1699.1
7.5°	2331.6	2264.4	2098.1	1918.3	1760.4	1611.8	1490.8	1382.5	1298.5	1253.1	1267.4
10°	2294.6	2199.7	1976.3	1726.8	1505.9	1296.0	1116.2	955.0	833.2	776.1	789.5
12.5°	2267.7	2142.6	1850.3	1542.1	1251.5	953.3	714.8	530.0	435.1	378.0	383.0
15°	2256.0	2098.1	1732.7	1347.2	973.4	612.3	386.4	279.7	246.9	235.2	236.0
17.5°	2257.7	2062.8	1621.0	1144.8	692.9	351.9	236.9	213.3	208.3	205.8	205.8
20°	2261.9	2027.5	1505.1	934.0	443.5	226.8	197.4	189.8	187.3	183.9	184.8
22.5°	2274.4	2000.6	1388.4	722.3	273.0	184.8	174.7	168.0	163.8	158.7	159.6
25°	2293.8	1980.5	1273.3	519.9	192.3	161.3	152.0	142.8	135.2	129.3	130.2
27.5°	2305.5	1951.9	1150.7	354.4	159.6	141.1	128.5	115.9	107.5	102.5	101.6
30°	2297.1	1905.7	1011.2	232.7	141.1	121.8	106.7	92.4	84.0	79.8	79.8
32.5°	2274.4	1846.1	857.5	169.7	125.1	105.0	86.5	73.9	68.0	65.5	66.4
35°	2248.4	1783.9	693.8	143.6	112.5	89.0	70.6	60.5	58.0	57.1	57.1
37.5°	2234.1	1730.2	536.7	130.2	100.8	73.9	58.0	52.1	49.6	49.6	49.6
40°	2250.1	1689.0	397.3	120.1	89.0	61.3	48.7	44.5	43.7	43.7	43.7
42.5°	2318.1	1674.8	290.6	111.7	77.3	51.2	42.0	38.6	37.8	38.6	38.6
45°	2450.8	1705.8	220.1	103.3	66.4	42.0	36.1	33.6	33.6	34.4	34.4
47.5°	2675.9	1785.6	180.6	94.9	55.4	35.3	31.1	29.4	29.4	30.2	30.2
50°	3025.3	1933.4	162.1	85.7	46.2	30.2	26.0	25.2	25.2	26.0	26.9
52.5°	3556.1	2214.8	152.9	76.4	37.8	25.2	21.8	21.0	21.8	22.7	22.7
55°	4146.6	2575.1	141.9	67.2	31.9	21.0	17.6	17.6	18.5	20.2	20.2
57.5°	4696.7	2922.9	131.9	55.4	27.7	16.8	14.3	14.3	16.0	17.6	17.6
60°	5277.9	3263.9	118.4	44.5	23.5	13.4	11.8	11.8	14.3	16.0	16.8
62.5°	5996.0	3660.3	100.8	35.3	18.5	10.1	8.4	10.9	13.4	16.0	16.0
65°	7034.2	4153.3	79.0	27.7	14.3	7.6	6.7	10.1	12.6	15.1	16.0
67.5°	7411.3	4090.3	59.6	22.7	10.9	5.9	5.9	9.2	12.6	15.1	15.1
68°	7273.5	3952.6	57.1	21.8	10.1	5.9	5.9	9.2	12.6	15.1	15.1
70°	6337.9	3231.1	47.0	16.8	8.4	5.0	5.0	8.4	12.6	14.3	15.1
72.5°	4745.4	2146.8	40.3	10.9	7.6	5.0	4.2	8.4	11.8	14.3	14.3
75°	2722.1	891.1	34.4	8.4	6.7	4.2	4.2	7.6	11.8	14.3	14.3
77.5°	769.3	208.3	27.7	6.7	5.9	4.2	3.4	7.6	10.9	13.4	13.4
80°	141.1	62.2	21.8	5.9	5.0	4.2	3.4	7.6	10.9	13.4	13.4
82.5°	93.2	29.4	16.0	5.9	5.0	4.2	3.4	6.7	10.1	12.6	12.6
85°	69.7	21.0	10.1	5.9	5.0	4.2	3.4	6.7	10.1	12.6	12.6
87.5°	38.6	9.2	7.6	6.7	5.9	4.2	3.4	5.9	9.2	11.8	11.8
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)