

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: P195676

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7050-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195676
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-04-D-UNV-SL4-7050-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 615mA 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: 13095 lumens
Efficiency: N/A
Efficacy: 101.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

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

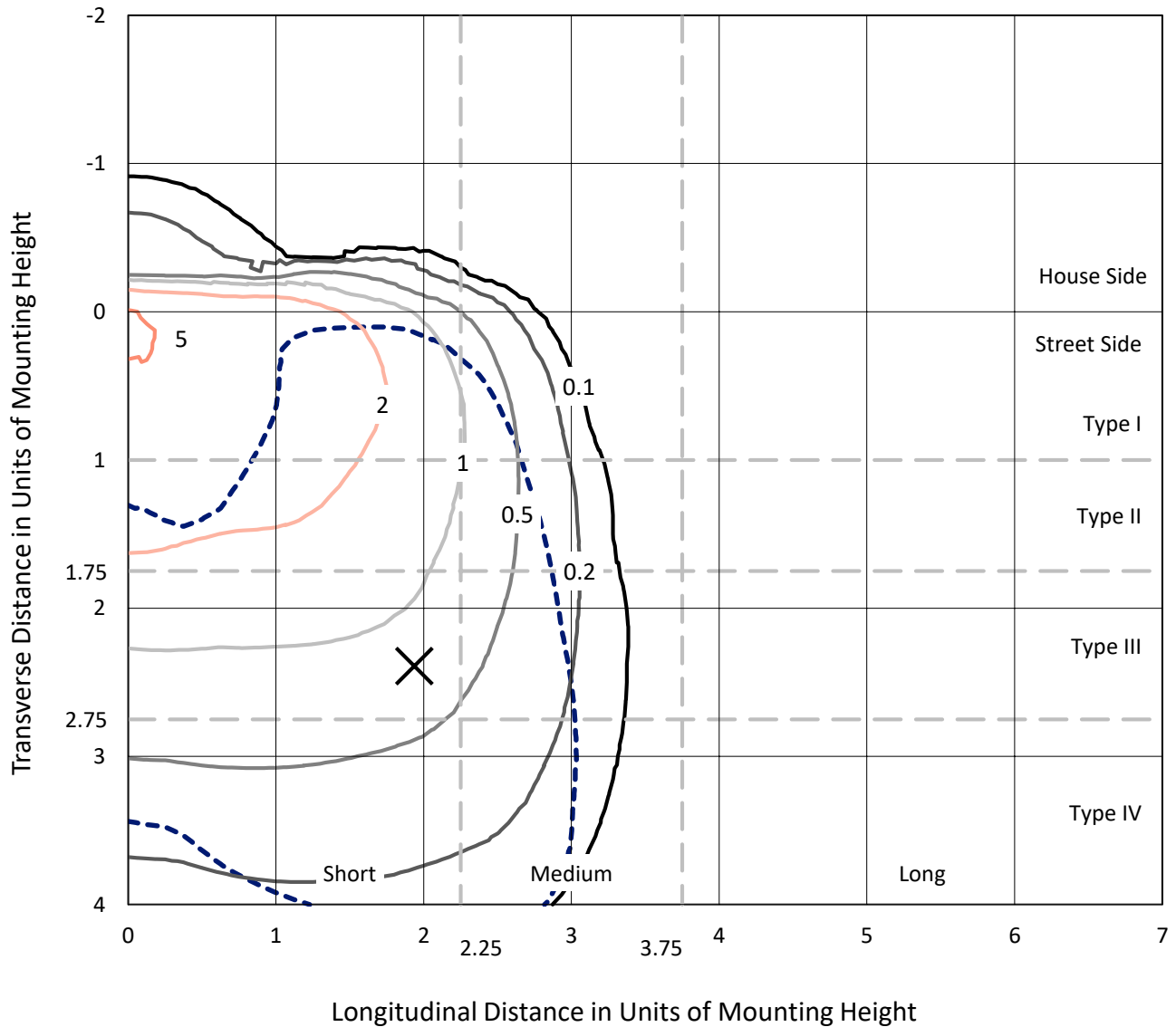


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

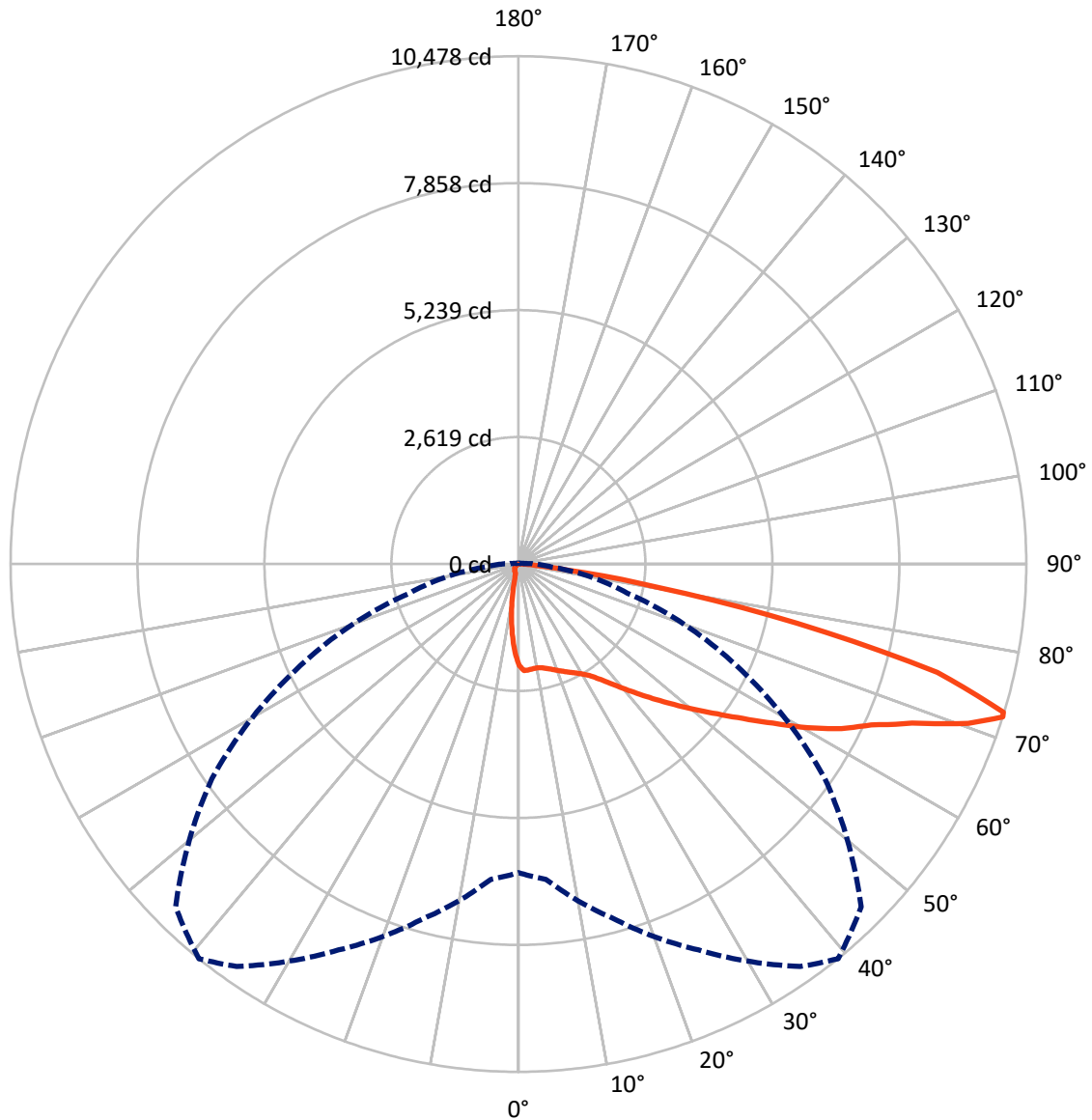


Based on 20 foot mounting height. Maximum calculated value = 5.5 fc
 Type IV - Short - Non-Cutoff

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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	858.2	0.0	858.2
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	12236.8	0.0	12236.8
	% Fixture	93.4	0.0	93.4
Total	Lumens	13095.0	0.0	13095.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.5	1.3
10°-20°	412.7	3.2
20°-30°	685.5	5.2
30°-40°	1092.5	8.3
40°-50°	1803.3	13.8
50°-60°	2723.3	20.8
60°-70°	3547.6	27.1
70°-80°	2397.1	18.3
80°-90°	262.5	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°	13095.0	100.0
0°-180°	13095.0	100.0



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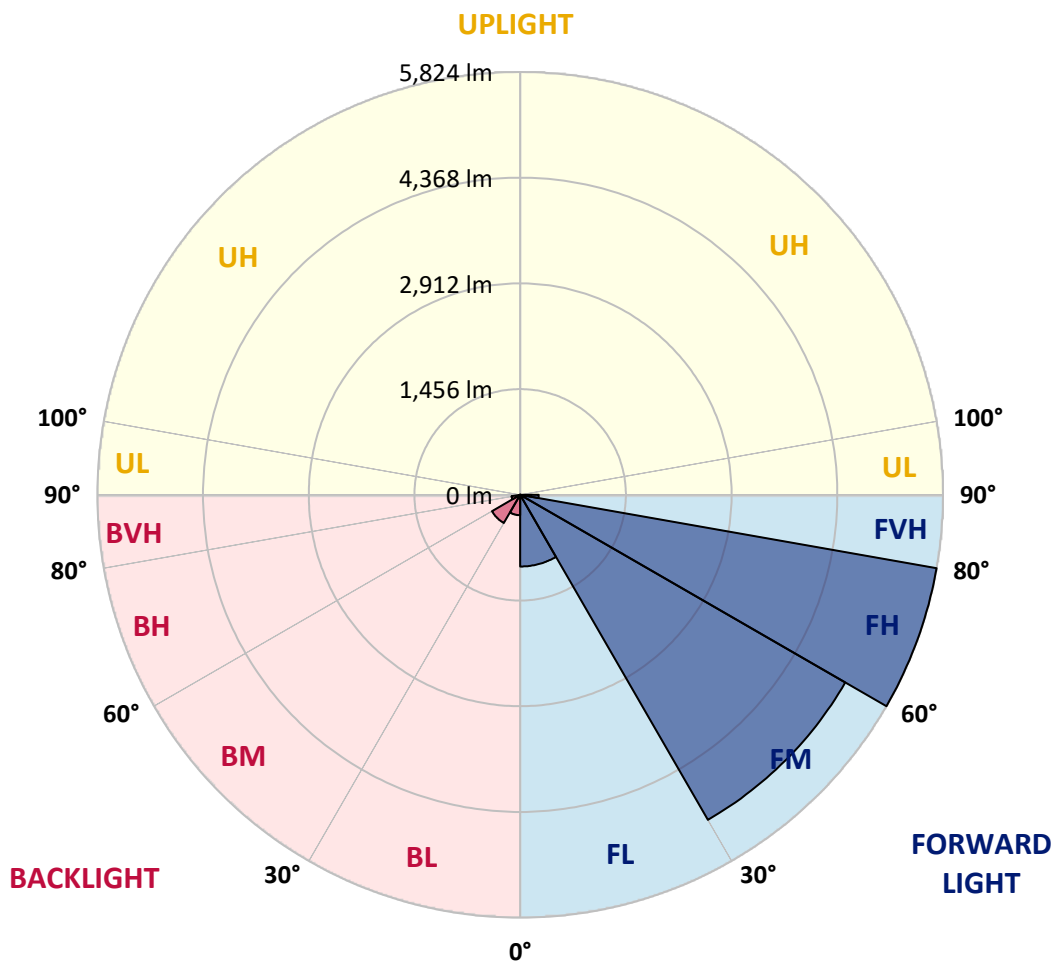
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	987.7	7.5			
FM (30°-60°)	5170.1	39.5			
FH (60°-80°)	5824.1	44.5			G3/7500
FVH (80°-90°)	255.0	1.9			G3/500
BL (0°-30°)	281.0	2.1	B1/500		
BM (30°-60°)	449.0	3.4	B1/1000		
BH (60°-80°)	120.6	0.9	B1/500		G1/500
BVH (80°-90°)	7.6	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9
2.5°	2231.8	2235.9	2230.8	2221.5	2208.1	2199.9	2188.6	2163.9	2133.0	2106.2	2075.4
5°	2249.3	2251.4	2245.2	2227.7	2207.1	2195.8	2181.4	2154.6	2122.7	2085.6	2030.1
7.5°	2254.5	2253.4	2246.2	2224.6	2192.7	2178.3	2153.6	2120.6	2087.7	2053.7	1990.9
10°	2252.4	2252.4	2247.3	2226.7	2190.6	2177.3	2149.5	2114.5	2073.3	2039.3	1972.4
12.5°	2245.2	2249.3	2246.2	2234.9	2208.1	2197.9	2173.1	2138.1	2099.0	2064.0	1993.0
15°	2254.5	2260.6	2266.8	2262.7	2247.3	2238.0	2215.4	2179.3	2147.4	2110.4	2034.2
17.5°	2291.5	2304.9	2319.3	2320.4	2303.9	2287.4	2261.7	2224.6	2193.7	2159.8	2077.4
20°	2361.5	2371.8	2398.6	2403.7	2370.8	2347.1	2311.1	2267.9	2237.0	2208.1	2117.6
22.5°	2465.5	2476.8	2498.5	2491.2	2435.7	2407.9	2362.6	2313.2	2281.2	2264.8	2163.9
25°	2623.0	2626.1	2631.2	2599.3	2507.7	2476.8	2421.2	2365.7	2339.9	2337.9	2229.8
27.5°	2808.3	2812.4	2789.8	2718.8	2588.0	2547.9	2485.1	2434.6	2422.3	2437.7	2313.2
30°	3020.4	3021.4	2958.6	2843.3	2680.7	2636.4	2571.5	2516.0	2527.3	2565.4	2420.2
32.5°	3237.6	3227.3	3140.8	2990.5	2807.3	2753.8	2698.2	2642.6	2675.5	2752.7	2576.7
35°	3436.3	3432.2	3330.2	3155.2	2972.0	2924.6	2884.5	2825.8	2879.3	3004.9	2789.8
37.5°	3635.0	3631.9	3515.5	3333.3	3174.8	3140.8	3111.0	3065.7	3153.2	3337.4	3074.9
40°	3854.2	3849.1	3706.0	3531.0	3410.5	3392.0	3374.5	3354.9	3504.2	3760.5	3430.1
42.5°	4125.0	4102.3	3907.8	3746.1	3670.0	3675.1	3676.1	3695.7	3929.4	4263.9	3849.1
45°	4435.9	4385.4	4110.6	3976.7	3955.1	3986.0	4016.9	4098.2	4424.5	4843.5	4312.3
47.5°	4737.5	4656.2	4344.2	4224.8	4269.1	4332.9	4407.0	4565.6	4980.4	5449.9	4732.3
50°	4996.9	4913.5	4575.9	4477.0	4618.1	4712.8	4844.5	5084.4	5567.2	5962.5	4996.9
52.5°	5200.7	5134.8	4820.9	4755.0	5005.1	5134.8	5341.8	5656.8	6121.0	6300.2	5182.2
55°	5351.0	5318.1	5055.6	5064.8	5435.4	5622.8	5880.2	6236.3	6588.4	6562.7	5321.2
57.5°	5520.9	5495.1	5301.6	5430.3	5953.3	6195.2	6492.7	6778.9	6928.1	6773.7	5457.1
60°	5694.9	5703.1	5600.2	5873.0	6593.6	6861.2	7120.6	7191.7	7219.5	6987.8	5600.2
62.5°	5826.6	5861.6	5870.9	6350.6	7250.3	7478.9	7591.1	7540.6	7534.5	7275.1	5588.8
65°	5978.0	6069.6	6221.9	6874.6	7847.4	7997.7	8078.0	8151.1	7996.7	7360.5	5039.1
67.5°	6239.4	6383.6	6726.4	7517.0	8537.1	8759.5	8987.0	8909.8	8065.7	6492.7	3838.8
70°	6591.5	6767.5	7372.8	8356.0	9472.9	9845.6	10036.0	8849.1	6847.8	4486.3	2024.9
72°	6369.1	6528.7	7572.6	8784.2	10135.9	10477.6	10001.0	7718.7	4964.0	2325.5	678.4
72.5°	6153.0	6317.7	7508.7	8779.1	10201.7	10463.2	9773.5	7273.0	4392.6	1809.8	467.4
75°	4269.1	4477.0	6437.1	7891.7	9212.5	8925.2	7477.9	4403.9	1591.5	310.9	154.4
77.5°	2207.1	2367.7	3904.7	5576.5	6420.6	5880.2	4419.4	1910.6	440.6	164.7	101.9
80°	1368.1	1447.4	1826.2	2747.6	3335.4	2917.4	1949.8	772.1	282.1	97.8	81.3
82.5°	708.3	769.0	1149.9	1108.7	1232.2	1024.3	719.6	646.5	174.0	60.7	83.4
85°	232.7	247.1	706.2	737.1	527.1	354.1	319.1	616.6	50.4	39.1	71.0
87.5°	30.9	36.0	248.1	422.1	259.4	160.6	191.5	217.2	17.5	21.6	19.6
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°	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9	2095.9
2.5°	2054.8	2041.4	1999.2	1957.0	1908.6	1864.3	1829.3	1806.7	1817.0	1783.0	1788.1
5°	1996.1	1962.1	1869.5	1769.6	1661.5	1560.6	1480.3	1420.6	1409.3	1357.8	1359.9
7.5°	1939.5	1883.9	1733.6	1568.9	1389.7	1244.6	1112.8	997.5	956.3	914.1	889.4
10°	1908.6	1832.4	1619.3	1379.4	1127.2	914.1	728.8	583.7	523.0	478.7	457.1
12.5°	1917.8	1817.0	1533.9	1207.5	876.1	605.3	411.8	305.7	268.7	248.1	240.9
15°	1948.7	1820.0	1456.7	1039.7	637.2	366.5	241.9	206.9	203.8	202.8	201.8
17.5°	1977.6	1823.1	1375.3	864.7	426.2	233.7	194.6	191.5	191.5	191.5	191.5
20°	2007.4	1824.2	1285.8	681.5	280.0	191.5	183.2	181.2	183.2	183.2	183.2
22.5°	2042.4	1831.4	1199.3	503.4	206.9	180.2	175.0	174.0	175.0	175.0	174.0
25°	2085.6	1846.8	1105.6	360.3	187.4	172.9	167.8	166.8	167.8	166.8	166.8
27.5°	2143.3	1867.4	996.5	258.4	179.1	165.7	160.6	160.6	160.6	159.6	159.6
30°	2217.4	1892.1	850.3	203.8	170.9	158.5	154.4	154.4	153.4	152.4	152.4
32.5°	2323.4	1932.3	690.8	184.3	161.6	149.3	145.2	146.2	145.2	144.1	143.1
35°	2473.7	1995.1	533.2	174.0	152.4	140.0	135.9	135.9	135.9	133.8	133.8
37.5°	2686.8	2090.8	399.4	163.7	143.1	130.7	125.6	125.6	124.6	122.5	123.5
40°	2950.4	2211.2	289.3	154.4	133.8	120.4	116.3	114.3	112.2	110.2	110.2
42.5°	3267.4	2328.6	217.2	145.2	124.6	112.2	107.1	105.0	100.9	98.8	97.8
45°	3622.6	2453.2	180.2	133.8	114.3	102.9	98.8	94.7	89.6	86.5	85.4
47.5°	3922.2	2529.3	160.6	122.5	104.0	93.7	89.6	83.4	77.2	75.1	75.1
50°	4102.3	2497.4	144.1	111.2	93.7	84.4	79.3	71.0	66.9	64.9	63.8
52.5°	4203.2	2402.7	130.7	101.9	84.4	74.1	66.9	59.7	57.6	55.6	55.6
55°	4272.2	2265.8	116.3	92.6	76.2	64.9	56.6	51.5	49.4	48.4	47.4
57.5°	4338.1	2099.0	102.9	84.4	67.9	57.6	48.4	46.3	42.2	41.2	41.2
60°	4357.6	1869.5	90.6	75.1	60.7	50.4	42.2	39.1	35.0	34.0	34.0
62.5°	4108.5	1487.5	80.3	63.8	53.5	43.2	37.1	32.9	28.8	28.8	28.8
65°	3433.2	1009.9	69.0	55.6	47.4	37.1	31.9	26.8	24.7	24.7	24.7
67.5°	2391.4	563.1	58.7	47.4	40.1	30.9	26.8	22.6	21.6	22.6	22.6
70°	1077.8	223.4	49.4	39.1	32.9	25.7	22.6	19.6	21.6	21.6	21.6
72°	323.2	119.4	41.2	31.9	26.8	22.6	19.6	18.5	20.6	21.6	21.6
72.5°	239.9	107.1	39.1	30.9	26.8	21.6	18.5	18.5	20.6	21.6	21.6
75°	123.5	73.1	29.9	22.6	19.6	17.5	15.4	17.5	20.6	20.6	20.6
77.5°	96.8	59.7	24.7	17.5	16.5	15.4	14.4	16.5	18.5	18.5	18.5
80°	90.6	39.1	19.6	16.5	14.4	13.4	13.4	14.4	16.5	17.5	17.5
82.5°	91.6	31.9	17.5	15.4	13.4	12.4	12.4	13.4	15.4	16.5	16.5
85°	58.7	21.6	15.4	13.4	12.4	11.3	11.3	12.4	14.4	15.4	15.4
87.5°	19.6	16.5	13.4	12.4	10.3	10.3	10.3	10.3	12.4	13.4	14.4
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)