

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: P195596

Luminaire Tested: **NAV-AF-02-D-UNV-SL2-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195596
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-SL2-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 5000K, 1200mA 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: 10900 lumens
Efficiency: N/A
Efficacy: 84.5 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): 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

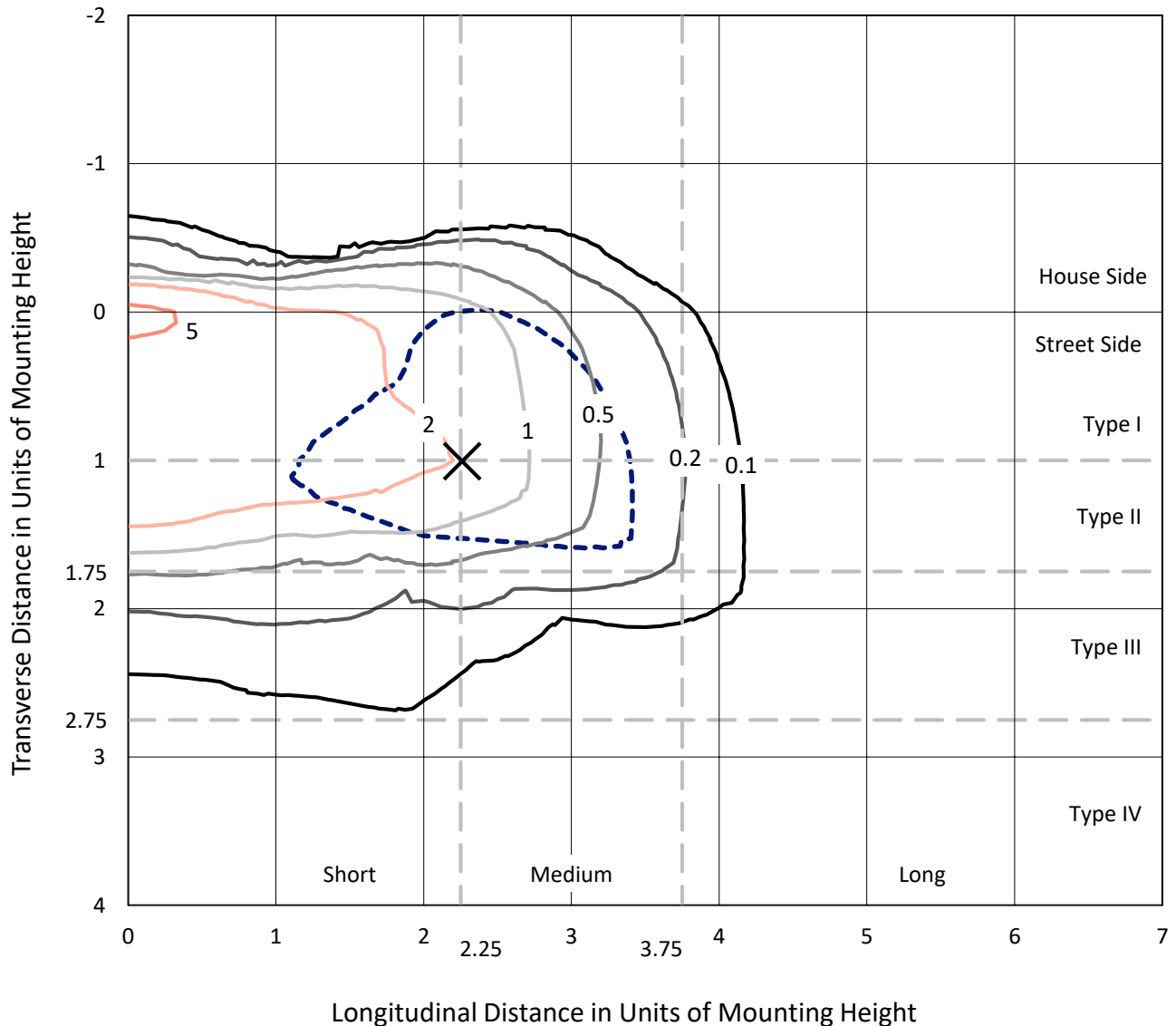


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

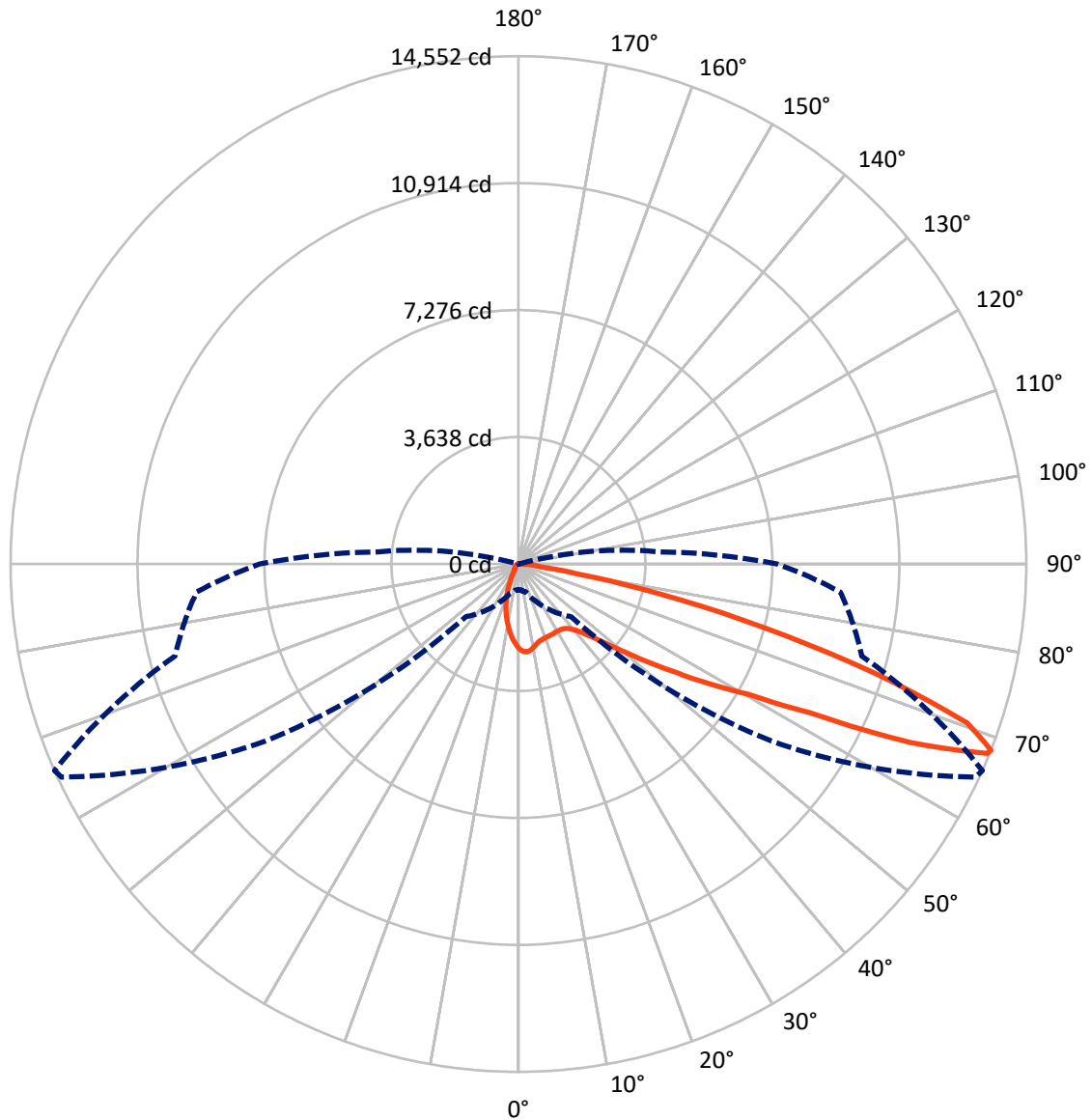


Based on 20 foot mounting height. Maximum calculated value = 6.1 fc
 Type II - Medium - Semi-Cutoff

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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	1104.0	0.0	1104.0
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	9795.9	0.0	9795.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	10900.0	0.0	10900.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.1	1.8
10°-20°	428.3	3.9
20°-30°	620.7	5.7
30°-40°	950.2	8.7
40°-50°	1625.2	14.9
50°-60°	2542.3	23.3
60°-70°	2927.4	26.9
70°-80°	1464.9	13.4
80°-90°	141.9	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°	10900.0	100.0
0°-180°	10900.0	100.0

Coefficient of Utilization



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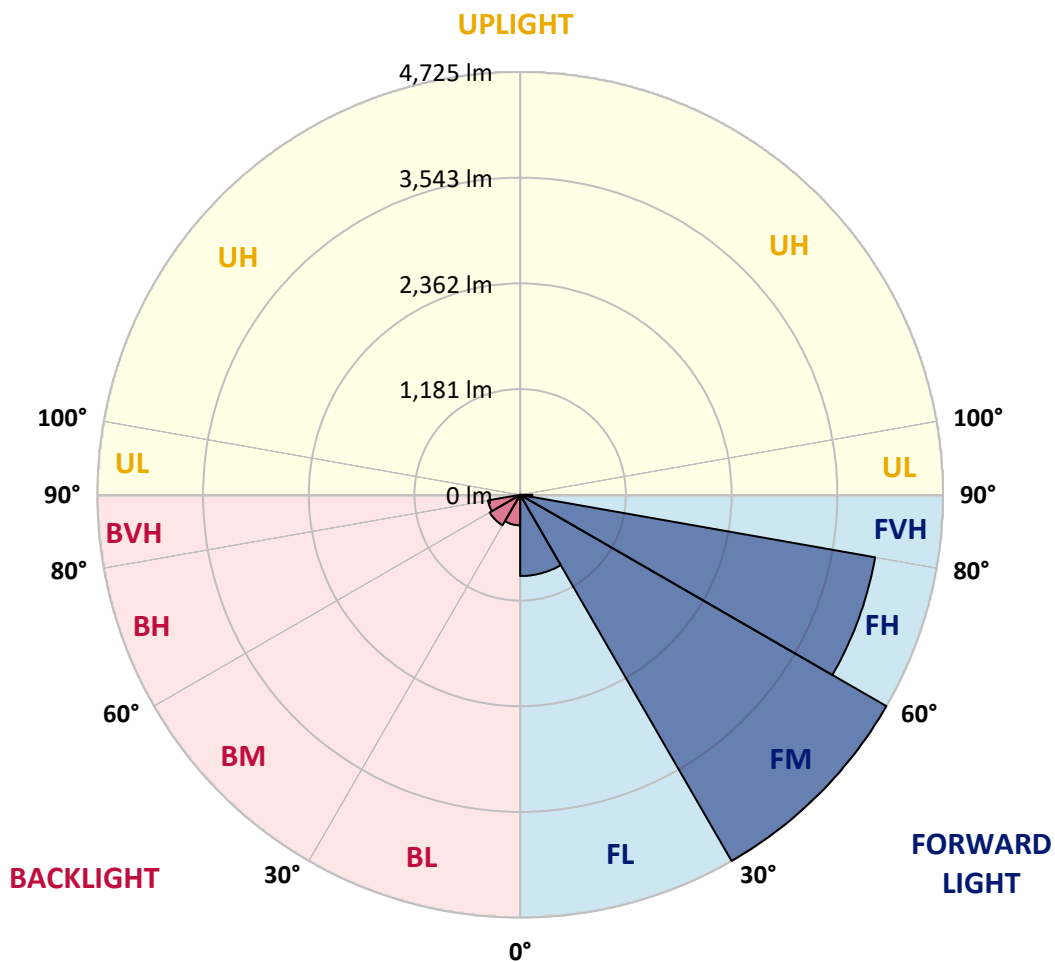
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	907.4	8.3			
FM (30°-60°)	4724.6	43.3			
FH (60°-80°)	4027.5	36.9			G2/5000
FVH (80°-90°)	136.5	1.3			G2/225
BL (0°-30°)	340.8	3.1	B1/500		
BM (30°-60°)	393.1	3.6	B1/1000		
BH (60°-80°)	364.8	3.3	B1/500		G1/500
BVH (80°-90°)	5.4	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°	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4
2.5°	2554.2	2555.9	2555.1	2557.6	2555.9	2543.1	2529.4	2500.3	2502.9	2465.2	2423.3
5°	2374.5	2389.1	2403.6	2418.1	2453.2	2484.0	2520.8	2529.4	2529.4	2496.9	2435.3
7.5°	2191.4	2192.2	2208.5	2228.2	2275.3	2331.7	2417.3	2494.3	2496.0	2504.6	2437.0
10°	2053.6	2057.9	2069.0	2090.4	2137.5	2193.1	2288.9	2409.6	2419.0	2482.3	2419.9
12.5°	1946.7	1951.8	1963.8	1988.6	2031.4	2088.7	2189.7	2327.4	2340.3	2460.9	2414.7
15°	1864.5	1871.4	1880.8	1905.6	1951.8	2012.6	2122.9	2272.7	2288.1	2452.4	2431.0
17.5°	1830.3	1830.3	1829.4	1846.6	1892.8	1954.4	2069.9	2243.6	2263.3	2459.2	2458.4
20°	1844.8	1842.3	1824.3	1820.0	1848.3	1909.9	2028.0	2224.8	2247.0	2472.1	2491.7
22.5°	1921.9	1916.7	1876.5	1843.1	1834.6	1875.6	1999.7	2211.9	2238.5	2498.6	2536.2
25°	2085.3	2069.9	2014.3	1939.0	1871.4	1867.1	1980.0	2205.1	2233.3	2529.4	2585.0
27.5°	2297.5	2293.2	2204.2	2103.3	1973.2	1895.3	1974.1	2200.0	2228.2	2551.6	2624.4
30°	2561.0	2562.8	2460.1	2328.3	2131.5	1974.9	1992.9	2197.4	2226.5	2553.3	2641.5
32.5°	2833.2	2834.9	2749.3	2608.1	2348.0	2111.8	2045.9	2209.4	2235.9	2546.5	2640.6
35°	3095.0	3097.6	3046.2	2932.4	2637.2	2301.8	2146.0	2250.4	2269.3	2550.8	2638.9
37.5°	3426.1	3436.4	3373.1	3267.0	3000.0	2580.7	2309.5	2333.4	2348.8	2585.9	2651.7
40°	3990.9	3977.2	3795.8	3616.1	3393.6	2920.4	2545.6	2476.3	2481.5	2676.6	2700.5
42.5°	4648.9	4631.8	4321.2	4011.4	3798.4	3330.3	2847.7	2695.4	2694.5	2828.9	2806.6
45°	5215.4	5205.1	4878.2	4464.9	4246.7	3783.0	3219.9	3011.1	3000.9	3092.4	3000.0
47.5°	5617.5	5609.0	5361.7	4947.5	4765.3	4281.0	3684.6	3441.5	3420.1	3437.3	3314.0
50°	5656.9	5647.5	5561.1	5294.9	5371.1	5011.7	4258.7	4005.4	3978.1	3951.5	3788.9
52.5°	5289.0	5288.1	5333.4	5316.3	5795.5	5952.1	4962.9	4702.8	4670.3	4602.7	4441.0
55°	4536.8	4532.5	4704.5	4954.4	5786.1	6922.4	6036.8	5532.8	5490.0	5354.8	5142.6
57.5°	3314.9	3292.7	3652.0	4181.7	5379.7	7346.9	7742.2	6563.9	6492.9	6064.2	5737.3
60°	1830.3	1838.9	2300.9	2928.1	4417.0	7263.0	9311.5	7766.1	7579.6	6676.0	6346.6
62.5°	1026.0	1047.4	1391.3	1903.0	2816.0	6582.7	10153.5	9835.2	9385.9	7389.6	7116.7
65°	776.1	788.9	961.8	1468.3	1775.5	4600.1	10287.8	12728.2	12340.6	8471.2	8342.9
67.5°	730.7	741.0	825.7	1217.6	1617.2	2385.6	9276.4	14439.6	14488.4	9946.4	9292.7
68°	735.9	748.7	833.4	1171.4	1614.7	2134.1	8845.2	14448.1	14551.7	10184.3	9260.2
70°	676.0	679.4	881.3	1149.2	1565.0	1681.4	6398.8	13458.1	13643.8	10467.5	8406.2
72.5°	258.4	259.3	395.3	995.2	1639.5	1690.8	3223.3	10636.9	10646.4	9109.6	6553.6
75°	134.3	112.9	124.1	311.5	1565.9	1648.0	1617.2	7263.0	7217.7	6160.9	4015.7
77.5°	92.4	78.7	83.0	107.8	651.2	1647.2	1168.0	4176.6	4167.2	2620.9	1145.8
80°	52.2	45.4	49.6	90.7	228.5	1546.2	1088.4	1795.2	1691.7	460.4	185.7
82.5°	26.5	22.2	26.5	76.2	142.0	972.9	1058.5	704.2	627.2	109.5	120.7
85°	6.8	6.8	12.8	53.1	88.1	319.2	948.9	508.3	456.9	47.9	85.6
87.5°	1.7	0.9	5.1	19.7	31.7	69.3	526.2	283.2	243.9	24.8	49.6
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°	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4	2428.4
2.5°	2406.2	2382.2	2335.1	2282.1	2244.4	2203.4	2179.4	2150.3	2128.1	2108.4	2122.9
5°	2397.6	2351.4	2247.0	2129.8	2031.4	1937.3	1867.1	1800.3	1749.9	1718.2	1731.0
7.5°	2375.4	2306.9	2137.5	1954.4	1793.5	1642.0	1518.8	1408.4	1322.9	1276.7	1291.2
10°	2337.7	2241.0	2013.4	1759.3	1534.2	1320.3	1137.2	972.9	848.8	790.6	804.3
12.5°	2310.3	2182.8	1885.1	1571.0	1275.0	971.2	728.2	539.9	443.2	385.1	390.2
15°	2298.4	2137.5	1765.3	1372.5	991.7	623.8	393.6	284.9	251.6	239.6	240.4
17.5°	2300.1	2101.5	1651.5	1166.3	705.9	358.5	241.3	217.3	212.2	209.6	209.6
20°	2304.3	2065.6	1533.4	951.5	451.8	231.0	201.1	193.4	190.8	187.4	188.2
22.5°	2317.2	2038.2	1414.4	735.9	278.1	188.2	178.0	171.1	166.9	161.7	162.6
25°	2336.9	2017.7	1297.2	529.7	196.0	164.3	154.9	145.5	137.8	131.8	132.6
27.5°	2348.8	1988.6	1172.3	361.1	162.6	143.8	130.9	118.1	109.5	104.4	103.5
30°	2340.3	1941.5	1030.2	237.0	143.8	124.1	108.7	94.1	85.6	81.3	81.3
32.5°	2317.2	1880.8	873.6	172.8	127.5	107.0	88.1	75.3	69.3	66.7	67.6
35°	2290.7	1817.5	706.8	146.3	114.7	90.7	71.9	61.6	59.0	58.2	58.2
37.5°	2276.1	1762.7	546.8	132.6	102.7	75.3	59.0	53.1	50.5	50.5	50.5
40°	2292.4	1720.8	404.7	122.4	90.7	62.5	49.6	45.4	44.5	44.5	44.5
42.5°	2361.7	1706.2	296.1	113.8	78.7	52.2	42.8	39.4	38.5	39.4	39.4
45°	2496.9	1737.9	224.2	105.2	67.6	42.8	36.8	34.2	34.2	35.1	35.1
47.5°	2726.2	1819.2	184.0	96.7	56.5	35.9	31.7	29.9	29.9	30.8	30.8
50°	3082.2	1969.8	165.1	87.3	47.1	30.8	26.5	25.7	25.7	26.5	27.4
52.5°	3622.9	2256.4	155.7	77.9	38.5	25.7	22.2	21.4	22.2	23.1	23.1
55°	4224.5	2623.5	144.6	68.5	32.5	21.4	18.0	18.0	18.8	20.5	20.5
57.5°	4785.0	2977.8	134.3	56.5	28.2	17.1	14.5	14.5	16.3	18.0	18.0
60°	5377.1	3325.2	120.7	45.4	24.0	13.7	12.0	12.0	14.5	16.3	17.1
62.5°	6108.7	3729.0	102.7	35.9	18.8	10.3	8.6	11.1	13.7	16.3	16.3
65°	7166.3	4231.3	80.4	28.2	14.5	7.7	6.8	10.3	12.8	15.4	16.3
67.5°	7550.5	4167.2	60.8	23.1	11.1	6.0	6.0	9.4	12.8	15.4	15.4
68°	7410.2	4026.8	58.2	22.2	10.3	6.0	6.0	9.4	12.8	15.4	15.4
70°	6457.0	3291.8	47.9	17.1	8.6	5.1	5.1	8.6	12.8	14.5	15.4
72.5°	4834.6	2187.1	41.1	11.1	7.7	5.1	4.3	8.6	12.0	14.5	14.5
75°	2773.3	907.9	35.1	8.6	6.8	4.3	4.3	7.7	12.0	14.5	14.5
77.5°	783.8	212.2	28.2	6.8	6.0	4.3	3.4	7.7	11.1	13.7	13.7
80°	143.8	63.3	22.2	6.0	5.1	4.3	3.4	7.7	11.1	13.7	13.7
82.5°	95.0	29.9	16.3	6.0	5.1	4.3	3.4	6.8	10.3	12.8	12.8
85°	71.0	21.4	10.3	6.0	5.1	4.3	3.4	6.8	10.3	12.8	12.8
87.5°	39.4	9.4	7.7	6.8	6.0	4.3	3.4	6.0	9.4	12.0	12.0
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)