

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: STREETWORKS

Report Number: P231165

Luminaire Tested: **ARCH-M-AF48-160-D-U-T3**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P231165  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29465)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: ARCH-M-AF48-160-D-U-T3  
Description: ARCHEON-M ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1030mA LIGHT ENGINES WITH 24 LEDS AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18981.9 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Luminous Opening: Rectangular (W 0.75' x L: 1' x H: 0')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B3 - U0 - G3

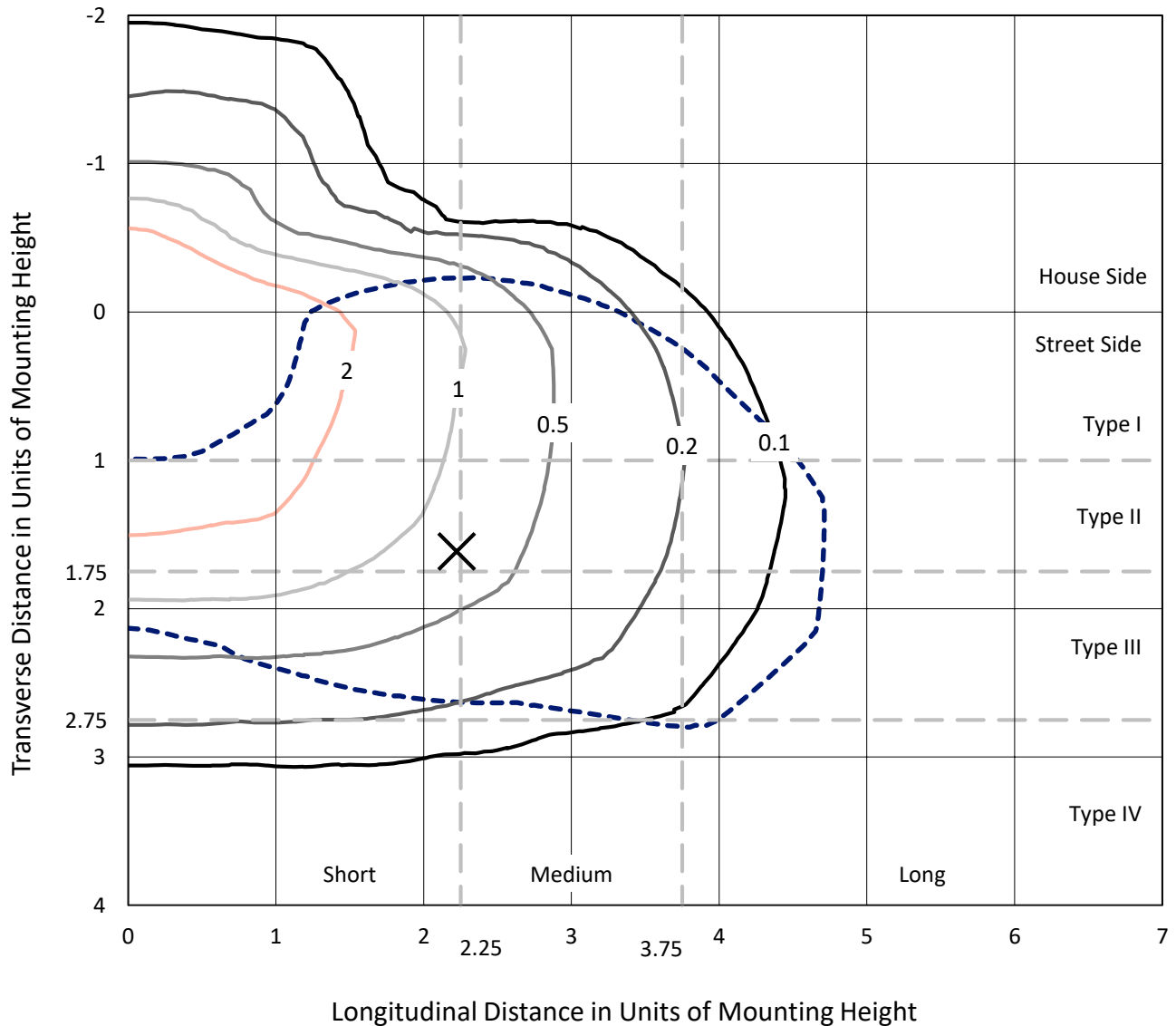
Input Watts (W): 161  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

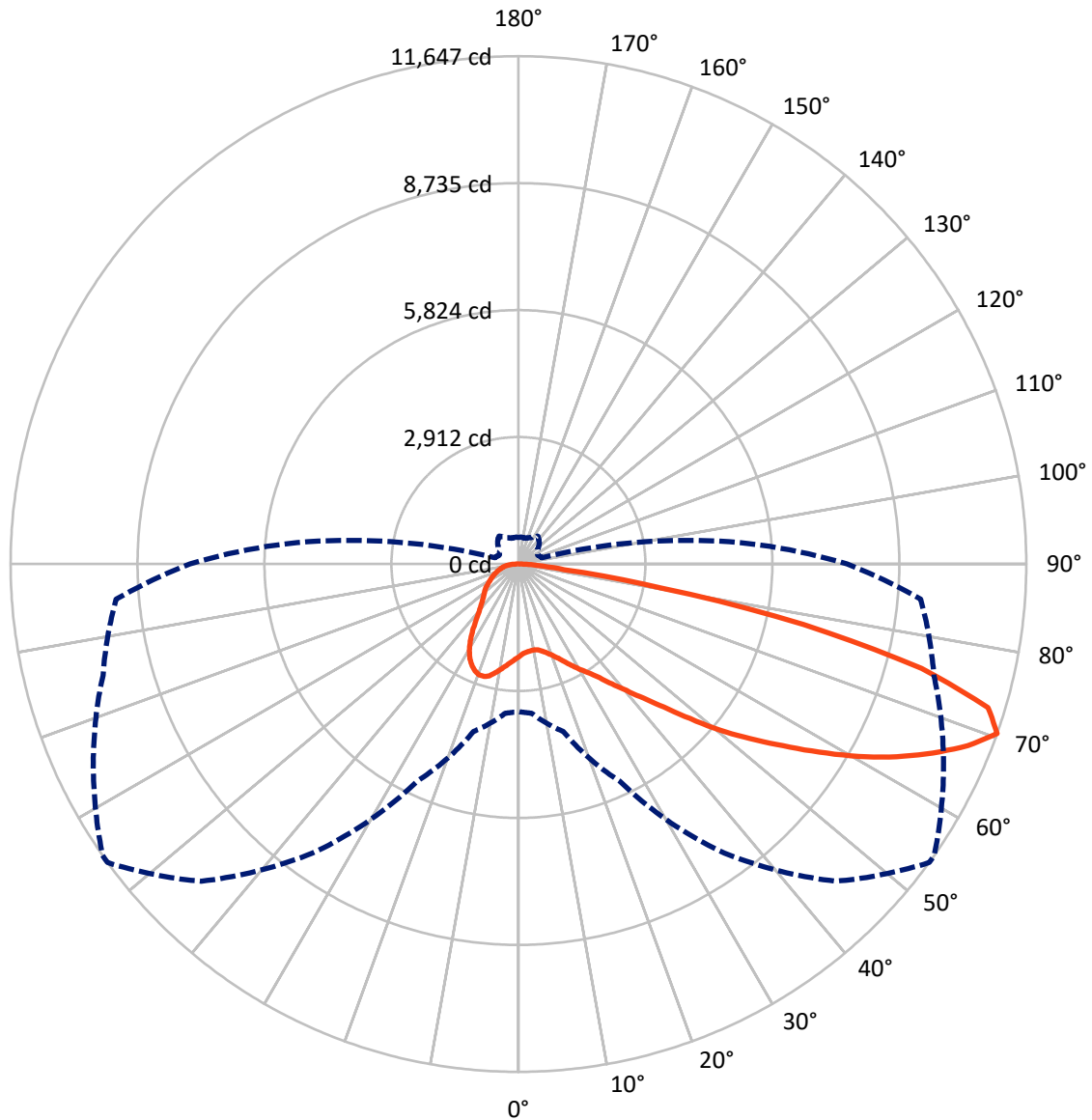
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4305.0	0.0	4305.0
	% Fixture	22.7	0.0	22.7
<b>Street Side</b>	Lumens	14676.9	0.0	14676.9
	% Fixture	77.3	0.0	77.3
<b>Total</b>	Lumens	18981.9	0.0	18981.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.4	1.1
10°-20°	665.9	3.5
20°-30°	1157.0	6.1
30°-40°	1690.8	8.9
40°-50°	2653.6	14.0
50°-60°	4080.6	21.5
60°-70°	4985.5	26.3
70°-80°	3091.0	16.3
80°-90°	449.0	2.4
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°	18981.9	100.0
0°-180°	18981.9	100.0

**Coefficient of Utilization**



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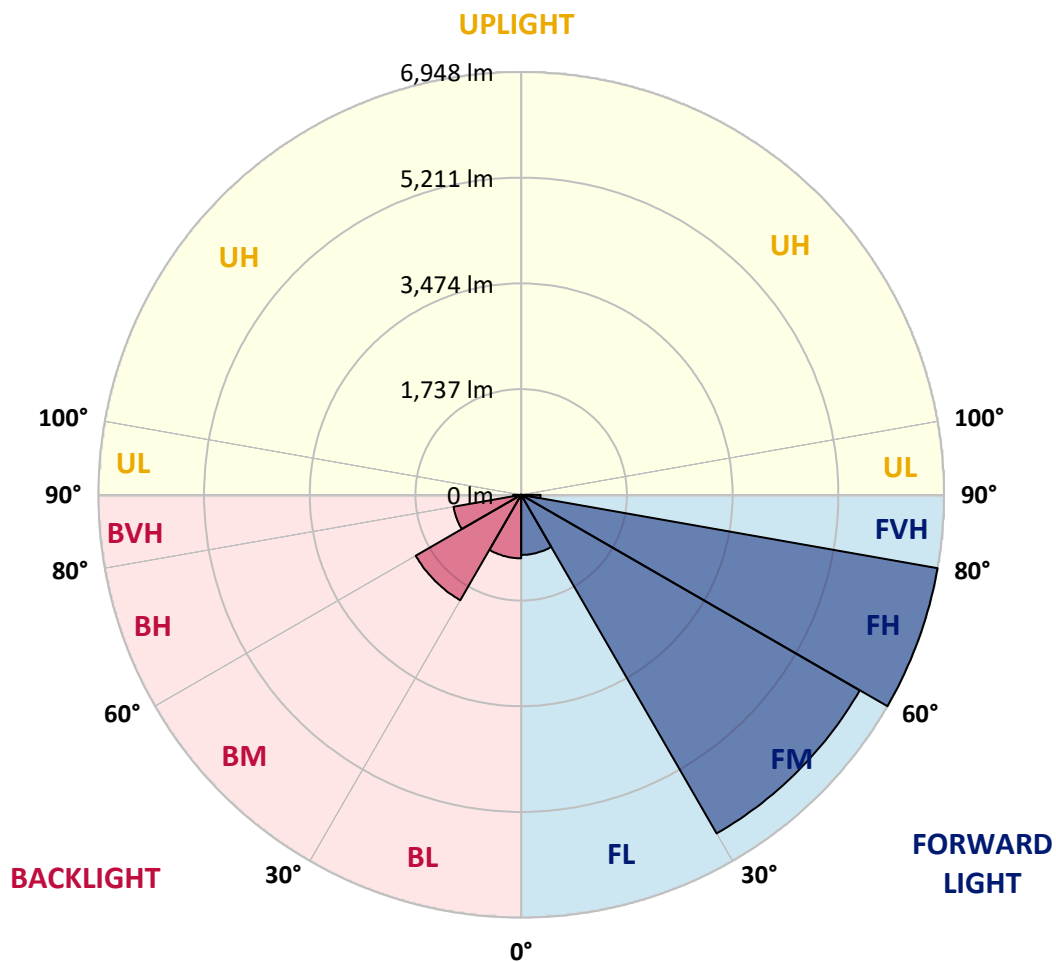
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	987.6	5.2			
FM	(30°-60°)	6424.5	33.8			
FH	(60°-80°)	6947.7	36.6			G3/7500
FVH	(80°-90°)	317.1	1.7			G3/500
BL	(0°-30°)	1043.7	5.5	B3/2500		
BM	(30°-60°)	2000.5	10.5	B2/2500		
BH	(60°-80°)	1128.9	5.9	B3/2500		G3/2500
BVH	(80°-90°)	132.0	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	54°	55°	65°	75°	85°
0°	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6
2.5°	2040.3	2033.3	2033.3	2043.8	2047.2	2057.7	2057.7	2061.1	2071.6	2089.0	2109.8
5°	1977.7	1974.2	1977.7	1991.6	1998.5	2019.4	2026.4	2029.8	2050.7	2078.5	2109.8
7.5°	1915.2	1911.7	1918.6	1939.5	1960.3	1991.6	2009.0	2012.5	2043.8	2082.0	2123.6
10°	1894.3	1890.8	1901.3	1918.6	1939.5	1974.2	2002.0	2005.5	2050.7	2095.9	2154.9
12.5°	1922.1	1918.6	1929.1	1946.5	1967.2	1991.6	2022.9	2026.4	2085.5	2144.5	2207.1
15°	1991.6	1991.6	1995.1	2005.5	2026.4	2047.2	2075.1	2078.5	2141.0	2210.6	2273.1
17.5°	2099.4	2092.4	2092.4	2089.0	2102.9	2113.2	2148.0	2151.5	2217.6	2280.1	2342.7
20°	2231.5	2228.0	2214.1	2196.7	2193.2	2200.2	2234.9	2238.4	2304.4	2356.6	2415.7
22.5°	2391.4	2394.8	2363.5	2325.3	2307.9	2318.3	2349.6	2353.1	2401.8	2446.9	2499.1
25°	2603.3	2592.9	2547.8	2492.1	2457.3	2457.3	2488.6	2488.6	2533.8	2561.7	2596.4
27.5°	2804.9	2784.1	2742.3	2662.4	2606.8	2617.2	2648.5	2648.5	2690.3	2700.7	2718.1
30°	3023.9	3003.1	2950.9	2850.1	2777.1	2770.2	2808.4	2804.9	2860.6	2857.1	2843.2
32.5°	3291.5	3281.1	3194.3	3065.6	2968.3	2944.0	2978.7	2982.2	3017.0	3006.6	2961.3
35°	3667.0	3663.5	3583.5	3357.6	3228.9	3183.8	3204.7	3204.7	3228.9	3201.2	3124.7
37.5°	4139.7	4146.5	4077.1	3743.4	3562.6	3486.2	3489.7	3486.2	3493.2	3461.9	3381.9
40°	4612.3	4629.7	4626.2	4223.0	3993.6	3861.5	3812.9	3806.0	3823.4	3809.5	3733.0
42.5°	5234.5	5276.2	5178.9	4813.9	4556.7	4334.2	4202.2	4184.8	4223.0	4240.4	4167.4
45°	5880.9	5867.0	5714.1	5450.0	5217.2	4932.1	4681.8	4654.0	4681.8	4734.0	4657.5
47.5°	6218.1	6207.7	6169.5	6037.4	6002.7	5675.9	5297.0	5272.7	5220.6	5293.6	5203.2
50°	6774.3	6784.7	6628.3	6614.4	6760.4	6579.6	5992.2	5936.6	5842.8	5901.8	5825.4
52.5°	7177.4	7132.2	7034.9	7156.6	7611.9	7514.6	6645.6	6621.4	6534.4	6520.5	6485.8
55°	7340.8	7340.8	7358.2	7639.7	8289.7	8161.1	7354.7	7379.1	7260.9	7163.5	7208.7
57.5°	7389.5	7410.4	7559.8	8025.6	9085.6	8665.1	8136.8	8171.5	8001.2	7806.5	7949.0
60°	7149.6	7212.2	7570.2	8244.5	9534.0	9200.3	8960.5	8971.0	8724.1	8439.1	8689.4
62.5°	6534.4	6610.9	7250.5	8334.9	9461.0	9749.5	9739.1	9763.5	9426.3	9071.7	9384.6
65°	5780.2	5856.7	6537.9	8081.1	9405.4	10142.3	10451.6	10517.7	10083.2	9607.0	9819.0
67.5°	4671.4	4772.2	5418.7	7226.1	9134.3	10465.5	11119.0	11188.4	10590.6	9885.1	9780.7
70°	3385.4	3434.0	3976.3	5491.7	8029.0	10288.2	11647.3	11643.8	10757.5	9864.2	9259.4
72.5°	1630.2	1668.3	2137.6	3409.7	5741.9	8731.1	11264.9	11331.0	10528.1	9561.8	8067.2
75°	670.9	709.0	865.4	1439.0	3013.5	5769.7	9547.9	9704.3	9561.8	8581.6	6312.0
77.5°	417.1	431.0	507.5	743.8	1376.4	2693.7	6683.9	6895.9	7577.2	6875.0	4167.4
80°	312.8	323.3	378.9	521.4	868.9	994.1	3319.4	3587.0	4591.5	3945.0	1887.3
82.5°	260.6	264.1	302.4	378.9	590.9	570.0	1063.6	1185.2	2141.0	1505.0	650.0
85°	243.3	250.2	271.1	271.1	375.4	358.0	441.4	462.3	622.2	514.4	226.0
87.5°	125.1	118.2	239.8	212.1	194.7	173.8	187.7	201.6	232.9	246.7	100.8
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°	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6	2123.6
2.5°	2116.7	2127.1	2144.5	2161.9	2182.8	2207.1	2221.0	2238.4	2252.3	2245.4	2241.9
5°	2127.1	2144.5	2182.8	2217.6	2259.3	2307.9	2339.2	2374.0	2401.8	2408.7	2398.3
7.5°	2144.5	2175.8	2228.0	2290.5	2346.1	2408.7	2457.3	2506.0	2540.8	2547.8	2547.8
10°	2186.3	2221.0	2290.5	2374.0	2439.9	2506.0	2561.7	2599.8	2631.1	2645.0	2645.0
12.5°	2245.4	2287.0	2370.5	2471.2	2544.3	2606.8	2638.1	2655.5	2669.4	2683.3	2686.8
15°	2314.8	2360.0	2460.8	2568.6	2645.0	2676.3	2676.3	2672.9	2672.9	2679.8	2686.8
17.5°	2384.4	2433.0	2537.3	2652.0	2700.7	2683.3	2659.0	2648.5	2641.6	2638.1	2648.5
20°	2457.3	2506.0	2610.3	2718.1	2704.2	2631.1	2596.4	2572.1	2551.2	2540.8	2554.7
22.5°	2537.3	2582.4	2690.3	2763.2	2659.0	2547.8	2481.7	2443.4	2408.7	2387.9	2401.8
25°	2631.1	2676.3	2780.6	2777.1	2579.1	2422.7	2318.3	2255.8	2217.6	2196.7	2196.7
27.5°	2742.3	2780.6	2881.4	2742.3	2467.8	2255.8	2102.9	2043.8	2033.3	2015.9	2015.9
30°	2857.1	2888.4	2975.3	2662.4	2314.8	2036.8	1870.0	1842.1	1845.6	1828.2	1831.7
32.5°	2975.3	3006.6	3030.9	2544.3	2116.7	1790.1	1678.8	1657.9	1654.4	1640.6	1626.7
35°	3142.1	3187.3	3037.9	2384.4	1876.9	1585.0	1505.0	1484.2	1463.3	1414.6	1414.6
37.5°	3395.8	3444.5	3020.5	2186.3	1630.2	1425.1	1352.0	1324.3	1289.5	1240.8	1223.4
40°	3743.4	3743.4	2982.2	1963.8	1432.0	1296.5	1226.9	1192.1	1154.0	1105.3	1094.9
42.5°	4153.5	4056.2	2923.1	1737.9	1286.1	1209.5	1147.0	1108.8	1063.6	1008.0	1001.1
45°	4633.1	4369.0	2839.7	1536.3	1178.2	1157.5	1119.2	1053.1	976.7	917.6	907.2
47.5°	5098.9	4650.5	2759.7	1393.8	1087.9	1136.6	1105.3	994.1	889.8	806.4	796.0
50°	5609.9	4900.9	2665.9	1275.6	1018.3	1122.7	1087.9	907.2	792.5	733.4	726.4
52.5°	6120.8	5154.5	2565.2	1150.5	959.3	1094.9	1046.2	844.7	789.0	709.0	698.7
55°	6659.5	5450.0	2446.9	1011.5	889.8	1039.2	990.6	841.2	813.3	709.0	684.8
57.5°	7184.4	5776.7	2255.8	875.9	813.3	955.8	969.8	820.3	761.2	702.2	674.3
60°	7764.8	6124.3	1939.5	761.2	747.3	886.3	941.9	775.1	702.2	681.3	667.4
62.5°	8230.6	6437.1	1515.4	681.3	691.7	830.7	907.2	747.3	677.8	660.4	656.9
65°	8432.2	6444.1	1087.9	611.7	636.1	778.6	872.4	722.9	656.9	650.0	646.5
67.5°	8220.1	6089.5	764.7	545.7	576.9	729.9	827.3	698.7	636.1	639.5	632.6
70°	7535.5	5342.3	559.6	483.1	521.4	677.8	778.6	667.4	611.7	618.7	608.2
72.5°	6305.1	4163.9	448.4	431.0	476.2	622.2	729.9	632.6	573.5	576.9	556.1
75°	4657.5	2759.7	375.4	385.9	424.0	570.0	667.4	587.4	531.8	517.9	504.0
77.5°	2770.2	1418.1	309.3	337.2	378.9	507.5	597.8	531.8	486.6	462.3	451.8
80°	1143.6	573.5	253.7	285.0	330.2	451.8	528.4	465.7	434.4	410.1	396.2
82.5°	455.3	281.5	201.6	232.9	278.0	392.7	462.3	410.1	378.9	361.5	323.3
85°	173.8	139.0	135.5	163.4	208.6	302.4	382.4	344.1	319.8	274.6	264.1
87.5°	69.6	62.6	62.6	79.9	118.2	191.2	274.6	239.8	250.2	198.1	201.6
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)