

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: P231100

Luminaire Tested: **ARCH-M-AF48-160-D-U-T2R-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P231100  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29623)  
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-T2R-HSS  
Description: ARCHEON-M ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1030mA LIGHT ENGINES WITH 24 LEDS AND TYPE II ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15477.2 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Luminous Opening: Rectangular (W 0.75' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B1 - U0 - G2

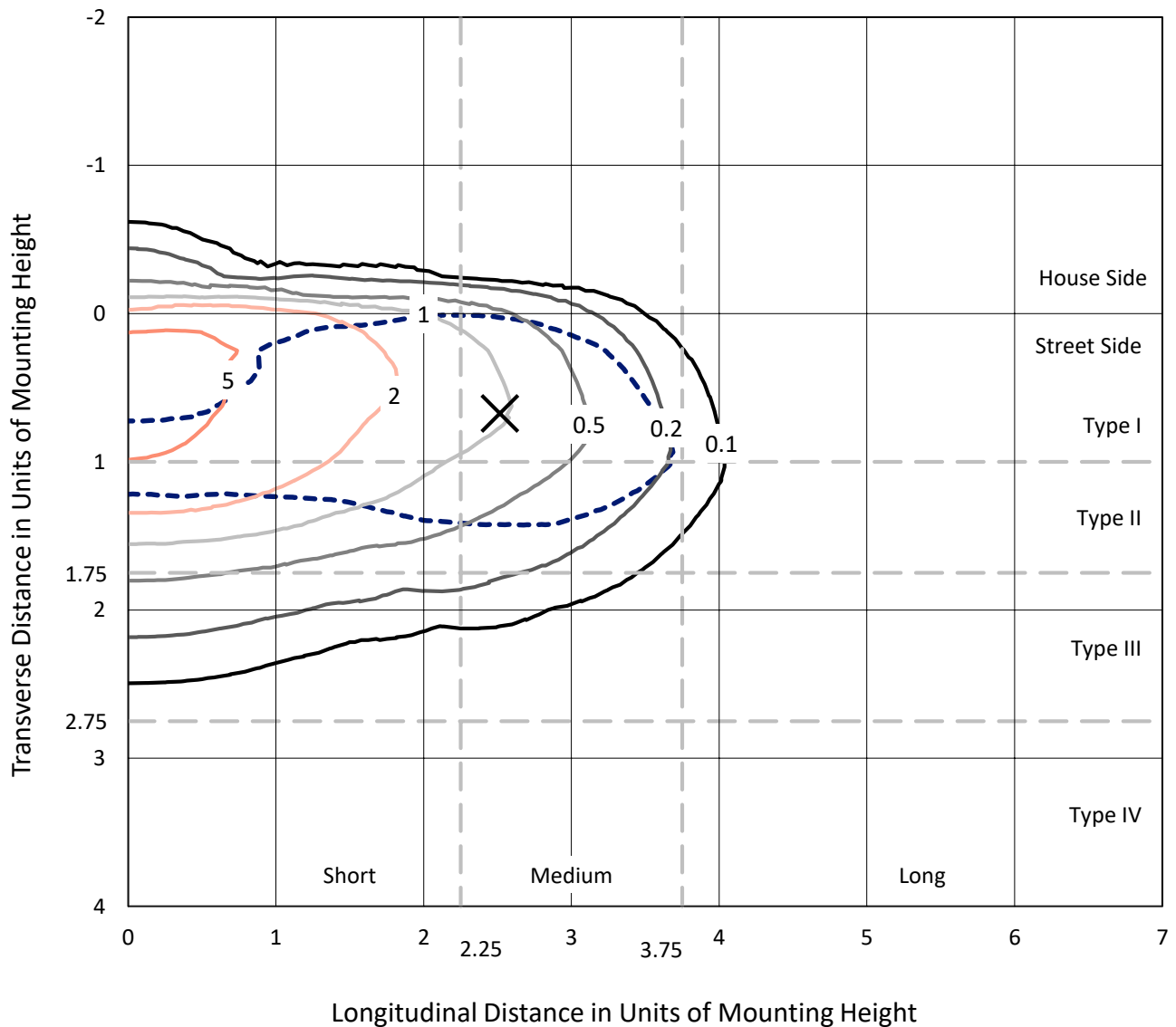
Input Watts (W): 161  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

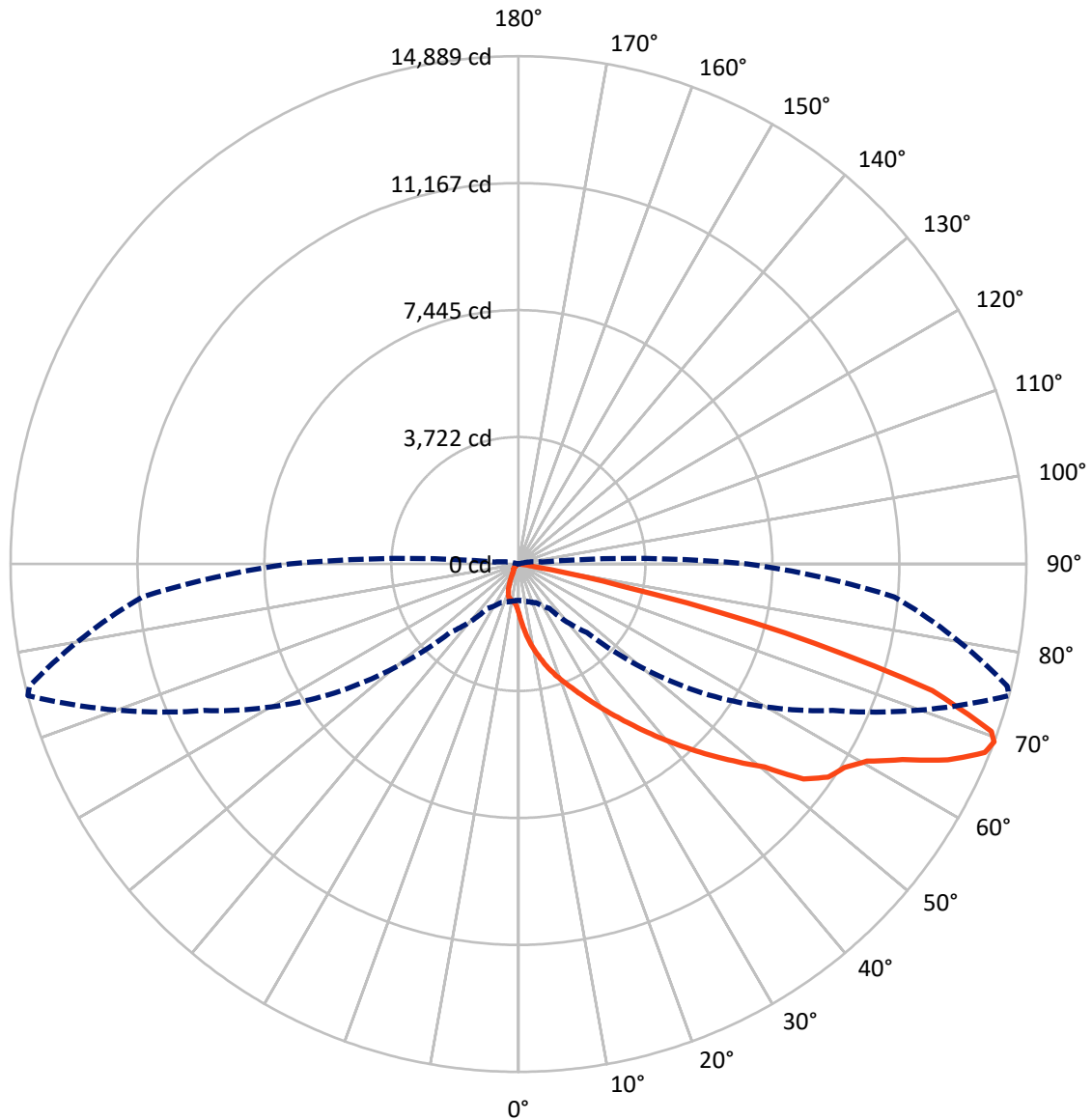
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.3 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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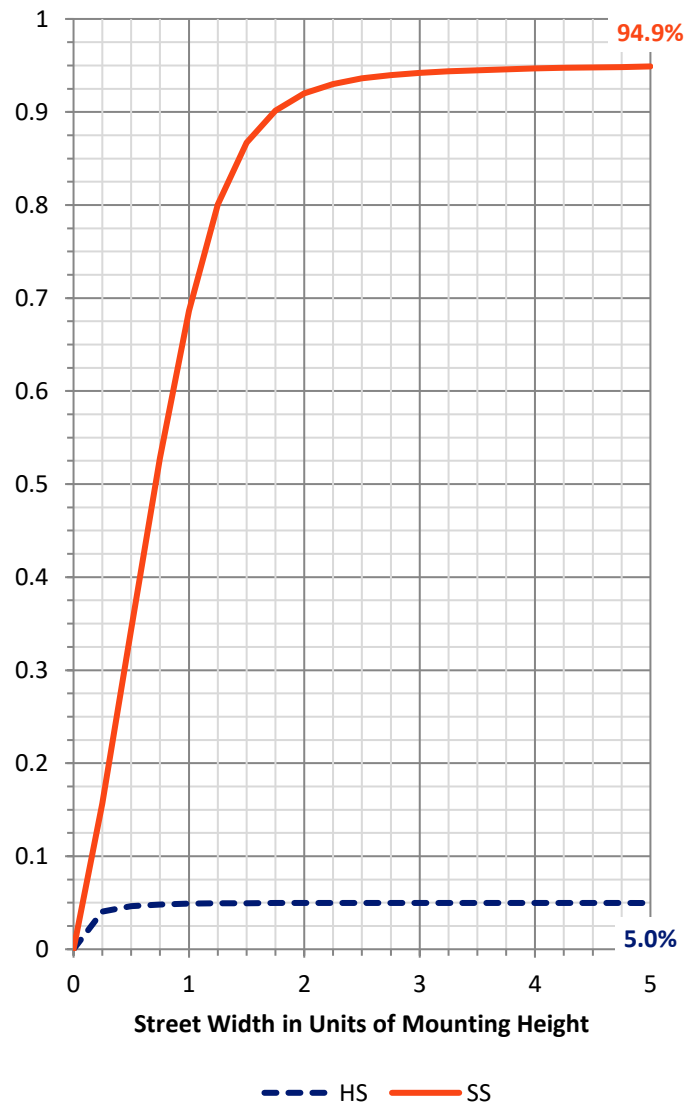
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	772.2	0.0	772.2
	% Fixture	5.0	0.0	5.0
<b>Street Side</b>	Lumens	14705.0	0.0	14705.0
	% Fixture	95.0	0.0	95.0
<b>Total</b>	Lumens	15477.2	0.0	15477.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.9	1.1
10°-20°	600.4	3.9
20°-30°	1146.1	7.4
30°-40°	2055.9	13.3
40°-50°	3149.9	20.4
50°-60°	3660.9	23.7
60°-70°	3241.8	20.9
70°-80°	1398.3	9.0
80°-90°	56.0	0.4
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°	15477.2	100.0
0°-180°	15477.2	100.0



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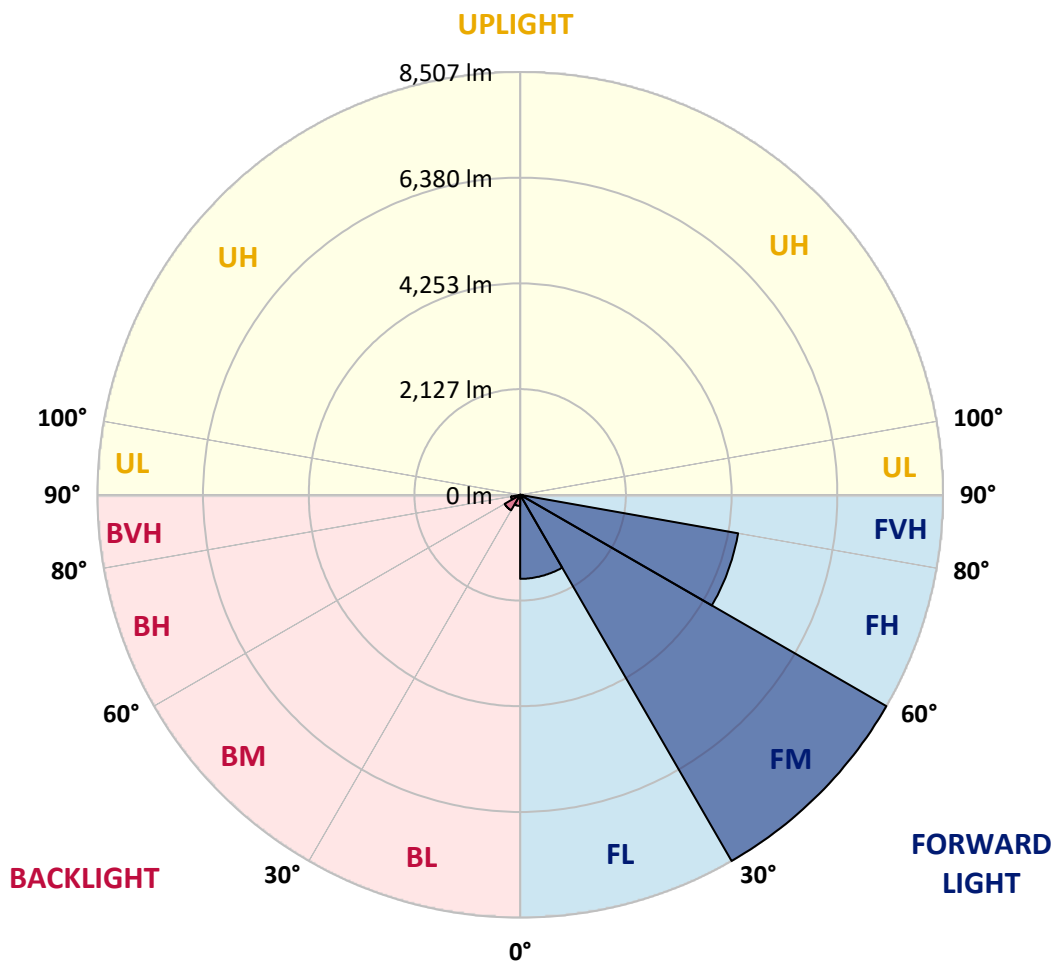
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1690.1	10.9			
FM (30°-60°)	8506.7	55.0			
FH (60°-80°)	4453.0	28.8			G2/5000
FVH (80°-90°)	55.2	0.4			G1/100
BL (0°-30°)	224.3	1.4	B1/500		
BM (30°-60°)	360.0	2.3	B1/1000		
BH (60°-80°)	187.1	1.2	B1/500		G1/500
BVH (80°-90°)	0.8	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°	75°	76°	85°
0°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	2372.4	2349.0	2325.7	2298.9	2238.7	2135.2	2004.9	1864.5	1690.7	1660.7	1520.3
5°	2880.3	2870.3	2846.9	2810.1	2743.3	2629.7	2482.7	2275.6	1984.8	1934.7	1637.3
7.5°	3237.8	3231.2	3211.1	3167.7	3107.5	2993.9	2840.2	2616.3	2278.8	2222.1	1784.3
10°	3558.6	3555.3	3538.6	3498.5	3438.3	3314.7	3151.0	2917.0	2559.5	2496.0	1954.8
12.5°	3849.4	3852.6	3846.0	3825.9	3782.5	3665.5	3478.4	3224.4	2830.2	2760.0	2158.5
15°	4019.7	4029.7	4056.5	4096.6	4109.9	4016.4	3822.6	3541.9	3107.5	3047.4	2392.5
17.5°	3962.9	3972.9	4056.5	4193.5	4323.8	4337.2	4163.4	3842.6	3381.5	3321.4	2623.1
20°	3825.9	3839.3	3926.2	4113.3	4367.3	4544.4	4474.2	4170.1	3642.1	3568.7	2843.6
22.5°	3979.6	3979.6	4006.4	4119.9	4350.5	4627.8	4721.4	4497.5	3909.4	3819.3	3064.0
25°	4507.5	4497.5	4440.7	4394.0	4467.4	4714.8	4908.5	4831.7	4223.6	4119.9	3298.0
27.5°	5175.8	5222.7	5115.7	4945.3	4778.2	4885.2	5075.6	5162.5	4571.1	4464.2	3538.6
30°	5924.3	5944.4	5817.4	5590.2	5296.1	5192.6	5272.8	5446.5	4948.6	4831.7	3789.2
32.5°	6599.3	6582.6	6475.7	6238.5	5874.2	5650.4	5526.7	5673.7	5359.6	5225.9	4046.5
35°	7197.4	7210.8	7080.5	6806.5	6449.0	6211.7	5917.7	5931.1	5820.8	5667.0	4343.9
37.5°	7735.3	7712.0	7588.4	7314.4	6990.2	6733.0	6422.2	6198.4	6325.3	6164.9	4678.0
40°	8173.1	8149.7	8019.4	7752.1	7448.0	7237.5	6993.6	6555.9	6856.6	6672.8	5035.5
42.5°	8520.7	8493.9	8383.6	8126.3	7832.3	7645.1	7528.2	6997.0	7424.7	7240.9	5436.5
45°	8691.0	8667.7	8600.8	8407.0	8149.7	7986.0	8042.8	7504.9	8032.8	7879.1	5877.6
47.5°	8490.6	8480.6	8557.4	8523.9	8376.9	8290.1	8487.2	8059.5	8670.9	8520.7	6385.5
50°	7882.4	7899.1	8122.9	8400.4	8470.5	8574.1	8851.4	8644.2	9356.0	9195.6	6970.2
52.5°	6382.1	6495.7	7170.7	7839.0	8356.9	8747.9	9279.1	9479.6	10472.0	10314.9	7882.4
55°	4764.9	4811.7	5546.7	6689.5	7899.1	8734.5	9596.6	9970.8	11023.3	10862.9	8122.9
57.5°	3779.2	3795.9	4160.0	5326.2	6956.9	8433.7	9763.7	10147.9	11263.9	11130.3	8480.6
60°	2967.2	2987.2	3251.2	4053.1	5630.3	7621.8	9523.1	10301.6	11735.1	11628.2	9105.4
62.5°	2308.9	2329.0	2489.4	2960.5	4223.6	6372.1	9038.6	10548.9	12630.6	12580.5	10127.8
65°	1787.7	1794.4	1904.6	2125.2	2983.8	5018.8	8447.1	10779.4	13840.1	13796.7	10956.5
67.5°	1319.8	1329.8	1406.8	1543.7	2014.9	3605.4	7478.1	10602.4	14752.4	14625.4	11257.3
69°	1065.9	1075.9	1142.7	1253.0	1590.5	2840.2	6592.6	10164.6	14889.4	14769.1	11066.8
70°	912.2	918.9	985.7	1079.3	1356.6	2412.5	5891.0	9787.0	14708.9	14592.0	10632.4
72.5°	584.7	618.2	685.0	745.1	898.9	1597.2	3976.3	8116.3	12690.7	12490.2	8326.8
75°	324.1	334.1	454.4	527.9	598.1	1039.2	2212.0	5062.3	8072.8	7932.6	4454.1
77.5°	267.3	273.9	320.8	401.0	401.0	581.4	835.3	1994.9	3070.8	2770.0	1206.3
80°	187.1	193.8	244.0	263.9	287.3	327.4	270.7	437.7	474.4	421.0	180.4
82.5°	130.3	137.0	167.0	217.2	230.6	153.7	100.2	130.3	137.0	137.0	70.2
85°	23.4	33.5	123.7	180.4	137.0	46.7	56.8	46.7	43.5	46.7	16.7
87.5°	0.0	0.0	76.8	86.8	73.6	20.0	23.4	16.7	10.0	13.4	6.6
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°	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1	1440.1
2.5°	1450.1	1380.0	1259.8	1172.8	1099.4	1042.5	1019.2	982.3	955.6	969.0	952.3
5°	1490.2	1366.7	1172.8	1049.2	962.3	888.8	828.7	781.8	745.1	738.5	731.8
7.5°	1553.8	1376.7	1122.7	969.0	838.7	725.1	631.6	561.4	507.9	507.9	487.8
10°	1640.6	1403.4	1092.6	888.8	695.0	541.3	447.7	380.9	354.1	350.9	344.1
12.5°	1760.9	1453.5	1069.3	785.2	541.3	394.2	337.5	314.0	304.0	300.7	297.4
15°	1924.7	1527.1	1042.5	658.3	411.0	324.1	300.7	280.7	270.7	267.3	263.9
17.5°	2081.7	1593.9	985.7	527.9	334.1	294.0	267.3	250.6	237.2	233.9	233.9
20°	2228.7	1650.6	888.8	411.0	300.7	263.9	237.2	217.2	203.9	200.5	200.5
22.5°	2382.5	1697.5	768.5	334.1	273.9	233.9	207.1	187.1	173.8	170.4	167.0
25°	2546.1	1730.8	631.6	297.4	247.2	207.1	177.1	160.4	150.4	147.0	143.7
27.5°	2723.3	1744.2	501.2	270.7	217.2	180.4	153.7	137.0	130.3	126.9	126.9
30°	2883.6	1730.8	387.6	240.6	190.5	157.0	133.7	120.3	113.6	110.3	110.3
32.5°	3050.7	1697.5	310.8	213.9	167.0	133.7	113.6	103.6	100.2	96.9	96.9
35°	3227.8	1654.0	267.3	190.5	143.7	116.9	100.2	93.6	90.2	86.8	86.8
37.5°	3435.0	1600.5	244.0	170.4	126.9	103.6	86.8	83.6	80.2	80.2	80.2
40°	3668.9	1533.7	227.2	153.7	113.6	90.2	76.8	73.6	70.2	70.2	70.2
42.5°	3916.2	1456.9	210.5	137.0	100.2	76.8	66.8	66.8	63.5	63.5	60.1
45°	4193.5	1380.0	193.8	120.3	86.8	66.8	56.8	53.5	53.5	50.1	50.1
47.5°	4520.9	1309.8	177.1	106.9	76.8	56.8	50.1	46.7	43.5	40.1	40.1
50°	4982.1	1303.1	157.0	93.6	70.2	46.7	40.1	36.7	33.5	30.1	30.1
52.5°	5439.8	1243.0	133.7	76.8	56.8	40.1	30.1	26.7	23.4	23.4	20.0
55°	5543.4	1142.7	116.9	66.8	43.5	30.1	23.4	16.7	16.7	13.4	13.4
57.5°	5770.7	1096.0	100.2	53.5	33.5	23.4	13.4	10.0	10.0	10.0	10.0
60°	6218.4	1082.6	86.8	46.7	23.4	16.7	10.0	6.6	6.6	3.4	3.4
62.5°	6836.6	1069.3	73.6	40.1	16.7	10.0	6.6	3.4	0.0	0.0	0.0
65°	7177.3	979.1	60.1	30.1	13.4	10.0	3.4	0.0	0.0	0.0	0.0
67.5°	7087.1	808.6	53.5	20.0	10.0	6.6	3.4	0.0	0.0	0.0	0.0
69°	6709.5	681.7	43.5	16.7	10.0	6.6	3.4	0.0	0.0	0.0	0.0
70°	6255.1	588.1	40.1	13.4	6.6	3.4	3.4	0.0	0.0	0.0	0.0
72.5°	4440.7	307.4	26.7	10.0	6.6	3.4	0.0	0.0	0.0	0.0	0.0
75°	2075.1	137.0	16.7	6.6	3.4	3.4	0.0	0.0	0.0	0.0	0.0
77.5°	457.8	63.5	10.0	6.6	3.4	0.0	0.0	0.0	0.0	0.0	0.0
80°	86.8	23.4	6.6	3.4	3.4	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	30.1	10.0	3.4	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	10.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)