

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: INVUE

Report Number: P565347

Luminaire Tested: **MSA-SA4D-835-U-T1**

Issue Date: 8/19/2021

Test Information

Test Method: LM-79-08
Report Number: P565347
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2108-334-1)
Test Lab: INNOVATIONS CENTER
Issue Date: 8/19/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-835-U-T1
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19609 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B4 - U0 - G4

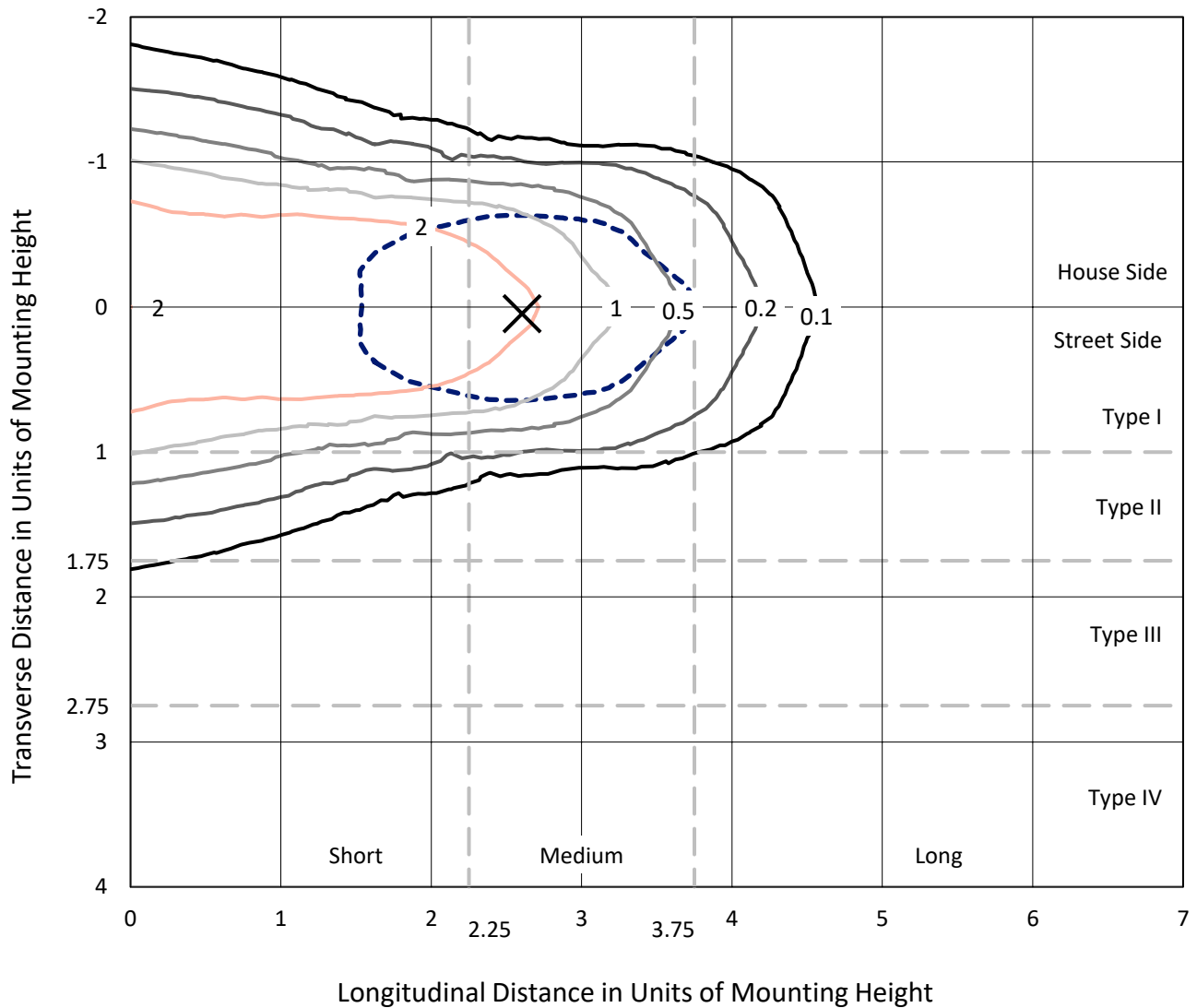
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

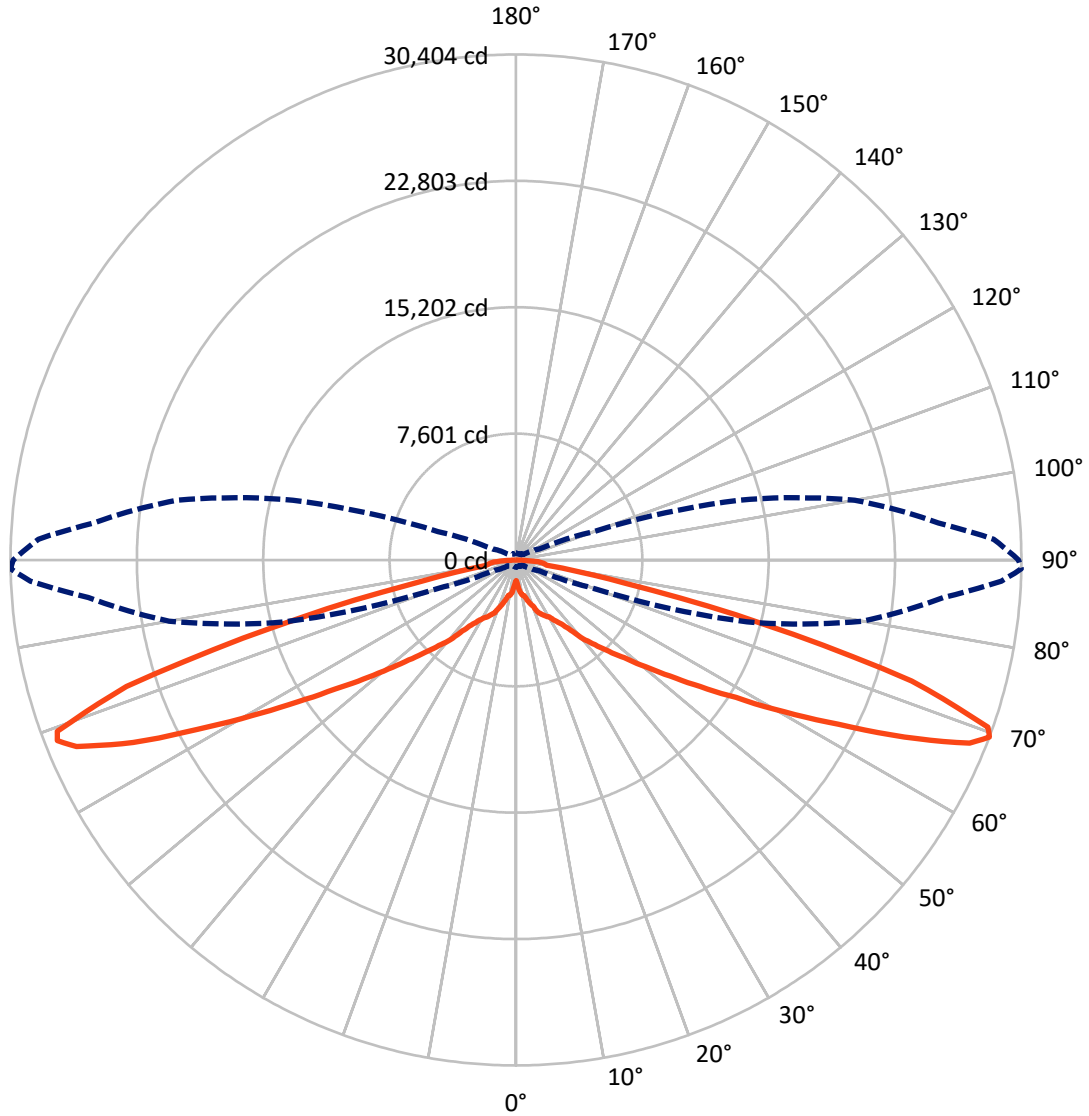
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type I - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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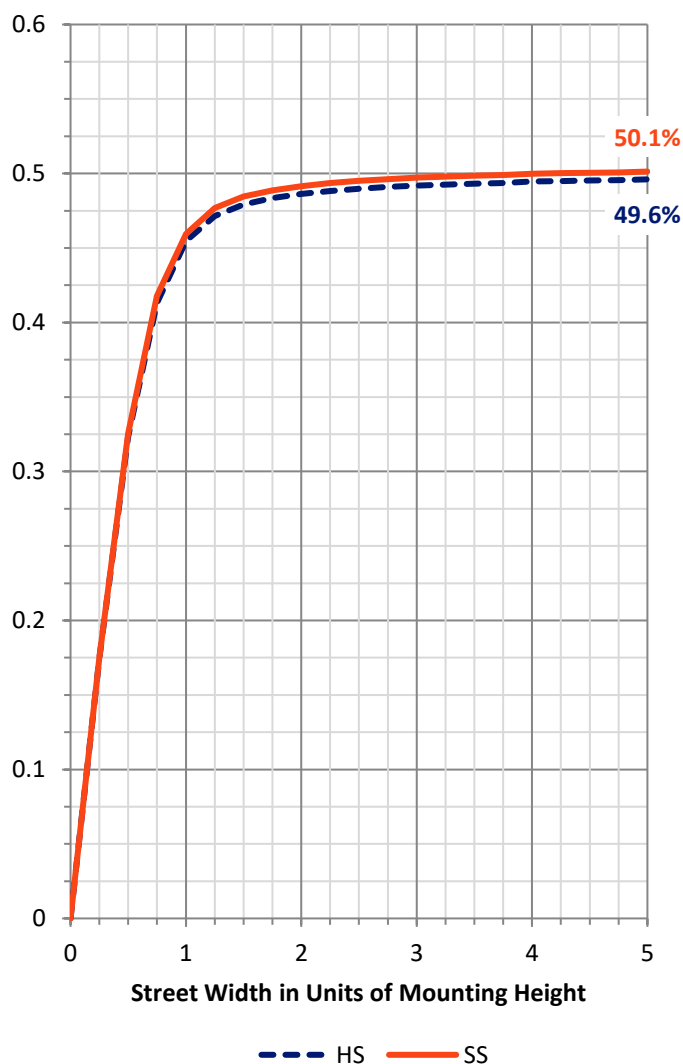
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	9804.3	0.0	9804.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9804.7	0.0	9804.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	19609.0	0.0	19609.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.1	0.8
10°-20°	719.0	3.7
20°-30°	1434.5	7.3
30°-40°	2169.6	11.1
40°-50°	3149.4	16.1
50°-60°	4137.7	21.1
60°-70°	5047.5	25.7
70°-80°	2551.9	13.0
80°-90°	243.2	1.2
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°	19609.0	100.0
0°-180°	19609.0	100.0

Coefficient of Utilization

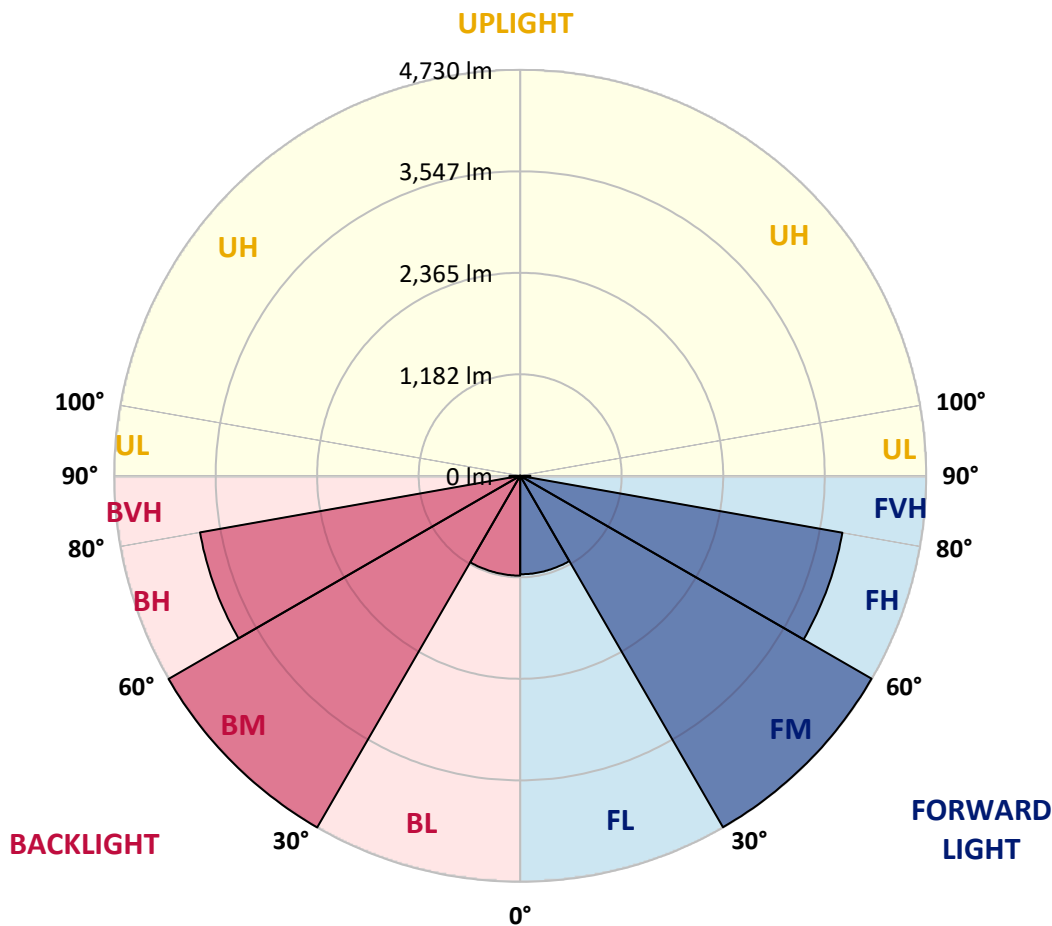


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1146.7	5.8			
FM (30°-60°)	4726.8	24.1			
FH (60°-80°)	3811.8	19.4			G2/5000
FVH (80°-90°)	119.3	0.6			G2/225
BL (0°-30°)	1162.9	5.9	B3/2500		
BM (30°-60°)	4730.0	24.1	B3/5000		
BH (60°-80°)	3787.5	19.3	B4/5000		G4/5000
BVH (80°-90°)	123.9	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4
 Type I Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	80°
0°	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0
2.5°	1457.6	1289.5	1274.9	1234.7	1264.0	1274.9	1249.3	1212.8	1253.0	1274.9	1234.7
5°	1837.5	1589.1	1505.1	1435.6	1296.8	1238.4	1296.8	1446.6	1464.9	1556.2	1530.6
7.5°	2023.8	1983.6	1877.7	1647.5	1424.7	1300.5	1457.6	1673.1	1782.7	1870.4	1961.7
10°	2162.6	2140.7	1954.4	1790.0	1698.7	1706.0	1709.6	1779.0	1874.0	2020.1	2071.3
12.5°	2195.5	2188.2	2217.4	2180.9	2188.2	2228.4	2188.2	2169.9	2224.7	2272.2	2221.0
15°	2407.4	2403.7	2414.7	2422.0	2568.1	2630.2	2568.1	2513.3	2473.1	2432.9	2516.9
17.5°	2553.5	2535.2	2538.9	2608.3	2772.7	2944.4	2911.5	2838.4	2747.1	2801.9	2871.3
20°	2633.8	2601.0	2622.9	2652.1	2929.7	3119.7	3141.6	3043.0	2988.2	3057.6	3116.0
22.5°	2710.6	2659.4	2582.7	2611.9	2867.6	3141.6	3247.6	3222.0	3262.2	3284.1	3273.1
25°	2619.2	2652.1	2568.1	2652.1	2911.5	3163.5	3375.4	3525.2	3528.8	3517.9	3598.2
27.5°	2564.4	2538.9	2396.4	2611.9	2827.5	2984.5	3525.2	3777.2	3854.0	3620.2	3777.2
30°	2469.5	2509.6	2316.0	2495.0	2769.0	3032.0	3696.9	4058.5	3945.3	3916.1	3952.6
32.5°	2411.0	2385.4	2294.1	2392.7	2601.0	3174.5	3806.5	4222.9	4365.4	4296.0	4288.7
35°	2316.0	2334.3	2191.8	2297.8	2590.0	3053.9	3879.5	4635.7	4854.9	4800.1	4756.3
37.5°	2330.6	2268.5	2166.3	2243.0	2520.6	3119.7	4062.2	5033.9	5380.9	5410.2	5209.2
40°	2221.0	2184.5	2031.1	2158.9	2389.1	3079.5	4106.0	5486.9	6075.0	6206.5	5917.9
42.5°	2064.0	2016.5	1928.8	2071.3	2312.4	2882.2	4168.1	6031.2	6780.0	7054.0	6791.0
45°	1837.5	1775.4	1731.5	1921.5	2144.3	2831.1	4102.4	6484.1	7455.9	7832.1	7824.8
47.5°	1563.5	1523.3	1501.4	1702.3	2005.5	2703.2	3967.2	6769.1	7927.1	8891.5	8745.4
50°	1253.0	1223.8	1220.1	1432.0	1771.7	2440.2	3813.8	6911.6	8643.1	9863.2	9991.1
52.5°	1004.6	982.7	979.0	1150.7	1483.1	2085.9	3492.3	7021.1	9326.2	10966.4	11624.0
55°	785.4	763.5	767.1	909.6	1179.9	1706.0	3002.8	6896.9	9925.3	12095.2	13340.9
57.5°	642.9	621.0	624.7	705.0	902.3	1304.1	2392.7	6626.6	10195.6	13490.7	15342.8
60°	566.2	544.3	533.3	569.9	694.1	982.7	1779.0	5574.5	10239.5	14648.7	17516.3
62.5°	526.0	504.1	493.2	504.1	573.5	752.5	1282.2	4416.5	9987.4	15638.7	19507.2
65°	489.5	471.2	456.6	467.6	504.1	599.1	935.2	3024.7	8668.7	16091.6	20953.8
67.5°	449.3	434.7	420.1	434.7	460.3	504.1	727.0	1914.2	6498.8	15503.5	21556.6
69°	427.4	405.5	398.2	409.1	434.7	463.9	628.3	1527.0	4942.6	14385.7	21191.3
70°	405.5	390.9	379.9	398.2	420.1	442.0	566.2	1296.8	3875.9	12950.0	20285.3
72.5°	358.0	347.0	339.7	358.0	376.3	390.9	463.9	924.2	2246.6	8818.4	16088.0
75°	314.2	303.2	299.5	314.2	328.8	336.1	390.9	635.6	1326.1	4613.8	9651.3
77.5°	263.0	248.4	252.1	270.3	281.3	284.9	328.8	456.6	781.8	2089.5	4471.3
80°	193.6	193.6	208.2	222.8	222.8	222.8	263.0	332.4	474.9	960.7	1855.7
82.5°	135.2	138.8	142.5	164.4	168.0	153.4	200.9	241.1	295.9	420.1	642.9
85°	76.7	80.4	84.0	98.6	102.3	91.3	131.5	153.4	171.7	208.2	336.1
87.5°	29.2	32.9	43.8	51.1	54.8	40.2	62.1	73.1	73.1	87.7	149.8
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):

	85°	87.5°	89°	90°	92.5°	95°	100°	105°	110°	115°	125°
0°	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0
2.5°	1318.7	1344.3	1391.8	1402.8	1362.6	1318.7	1220.1	1282.2	1307.8	1260.3	1274.9
5°	1632.9	1687.7	1746.2	1676.7	1632.9	1603.7	1556.2	1559.8	1534.3	1450.3	1311.4
7.5°	1987.3	1925.2	1969.0	2016.5	1947.1	1950.7	1994.6	1903.2	1833.8	1691.4	1432.0
10°	2151.6	2151.6	2162.6	2162.6	2133.4	2133.4	2129.7	1983.6	1899.6	1837.5	1764.4
12.5°	2162.6	2158.9	2202.8	2169.9	2177.2	2184.5	2202.8	2268.5	2246.6	2166.3	2232.0
15°	2465.8	2451.2	2465.8	2462.1	2473.1	2506.0	2491.4	2476.8	2480.4	2538.9	2637.5
17.5°	2750.7	2758.0	2743.4	2769.0	2769.0	2790.9	2842.1	2790.9	2747.1	2856.7	2933.4
20°	3079.5	3053.9	2995.5	3039.3	3050.3	3053.9	3138.0	3075.9	3013.8	3053.9	3145.3
22.5°	3411.9	3408.3	3415.6	3419.2	3433.9	3379.1	3265.8	3247.6	3287.7	3232.9	3243.9
25°	3616.5	3620.2	3638.4	3642.1	3580.0	3638.4	3678.6	3558.1	3558.1	3547.1	3474.0
27.5°	3864.9	3810.1	3832.0	3861.3	3835.7	3850.3	3802.8	3627.5	3813.8	3839.3	3547.1
30°	4033.0	4007.4	3981.8	4011.0	4036.6	4102.4	3967.2	3948.9	3963.5	4098.7	3715.1
32.5°	4387.3	4423.8	4376.3	4328.9	4376.3	4361.7	4303.3	4277.7	4460.4	4281.4	3832.0
35°	4716.1	4730.7	4734.3	4727.0	4756.3	4705.1	4705.1	4800.1	4854.9	4661.3	3868.6
37.5°	5508.8	5457.6	5351.7	5300.6	5391.9	5468.6	5242.1	5355.4	5333.4	5004.7	4142.5
40°	6078.7	6195.6	6228.4	6213.8	6228.4	6009.3	6056.7	6140.8	6042.1	5497.8	4047.6
42.5°	6911.6	6984.6	6959.0	6926.2	6940.8	6900.6	6758.1	7068.6	6714.3	6049.4	4193.7
45°	7671.4	7835.8	7846.7	7733.5	7824.8	7682.3	7740.8	7850.4	7492.4	6462.2	4153.5
47.5°	8577.3	8917.1	8789.2	8789.2	8880.5	8573.7	8712.5	8858.6	7908.8	6739.9	3934.3
50°	9918.0	10100.7	10093.3	10060.5	10100.7	9936.3	9914.4	9896.1	8548.1	7002.9	3799.2
52.5°	11434.0	11682.4	11587.4	11624.0	11678.8	11368.3	11613.0	10944.5	9348.1	7101.5	3492.3
55°	13370.1	13541.8	13446.8	13260.5	13508.9	13311.7	13392.0	12087.9	9903.4	6820.2	2980.9
57.5°	15675.2	15762.9	15605.8	15587.5	15751.9	15540.0	15404.9	13373.8	10192.0	6608.3	2381.8
60°	18367.5	18641.5	18542.8	18385.8	18535.5	18349.2	17326.4	14466.0	10133.5	5618.4	1844.8
62.5°	21596.8	21874.4	21764.8	21658.9	21753.9	21268.0	19131.0	15328.2	9870.5	4453.1	1348.0
65°	24263.5	25516.5	25680.9	25684.5	25224.2	24099.1	20570.3	15664.2	8482.4	3108.7	986.3
67.5°	26017.0	28621.6	29432.5	29140.3	28084.6	25516.5	21151.1	15006.7	6549.9	1965.3	737.9
69°	25816.0	29231.6	30404.3	30239.9	28756.7	25494.6	20698.1	13899.8	5004.7	1563.5	624.7
70°	24888.2	28731.2	30123.0	30196.0	28329.3	24515.6	19890.8	12628.6	4047.6	1333.4	573.5
72.5°	19861.6	23675.4	24899.1	25377.7	23525.6	19631.4	16310.8	8909.8	2345.3	931.5	463.9
75°	12303.4	14356.4	15372.0	15649.6	14528.1	12226.7	9899.7	4957.2	1428.3	657.5	390.9
77.5°	5516.1	6111.5	6696.0	6696.0	6257.7	5581.8	4537.1	2396.4	811.0	467.6	328.8
80°	1848.4	1917.8	1866.7	1885.0	1811.9	1742.5	1822.9	1033.8	500.5	350.7	266.7
82.5°	1256.6	1578.1	1676.7	1676.7	1574.5	1242.0	701.4	474.9	306.9	252.1	204.6
85°	1022.9	1249.3	1340.7	1380.8	1300.5	1048.4	369.0	230.1	182.7	160.7	138.8
87.5°	343.4	321.5	303.2	295.9	310.5	325.1	182.7	98.6	84.0	76.7	73.1
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):

	135°	145°	155°	165°	175°	180°
0°	1242.0	1242.0	1242.0	1242.0	1242.0	1242.0
2.5°	1300.5	1256.6	1274.9	1293.2	1424.7	1523.3
5°	1293.2	1355.3	1494.1	1669.4	1749.8	1947.1
7.5°	1329.7	1556.2	1815.6	1998.2	2071.3	2133.4
10°	1779.0	1819.2	1906.9	2082.2	2228.4	2253.9
12.5°	2297.8	2286.8	2224.7	2305.1	2232.0	2283.1
15°	2703.2	2582.7	2498.7	2487.7	2462.1	2462.1
17.5°	2926.1	2820.1	2703.2	2674.0	2597.3	2659.4
20°	3189.1	3006.5	2714.2	2685.0	2659.4	2601.0
22.5°	3138.0	2955.3	2652.1	2615.6	2750.7	2743.4
25°	3200.1	2955.3	2666.7	2626.5	2688.6	2688.6
27.5°	3046.6	2845.7	2637.5	2396.4	2586.4	2630.2
30°	3006.5	2780.0	2538.9	2323.3	2516.9	2476.8
32.5°	3218.3	2615.6	2378.1	2312.4	2454.8	2425.6
35°	3053.9	2586.4	2337.9	2217.4	2385.4	2356.2
37.5°	3123.3	2549.8	2268.5	2166.3	2301.4	2345.3
40°	3108.7	2378.1	2188.2	2056.7	2191.8	2213.7
42.5°	2864.0	2246.6	2053.0	1921.5	1990.9	2064.0
45°	2790.9	2166.3	1921.5	1738.8	1742.5	1826.5
47.5°	2655.8	1983.6	1680.4	1512.4	1512.4	1581.8
50°	2429.3	1738.8	1406.4	1253.0	1249.3	1304.1
52.5°	2093.2	1501.4	1187.2	1019.2	1008.2	1063.0
55°	1713.3	1209.2	935.2	825.6	803.7	825.6
57.5°	1333.4	942.5	737.9	650.2	646.6	664.9
60°	1033.8	737.9	588.1	537.0	544.3	573.5
62.5°	781.8	588.1	500.5	482.2	493.2	522.4
65°	621.0	507.8	456.6	445.7	456.6	485.9
67.5°	504.1	460.3	423.8	409.1	416.4	445.7
69°	463.9	434.7	405.5	387.2	394.5	416.4
70°	442.0	420.1	390.9	372.6	379.9	401.8
72.5°	387.2	376.3	354.3	336.1	339.7	358.0
75°	339.7	332.4	317.8	295.9	295.9	317.8
77.5°	284.9	288.6	274.0	252.1	248.4	259.4
80°	226.5	233.8	226.5	204.6	197.3	197.3
82.5°	164.4	179.0	171.7	149.8	146.1	146.1
85°	102.3	113.2	109.6	95.0	95.0	84.0
87.5°	47.5	62.1	58.4	51.1	47.5	32.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)