

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: P565331

Luminaire Tested: **MSA-SA4D-830-U-T1**

Issue Date: 8/19/2021

Test Information

Test Method: LM-79-08
Report Number: P565331
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-830-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: 18901 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B4 - U0 - G4

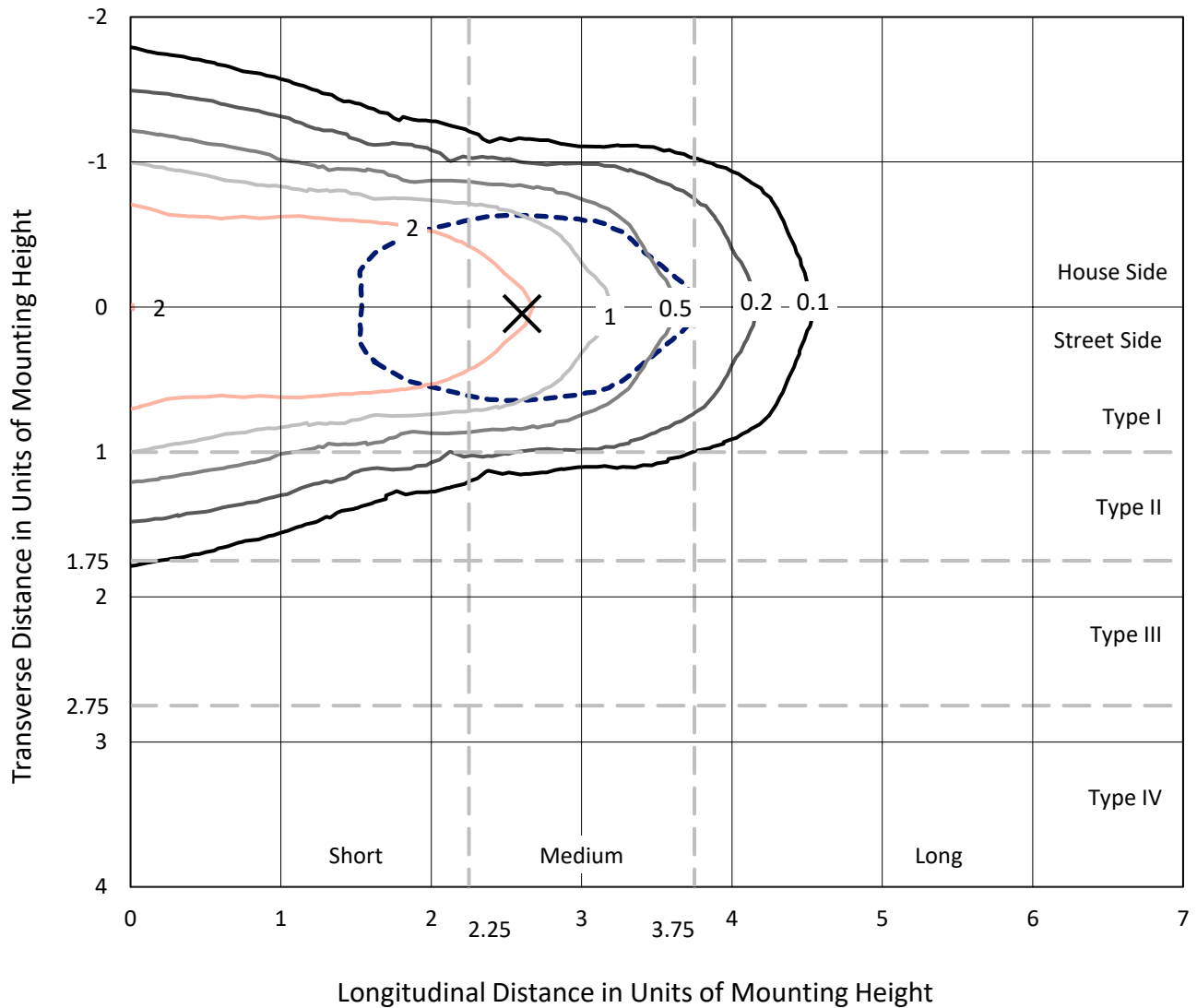
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

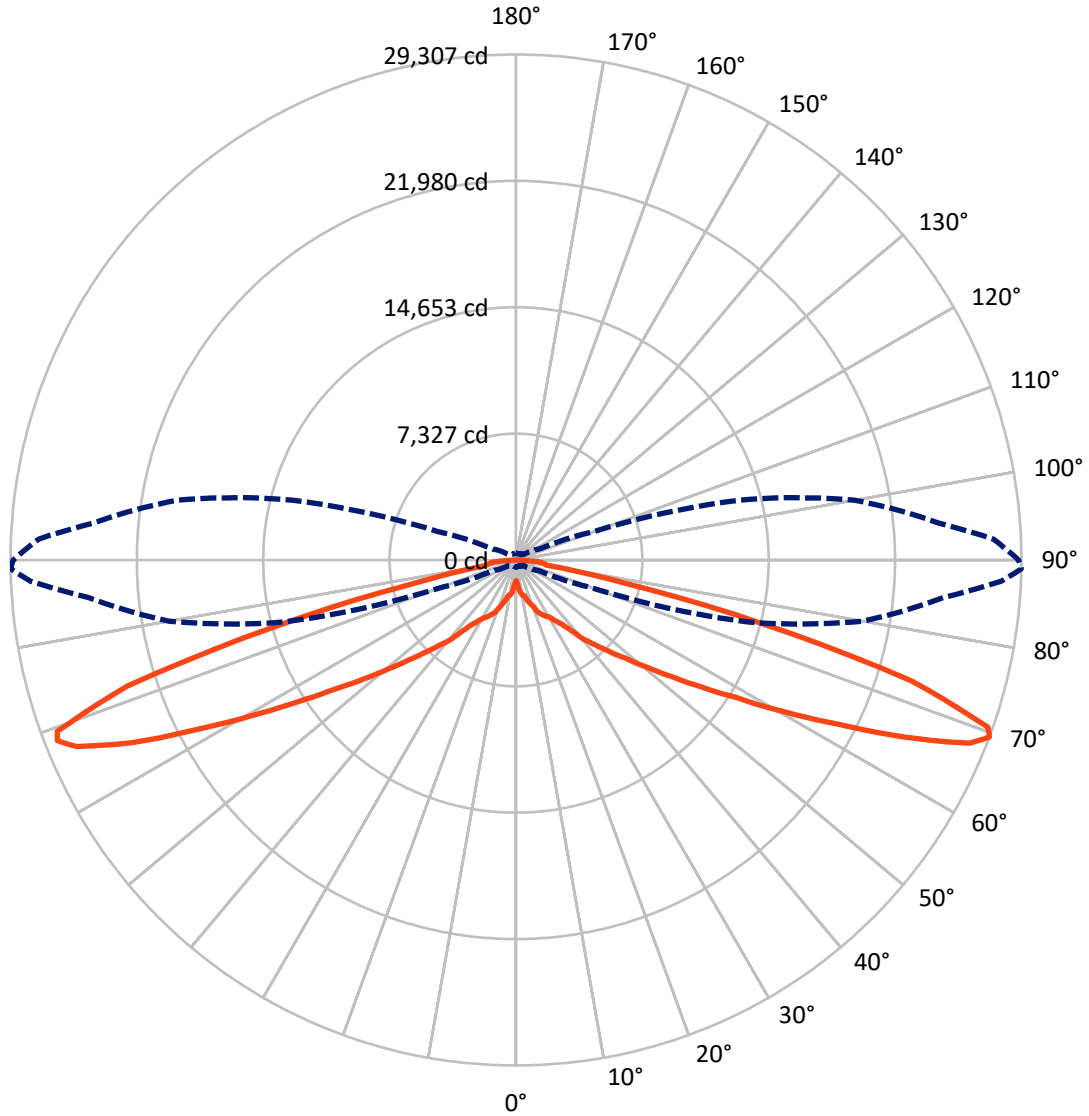
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	9450.3	0.0	9450.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9450.7	0.0	9450.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	18901.0	0.0	18901.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.4	0.8
10°-20°	693.1	3.7
20°-30°	1382.7	7.3
30°-40°	2091.3	11.1
40°-50°	3035.7	16.1
50°-60°	3988.4	21.1
60°-70°	4865.2	25.7
70°-80°	2459.7	13.0
80°-90°	234.5	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°	18901.0	100.0
0°-180°	18901.0	100.0

Coefficient of Utilization

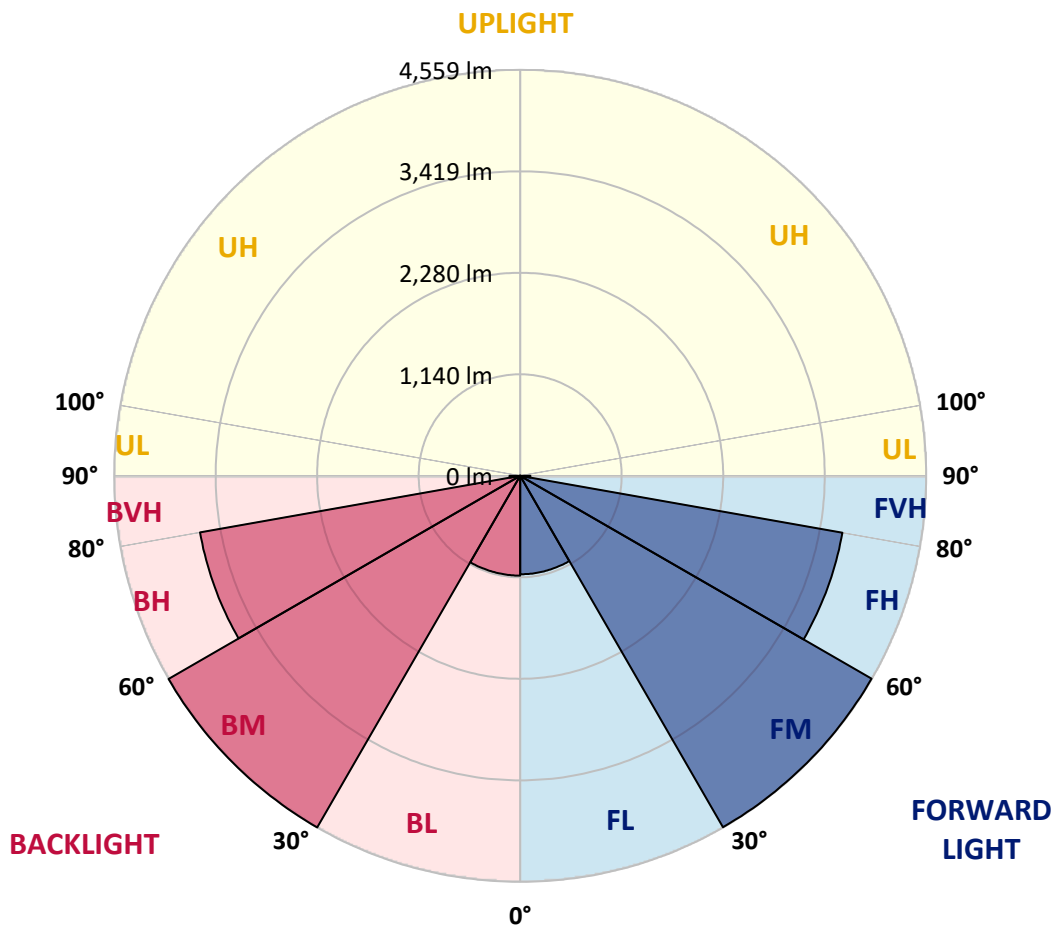


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1105.3	5.8			
FM (30°-60°)	4556.2	24.1			
FH (60°-80°)	3674.2	19.4			G2/5000
FVH (80°-90°)	115.0	0.6			G2/225
BL (0°-30°)	1120.9	5.9	B3/2500		
BM (30°-60°)	4559.2	24.1	B3/5000		
BH (60°-80°)	3650.8	19.3	B4/5000		G4/5000
BVH (80°-90°)	119.5	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°	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2
2.5°	1404.9	1243.0	1228.9	1190.1	1218.3	1228.9	1204.2	1169.0	1207.8	1228.9	1190.1
5°	1771.1	1531.7	1450.7	1383.8	1250.0	1193.7	1250.0	1394.4	1412.0	1500.0	1475.4
7.5°	1950.7	1912.0	1809.9	1588.0	1373.2	1253.5	1404.9	1612.7	1718.3	1802.8	1890.9
10°	2084.5	2063.4	1883.8	1725.4	1637.3	1644.4	1647.9	1714.8	1806.3	1947.2	1996.5
12.5°	2116.2	2109.2	2137.3	2102.1	2109.2	2147.9	2109.2	2091.6	2144.4	2190.2	2140.9
15°	2320.4	2316.9	2327.5	2334.5	2475.4	2535.2	2475.4	2422.5	2383.8	2345.1	2426.1
17.5°	2461.3	2443.7	2447.2	2514.1	2672.5	2838.0	2806.4	2735.9	2647.9	2700.7	2767.6
20°	2538.7	2507.1	2528.2	2556.4	2824.0	3007.1	3028.2	2933.1	2880.3	2947.2	3003.5
22.5°	2612.7	2563.4	2489.4	2517.6	2764.1	3028.2	3130.3	3105.6	3144.4	3165.5	3154.9
25°	2524.7	2556.4	2475.4	2556.4	2806.4	3049.3	3253.5	3397.9	3401.4	3390.9	3468.3
27.5°	2471.8	2447.2	2309.9	2517.6	2725.4	2876.8	3397.9	3640.9	3714.8	3489.5	3640.9
30°	2380.3	2419.0	2232.4	2404.9	2669.0	2922.5	3563.4	3912.0	3802.8	3774.7	3809.9
32.5°	2324.0	2299.3	2211.3	2306.3	2507.1	3059.9	3669.0	4070.4	4207.8	4140.9	4133.8
35°	2232.4	2250.0	2112.7	2214.8	2496.5	2943.7	3739.5	4468.3	4679.6	4626.8	4584.5
37.5°	2246.5	2186.6	2088.0	2162.0	2429.6	3007.1	3915.5	4852.1	5186.6	5214.8	5021.2
40°	2140.9	2105.6	1957.8	2081.0	2302.8	2968.3	3957.8	5288.8	5855.7	5982.4	5704.3
42.5°	1989.4	1943.7	1859.2	1996.5	2228.9	2778.2	4017.6	5813.4	6535.2	6799.3	6545.8
45°	1771.1	1711.3	1669.0	1852.1	2066.9	2728.9	3954.2	6250.0	7186.7	7549.3	7542.3
47.5°	1507.0	1468.3	1447.2	1640.9	1933.1	2605.6	3824.0	6524.7	7640.9	8570.5	8429.6
50°	1207.8	1179.6	1176.1	1380.3	1707.8	2352.1	3676.1	6662.0	8331.0	9507.1	9630.3
52.5°	968.3	947.2	943.7	1109.2	1429.6	2010.6	3366.2	6767.6	8989.5	10570.5	11204.3
55°	757.0	735.9	739.4	876.8	1137.3	1644.4	2894.4	6647.9	9566.9	11658.5	12859.2
57.5°	619.7	598.6	602.1	679.6	869.7	1257.0	2306.3	6387.4	9827.5	13003.6	14788.8
60°	545.8	524.7	514.1	549.3	669.0	947.2	1714.8	5373.3	9869.8	14119.8	16883.9
62.5°	507.0	485.9	475.4	485.9	552.8	725.4	1235.9	4257.1	9626.8	15074.0	18802.9
65°	471.8	454.2	440.1	450.7	485.9	577.5	901.4	2915.5	8355.7	15510.6	20197.3
67.5°	433.1	419.0	404.9	419.0	443.7	485.9	700.7	1845.1	6264.1	14943.7	20778.3
69°	412.0	390.8	383.8	394.4	419.0	447.2	605.6	1471.8	4764.1	13866.3	20426.2
70°	390.8	376.8	366.2	383.8	404.9	426.1	545.8	1250.0	3735.9	12482.5	19552.9
72.5°	345.1	334.5	327.5	345.1	362.7	376.8	447.2	890.8	2165.5	8500.0	15507.1
75°	302.8	292.3	288.7	302.8	316.9	323.9	376.8	612.7	1278.2	4447.2	9302.9
77.5°	253.5	239.4	243.0	260.6	271.1	274.6	316.9	440.1	753.5	2014.1	4309.9
80°	186.6	186.6	200.7	214.8	214.8	214.8	253.5	320.4	457.7	926.1	1788.7
82.5°	130.3	133.8	137.3	158.5	162.0	147.9	193.7	232.4	285.2	404.9	619.7
85°	73.9	77.5	81.0	95.1	98.6	88.0	126.8	147.9	165.5	200.7	323.9
87.5°	28.2	31.7	42.3	49.3	52.8	38.7	59.9	70.4	70.4	84.5	144.4
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°	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2
2.5°	1271.1	1295.8	1341.6	1352.1	1313.4	1271.1	1176.1	1235.9	1260.6	1214.8	1228.9
5°	1574.0	1626.8	1683.1	1616.2	1574.0	1545.8	1500.0	1503.5	1478.9	1397.9	1264.1
7.5°	1915.5	1855.6	1897.9	1943.7	1876.8	1880.3	1922.5	1834.5	1767.6	1630.3	1380.3
10°	2074.0	2074.0	2084.5	2084.5	2056.3	2056.3	2052.8	1912.0	1831.0	1771.1	1700.7
12.5°	2084.5	2081.0	2123.2	2091.6	2098.6	2105.6	2123.2	2186.6	2165.5	2088.0	2151.4
15°	2376.8	2362.7	2376.8	2373.3	2383.8	2415.5	2401.4	2387.3	2390.9	2447.2	2542.3
17.5°	2651.4	2658.5	2644.4	2669.0	2669.0	2690.2	2739.4	2690.2	2647.9	2753.5	2827.5
20°	2968.3	2943.7	2887.3	2929.6	2940.2	2943.7	3024.7	2964.8	2904.9	2943.7	3031.7
22.5°	3288.7	3285.2	3292.3	3295.8	3309.9	3257.1	3147.9	3130.3	3169.0	3116.2	3126.8
25°	3485.9	3489.5	3507.1	3510.6	3450.7	3507.1	3545.8	3429.6	3429.6	3419.0	3348.6
27.5°	3725.4	3672.6	3693.7	3721.8	3697.2	3711.3	3665.5	3496.5	3676.1	3700.7	3419.0
30°	3887.3	3862.7	3838.0	3866.2	3890.9	3954.2	3824.0	3806.4	3820.4	3950.7	3581.0
32.5°	4228.9	4264.1	4218.3	4172.6	4218.3	4204.2	4147.9	4123.3	4299.3	4126.8	3693.7
35°	4545.8	4559.9	4563.4	4556.4	4584.5	4535.2	4535.2	4626.8	4679.6	4493.0	3728.9
37.5°	5309.9	5260.6	5158.5	5109.2	5197.2	5271.2	5052.8	5162.0	5140.9	4824.0	3993.0
40°	5859.2	5971.9	6003.6	5989.5	6003.6	5792.3	5838.1	5919.0	5824.0	5299.3	3901.4
42.5°	6662.0	6732.4	6707.8	6676.1	6690.2	6651.4	6514.1	6813.4	6471.9	5831.0	4042.3
45°	7394.4	7552.9	7563.4	7454.3	7542.3	7405.0	7461.3	7566.9	7221.9	6228.9	4003.5
47.5°	8267.6	8595.1	8471.9	8471.9	8559.9	8264.1	8397.9	8538.8	7623.3	6496.5	3792.3
50°	9559.9	9736.0	9728.9	9697.2	9736.0	9577.5	9556.4	9538.8	8239.5	6750.0	3662.0
52.5°	11021.2	11260.6	11169.1	11204.3	11257.1	10957.8	11193.7	10549.3	9010.6	6845.1	3366.2
55°	12887.4	13052.9	12961.3	12781.8	13021.2	12831.0	12908.5	11651.5	9545.8	6574.0	2873.3
57.5°	15109.2	15193.7	15042.3	15024.7	15183.2	14978.9	14848.7	12890.9	9824.0	6369.7	2295.8
60°	17704.3	17968.4	17873.3	17721.9	17866.3	17686.7	16700.8	13943.7	9767.7	5415.5	1778.2
62.5°	20817.0	21084.6	20979.0	20876.9	20968.4	20500.1	18440.2	14774.7	9514.1	4292.3	1299.3
65°	23387.4	24595.2	24753.6	24757.2	24313.5	23229.0	19827.6	15098.7	8176.1	2996.5	950.7
67.5°	25077.6	27588.2	28369.9	28088.2	27070.6	24595.2	20387.4	14464.9	6313.4	1894.4	711.3
69°	24883.9	28176.2	29306.5	29148.0	27718.4	24574.1	19950.8	13398.0	4824.0	1507.0	602.1
70°	23989.6	27693.8	29035.4	29105.8	27306.5	23630.4	19172.6	12172.6	3901.4	1285.2	552.8
72.5°	19144.5	22820.5	24000.1	24461.4	22676.2	18922.6	15721.9	8588.1	2260.6	897.9	447.2
75°	11859.2	13838.1	14817.0	15084.6	14003.6	11785.3	9542.3	4778.2	1376.8	633.8	376.8
77.5°	5316.9	5890.9	6454.3	6454.3	6031.7	5380.3	4373.3	2309.9	781.7	450.7	316.9
80°	1781.7	1848.6	1799.3	1816.9	1746.5	1679.6	1757.1	996.5	482.4	338.0	257.0
82.5°	1211.3	1521.1	1616.2	1616.2	1517.6	1197.2	676.1	457.7	295.8	243.0	197.2
85°	985.9	1204.2	1292.3	1331.0	1253.5	1010.6	355.6	221.8	176.1	154.9	133.8
87.5°	331.0	309.9	292.3	285.2	299.3	313.4	176.1	95.1	81.0	73.9	70.4
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°	1197.2	1197.2	1197.2	1197.2	1197.2	1197.2
2.5°	1253.5	1211.3	1228.9	1246.5	1373.2	1468.3
5°	1246.5	1306.3	1440.1	1609.2	1686.6	1876.8
7.5°	1281.7	1500.0	1750.0	1926.1	1996.5	2056.3
10°	1714.8	1753.5	1838.0	2007.1	2147.9	2172.5
12.5°	2214.8	2204.2	2144.4	2221.8	2151.4	2200.7
15°	2605.6	2489.4	2408.5	2397.9	2373.3	2373.3
17.5°	2820.4	2718.3	2605.6	2577.5	2503.5	2563.4
20°	3074.0	2897.9	2616.2	2588.0	2563.4	2507.1
22.5°	3024.7	2848.6	2556.4	2521.1	2651.4	2644.4
25°	3084.5	2848.6	2570.4	2531.7	2591.6	2591.6
27.5°	2936.6	2743.0	2542.3	2309.9	2493.0	2535.2
30°	2897.9	2679.6	2447.2	2239.4	2426.1	2387.3
32.5°	3102.1	2521.1	2292.3	2228.9	2366.2	2338.0
35°	2943.7	2493.0	2253.5	2137.3	2299.3	2271.1
37.5°	3010.6	2457.8	2186.6	2088.0	2218.3	2260.6
40°	2996.5	2292.3	2109.2	1982.4	2112.7	2133.8
42.5°	2760.6	2165.5	1978.9	1852.1	1919.0	1989.4
45°	2690.2	2088.0	1852.1	1676.1	1679.6	1760.6
47.5°	2559.9	1912.0	1619.7	1457.8	1457.8	1524.7
50°	2341.6	1676.1	1355.6	1207.8	1204.2	1257.0
52.5°	2017.6	1447.2	1144.4	982.4	971.8	1024.7
55°	1651.4	1165.5	901.4	795.8	774.7	795.8
57.5°	1285.2	908.5	711.3	626.8	623.2	640.8
60°	996.5	711.3	566.9	517.6	524.7	552.8
62.5°	753.5	566.9	482.4	464.8	475.4	503.5
65°	598.6	489.4	440.1	429.6	440.1	468.3
67.5°	485.9	443.7	408.5	394.4	401.4	429.6
69°	447.2	419.0	390.8	373.2	380.3	401.4
70°	426.1	404.9	376.8	359.2	366.2	387.3
72.5°	373.2	362.7	341.6	323.9	327.5	345.1
75°	327.5	320.4	306.3	285.2	285.2	306.3
77.5°	274.6	278.2	264.1	243.0	239.4	250.0
80°	218.3	225.4	218.3	197.2	190.1	190.1
82.5°	158.5	172.5	165.5	144.4	140.8	140.8
85°	98.6	109.2	105.6	91.5	91.5	81.0
87.5°	45.8	59.9	56.3	49.3	45.8	31.7
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)