

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: P368039

Luminaire Tested: **MSA-SA3C-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368039
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3C-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10553 lumens
Efficiency: N/A
Efficacy: 63.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

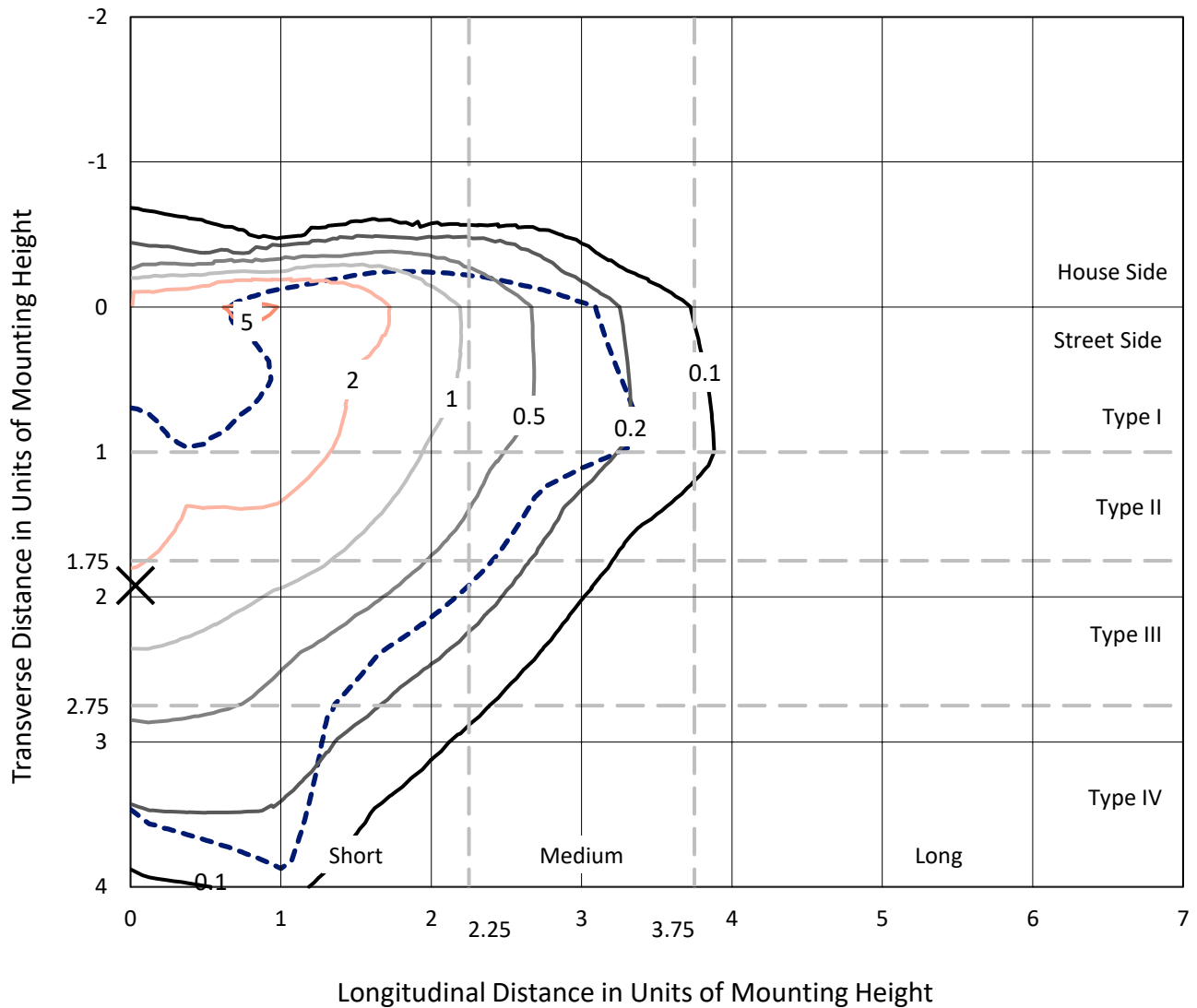
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

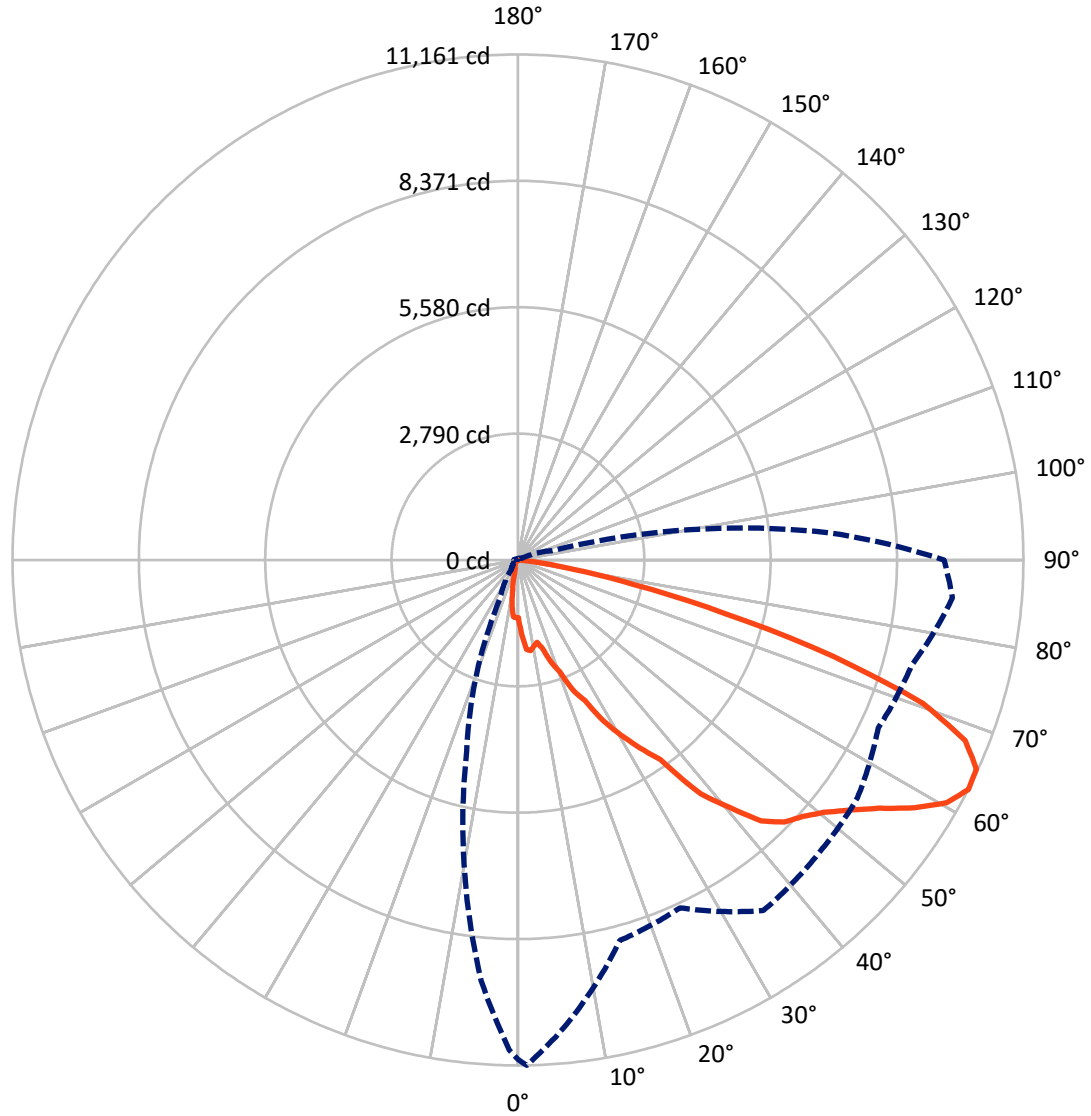
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1206.8	0.0	1206.8
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	9346.2	0.0	9346.2
	% Fixture	88.6	0.0	88.6
Total	Lumens	10553.0	0.0	10553.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.0	1.3
10°-20°	371.0	3.5
20°-30°	599.7	5.7
30°-40°	1004.6	9.5
40°-50°	1642.6	15.6
50°-60°	2431.5	23.0
60°-70°	2791.6	26.5
70°-80°	1380.4	13.1
80°-90°	189.5	1.8
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°	10553.0	100.0
0°-180°	10553.0	100.0

Coefficient of Utilization

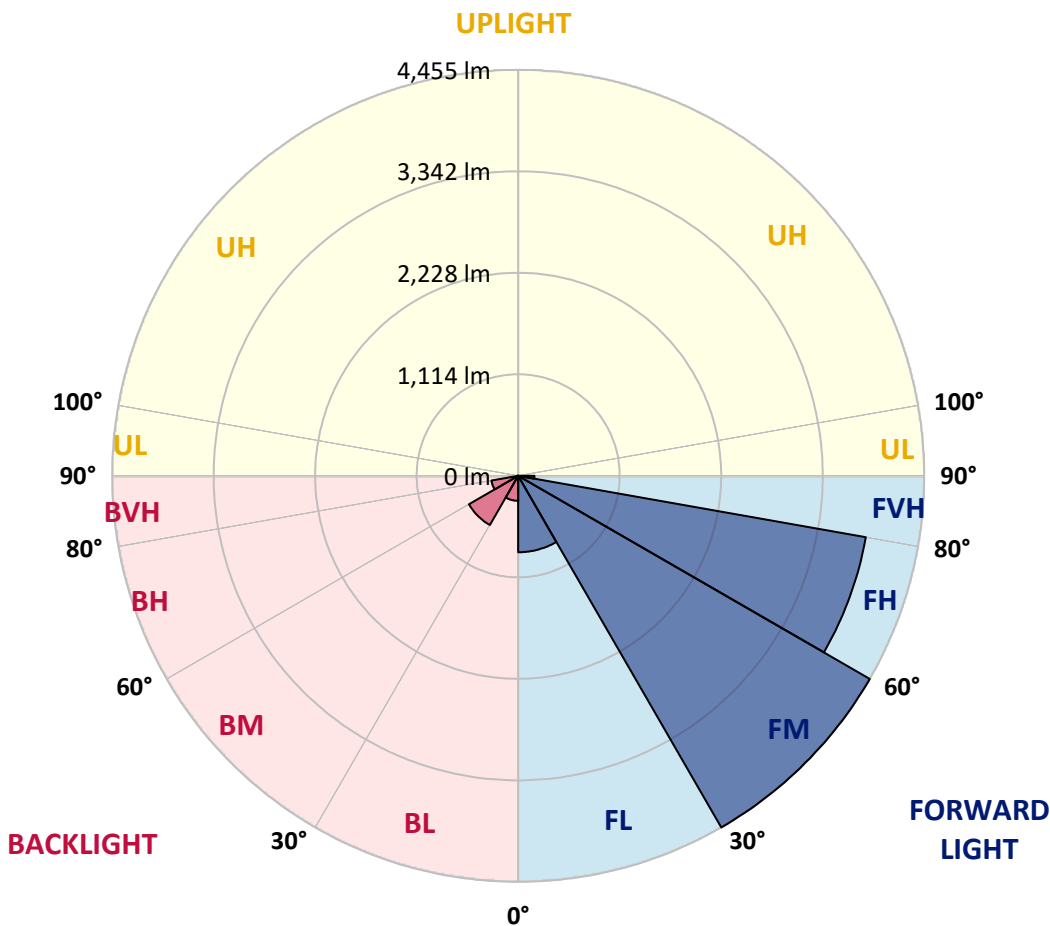


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	838.2	7.9			
FM (30°-60°)	4455.4	42.2			
FH (60°-80°)	3873.6	36.7			G2/5000
FVH (80°-90°)	179.0	1.7			G2/225
BL (0°-30°)	274.6	2.6	B1/500		
BM (30°-60°)	623.3	5.9	B1/1000		
BH (60°-80°)	298.4	2.8	B1/500		G1/500
BVH (80°-90°)	10.5	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3
2.5°	1639.3	1647.1	1610.4	1605.6	1520.2	1626.7	1629.7	1642.3	1564.1	1412.6	1624.3
5°	1961.6	1983.3	1955.0	2080.7	2116.8	2194.4	2051.8	2179.3	2125.2	2140.2	2170.9
7.5°	2000.1	2022.4	2081.9	2292.4	2486.6	2437.9	2422.3	2470.4	2466.2	2354.9	2410.3
10°	1920.1	1938.8	2038.0	2421.1	2505.9	2724.8	2778.3	2667.6	2622.5	2379.0	2272.5
12.5°	1832.9	1864.2	1990.5	2449.9	2704.3	2925.6	3101.8	2944.3	2794.5	2535.3	2437.9
15°	2000.1	2017.6	2216.0	2510.1	2732.6	2885.3	3029.7	2977.3	2954.5	2768.1	2437.9
17.5°	2327.9	2368.8	2512.5	2657.4	2833.0	2925.0	2890.7	2874.5	2816.2	3109.0	2767.5
20°	2561.2	2637.6	2825.8	2888.3	2748.8	2834.8	2813.8	2799.3	2753.6	3298.5	3146.3
22.5°	3066.3	3136.7	3140.3	3162.6	2837.8	2700.7	2665.8	2670.0	2877.5	3355.0	3617.8
25°	3410.3	3434.4	3624.4	3465.6	3080.8	2741.6	2608.7	2668.2	2967.1	3761.5	4061.0
27.5°	3973.2	4030.3	4148.8	3611.2	3226.3	2715.7	2504.1	2720.6	3202.9	3896.2	4553.5
30°	4432.0	4486.8	4677.4	3810.2	3352.6	2843.8	2549.2	2825.8	3349.6	4173.4	4996.1
32.5°	4804.3	4945.6	5162.1	4117.5	3347.8	2991.2	2779.5	2790.9	3530.0	4532.5	5433.9
35°	5280.0	5411.7	5563.8	4329.2	3566.7	3038.7	2847.4	3133.7	3798.2	4907.7	6023.2
37.5°	6352.2	6551.2	6250.6	4862.6	3821.7	3468.1	3115.7	3344.8	4079.0	5290.8	6833.3
40°	7006.5	7174.2	6883.8	5135.0	4263.1	3684.5	3594.3	3711.6	4353.9	5488.6	7443.7
42.5°	7651.1	7872.4	7387.1	5545.2	4682.2	4295.5	4049.0	4143.4	4751.4	5966.1	8130.4
45°	8117.8	8254.9	7496.0	5759.8	5258.3	4991.9	4827.7	4687.0	5305.8	6272.8	8573.6
47.5°	8352.3	8461.8	7710.7	5827.8	5601.1	5728.6	6088.2	5794.1	5796.5	6494.7	8812.3
50°	8677.0	8753.4	7830.9	5909.0	5973.3	6876.6	7058.2	6432.2	6357.0	6717.2	8851.4
52.5°	9133.5	9170.8	8064.3	6123.1	6530.8	7775.6	7841.2	7588.0	6918.1	7130.9	8938.0
55°	9740.3	9674.7	8481.0	6572.9	7112.3	8434.1	8521.9	8301.2	7623.5	7544.1	9206.2
57.5°	10394.5	10319.4	9098.6	7206.7	7743.1	8937.4	8989.8	9007.2	8091.9	7909.7	9662.1
60°	10863.6	10877.4	9876.2	7933.8	8135.2	9419.1	9314.5	9155.7	8564.6	8445.5	9884.0
62.5°	11027.8	11160.7	10481.7	8695.7	8473.2	9449.2	9286.8	9152.7	8776.3	8998.2	9629.6
65°	10893.7	11125.8	10622.4	9365.0	8677.6	9072.1	8903.2	8817.2	8769.7	9223.7	9066.7
67.5°	10360.9	10651.3	10219.5	9371.0	7934.4	7724.5	7924.1	8196.6	8039.0	9036.7	8278.3
70°	9167.2	9485.3	9284.4	8821.4	6609.6	6077.4	6297.5	6709.4	6598.1	8037.2	7118.3
72.5°	6877.8	7286.7	7326.4	7615.6	5246.9	4574.0	4605.8	4594.4	4786.2	6480.9	5554.8
75°	4418.2	4736.3	5166.3	6145.3	3985.8	3339.4	3033.9	2959.3	3317.1	5064.1	3976.8
77.5°	2564.8	2602.7	2801.1	4636.5	2854.7	2406.0	2198.0	2304.4	2429.5	3534.2	2635.8
80°	1226.8	1246.0	1327.8	2385.6	1983.3	2082.5	1922.0	2041.6	1668.2	2031.4	1495.6
82.5°	389.1	393.3	407.1	1172.1	1231.6	1379.5	884.0	1185.3	1031.3	1228.0	995.9
85°	64.9	110.7	136.5	338.6	695.2	465.5	191.8	422.8	575.5	774.6	452.2
87.5°	0.0	0.0	0.0	6.0	56.5	26.5	4.2	24.1	88.4	172.6	20.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3
2.5°	1685.6	1727.1	1570.8	1430.6	1466.1	1437.9	1395.2	1322.4	1154.0	1277.9	1269.5
5°	2169.1	2092.1	1880.5	1781.8	1661.6	1478.1	1455.9	1315.2	1253.2	1263.5	1254.4
7.5°	2337.5	2199.8	2012.8	1715.7	1433.6	1169.0	1087.9	995.9	977.2	1016.9	1042.8
10°	2205.2	2059.1	1895.5	1526.3	1309.2	1117.9	917.7	789.0	719.2	710.8	718.0
12.5°	2265.9	2108.4	1771.6	1489.0	1262.3	1089.1	865.4	671.1	519.6	531.0	500.9
15°	2308.0	2127.0	1742.1	1410.8	1165.4	933.9	664.5	470.3	346.4	310.3	288.7
17.5°	2555.2	2296.6	1704.9	1320.6	1030.1	727.0	417.3	272.4	232.1	219.5	209.3
20°	2872.7	2505.3	1704.3	1225.6	830.5	454.6	260.4	197.2	187.6	194.8	187.0
22.5°	3241.9	2783.1	1795.1	1107.1	595.9	286.8	202.7	175.0	165.4	171.4	172.0
25°	3613.6	3199.8	1869.0	994.7	414.9	220.1	180.4	161.2	150.3	155.8	152.7
27.5°	4284.7	3545.0	1852.2	850.9	305.5	193.6	167.8	150.9	134.7	143.1	142.5
30°	4723.7	4154.2	1917.7	649.5	242.3	169.6	156.4	137.7	120.3	129.9	129.3
32.5°	5248.7	4415.8	1988.7	498.5	201.5	160.6	140.7	122.7	112.5	118.5	117.3
35°	5838.6	4933.0	1858.2	414.9	175.0	144.9	124.5	110.7	101.6	104.6	104.6
37.5°	6880.8	5365.3	1780.0	338.0	163.0	131.1	116.7	99.8	94.4	94.4	97.4
40°	7472.5	6025.6	1546.7	267.6	166.6	120.9	108.8	91.4	84.2	83.6	86.6
42.5°	8242.3	6406.3	1400.6	216.5	150.9	117.9	99.8	83.0	74.6	74.0	77.0
45°	8698.7	6619.2	1194.9	170.2	135.3	137.1	92.6	76.4	63.7	61.3	66.8
47.5°	8986.7	6901.2	1078.2	135.3	117.9	136.5	90.2	66.1	53.5	50.5	55.3
50°	9132.9	7040.7	1055.4	116.1	102.2	122.1	103.4	55.3	45.7	41.5	45.7
52.5°	9285.0	7267.5	1063.8	107.0	90.2	98.0	98.0	47.5	40.3	35.5	38.5
55°	9592.3	7602.4	1045.2	101.6	83.0	74.6	63.1	42.1	36.7	31.3	34.3
57.5°	9970.0	7843.0	1045.2	96.8	77.0	63.7	50.5	39.1	33.7	27.1	29.5
60°	9898.4	7589.8	993.4	92.0	72.2	59.5	45.7	36.1	31.3	24.7	26.5
62.5°	9407.1	6901.2	804.6	84.8	68.0	56.5	41.5	34.3	29.5	21.6	23.5
65°	8829.8	6170.0	559.3	77.0	63.1	51.1	37.3	32.5	27.1	19.2	20.4
67.5°	8134.6	5298.6	310.3	69.2	58.3	44.5	34.3	31.9	25.9	17.4	18.6
70°	6928.3	4000.3	166.6	63.1	54.7	40.9	32.5	31.9	25.9	16.8	17.4
72.5°	5201.2	2519.1	97.4	57.7	49.9	37.9	30.7	32.5	25.3	16.2	16.2
75°	3539.0	1529.3	69.8	49.3	44.5	31.9	29.5	31.3	25.9	16.2	15.0
77.5°	2406.0	1074.6	57.1	44.5	40.3	28.3	30.1	31.3	25.9	13.2	10.2
80°	1502.2	554.5	43.3	35.5	34.9	24.7	30.1	27.1	16.8	3.0	0.0
82.5°	1050.6	206.3	25.3	27.1	27.1	17.4	23.5	19.2	9.6	0.0	0.0
85°	440.8	35.5	13.8	19.2	16.8	10.2	18.6	14.4	6.0	0.0	0.0
87.5°	7.8	0.0	5.4	11.4	12.0	6.0	9.6	6.0	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



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3
2.5°	1309.2	1252.0	1131.8	1189.5	1183.5	1209.9	1212.3	1151.0	1283.3	1365.1	1377.1
5°	1255.6	1217.2	1210.5	1177.5	1169.0	1217.8	1191.3	1189.5	1253.2	1346.4	1347.0
7.5°	1043.4	1013.9	1027.7	989.2	890.0	896.0	905.0	942.9	997.7	1059.0	1081.2
10°	716.2	792.6	736.7	731.9	721.6	689.8	664.5	684.3	755.3	811.8	832.9
12.5°	511.2	523.2	557.5	544.8	562.3	535.2	525.0	586.9	656.1	713.8	755.3
15°	298.9	319.3	339.8	383.1	400.5	395.1	426.4	478.1	534.0	560.5	611.6
17.5°	210.5	212.3	216.5	263.4	294.1	306.1	324.7	363.8	386.7	398.7	419.8
20°	184.0	178.6	171.4	197.8	226.7	241.7	236.3	267.0	285.6	297.7	312.7
22.5°	166.6	157.6	153.3	162.4	184.6	197.8	200.3	218.3	246.6	255.0	259.8
25°	150.3	144.3	141.3	146.1	158.2	170.8	173.2	196.6	221.9	225.5	235.1
27.5°	139.5	128.1	129.3	132.9	138.3	153.9	158.8	172.0	208.7	212.9	215.9
30°	128.1	116.1	119.7	123.3	120.9	140.1	147.3	162.4	197.8	204.5	208.1
32.5°	116.7	107.6	107.0	110.7	114.9	125.1	140.7	158.2	190.6	199.7	208.7
35°	104.0	96.8	98.0	98.6	104.0	117.3	128.7	137.7	160.0	164.8	167.8
37.5°	95.0	89.0	87.8	93.8	99.2	109.4	113.7	117.9	147.3	158.2	158.8
40°	84.2	80.6	80.6	84.8	96.8	95.6	101.0	114.3	142.5	153.9	155.2
42.5°	76.4	71.6	72.8	77.0	85.4	79.4	90.2	109.4	140.7	152.1	151.5
45°	64.3	63.1	65.5	69.2	72.8	67.4	84.2	104.6	134.7	149.7	145.5
47.5°	53.5	53.5	56.5	60.1	58.3	60.1	76.4	98.0	131.1	144.9	141.9
50°	43.9	44.5	47.5	53.5	48.1	52.9	68.6	91.4	125.1	140.1	137.7
52.5°	37.3	37.9	39.7	43.9	41.5	48.1	63.1	84.8	119.1	131.7	130.5
55°	32.5	33.7	33.7	36.1	37.3	45.1	57.1	78.2	110.0	123.9	121.5
57.5°	28.9	30.1	29.5	31.3	32.5	39.7	51.1	71.0	101.0	112.5	108.8
60°	25.9	27.1	26.5	28.9	28.3	34.3	44.5	63.1	91.4	100.4	97.4
62.5°	22.9	24.1	24.1	25.3	25.9	28.9	38.5	55.9	81.8	89.0	86.6
65°	20.4	21.6	22.3	21.6	22.9	24.7	32.5	50.5	71.0	78.2	74.6
67.5°	18.6	19.8	21.0	18.6	19.8	20.4	27.7	45.1	62.5	68.6	65.5
70°	18.0	18.6	18.6	16.2	15.6	16.2	24.1	38.5	54.7	60.7	56.5
72.5°	16.8	17.4	16.8	13.2	11.4	12.6	20.4	32.5	46.3	51.1	47.5
75°	15.6	16.2	15.6	10.8	7.2	9.0	16.8	28.3	39.7	42.1	40.3
77.5°	13.2	14.4	14.4	7.8	2.4	5.4	12.6	22.9	33.1	33.1	33.7
80°	1.2	3.6	6.0	4.2	0.0	0.6	4.2	12.0	21.0	20.4	22.3
82.5°	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.2	5.4	6.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	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



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CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3	1271.3
2.5°	1348.9	1330.2	1353.7	1425.2	1396.4	1401.8	1382.5	1501.0	1635.1	1639.3
5°	1348.3	1331.4	1366.3	1363.3	1445.7	1535.3	1621.9	1762.0	1960.4	1961.6
7.5°	1071.0	1170.9	1196.7	1188.9	1294.7	1418.0	1551.5	1819.7	1982.7	2000.1
10°	965.8	1009.1	1062.0	1081.2	1125.1	1242.4	1393.4	1697.0	1879.9	1920.1
12.5°	837.1	975.4	1045.8	1182.3	1207.5	1224.4	1462.5	1726.5	1837.8	1832.9
15°	693.4	813.6	924.9	1091.5	1160.0	1336.8	1524.5	1870.2	1936.4	2000.1
17.5°	490.7	581.5	752.3	927.3	1136.6	1329.0	1695.2	2127.0	2252.1	2327.9
20°	328.3	372.2	526.8	758.3	1023.5	1214.8	1765.0	2359.1	2495.6	2561.2
22.5°	266.4	287.5	367.4	555.7	874.4	1209.3	1793.3	2612.3	2979.1	3066.3
25°	234.5	249.0	291.7	411.3	725.8	1185.3	1949.6	2897.4	3340.0	3410.3
27.5°	205.1	226.7	258.6	339.2	622.4	1168.4	2029.0	3376.0	3904.0	3973.2
30°	196.0	222.5	253.2	309.1	550.2	1103.5	2155.3	3807.8	4308.8	4432.0
32.5°	211.7	220.7	235.7	283.2	494.3	1034.9	2377.2	4323.8	4643.7	4804.3
35°	167.8	184.0	210.5	259.8	470.9	1031.3	2502.9	4655.7	5180.7	5280.0
37.5°	164.2	179.2	213.5	253.2	499.1	1059.0	2689.3	5335.9	6148.9	6352.2
40°	159.4	178.6	211.1	250.2	499.1	1086.1	2808.4	5880.1	6800.2	7006.5
42.5°	157.6	182.2	210.5	262.8	483.5	1101.1	2988.2	6423.1	7488.2	7651.1
45°	156.4	185.8	212.3	277.8	479.9	1150.4	3089.8	6687.1	7930.8	8117.8
47.5°	153.3	185.8	236.9	268.8	460.0	1145.6	3221.5	7078.6	8194.8	8352.3
50°	150.9	187.0	268.2	252.0	463.0	1116.1	3400.1	7446.1	8564.6	8677.0
52.5°	145.5	191.2	263.4	228.5	454.0	1113.1	3666.5	7968.6	9051.1	9133.5
55°	133.5	185.8	238.1	199.7	422.2	1078.8	4019.5	8648.2	9725.8	9740.3
57.5°	122.7	172.6	199.1	183.4	353.6	1083.1	4323.8	9273.6	10327.2	10394.5
60°	111.9	179.2	154.5	170.8	292.9	1006.1	4471.1	9512.9	10765.0	10863.6
62.5°	101.6	165.4	131.7	157.0	261.0	934.5	4368.9	9320.5	10820.9	11027.8
65°	90.2	114.9	111.3	140.7	264.0	834.1	4027.3	8757.0	10608.6	10893.7
67.5°	77.6	90.2	98.0	121.5	282.6	748.1	3441.6	7852.6	10037.9	10360.9
70°	68.0	81.2	85.4	106.4	294.1	691.6	2715.7	6597.5	8868.9	9167.2
72.5°	56.5	75.2	76.4	93.2	283.2	635.6	1935.2	4736.3	6734.6	6877.8
75°	48.7	62.5	69.2	78.2	238.1	474.5	1066.2	2931.6	4258.2	4418.2
77.5°	43.9	47.5	52.3	54.1	101.0	247.2	366.8	1807.7	2384.4	2564.8
80°	33.7	37.3	36.1	37.3	55.3	85.4	139.5	847.3	1126.3	1226.8
82.5°	10.8	18.0	19.8	16.8	36.1	42.1	40.3	292.9	366.2	389.1
85°	2.4	6.6	3.0	0.0	12.0	21.6	3.0	44.5	87.8	64.9
87.5°	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

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