

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: P367511

Luminaire Tested: **MSA-SA2C-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367511
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-SA2C-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 7151 lumens
Efficiency: N/A
Efficacy: 63.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

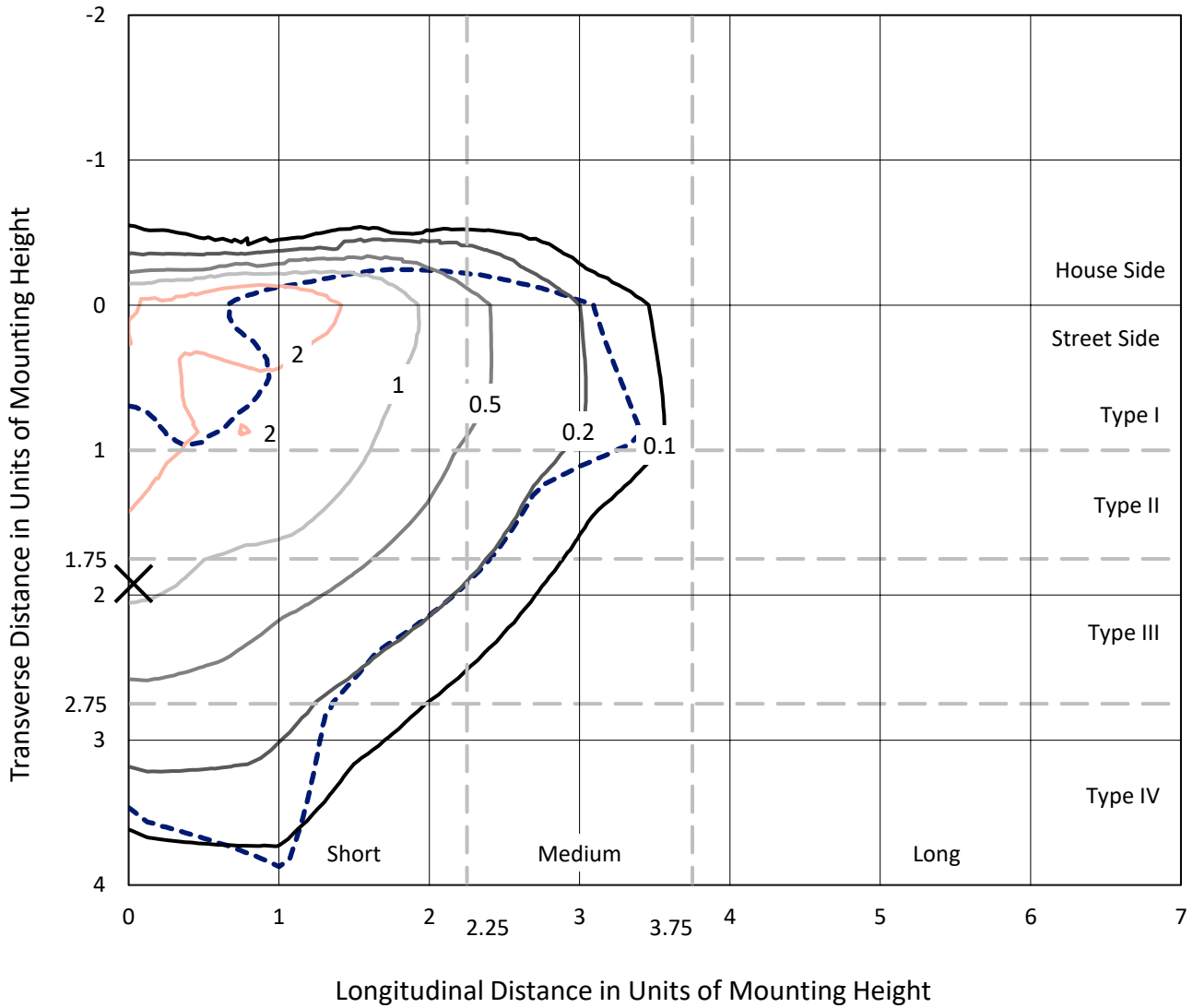
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

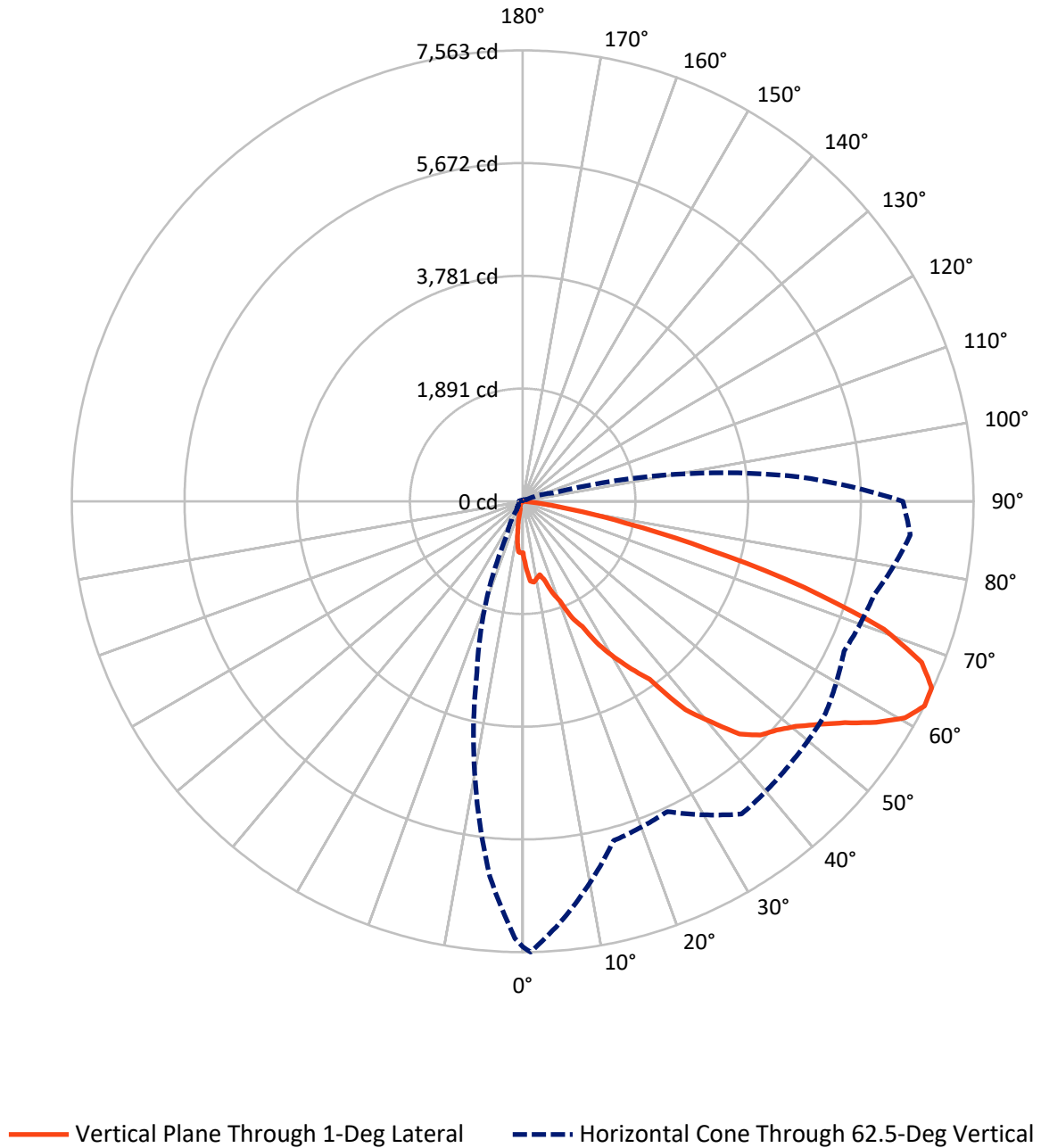
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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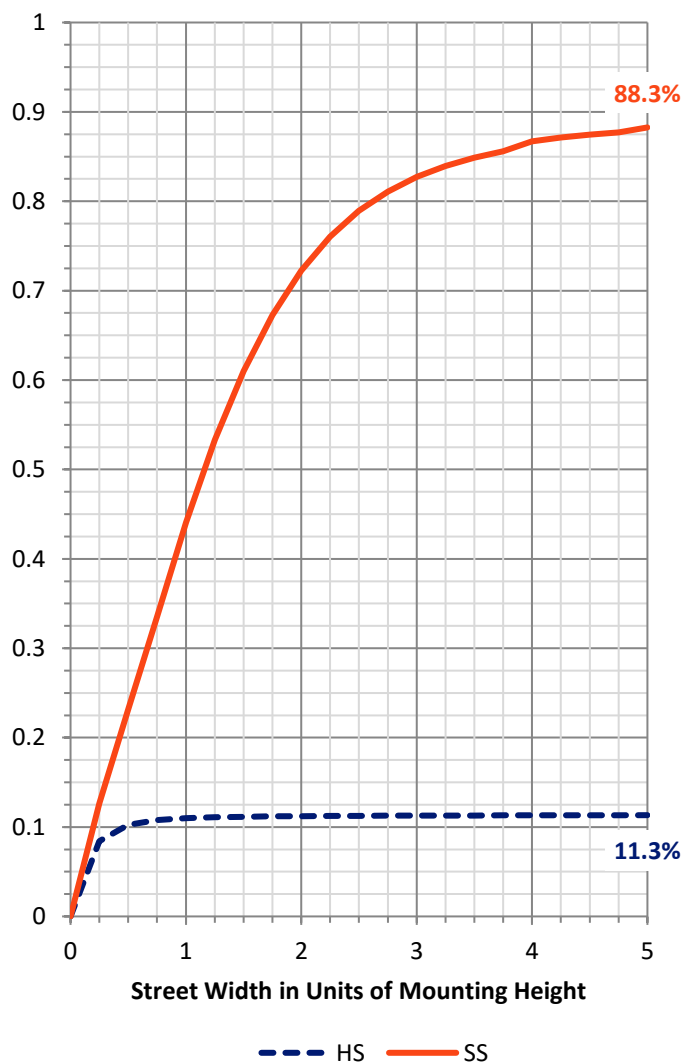
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	817.7	0.0	817.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	6333.3	0.0	6333.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	7151.0	0.0	7151.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.3	1.3
10°-20°	251.4	3.5
20°-30°	406.4	5.7
30°-40°	680.7	9.5
40°-50°	1113.1	15.6
50°-60°	1647.7	23.0
60°-70°	1891.6	26.5
70°-80°	935.4	13.1
80°-90°	128.4	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°	7151.0	100.0
0°-180°	7151.0	100.0

Coefficient of Utilization



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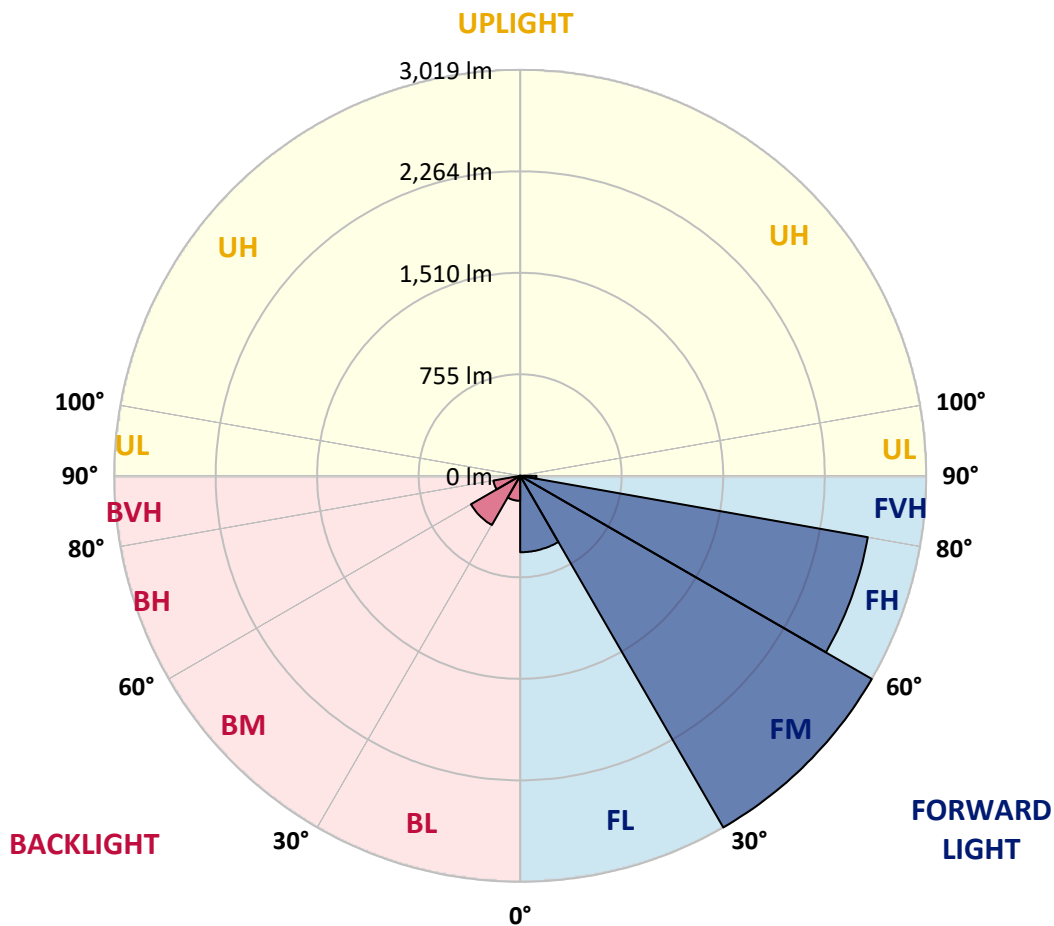
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	568.0	7.9			
FM (30°-60°)	3019.1	42.2			
FH (60°-80°)	2624.9	36.7			G2/5000
FVH (80°-90°)	121.3	1.7			G2/225
BL (0°-30°)	186.0	2.6	B1/500		
BM (30°-60°)	422.4	5.9	B1/1000		
BH (60°-80°)	202.2	2.8	B1/500		G1/500
BVH (80°-90°)	7.1	0.1			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5
2.5°	1110.8	1116.1	1091.3	1088.0	1030.2	1102.3	1104.3	1112.9	1059.9	957.2	1100.7
5°	1329.3	1343.9	1324.8	1409.9	1434.4	1487.0	1390.4	1476.8	1440.1	1450.3	1471.1
7.5°	1355.3	1370.4	1410.8	1553.4	1685.0	1652.0	1641.4	1674.0	1671.2	1595.8	1633.3
10°	1301.1	1313.8	1381.0	1640.6	1698.0	1846.4	1882.6	1807.7	1777.1	1612.1	1539.9
12.5°	1242.1	1263.2	1348.8	1660.2	1832.5	1982.5	2101.9	1995.1	1893.6	1718.0	1652.0
15°	1355.3	1367.2	1501.6	1700.9	1851.7	1955.2	2053.0	2017.5	2002.0	1875.7	1652.0
17.5°	1577.4	1605.1	1702.5	1800.7	1919.7	1982.1	1958.8	1947.8	1908.3	2106.8	1875.3
20°	1735.5	1787.3	1914.8	1957.2	1862.7	1920.9	1906.7	1896.9	1865.9	2235.1	2132.0
22.5°	2077.8	2125.5	2128.0	2143.0	1923.0	1830.1	1806.4	1809.3	1949.9	2273.4	2451.5
25°	2310.9	2327.2	2456.0	2348.4	2087.6	1857.8	1767.7	1808.1	2010.6	2548.9	2751.8
27.5°	2692.3	2731.1	2811.3	2447.0	2186.2	1840.3	1696.8	1843.5	2170.3	2640.2	3085.6
30°	3003.3	3040.3	3169.5	2581.9	2271.8	1927.1	1727.4	1914.8	2269.8	2828.0	3385.5
32.5°	3255.5	3351.3	3498.0	2790.1	2268.5	2026.9	1883.5	1891.2	2392.0	3071.3	3682.2
35°	3577.8	3667.1	3770.2	2933.6	2416.9	2059.1	1929.5	2123.5	2573.8	3325.6	4081.5
37.5°	4304.4	4439.3	4235.5	3295.0	2589.7	2350.0	2111.3	2266.5	2764.1	3585.2	4630.4
40°	4747.8	4861.5	4664.6	3479.6	2888.8	2496.7	2435.6	2515.1	2950.3	3719.2	5044.0
42.5°	5184.6	5334.6	5005.7	3757.5	3172.8	2910.8	2743.7	2807.7	3219.6	4042.8	5509.4
45°	5500.8	5593.7	5079.5	3903.0	3563.2	3382.6	3271.4	3176.0	3595.4	4250.6	5809.7
47.5°	5659.8	5733.9	5225.0	3949.1	3795.4	3881.8	4125.5	3926.3	3927.9	4401.0	5971.5
50°	5879.8	5931.6	5306.5	4004.1	4047.7	4659.7	4782.8	4358.6	4307.7	4551.8	5998.0
52.5°	6189.1	6214.4	5464.6	4149.2	4425.4	5269.0	5313.4	5141.8	4687.9	4832.1	6056.7
55°	6600.3	6555.8	5747.0	4454.0	4819.5	5715.2	5774.7	5625.1	5165.9	5112.1	6238.4
57.5°	7043.6	6992.7	6165.5	4883.5	5247.0	6056.2	6091.7	6103.5	5483.3	5359.8	6547.3
60°	7361.5	7370.8	6692.4	5376.1	5512.6	6382.7	6311.7	6204.2	5803.6	5722.9	6697.7
62.5°	7472.7	7562.8	7102.7	5892.4	5741.7	6403.0	6293.0	6202.1	5947.0	6097.4	6525.3
65°	7381.8	7539.1	7198.1	6346.0	5880.2	6147.5	6033.0	5974.7	5942.6	6250.2	6143.9
67.5°	7020.8	7217.6	6925.0	6350.1	5376.5	5234.3	5369.6	5554.2	5447.4	6123.5	5609.6
70°	6211.9	6427.5	6291.4	5977.6	4478.8	4118.2	4267.3	4546.5	4471.1	5446.2	4823.6
72.5°	4660.6	4937.7	4964.6	5160.6	3555.4	3099.4	3121.0	3113.3	3243.3	4391.6	3764.1
75°	2993.9	3209.5	3500.8	4164.2	2700.9	2262.8	2055.8	2005.3	2247.8	3431.5	2694.8
77.5°	1738.0	1763.7	1898.1	3141.8	1934.4	1630.4	1489.4	1561.5	1646.3	2394.9	1786.1
80°	831.3	844.3	899.8	1616.5	1343.9	1411.2	1302.4	1383.5	1130.4	1376.5	1013.4
82.5°	263.7	266.5	275.9	794.2	834.6	934.8	599.0	803.2	698.9	832.1	674.8
85°	44.0	75.0	92.5	229.4	471.1	315.4	130.0	286.5	390.0	524.9	306.4
87.5°	0.0	0.0	0.0	4.1	38.3	17.9	2.9	16.3	59.9	117.0	13.9
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°	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5
2.5°	1142.2	1170.3	1064.4	969.4	993.5	974.3	945.4	896.1	782.0	865.9	860.2
5°	1469.8	1417.7	1274.2	1207.4	1125.9	1001.6	986.6	891.2	849.2	856.2	850.0
7.5°	1583.9	1490.6	1363.9	1162.6	971.5	792.2	737.2	674.8	662.2	689.1	706.6
10°	1494.3	1395.3	1284.4	1034.2	887.1	757.5	621.8	534.6	487.4	481.7	486.6
12.5°	1535.5	1428.7	1200.5	1009.0	855.3	738.0	586.4	454.8	352.1	359.8	339.4
15°	1564.0	1441.3	1180.5	956.0	789.7	632.8	450.3	318.7	234.7	210.3	195.6
17.5°	1731.5	1556.2	1155.3	894.9	698.0	492.7	282.8	184.6	157.3	148.7	141.8
20°	1946.6	1697.6	1154.9	830.5	562.8	308.1	176.4	133.7	127.1	132.0	126.7
22.5°	2196.8	1885.9	1216.4	750.2	403.8	194.4	137.3	118.6	112.1	116.1	116.5
25°	2448.7	2168.3	1266.5	674.0	281.2	149.1	122.2	109.2	101.9	105.5	103.5
27.5°	2903.4	2402.2	1255.1	576.6	207.0	131.2	113.7	102.3	91.3	97.0	96.6
30°	3200.9	2815.0	1299.5	440.1	164.2	114.9	105.9	93.3	81.5	88.0	87.6
32.5°	3556.6	2992.3	1347.6	337.8	136.5	108.8	95.4	83.1	76.2	80.3	79.5
35°	3956.4	3342.7	1259.2	281.2	118.6	98.2	84.4	75.0	68.9	70.9	70.9
37.5°	4662.6	3635.7	1206.2	229.0	110.4	88.8	79.1	67.6	64.0	64.0	66.0
40°	5063.6	4083.1	1048.1	181.3	112.9	81.9	73.8	61.9	57.0	56.6	58.7
42.5°	5585.2	4341.1	949.1	146.7	102.3	79.9	67.6	56.2	50.5	50.1	52.2
45°	5894.5	4485.3	809.7	115.3	91.7	92.9	62.8	51.8	43.2	41.6	45.2
47.5°	6089.7	4676.5	730.6	91.7	79.9	92.5	61.1	44.8	36.3	34.2	37.5
50°	6188.7	4771.0	715.2	78.6	69.3	82.7	70.1	37.5	31.0	28.1	31.0
52.5°	6291.8	4924.6	720.9	72.5	61.1	66.4	66.4	32.2	27.3	24.0	26.1
55°	6500.0	5151.6	708.2	68.9	56.2	50.5	42.8	28.5	24.9	21.2	23.2
57.5°	6755.9	5314.6	708.2	65.6	52.2	43.2	34.2	26.5	22.8	18.3	20.0
60°	6707.4	5143.0	673.2	62.3	48.9	40.3	31.0	24.4	21.2	16.7	17.9
62.5°	6374.5	4676.5	545.2	57.5	46.0	38.3	28.1	23.2	20.0	14.7	15.9
65°	5983.3	4180.9	379.0	52.2	42.8	34.6	25.3	22.0	18.3	13.0	13.9
67.5°	5512.2	3590.5	210.3	46.9	39.5	30.2	23.2	21.6	17.5	11.8	12.6
70°	4694.8	2710.7	112.9	42.8	37.1	27.7	22.0	21.6	17.5	11.4	11.8
72.5°	3524.5	1707.0	66.0	39.1	33.8	25.7	20.8	22.0	17.1	11.0	11.0
75°	2398.1	1036.3	47.3	33.4	30.2	21.6	20.0	21.2	17.5	11.0	10.2
77.5°	1630.4	728.2	38.7	30.2	27.3	19.2	20.4	21.2	17.5	9.0	6.9
80°	1017.9	375.7	29.3	24.0	23.6	16.7	20.4	18.3	11.4	2.0	0.0
82.5°	711.9	139.8	17.1	18.3	18.3	11.8	15.9	13.0	6.5	0.0	0.0
85°	298.7	24.0	9.4	13.0	11.4	6.9	12.6	9.8	4.1	0.0	0.0
87.5°	5.3	0.0	3.7	7.7	8.1	4.1	6.5	4.1	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°	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5
2.5°	887.1	848.4	766.9	806.0	802.0	819.9	821.5	780.0	869.6	925.0	933.2
5°	850.9	824.8	820.3	797.9	792.2	825.2	807.3	806.0	849.2	912.4	912.8
7.5°	707.0	687.0	696.4	670.3	603.1	607.2	613.3	639.0	676.0	717.6	732.7
10°	485.3	537.1	499.2	495.9	489.0	467.4	450.3	463.7	511.8	550.1	564.4
12.5°	346.4	354.5	377.8	369.2	381.0	362.7	355.7	397.7	444.6	483.7	511.8
15°	202.5	216.4	230.2	259.6	271.4	267.7	288.9	324.0	361.9	379.8	414.4
17.5°	142.6	143.8	146.7	178.5	199.3	207.4	220.0	246.5	262.0	270.2	284.4
20°	124.7	121.0	116.1	134.1	153.6	163.8	160.1	180.9	193.6	201.7	211.9
22.5°	112.9	106.8	103.9	110.0	125.1	134.1	135.7	147.9	167.1	172.8	176.0
25°	101.9	97.8	95.8	99.0	107.2	115.7	117.4	133.3	150.4	152.8	159.3
27.5°	94.5	86.8	87.6	90.1	93.7	104.3	107.6	116.5	141.4	144.3	146.3
30°	86.8	78.6	81.1	83.5	81.9	94.9	99.8	110.0	134.1	138.5	141.0
32.5°	79.1	72.9	72.5	75.0	77.8	84.8	95.4	107.2	129.2	135.3	141.4
35°	70.5	65.6	66.4	66.8	70.5	79.5	87.2	93.3	108.4	111.7	113.7
37.5°	64.4	60.3	59.5	63.6	67.2	74.2	77.0	79.9	99.8	107.2	107.6
40°	57.0	54.6	54.6	57.5	65.6	64.8	68.5	77.4	96.6	104.3	105.1
42.5°	51.8	48.5	49.3	52.2	57.9	53.8	61.1	74.2	95.4	103.1	102.7
45°	43.6	42.8	44.4	46.9	49.3	45.6	57.0	70.9	91.3	101.5	98.6
47.5°	36.3	36.3	38.3	40.7	39.5	40.7	51.8	66.4	88.8	98.2	96.2
50°	29.7	30.2	32.2	36.3	32.6	35.9	46.5	61.9	84.8	94.9	93.3
52.5°	25.3	25.7	26.9	29.7	28.1	32.6	42.8	57.5	80.7	89.2	88.4
55°	22.0	22.8	22.8	24.4	25.3	30.6	38.7	53.0	74.6	83.9	82.3
57.5°	19.6	20.4	20.0	21.2	22.0	26.9	34.6	48.1	68.5	76.2	73.8
60°	17.5	18.3	17.9	19.6	19.2	23.2	30.2	42.8	61.9	68.1	66.0
62.5°	15.5	16.3	16.3	17.1	17.5	19.6	26.1	37.9	55.4	60.3	58.7
65°	13.9	14.7	15.1	14.7	15.5	16.7	22.0	34.2	48.1	53.0	50.5
67.5°	12.6	13.4	14.3	12.6	13.4	13.9	18.7	30.6	42.4	46.5	44.4
70°	12.2	12.6	12.6	11.0	10.6	11.0	16.3	26.1	37.1	41.2	38.3
72.5°	11.4	11.8	11.4	9.0	7.7	8.6	13.9	22.0	31.4	34.6	32.2
75°	10.6	11.0	10.6	7.3	4.9	6.1	11.4	19.2	26.9	28.5	27.3
77.5°	9.0	9.8	9.8	5.3	1.6	3.7	8.6	15.5	22.4	22.4	22.8
80°	0.8	2.4	4.1	2.9	0.0	0.4	2.9	8.1	14.3	13.9	15.1
82.5°	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	4.9	3.7	4.1
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°	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5	861.5
2.5°	914.0	901.4	917.3	965.8	946.2	949.9	936.8	1017.1	1108.0	1110.8
5°	913.6	902.2	925.8	923.8	979.6	1040.3	1099.0	1194.0	1328.4	1329.3
7.5°	725.8	793.4	810.9	805.6	877.3	960.9	1051.3	1233.1	1343.5	1355.3
10°	654.4	683.8	719.6	732.7	762.4	841.9	944.2	1150.0	1273.8	1301.1
12.5°	567.2	661.0	708.6	801.1	818.3	829.7	991.0	1169.9	1245.3	1242.1
15°	469.8	551.3	626.7	739.6	786.1	905.9	1033.0	1267.3	1312.1	1355.3
17.5°	332.5	394.1	509.8	628.4	770.2	900.6	1148.7	1441.3	1526.1	1577.4
20°	222.5	252.2	357.0	513.9	693.6	823.1	1196.0	1598.6	1691.1	1735.5
22.5°	180.5	194.8	249.0	376.5	592.5	819.5	1215.2	1770.2	2018.7	2077.8
25°	158.9	168.7	197.6	278.7	491.9	803.2	1321.1	1963.3	2263.2	2310.9
27.5°	139.0	153.6	175.2	229.8	421.8	791.8	1374.9	2287.7	2645.5	2692.3
30°	132.8	150.8	171.6	209.5	372.9	747.8	1460.5	2580.3	2919.7	3003.3
32.5°	143.4	149.6	159.7	191.9	335.0	701.3	1610.8	2929.9	3146.7	3255.5
35°	113.7	124.7	142.6	176.0	319.1	698.9	1696.0	3154.9	3510.6	3577.8
37.5°	111.2	121.4	144.7	171.6	338.2	717.6	1822.3	3615.7	4166.7	4304.4
40°	108.0	121.0	143.0	169.5	338.2	735.9	1903.0	3984.5	4608.0	4747.8
42.5°	106.8	123.5	142.6	178.1	327.6	746.1	2024.9	4352.5	5074.2	5184.6
45°	105.9	125.9	143.8	188.3	325.2	779.5	2093.7	4531.4	5374.1	5500.8
47.5°	103.9	125.9	160.6	182.2	311.7	776.3	2183.0	4796.7	5553.0	5659.8
50°	102.3	126.7	181.7	170.7	313.8	756.3	2304.0	5045.7	5803.6	5879.8
52.5°	98.6	129.6	178.5	154.8	307.7	754.3	2484.5	5399.8	6133.3	6189.1
55°	90.5	125.9	161.4	135.3	286.1	731.1	2723.7	5860.2	6590.5	6600.3
57.5°	83.1	117.0	134.9	124.3	239.6	733.9	2929.9	6284.0	6998.0	7043.6
60°	75.8	121.4	104.7	115.7	198.5	681.7	3029.8	6446.2	7294.6	7361.5
62.5°	68.9	112.1	89.2	106.4	176.9	633.3	2960.5	6315.8	7332.5	7472.7
65°	61.1	77.8	75.4	95.4	178.9	565.2	2729.0	5934.0	7188.7	7381.8
67.5°	52.6	61.1	66.4	82.3	191.5	506.9	2332.1	5321.1	6802.0	7020.8
70°	46.0	55.0	57.9	72.1	199.3	468.6	1840.3	4470.7	6009.8	6211.9
72.5°	38.3	50.9	51.8	63.2	191.9	430.7	1311.3	3209.5	4563.6	4660.6
75°	33.0	42.4	46.9	53.0	161.4	321.5	722.5	1986.6	2885.5	2993.9
77.5°	29.7	32.2	35.5	36.7	68.5	167.5	248.6	1224.9	1615.7	1738.0
80°	22.8	25.3	24.4	25.3	37.5	57.9	94.5	574.2	763.2	831.3
82.5°	7.3	12.2	13.4	11.4	24.4	28.5	27.3	198.5	248.2	263.7
85°	1.6	4.5	2.0	0.0	8.1	14.7	2.0	30.2	59.5	44.0
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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