

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: P596508

Luminaire Tested: **MSA-SA1B-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596508  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-827-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3189 lumens  
Efficiency: N/A  
Efficacy: 72.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

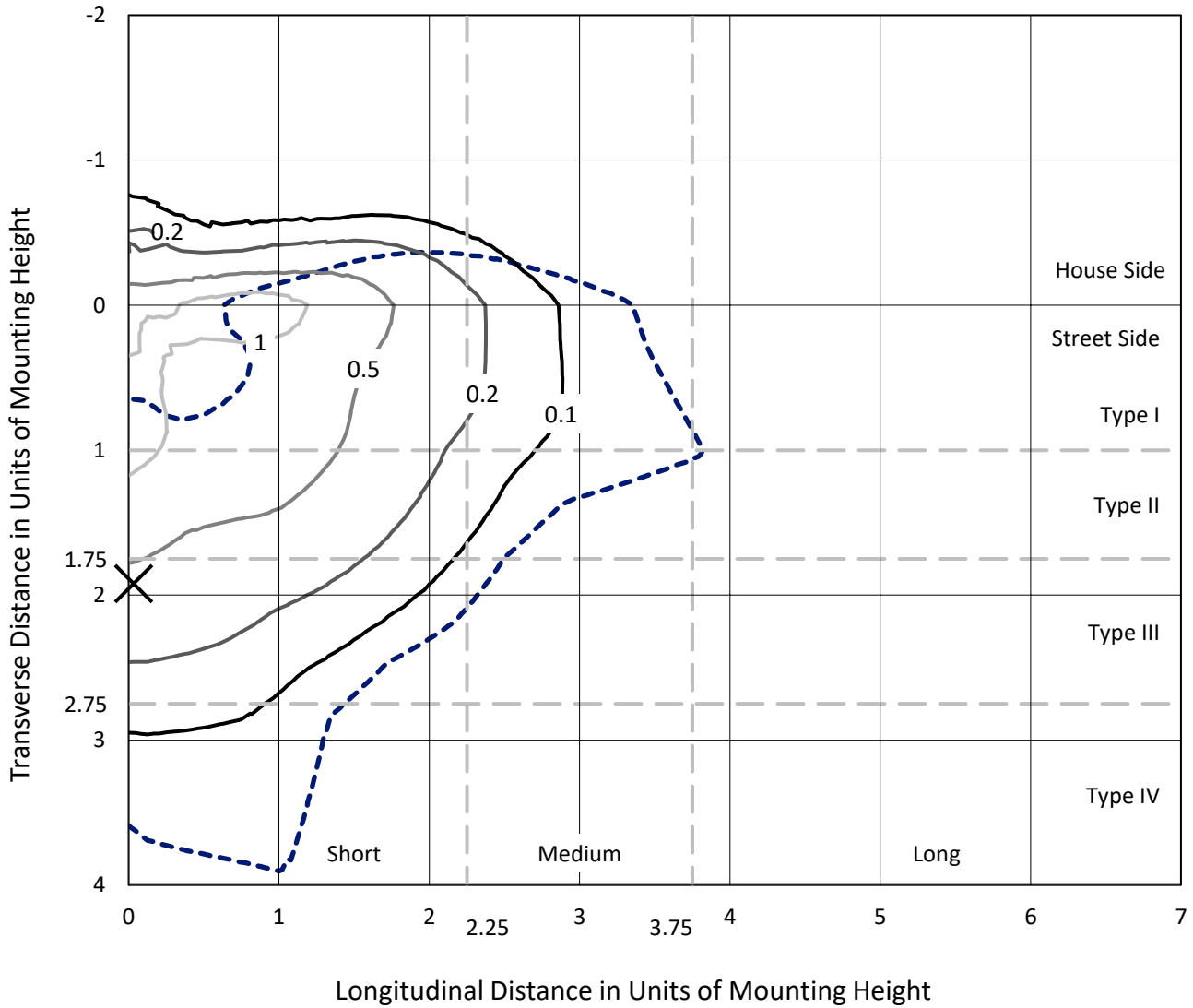
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

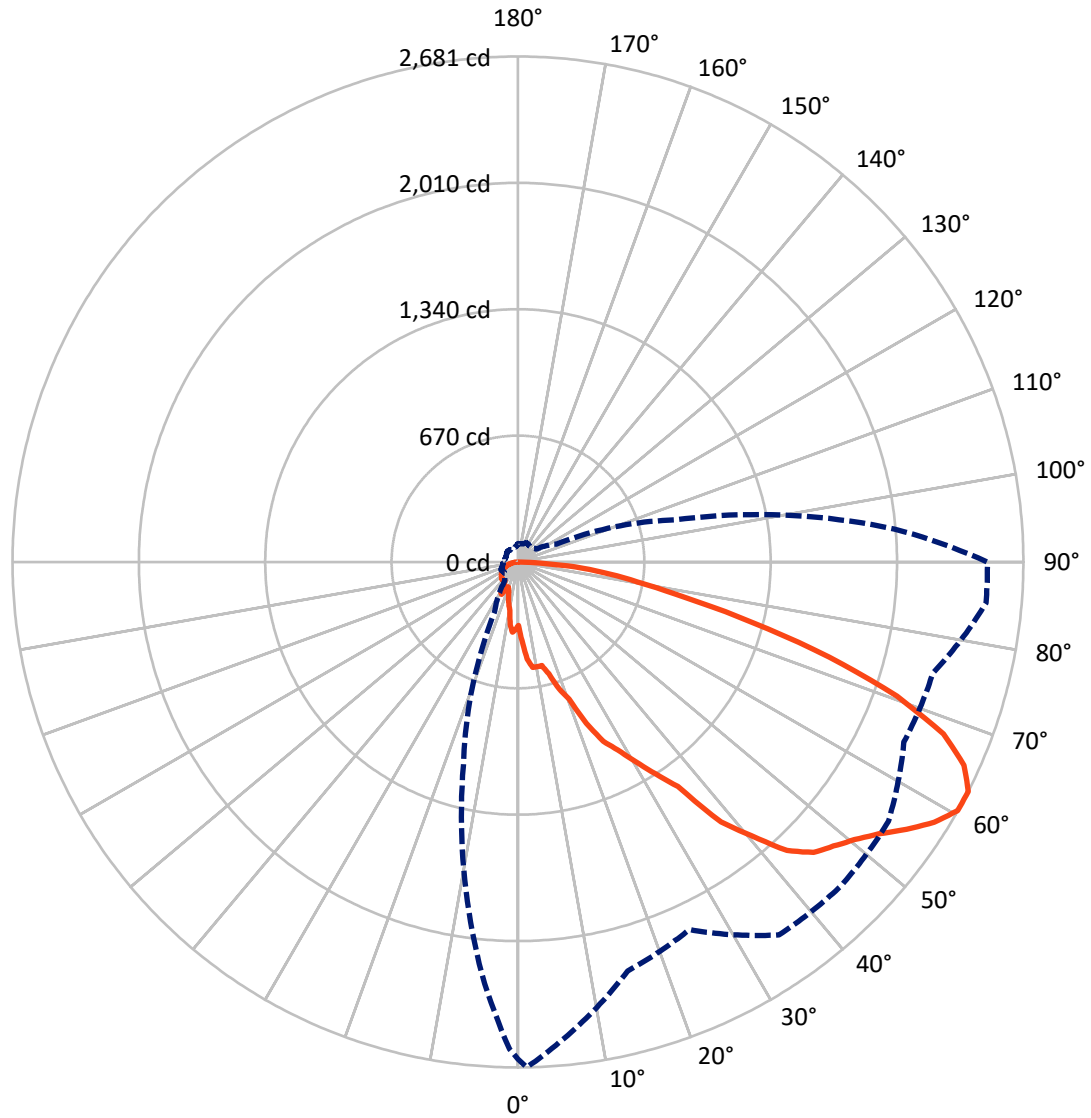
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 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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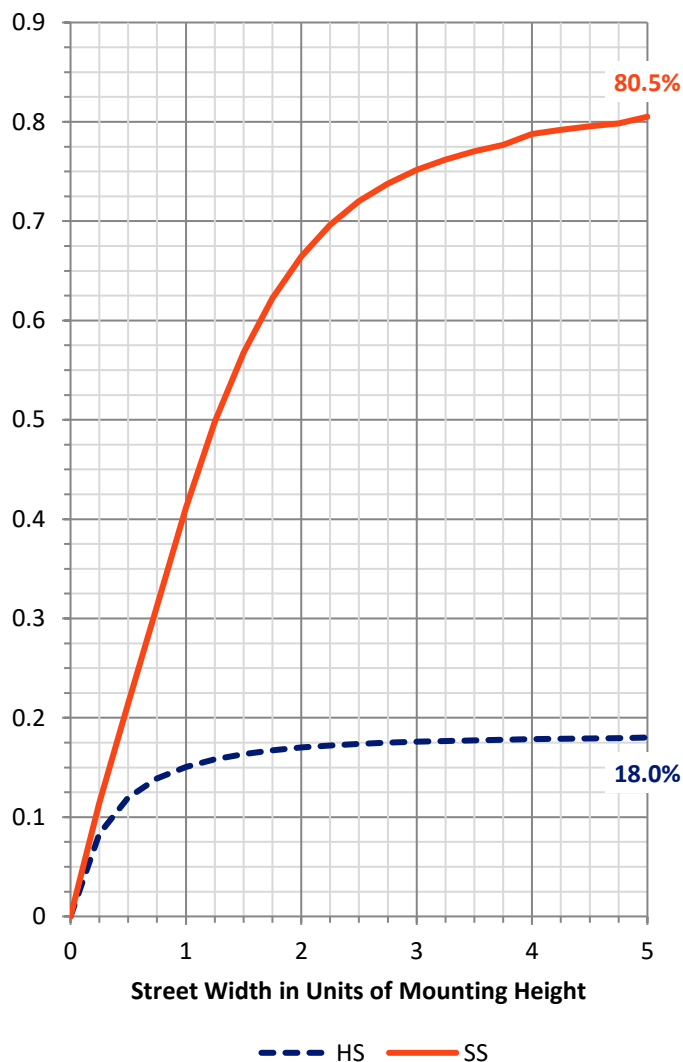
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	580.7	0.0	580.7
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	2608.3	0.0	2608.3
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	3189.0	0.0	3189.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.5	1.2
10°-20°	112.0	3.5
20°-30°	197.8	6.2
30°-40°	308.1	9.7
40°-50°	507.2	15.9
50°-60°	724.0	22.7
60°-70°	767.7	24.1
70°-80°	424.0	13.3
80°-90°	109.7	3.4
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°	3189.0	100.0
0°-180°	3189.0	100.0

**Coefficient of Utilization**

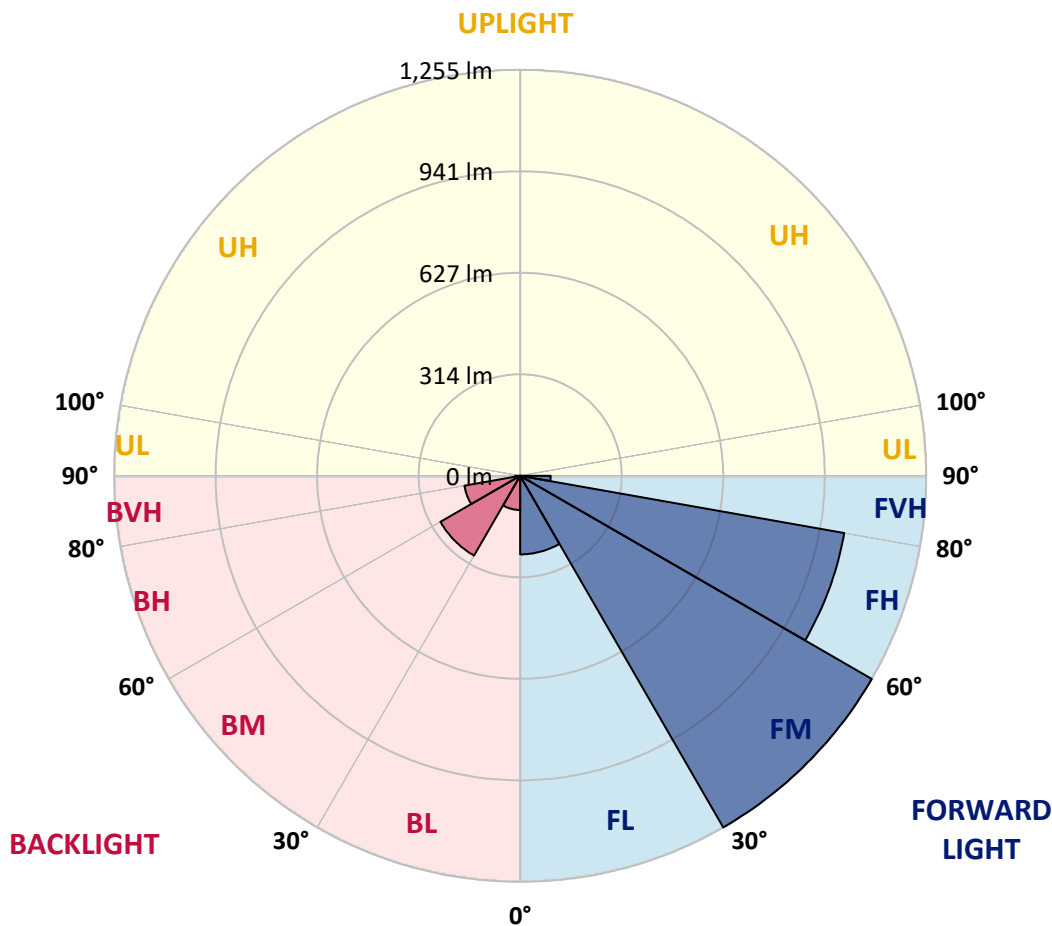


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	242.7	7.6			
FM (30°-60°)	1254.6	39.3			
FH (60°-80°)	1016.8	31.9			G1/1800
FVH (80°-90°)	94.2	3.0			G1/100
BL (0°-30°)	105.6	3.3	B0/110		
BM (30°-60°)	284.7	8.9	B1/1000		
BH (60°-80°)	174.9	5.5	B1/500		G1/500
BVH (80°-90°)	15.5	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
2.5°	413.5	417.1	409.8	401.6	367.7	400.3	390.6	408.7	402.8	363.5	435.5
5°	511.0	517.5	510.4	535.0	536.5	542.9	484.2	520.7	508.1	504.8	541.2
7.5°	558.0	564.7	582.8	626.6	660.8	629.8	595.6	588.1	578.2	552.3	574.3
10°	561.0	564.7	589.0	681.8	698.4	720.4	698.2	646.1	624.6	568.4	551.7
12.5°	552.2	563.8	595.2	708.3	757.5	781.5	786.9	728.9	676.1	612.0	603.5
15°	611.4	615.6	660.6	727.2	761.1	781.3	799.0	763.2	746.7	695.9	627.7
17.5°	696.4	708.0	744.8	769.4	792.3	796.2	781.7	767.7	741.4	809.2	736.6
20°	754.0	776.4	821.6	826.2	778.1	786.6	784.6	785.5	770.5	895.9	855.9
22.5°	906.2	930.5	936.7	909.8	819.1	780.3	788.0	810.4	869.6	977.0	1022.1
25°	1044.1	1053.6	1110.0	1040.7	896.2	811.5	798.8	856.9	953.3	1113.4	1145.6
27.5°	1116.1	1128.3	1165.9	1015.0	905.8	771.3	741.6	829.9	928.2	1049.2	1190.5
30°	1208.2	1227.7	1278.9	1040.7	934.7	797.6	731.8	816.3	925.0	1091.3	1285.5
32.5°	1303.0	1340.9	1379.0	1131.2	930.7	837.8	794.2	801.0	954.4	1179.5	1384.0
35°	1428.7	1462.1	1494.9	1183.5	1011.8	871.4	828.1	900.2	1029.9	1281.8	1521.2
37.5°	1697.3	1750.2	1663.7	1332.4	1100.0	1022.8	944.6	987.3	1109.7	1367.1	1745.5
40°	1868.5	1908.3	1824.7	1433.8	1255.4	1124.7	1111.9	1115.5	1219.8	1440.1	1896.3
42.5°	2038.6	2092.4	1959.5	1572.9	1443.2	1335.4	1269.1	1264.6	1342.9	1571.4	2068.0
45°	2165.4	2197.2	2005.7	1690.2	1644.7	1564.7	1515.0	1436.3	1504.8	1662.2	2174.1
47.5°	2225.8	2251.6	2080.2	1758.5	1775.3	1779.5	1869.1	1734.8	1646.3	1723.6	2229.8
50°	2301.2	2313.4	2124.0	1818.5	1899.4	2083.0	2104.5	1876.8	1784.0	1790.6	2262.8
52.5°	2391.2	2396.3	2187.9	1887.8	2024.9	2282.6	2249.3	2117.6	1915.1	1913.0	2324.8
55°	2504.5	2501.4	2268.1	1981.1	2114.5	2401.3	2376.1	2280.1	2057.9	2014.4	2421.4
57.5°	2605.3	2603.4	2374.4	2067.0	2189.9	2462.3	2469.7	2444.3	2155.1	2087.0	2526.0
60°	2654.6	2678.3	2495.4	2161.0	2194.7	2489.8	2492.6	2452.2	2263.7	2180.2	2553.9
62.5°	2635.4	2680.5	2554.8	2245.5	2150.6	2414.6	2426.2	2398.4	2258.8	2278.0	2491.7
65°	2548.2	2600.1	2503.3	2290.5	2123.5	2288.6	2291.6	2221.2	2188.0	2342.8	2345.9
67.5°	2384.4	2433.2	2339.2	2218.7	1938.1	1949.1	2014.7	2020.4	1972.2	2293.9	2141.2
70°	2097.8	2132.2	2073.4	2041.3	1619.9	1555.6	1626.8	1657.2	1679.2	2117.3	1895.4
72.5°	1660.8	1727.2	1736.5	1757.4	1304.3	1197.0	1249.8	1204.6	1347.7	1802.1	1548.6
75°	1228.7	1284.8	1345.0	1461.5	1028.0	896.2	889.7	866.6	1000.3	1449.3	1148.6
77.5°	868.3	904.1	950.3	1167.5	775.8	690.2	694.2	670.9	722.4	1095.3	793.4
80°	622.4	641.1	662.6	769.1	572.3	595.5	596.1	574.0	537.1	743.9	529.6
82.5°	443.5	458.1	482.7	507.3	426.7	488.1	487.6	486.2	425.9	502.8	331.3
85°	247.0	266.5	309.2	397.4	308.1	349.0	306.9	338.0	312.6	334.7	167.8
87.5°	17.3	15.5	69.2	230.3	143.8	105.1	55.1	109.1	139.9	174.9	23.4
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°	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
2.5°	450.3	455.7	434.5	402.7	411.3	401.9	390.0	371.4	333.2	356.9	357.0
5°	540.9	520.3	503.7	488.1	461.8	422.0	416.7	384.9	366.9	376.4	375.0
7.5°	569.2	539.9	515.0	459.2	410.4	348.7	330.1	311.2	303.3	326.2	335.3
10°	538.1	507.6	483.1	415.2	382.1	343.6	292.5	266.3	250.9	256.9	260.4
12.5°	563.1	532.0	455.1	417.2	362.6	339.1	294.3	256.0	233.1	238.6	232.0
15°	587.3	545.3	468.4	392.9	348.7	314.6	278.4	238.8	211.9	202.3	197.2
17.5°	675.5	605.9	466.9	379.3	328.5	289.4	245.7	202.4	184.5	174.6	166.0
20°	783.0	686.0	475.2	365.2	307.2	257.8	210.3	170.1	157.5	151.0	148.7
22.5°	911.0	788.8	523.1	363.2	287.1	234.8	190.8	165.7	151.7	144.5	141.6
25°	1012.7	895.1	558.3	376.8	286.0	215.7	179.0	184.2	177.7	179.8	162.6
27.5°	1111.4	924.0	538.5	370.8	257.2	182.0	176.3	186.9	192.5	194.2	193.6
30°	1194.8	1046.3	542.9	336.7	217.3	148.3	134.9	140.2	155.5	179.8	184.5
32.5°	1316.9	1104.8	579.9	316.2	194.2	132.6	117.8	115.8	119.3	128.1	135.7
35°	1459.8	1239.4	590.2	310.7	178.3	125.7	115.3	110.6	112.5	119.2	120.7
37.5°	1726.1	1337.5	628.6	304.1	172.4	121.5	113.4	111.7	115.8	121.2	124.3
40°	1873.0	1513.9	630.5	298.4	164.8	119.8	114.7	113.9	116.4	123.8	125.7
42.5°	2068.7	1614.5	659.6	291.7	162.2	122.1	117.1	116.8	119.0	123.3	126.7
45°	2188.0	1681.8	661.1	287.8	161.6	132.3	120.4	119.3	118.8	121.5	124.6
47.5°	2265.0	1778.9	680.0	283.5	165.3	134.9	124.3	119.6	118.1	119.2	121.5
50°	2337.8	1856.4	715.7	282.9	169.1	132.3	131.1	119.5	116.4	115.9	117.6
52.5°	2427.3	1983.9	759.8	288.8	168.2	128.4	136.2	118.8	113.3	112.2	113.9
55°	2557.4	2120.6	806.7	283.8	158.6	121.0	131.2	118.4	110.0	108.0	109.6
57.5°	2641.8	2198.9	859.2	279.6	144.1	115.4	126.7	118.7	110.3	105.9	106.8
60°	2613.8	2156.8	879.8	254.1	130.3	111.1	116.1	116.2	107.6	103.4	104.1
62.5°	2490.0	2004.4	860.6	224.4	120.1	104.9	105.1	111.6	99.5	96.6	97.8
65°	2317.0	1814.8	782.9	205.0	115.3	98.4	95.9	98.0	88.7	86.5	89.0
67.5°	2104.6	1581.1	667.3	184.6	113.6	89.6	86.7	85.9	80.0	77.5	80.0
70°	1838.3	1323.9	533.4	170.2	107.1	80.0	77.7	76.9	72.0	70.1	72.3
72.5°	1477.6	1033.7	411.6	159.2	100.0	71.2	69.2	68.2	64.1	61.4	64.1
75°	1050.9	790.0	305.8	142.4	89.9	62.2	59.9	58.7	54.8	52.3	54.6
77.5°	746.8	593.0	213.6	117.8	74.1	52.6	51.2	49.2	45.8	42.9	45.2
80°	552.2	423.7	137.7	90.8	56.6	42.1	41.3	39.9	36.7	33.1	34.8
82.5°	363.5	305.5	78.9	61.6	41.2	30.3	31.0	30.0	26.9	23.2	24.1
85°	162.8	180.9	41.9	33.9	26.8	18.3	20.0	19.3	17.0	13.5	13.8
87.5°	15.6	30.5	12.8	12.4	9.9	5.7	7.1	6.0	5.1	3.2	2.5
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°	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
2.5°	362.4	340.6	318.8	332.1	332.4	336.0	336.4	323.3	333.8	341.8	350.2
5°	368.2	353.9	354.7	341.8	334.9	343.9	342.0	338.4	344.8	353.6	364.3
7.5°	326.7	317.4	315.8	303.5	273.4	266.8	272.4	274.7	283.2	296.8	308.3
10°	255.0	273.4	252.7	247.9	240.0	224.5	215.6	214.5	232.6	243.6	253.2
12.5°	229.8	225.2	222.7	209.5	209.5	193.1	187.9	192.7	220.5	228.4	240.8
15°	195.8	192.4	180.9	174.4	171.3	164.7	170.2	174.9	200.9	201.5	214.5
17.5°	162.5	160.5	149.6	148.4	145.3	142.4	147.5	158.6	172.7	170.2	176.3
20°	145.3	138.3	128.4	132.0	128.8	126.4	124.3	140.1	150.0	153.2	156.8
22.5°	141.0	128.3	122.4	119.2	119.3	115.6	116.1	129.2	144.2	146.2	144.1
25°	161.1	138.5	119.5	110.0	106.5	105.2	108.8	120.4	138.5	142.8	144.5
27.5°	188.5	150.4	123.0	106.9	99.8	100.4	105.5	113.6	134.9	142.7	144.7
30°	180.9	141.4	123.2	104.6	95.8	99.0	100.9	108.6	132.2	143.8	153.8
32.5°	139.6	127.2	124.0	106.5	102.9	97.8	100.4	107.9	124.0	131.2	131.7
35°	118.2	108.8	106.6	102.3	97.3	95.2	98.1	104.6	115.1	119.6	119.0
37.5°	117.3	106.9	98.4	96.6	94.6	93.9	95.6	101.7	112.4	120.2	118.5
40°	118.8	106.0	97.3	94.1	94.9	92.1	93.8	101.2	112.8	120.2	118.7
42.5°	117.0	104.9	95.9	93.5	94.2	90.4	92.4	100.1	111.6	120.4	117.5
45°	113.3	102.4	95.2	91.0	94.6	88.8	91.3	97.3	107.9	117.5	114.1
47.5°	109.6	99.5	91.9	89.3	92.9	87.3	88.4	93.6	104.1	113.6	110.6
50°	105.5	95.8	89.3	88.5	91.0	87.0	85.3	89.6	99.7	109.1	106.6
52.5°	101.2	92.7	87.4	87.1	89.4	85.0	82.5	85.9	94.9	104.3	102.3
55°	97.0	89.3	85.1	85.9	88.5	83.3	80.2	82.3	89.8	99.0	96.3
57.5°	92.9	85.4	82.0	84.2	86.2	81.1	77.2	78.5	84.5	93.6	90.4
60°	89.1	82.0	78.6	81.2	83.1	77.8	73.4	74.1	79.5	87.7	84.8
62.5°	84.3	78.3	73.8	77.2	78.6	73.5	68.7	69.6	74.0	81.7	79.5
65°	77.5	73.7	69.5	71.8	73.7	68.4	63.9	65.0	68.2	75.5	74.0
67.5°	71.7	67.9	65.2	67.0	67.3	63.3	59.3	59.9	62.5	69.3	67.6
70°	65.2	61.6	59.4	60.8	60.7	57.3	54.2	54.3	56.5	62.7	60.4
72.5°	58.0	54.6	53.5	54.3	53.7	50.6	47.7	48.7	50.1	54.8	52.9
75°	50.4	47.4	46.7	47.5	46.6	43.6	41.0	42.1	43.3	47.2	44.9
77.5°	42.6	39.8	39.9	40.1	38.8	36.8	34.2	35.3	36.1	38.7	36.4
80°	33.9	31.7	32.3	32.3	31.0	29.6	27.1	27.4	27.9	28.8	27.1
82.5°	24.8	24.8	24.8	24.9	22.0	22.4	20.3	20.1	19.7	19.5	18.4
85°	14.7	15.3	15.6	16.1	11.9	13.9	12.1	11.6	10.7	9.7	9.4
87.5°	3.2	4.2	4.2	4.0	0.0	1.5	0.8	1.2	0.3	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°	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3	336.3
2.5°	340.6	331.3	348.7	364.1	361.7	370.6	349.7	380.7	413.5	413.5
5°	361.5	353.6	358.1	367.1	373.9	405.1	431.1	457.0	510.4	511.0
7.5°	304.9	321.9	325.9	323.3	352.5	392.8	435.6	509.3	554.5	558.0
10°	285.1	292.8	305.0	311.8	323.7	363.4	416.6	504.0	552.0	561.0
12.5°	258.3	286.9	305.5	343.6	353.0	360.9	445.5	521.2	554.3	552.2
15°	229.0	250.7	277.5	319.6	343.6	403.9	462.7	576.3	595.0	611.4
17.5°	182.6	198.5	234.1	282.1	341.5	397.1	505.1	644.4	679.4	696.4
20°	150.3	150.4	186.0	249.6	314.3	368.6	521.2	700.9	745.3	754.0
22.5°	142.1	134.9	153.7	205.4	284.3	385.5	553.7	791.7	884.4	906.2
25°	137.6	128.9	140.7	181.2	262.8	394.3	619.2	916.6	1035.6	1044.1
27.5°	139.4	143.5	147.2	161.6	235.5	377.8	604.0	972.5	1100.0	1116.1
30°	152.0	158.5	150.0	154.9	213.1	353.8	631.1	1063.1	1181.1	1208.2
32.5°	126.4	124.0	123.2	134.0	190.7	332.1	687.9	1190.8	1269.0	1303.0
35°	114.1	110.2	111.7	124.1	179.7	329.0	719.8	1296.5	1407.8	1428.7
37.5°	113.6	109.1	111.1	120.4	183.5	334.6	770.8	1466.1	1652.6	1697.3
40°	112.5	110.0	111.1	118.1	179.5	337.7	800.2	1608.7	1823.1	1868.5
42.5°	112.4	111.1	112.2	119.9	175.3	339.1	840.9	1737.4	2002.8	2038.6
45°	111.9	113.1	113.1	121.5	173.5	348.3	864.9	1800.5	2121.3	2165.4
47.5°	109.7	113.4	119.5	121.0	165.9	344.0	898.8	1896.3	2184.3	2225.8
50°	106.9	113.0	127.5	117.9	164.7	333.5	938.4	1972.3	2265.1	2301.2
52.5°	103.2	112.2	125.7	111.9	162.5	331.6	994.0	2071.1	2359.4	2391.2
55°	98.0	109.4	119.9	105.9	157.2	325.8	1078.9	2193.5	2482.7	2504.5
57.5°	93.2	105.2	111.6	102.4	144.7	327.0	1138.0	2293.3	2586.2	2605.3
60°	88.8	104.8	99.7	98.9	131.8	310.4	1157.2	2292.2	2624.8	2654.6
62.5°	84.2	98.9	91.3	94.1	120.6	293.4	1116.5	2193.9	2583.1	2635.4
65°	78.1	84.8	84.3	90.7	120.9	265.7	1023.2	2020.6	2479.3	2548.2
67.5°	71.0	75.1	77.7	85.1	124.7	244.2	873.1	1812.1	2302.6	2384.4
70°	63.8	67.8	70.7	77.8	128.3	234.3	695.0	1519.4	2014.7	2097.8
72.5°	56.3	60.5	62.8	69.0	123.5	213.1	514.4	1182.2	1617.2	1660.8
75°	48.6	52.6	54.5	60.2	107.2	176.3	355.2	895.4	1184.5	1228.7
77.5°	40.7	45.0	45.7	50.3	81.9	134.8	227.6	686.8	838.8	868.3
80°	32.5	36.8	36.8	39.3	57.6	92.7	136.3	518.1	610.8	622.4
82.5°	23.4	28.0	27.7	27.9	39.8	57.4	78.9	388.3	441.4	443.5
85°	13.8	17.0	16.9	15.5	23.5	31.0	42.7	241.1	246.4	247.0
87.5°	2.6	4.0	3.6	1.5	6.5	9.1	12.4	44.7	17.8	17.3
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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