

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: P596662

Luminaire Tested: **MSA-SA3A-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596662  
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-SA3A-827-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS  
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

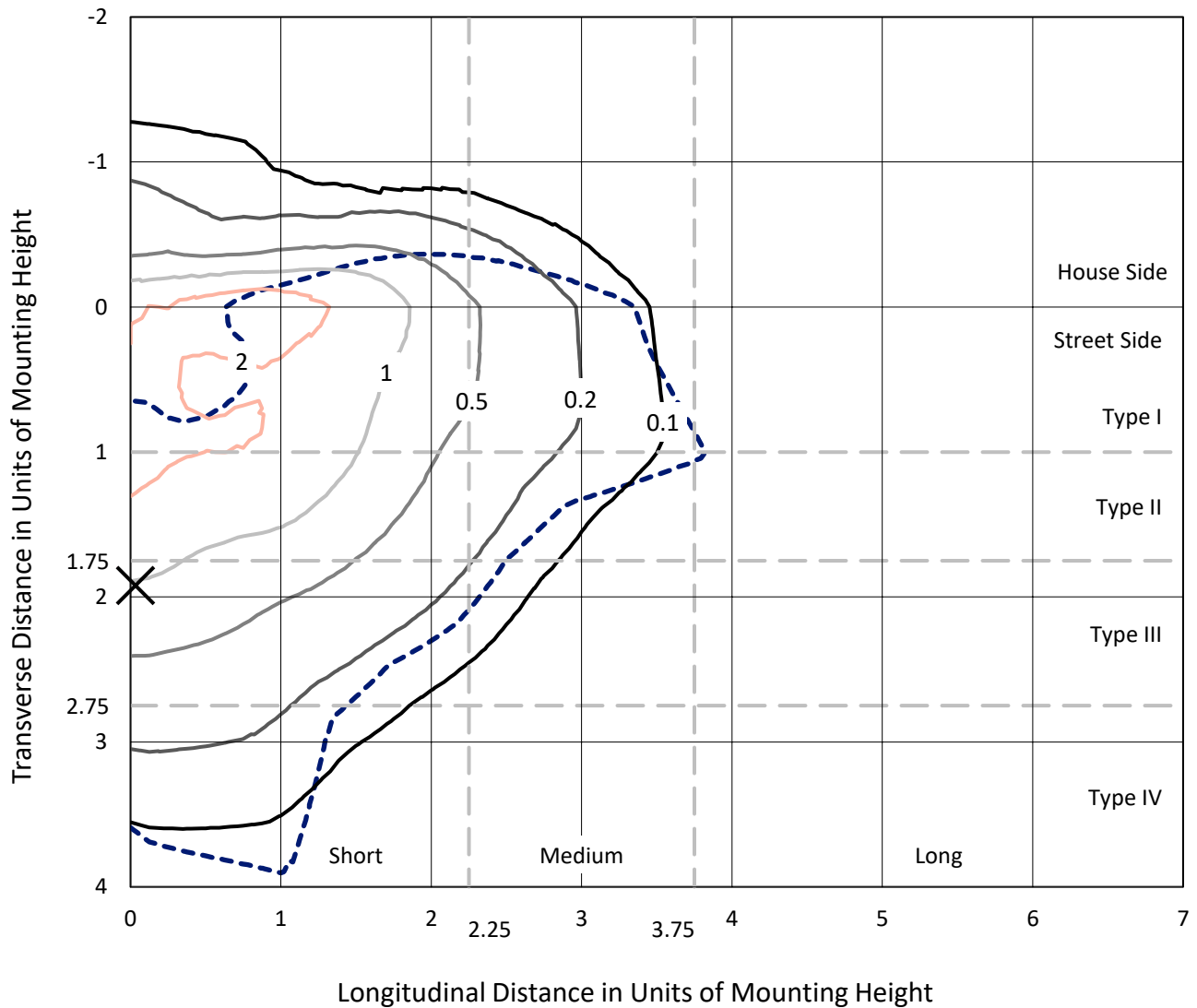
Lumens per Lamp: N/A  
Luminaire Lumens: 7387 lumens  
Efficiency: N/A  
Efficacy: 76.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

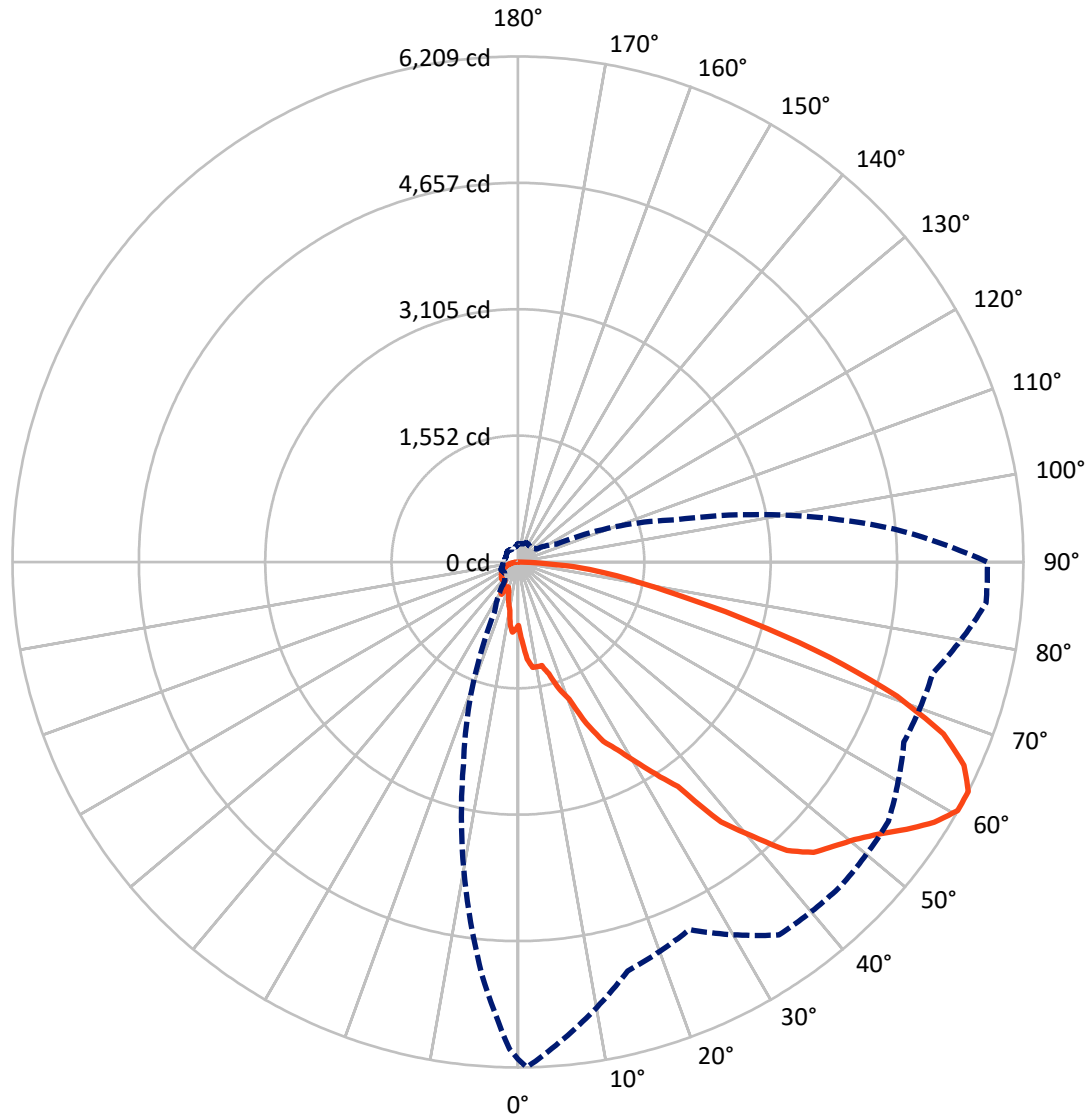
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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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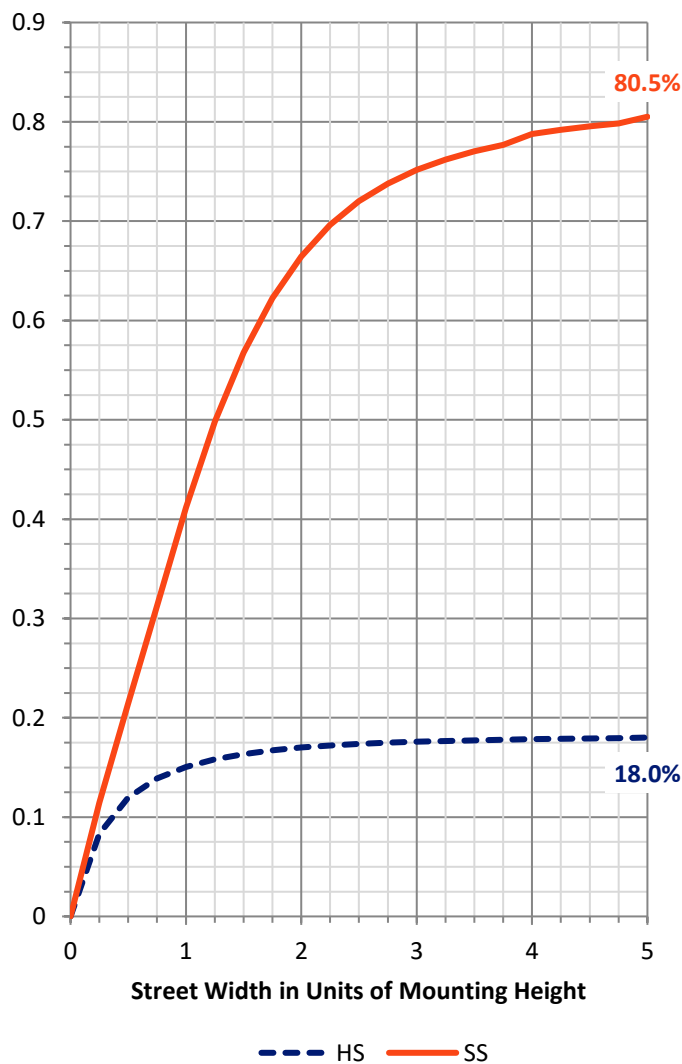
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1345.1	0.0	1345.1
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	6041.9	0.0	6041.9
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	7387.0	0.0	7387.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.3	1.2
10°-20°	259.5	3.5
20°-30°	458.1	6.2
30°-40°	713.6	9.7
40°-50°	1175.0	15.9
50°-60°	1677.0	22.7
60°-70°	1778.3	24.1
70°-80°	982.2	13.3
80°-90°	254.1	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°	7387.0	100.0
0°-180°	7387.0	100.0

**Coefficient of Utilization**



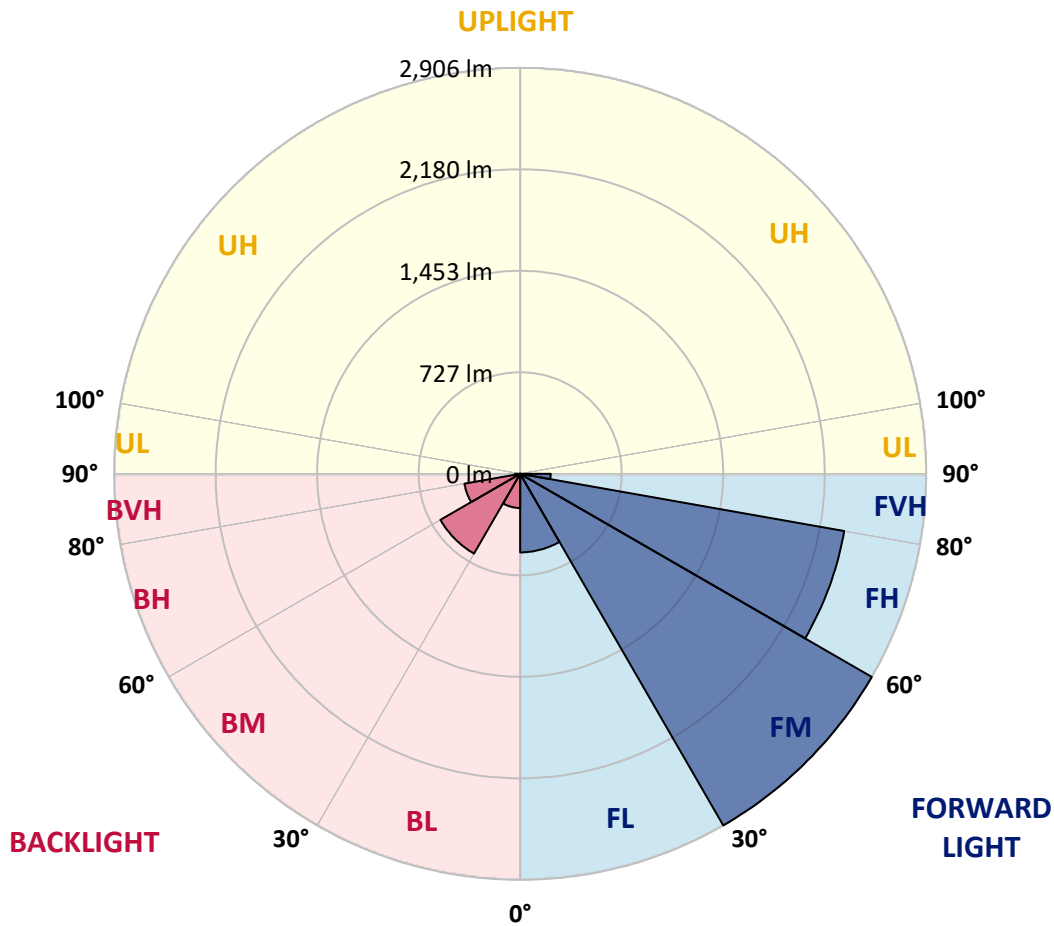
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	562.3	7.6			
FM (30°-60°)	2906.1	39.3			
FH (60°-80°)	2355.3	31.9			G2/5000
FVH (80°-90°)	218.2	3.0			G2/225
BL (0°-30°)	244.6	3.3	B1/500		
BM (30°-60°)	659.4	8.9	B1/1000		
BH (60°-80°)	405.3	5.5	B1/500		G1/500
BVH (80°-90°)	35.8	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0
2.5°	957.8	966.1	949.2	930.2	851.7	927.4	904.8	946.7	933.1	842.0	1008.7
5°	1183.7	1198.7	1182.2	1239.2	1242.8	1257.5	1121.6	1206.2	1176.9	1169.3	1253.6
7.5°	1292.6	1308.1	1350.0	1451.4	1530.7	1459.0	1379.7	1362.2	1339.2	1279.4	1330.3
10°	1299.4	1308.1	1364.3	1579.4	1617.8	1668.7	1617.4	1496.6	1446.8	1316.7	1277.9
12.5°	1279.0	1305.9	1378.7	1640.7	1754.7	1810.3	1822.8	1688.4	1566.1	1417.7	1398.0
15°	1416.3	1426.0	1530.3	1684.4	1762.9	1809.9	1850.8	1768.0	1729.6	1612.0	1453.9
17.5°	1613.1	1640.0	1725.3	1782.3	1835.4	1844.3	1810.6	1778.4	1717.4	1874.4	1706.3
20°	1746.5	1798.4	1903.1	1913.9	1802.4	1822.1	1817.4	1819.6	1784.8	2075.2	1982.7
22.5°	2099.2	2155.5	2169.8	2107.4	1897.4	1807.4	1825.3	1877.3	2014.2	2263.0	2367.7
25°	2418.6	2440.5	2571.3	2410.7	2075.9	1879.8	1850.4	1984.8	2208.2	2579.2	2653.7
27.5°	2585.3	2613.6	2700.7	2351.2	2098.1	1786.6	1717.8	1922.5	2150.1	2430.4	2757.7
30°	2798.6	2843.7	2962.4	2410.7	2165.1	1847.5	1695.2	1890.9	2142.6	2527.9	2977.8
32.5°	3018.3	3106.1	3194.3	2620.4	2155.8	1940.7	1839.7	1855.4	2210.7	2732.2	3205.8
35°	3309.4	3386.8	3462.8	2741.6	2343.7	2018.5	1918.2	2085.2	2385.6	2969.2	3523.7
37.5°	3931.7	4054.3	3853.9	3086.4	2548.0	2369.1	2188.1	2287.0	2570.6	3166.7	4043.2
40°	4328.1	4420.3	4226.7	3321.2	2907.9	2605.3	2575.6	2583.8	2825.4	3335.9	4392.7
42.5°	4722.1	4846.9	4538.9	3643.5	3343.1	3093.2	2939.8	2929.4	3110.8	3639.9	4790.2
45°	5016.0	5089.5	4646.1	3915.2	3809.8	3624.5	3509.4	3326.9	3485.7	3850.3	5036.1
47.5°	5155.9	5215.7	4818.5	4073.3	4112.3	4122.0	4329.6	4018.4	3813.4	3992.6	5165.2
50°	5330.4	5358.7	4920.0	4212.4	4399.8	4825.0	4874.8	4347.5	4132.4	4147.8	5241.5
52.5°	5539.1	5550.9	5068.0	4373.0	4690.6	5287.4	5210.3	4905.3	4436.0	4431.4	5385.3
55°	5801.5	5794.3	5253.7	4589.1	4898.1	5562.4	5503.9	5281.7	4766.9	4666.2	5609.0
57.5°	6034.8	6030.5	5500.0	4788.1	5072.7	5703.6	5720.8	5662.0	4992.0	4834.3	5851.3
60°	6149.2	6204.0	5780.3	5005.7	5083.8	5767.4	5773.8	5680.3	5243.7	5050.1	5915.8
62.5°	6104.7	6209.0	5918.0	5201.4	4981.6	5593.2	5620.1	5555.5	5232.2	5276.7	5771.7
65°	5902.5	6023.0	5798.6	5305.7	4918.9	5301.4	5308.2	5145.1	5068.4	5426.9	5434.0
67.5°	5523.3	5636.2	5418.6	5139.4	4489.5	4514.9	4666.9	4680.2	4568.3	5313.6	4959.8
70°	4859.4	4939.0	4802.8	4728.6	3752.4	3603.3	3768.2	3838.8	3889.7	4904.6	4390.5
72.5°	3847.1	4000.9	4022.4	4070.8	3021.2	2772.8	2895.0	2790.3	3121.9	4174.4	3587.2
75°	2846.2	2976.0	3115.4	3385.4	2381.3	2075.9	2060.8	2007.4	2317.1	3357.1	2660.6
77.5°	2011.4	2094.2	2201.4	2704.3	1797.0	1598.8	1608.1	1554.0	1673.3	2537.2	1837.9
80°	1441.8	1485.1	1535.0	1781.6	1325.6	1379.4	1380.8	1329.6	1244.2	1723.2	1226.7
82.5°	1027.4	1061.1	1118.1	1175.1	988.3	1130.6	1129.5	1126.3	986.5	1164.7	767.5
85°	572.1	617.3	716.2	920.5	713.7	808.3	710.8	782.9	724.1	775.4	388.6
87.5°	40.1	35.8	160.2	533.4	333.0	243.4	127.6	252.7	324.1	405.1	54.1
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0
2.5°	1043.1	1055.7	1006.6	932.7	952.8	930.9	903.3	860.3	771.8	826.6	827.0
5°	1252.8	1205.2	1166.8	1130.6	1069.7	977.5	965.4	891.5	849.9	871.8	868.6
7.5°	1318.4	1250.7	1193.0	1063.6	950.7	807.6	764.6	720.9	702.6	755.7	776.8
10°	1246.4	1175.8	1119.1	961.8	885.1	795.8	677.5	616.9	581.1	595.1	603.3
12.5°	1304.5	1232.4	1054.3	966.4	839.9	785.4	681.8	592.9	539.9	552.8	537.3
15°	1360.4	1263.2	1085.1	910.2	807.6	728.8	644.9	553.1	490.7	468.5	456.7
17.5°	1564.7	1403.4	1081.5	878.6	761.0	670.3	569.2	468.9	427.3	404.4	384.6
20°	1813.8	1589.1	1100.9	846.0	711.6	597.2	487.2	394.0	364.9	349.9	344.5
22.5°	2110.3	1827.1	1211.6	841.3	665.0	543.8	442.0	383.9	351.3	334.8	328.0
25°	2345.8	2073.4	1293.4	872.9	662.4	499.7	414.7	426.6	411.5	416.5	376.8
27.5°	2574.5	2140.4	1247.5	858.9	595.8	421.6	408.3	433.0	445.9	449.9	448.4
30°	2767.7	2423.6	1257.5	780.0	503.3	343.4	312.6	324.8	360.3	416.5	427.3
32.5°	3050.6	2559.1	1343.2	732.4	449.9	307.2	272.8	268.1	276.4	296.8	314.4
35°	3381.4	2871.0	1367.2	719.8	413.0	291.1	267.1	256.3	260.6	276.0	279.6
37.5°	3998.4	3098.2	1456.1	704.4	399.3	281.4	262.8	258.8	268.1	280.7	287.9
40°	4338.5	3506.9	1460.4	691.1	381.8	277.5	265.6	263.8	269.6	286.8	291.1
42.5°	4792.0	3739.9	1527.8	675.7	375.7	282.8	271.4	270.6	275.7	285.7	293.6
45°	5068.4	3895.8	1531.4	666.8	374.2	306.5	278.9	276.4	275.3	281.4	288.6
47.5°	5246.5	4120.6	1575.1	656.7	382.8	312.6	287.9	277.1	273.5	276.0	281.4
50°	5415.4	4300.2	1657.9	655.3	391.8	306.5	303.6	276.7	269.6	268.5	272.4
52.5°	5622.6	4595.6	1760.1	668.9	389.7	297.5	315.5	275.3	262.4	259.9	263.8
55°	5924.0	4912.1	1868.7	657.4	367.4	280.3	304.0	274.2	254.9	250.2	253.8
57.5°	6119.4	5093.5	1990.2	647.8	333.7	267.4	293.6	274.9	255.6	245.2	247.3
60°	6054.5	4996.0	2037.9	588.6	301.8	257.4	268.9	269.2	249.1	239.5	241.2
62.5°	5767.8	4642.9	1993.4	519.8	278.2	243.0	243.4	258.5	230.5	223.7	226.6
65°	5367.0	4203.8	1813.5	475.0	267.1	228.0	222.3	226.9	205.4	200.4	206.1
67.5°	4875.2	3662.5	1545.7	427.7	263.1	207.6	200.7	198.9	185.3	179.6	185.3
70°	4258.2	3066.7	1235.6	394.3	248.1	185.3	180.0	178.2	166.7	162.4	167.4
72.5°	3422.7	2394.6	953.5	368.9	231.6	164.9	160.2	158.1	148.4	142.3	148.4
75°	2434.4	1830.0	708.3	329.8	208.3	144.1	138.7	135.9	126.9	121.2	126.5
77.5°	1730.0	1373.7	494.7	272.8	171.7	121.9	118.7	114.0	106.1	99.3	104.7
80°	1279.0	981.5	319.0	210.4	131.2	97.5	95.7	92.5	85.0	76.7	80.7
82.5°	842.0	707.6	182.8	142.7	95.4	70.3	71.7	69.5	62.4	53.8	55.9
85°	377.1	419.0	97.1	78.5	62.0	42.3	46.2	44.8	39.4	31.2	31.9
87.5°	36.2	70.6	29.8	28.7	22.9	13.3	16.5	14.0	11.8	7.5	5.7
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°	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0
2.5°	839.5	789.0	738.4	769.3	770.0	778.2	779.3	748.8	773.2	791.9	811.2
5°	852.8	819.8	821.6	791.9	775.7	796.5	792.2	784.0	798.7	819.1	843.8
7.5°	756.7	735.2	731.6	703.0	633.4	618.0	630.9	636.3	656.0	687.5	714.1
10°	590.8	633.4	585.4	574.3	556.0	520.1	499.3	496.8	538.8	564.2	586.5
12.5°	532.3	521.6	515.8	485.4	485.4	447.4	435.2	446.3	510.8	529.1	557.8
15°	453.5	445.6	419.0	404.0	396.8	381.4	394.3	405.1	465.3	466.7	496.8
17.5°	376.4	371.7	346.6	343.8	336.6	329.8	341.6	367.4	400.1	394.3	408.3
20°	336.6	320.5	297.5	305.8	298.2	292.9	287.9	324.4	347.4	354.9	363.1
22.5°	326.6	297.2	283.5	276.0	276.4	267.8	268.9	299.3	334.1	338.8	333.7
25°	373.2	320.8	276.7	254.9	246.6	243.8	252.0	278.9	320.8	330.9	334.8
27.5°	436.6	348.4	285.0	247.7	231.2	232.6	244.5	263.1	312.6	330.5	335.2
30°	419.0	327.6	285.3	242.3	221.9	229.4	233.7	251.6	306.1	333.0	356.3
32.5°	323.3	294.7	287.1	246.6	238.4	226.6	232.6	249.9	287.1	304.0	305.1
35°	273.9	252.0	247.0	236.9	225.5	220.5	227.3	242.3	266.7	277.1	275.7
37.5°	271.7	247.7	228.0	223.7	219.0	217.6	221.5	235.5	260.2	278.5	274.6
40°	275.3	245.6	225.5	217.9	219.7	213.3	217.2	234.4	261.3	278.5	274.9
42.5°	271.0	243.0	222.3	216.5	218.3	209.3	214.0	231.9	258.5	278.9	272.1
45°	262.4	237.3	220.5	210.8	219.0	205.8	211.5	225.5	249.9	272.1	264.2
47.5°	253.8	230.5	212.9	206.8	215.1	202.2	204.7	216.9	241.2	263.1	256.3
50°	244.5	221.9	206.8	205.0	210.8	201.5	197.5	207.6	230.9	252.7	247.0
52.5°	234.4	214.7	202.5	201.8	207.2	196.8	191.1	198.9	219.7	241.6	236.9
55°	224.8	206.8	197.2	198.9	205.0	192.9	185.7	190.7	207.9	229.4	223.0
57.5°	215.1	197.9	190.0	195.0	199.7	187.8	178.9	181.7	195.7	216.9	209.3
60°	206.5	190.0	182.1	188.2	192.5	180.3	169.9	171.7	184.3	203.3	196.4
62.5°	195.4	181.4	171.0	178.9	182.1	170.3	159.2	161.3	171.3	189.3	184.3
65°	179.6	170.6	161.0	166.3	170.6	158.4	148.0	150.6	158.1	174.9	171.3
67.5°	166.0	157.4	150.9	155.2	155.9	146.6	137.3	138.7	144.8	160.6	156.7
70°	150.9	142.7	137.7	140.9	140.5	132.6	125.5	125.8	130.8	145.2	139.8
72.5°	134.4	126.5	124.0	125.8	124.4	117.2	110.4	112.9	116.1	126.9	122.6
75°	116.9	109.7	108.3	110.0	107.9	101.1	95.0	97.5	100.4	109.3	104.0
77.5°	98.6	92.1	92.5	92.8	90.0	85.3	79.2	81.7	83.5	89.6	84.2
80°	78.5	73.5	74.9	74.9	71.7	68.5	62.7	63.4	64.5	66.7	62.7
82.5°	57.4	57.4	57.4	57.7	50.9	52.0	47.0	46.6	45.5	45.2	42.7
85°	34.1	35.5	36.2	37.3	27.6	32.3	28.0	26.9	24.7	22.6	21.9
87.5°	7.5	9.7	9.7	9.3	0.0	3.6	1.8	2.9	0.7	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°	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0	779.0
2.5°	789.0	767.5	807.6	843.5	837.7	858.5	810.1	881.8	957.8	957.8
5°	837.4	819.1	829.5	850.3	866.1	938.5	998.7	1058.6	1182.2	1183.7
7.5°	706.2	745.6	754.9	748.8	816.6	909.8	1009.1	1179.7	1284.4	1292.6
10°	660.3	678.2	706.5	722.3	749.9	841.7	965.0	1167.5	1278.7	1299.4
12.5°	598.3	664.6	707.6	795.8	817.7	835.9	1032.0	1207.3	1284.0	1279.0
15°	530.5	580.7	642.7	740.2	795.8	935.6	1071.8	1334.9	1378.3	1416.3
17.5°	423.0	459.9	542.4	653.5	791.1	919.8	1170.0	1492.7	1573.7	1613.1
20°	348.1	348.4	430.9	578.2	728.0	853.9	1207.3	1623.5	1726.4	1746.5
22.5°	329.1	312.6	356.0	475.7	658.5	892.9	1282.6	1833.9	2048.6	2099.2
25°	318.7	298.6	325.8	419.8	608.7	913.4	1434.2	2123.2	2398.9	2418.6
27.5°	323.0	332.3	340.9	374.2	545.6	875.0	1399.1	2252.6	2548.0	2585.3
30°	352.0	367.1	347.4	358.8	493.6	819.5	1461.8	2462.7	2735.8	2798.6
32.5°	292.9	287.1	285.3	310.4	441.6	769.3	1593.4	2758.4	2939.4	3018.3
35°	264.2	255.2	258.8	287.5	416.2	762.1	1667.2	3003.2	3261.0	3309.4
37.5°	263.1	252.7	257.4	278.9	425.1	775.0	1785.5	3396.1	3828.1	3931.7
40°	260.6	254.9	257.4	273.5	415.8	782.2	1853.6	3726.3	4223.1	4328.1
42.5°	260.2	257.4	259.9	277.8	406.1	785.4	1947.9	4024.5	4639.3	4722.1
45°	259.2	262.0	262.0	281.4	401.8	806.9	2003.5	4170.8	4913.9	5016.0
47.5°	254.2	262.8	276.7	280.3	384.3	796.9	2082.0	4392.7	5059.8	5155.9
50°	247.7	261.7	295.4	273.2	381.4	772.5	2173.8	4568.7	5246.9	5330.4
52.5°	239.1	259.9	291.1	259.2	376.4	768.2	2302.4	4797.4	5465.2	5539.1
55°	226.9	253.4	277.8	245.2	364.2	754.6	2499.2	5080.9	5750.9	5801.5
57.5°	215.8	243.8	258.5	237.3	335.2	757.4	2636.2	5312.1	5990.7	6034.8
60°	205.8	242.7	230.9	229.1	305.4	719.1	2680.6	5309.6	6080.0	6149.2
62.5°	195.0	229.1	211.5	217.9	279.2	679.7	2586.3	5082.0	5983.6	6104.7
65°	181.0	196.4	195.4	210.1	280.0	615.5	2370.2	4680.5	5743.0	5902.5
67.5°	164.5	173.9	180.0	197.2	288.9	565.7	2022.5	4197.7	5333.7	5523.3
70°	147.7	157.0	163.8	180.3	297.2	542.7	1609.9	3519.4	4666.9	4859.4
72.5°	130.5	140.2	145.5	159.9	286.1	493.6	1191.5	2738.3	3746.0	3847.1
75°	112.6	121.9	126.2	139.4	248.4	408.3	822.7	2074.1	2743.7	2846.2
77.5°	94.3	104.3	105.7	116.5	189.6	312.2	527.3	1590.9	1942.9	2011.4
80°	75.3	85.3	85.3	91.1	133.4	214.7	315.8	1200.2	1414.9	1441.8
82.5°	54.1	64.9	64.2	64.5	92.1	133.0	182.8	899.4	1022.4	1027.4
85°	31.9	39.4	39.1	35.8	54.5	71.7	98.9	558.5	570.7	572.1
87.5°	6.1	9.3	8.2	3.6	15.1	21.1	28.7	103.6	41.2	40.1
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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