

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: P366631

Luminaire Tested: **MSA-SA1A-730-U-SLL-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366631  
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-SA1A-730-U-SLL-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

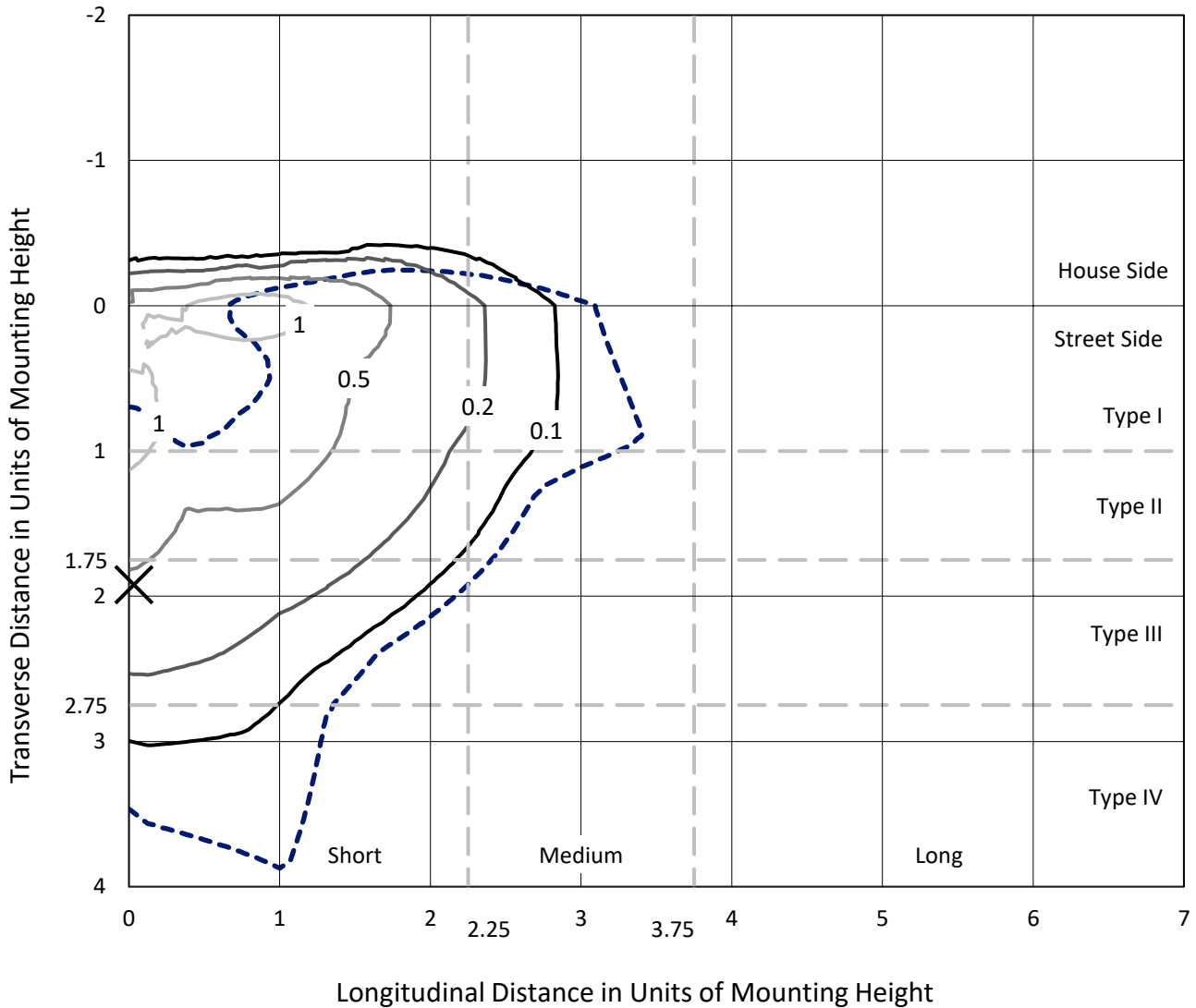
Lumens per Lamp: N/A  
Luminaire Lumens: 2685 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

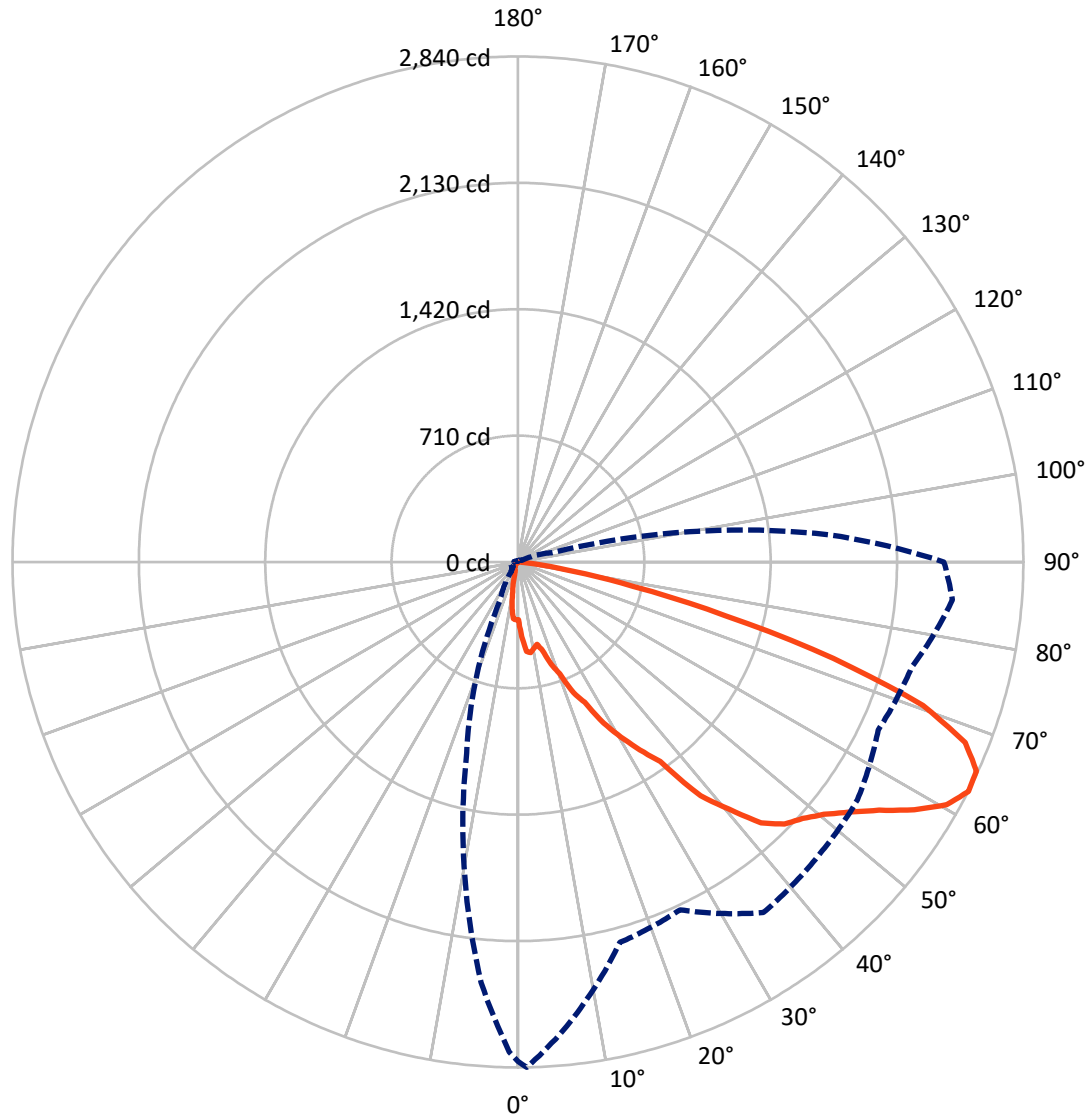
✕ Max cd  
 - - - 1/2 Max cd



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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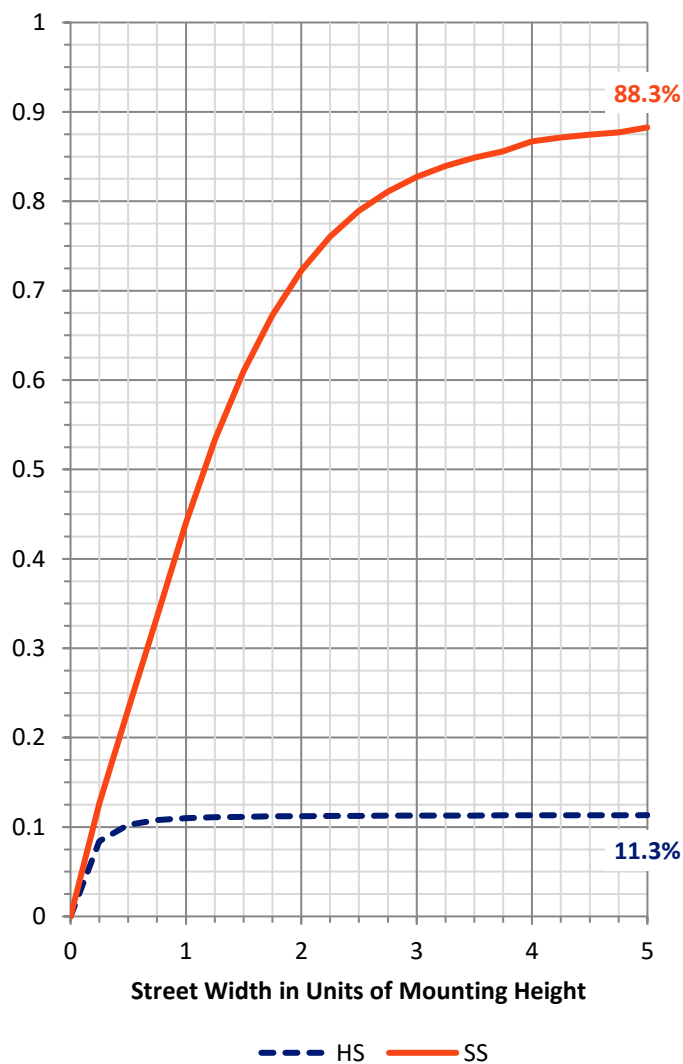
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	307.0	0.0	307.0
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	2378.0	0.0	2378.0
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	2685.0	0.0	2685.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.1	1.3
10°-20°	94.4	3.5
20°-30°	152.6	5.7
30°-40°	255.6	9.5
40°-50°	417.9	15.6
50°-60°	618.7	23.0
60°-70°	710.3	26.5
70°-80°	351.2	13.1
80°-90°	48.2	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°	2685.0	100.0
0°-180°	2685.0	100.0

**Coefficient of Utilization**



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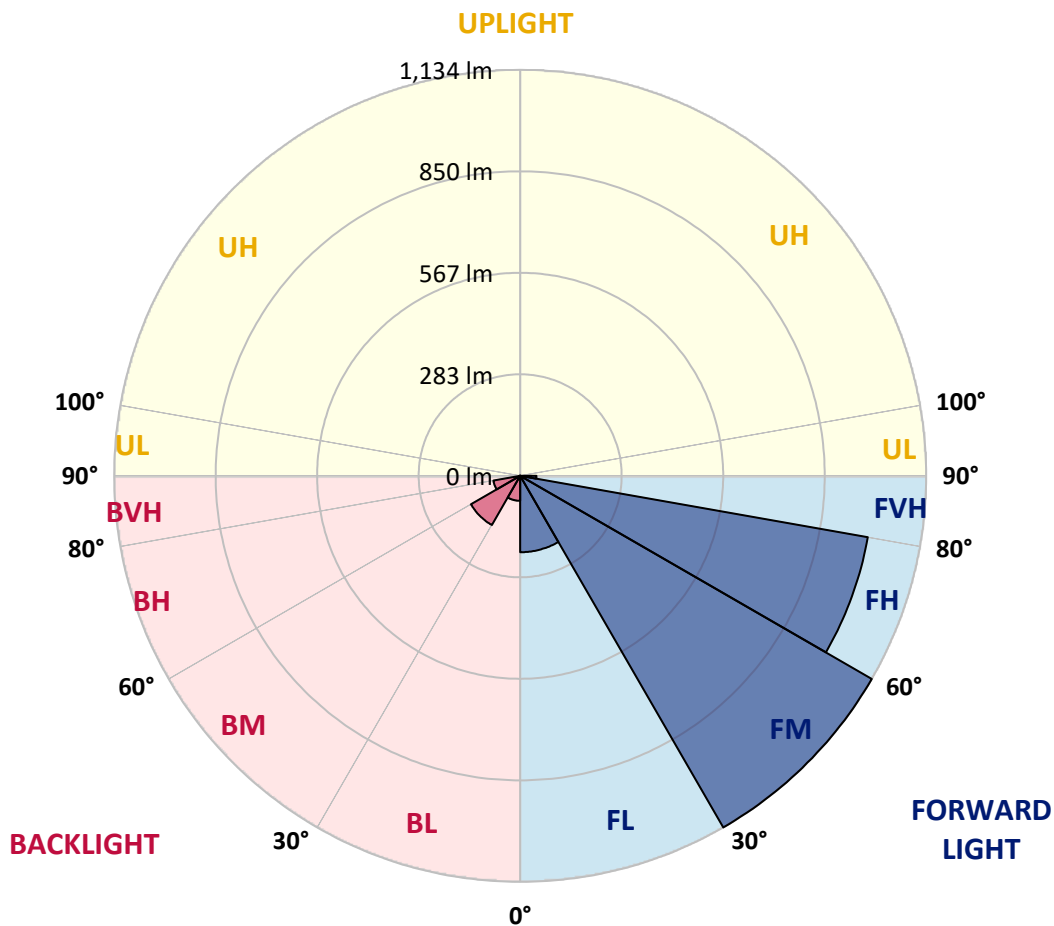
CATALOG NUMBER: MSA-SA1A-730-U-SLL-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	213.3	7.9			
FM (30°-60°)	1133.6	42.2			
FH (60°-80°)	985.6	36.7			G1/1800
FVH (80°-90°)	45.5	1.7			G1/100
BL (0°-30°)	69.9	2.6	B0/110		
BM (30°-60°)	158.6	5.9	B0/220		
BH (60°-80°)	75.9	2.8	B0/110		G0/110
BVH (80°-90°)	2.7	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5
2.5°	417.1	419.1	409.7	408.5	386.8	413.9	414.6	417.9	398.0	359.4	413.3
5°	499.1	504.6	497.4	529.4	538.6	558.3	522.1	554.5	540.7	544.5	552.3
7.5°	508.9	514.6	529.7	583.3	632.7	620.3	616.3	628.5	627.5	599.2	613.2
10°	488.5	493.3	518.5	616.0	637.6	693.3	706.9	678.7	667.3	605.3	578.2
12.5°	466.4	474.3	506.4	623.3	688.1	744.4	789.2	749.1	711.0	645.1	620.3
15°	508.9	513.3	563.8	638.6	695.3	734.1	770.8	757.5	751.7	704.3	620.3
17.5°	592.3	602.7	639.3	676.1	720.8	744.2	735.5	731.4	716.5	791.0	704.1
20°	651.6	671.1	719.0	734.9	699.4	721.3	715.9	712.2	700.6	839.2	800.5
22.5°	780.2	798.1	799.0	804.7	722.0	687.1	678.3	679.3	732.1	853.6	920.5
25°	867.7	873.8	922.2	881.8	783.8	697.5	663.7	678.9	754.9	957.0	1033.2
27.5°	1010.9	1025.4	1055.6	918.8	820.9	691.0	637.1	692.2	814.9	991.3	1158.5
30°	1127.6	1141.6	1190.1	969.4	853.0	723.6	648.6	719.0	852.2	1061.9	1271.2
32.5°	1222.4	1258.3	1313.4	1047.6	851.8	761.0	707.2	710.1	898.1	1153.2	1382.5
35°	1343.4	1376.9	1415.6	1101.5	907.5	773.1	724.5	797.3	966.4	1248.7	1532.5
37.5°	1616.2	1666.8	1590.3	1237.2	972.3	882.4	792.7	851.0	1037.8	1346.1	1738.6
40°	1782.7	1825.3	1751.4	1306.5	1084.6	937.5	914.5	944.3	1107.8	1396.5	1893.9
42.5°	1946.7	2003.0	1879.5	1410.9	1191.3	1092.9	1030.2	1054.2	1208.9	1518.0	2068.6
45°	2065.4	2100.3	1907.2	1465.5	1337.9	1270.1	1228.3	1192.5	1350.0	1596.0	2181.4
47.5°	2125.1	2152.9	1961.8	1482.8	1425.1	1457.5	1549.0	1474.2	1474.8	1652.4	2242.1
50°	2207.7	2227.1	1992.4	1503.4	1519.8	1749.6	1795.8	1636.5	1617.4	1709.1	2252.1
52.5°	2323.8	2333.3	2051.8	1557.9	1661.6	1978.3	1995.0	1930.6	1760.2	1814.3	2274.1
55°	2478.2	2461.5	2157.8	1672.3	1809.6	2145.9	2168.2	2112.1	1939.6	1919.4	2342.3
57.5°	2644.7	2625.6	2315.0	1833.6	1970.1	2274.0	2287.3	2291.7	2058.8	2012.5	2458.3
60°	2764.0	2767.5	2512.8	2018.6	2069.8	2396.5	2369.9	2329.5	2179.1	2148.8	2514.8
62.5°	2805.8	2839.6	2666.9	2212.4	2155.8	2404.2	2362.8	2328.7	2232.9	2289.4	2450.1
65°	2771.7	2830.7	2702.7	2382.7	2207.9	2308.2	2265.2	2243.4	2231.3	2346.8	2306.8
67.5°	2636.1	2710.0	2600.2	2384.3	2018.7	1965.3	2016.1	2085.4	2045.4	2299.2	2106.3
70°	2332.4	2413.3	2362.2	2244.4	1681.7	1546.3	1602.3	1707.1	1678.8	2044.9	1811.1
72.5°	1749.9	1854.0	1864.1	1937.6	1335.0	1163.8	1171.9	1169.0	1217.8	1648.9	1413.3
75°	1124.1	1205.1	1314.5	1563.6	1014.1	849.6	771.9	752.9	844.0	1288.4	1011.8
77.5°	652.6	662.2	712.7	1179.7	726.3	612.2	559.2	586.3	618.1	899.2	670.6
80°	312.1	317.0	337.8	607.0	504.6	529.9	489.0	519.4	424.4	516.8	380.5
82.5°	99.0	100.1	103.6	298.2	313.4	351.0	224.9	301.6	262.4	312.4	253.4
85°	16.5	28.2	34.7	86.1	176.9	118.4	48.8	107.6	146.4	197.1	115.1
87.5°	0.0	0.0	0.0	1.5	14.4	6.7	1.1	6.1	22.5	43.9	5.2
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°	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5
2.5°	428.9	439.4	399.6	364.0	373.0	365.8	355.0	336.5	293.6	325.1	323.0
5°	551.9	532.3	478.4	453.4	422.8	376.1	370.4	334.6	318.9	321.5	319.2
7.5°	594.7	559.7	512.1	436.5	364.8	297.4	276.8	253.4	248.6	258.7	265.3
10°	561.1	523.9	482.3	388.3	333.1	284.4	233.5	200.7	183.0	180.9	182.7
12.5°	576.5	536.4	450.8	378.8	321.2	277.1	220.2	170.8	132.2	135.1	127.5
15°	587.2	541.2	443.3	358.9	296.5	237.6	169.1	119.6	88.1	79.0	73.4
17.5°	650.1	584.3	433.8	336.0	262.1	185.0	106.2	69.3	59.1	55.8	53.2
20°	730.9	637.4	433.6	311.8	211.3	115.7	66.3	50.2	47.7	49.6	47.6
22.5°	824.8	708.1	456.7	281.7	151.6	73.0	51.6	44.5	42.1	43.6	43.8
25°	919.4	814.1	475.5	253.1	105.6	56.0	45.9	41.0	38.3	39.6	38.9
27.5°	1090.2	902.0	471.3	216.5	77.7	49.3	42.7	38.4	34.3	36.4	36.3
30°	1201.8	1057.0	487.9	165.2	61.7	43.1	39.8	35.0	30.6	33.0	32.9
32.5°	1335.4	1123.5	506.0	126.8	51.3	40.9	35.8	31.2	28.6	30.1	29.8
35°	1485.5	1255.1	472.8	105.6	44.5	36.9	31.7	28.2	25.9	26.6	26.6
37.5°	1750.7	1365.1	452.9	86.0	41.5	33.4	29.7	25.4	24.0	24.0	24.8
40°	1901.2	1533.1	393.5	68.1	42.4	30.8	27.7	23.3	21.4	21.3	22.0
42.5°	2097.1	1630.0	356.3	55.1	38.4	30.0	25.4	21.1	19.0	18.8	19.6
45°	2213.2	1684.1	304.0	43.3	34.4	34.9	23.6	19.4	16.2	15.6	17.0
47.5°	2286.5	1755.9	274.3	34.4	30.0	34.7	23.0	16.8	13.6	12.9	14.1
50°	2323.7	1791.4	268.5	29.5	26.0	31.1	26.3	14.1	11.6	10.6	11.6
52.5°	2362.4	1849.1	270.7	27.2	23.0	24.9	24.9	12.1	10.3	9.0	9.8
55°	2440.6	1934.3	265.9	25.9	21.1	19.0	16.1	10.7	9.3	8.0	8.7
57.5°	2536.7	1995.5	265.9	24.6	19.6	16.2	12.9	9.9	8.6	6.9	7.5
60°	2518.5	1931.1	252.8	23.4	18.4	15.1	11.6	9.2	8.0	6.3	6.7
62.5°	2393.4	1755.9	204.7	21.6	17.3	14.4	10.6	8.7	7.5	5.5	6.0
65°	2246.6	1569.8	142.3	19.6	16.1	13.0	9.5	8.3	6.9	4.9	5.2
67.5°	2069.7	1348.1	79.0	17.6	14.8	11.3	8.7	8.1	6.6	4.4	4.7
70°	1762.8	1017.8	42.4	16.1	13.9	10.4	8.3	8.1	6.6	4.3	4.4
72.5°	1323.3	640.9	24.8	14.7	12.7	9.6	7.8	8.3	6.4	4.1	4.1
75°	900.4	389.1	17.7	12.5	11.3	8.1	7.5	8.0	6.6	4.1	3.8
77.5°	612.2	273.4	14.5	11.3	10.3	7.2	7.7	8.0	6.6	3.4	2.6
80°	382.2	141.1	11.0	9.0	8.9	6.3	7.7	6.9	4.3	0.8	0.0
82.5°	267.3	52.5	6.4	6.9	6.9	4.4	6.0	4.9	2.4	0.0	0.0
85°	112.2	9.0	3.5	4.9	4.3	2.6	4.7	3.7	1.5	0.0	0.0
87.5°	2.0	0.0	1.4	2.9	3.1	1.5	2.4	1.5	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°	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5
2.5°	333.1	318.6	288.0	302.6	301.1	307.8	308.5	292.9	326.5	347.3	350.4
5°	319.5	309.7	308.0	299.6	297.4	309.8	303.1	302.6	318.9	342.6	342.7
7.5°	265.5	258.0	261.5	251.7	226.4	228.0	230.3	239.9	253.8	269.4	275.1
10°	182.2	201.7	187.4	186.2	183.6	175.5	169.1	174.1	192.2	206.6	211.9
12.5°	130.1	133.1	141.8	138.6	143.1	136.2	133.6	149.3	166.9	181.6	192.2
15°	76.0	81.2	86.4	97.5	101.9	100.5	108.5	121.6	135.9	142.6	155.6
17.5°	53.6	54.0	55.1	67.0	74.8	77.9	82.6	92.6	98.4	101.4	106.8
20°	46.8	45.4	43.6	50.3	57.7	61.5	60.1	67.9	72.7	75.7	79.6
22.5°	42.4	40.1	39.0	41.3	47.0	50.3	51.0	55.5	62.7	64.9	66.1
25°	38.3	36.7	36.0	37.2	40.2	43.5	44.1	50.0	56.5	57.4	59.8
27.5°	35.5	32.6	32.9	33.8	35.2	39.2	40.4	43.8	53.1	54.2	54.9
30°	32.6	29.5	30.4	31.4	30.8	35.7	37.5	41.3	50.3	52.0	52.9
32.5°	29.7	27.4	27.2	28.2	29.2	31.8	35.8	40.2	48.5	50.8	53.1
35°	26.5	24.6	24.9	25.1	26.5	29.8	32.7	35.0	40.7	41.9	42.7
37.5°	24.2	22.6	22.3	23.9	25.2	27.8	28.9	30.0	37.5	40.2	40.4
40°	21.4	20.5	20.5	21.6	24.6	24.3	25.7	29.1	36.3	39.2	39.5
42.5°	19.4	18.2	18.5	19.6	21.7	20.2	23.0	27.8	35.8	38.7	38.6
45°	16.4	16.1	16.7	17.6	18.5	17.1	21.4	26.6	34.3	38.1	37.0
47.5°	13.6	13.6	14.4	15.3	14.8	15.3	19.4	24.9	33.4	36.9	36.1
50°	11.2	11.3	12.1	13.6	12.2	13.5	17.4	23.3	31.8	35.7	35.0
52.5°	9.5	9.6	10.1	11.2	10.6	12.2	16.1	21.6	30.3	33.5	33.2
55°	8.3	8.6	8.6	9.2	9.5	11.5	14.5	19.9	28.0	31.5	30.9
57.5°	7.3	7.7	7.5	8.0	8.3	10.1	13.0	18.1	25.7	28.6	27.7
60°	6.6	6.9	6.7	7.3	7.2	8.7	11.3	16.1	23.3	25.6	24.8
62.5°	5.8	6.1	6.1	6.4	6.6	7.3	9.8	14.2	20.8	22.6	22.0
65°	5.2	5.5	5.7	5.5	5.8	6.3	8.3	12.9	18.1	19.9	19.0
67.5°	4.7	5.0	5.4	4.7	5.0	5.2	7.0	11.5	15.9	17.4	16.7
70°	4.6	4.7	4.7	4.1	4.0	4.1	6.1	9.8	13.9	15.5	14.4
72.5°	4.3	4.4	4.3	3.4	2.9	3.2	5.2	8.3	11.8	13.0	12.1
75°	4.0	4.1	4.0	2.8	1.8	2.3	4.3	7.2	10.1	10.7	10.3
77.5°	3.4	3.7	3.7	2.0	0.6	1.4	3.2	5.8	8.4	8.4	8.6
80°	0.3	0.9	1.5	1.1	0.0	0.2	1.1	3.1	5.4	5.2	5.7
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.8	1.4	1.5
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°	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5	323.5
2.5°	343.2	338.4	344.4	362.6	355.3	356.7	351.8	381.9	416.0	417.1
5°	343.0	338.8	347.6	346.9	367.8	390.6	412.7	448.3	498.8	499.1
7.5°	272.5	297.9	304.5	302.5	329.4	360.8	394.8	463.0	504.5	508.9
10°	245.7	256.7	270.2	275.1	286.3	316.1	354.5	431.8	478.3	488.5
12.5°	213.0	248.2	266.1	300.8	307.2	311.5	372.1	439.3	467.6	466.4
15°	176.4	207.0	235.3	277.7	295.1	340.1	387.9	475.8	492.7	508.9
17.5°	124.9	148.0	191.4	235.9	289.2	338.1	431.3	541.2	573.0	592.3
20°	83.5	94.7	134.0	192.9	260.4	309.1	449.1	600.2	635.0	651.6
22.5°	67.8	73.1	93.5	141.4	222.5	307.7	456.3	664.7	758.0	780.2
25°	59.7	63.3	74.2	104.7	184.7	301.6	496.0	737.2	849.8	867.7
27.5°	52.2	57.7	65.8	86.3	158.4	297.3	516.2	859.0	993.3	1010.9
30°	49.9	56.6	64.4	78.6	140.0	280.8	548.4	968.8	1096.3	1127.6
32.5°	53.9	56.2	60.0	72.1	125.8	263.3	604.8	1100.1	1181.5	1222.4
35°	42.7	46.8	53.6	66.1	119.8	262.4	636.8	1184.6	1318.1	1343.4
37.5°	41.8	45.6	54.3	64.4	127.0	269.4	684.2	1357.6	1564.5	1616.2
40°	40.5	45.4	53.7	63.6	127.0	276.3	714.5	1496.1	1730.2	1782.7
42.5°	40.1	46.4	53.6	66.9	123.0	280.2	760.3	1634.2	1905.2	1946.7
45°	39.8	47.3	54.0	70.7	122.1	292.7	786.1	1701.4	2017.8	2065.4
47.5°	39.0	47.3	60.3	68.4	117.0	291.5	819.6	1801.0	2085.0	2125.1
50°	38.4	47.6	68.2	64.1	117.8	284.0	865.1	1894.5	2179.1	2207.7
52.5°	37.0	48.7	67.0	58.1	115.5	283.2	932.9	2027.5	2302.9	2323.8
55°	34.0	47.3	60.6	50.8	107.4	274.5	1022.7	2200.4	2474.5	2478.2
57.5°	31.2	43.9	50.6	46.7	90.0	275.6	1100.1	2359.5	2627.5	2644.7
60°	28.5	45.6	39.3	43.5	74.5	256.0	1137.6	2420.4	2738.9	2764.0
62.5°	25.9	42.1	33.5	39.9	66.4	237.8	1111.6	2371.4	2753.2	2805.8
65°	23.0	29.2	28.3	35.8	67.2	212.2	1024.7	2228.0	2699.2	2771.7
67.5°	19.7	23.0	24.9	30.9	71.9	190.3	875.6	1997.9	2553.9	2636.1
70°	17.3	20.7	21.7	27.1	74.8	176.0	691.0	1678.6	2256.5	2332.4
72.5°	14.4	19.1	19.4	23.7	72.1	161.7	492.4	1205.1	1713.5	1749.9
75°	12.4	15.9	17.6	19.9	60.6	120.7	271.3	745.9	1083.4	1124.1
77.5°	11.2	12.1	13.3	13.8	25.7	62.9	93.3	459.9	606.7	652.6
80°	8.6	9.5	9.2	9.5	14.1	21.7	35.5	215.6	286.6	312.1
82.5°	2.8	4.6	5.0	4.3	9.2	10.7	10.3	74.5	93.2	99.0
85°	0.6	1.7	0.8	0.0	3.1	5.5	0.8	11.3	22.3	16.5
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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