

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: P366697

Luminaire Tested: **MSA-SA1A-760-U-SLL-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366697  
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-760-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**

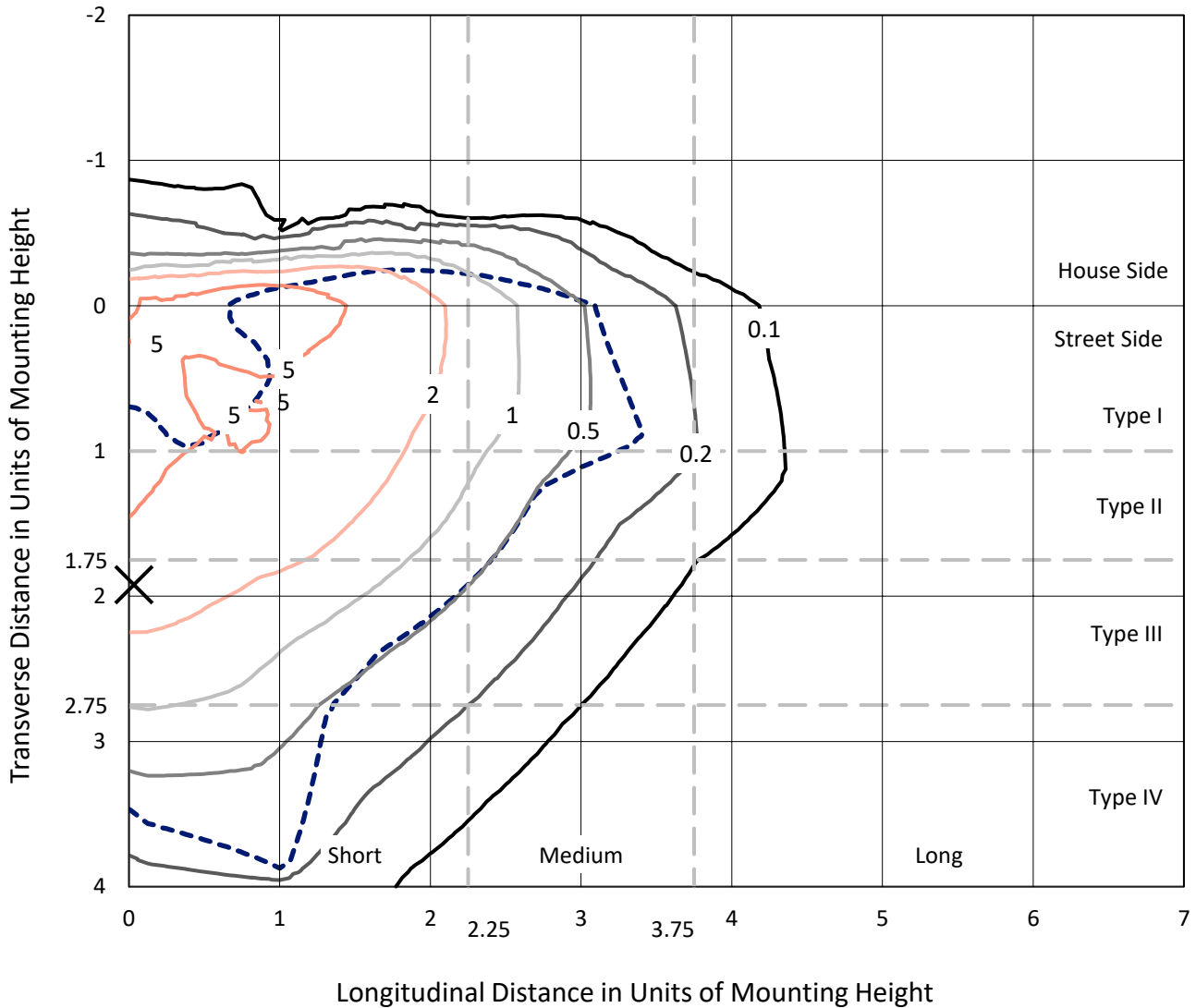
Lumens per Lamp: N/A  
Luminaire Lumens: 2948 lumens  
Efficiency: N/A  
Efficacy: 86.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

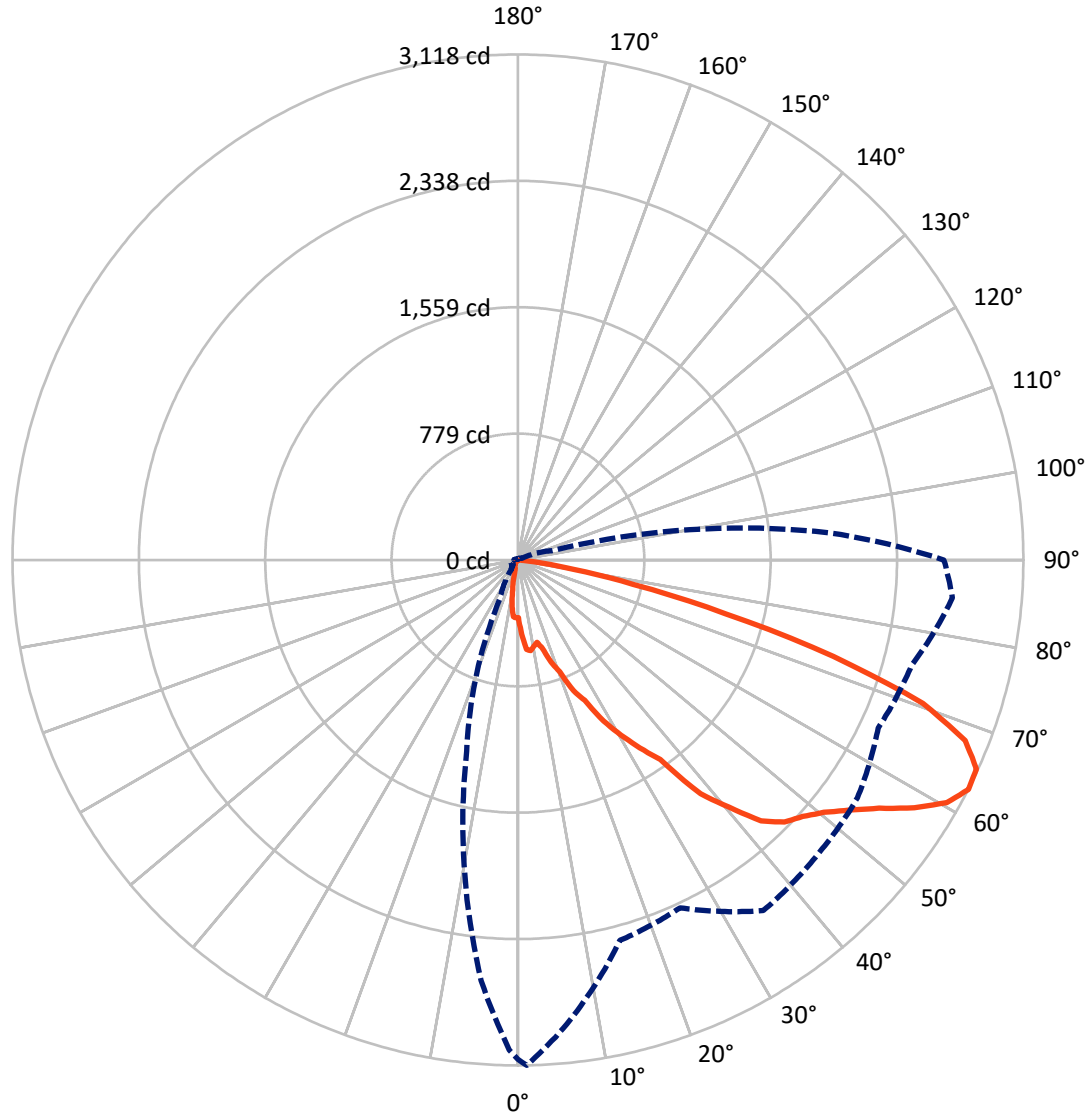
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.5 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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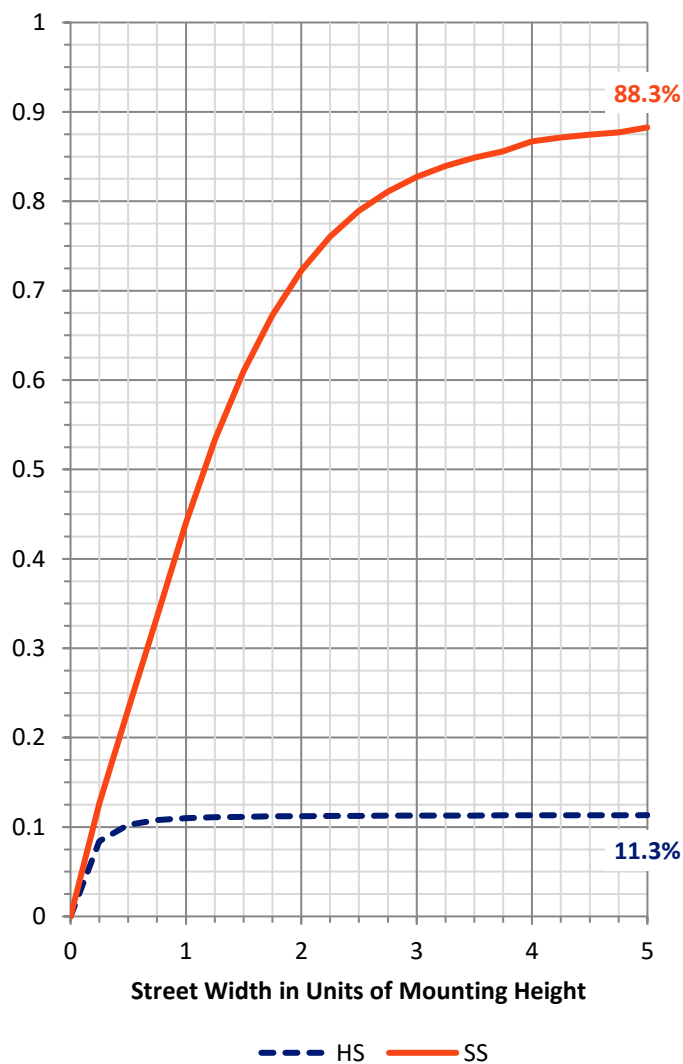
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	337.1	0.0	337.1
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	2610.9	0.0	2610.9
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	2948.0	0.0	2948.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.7	1.3
10°-20°	103.6	3.5
20°-30°	167.5	5.7
30°-40°	280.6	9.5
40°-50°	458.9	15.6
50°-60°	679.3	23.0
60°-70°	779.8	26.5
70°-80°	385.6	13.1
80°-90°	52.9	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°	2948.0	100.0
0°-180°	2948.0	100.0

**Coefficient of Utilization**

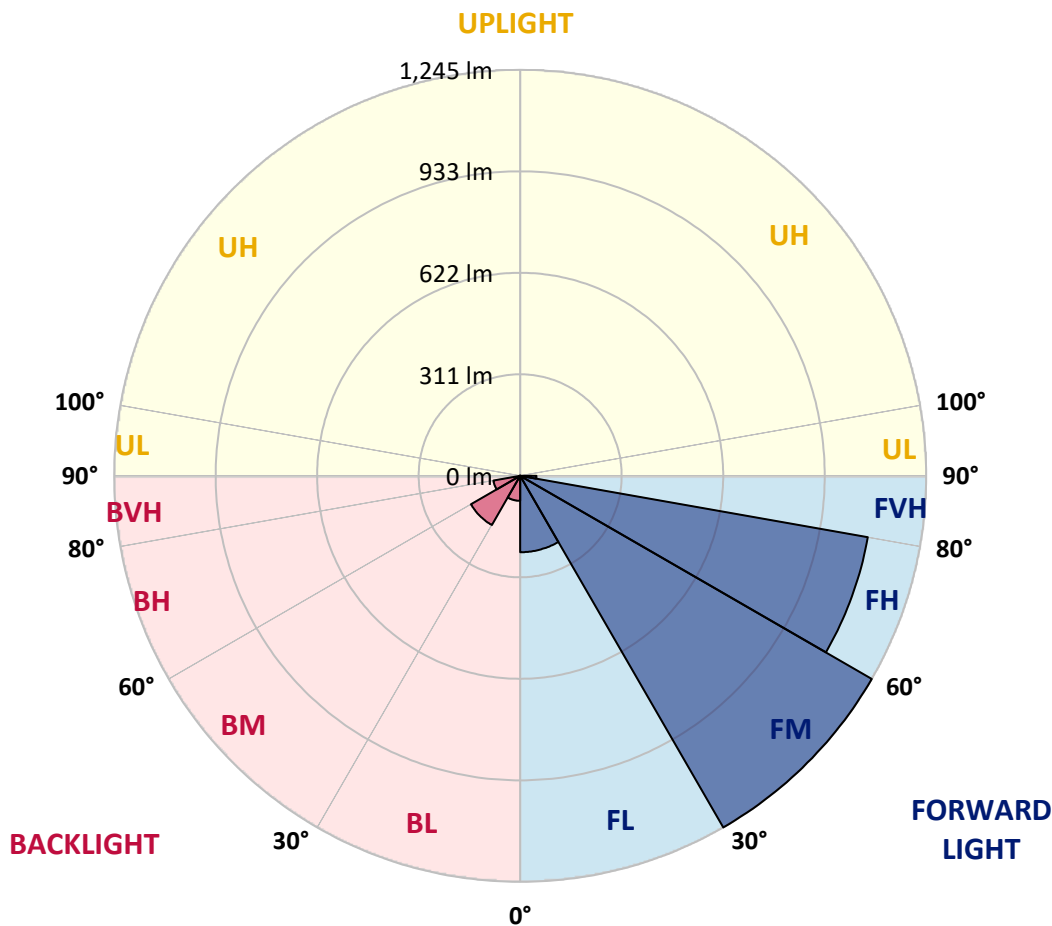


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	234.2	7.9			
FM (30°-60°)	1244.6	42.2			
FH (60°-80°)	1082.1	36.7			G1/1800
FVH (80°-90°)	50.0	1.7			G1/100
BL (0°-30°)	76.7	2.6	B0/110		
BM (30°-60°)	174.1	5.9	B0/220		
BH (60°-80°)	83.4	2.8	B0/110		G0/110
BVH (80°-90°)	2.9	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°	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1
2.5°	457.9	460.1	449.9	448.5	424.7	454.4	455.3	458.8	436.9	394.6	453.7
5°	548.0	554.0	546.1	581.3	591.3	613.0	573.2	608.8	593.7	597.9	606.4
7.5°	558.7	565.0	581.6	640.4	694.6	681.0	676.7	690.1	688.9	657.9	673.3
10°	536.4	541.6	569.3	676.3	700.0	761.2	776.1	745.2	732.6	664.6	634.8
12.5°	512.0	520.8	556.1	684.4	755.5	817.3	866.5	822.5	780.7	708.3	681.0
15°	558.7	563.6	619.0	701.2	763.4	806.0	846.3	831.7	825.3	773.3	681.0
17.5°	650.3	661.7	701.9	742.4	791.4	817.1	807.5	803.0	786.7	868.5	773.1
20°	715.5	736.8	789.4	806.9	767.9	791.9	786.0	782.0	769.2	921.4	878.9
22.5°	856.6	876.2	877.3	883.5	792.8	754.4	744.7	745.9	803.8	937.2	1010.6
25°	952.7	959.4	1012.5	968.1	860.6	765.9	728.7	745.4	828.9	1050.8	1134.4
27.5°	1109.9	1125.9	1159.0	1008.8	901.3	758.6	699.5	760.0	894.7	1088.4	1272.0
30°	1238.1	1253.4	1306.6	1064.4	936.6	794.4	712.1	789.4	935.7	1165.9	1395.7
32.5°	1342.1	1381.6	1442.0	1150.2	935.2	835.6	776.5	779.6	986.1	1266.2	1518.0
35°	1475.0	1511.8	1554.3	1209.4	996.4	848.9	795.4	875.4	1061.0	1371.0	1682.6
37.5°	1774.5	1830.1	1746.1	1358.4	1067.6	968.8	870.4	934.4	1139.5	1478.0	1908.9
40°	1957.3	2004.1	1923.0	1434.5	1190.9	1029.3	1004.1	1036.8	1216.3	1533.3	2079.4
42.5°	2137.4	2199.2	2063.6	1549.0	1308.0	1200.0	1131.1	1157.5	1327.3	1666.6	2271.2
45°	2267.7	2306.0	2094.0	1609.0	1468.9	1394.5	1348.6	1309.3	1482.2	1752.3	2395.1
47.5°	2333.2	2363.8	2154.0	1628.0	1564.7	1600.3	1700.7	1618.6	1619.3	1814.3	2461.7
50°	2423.9	2445.3	2187.6	1650.7	1668.7	1921.0	1971.7	1796.8	1775.8	1876.5	2472.7
52.5°	2551.5	2561.9	2252.8	1710.5	1824.4	2172.1	2190.4	2119.7	1932.6	1992.0	2496.9
55°	2721.0	2702.6	2369.2	1836.1	1986.8	2356.1	2380.6	2319.0	2129.6	2107.5	2571.8
57.5°	2903.7	2882.7	2541.7	2013.2	2163.1	2496.7	2511.3	2516.2	2260.5	2209.6	2699.1
60°	3034.8	3038.6	2758.9	2216.3	2272.6	2631.2	2602.0	2557.7	2392.5	2359.3	2761.1
62.5°	3080.6	3117.8	2928.1	2429.2	2367.0	2639.6	2594.3	2556.8	2451.7	2513.7	2690.0
65°	3043.2	3108.0	2967.4	2616.1	2424.1	2534.3	2487.1	2463.1	2449.8	2576.7	2532.8
67.5°	2894.3	2975.5	2854.8	2617.8	2216.5	2157.8	2213.6	2289.7	2245.7	2524.4	2312.6
70°	2560.9	2649.7	2593.6	2464.3	1846.4	1697.7	1759.2	1874.3	1843.2	2245.2	1988.5
72.5°	1921.3	2035.6	2046.6	2127.4	1465.7	1277.7	1286.6	1283.5	1337.0	1810.4	1551.7
75°	1234.2	1323.1	1443.2	1716.7	1113.4	932.9	847.5	826.7	926.6	1414.7	1110.9
77.5°	716.5	727.1	782.5	1295.2	797.5	672.1	614.0	643.7	678.7	987.3	736.3
80°	342.7	348.1	370.9	666.4	554.0	581.8	536.9	570.3	466.0	567.5	417.8
82.5°	108.7	109.9	113.7	327.4	344.0	385.4	246.9	331.1	288.1	343.0	278.2
85°	18.1	30.9	38.1	94.6	194.2	130.0	53.6	118.1	160.8	216.4	126.3
87.5°	0.0	0.0	0.0	1.7	15.8	7.4	1.2	6.7	24.7	48.2	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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1
2.5°	470.9	482.5	438.8	399.7	409.6	401.7	389.7	369.4	322.4	357.0	354.6
5°	605.9	584.4	525.3	497.8	464.2	412.9	406.7	367.4	350.1	352.9	350.4
7.5°	653.0	614.5	562.3	479.3	400.5	326.6	303.9	278.2	273.0	284.1	291.3
10°	616.0	575.2	529.5	426.4	365.7	312.3	256.4	220.4	200.9	198.6	200.6
12.5°	633.0	589.0	494.9	415.9	352.6	304.2	241.7	187.5	145.1	148.3	139.9
15°	644.8	594.2	486.7	394.1	325.6	260.9	185.6	131.4	96.8	86.7	80.6
17.5°	713.8	641.6	476.3	368.9	287.8	203.1	116.6	76.1	64.8	61.3	58.5
20°	802.5	699.9	476.1	342.4	232.0	127.0	72.7	55.1	52.4	54.4	52.2
22.5°	905.6	777.5	501.5	309.3	166.5	80.1	56.6	48.9	46.2	47.9	48.0
25°	1009.5	893.9	522.1	277.9	115.9	61.5	50.4	45.0	42.0	43.5	42.7
27.5°	1196.9	990.3	517.4	237.7	85.3	54.1	46.9	42.2	37.6	40.0	39.8
30°	1319.6	1160.5	535.7	181.4	67.7	47.4	43.7	38.5	33.6	36.3	36.1
32.5°	1466.2	1233.6	555.5	139.3	56.3	44.9	39.3	34.3	31.4	33.1	32.8
35°	1631.0	1378.0	519.1	115.9	48.9	40.5	34.8	30.9	28.4	29.2	29.2
37.5°	1922.2	1498.8	497.3	94.4	45.5	36.6	32.6	27.9	26.4	26.4	27.2
40°	2087.5	1683.3	432.1	74.8	46.5	33.8	30.4	25.5	23.5	23.4	24.2
42.5°	2302.5	1789.6	391.3	60.5	42.2	32.9	27.9	23.2	20.8	20.7	21.5
45°	2430.0	1849.1	333.8	47.5	37.8	38.3	25.9	21.3	17.8	17.1	18.6
47.5°	2510.5	1927.9	301.2	37.8	32.9	38.1	25.2	18.5	15.0	14.1	15.5
50°	2551.3	1966.8	294.8	32.4	28.6	34.1	28.9	15.5	12.8	11.6	12.8
52.5°	2593.8	2030.2	297.2	29.9	25.2	27.4	27.4	13.3	11.3	9.9	10.8
55°	2679.6	2123.7	292.0	28.4	23.2	20.8	17.6	11.8	10.2	8.7	9.6
57.5°	2785.1	2190.9	292.0	27.0	21.5	17.8	14.1	10.9	9.4	7.6	8.2
60°	2765.1	2120.2	277.5	25.7	20.2	16.6	12.8	10.1	8.7	6.9	7.4
62.5°	2627.9	1927.9	224.8	23.7	19.0	15.8	11.6	9.6	8.2	6.0	6.6
65°	2466.6	1723.6	156.2	21.5	17.6	14.3	10.4	9.1	7.6	5.4	5.7
67.5°	2272.4	1480.2	86.7	19.3	16.3	12.4	9.6	8.9	7.2	4.9	5.2
70°	1935.4	1117.5	46.5	17.6	15.3	11.4	9.1	8.9	7.2	4.7	4.9
72.5°	1453.0	703.7	27.2	16.1	13.9	10.6	8.6	9.1	7.1	4.5	4.5
75°	988.6	427.2	19.5	13.8	12.4	8.9	8.2	8.7	7.2	4.5	4.2
77.5°	672.1	300.2	16.0	12.4	11.3	7.9	8.4	8.7	7.2	3.7	2.9
80°	419.6	154.9	12.1	9.9	9.7	6.9	8.4	7.6	4.7	0.8	0.0
82.5°	293.5	57.6	7.1	7.6	7.6	4.9	6.6	5.4	2.7	0.0	0.0
85°	123.1	9.9	3.9	5.4	4.7	2.9	5.2	4.0	1.7	0.0	0.0
87.5°	2.2	0.0	1.5	3.2	3.4	1.7	2.7	1.7	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°	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1
2.5°	365.7	349.8	316.2	332.3	330.6	338.0	338.7	321.5	358.5	381.3	384.7
5°	350.8	340.0	338.2	328.9	326.6	340.2	332.8	332.3	350.1	376.1	376.3
7.5°	291.5	283.2	287.1	276.3	248.6	250.3	252.8	263.4	278.7	295.8	302.0
10°	200.1	221.4	205.8	204.4	201.6	192.7	185.6	191.2	211.0	226.8	232.7
12.5°	142.8	146.2	155.7	152.2	157.1	149.5	146.7	164.0	183.3	199.4	211.0
15°	83.5	89.2	94.9	107.0	111.9	110.4	119.1	133.6	149.2	156.6	170.8
17.5°	58.8	59.3	60.5	73.6	82.1	85.5	90.7	101.6	108.0	111.4	117.3
20°	51.4	49.9	47.9	55.3	63.3	67.5	66.0	74.6	79.8	83.2	87.4
22.5°	46.5	44.0	42.8	45.4	51.6	55.3	55.9	61.0	68.9	71.2	72.6
25°	42.0	40.3	39.5	40.8	44.2	47.7	48.4	54.9	62.0	63.0	65.7
27.5°	39.0	35.8	36.1	37.1	38.6	43.0	44.3	48.0	58.3	59.5	60.3
30°	35.8	32.4	33.4	34.4	33.8	39.1	41.2	45.4	55.3	57.1	58.1
32.5°	32.6	30.1	29.9	30.9	32.1	34.9	39.3	44.2	53.3	55.8	58.3
35°	29.1	27.0	27.4	27.6	29.1	32.8	36.0	38.5	44.7	46.0	46.9
37.5°	26.5	24.9	24.5	26.2	27.7	30.6	31.8	32.9	41.2	44.2	44.3
40°	23.5	22.5	22.5	23.7	27.0	26.7	28.2	31.9	39.8	43.0	43.3
42.5°	21.3	20.0	20.3	21.5	23.9	22.2	25.2	30.6	39.3	42.5	42.3
45°	18.0	17.6	18.3	19.3	20.3	18.8	23.5	29.2	37.6	41.8	40.7
47.5°	15.0	15.0	15.8	16.8	16.3	16.8	21.3	27.4	36.6	40.5	39.6
50°	12.3	12.4	13.3	15.0	13.4	14.8	19.2	25.5	34.9	39.1	38.5
52.5°	10.4	10.6	11.1	12.3	11.6	13.4	17.6	23.7	33.3	36.8	36.5
55°	9.1	9.4	9.4	10.1	10.4	12.6	16.0	21.8	30.7	34.6	33.9
57.5°	8.1	8.4	8.2	8.7	9.1	11.1	14.3	19.8	28.2	31.4	30.4
60°	7.2	7.6	7.4	8.1	7.9	9.6	12.4	17.6	25.5	28.1	27.2
62.5°	6.4	6.7	6.7	7.1	7.2	8.1	10.8	15.6	22.8	24.9	24.2
65°	5.7	6.0	6.2	6.0	6.4	6.9	9.1	14.1	19.8	21.8	20.8
67.5°	5.2	5.5	5.9	5.2	5.5	5.7	7.7	12.6	17.5	19.2	18.3
70°	5.0	5.2	5.2	4.5	4.4	4.5	6.7	10.8	15.3	17.0	15.8
72.5°	4.7	4.9	4.7	3.7	3.2	3.5	5.7	9.1	12.9	14.3	13.3
75°	4.4	4.5	4.4	3.0	2.0	2.5	4.7	7.9	11.1	11.8	11.3
77.5°	3.7	4.0	4.0	2.2	0.7	1.5	3.5	6.4	9.2	9.2	9.4
80°	0.3	1.0	1.7	1.2	0.0	0.2	1.2	3.4	5.9	5.7	6.2
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.0	1.5	1.7
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°	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1	355.1
2.5°	376.8	371.6	378.1	398.1	390.1	391.6	386.2	419.3	456.8	457.9
5°	376.6	371.9	381.7	380.8	403.9	428.9	453.1	492.2	547.7	548.0
7.5°	299.2	327.1	334.3	332.1	361.7	396.1	433.4	508.3	553.9	558.7
10°	269.8	281.9	296.7	302.0	314.3	347.1	389.2	474.1	525.1	536.4
12.5°	233.8	272.5	292.1	330.3	337.3	342.0	408.6	482.3	513.4	512.0
15°	193.7	227.3	258.4	304.9	324.1	373.4	425.9	522.5	540.9	558.7
17.5°	137.1	162.4	210.2	259.0	317.5	371.3	473.6	594.2	629.1	650.3
20°	91.7	104.0	147.2	211.8	285.9	339.3	493.1	659.0	697.2	715.5
22.5°	74.4	80.3	102.6	155.2	244.3	337.8	501.0	729.8	832.2	856.6
25°	65.5	69.5	81.5	114.9	202.8	331.1	544.6	809.4	933.0	952.7
27.5°	57.3	63.3	72.2	94.7	173.9	326.4	566.8	943.1	1090.6	1109.9
30°	54.8	62.2	70.7	86.3	153.7	308.3	602.1	1063.7	1203.7	1238.1
32.5°	59.1	61.7	65.9	79.1	138.1	289.1	664.1	1207.9	1297.2	1342.1
35°	46.9	51.4	58.8	72.6	131.5	288.1	699.2	1300.6	1447.2	1475.0
37.5°	45.9	50.1	59.6	70.7	139.4	295.8	751.3	1490.6	1717.7	1774.5
40°	44.5	49.9	59.0	69.9	139.4	303.4	784.5	1642.6	1899.6	1957.3
42.5°	44.0	50.9	58.8	73.4	135.1	307.6	834.7	1794.3	2091.8	2137.4
45°	43.7	51.9	59.3	77.6	134.1	321.4	863.1	1868.1	2215.5	2267.7
47.5°	42.8	51.9	66.2	75.1	128.5	320.0	899.9	1977.4	2289.2	2333.2
50°	42.2	52.2	74.9	70.4	129.4	311.8	949.8	2080.1	2392.5	2423.9
52.5°	40.7	53.4	73.6	63.8	126.8	311.0	1024.2	2226.1	2528.4	2551.5
55°	37.3	51.9	66.5	55.8	117.9	301.4	1122.9	2415.9	2716.9	2721.0
57.5°	34.3	48.2	55.6	51.2	98.8	302.6	1207.9	2590.6	2884.9	2903.7
60°	31.2	50.1	43.2	47.7	81.8	281.0	1249.0	2657.5	3007.2	3034.8
62.5°	28.4	46.2	36.8	43.8	72.9	261.1	1220.5	2603.7	3022.8	3080.6
65°	25.2	32.1	31.1	39.3	73.7	233.0	1125.0	2446.3	2963.5	3043.2
67.5°	21.7	25.2	27.4	33.9	79.0	209.0	961.4	2193.6	2804.1	2894.3
70°	19.0	22.7	23.9	29.7	82.1	193.2	758.6	1843.0	2477.5	2560.9
72.5°	15.8	21.0	21.3	26.0	79.1	177.6	540.6	1323.1	1881.3	1921.3
75°	13.6	17.5	19.3	21.8	66.5	132.5	297.8	819.0	1189.5	1234.2
77.5°	12.3	13.3	14.6	15.1	28.2	69.0	102.5	505.0	666.1	716.5
80°	9.4	10.4	10.1	10.4	15.5	23.9	39.0	236.7	314.6	342.7
82.5°	3.0	5.0	5.5	4.7	10.1	11.8	11.3	81.8	102.3	108.7
85°	0.7	1.8	0.8	0.0	3.4	6.0	0.8	12.4	24.5	18.1
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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