

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: P367138

Luminaire Tested: **MSA-SA2A-727-U-SLL**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367138  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2A-727-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

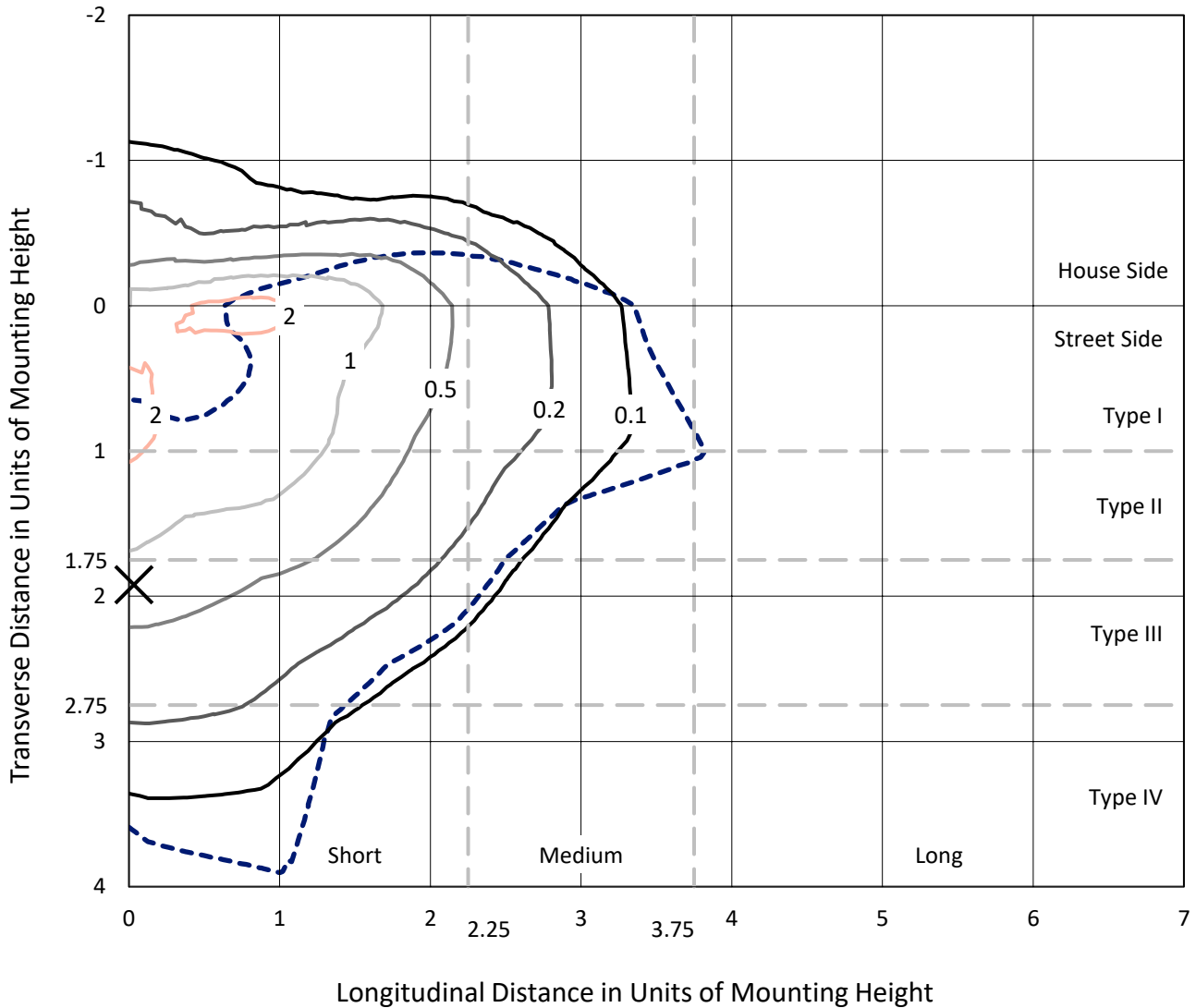
Lumens per Lamp: N/A  
Luminaire Lumens: 5694 lumens  
Efficiency: N/A  
Efficacy: 86.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

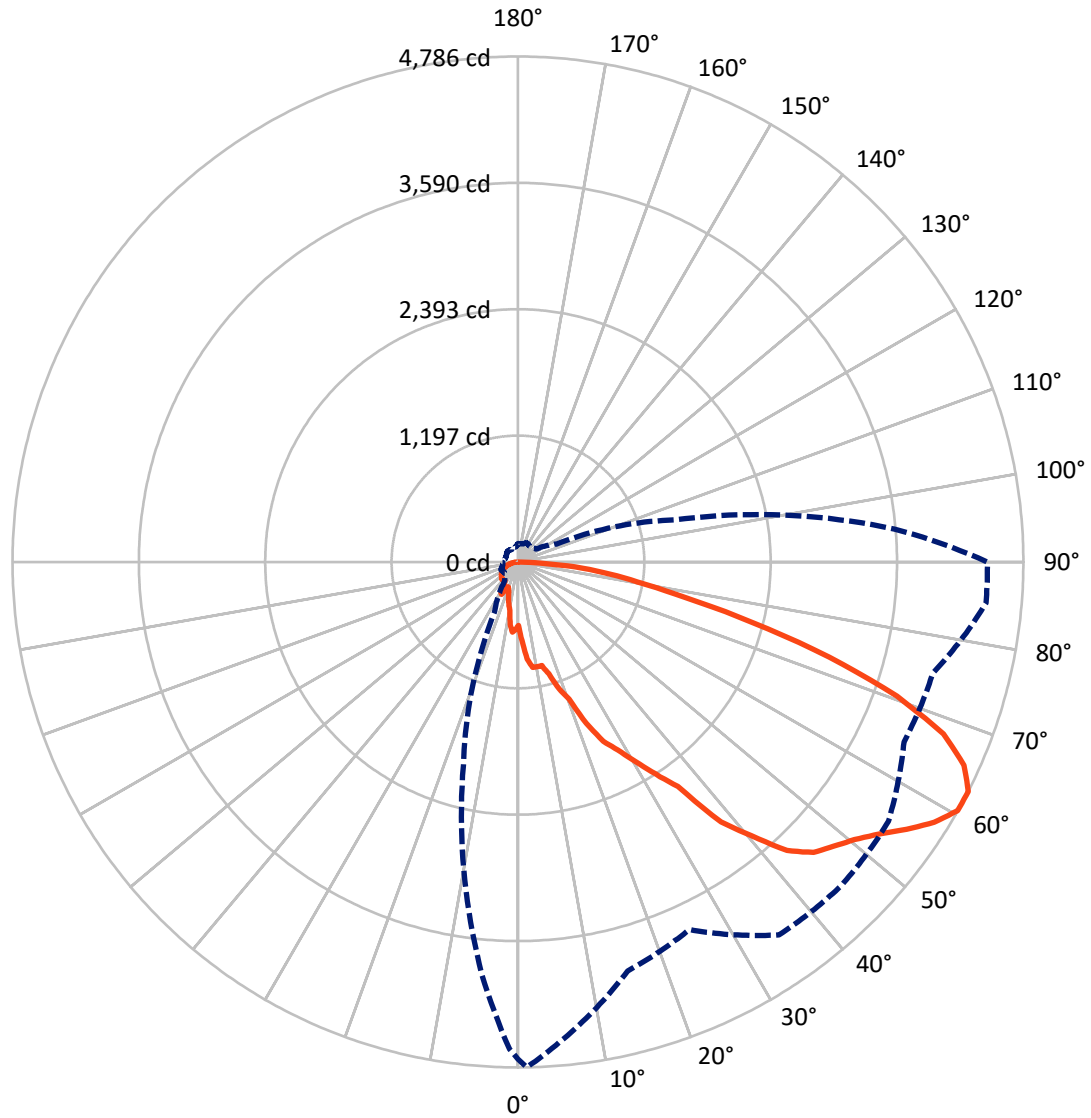
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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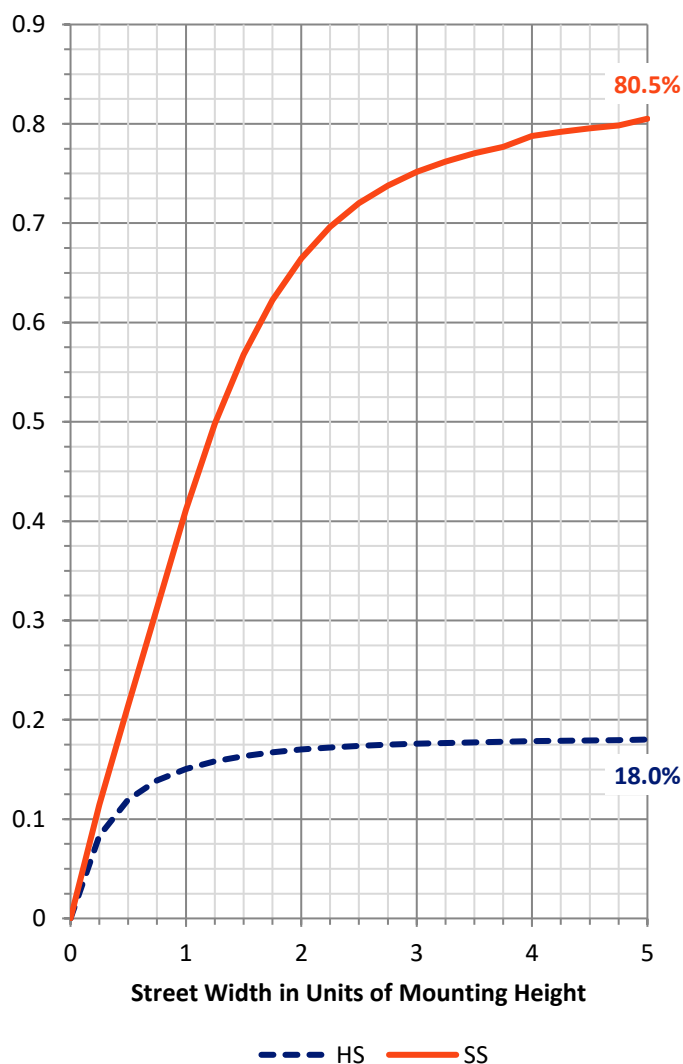
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1036.8	0.0	1036.8
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	4657.2	0.0	4657.2
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	5694.0	0.0	5694.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.8	1.2
10°-20°	200.0	3.5
20°-30°	353.1	6.2
30°-40°	550.0	9.7
40°-50°	905.7	15.9
50°-60°	1292.6	22.7
60°-70°	1370.7	24.1
70°-80°	757.1	13.3
80°-90°	195.8	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°	5694.0	100.0
0°-180°	5694.0	100.0

**Coefficient of Utilization**



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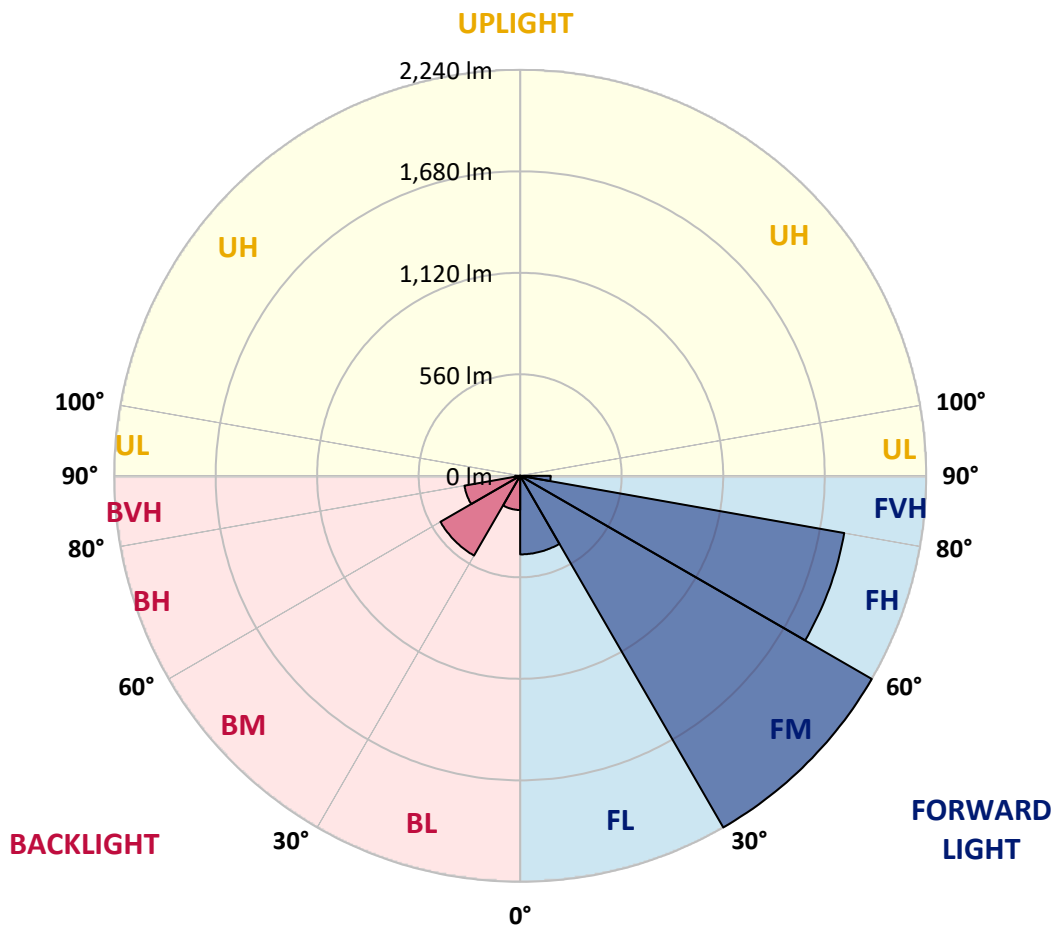
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	433.4	7.6			
FM (30°-60°)	2240.1	39.3			
FH (60°-80°)	1815.5	31.9			G2/5000
FVH (80°-90°)	168.2	3.0			G2/225
BL (0°-30°)	188.6	3.3	B1/500		
BM (30°-60°)	508.3	8.9	B1/1000		
BH (60°-80°)	312.4	5.5	B1/500		G1/500
BVH (80°-90°)	27.6	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°	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4
2.5°	738.3	744.7	731.7	717.0	656.5	714.8	697.4	729.7	719.2	649.1	777.5
5°	912.4	924.0	911.3	955.2	958.0	969.3	864.6	929.8	907.1	901.3	966.3
7.5°	996.4	1008.3	1040.6	1118.8	1179.9	1124.6	1063.5	1050.0	1032.3	986.2	1025.4
10°	1001.6	1008.3	1051.6	1217.4	1247.0	1286.2	1246.7	1153.6	1115.2	1014.9	985.1
12.5°	985.9	1006.6	1062.7	1264.7	1352.5	1395.4	1405.0	1301.4	1207.2	1092.8	1077.6
15°	1091.7	1099.2	1179.6	1298.4	1358.9	1395.1	1426.6	1362.8	1333.2	1242.6	1120.7
17.5°	1243.4	1264.1	1329.9	1373.8	1414.7	1421.6	1395.7	1370.8	1323.8	1444.8	1315.2
20°	1346.2	1386.3	1466.9	1475.2	1389.3	1404.5	1400.9	1402.6	1375.8	1599.6	1528.3
22.5°	1618.1	1661.5	1672.5	1624.4	1462.5	1393.2	1407.0	1447.0	1552.6	1744.4	1825.0
25°	1864.3	1881.1	1982.0	1858.2	1600.1	1449.0	1426.3	1529.9	1702.1	1988.1	2045.5
27.5°	1992.8	2014.6	2081.7	1812.3	1617.3	1377.1	1324.1	1481.9	1657.3	1873.4	2125.7
30°	2157.2	2192.0	2283.4	1858.2	1668.9	1424.1	1306.7	1457.5	1651.5	1948.6	2295.3
32.5°	2326.5	2394.2	2462.2	2019.8	1661.7	1496.0	1418.0	1430.2	1704.0	2106.1	2471.1
35°	2550.9	2610.6	2669.2	2113.2	1806.5	1555.9	1478.5	1607.3	1838.9	2288.7	2716.1
37.5°	3030.6	3125.1	2970.6	2379.0	1964.0	1826.1	1686.6	1762.9	1981.4	2440.9	3116.5
40°	3336.2	3407.2	3258.0	2560.0	2241.4	2008.2	1985.3	1991.7	2177.9	2571.4	3385.9
42.5°	3639.9	3736.0	3498.7	2808.4	2576.9	2384.3	2266.0	2258.0	2397.8	2805.7	3692.4
45°	3866.4	3923.1	3581.3	3017.9	2936.6	2793.8	2705.1	2564.5	2686.9	2967.9	3881.9
47.5°	3974.2	4020.3	3714.2	3139.7	3169.9	3177.3	3337.3	3097.5	2939.4	3077.6	3981.4
50°	4108.8	4130.6	3792.4	3246.9	3391.5	3719.2	3757.6	3351.1	3185.3	3197.2	4040.2
52.5°	4269.6	4278.7	3906.5	3370.7	3615.5	4075.6	4016.2	3781.1	3419.4	3415.8	4151.0
55°	4471.8	4466.3	4049.6	3537.3	3775.5	4287.5	4242.5	4071.2	3674.4	3596.8	4323.5
57.5°	4651.7	4648.4	4239.5	3690.7	3910.1	4396.4	4409.7	4364.4	3847.9	3726.3	4510.2
60°	4739.9	4782.1	4455.5	3858.4	3918.7	4445.6	4450.6	4378.4	4041.9	3892.7	4560.0
62.5°	4705.6	4786.0	4561.6	4009.3	3839.9	4311.3	4332.0	4282.3	4033.1	4067.3	4448.9
65°	4549.8	4642.6	4469.6	4089.7	3791.6	4086.4	4091.6	3965.9	3906.8	4183.1	4188.6
67.5°	4257.4	4344.5	4176.7	3961.5	3460.5	3480.2	3597.3	3607.5	3521.3	4095.8	3823.1
70°	3745.7	3807.0	3702.0	3644.8	2892.4	2777.5	2904.6	2959.0	2998.3	3780.5	3384.3
72.5°	2965.4	3083.9	3100.5	3137.8	2328.8	2137.3	2231.5	2150.8	2406.4	3217.7	2765.1
75°	2193.9	2293.9	2401.4	2609.5	1835.5	1600.1	1588.5	1547.3	1786.1	2587.7	2050.8
77.5°	1550.4	1614.2	1696.8	2084.5	1385.2	1232.4	1239.5	1197.8	1289.8	1955.7	1416.7
80°	1111.3	1144.8	1183.2	1373.3	1021.8	1063.2	1064.4	1024.8	959.1	1328.2	945.5
82.5°	791.9	817.9	861.8	905.8	761.8	871.5	870.7	868.2	760.4	897.7	591.6
85°	441.0	475.8	552.1	709.6	550.1	623.1	547.9	603.5	558.2	597.7	299.5
87.5°	30.9	27.6	123.5	411.2	256.7	187.6	98.4	194.8	249.8	312.2	41.7
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°	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4
2.5°	804.1	813.7	775.9	719.0	734.4	717.6	696.3	663.1	594.9	637.2	637.5
5°	965.7	929.0	899.4	871.5	824.5	753.5	744.1	687.2	655.1	672.0	669.5
7.5°	1016.3	964.1	919.6	819.8	732.8	622.5	589.4	555.7	541.6	582.5	598.8
10°	960.7	906.3	862.6	741.3	682.2	613.4	522.2	475.5	447.9	458.7	465.0
12.5°	1005.5	950.0	812.6	744.9	647.4	605.4	525.5	457.0	416.1	426.1	414.2
15°	1048.6	973.7	836.4	701.6	622.5	561.7	497.1	426.3	378.3	361.1	352.0
17.5°	1206.1	1081.8	833.6	677.2	586.6	516.7	438.8	361.4	329.4	311.7	296.5
20°	1398.1	1224.9	848.6	652.1	548.5	460.3	375.5	303.7	281.3	269.7	265.5
22.5°	1626.7	1408.4	933.9	648.5	512.6	419.2	340.7	295.9	270.8	258.1	252.8
25°	1808.2	1598.2	996.9	672.8	510.6	385.2	319.7	328.8	317.2	321.1	290.4
27.5°	1984.5	1649.9	961.6	662.0	459.2	324.9	314.7	333.8	343.7	346.8	345.7
30°	2133.4	1868.1	969.3	601.3	387.9	264.7	240.9	250.3	277.7	321.1	329.4
32.5°	2351.4	1972.6	1035.3	564.5	346.8	236.8	210.3	206.7	213.0	228.8	242.3
35°	2606.5	2213.0	1053.9	554.8	318.3	224.4	205.9	197.6	200.9	212.8	215.5
37.5°	3082.0	2388.2	1122.4	543.0	307.8	216.9	202.5	199.5	206.7	216.4	221.9
40°	3344.2	2703.2	1125.7	532.7	294.3	213.9	204.7	203.4	207.8	221.0	224.4
42.5°	3693.7	2882.8	1177.6	520.8	289.6	218.0	209.2	208.6	212.5	220.2	226.3
45°	3906.8	3003.0	1180.4	513.9	288.5	236.2	215.0	213.0	212.2	216.9	222.4
47.5°	4044.1	3176.2	1214.1	506.2	295.1	240.9	221.9	213.6	210.8	212.8	216.9
50°	4174.2	3314.6	1277.9	505.1	302.0	236.2	234.0	213.3	207.8	207.0	210.0
52.5°	4334.0	3542.3	1356.7	515.6	300.4	229.3	243.2	212.2	202.3	200.3	203.4
55°	4566.3	3786.3	1440.4	506.8	283.2	216.1	234.3	211.4	196.5	192.9	195.6
57.5°	4716.9	3926.1	1534.1	499.3	257.2	206.1	226.3	211.9	197.0	189.0	190.7
60°	4666.9	3851.0	1570.8	453.7	232.7	198.4	207.2	207.5	192.0	184.6	186.0
62.5°	4445.9	3578.8	1536.6	400.7	214.4	187.3	187.6	199.2	177.7	172.4	174.6
65°	4136.9	3240.3	1397.9	366.1	205.9	175.7	171.3	174.9	158.3	154.5	158.9
67.5°	3757.8	2823.1	1191.5	329.6	202.8	160.0	154.7	153.4	142.9	138.4	142.9
70°	3282.3	2363.9	952.4	303.9	191.2	142.9	138.7	137.3	128.5	125.2	129.0
72.5°	2638.2	1845.8	735.0	284.3	178.5	127.1	123.5	121.9	114.4	109.7	114.4
75°	1876.4	1410.6	546.0	254.2	160.5	111.1	106.9	104.7	97.8	93.4	97.5
77.5°	1333.5	1058.8	381.3	210.3	132.4	93.9	91.5	87.9	81.8	76.5	80.7
80°	985.9	756.5	245.9	162.2	101.1	75.2	73.8	71.3	65.5	59.1	62.2
82.5°	649.1	545.4	140.9	110.0	73.5	54.2	55.3	53.6	48.1	41.4	43.1
85°	290.7	323.0	74.9	60.5	47.8	32.6	35.6	34.5	30.4	24.0	24.6
87.5°	27.9	54.4	22.9	22.1	17.7	10.2	12.7	10.8	9.1	5.8	4.4
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):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4
2.5°	647.1	608.2	569.2	593.0	593.5	599.9	600.7	577.2	596.0	610.4	625.3
5°	657.3	631.9	633.3	610.4	597.9	614.0	610.7	604.3	615.6	631.4	650.4
7.5°	583.3	566.7	564.0	541.8	488.2	476.4	486.3	490.5	505.7	530.0	550.4
10°	455.4	488.2	451.2	442.7	428.6	400.9	384.9	383.0	415.3	434.9	452.0
12.5°	410.3	402.0	397.6	374.1	374.1	344.8	335.4	344.0	393.7	407.8	429.9
15°	349.5	343.5	323.0	311.4	305.9	294.0	303.9	312.2	358.7	359.8	383.0
17.5°	290.1	286.5	267.2	265.0	259.5	254.2	263.3	283.2	308.4	303.9	314.7
20°	259.5	247.0	229.3	235.7	229.9	225.7	221.9	250.1	267.7	273.5	279.9
22.5°	251.7	229.1	218.6	212.8	213.0	206.4	207.2	230.7	257.5	261.1	257.2
25°	287.6	247.3	213.3	196.5	190.1	187.9	194.2	215.0	247.3	255.0	258.1
27.5°	336.5	268.6	219.7	190.9	178.2	179.3	188.4	202.8	240.9	254.8	258.4
30°	323.0	252.5	219.9	186.8	171.0	176.8	180.2	194.0	236.0	256.7	274.7
32.5°	249.2	227.1	221.3	190.1	183.7	174.6	179.3	192.6	221.3	234.3	235.1
35°	211.1	194.2	190.4	182.6	173.8	169.9	175.2	186.8	205.6	213.6	212.5
37.5°	209.4	190.9	175.7	172.4	168.8	167.7	170.8	181.5	200.6	214.7	211.7
40°	212.2	189.3	173.8	168.0	169.4	164.4	167.4	180.7	201.4	214.7	211.9
42.5°	208.9	187.3	171.3	166.9	168.3	161.4	165.0	178.8	199.2	215.0	209.7
45°	202.3	182.9	169.9	162.5	168.8	158.6	163.0	173.8	192.6	209.7	203.6
47.5°	195.6	177.7	164.1	159.4	165.8	155.8	157.8	167.2	186.0	202.8	197.6
50°	188.4	171.0	159.4	158.1	162.5	155.3	152.2	160.0	177.9	194.8	190.4
52.5°	180.7	165.5	156.1	155.6	159.7	151.7	147.3	153.4	169.4	186.2	182.6
55°	173.2	159.4	152.0	153.4	158.1	148.7	143.1	147.0	160.3	176.8	171.9
57.5°	165.8	152.5	146.4	150.3	153.9	144.8	137.9	140.1	150.9	167.2	161.4
60°	159.2	146.4	140.4	145.1	148.4	139.0	131.0	132.4	142.0	156.7	151.4
62.5°	150.6	139.8	131.8	137.9	140.4	131.2	122.7	124.3	132.1	145.9	142.0
65°	138.4	131.5	124.1	128.2	131.5	122.1	114.1	116.1	121.9	134.8	132.1
67.5°	127.9	121.3	116.3	119.6	120.2	113.0	105.8	106.9	111.6	123.8	120.7
70°	116.3	110.0	106.1	108.6	108.3	102.2	96.7	97.0	100.9	111.9	107.8
72.5°	103.6	97.5	95.6	97.0	95.9	90.4	85.1	87.0	89.5	97.8	94.5
75°	90.1	84.6	83.4	84.8	83.2	77.9	73.2	75.2	77.4	84.3	80.1
77.5°	76.0	71.0	71.3	71.6	69.4	65.8	61.1	63.0	64.4	69.1	64.9
80°	60.5	56.6	57.7	57.7	55.3	52.8	48.4	48.9	49.7	51.4	48.4
82.5°	44.2	44.2	44.2	44.5	39.2	40.1	36.2	35.9	35.1	34.8	32.9
85°	26.2	27.4	27.9	28.7	21.3	24.9	21.6	20.7	19.1	17.4	16.9
87.5°	5.8	7.5	7.5	7.2	0.0	2.8	1.4	2.2	0.6	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°	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4	600.4
2.5°	608.2	591.6	622.5	650.2	645.7	661.8	624.5	679.7	738.3	738.3
5°	645.5	631.4	639.4	655.4	667.6	723.4	769.8	816.0	911.3	912.4
7.5°	544.3	574.7	581.9	577.2	629.4	701.3	777.8	909.3	990.0	996.4
10°	509.0	522.8	544.6	556.8	578.0	648.8	743.8	899.9	985.6	1001.6
12.5°	461.2	512.3	545.4	613.4	630.3	644.4	795.5	930.6	989.8	985.9
15°	408.9	447.6	495.4	570.6	613.4	721.2	826.2	1029.0	1062.4	1091.7
17.5°	326.0	354.5	418.1	503.7	609.8	709.0	901.9	1150.6	1213.0	1243.4
20°	268.3	268.6	332.1	445.7	561.2	658.2	930.6	1251.4	1330.7	1346.2
22.5°	253.7	240.9	274.4	366.7	507.6	688.3	988.6	1413.6	1579.1	1618.1
25°	245.6	230.2	251.2	323.6	469.2	704.0	1105.5	1636.6	1849.1	1864.3
27.5°	249.0	256.1	262.8	288.5	420.5	674.5	1078.4	1736.3	1964.0	1992.8
30°	271.3	282.9	267.7	276.6	380.5	631.6	1126.8	1898.3	2108.8	2157.2
32.5°	225.7	221.3	219.9	239.3	340.4	593.0	1228.2	2126.2	2265.8	2326.5
35°	203.6	196.7	199.5	221.6	320.8	587.4	1285.1	2314.9	2513.6	2550.9
37.5°	202.8	194.8	198.4	215.0	327.7	597.4	1376.3	2617.8	2950.7	3030.6
40°	200.9	196.5	198.4	210.8	320.5	602.9	1428.8	2872.3	3255.2	3336.2
42.5°	200.6	198.4	200.3	214.1	313.1	605.4	1501.5	3102.2	3576.0	3639.9
45°	199.8	202.0	202.0	216.9	309.7	622.0	1544.3	3214.9	3787.7	3866.4
47.5°	195.9	202.5	213.3	216.1	296.2	614.2	1604.8	3385.9	3900.1	3974.2
50°	190.9	201.7	227.7	210.5	294.0	595.5	1675.6	3521.6	4044.4	4108.8
52.5°	184.3	200.3	224.4	199.8	290.1	592.1	1774.8	3697.9	4212.7	4269.6
55°	174.9	195.4	214.1	189.0	280.7	581.6	1926.4	3916.5	4432.9	4471.8
57.5°	166.3	187.9	199.2	182.9	258.4	583.8	2032.0	4094.7	4617.7	4651.7
60°	158.6	187.1	177.9	176.6	235.4	554.3	2066.3	4092.7	4686.5	4739.9
62.5°	150.3	176.6	163.0	168.0	215.2	523.9	1993.6	3917.3	4612.2	4705.6
65°	139.5	151.4	150.6	161.9	215.8	474.4	1827.0	3607.8	4426.8	4549.8
67.5°	126.8	134.0	138.7	152.0	222.7	436.0	1559.0	3235.6	4111.3	4257.4
70°	113.8	121.0	126.3	139.0	229.1	418.3	1240.9	2712.8	3597.3	3745.7
72.5°	100.6	108.0	112.2	123.2	220.5	380.5	918.5	2110.7	2887.5	2965.4
75°	86.8	93.9	97.3	107.5	191.5	314.7	634.1	1598.7	2114.9	2193.9
77.5°	72.7	80.4	81.5	89.8	146.2	240.7	406.5	1226.3	1497.6	1550.4
80°	58.0	65.8	65.8	70.2	102.8	165.5	243.4	925.1	1090.6	1111.3
82.5°	41.7	50.0	49.5	49.7	71.0	102.5	140.9	693.3	788.0	791.9
85°	24.6	30.4	30.1	27.6	42.0	55.3	76.3	430.5	439.9	441.0
87.5°	4.7	7.2	6.4	2.8	11.6	16.3	22.1	79.9	31.8	30.9
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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