

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: P596574

Luminaire Tested: **MSA-SA2A-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596574  
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-SA2A-827-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**

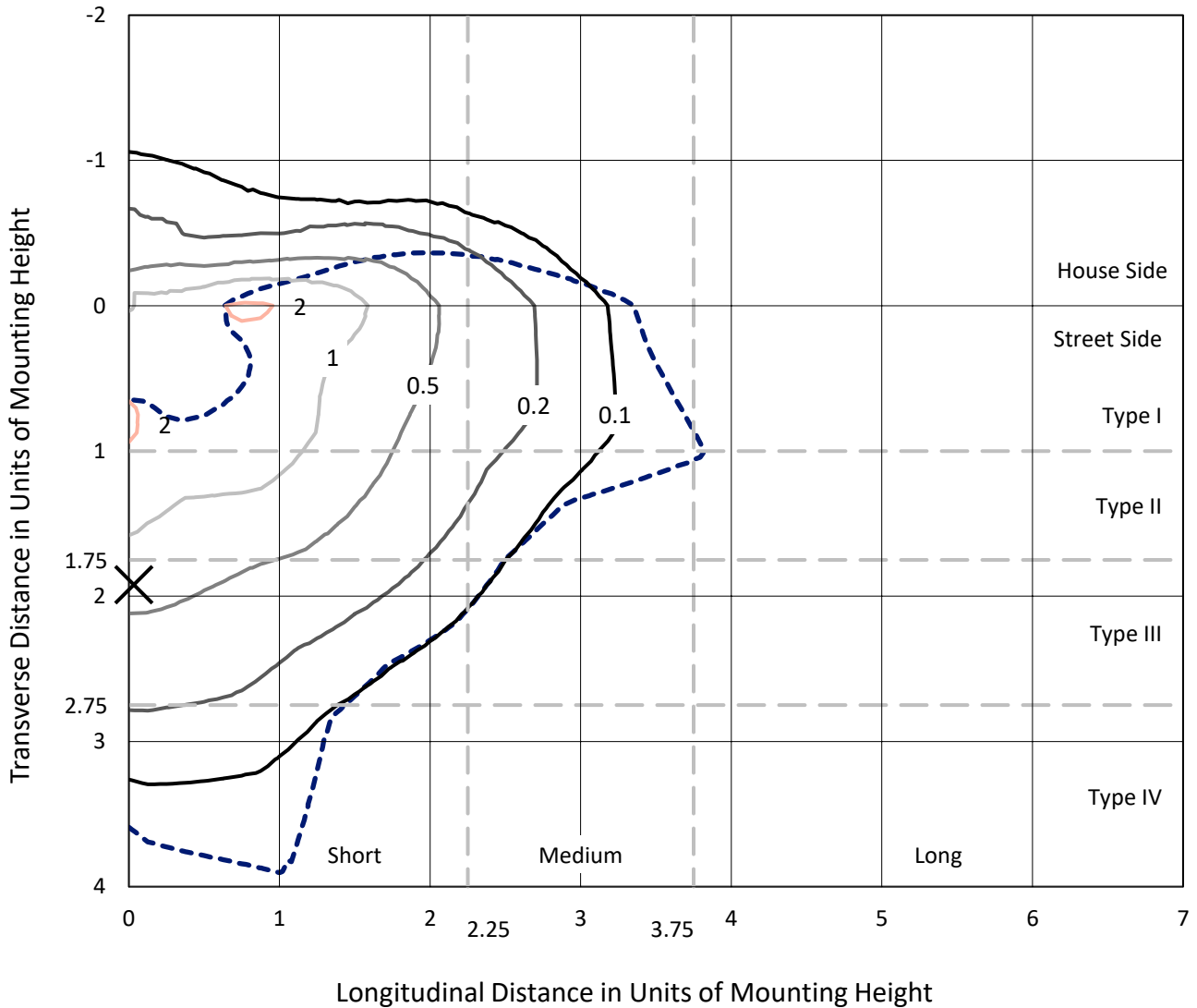
Lumens per Lamp: N/A  
Luminaire Lumens: 5005 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

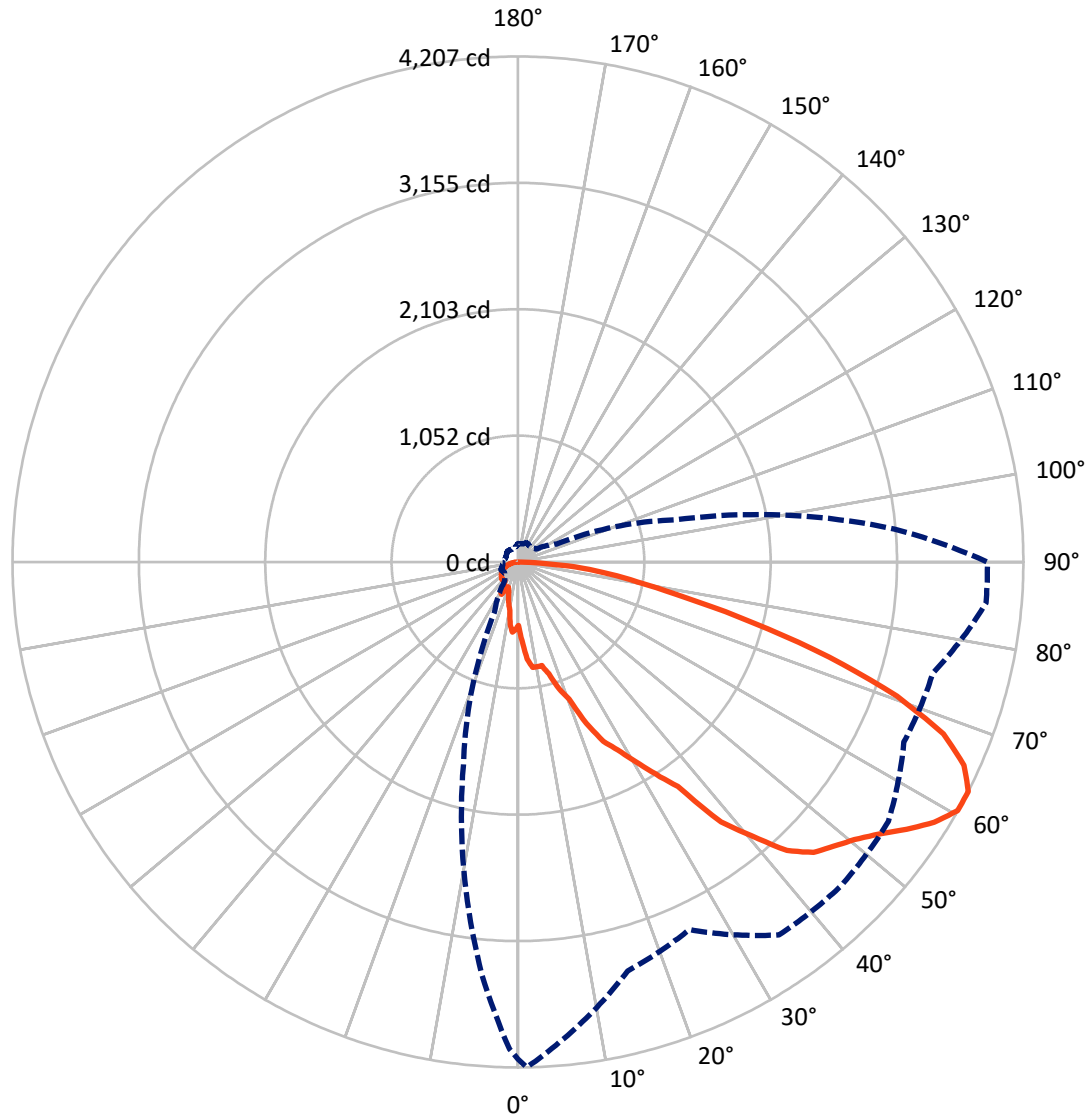
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 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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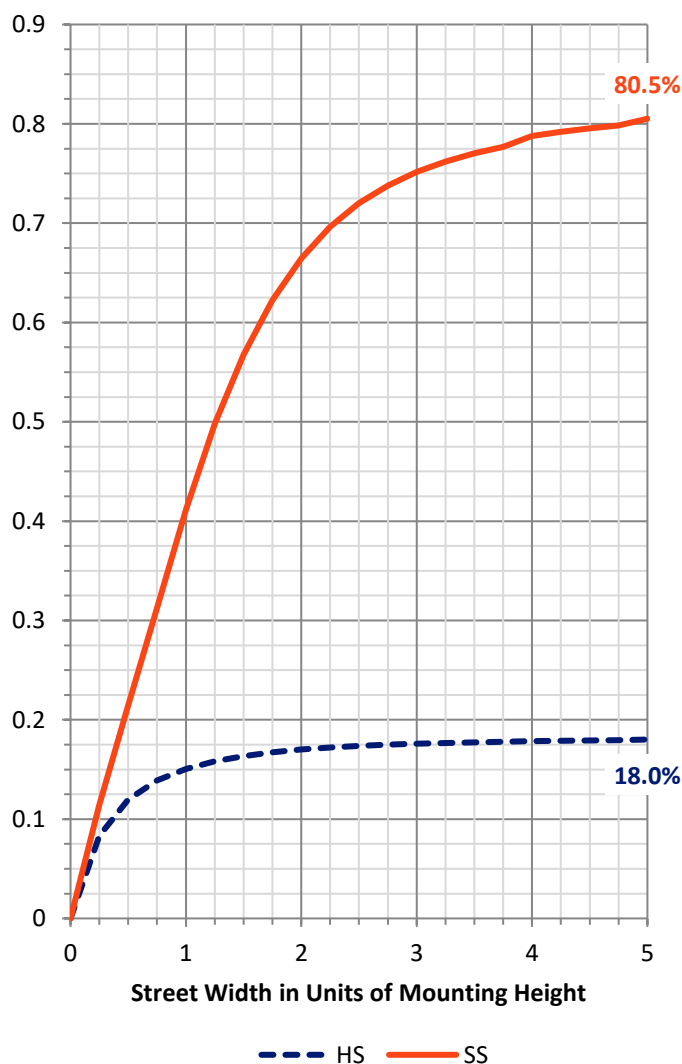
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	911.4	0.0	911.4
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	4093.6	0.0	4093.6
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	5005.0	0.0	5005.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.5	1.2
10°-20°	175.8	3.5
20°-30°	310.4	6.2
30°-40°	483.5	9.7
40°-50°	796.1	15.9
50°-60°	1136.2	22.7
60°-70°	1204.9	24.1
70°-80°	665.5	13.3
80°-90°	172.1	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°	5005.0	100.0
0°-180°	5005.0	100.0

**Coefficient of Utilization**



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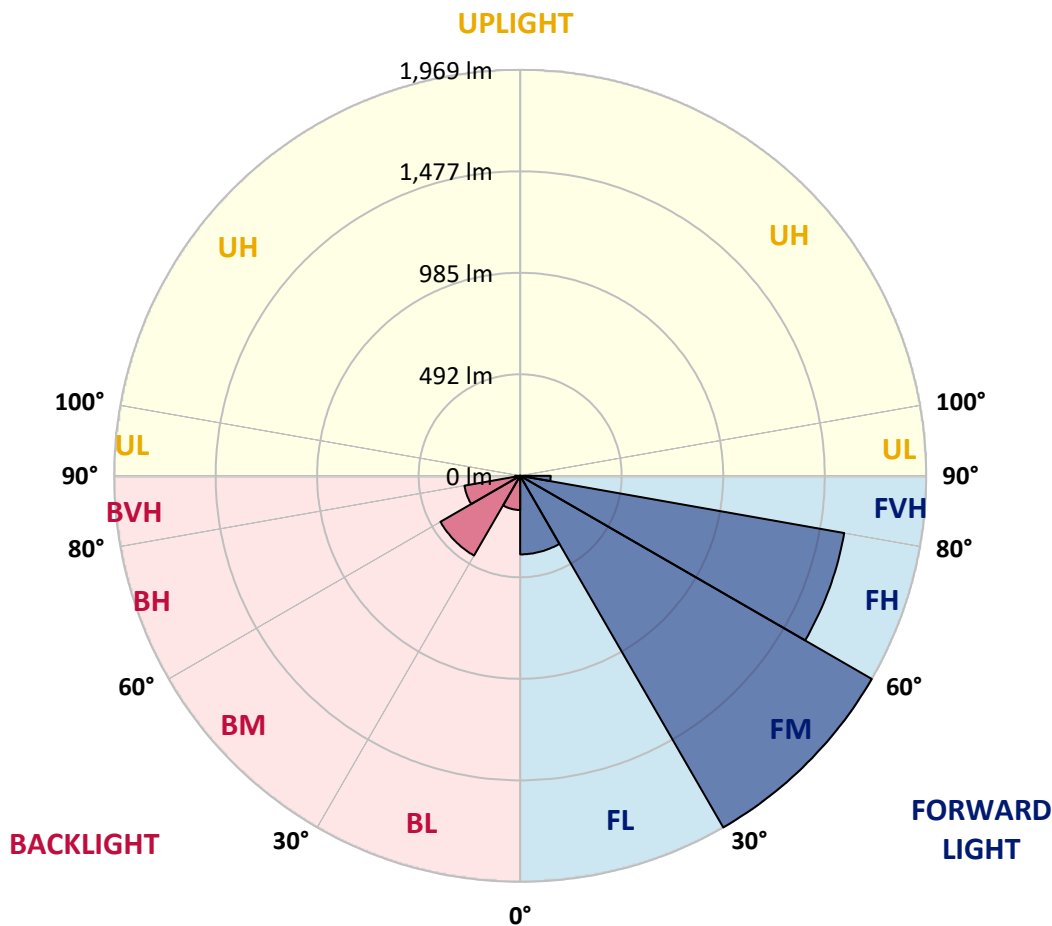
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	381.0	7.6			
FM (30°-60°)	1969.0	39.3			
FH (60°-80°)	1595.8	31.9			G1/1800
FVH (80°-90°)	147.9	3.0			G2/225
BL (0°-30°)	165.8	3.3	B1/500		
BM (30°-60°)	446.8	8.9	B1/1000		
BH (60°-80°)	274.6	5.5	B1/500		G1/500
BVH (80°-90°)	24.3	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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	649.0	654.6	643.1	630.3	577.1	628.3	613.0	641.4	632.2	570.5	683.5
5°	802.0	812.2	801.0	839.6	842.1	852.0	760.0	817.3	797.4	792.3	849.3
7.5°	875.8	886.3	914.7	983.4	1037.1	988.5	934.8	922.9	907.4	866.8	901.3
10°	880.4	886.3	924.4	1070.1	1096.1	1130.6	1095.9	1014.0	980.3	892.1	865.9
12.5°	866.6	884.8	934.1	1111.6	1188.9	1226.5	1235.0	1144.0	1061.1	960.6	947.2
15°	959.6	966.2	1036.8	1141.3	1194.5	1226.3	1254.0	1197.9	1171.9	1092.2	985.1
17.5°	1092.9	1111.2	1169.0	1207.6	1243.5	1249.6	1226.8	1204.9	1163.6	1270.0	1156.1
20°	1183.3	1218.5	1289.4	1296.7	1221.2	1234.5	1231.4	1232.8	1209.3	1406.0	1343.4
22.5°	1422.3	1460.4	1470.1	1427.9	1285.5	1224.6	1236.7	1271.9	1364.7	1533.3	1604.2
25°	1638.7	1653.5	1742.2	1633.3	1406.5	1273.6	1253.7	1344.8	1496.1	1747.5	1798.0
27.5°	1751.6	1770.8	1829.8	1593.0	1421.6	1210.5	1163.9	1302.6	1456.8	1646.7	1868.5
30°	1896.1	1926.7	2007.1	1633.3	1467.0	1251.8	1148.6	1281.2	1451.7	1712.8	2017.6
32.5°	2045.0	2104.5	2164.3	1775.4	1460.7	1314.9	1246.4	1257.1	1497.8	1851.2	2172.1
35°	2242.2	2294.7	2346.2	1857.5	1587.9	1367.6	1299.6	1412.8	1616.3	2011.8	2387.5
37.5°	2663.9	2746.9	2611.2	2091.2	1726.4	1605.2	1482.5	1549.6	1741.7	2145.6	2739.4
40°	2932.5	2994.9	2863.8	2250.3	1970.2	1765.2	1745.1	1750.7	1914.4	2260.2	2976.2
42.5°	3199.4	3283.9	3075.3	2468.6	2265.1	2095.8	1991.8	1984.8	2107.7	2466.2	3245.6
45°	3398.6	3448.4	3147.9	2652.7	2581.3	2455.7	2377.8	2254.1	2361.7	2608.7	3412.2
47.5°	3493.3	3533.9	3264.8	2759.8	2786.3	2792.8	2933.5	2722.7	2583.7	2705.2	3499.6
50°	3611.6	3630.8	3333.5	2854.1	2981.1	3269.1	3302.9	2945.6	2799.9	2810.3	3551.4
52.5°	3752.9	3761.0	3433.8	2962.9	3178.0	3582.4	3530.2	3323.5	3005.6	3002.4	3648.7
55°	3930.7	3925.9	3559.6	3109.3	3318.7	3768.7	3729.1	3578.6	3229.8	3161.5	3800.3
57.5°	4088.8	4085.9	3726.5	3244.1	3437.0	3864.4	3876.1	3836.2	3382.3	3275.4	3964.5
60°	4166.3	4203.5	3916.4	3391.5	3444.5	3907.7	3912.0	3848.6	3552.8	3421.7	4008.2
62.5°	4136.2	4206.9	4009.7	3524.1	3375.3	3789.6	3807.8	3764.1	3545.0	3575.2	3910.6
65°	3999.2	4080.8	3928.8	3594.8	3332.8	3591.9	3596.5	3486.0	3434.0	3676.9	3681.8
67.5°	3742.3	3818.8	3671.3	3482.1	3041.8	3059.0	3162.0	3171.0	3095.2	3600.2	3360.4
70°	3292.4	3346.4	3254.1	3203.8	2542.4	2441.4	2553.1	2601.0	2635.5	3323.0	2974.8
72.5°	2606.6	2710.8	2725.3	2758.1	2047.0	1878.7	1961.5	1890.6	2115.2	2828.3	2430.5
75°	1928.4	2016.4	2110.8	2293.7	1613.4	1406.5	1396.3	1360.1	1570.0	2274.5	1802.6
77.5°	1362.8	1418.9	1491.5	1832.3	1217.5	1083.2	1089.5	1052.9	1133.8	1719.1	1245.2
80°	976.9	1006.2	1040.0	1207.1	898.2	934.6	935.6	900.8	843.0	1167.5	831.1
82.5°	696.1	718.9	757.5	796.2	669.6	766.0	765.3	763.1	668.4	789.1	520.0
85°	387.6	418.2	485.3	623.7	483.6	547.7	481.6	530.4	490.6	525.3	263.3
87.5°	27.2	24.3	108.6	361.4	225.6	164.9	86.5	171.2	219.6	274.5	36.7
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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	706.8	715.3	682.0	632.0	645.6	630.8	612.1	582.9	522.9	560.1	560.3
5°	848.9	816.6	790.6	766.0	724.7	662.3	654.1	604.0	575.9	590.7	588.5
7.5°	893.3	847.4	808.3	720.6	644.1	547.2	518.1	488.4	476.0	512.0	526.3
10°	844.5	796.6	758.3	651.6	599.7	539.2	459.0	418.0	393.7	403.2	408.8
12.5°	883.8	835.0	714.3	654.8	569.1	532.1	462.0	401.7	365.8	374.5	364.1
15°	921.7	855.9	735.2	616.7	547.2	493.8	436.9	374.8	332.5	317.4	309.4
17.5°	1060.2	950.9	732.8	595.3	515.6	454.2	385.7	317.7	289.5	274.0	260.6
20°	1229.0	1076.7	745.9	573.2	482.1	404.6	330.1	266.9	247.2	237.0	233.4
22.5°	1429.8	1237.9	820.9	570.0	450.5	368.4	299.5	260.1	238.0	226.8	222.2
25°	1589.4	1404.8	876.3	591.4	448.8	338.6	281.0	289.0	278.8	282.2	255.3
27.5°	1744.3	1450.2	845.2	581.9	403.7	285.6	276.6	293.4	302.1	304.8	303.8
30°	1875.3	1642.1	852.0	528.5	341.0	232.7	211.8	220.0	244.1	282.2	289.5
32.5°	2066.9	1733.9	910.1	496.2	304.8	208.1	184.8	181.7	187.3	201.1	213.0
35°	2291.1	1945.2	926.3	487.7	279.8	197.2	180.9	173.7	176.6	187.0	189.4
37.5°	2709.1	2099.2	986.6	477.3	270.6	190.7	178.0	175.4	181.7	190.2	195.0
40°	2939.5	2376.1	989.5	468.3	258.7	188.0	180.0	178.8	182.6	194.3	197.2
42.5°	3246.8	2533.9	1035.1	457.8	254.5	191.6	183.9	183.4	186.8	193.6	198.9
45°	3434.0	2639.6	1037.6	451.8	253.6	207.7	189.0	187.3	186.5	190.7	195.5
47.5°	3554.8	2791.9	1067.2	445.0	259.4	211.8	195.0	187.7	185.3	187.0	190.7
50°	3669.1	2913.6	1123.3	444.0	265.5	207.7	205.7	187.5	182.6	181.9	184.6
52.5°	3809.5	3113.7	1192.5	453.2	264.0	201.6	213.7	186.5	177.8	176.1	178.8
55°	4013.8	3328.1	1266.1	445.4	248.9	189.9	206.0	185.8	172.7	169.5	172.0
57.5°	4146.2	3451.0	1348.5	438.9	226.1	181.2	198.9	186.3	173.2	166.1	167.6
60°	4102.2	3385.0	1380.8	398.8	204.5	174.4	182.2	182.4	168.8	162.2	163.5
62.5°	3907.9	3145.7	1350.6	352.2	188.5	164.7	164.9	175.1	156.2	151.6	153.5
65°	3636.4	2848.2	1228.7	321.8	180.9	154.5	150.6	153.7	139.2	135.8	139.7
67.5°	3303.1	2481.5	1047.3	289.8	178.3	140.6	136.0	134.8	125.6	121.7	125.6
70°	2885.1	2077.8	837.2	267.2	168.1	125.6	121.9	120.7	112.9	110.0	113.4
72.5°	2319.0	1622.4	646.1	249.9	156.9	111.7	108.6	107.1	100.6	96.4	100.6
75°	1649.4	1239.9	479.9	223.4	141.1	97.6	94.0	92.1	86.0	82.1	85.7
77.5°	1172.1	930.7	335.2	184.8	116.3	82.6	80.4	77.2	71.9	67.3	70.9
80°	866.6	665.0	216.2	142.6	88.9	66.1	64.8	62.7	57.6	52.0	54.6
82.5°	570.5	479.4	123.9	96.7	64.6	47.6	48.6	47.1	42.3	36.4	37.9
85°	255.5	283.9	65.8	53.2	42.0	28.7	31.3	30.4	26.7	21.1	21.6
87.5°	24.5	47.8	20.2	19.4	15.5	9.0	11.2	9.5	8.0	5.1	3.9
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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	568.8	534.6	500.3	521.2	521.7	527.3	528.0	507.4	523.9	536.5	549.6
5°	577.8	555.5	556.7	536.5	525.6	539.7	536.8	531.2	541.1	555.0	571.7
7.5°	512.7	498.1	495.7	476.3	429.2	418.7	427.5	431.1	444.5	465.8	483.8
10°	400.3	429.2	396.6	389.1	376.7	352.4	338.3	336.6	365.0	382.3	397.3
12.5°	360.7	353.4	349.5	328.9	328.9	303.1	294.9	302.4	346.1	358.5	377.9
15°	307.2	301.9	283.9	273.7	268.9	258.4	267.2	274.5	315.3	316.2	336.6
17.5°	255.0	251.9	234.9	232.9	228.1	223.4	231.5	248.9	271.1	267.2	276.6
20°	228.1	217.1	201.6	207.2	202.1	198.4	195.0	219.8	235.3	240.4	246.0
22.5°	221.3	201.3	192.1	187.0	187.3	181.4	182.2	202.8	226.4	229.5	226.1
25°	252.8	217.4	187.5	172.7	167.1	165.2	170.7	189.0	217.4	224.2	226.8
27.5°	295.8	236.1	193.1	167.8	156.7	157.6	165.6	178.3	211.8	223.9	227.1
30°	283.9	222.0	193.3	164.2	150.3	155.4	158.4	170.5	207.4	225.6	241.4
32.5°	219.1	199.6	194.5	167.1	161.5	153.5	157.6	169.3	194.5	206.0	206.7
35°	185.6	170.7	167.3	160.5	152.8	149.4	154.0	164.2	180.7	187.7	186.8
37.5°	184.1	167.8	154.5	151.6	148.4	147.4	150.1	159.6	176.3	188.7	186.0
40°	186.5	166.4	152.8	147.7	148.9	144.5	147.2	158.8	177.1	188.7	186.3
42.5°	183.6	164.7	150.6	146.7	147.9	141.8	145.0	157.1	175.1	189.0	184.3
45°	177.8	160.8	149.4	142.8	148.4	139.4	143.3	152.8	169.3	184.3	179.0
47.5°	172.0	156.2	144.3	140.1	145.7	137.0	138.7	146.9	163.5	178.3	173.7
50°	165.6	150.3	140.1	138.9	142.8	136.5	133.8	140.6	156.4	171.2	167.3
52.5°	158.8	145.5	137.2	136.7	140.4	133.3	129.5	134.8	148.9	163.7	160.5
55°	152.3	140.1	133.6	134.8	138.9	130.7	125.8	129.2	140.9	155.4	151.1
57.5°	145.7	134.1	128.7	132.1	135.3	127.3	121.2	123.1	132.6	146.9	141.8
60°	139.9	128.7	123.4	127.5	130.4	122.2	115.1	116.3	124.8	137.7	133.1
62.5°	132.4	122.9	115.9	121.2	123.4	115.4	107.8	109.3	116.1	128.2	124.8
65°	121.7	115.6	109.1	112.7	115.6	107.4	100.3	102.0	107.1	118.5	116.1
67.5°	112.5	106.6	102.3	105.2	105.7	99.3	93.0	94.0	98.1	108.8	106.1
70°	102.3	96.7	93.3	95.5	95.2	89.9	85.0	85.2	88.7	98.4	94.7
72.5°	91.1	85.7	84.0	85.2	84.3	79.4	74.8	76.5	78.7	86.0	83.1
75°	79.2	74.3	73.3	74.6	73.1	68.5	64.4	66.1	68.0	74.1	70.4
77.5°	66.8	62.4	62.7	62.9	61.0	57.8	53.7	55.4	56.6	60.7	57.1
80°	53.2	49.8	50.8	50.8	48.6	46.4	42.5	43.0	43.7	45.2	42.5
82.5°	38.9	38.9	38.9	39.1	34.5	35.2	31.8	31.6	30.8	30.6	28.9
85°	23.1	24.0	24.5	25.3	18.7	21.9	18.9	18.2	16.8	15.3	14.8
87.5°	5.1	6.6	6.6	6.3	0.0	2.4	1.2	1.9	0.5	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°	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8	527.8
2.5°	534.6	520.0	547.2	571.5	567.6	581.7	548.9	597.5	649.0	649.0
5°	567.4	555.0	562.0	576.1	586.8	635.9	676.7	717.2	801.0	802.0
7.5°	478.5	505.2	511.5	507.4	553.3	616.4	683.7	799.3	870.2	875.8
10°	447.4	459.5	478.7	489.4	508.1	570.3	653.8	791.1	866.3	880.4
12.5°	405.4	450.3	479.4	539.2	554.0	566.4	699.2	818.0	870.0	866.6
15°	359.5	393.5	435.5	501.5	539.2	633.9	726.2	904.5	933.9	959.6
17.5°	286.6	311.6	367.5	442.8	536.0	623.2	792.8	1011.3	1066.2	1092.9
20°	235.8	236.1	291.9	391.8	493.3	578.5	818.0	1100.0	1169.7	1183.3
22.5°	223.0	211.8	241.2	322.3	446.2	605.0	869.0	1242.6	1388.0	1422.3
25°	215.9	202.3	220.8	284.4	412.4	618.9	971.8	1438.6	1625.3	1638.7
27.5°	218.8	225.1	231.0	253.6	369.7	592.9	947.9	1526.2	1726.4	1751.6
30°	238.5	248.7	235.3	243.1	334.4	555.2	990.5	1668.6	1853.6	1896.1
32.5°	198.4	194.5	193.3	210.3	299.2	521.2	1079.6	1868.9	1991.6	2045.0
35°	179.0	172.9	175.4	194.8	282.0	516.4	1129.6	2034.8	2209.5	2242.2
37.5°	178.3	171.2	174.4	189.0	288.1	525.1	1209.8	2301.0	2593.7	2663.9
40°	176.6	172.7	174.4	185.3	281.7	530.0	1255.9	2524.7	2861.3	2932.5
42.5°	176.3	174.4	176.1	188.2	275.2	532.1	1319.8	2726.8	3143.3	3199.4
45°	175.6	177.5	177.5	190.7	272.3	546.7	1357.4	2825.9	3329.4	3398.6
47.5°	172.2	178.0	187.5	189.9	260.4	539.9	1410.6	2976.2	3428.2	3493.3
50°	167.8	177.3	200.1	185.1	258.4	523.4	1472.8	3095.5	3555.0	3611.6
52.5°	162.0	176.1	197.2	175.6	255.0	520.5	1560.0	3250.4	3702.9	3752.9
55°	153.7	171.7	188.2	166.1	246.8	511.3	1693.3	3442.5	3896.5	3930.7
57.5°	146.2	165.2	175.1	160.8	227.1	513.2	1786.1	3599.2	4059.0	4088.8
60°	139.4	164.4	156.4	155.2	206.9	487.2	1816.2	3597.5	4119.4	4166.3
62.5°	132.1	155.2	143.3	147.7	189.2	460.5	1752.4	3443.3	4054.1	4136.2
65°	122.7	133.1	132.4	142.3	189.7	417.0	1605.9	3171.2	3891.1	3999.2
67.5°	111.5	117.8	121.9	133.6	195.8	383.3	1370.3	2844.1	3613.8	3742.3
70°	100.1	106.4	111.0	122.2	201.3	367.7	1090.8	2384.6	3162.0	3292.4
72.5°	88.4	95.0	98.6	108.3	193.8	334.4	807.3	1855.3	2538.1	2606.6
75°	76.3	82.6	85.5	94.5	168.3	276.6	557.4	1405.3	1859.0	1928.4
77.5°	63.9	70.7	71.6	78.9	128.5	211.5	357.3	1077.9	1316.4	1362.8
80°	51.0	57.8	57.8	61.7	90.4	145.5	214.0	813.2	958.6	976.9
82.5°	36.7	44.0	43.5	43.7	62.4	90.1	123.9	609.4	692.7	696.1
85°	21.6	26.7	26.5	24.3	36.9	48.6	67.0	378.4	386.7	387.6
87.5°	4.1	6.3	5.6	2.4	10.2	14.3	19.4	70.2	27.9	27.2
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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