

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: P367028

Luminaire Tested: **MSA-SA1D-730-U-SLL**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367028  
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-SA1D-730-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

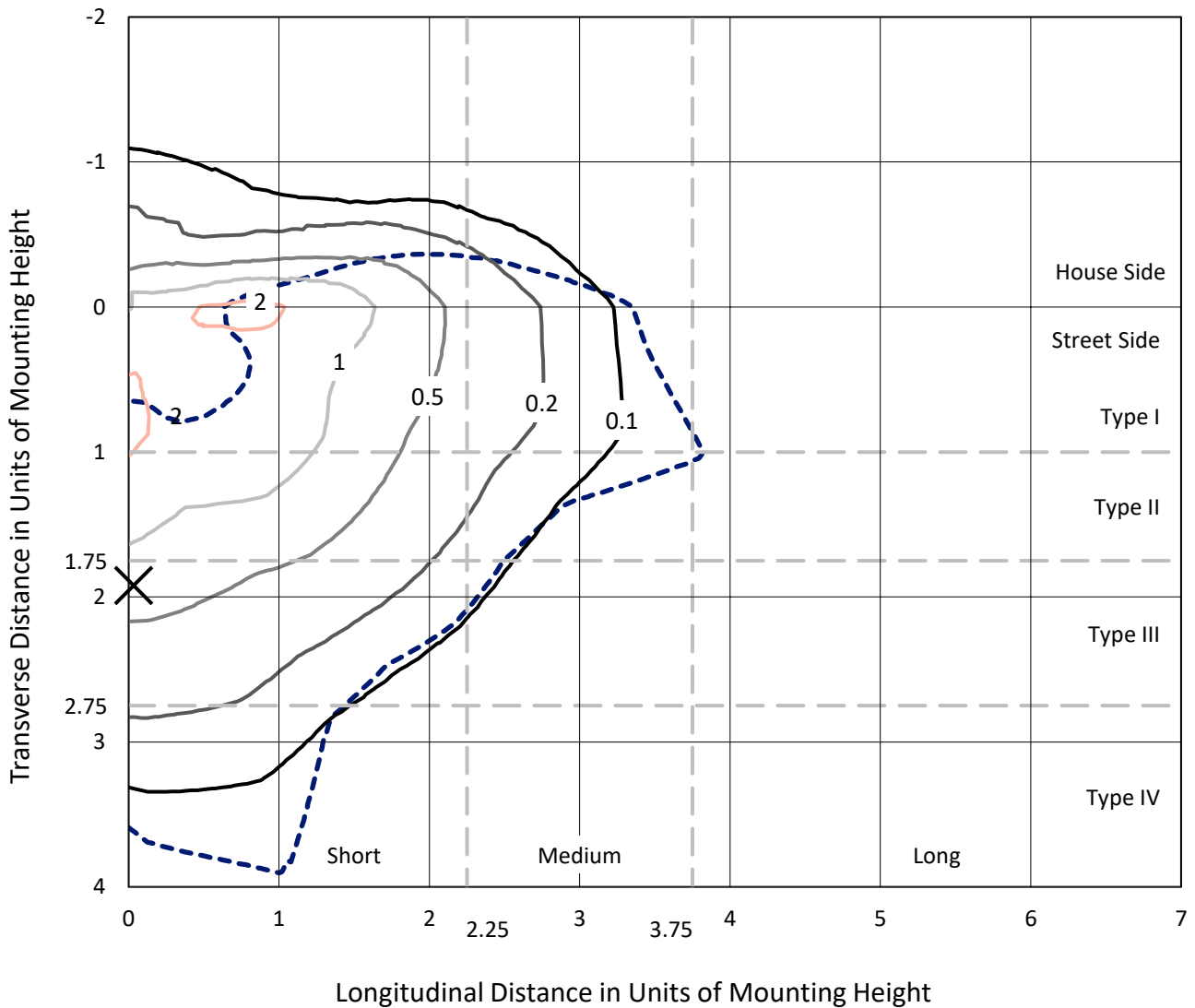
Lumens per Lamp: N/A  
Luminaire Lumens: 5350 lumens  
Efficiency: N/A  
Efficacy: 79.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

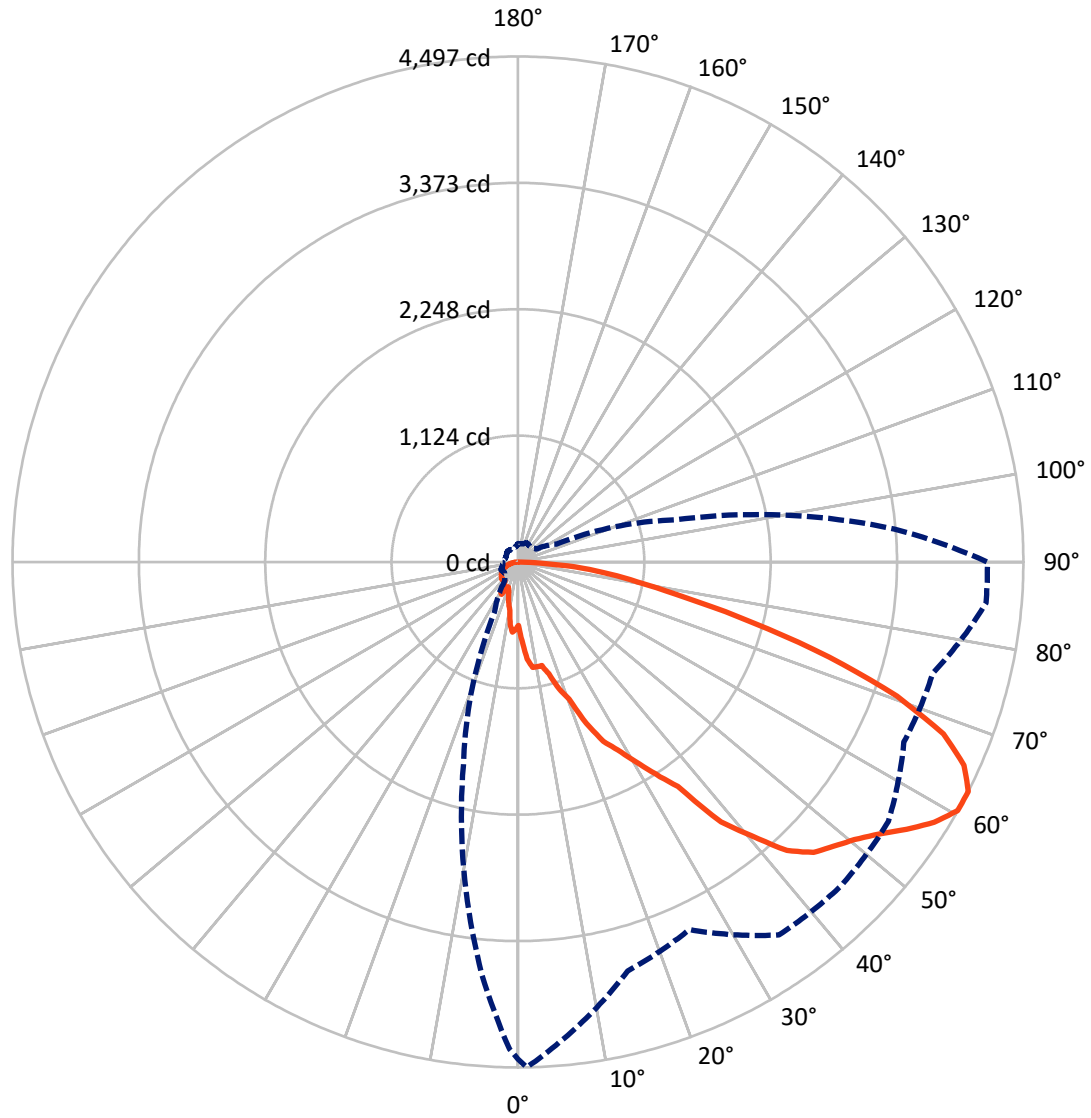
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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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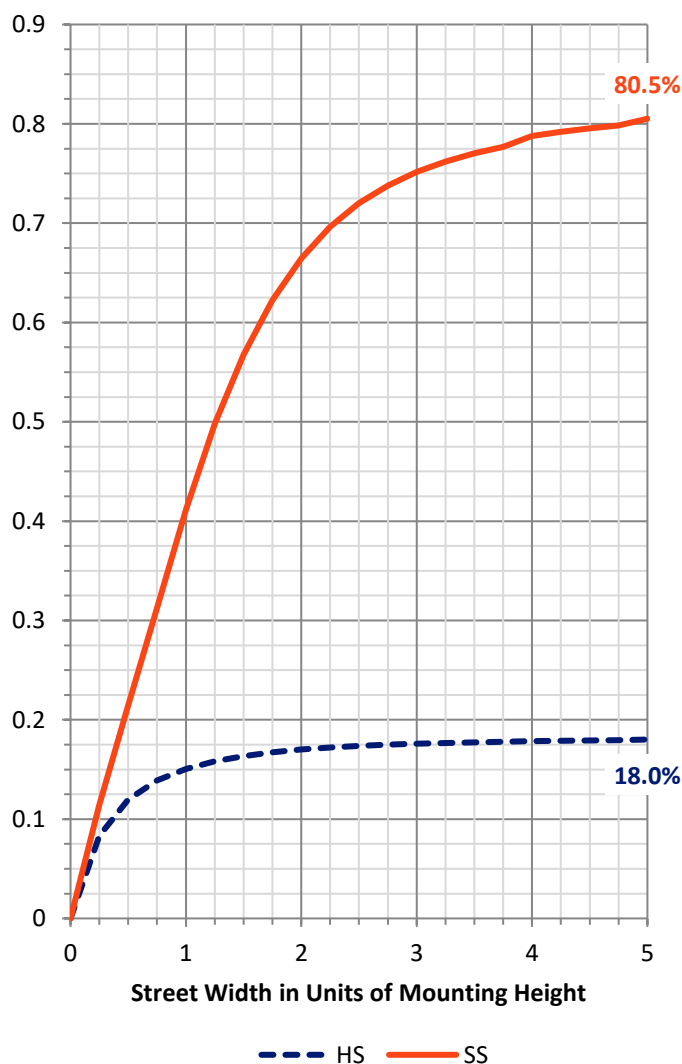
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	974.2	0.0	974.2
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	4375.8	0.0	4375.8
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	5350.0	0.0	5350.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.7	1.2
10°-20°	187.9	3.5
20°-30°	331.8	6.2
30°-40°	516.8	9.7
40°-50°	851.0	15.9
50°-60°	1214.6	22.7
60°-70°	1287.9	24.1
70°-80°	711.4	13.3
80°-90°	184.0	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°	5350.0	100.0
0°-180°	5350.0	100.0

**Coefficient of Utilization**

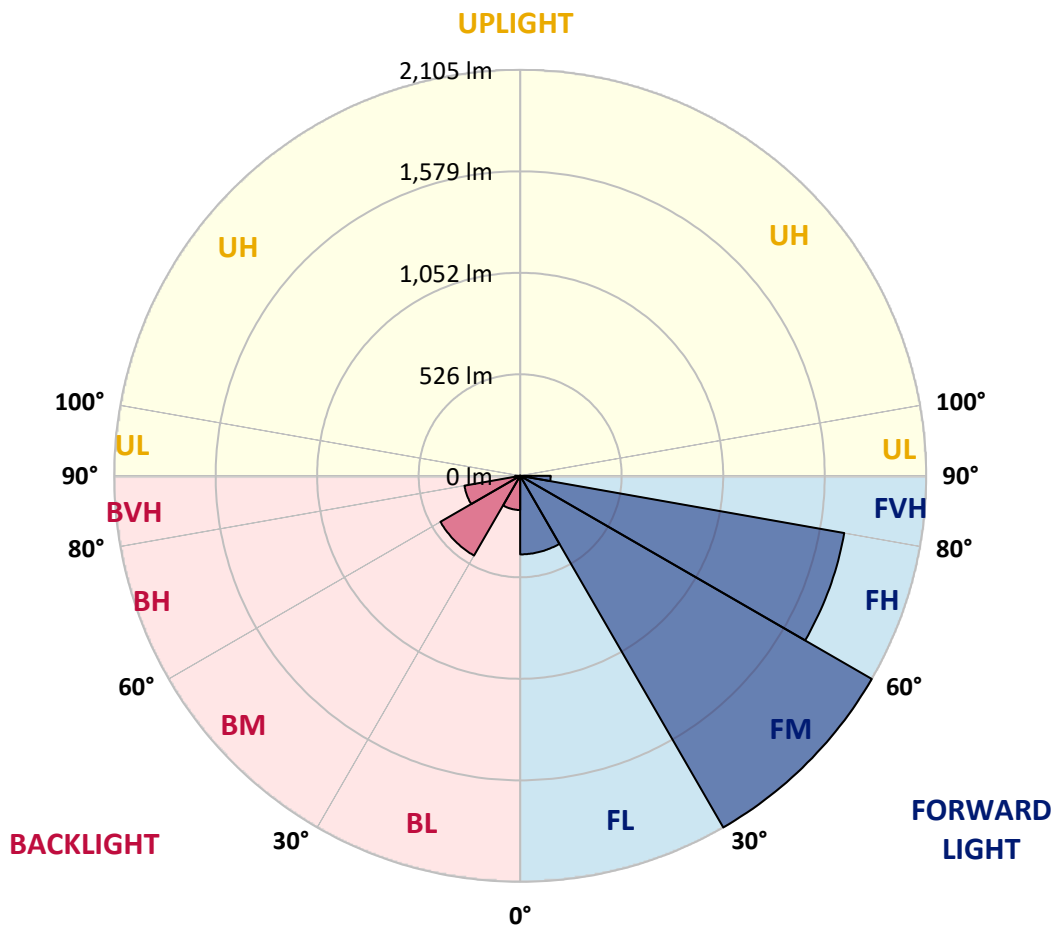


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	407.2	7.6			
FM (30°-60°)	2104.7	39.3			
FH (60°-80°)	1705.8	31.9			G1/1800
FVH (80°-90°)	158.0	3.0			G2/225
BL (0°-30°)	177.2	3.3	B1/500		
BM (30°-60°)	477.6	8.9	B1/1000		
BH (60°-80°)	293.5	5.5	B1/500		G1/500
BVH (80°-90°)	25.9	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°	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2
2.5°	693.7	699.7	687.5	673.7	616.9	671.6	655.3	685.7	675.8	609.8	730.6
5°	857.3	868.2	856.2	897.5	900.1	910.7	812.3	873.6	852.3	846.9	907.9
7.5°	936.2	947.3	977.7	1051.2	1108.6	1056.6	999.3	986.6	969.9	926.6	963.4
10°	941.1	947.3	988.1	1143.9	1171.7	1208.5	1171.4	1083.9	1047.8	953.6	925.5
12.5°	926.3	945.8	998.5	1188.3	1270.8	1311.1	1320.2	1222.8	1134.3	1026.8	1012.5
15°	1025.8	1032.8	1108.3	1219.9	1276.8	1310.8	1340.4	1280.4	1252.7	1167.5	1053.0
17.5°	1168.3	1187.8	1249.5	1290.8	1329.2	1335.7	1311.3	1288.0	1243.8	1357.5	1235.8
20°	1264.9	1302.5	1378.3	1386.1	1305.4	1319.6	1316.3	1317.8	1292.6	1502.9	1436.0
22.5°	1520.3	1561.1	1571.5	1526.3	1374.2	1309.0	1322.0	1359.6	1458.8	1639.0	1714.8
25°	1751.6	1767.5	1862.2	1745.9	1503.5	1361.4	1340.2	1437.5	1599.3	1868.0	1922.0
27.5°	1872.4	1892.9	1956.0	1702.8	1519.6	1293.9	1244.1	1392.3	1557.2	1760.2	1997.2
30°	2026.8	2059.6	2145.5	1745.9	1568.1	1338.1	1227.7	1369.5	1551.7	1830.8	2156.7
32.5°	2186.0	2249.6	2313.5	1897.8	1561.3	1405.6	1332.4	1343.8	1601.1	1978.8	2321.8
35°	2396.8	2452.9	2507.9	1985.6	1697.4	1461.9	1389.2	1510.2	1727.8	2150.4	2552.1
37.5°	2847.5	2936.3	2791.2	2235.3	1845.4	1715.8	1584.7	1656.4	1861.7	2293.5	2928.2
40°	3134.6	3201.4	3061.2	2405.4	2106.0	1886.9	1865.4	1871.3	2046.3	2416.0	3181.4
42.5°	3420.0	3510.3	3287.3	2638.8	2421.2	2240.3	2129.1	2121.6	2253.0	2636.2	3469.3
45°	3632.8	3686.1	3364.9	2835.6	2759.2	2625.0	2541.7	2409.5	2524.5	2788.6	3647.4
47.5°	3734.1	3777.5	3489.8	2950.1	2978.3	2985.4	3135.7	2910.3	2761.8	2891.6	3740.9
50°	3860.5	3881.0	3563.3	3050.8	3186.6	3494.5	3530.6	3148.7	2992.9	3004.1	3796.1
52.5°	4011.6	4020.2	3670.5	3167.1	3397.1	3829.4	3773.6	3552.6	3212.8	3209.4	3900.3
55°	4201.7	4196.5	3805.0	3323.6	3547.4	4028.5	3986.2	3825.2	3452.4	3379.5	4062.3
57.5°	4370.7	4367.6	3983.3	3467.7	3673.9	4130.8	4143.3	4100.7	3615.5	3501.2	4237.8
60°	4453.5	4493.2	4186.4	3625.3	3681.9	4177.0	4181.7	4113.9	3797.7	3657.5	4284.5
62.5°	4421.3	4496.9	4286.1	3767.1	3607.9	4050.8	4070.3	4023.6	3789.4	3821.6	4180.1
65°	4274.9	4362.1	4199.6	3842.6	3562.5	3839.5	3844.4	3726.3	3670.8	3930.4	3935.6
67.5°	4000.2	4082.0	3924.4	3722.2	3251.5	3269.9	3380.0	3389.6	3308.6	3848.3	3592.1
70°	3519.4	3577.0	3478.4	3424.6	2717.7	2609.7	2729.1	2780.3	2817.1	3552.1	3179.8
72.5°	2786.2	2897.6	2913.2	2948.2	2188.1	2008.2	2096.7	2020.9	2261.0	3023.3	2598.0
75°	2061.4	2155.4	2256.3	2451.8	1724.6	1503.5	1492.5	1453.9	1678.2	2431.3	1926.9
77.5°	1456.7	1516.7	1594.3	1958.6	1301.5	1157.9	1164.7	1125.4	1211.9	1837.6	1331.1
80°	1044.2	1075.6	1111.7	1290.3	960.1	999.0	1000.1	962.9	901.1	1248.0	888.4
82.5°	744.1	768.5	809.8	851.0	715.8	818.8	818.1	815.7	714.5	843.5	555.8
85°	414.4	447.1	518.7	666.7	516.9	585.4	514.8	567.0	524.4	561.6	281.4
87.5°	29.1	26.0	116.0	386.3	241.2	176.3	92.4	183.0	234.7	293.4	39.2
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°	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2
2.5°	755.5	764.6	729.0	675.5	690.1	674.2	654.2	623.1	559.0	598.7	598.9
5°	907.4	872.8	845.1	818.8	774.7	708.0	699.2	645.7	615.6	631.4	629.1
7.5°	954.9	905.8	864.0	770.3	688.5	584.9	553.8	522.1	508.9	547.3	562.6
10°	902.7	851.6	810.5	696.6	641.0	576.4	490.7	446.8	420.8	431.0	436.9
12.5°	944.8	892.6	763.5	699.9	608.3	568.8	493.8	429.4	391.0	400.3	389.2
15°	985.3	914.9	785.9	659.2	584.9	527.8	467.1	400.6	355.4	339.3	330.8
17.5°	1133.2	1016.4	783.3	636.3	551.2	485.5	412.3	339.6	309.5	292.9	278.6
20°	1313.7	1150.9	797.3	612.7	515.3	432.5	352.8	285.3	264.3	253.4	249.5
22.5°	1528.4	1323.3	877.5	609.3	481.6	393.8	320.1	278.1	254.4	242.5	237.6
25°	1698.9	1501.6	936.7	632.2	479.8	361.9	300.4	308.9	298.0	301.7	272.9
27.5°	1864.6	1550.2	903.5	622.0	431.5	305.3	295.7	313.6	323.0	325.8	324.8
30°	2004.5	1755.3	910.7	564.9	364.5	248.7	226.4	235.2	260.9	301.7	309.5
32.5°	2209.4	1853.4	972.8	530.4	325.8	222.5	197.6	194.2	200.2	215.0	227.7
35°	2449.0	2079.3	990.2	521.3	299.1	210.8	193.4	185.6	188.7	199.9	202.5
37.5°	2895.8	2243.9	1054.6	510.2	289.2	203.8	190.3	187.4	194.2	203.3	208.5
40°	3142.2	2539.9	1057.7	500.5	276.5	200.9	192.4	191.1	195.2	207.7	210.8
42.5°	3470.6	2708.6	1106.5	489.4	272.1	204.8	196.5	196.0	199.6	206.9	212.6
45°	3670.8	2821.5	1109.1	482.9	271.0	222.0	202.0	200.2	199.4	203.8	209.0
47.5°	3799.8	2984.3	1140.8	475.6	277.3	226.4	208.5	200.7	198.1	199.9	203.8
50°	3922.1	3114.4	1200.7	474.6	283.8	222.0	219.9	200.4	195.2	194.5	197.3
52.5°	4072.1	3328.3	1274.7	484.4	282.2	215.5	228.5	199.4	190.0	188.2	191.1
55°	4290.5	3557.6	1353.4	476.1	266.1	203.0	220.2	198.6	184.6	181.2	183.8
57.5°	4432.0	3688.9	1441.4	469.1	241.7	193.7	212.6	199.1	185.1	177.6	179.1
60°	4385.0	3618.3	1475.9	426.3	218.6	186.4	194.7	195.0	180.4	173.4	174.7
62.5°	4177.3	3362.6	1443.7	376.4	201.5	176.0	176.3	187.2	166.9	162.0	164.1
65°	3887.0	3044.6	1313.4	344.0	193.4	165.1	161.0	164.3	148.8	145.1	149.3
67.5°	3530.8	2652.5	1119.5	309.7	190.6	150.3	145.4	144.1	134.2	130.1	134.2
70°	3084.0	2221.0	894.9	285.6	179.7	134.2	130.3	129.0	120.7	117.6	121.2
72.5°	2478.8	1734.3	690.6	267.1	167.7	119.4	116.0	114.5	107.5	103.1	107.5
75°	1763.1	1325.4	513.0	238.8	150.8	104.4	100.5	98.4	91.9	87.8	91.6
77.5°	1252.9	994.9	358.3	197.6	124.4	88.3	85.9	82.6	76.8	71.9	75.8
80°	926.3	710.8	231.1	152.4	95.0	70.6	69.3	67.0	61.5	55.6	58.4
82.5°	609.8	512.5	132.4	103.3	69.1	50.9	51.9	50.4	45.2	38.9	40.5
85°	273.1	303.5	70.4	56.9	44.9	30.6	33.5	32.5	28.6	22.6	23.1
87.5°	26.2	51.1	21.5	20.8	16.6	9.6	11.9	10.1	8.6	5.5	4.2
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):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2
2.5°	608.0	571.4	534.8	557.1	557.7	563.6	564.4	542.3	560.0	573.5	587.5
5°	617.6	593.7	595.0	573.5	561.8	576.9	573.8	567.8	578.4	593.2	611.1
7.5°	548.1	532.5	529.9	509.1	458.7	447.6	456.9	460.8	475.1	497.9	517.2
10°	427.9	458.7	424.0	415.9	402.7	376.7	361.6	359.8	390.2	408.6	424.7
12.5°	385.5	377.7	373.6	351.5	351.5	324.0	315.2	323.2	370.0	383.2	404.0
15°	328.4	322.7	303.5	292.6	287.4	276.2	285.6	293.4	337.0	338.0	359.8
17.5°	272.6	269.2	251.1	249.0	243.8	238.8	247.4	266.1	289.7	285.6	295.7
20°	243.8	232.1	215.5	221.5	216.0	212.1	208.5	235.0	251.6	257.0	263.0
22.5°	236.5	215.2	205.4	199.9	200.2	193.9	194.7	216.8	242.0	245.3	241.7
25°	270.3	232.4	200.4	184.6	178.6	176.5	182.5	202.0	232.4	239.6	242.5
27.5°	316.2	252.3	206.4	179.4	167.5	168.5	177.1	190.6	226.4	239.4	242.7
30°	303.5	237.3	206.7	175.5	160.7	166.2	169.3	182.3	221.7	241.2	258.1
32.5°	234.2	213.4	208.0	178.6	172.6	164.1	168.5	181.0	208.0	220.2	220.9
35°	198.3	182.5	178.9	171.6	163.3	159.7	164.6	175.5	193.2	200.7	199.6
37.5°	196.8	179.4	165.1	162.0	158.6	157.6	160.4	170.6	188.5	201.7	198.9
40°	199.4	177.8	163.3	157.8	159.1	154.5	157.3	169.8	189.3	201.7	199.1
42.5°	196.3	176.0	161.0	156.8	158.1	151.6	155.0	168.0	187.2	202.0	197.1
45°	190.0	171.9	159.7	152.7	158.6	149.0	153.2	163.3	181.0	197.1	191.3
47.5°	183.8	166.9	154.2	149.8	155.8	146.4	148.2	157.1	174.7	190.6	185.6
50°	177.1	160.7	149.8	148.5	152.7	145.9	143.1	150.3	167.2	183.0	178.9
52.5°	169.8	155.5	146.7	146.2	150.1	142.5	138.4	144.1	159.1	175.0	171.6
55°	162.8	149.8	142.8	144.1	148.5	139.7	134.5	138.1	150.6	166.2	161.5
57.5°	155.8	143.3	137.6	141.2	144.6	136.0	129.5	131.6	141.8	157.1	151.6
60°	149.5	137.6	131.9	136.3	139.4	130.6	123.1	124.4	133.4	147.2	142.3
62.5°	141.5	131.4	123.8	129.5	131.9	123.3	115.3	116.8	124.1	137.1	133.4
65°	130.1	123.6	116.6	120.5	123.6	114.8	107.2	109.0	114.5	126.7	124.1
67.5°	120.2	114.0	109.3	112.4	112.9	106.2	99.4	100.5	104.9	116.3	113.5
70°	109.3	103.3	99.7	102.0	101.8	96.1	90.9	91.1	94.8	105.1	101.3
72.5°	97.4	91.6	89.8	91.1	90.1	84.9	80.0	81.8	84.1	91.9	88.8
75°	84.6	79.4	78.4	79.7	78.1	73.2	68.8	70.6	72.7	79.2	75.3
77.5°	71.4	66.7	67.0	67.2	65.2	61.8	57.4	59.2	60.5	64.9	61.0
80°	56.9	53.2	54.3	54.3	51.9	49.6	45.4	46.0	46.7	48.3	45.4
82.5°	41.5	41.5	41.5	41.8	36.9	37.6	34.0	33.8	33.0	32.7	30.9
85°	24.7	25.7	26.2	27.0	20.0	23.4	20.3	19.5	17.9	16.4	15.8
87.5°	5.5	7.0	7.0	6.8	0.0	2.6	1.3	2.1	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°	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2	564.2
2.5°	571.4	555.8	584.9	610.9	606.7	621.8	586.7	638.7	693.7	693.7
5°	606.5	593.2	600.8	615.8	627.2	679.7	723.3	766.7	856.2	857.3
7.5°	511.4	540.0	546.8	542.3	591.4	658.9	730.8	854.4	930.2	936.2
10°	478.2	491.2	511.7	523.1	543.1	609.6	698.9	845.6	926.1	941.1
12.5°	433.3	481.3	512.5	576.4	592.2	605.4	747.4	874.4	930.0	926.3
15°	384.2	420.6	465.5	536.1	576.4	677.6	776.3	966.8	998.2	1025.8
17.5°	306.4	333.1	392.8	473.3	573.0	666.2	847.4	1081.1	1139.7	1168.3
20°	252.1	252.3	312.1	418.8	527.3	618.4	874.4	1175.8	1250.3	1264.9
22.5°	238.3	226.4	257.8	344.5	476.9	646.7	928.9	1328.2	1483.7	1520.3
25°	230.8	216.3	236.0	304.0	440.8	661.5	1038.7	1537.7	1737.4	1751.6
27.5°	233.9	240.7	246.9	271.0	395.1	633.7	1013.3	1631.4	1845.4	1872.4
30°	254.9	265.8	251.6	259.9	357.5	593.5	1058.7	1783.6	1981.4	2026.8
32.5°	212.1	208.0	206.7	224.8	319.9	557.1	1154.0	1997.8	2128.9	2186.0
35°	191.3	184.8	187.4	208.2	301.4	552.0	1207.5	2175.1	2361.8	2396.8
37.5°	190.6	183.0	186.4	202.0	307.9	561.3	1293.2	2459.6	2772.5	2847.5
40°	188.7	184.6	186.4	198.1	301.2	566.5	1342.5	2698.7	3058.6	3134.6
42.5°	188.5	186.4	188.2	201.2	294.1	568.8	1410.8	2914.7	3360.0	3420.0
45°	187.7	189.8	189.8	203.8	291.0	584.4	1451.0	3020.7	3558.9	3632.8
47.5°	184.1	190.3	200.4	203.0	278.3	577.1	1507.9	3181.4	3664.5	3734.1
50°	179.4	189.5	213.9	197.8	276.2	559.5	1574.3	3308.8	3800.0	3860.5
52.5°	173.2	188.2	210.8	187.7	272.6	556.4	1667.5	3474.5	3958.2	4011.6
55°	164.3	183.6	201.2	177.6	263.8	546.5	1810.1	3679.8	4165.1	4201.7
57.5°	156.3	176.5	187.2	171.9	242.7	548.6	1909.2	3847.3	4338.8	4370.7
60°	149.0	175.8	167.2	165.9	221.2	520.8	1941.4	3845.5	4403.4	4453.5
62.5°	141.2	165.9	153.2	157.8	202.2	492.2	1873.2	3680.6	4333.6	4421.3
65°	131.1	142.3	141.5	152.1	202.8	445.8	1716.6	3389.8	4159.4	4274.9
67.5°	119.2	125.9	130.3	142.8	209.3	409.7	1464.8	3040.1	3862.9	4000.2
70°	107.0	113.7	118.6	130.6	215.2	393.1	1165.9	2548.9	3380.0	3519.4
72.5°	94.5	101.5	105.4	115.8	207.2	357.5	863.0	1983.2	2713.0	2786.2
75°	81.5	88.3	91.4	101.0	179.9	295.7	595.8	1502.2	1987.1	2061.4
77.5°	68.3	75.5	76.6	84.4	137.3	226.1	381.9	1152.2	1407.1	1456.7
80°	54.5	61.8	61.8	65.9	96.6	155.5	228.7	869.2	1024.7	1044.2
82.5°	39.2	47.0	46.5	46.7	66.7	96.3	132.4	651.4	740.4	744.1
85°	23.1	28.6	28.3	26.0	39.5	51.9	71.7	404.5	413.3	414.4
87.5°	4.4	6.8	6.0	2.6	10.9	15.3	20.8	75.0	29.9	29.1
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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