

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: P367797

Luminaire Tested: **MSA-SA3B-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367797
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-SA3B-727-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 8968 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

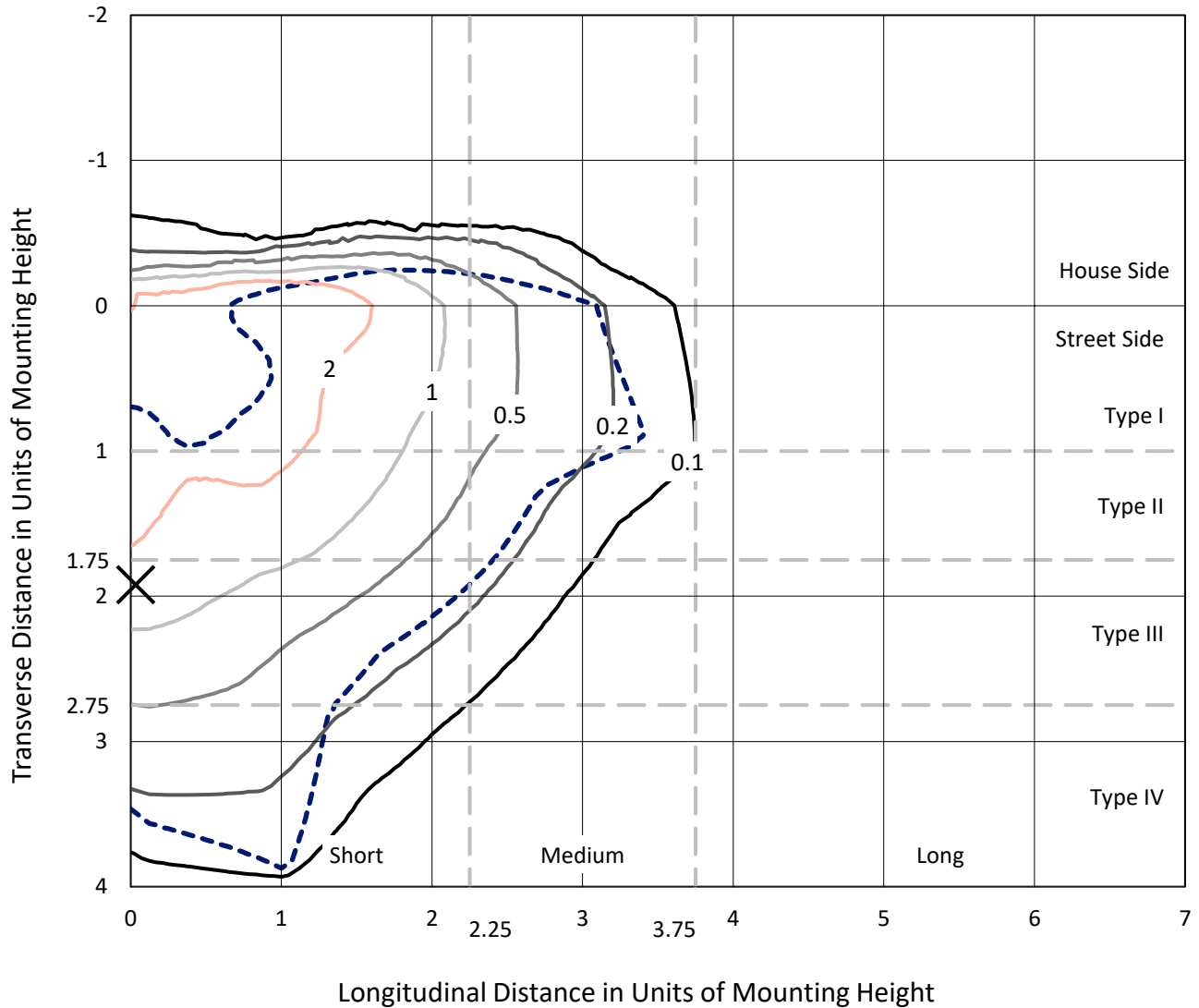
Input Watts (W): 126
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

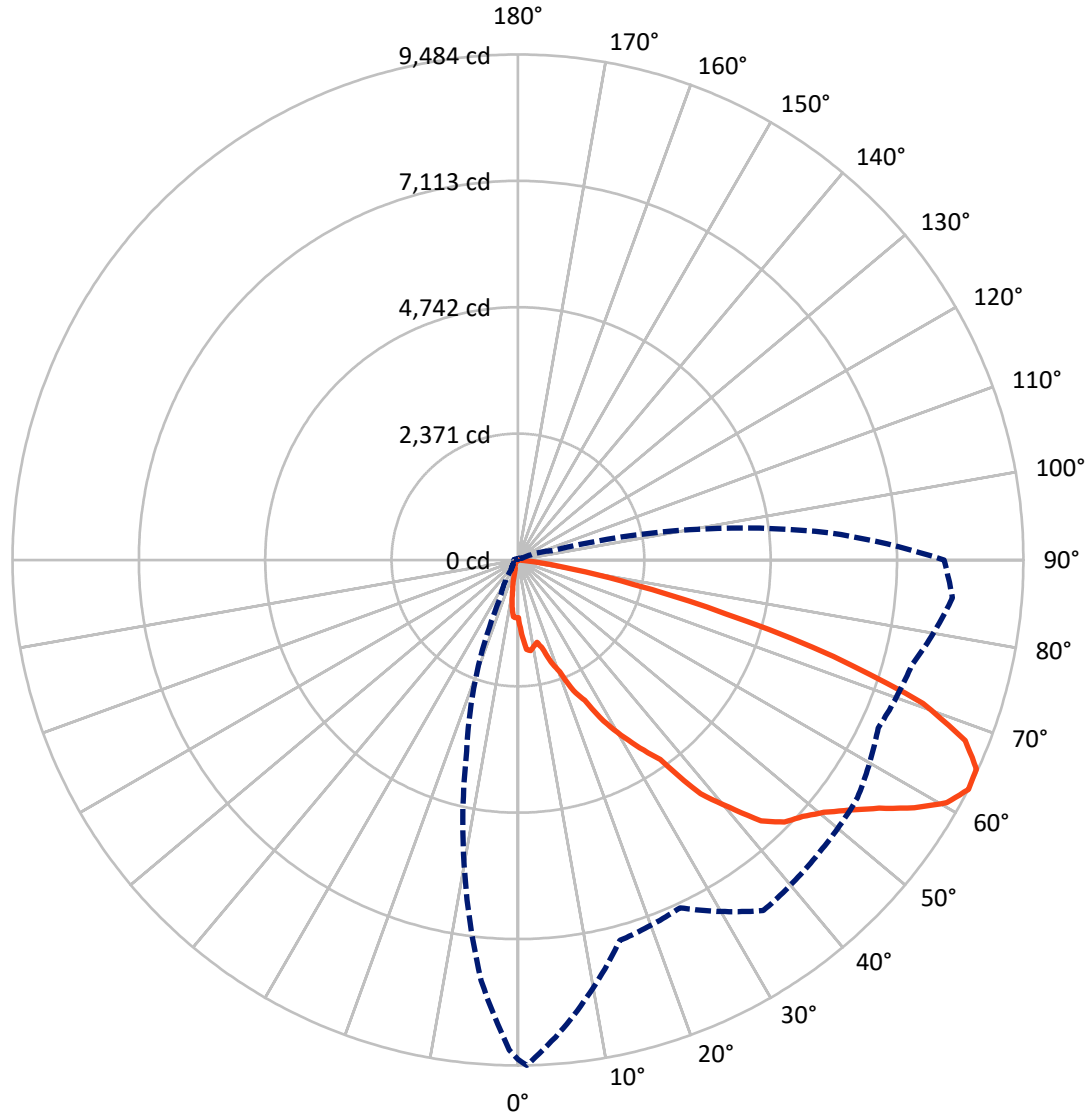
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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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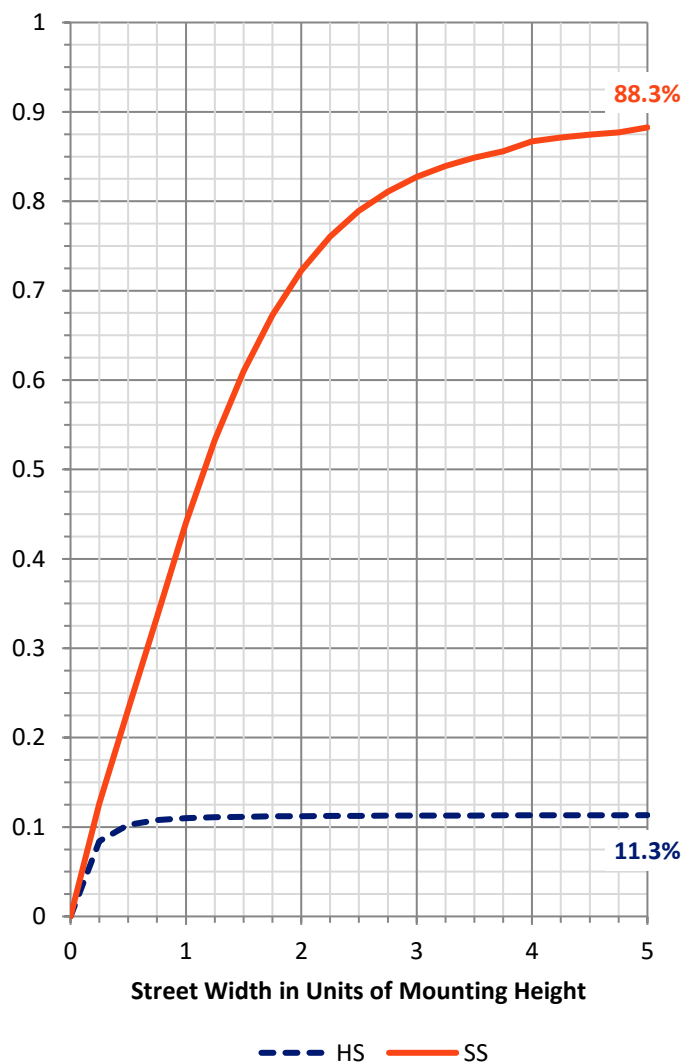
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1025.5	0.0	1025.5
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7942.5	0.0	7942.5
	% Fixture	88.6	0.0	88.6
Total	Lumens	8968.0	0.0	8968.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.7	1.3
10°-20°	315.3	3.5
20°-30°	509.6	5.7
30°-40°	853.7	9.5
40°-50°	1395.9	15.6
50°-60°	2066.3	23.0
60°-70°	2372.3	26.5
70°-80°	1173.1	13.1
80°-90°	161.0	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°	8968.0	100.0
0°-180°	8968.0	100.0

Coefficient of Utilization



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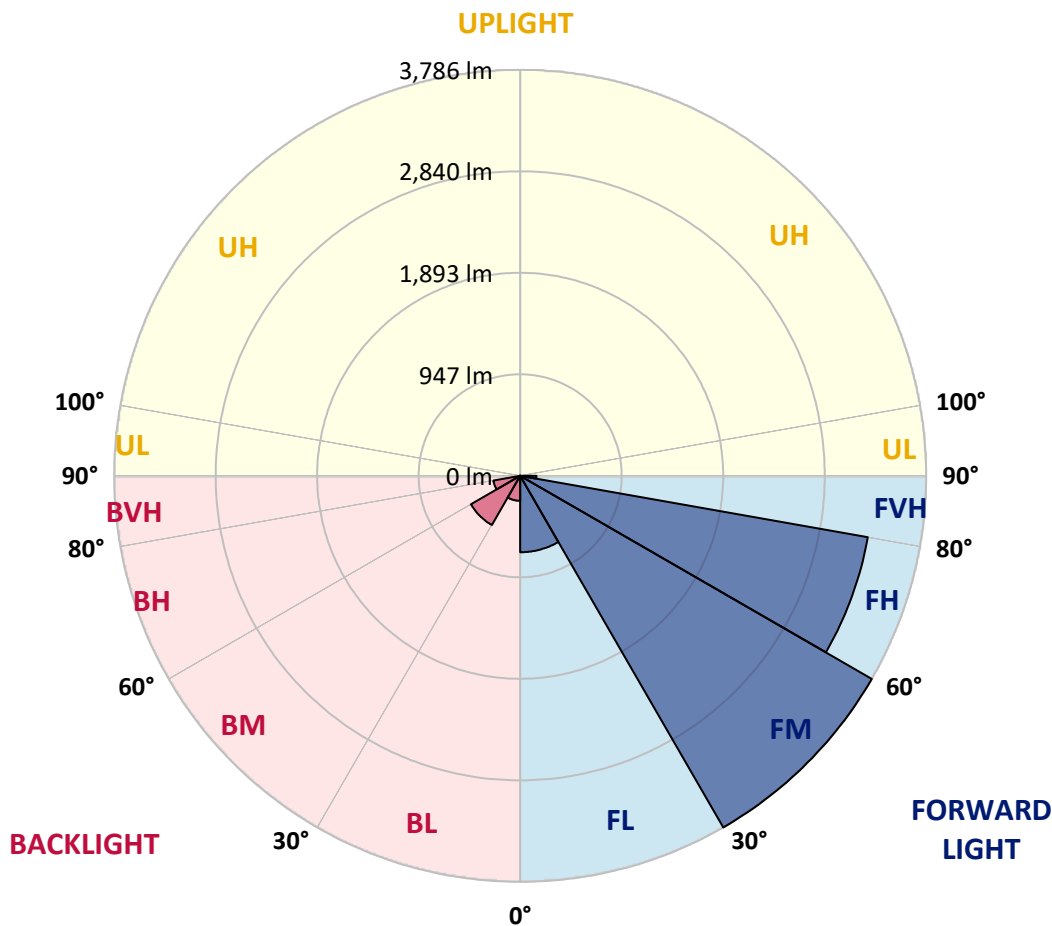
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	712.3	7.9			
FM (30°-60°)	3786.2	42.2			
FH (60°-80°)	3291.8	36.7			G2/5000
FVH (80°-90°)	152.1	1.7			G2/225
BL (0°-30°)	233.3	2.6	B1/500		
BM (30°-60°)	529.7	5.9	B1/1000		
BH (60°-80°)	253.6	2.8	B1/500		G1/500
BVH (80°-90°)	8.9	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3
2.5°	1393.1	1399.7	1368.6	1364.5	1291.9	1382.4	1384.9	1395.7	1329.2	1200.4	1380.3
5°	1667.0	1685.4	1661.4	1768.2	1798.9	1864.8	1743.7	1852.0	1806.0	1818.8	1844.9
7.5°	1699.7	1718.6	1769.2	1948.1	2113.2	2071.8	2058.5	2099.4	2095.8	2001.2	2048.2
10°	1631.8	1647.6	1731.9	2057.4	2129.5	2315.5	2361.0	2267.0	2228.6	2021.7	1931.2
12.5°	1557.7	1584.2	1691.5	2082.0	2298.1	2486.2	2635.9	2502.1	2374.8	2154.5	2071.8
15°	1699.7	1714.5	1883.2	2133.1	2322.2	2452.0	2574.6	2530.2	2510.7	2352.3	2071.8
17.5°	1978.2	2013.0	2135.1	2258.3	2407.5	2485.7	2456.6	2442.8	2393.2	2642.1	2351.8
20°	2176.5	2241.4	2401.4	2454.5	2336.0	2409.0	2391.2	2378.9	2340.1	2803.1	2673.8
22.5°	2605.8	2665.6	2668.7	2687.6	2411.6	2295.1	2265.4	2269.0	2445.3	2851.1	3074.4
25°	2898.1	2918.6	3080.0	2945.1	2618.1	2329.8	2216.9	2267.5	2521.5	3196.6	3451.1
27.5°	3376.4	3425.0	3525.7	3068.8	2741.7	2307.9	2128.0	2311.9	2721.8	3311.0	3869.6
30°	3766.4	3812.9	3974.9	3238.0	2849.1	2416.7	2166.3	2401.4	2846.5	3546.6	4245.7
32.5°	4082.7	4202.8	4386.8	3499.1	2845.0	2541.9	2362.0	2371.7	2999.8	3851.7	4617.8
35°	4486.9	4598.9	4728.1	3679.0	3031.0	2582.3	2419.8	2663.0	3227.7	4170.6	5118.6
37.5°	5398.1	5567.3	5311.8	4132.3	3247.7	2947.2	2647.7	2842.4	3466.4	4496.1	5807.0
40°	5954.1	6096.7	5849.9	4363.8	3622.8	3131.1	3054.5	3154.1	3699.9	4664.3	6325.7
42.5°	6502.0	6690.0	6277.6	4712.3	3979.0	3650.4	3440.8	3521.1	4037.7	5070.0	6909.3
45°	6898.5	7015.1	6370.1	4894.7	4468.5	4242.1	4102.6	3983.0	4508.9	5330.7	7285.9
47.5°	7097.8	7190.8	6552.6	4952.5	4759.8	4868.2	5173.8	4923.9	4925.9	5519.2	7488.8
50°	7373.8	7438.7	6654.8	5021.5	5076.2	5843.7	5998.1	5466.1	5402.2	5708.3	7522.0
52.5°	7761.7	7793.4	6853.1	5203.4	5549.9	6607.8	6663.5	6448.3	5879.0	6059.9	7595.6
55°	8277.3	8221.6	7207.2	5585.7	6044.1	7167.3	7242.0	7054.4	6478.5	6411.0	7823.5
57.5°	8833.3	8769.5	7732.0	6124.3	6580.2	7595.1	7639.5	7654.4	6876.6	6721.7	8210.9
60°	9231.9	9243.7	8392.8	6742.2	6913.4	8004.4	7915.5	7780.6	7278.2	7177.1	8399.5
62.5°	9371.5	9484.4	8907.4	7389.6	7200.6	8030.0	7892.0	7778.0	7458.1	7646.7	8183.3
65°	9257.5	9454.8	9027.0	7958.4	7374.3	7709.6	7566.0	7492.9	7452.5	7838.3	7705.0
67.5°	8804.7	9051.5	8684.6	7963.5	6742.7	6564.3	6734.0	6965.5	6831.6	7679.4	7035.0
70°	7790.3	8060.6	7890.0	7496.5	5616.8	5164.6	5351.6	5701.7	5607.1	6830.1	6049.2
72.5°	5844.8	6192.3	6226.0	6471.8	4458.8	3887.0	3914.1	3904.3	4067.4	5507.5	4720.5
75°	3754.6	4025.0	4390.3	5222.3	3387.2	2837.8	2578.2	2514.8	2818.9	4303.5	3379.5
77.5°	2179.6	2211.8	2380.4	3940.1	2425.9	2044.7	1867.9	1958.3	2064.6	3003.4	2239.9
80°	1042.5	1058.9	1128.4	2027.3	1685.4	1769.7	1633.3	1735.0	1417.6	1726.3	1271.0
82.5°	330.6	334.2	346.0	996.0	1046.6	1172.3	751.2	1007.3	876.4	1043.5	846.3
85°	55.2	94.0	116.0	287.7	590.8	395.5	163.0	359.3	489.1	658.2	384.3
87.5°	0.0	0.0	0.0	5.1	48.0	22.5	3.6	20.4	75.1	146.7	17.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3
2.5°	1432.4	1467.7	1334.8	1215.8	1245.9	1221.9	1185.6	1123.8	980.7	1086.0	1078.8
5°	1843.3	1777.9	1598.0	1514.2	1412.0	1256.1	1237.2	1117.6	1065.0	1073.7	1066.0
7.5°	1986.4	1869.4	1710.5	1458.0	1218.3	993.5	924.5	846.3	830.4	864.2	886.1
10°	1874.0	1749.8	1610.8	1297.0	1112.5	950.0	779.8	670.5	611.2	604.0	610.2
12.5°	1925.6	1791.7	1505.5	1265.3	1072.7	925.5	735.4	570.3	441.5	451.2	425.7
15°	1961.4	1807.5	1480.5	1198.9	990.4	793.6	564.7	399.6	294.4	263.7	245.3
17.5°	2171.4	1951.7	1448.8	1122.2	875.4	617.8	354.7	231.5	197.3	186.5	177.8
20°	2441.2	2129.0	1448.3	1041.5	705.7	386.3	221.3	167.6	159.4	165.6	158.9
22.5°	2755.0	2365.1	1525.5	940.8	506.4	243.8	172.2	148.7	140.5	145.6	146.2
25°	3070.8	2719.2	1588.3	845.3	352.6	187.0	153.3	137.0	127.8	132.4	129.8
27.5°	3641.2	3012.6	1574.0	723.1	259.6	164.6	142.6	128.3	114.5	121.6	121.1
30°	4014.2	3530.3	1629.7	551.9	205.9	144.1	132.9	117.0	102.2	110.4	109.9
32.5°	4460.4	3752.6	1690.0	423.7	171.2	136.4	119.6	104.3	95.6	100.7	99.7
35°	4961.7	4192.1	1579.1	352.6	148.7	123.2	105.8	94.0	86.4	88.9	88.9
37.5°	5847.3	4559.5	1512.7	287.2	138.5	111.4	99.1	84.8	80.2	80.2	82.8
40°	6350.2	5120.6	1314.4	227.4	141.6	102.7	92.5	77.7	71.5	71.0	73.6
42.5°	7004.3	5444.1	1190.2	184.0	128.3	100.2	84.8	70.5	63.4	62.9	65.4
45°	7392.2	5625.0	1015.4	144.6	115.0	116.5	78.7	64.9	54.2	52.1	56.7
47.5°	7637.0	5864.7	916.3	115.0	100.2	116.0	76.7	56.2	45.5	42.9	47.0
50°	7761.2	5983.3	896.9	98.6	86.9	103.7	87.9	47.0	38.8	35.3	38.8
52.5°	7890.5	6175.9	904.0	91.0	76.7	83.3	83.3	40.4	34.2	30.2	32.7
55°	8151.6	6460.6	888.2	86.4	70.5	63.4	53.7	35.8	31.2	26.6	29.1
57.5°	8472.5	6665.0	888.2	82.3	65.4	54.2	42.9	33.2	28.6	23.0	25.0
60°	8411.7	6449.8	844.2	78.2	61.3	50.6	38.8	30.7	26.6	21.0	22.5
62.5°	7994.2	5864.7	683.8	72.1	57.7	48.0	35.3	29.1	25.0	18.4	19.9
65°	7503.6	5243.3	475.3	65.4	53.7	43.4	31.7	27.6	23.0	16.4	17.4
67.5°	6912.8	4502.8	263.7	58.8	49.6	37.8	29.1	27.1	22.0	14.8	15.8
70°	5887.7	3399.4	141.6	53.7	46.5	34.8	27.6	27.1	22.0	14.3	14.8
72.5°	4420.0	2140.7	82.8	49.1	42.4	32.2	26.1	27.6	21.5	13.8	13.8
75°	3007.5	1299.6	59.3	41.9	37.8	27.1	25.0	26.6	22.0	13.8	12.8
77.5°	2044.7	913.2	48.5	37.8	34.2	24.0	25.6	26.6	22.0	11.2	8.7
80°	1276.6	471.2	36.8	30.2	29.6	21.0	25.6	23.0	14.3	2.6	0.0
82.5°	892.8	175.3	21.5	23.0	23.0	14.8	19.9	16.4	8.2	0.0	0.0
85°	374.6	30.2	11.8	16.4	14.3	8.7	15.8	12.3	5.1	0.0	0.0
87.5°	6.6	0.0	4.6	9.7	10.2	5.1	8.2	5.1	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°	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3
2.5°	1112.5	1064.0	961.8	1010.8	1005.7	1028.2	1030.3	978.1	1090.6	1160.1	1170.3
5°	1067.1	1034.3	1028.7	1000.6	993.5	1034.9	1012.4	1010.8	1065.0	1144.2	1144.7
7.5°	886.7	861.6	873.4	840.7	756.3	761.5	769.1	801.3	847.8	899.9	918.9
10°	608.6	673.6	626.0	621.9	613.2	586.2	564.7	581.6	641.9	689.9	707.8
12.5°	434.4	444.6	473.7	463.0	477.8	454.8	446.1	498.8	557.5	606.6	641.9
15°	254.0	271.4	288.7	325.5	340.4	335.8	362.3	406.3	453.8	476.3	519.7
17.5°	178.9	180.4	184.0	223.8	249.9	260.1	276.0	309.2	328.6	338.8	356.7
20°	156.4	151.8	145.6	168.1	192.7	205.4	200.8	226.9	242.7	253.0	265.7
22.5°	141.6	133.9	130.3	138.0	156.9	168.1	170.2	185.5	209.5	216.7	220.8
25°	127.8	122.6	120.1	124.2	134.4	145.1	147.2	167.1	188.6	191.6	199.8
27.5°	118.6	108.9	109.9	112.9	117.5	130.8	134.9	146.2	177.3	180.9	183.5
30°	108.9	98.6	101.7	104.8	102.7	119.1	125.2	138.0	168.1	173.8	176.8
32.5°	99.1	91.5	91.0	94.0	97.6	106.3	119.6	134.4	162.0	169.7	177.3
35°	88.4	82.3	83.3	83.8	88.4	99.7	109.4	117.0	135.9	140.0	142.6
37.5°	80.7	75.6	74.6	79.7	84.3	93.0	96.6	100.2	125.2	134.4	134.9
40°	71.5	68.5	68.5	72.1	82.3	81.3	85.9	97.1	121.1	130.8	131.8
42.5°	64.9	60.8	61.8	65.4	72.6	67.5	76.7	93.0	119.6	129.3	128.8
45°	54.7	53.7	55.7	58.8	61.8	57.2	71.5	88.9	114.5	127.2	123.7
47.5°	45.5	45.5	48.0	51.1	49.6	51.1	64.9	83.3	111.4	123.2	120.6
50°	37.3	37.8	40.4	45.5	40.9	45.0	58.3	77.7	106.3	119.1	117.0
52.5°	31.7	32.2	33.7	37.3	35.3	40.9	53.7	72.1	101.2	111.9	110.9
55°	27.6	28.6	28.6	30.7	31.7	38.3	48.5	66.4	93.5	105.3	103.2
57.5°	24.5	25.6	25.0	26.6	27.6	33.7	43.4	60.3	85.9	95.6	92.5
60°	22.0	23.0	22.5	24.5	24.0	29.1	37.8	53.7	77.7	85.3	82.8
62.5°	19.4	20.4	20.4	21.5	22.0	24.5	32.7	47.5	69.5	75.6	73.6
65°	17.4	18.4	18.9	18.4	19.4	21.0	27.6	42.9	60.3	66.4	63.4
67.5°	15.8	16.9	17.9	15.8	16.9	17.4	23.5	38.3	53.1	58.3	55.7
70°	15.3	15.8	15.8	13.8	13.3	13.8	20.4	32.7	46.5	51.6	48.0
72.5°	14.3	14.8	14.3	11.2	9.7	10.7	17.4	27.6	39.4	43.4	40.4
75°	13.3	13.8	13.3	9.2	6.1	7.7	14.3	24.0	33.7	35.8	34.2
77.5°	11.2	12.3	12.3	6.6	2.0	4.6	10.7	19.4	28.1	28.1	28.6
80°	1.0	3.1	5.1	3.6	0.0	0.5	3.6	10.2	17.9	17.4	18.9
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	6.1	4.6	5.1
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°	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3	1080.3
2.5°	1146.3	1130.4	1150.4	1211.2	1186.6	1191.2	1174.9	1275.6	1389.5	1393.1
5°	1145.8	1131.4	1161.1	1158.5	1228.5	1304.7	1378.3	1497.3	1666.0	1667.0
7.5°	910.2	995.0	1017.0	1010.3	1100.3	1205.0	1318.5	1546.4	1684.9	1699.7
10°	820.7	857.5	902.5	918.9	956.2	1055.8	1184.1	1442.2	1597.5	1631.8
12.5°	711.4	828.9	888.7	1004.7	1026.2	1040.5	1242.9	1467.2	1561.7	1557.7
15°	589.2	691.4	786.0	927.5	985.8	1136.0	1295.5	1589.3	1645.5	1699.7
17.5°	417.0	494.2	639.3	788.0	965.9	1129.4	1440.6	1807.5	1913.8	1978.2
20°	279.0	316.3	447.7	644.4	869.8	1032.3	1499.9	2004.8	2120.8	2176.5
22.5°	226.4	244.3	312.2	472.2	743.1	1027.7	1523.9	2220.0	2531.7	2605.8
25°	199.3	211.6	247.9	349.6	616.8	1007.3	1656.8	2462.2	2838.3	2898.1
27.5°	174.3	192.7	219.7	288.2	528.9	993.0	1724.3	2869.0	3317.7	3376.4
30°	166.6	189.1	215.1	262.7	467.6	937.8	1831.6	3235.9	3661.6	3766.4
32.5°	179.9	187.6	200.3	240.7	420.1	879.5	2020.1	3674.4	3946.3	4082.7
35°	142.6	156.4	178.9	220.8	400.1	876.4	2127.0	3956.5	4402.6	4486.9
37.5°	139.5	152.3	181.4	215.1	424.2	899.9	2285.4	4534.5	5225.4	5398.1
40°	135.4	151.8	179.4	212.6	424.2	922.9	2386.6	4997.0	5778.8	5954.1
42.5°	133.9	154.8	178.9	223.3	410.9	935.7	2539.4	5458.4	6363.5	6502.0
45°	132.9	157.9	180.4	236.1	407.8	977.6	2625.7	5682.8	6739.6	6898.5
47.5°	130.3	157.9	201.3	228.4	390.9	973.5	2737.6	6015.5	6963.9	7097.8
50°	128.3	158.9	227.9	214.1	393.5	948.5	2889.4	6327.7	7278.2	7373.8
52.5°	123.7	162.5	223.8	194.2	385.8	945.9	3115.8	6771.8	7691.7	7761.7
55°	113.5	157.9	202.4	169.7	358.8	916.8	3415.8	7349.3	8265.1	8277.3
57.5°	104.3	146.7	169.2	155.9	300.5	920.4	3674.4	7880.8	8776.1	8833.3
60°	95.1	152.3	131.3	145.1	248.9	855.0	3799.6	8084.1	9148.1	9231.9
62.5°	86.4	140.5	111.9	133.4	221.8	794.2	3712.7	7920.6	9195.7	9371.5
65°	76.7	97.6	94.5	119.6	224.3	708.8	3422.4	7441.8	9015.3	9257.5
67.5°	65.9	76.7	83.3	103.2	240.2	635.7	2924.7	6673.2	8530.3	8804.7
70°	57.7	69.0	72.6	90.5	249.9	587.7	2307.9	5606.6	7536.8	7790.3
72.5°	48.0	63.9	64.9	79.2	240.7	540.2	1644.5	4025.0	5723.1	5844.8
75°	41.4	53.1	58.8	66.4	202.4	403.2	906.1	2491.3	3618.7	3754.6
77.5°	37.3	40.4	44.5	46.0	85.9	210.0	311.7	1536.2	2026.3	2179.6
80°	28.6	31.7	30.7	31.7	47.0	72.6	118.6	720.1	957.2	1042.5
82.5°	9.2	15.3	16.9	14.3	30.7	35.8	34.2	248.9	311.2	330.6
85°	2.0	5.6	2.6	0.0	10.2	18.4	2.6	37.8	74.6	55.2
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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