

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: P367665

Luminaire Tested: **MSA-SA3A-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367665
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-SA3A-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: 7156 lumens
Efficiency: N/A
Efficacy: 74.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

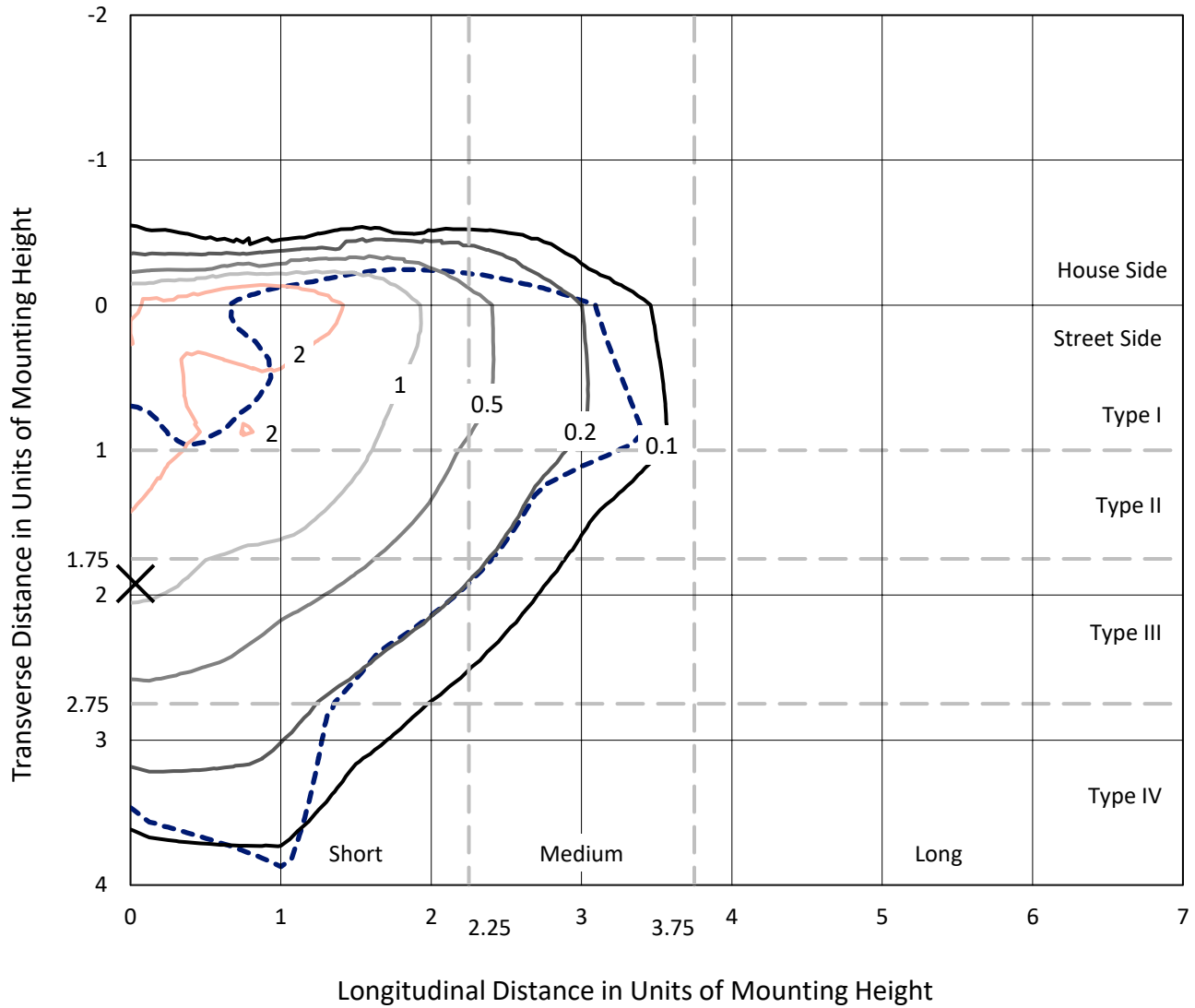
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

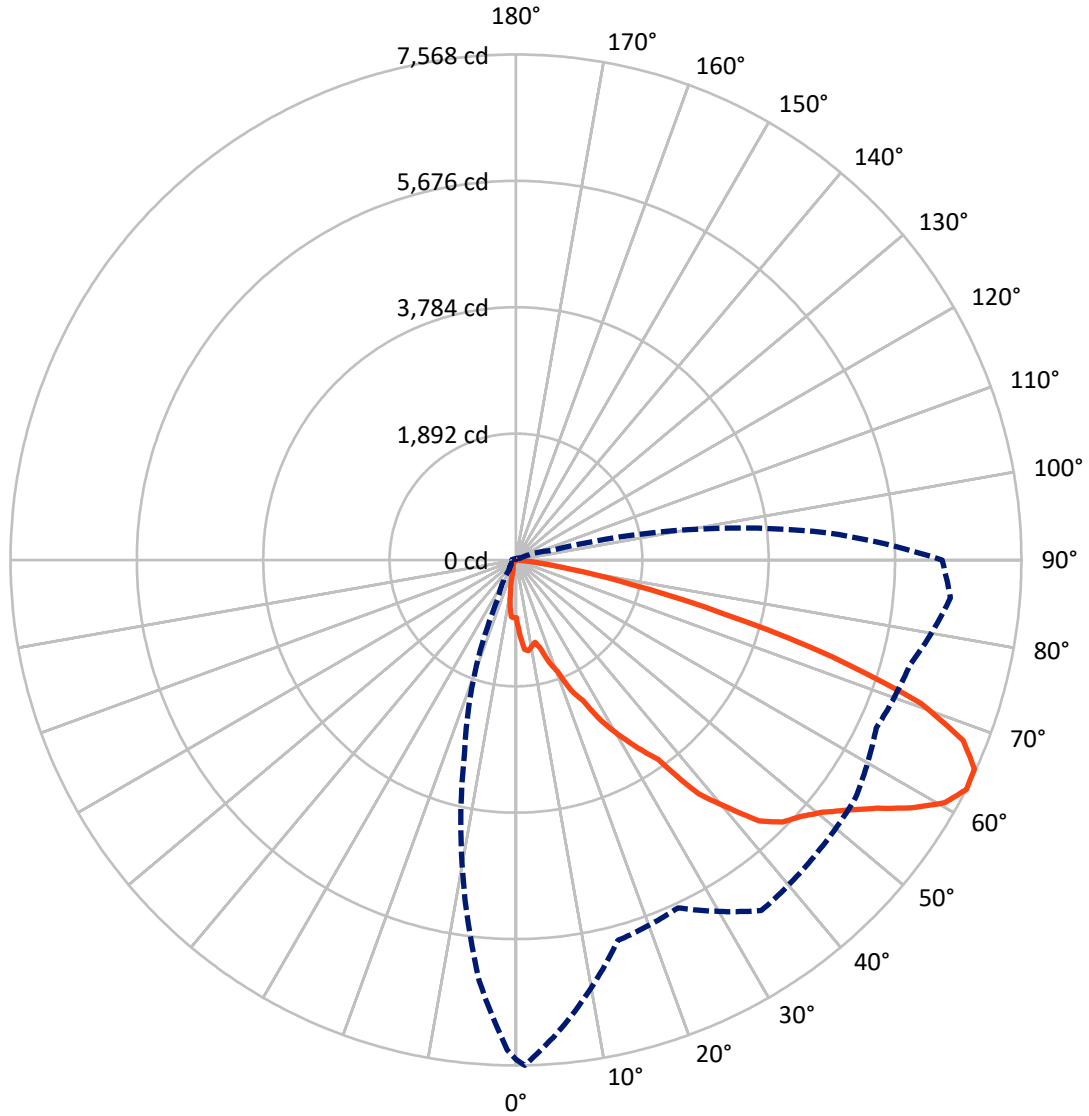
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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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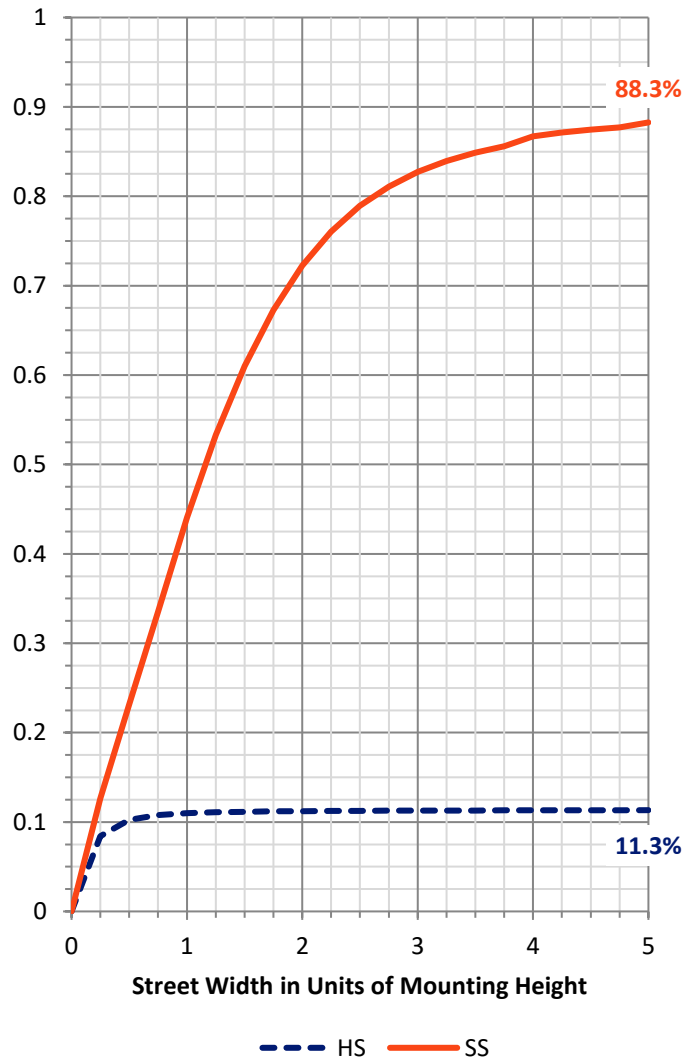
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	818.3	0.0	818.3
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	6337.7	0.0	6337.7
	% Fixture	88.6	0.0	88.6
Total	Lumens	7156.0	0.0	7156.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.3	1.3
10°-20°	251.6	3.5
20°-30°	406.7	5.7
30°-40°	681.2	9.5
40°-50°	1113.9	15.6
50°-60°	1648.8	23.0
60°-70°	1893.0	26.5
70°-80°	936.1	13.1
80°-90°	128.5	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°	7156.0	100.0
0°-180°	7156.0	100.0

Coefficient of Utilization

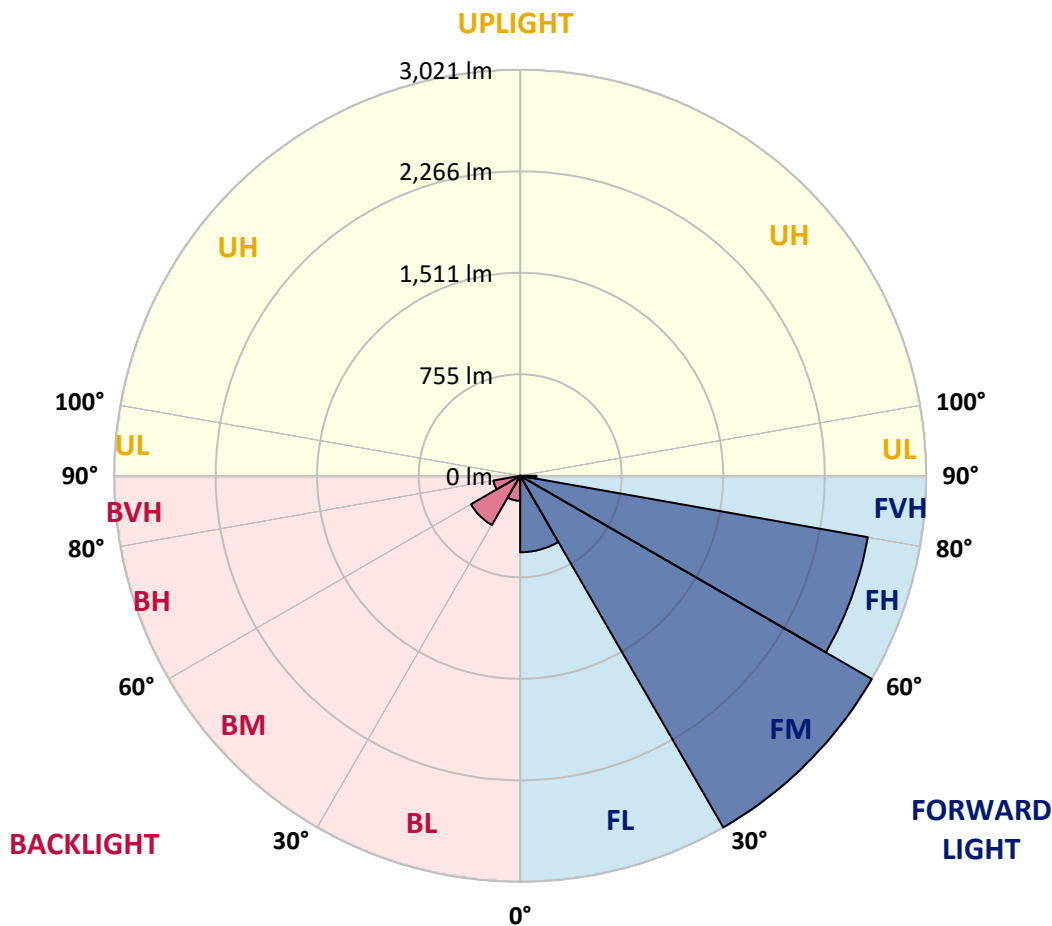


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	568.4	7.9			
FM (30°-60°)	3021.2	42.2			
FH (60°-80°)	2626.7	36.7			G2/5000
FVH (80°-90°)	121.4	1.7			G2/225
BL (0°-30°)	186.2	2.6	B1/500		
BM (30°-60°)	422.7	5.9	B1/1000		
BH (60°-80°)	202.3	2.8	B1/500		G1/500
BVH (80°-90°)	7.1	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°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	1111.6	1116.9	1092.0	1088.8	1030.9	1103.1	1105.1	1113.7	1060.6	957.9	1101.4
5°	1330.2	1344.9	1325.7	1410.9	1435.4	1488.0	1391.4	1477.8	1441.1	1451.3	1472.1
7.5°	1356.3	1371.4	1411.7	1554.5	1686.2	1653.2	1642.6	1675.2	1672.3	1596.9	1634.4
10°	1302.1	1314.7	1382.0	1641.7	1699.2	1847.7	1884.0	1808.9	1778.3	1613.2	1541.0
12.5°	1242.9	1264.1	1349.8	1661.3	1833.8	1983.9	2103.3	1996.5	1895.0	1719.2	1653.2
15°	1356.3	1368.1	1502.7	1702.1	1853.0	1956.5	2054.4	2018.9	2003.4	1877.0	1653.2
17.5°	1578.5	1606.3	1703.7	1802.0	1921.1	1983.5	1960.2	1949.2	1909.7	2108.2	1876.6
20°	1736.8	1788.5	1916.2	1958.6	1864.0	1922.3	1908.0	1898.2	1867.2	2236.7	2133.5
22.5°	2079.3	2127.0	2129.4	2144.5	1924.3	1831.4	1807.7	1810.6	1951.2	2275.0	2453.2
25°	2312.5	2328.9	2457.7	2350.1	2089.1	1859.1	1769.0	1809.3	2012.0	2550.7	2753.8
27.5°	2694.2	2733.0	2813.3	2448.7	2187.8	1841.6	1698.0	1844.8	2171.9	2642.0	3087.7
30°	3005.4	3042.5	3171.7	2583.7	2273.4	1928.4	1728.6	1916.2	2271.4	2830.0	3387.9
32.5°	3257.8	3353.6	3500.4	2792.1	2270.1	2028.3	1884.8	1892.5	2393.7	3073.5	3684.7
35°	3580.3	3669.6	3772.8	2935.6	2418.6	2060.5	1930.9	2125.0	2575.6	3327.9	4084.4
37.5°	4307.4	4442.4	4238.5	3297.3	2591.5	2351.7	2112.7	2268.1	2766.0	3587.7	4633.6
40°	4751.1	4864.9	4667.9	3482.1	2890.8	2498.5	2437.3	2516.8	2952.4	3721.8	5047.5
42.5°	5188.2	5338.3	5009.2	3760.2	3175.0	2912.8	2745.6	2809.6	3221.9	4045.6	5513.2
45°	5504.7	5597.6	5083.0	3905.8	3565.7	3385.0	3273.7	3178.3	3597.9	4253.6	5813.8
47.5°	5663.7	5737.9	5228.6	3951.8	3798.1	3884.5	4128.4	3929.0	3930.6	4404.1	5975.7
50°	5883.9	5935.7	5310.2	4006.9	4050.5	4663.0	4786.2	4361.7	4310.7	4554.9	6002.2
52.5°	6193.4	6218.7	5468.4	4152.1	4428.5	5272.6	5317.1	5145.4	4691.1	4835.5	6060.9
55°	6604.9	6560.4	5751.0	4457.1	4822.9	5719.2	5778.7	5629.0	5169.5	5115.6	6242.8
57.5°	7048.5	6997.6	6169.8	4886.9	5250.6	6060.5	6096.0	6107.8	5487.1	5363.6	6551.9
60°	7366.6	7376.0	6697.0	5379.9	5516.5	6387.1	6316.2	6208.5	5807.7	5726.9	6702.3
62.5°	7477.9	7568.1	7107.7	5896.6	5745.7	6407.5	6297.4	6206.5	5951.2	6101.7	6529.8
65°	7387.0	7544.4	7203.1	6350.4	5884.3	6151.8	6037.2	5978.9	5946.7	6254.6	6148.2
67.5°	7025.7	7222.7	6929.9	6354.5	5380.3	5238.0	5373.4	5558.1	5451.3	6127.8	5613.6
70°	6216.3	6432.0	6295.8	5981.8	4482.0	4121.1	4270.3	4549.6	4474.2	5450.0	4826.9
72.5°	4663.8	4941.1	4968.0	5164.2	3557.9	3101.6	3123.2	3115.5	3245.6	4394.7	3766.7
75°	2996.0	3211.7	3503.3	4167.1	2702.8	2264.4	2057.3	2006.7	2249.3	3433.9	2696.7
77.5°	1739.2	1764.9	1899.5	3144.0	1935.7	1631.5	1490.4	1562.6	1647.4	2396.5	1787.3
80°	831.9	844.9	900.4	1617.7	1344.9	1412.2	1303.3	1384.4	1131.2	1377.5	1014.2
82.5°	263.8	266.7	276.1	794.8	835.1	935.5	599.4	803.7	699.3	832.7	675.3
85°	44.0	75.0	92.6	229.6	471.4	315.6	130.1	286.7	390.2	525.2	306.7
87.5°	0.0	0.0	0.0	4.1	38.3	17.9	2.9	16.3	59.9	117.0	13.9
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	1143.0	1171.2	1065.1	970.1	994.2	975.0	946.1	896.7	782.5	866.5	860.8
5°	1470.9	1418.7	1275.1	1208.3	1126.7	1002.3	987.2	891.8	849.8	856.8	850.6
7.5°	1585.1	1491.7	1364.9	1163.4	972.2	792.7	737.7	675.3	662.6	689.6	707.1
10°	1495.3	1396.3	1285.3	1035.0	887.7	758.1	622.3	535.0	487.7	482.0	486.9
12.5°	1536.5	1429.7	1201.3	1009.7	855.9	738.5	586.8	455.1	352.3	360.1	339.7
15°	1565.1	1442.3	1181.3	956.7	790.3	633.3	450.6	318.9	234.9	210.4	195.7
17.5°	1732.7	1557.3	1156.1	895.5	698.5	493.0	283.0	184.7	157.4	148.8	141.9
20°	1948.0	1698.8	1155.7	831.1	563.1	308.3	176.6	133.8	127.2	132.1	126.8
22.5°	2198.4	1887.2	1217.2	750.7	404.1	194.5	137.4	118.7	112.1	116.2	116.6
25°	2450.4	2169.8	1267.4	674.5	281.4	149.2	122.3	109.3	101.9	105.6	103.6
27.5°	2905.5	2403.9	1256.0	577.0	207.2	131.3	113.8	102.4	91.3	97.1	96.6
30°	3203.1	2817.0	1300.4	440.4	164.3	115.0	106.0	93.4	81.6	88.1	87.7
32.5°	3559.1	2994.4	1348.5	338.1	136.6	108.9	95.4	83.2	76.3	80.3	79.5
35°	3959.2	3345.1	1260.1	281.4	118.7	98.3	84.4	75.0	68.9	71.0	71.0
37.5°	4665.9	3638.2	1207.0	229.2	110.5	88.9	79.1	67.7	64.0	64.0	66.1
40°	5067.1	4086.0	1048.8	181.5	113.0	82.0	73.8	62.0	57.1	56.7	58.7
42.5°	5589.1	4344.1	949.7	146.8	102.4	79.9	67.7	56.3	50.6	50.2	52.2
45°	5898.6	4488.5	810.3	115.4	91.8	93.0	62.8	51.8	43.2	41.6	45.3
47.5°	6093.9	4679.7	731.2	91.8	79.9	92.6	61.2	44.9	36.3	34.3	37.5
50°	6193.0	4774.3	715.7	78.7	69.3	82.8	70.1	37.5	31.0	28.1	31.0
52.5°	6296.2	4928.1	721.4	72.6	61.2	66.5	66.5	32.2	27.3	24.1	26.1
55°	6504.6	5155.2	708.7	68.9	56.3	50.6	42.8	28.5	24.9	21.2	23.2
57.5°	6760.6	5318.3	708.7	65.7	52.2	43.2	34.3	26.5	22.8	18.4	20.0
60°	6712.1	5146.6	673.7	62.4	48.9	40.4	31.0	24.5	21.2	16.7	17.9
62.5°	6379.0	4679.7	545.6	57.5	46.1	38.3	28.1	23.2	20.0	14.7	15.9
65°	5987.5	4183.9	379.2	52.2	42.8	34.7	25.3	22.0	18.4	13.0	13.9
67.5°	5516.1	3593.0	210.4	46.9	39.6	30.2	23.2	21.6	17.5	11.8	12.6
70°	4698.1	2712.6	113.0	42.8	37.1	27.7	22.0	21.6	17.5	11.4	11.8
72.5°	3526.9	1708.2	66.1	39.1	33.8	25.7	20.8	22.0	17.1	11.0	11.0
75°	2399.8	1037.0	47.3	33.4	30.2	21.6	20.0	21.2	17.5	11.0	10.2
77.5°	1631.5	728.7	38.7	30.2	27.3	19.2	20.4	21.2	17.5	9.0	6.9
80°	1018.6	376.0	29.4	24.1	23.7	16.7	20.4	18.4	11.4	2.0	0.0
82.5°	712.4	139.9	17.1	18.4	18.4	11.8	15.9	13.0	6.5	0.0	0.0
85°	298.9	24.1	9.4	13.0	11.4	6.9	12.6	9.8	4.1	0.0	0.0
87.5°	5.3	0.0	3.7	7.7	8.2	4.1	6.5	4.1	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°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	887.7	849.0	767.4	806.6	802.5	820.5	822.1	780.5	870.2	925.7	933.8
5°	851.5	825.4	820.9	798.4	792.7	825.8	807.8	806.6	849.8	913.0	913.4
7.5°	707.5	687.5	696.9	670.8	603.5	607.6	613.7	639.4	676.5	718.1	733.2
10°	485.7	537.5	499.5	496.3	489.3	467.7	450.6	464.1	512.2	550.5	564.8
12.5°	346.6	354.8	378.0	369.5	381.3	362.9	356.0	398.0	444.9	484.0	512.2
15°	202.7	216.5	230.4	259.8	271.6	267.9	289.1	324.2	362.1	380.1	414.7
17.5°	142.7	143.9	146.8	178.6	199.4	207.6	220.2	246.7	262.2	270.4	284.6
20°	124.8	121.1	116.2	134.2	153.7	163.9	160.3	181.1	193.7	201.9	212.0
22.5°	113.0	106.8	104.0	110.1	125.2	134.2	135.8	148.0	167.2	172.9	176.2
25°	101.9	97.9	95.8	99.1	107.2	115.8	117.4	133.3	150.5	152.9	159.4
27.5°	94.6	86.9	87.7	90.1	93.8	104.4	107.7	116.6	141.5	144.4	146.4
30°	86.9	78.7	81.1	83.6	82.0	95.0	99.9	110.1	134.2	138.6	141.1
32.5°	79.1	73.0	72.6	75.0	77.9	84.8	95.4	107.2	129.3	135.4	141.5
35°	70.5	65.7	66.5	66.9	70.5	79.5	87.3	93.4	108.5	111.7	113.8
37.5°	64.4	60.4	59.5	63.6	67.3	74.2	77.1	79.9	99.9	107.2	107.7
40°	57.1	54.6	54.6	57.5	65.7	64.8	68.5	77.5	96.6	104.4	105.2
42.5°	51.8	48.5	49.3	52.2	57.9	53.8	61.2	74.2	95.4	103.2	102.8
45°	43.6	42.8	44.4	46.9	49.3	45.7	57.1	71.0	91.3	101.5	98.7
47.5°	36.3	36.3	38.3	40.8	39.6	40.8	51.8	66.5	88.9	98.3	96.2
50°	29.8	30.2	32.2	36.3	32.6	35.9	46.5	62.0	84.8	95.0	93.4
52.5°	25.3	25.7	26.9	29.8	28.1	32.6	42.8	57.5	80.7	89.3	88.5
55°	22.0	22.8	22.8	24.5	25.3	30.6	38.7	53.0	74.6	84.0	82.4
57.5°	19.6	20.4	20.0	21.2	22.0	26.9	34.7	48.1	68.5	76.3	73.8
60°	17.5	18.4	17.9	19.6	19.2	23.2	30.2	42.8	62.0	68.1	66.1
62.5°	15.5	16.3	16.3	17.1	17.5	19.6	26.1	37.9	55.5	60.4	58.7
65°	13.9	14.7	15.1	14.7	15.5	16.7	22.0	34.3	48.1	53.0	50.6
67.5°	12.6	13.5	14.3	12.6	13.5	13.9	18.8	30.6	42.4	46.5	44.4
70°	12.2	12.6	12.6	11.0	10.6	11.0	16.3	26.1	37.1	41.2	38.3
72.5°	11.4	11.8	11.4	9.0	7.7	8.6	13.9	22.0	31.4	34.7	32.2
75°	10.6	11.0	10.6	7.3	4.9	6.1	11.4	19.2	26.9	28.5	27.3
77.5°	9.0	9.8	9.8	5.3	1.6	3.7	8.6	15.5	22.4	22.4	22.8
80°	0.8	2.4	4.1	2.9	0.0	0.4	2.9	8.2	14.3	13.9	15.1
82.5°	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	4.9	3.7	4.1
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°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	914.7	902.0	917.9	966.4	946.9	950.5	937.5	1017.8	1108.8	1111.6
5°	914.3	902.8	926.5	924.4	980.3	1041.1	1099.8	1194.8	1329.4	1330.2
7.5°	726.3	794.0	811.5	806.2	878.0	961.6	1052.1	1234.0	1344.5	1356.3
10°	654.9	684.3	720.1	733.2	763.0	842.5	944.8	1150.8	1274.7	1302.1
12.5°	567.6	661.4	709.1	801.7	818.8	830.2	991.7	1170.7	1246.2	1242.9
15°	470.2	551.7	627.2	740.1	786.6	906.5	1033.7	1268.2	1313.1	1356.3
17.5°	332.8	394.3	510.1	628.8	770.7	901.2	1149.5	1442.3	1527.2	1578.5
20°	222.6	252.4	357.2	514.2	694.0	823.7	1196.8	1599.7	1692.3	1736.8
22.5°	180.6	194.9	249.2	376.8	592.9	820.1	1216.0	1771.4	2020.2	2079.3
25°	159.0	168.8	197.8	278.9	492.2	803.7	1322.0	1964.7	2264.8	2312.5
27.5°	139.1	153.7	175.3	230.0	422.1	792.3	1375.9	2289.3	2647.3	2694.2
30°	132.9	150.9	171.7	209.6	373.1	748.3	1461.5	2582.1	2921.8	3005.4
32.5°	143.5	149.7	159.9	192.1	335.2	701.8	1612.0	2932.0	3148.9	3257.8
35°	113.8	124.8	142.7	176.2	319.3	699.3	1697.2	3157.1	3513.1	3580.3
37.5°	111.3	121.5	144.8	171.7	338.5	718.1	1823.6	3618.3	4169.6	4307.4
40°	108.1	121.1	143.1	169.6	338.5	736.5	1904.4	3987.3	4611.2	4751.1
42.5°	106.8	123.6	142.7	178.2	327.9	746.7	2026.3	4355.5	5077.7	5188.2
45°	106.0	126.0	143.9	188.4	325.4	780.1	2095.2	4534.6	5377.9	5504.7
47.5°	104.0	126.0	160.7	182.3	312.0	776.8	2184.5	4800.0	5556.9	5663.7
50°	102.4	126.8	181.9	170.9	314.0	756.8	2305.6	5049.2	5807.7	5883.9
52.5°	98.7	129.7	178.6	155.0	307.9	754.8	2486.3	5403.5	6137.6	6193.4
55°	90.5	126.0	161.5	135.4	286.3	731.6	2725.6	5864.3	6595.1	6604.9
57.5°	83.2	117.0	135.0	124.4	239.8	734.4	2932.0	6288.4	7002.9	7048.5
60°	75.8	121.5	104.8	115.8	198.6	682.2	3031.9	6450.7	7299.7	7366.6
62.5°	68.9	112.1	89.3	106.4	177.0	633.7	2962.5	6320.2	7337.7	7477.9
65°	61.2	77.9	75.4	95.4	179.0	565.6	2730.9	5938.1	7193.7	7387.0
67.5°	52.6	61.2	66.5	82.4	191.7	507.3	2333.7	5324.8	6806.7	7025.7
70°	46.1	55.1	57.9	72.2	199.4	469.0	1841.6	4473.8	6014.0	6216.3
72.5°	38.3	51.0	51.8	63.2	192.1	431.0	1312.2	3211.7	4566.8	4663.8
75°	33.0	42.4	46.9	53.0	161.5	321.7	723.0	1987.9	2887.5	2996.0
77.5°	29.8	32.2	35.5	36.7	68.5	167.6	248.7	1225.8	1616.9	1739.2
80°	22.8	25.3	24.5	25.3	37.5	57.9	94.6	574.6	763.8	831.9
82.5°	7.3	12.2	13.5	11.4	24.5	28.5	27.3	198.6	248.3	263.8
85°	1.6	4.5	2.0	0.0	8.2	14.7	2.0	30.2	59.5	44.0
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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