

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: P366807

Luminaire Tested: **MSA-SA1B-750-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366807
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-SA1B-750-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 3694 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G1

Input Watts (W): 44
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: 24 FT



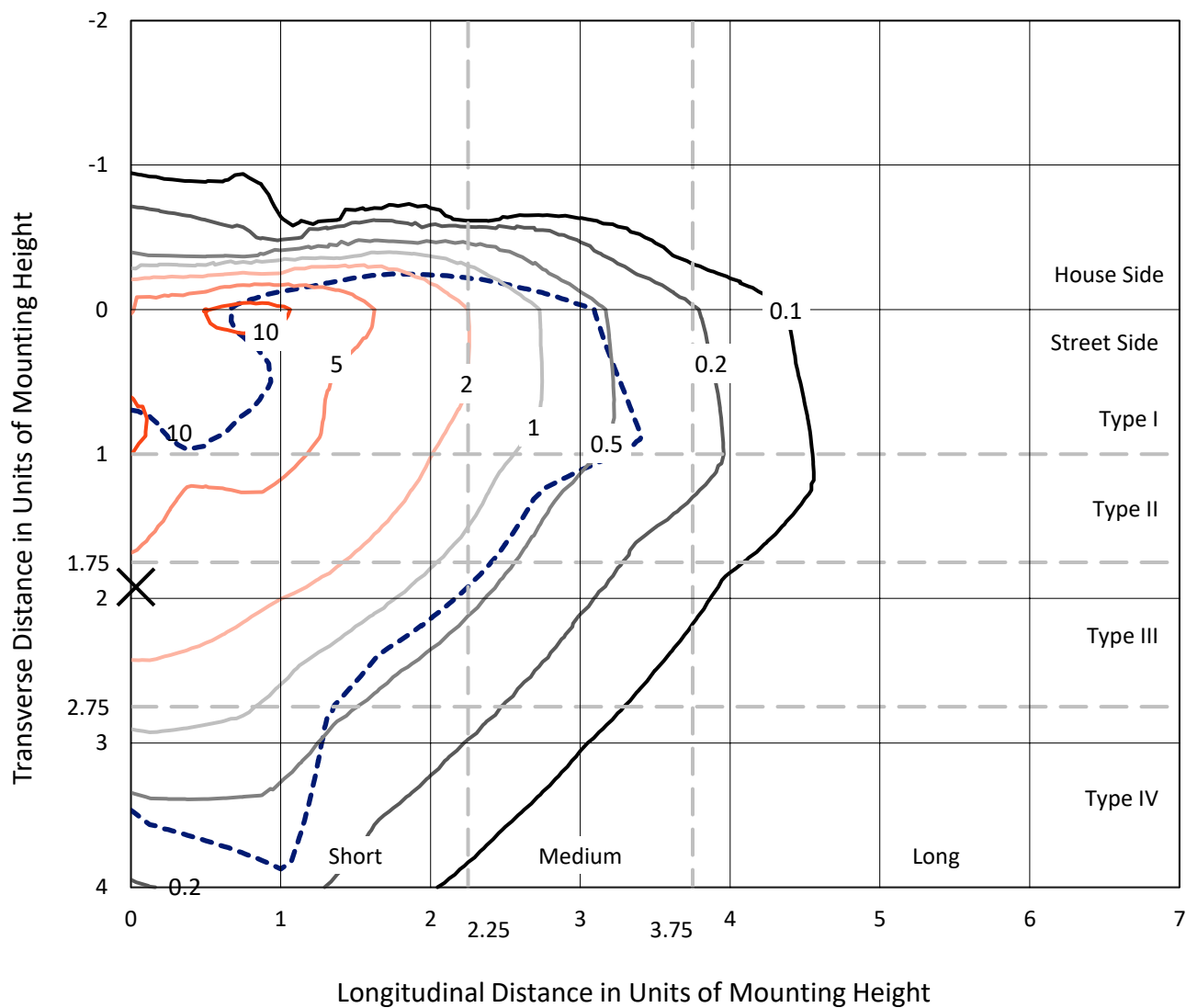
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

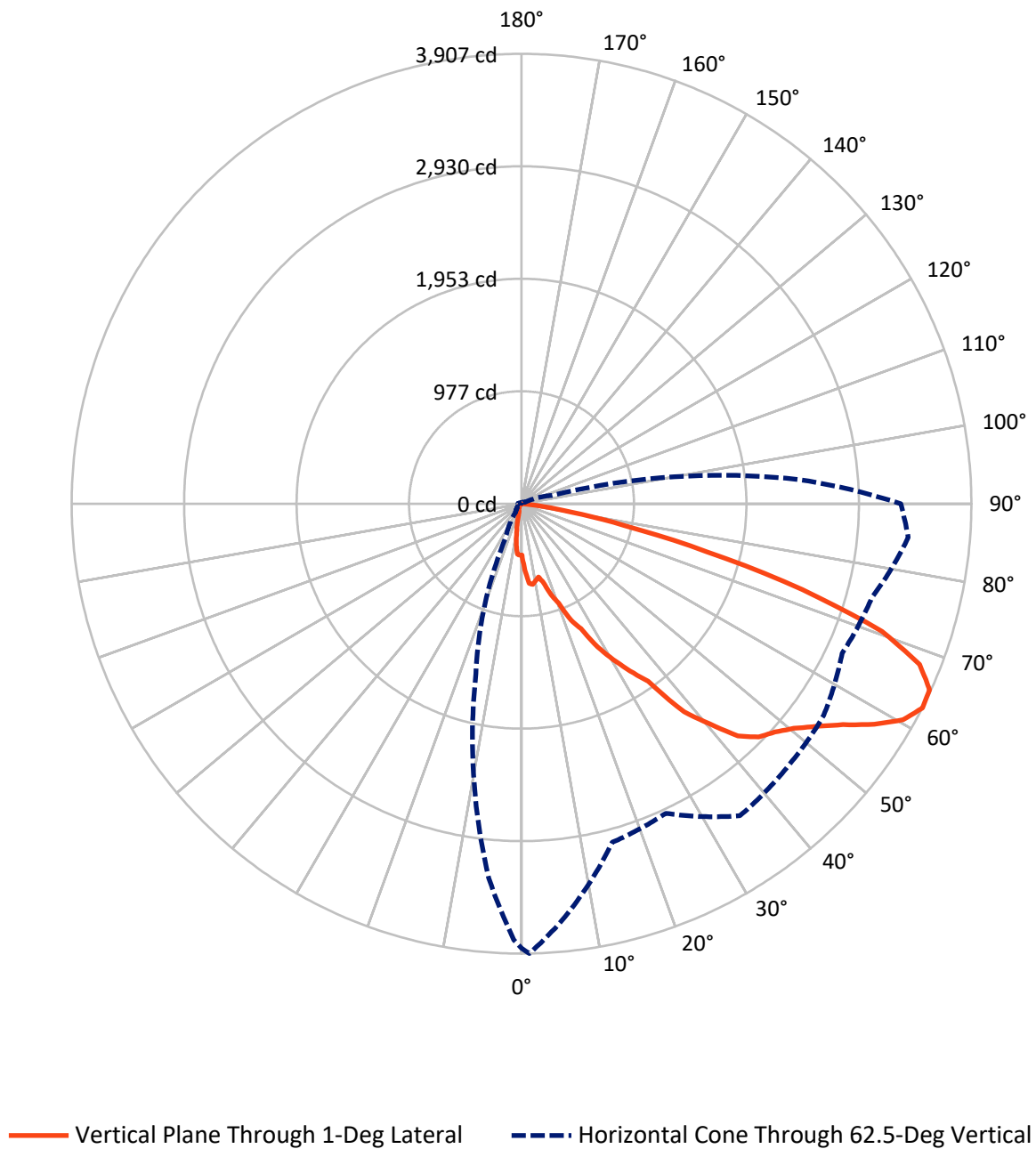


Based on 10 foot mounting height. Maximum calculated value = 11.9 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



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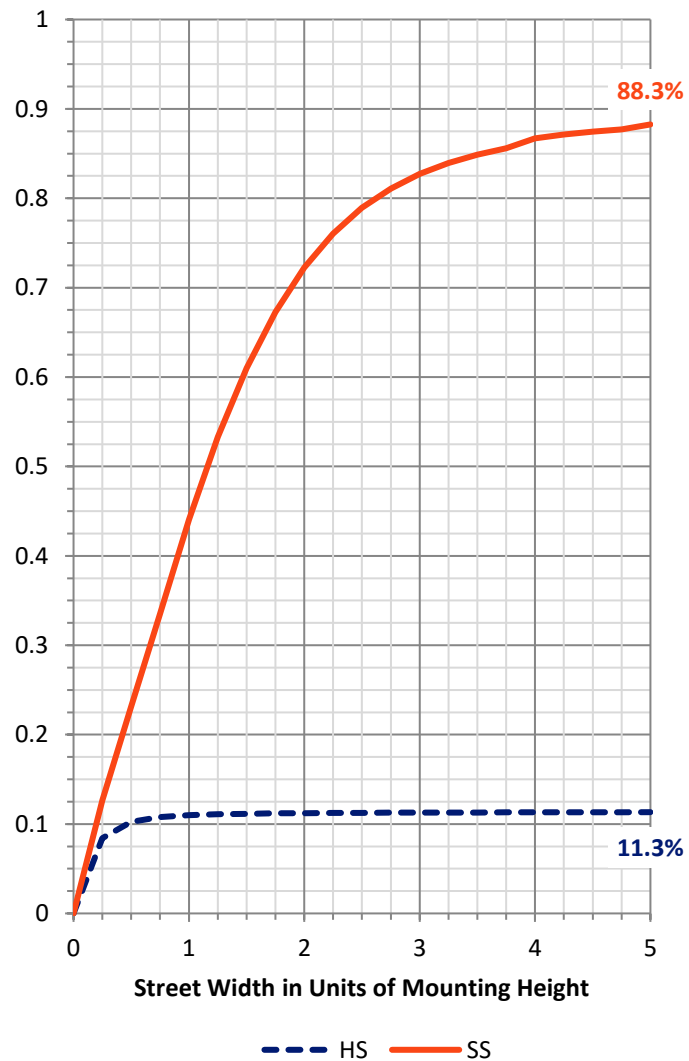
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	422.4	0.0	422.4
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	3271.6	0.0	3271.6
	% Fixture	88.6	0.0	88.6
Total	Lumens	3694.0	0.0	3694.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.7	1.3
10°-20°	129.9	3.5
20°-30°	209.9	5.7
30°-40°	351.6	9.5
40°-50°	575.0	15.6
50°-60°	851.1	23.0
60°-70°	977.2	26.5
70°-80°	483.2	13.1
80°-90°	66.3	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°	3694.0	100.0
0°-180°	3694.0	100.0

Coefficient of Utilization



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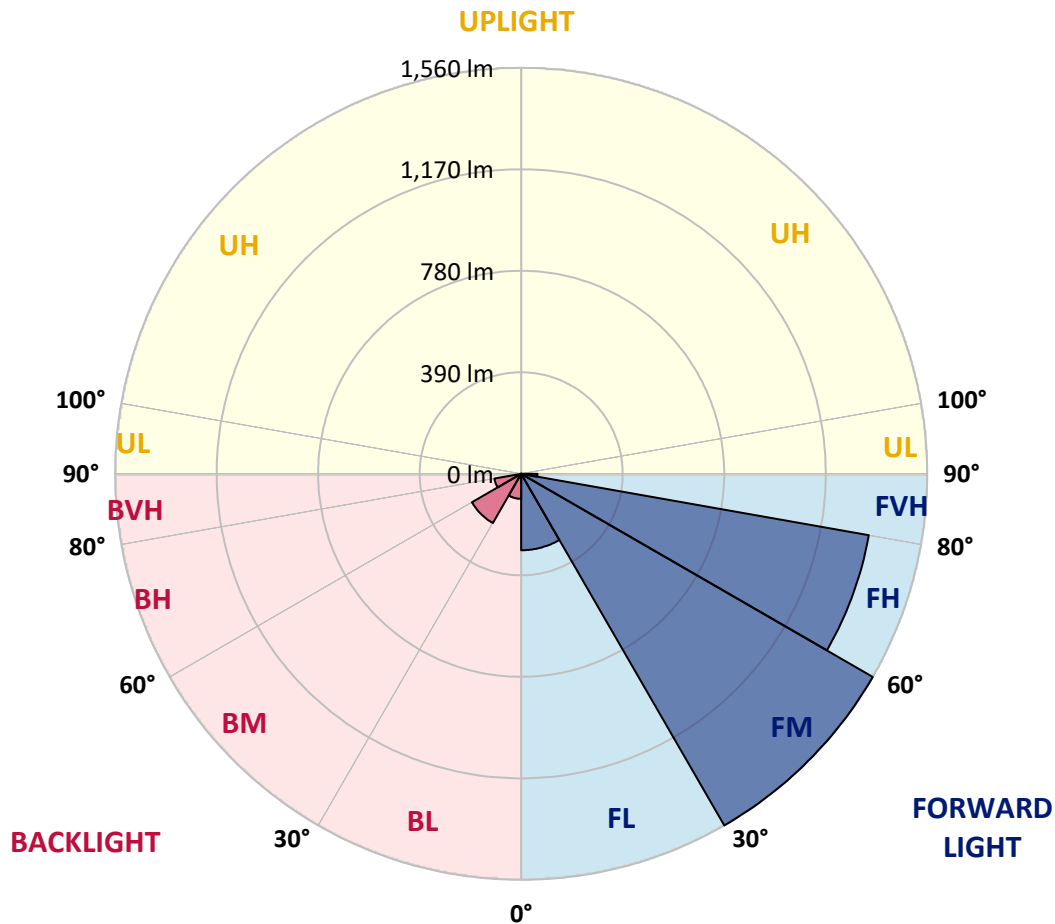
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	293.4	7.9			
FM	(30°-60°)	1559.6	42.2			
FH	(60°-80°)	1355.9	36.7			G1/1800
FVH	(80°-90°)	62.7	1.7			G1/100
BL	(0°-30°)	96.1	2.6	B0/110		
BM	(30°-60°)	218.2	5.9	B0/220		
BH	(60°-80°)	104.5	2.8	B0/110		G0/110
BVH	(80°-90°)	3.7	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0
2.5°	573.8	576.6	563.7	562.0	532.1	569.4	570.5	574.9	547.5	494.5	568.6
5°	686.7	694.2	684.3	728.3	741.0	768.1	718.2	762.9	743.9	749.2	759.9
7.5°	700.1	707.9	728.8	802.4	870.4	853.4	847.9	864.7	863.3	824.3	843.7
10°	672.1	678.7	713.4	847.5	877.2	953.8	972.5	933.8	918.0	832.7	795.5
12.5°	641.6	652.6	696.8	857.6	946.6	1024.1	1085.8	1030.6	978.2	887.5	853.4
15°	700.1	706.2	775.7	878.6	956.5	1010.0	1060.5	1042.2	1034.2	968.9	853.4
17.5°	814.9	829.2	879.5	930.2	991.7	1023.9	1011.9	1006.2	985.8	1088.3	968.7
20°	896.5	923.3	989.1	1011.0	962.2	992.3	984.9	979.9	963.9	1154.6	1101.3
22.5°	1073.4	1098.0	1099.2	1107.0	993.4	945.4	933.2	934.6	1007.3	1174.4	1266.4
25°	1193.8	1202.2	1268.7	1213.1	1078.4	959.7	913.2	934.0	1038.6	1316.7	1421.5
27.5°	1390.8	1410.8	1452.3	1264.1	1129.3	950.6	876.5	952.3	1121.1	1363.8	1593.9
30°	1551.4	1570.6	1637.3	1333.7	1173.5	995.5	892.3	989.1	1172.5	1460.9	1748.9
32.5°	1681.7	1731.2	1807.0	1441.3	1171.9	1047.0	972.9	976.9	1235.6	1586.6	1902.1
35°	1848.2	1894.3	1947.6	1515.4	1248.5	1063.7	996.7	1096.9	1329.5	1717.9	2108.4
37.5°	2223.5	2293.2	2188.0	1702.1	1337.7	1214.0	1090.6	1170.8	1427.8	1852.0	2391.9
40°	2452.6	2511.3	2409.6	1797.5	1492.2	1289.7	1258.2	1299.2	1524.0	1921.3	2605.6
42.5°	2678.2	2755.7	2585.8	1941.0	1639.0	1503.6	1417.3	1450.4	1663.2	2088.4	2846.0
45°	2841.6	2889.6	2623.9	2016.2	1840.6	1747.4	1689.9	1640.7	1857.3	2195.7	3001.1
47.5°	2923.7	2962.0	2699.1	2040.0	1960.6	2005.2	2131.1	2028.2	2029.0	2273.4	3084.7
50°	3037.3	3064.1	2741.2	2068.4	2090.9	2407.1	2470.7	2251.5	2225.2	2351.3	3098.4
52.5°	3197.1	3210.2	2822.8	2143.3	2286.1	2721.8	2744.7	2656.1	2421.6	2496.1	3128.7
55°	3409.5	3386.6	2968.7	2300.8	2489.6	2952.3	2983.0	2905.8	2668.5	2640.7	3222.6
57.5°	3638.5	3612.2	3184.9	2522.7	2710.4	3128.5	3146.8	3152.9	2832.5	2768.7	3382.1
60°	3802.7	3807.6	3457.1	2777.2	2847.7	3297.1	3260.5	3204.9	2998.0	2956.3	3459.8
62.5°	3860.2	3906.7	3669.1	3043.9	2966.0	3307.6	3250.8	3203.8	3072.1	3149.7	3370.8
65°	3813.2	3894.5	3718.3	3278.1	3037.5	3175.6	3116.5	3086.4	3069.8	3228.7	3173.7
67.5°	3626.7	3728.4	3577.3	3280.3	2777.4	2703.9	2773.8	2869.1	2814.0	3163.2	2897.8
70°	3208.9	3320.3	3249.9	3087.9	2313.6	2127.3	2204.4	2348.6	2309.6	2813.4	2491.7
72.5°	2407.5	2550.7	2564.5	2665.8	1836.6	1601.1	1612.2	1608.2	1675.4	2268.6	1944.4
75°	1546.6	1657.9	1808.4	2151.1	1395.2	1168.9	1062.0	1035.9	1161.1	1772.6	1392.1
77.5°	897.8	911.1	980.5	1623.0	999.3	842.2	769.4	806.6	850.4	1237.1	922.6
80°	429.4	436.2	464.8	835.1	694.2	729.0	672.8	714.7	583.9	711.1	523.5
82.5°	136.2	137.7	142.5	410.3	431.1	482.9	309.4	414.9	361.0	429.8	348.6
85°	22.7	38.7	47.8	118.5	243.3	162.9	67.2	148.0	201.5	271.1	158.3
87.5°	0.0	0.0	0.0	2.1	19.8	9.3	1.5	8.4	30.9	60.4	7.2
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°	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0
2.5°	590.0	604.6	549.8	500.8	513.2	503.3	488.4	462.9	404.0	447.3	444.4
5°	759.3	732.3	658.2	623.7	581.6	517.4	509.6	460.4	438.7	442.3	439.1
7.5°	818.2	770.0	704.6	600.6	501.8	409.2	380.8	348.6	342.1	356.0	365.0
10°	771.9	720.8	663.5	534.3	458.3	391.3	321.2	276.2	251.8	248.8	251.3
12.5°	793.2	738.0	620.1	521.2	441.8	381.2	302.9	234.9	181.9	185.9	175.3
15°	807.9	744.5	609.8	493.8	408.0	326.9	232.6	164.6	121.2	108.6	101.0
17.5°	894.4	803.9	596.8	462.3	360.6	254.5	146.1	95.4	81.3	76.8	73.3
20°	1005.6	877.0	596.6	429.0	290.7	159.1	91.1	69.0	65.7	68.2	65.5
22.5°	1134.8	974.2	628.3	387.5	208.6	100.4	70.9	61.3	57.9	60.0	60.2
25°	1264.9	1120.1	654.2	348.2	145.2	77.0	63.2	56.4	52.6	54.5	53.5
27.5°	1499.8	1240.9	648.3	297.9	106.9	67.8	58.7	52.8	47.2	50.1	49.9
30°	1653.5	1454.1	671.3	227.3	84.8	59.4	54.7	48.2	42.1	45.5	45.3
32.5°	1837.3	1545.7	696.1	174.5	70.5	56.2	49.3	42.9	39.4	41.5	41.0
35°	2043.8	1726.7	650.5	145.2	61.3	50.7	43.6	38.7	35.6	36.6	36.6
37.5°	2408.6	1878.1	623.1	118.3	57.0	45.9	40.8	34.9	33.0	33.0	34.1
40°	2615.7	2109.2	541.4	93.7	58.3	42.3	38.1	32.0	29.5	29.3	30.3
42.5°	2885.1	2242.5	490.3	75.8	52.8	41.3	34.9	29.0	26.1	25.9	26.9
45°	3044.9	2317.0	418.3	59.6	47.4	48.0	32.4	26.7	22.3	21.5	23.4
47.5°	3145.7	2415.7	377.4	47.4	41.3	47.8	31.6	23.2	18.7	17.7	19.4
50°	3196.9	2464.6	369.4	40.6	35.8	42.7	36.2	19.4	16.0	14.5	16.0
52.5°	3250.2	2543.9	372.4	37.5	31.6	34.3	34.3	16.6	14.1	12.4	13.5
55°	3357.7	2661.2	365.9	35.6	29.0	26.1	22.1	14.7	12.8	10.9	12.0
57.5°	3489.9	2745.4	365.9	33.9	26.9	22.3	17.7	13.7	11.8	9.5	10.3
60°	3464.9	2656.7	347.7	32.2	25.3	20.8	16.0	12.6	10.9	8.6	9.3
62.5°	3292.9	2415.7	281.7	29.7	23.8	19.8	14.5	12.0	10.3	7.6	8.2
65°	3090.8	2159.8	195.8	26.9	22.1	17.9	13.1	11.4	9.5	6.7	7.2
67.5°	2847.5	1854.7	108.6	24.2	20.4	15.6	12.0	11.2	9.1	6.1	6.5
70°	2425.2	1400.3	58.3	22.1	19.2	14.3	11.4	11.2	9.1	5.9	6.1
72.5°	1820.6	881.8	34.1	20.2	17.5	13.3	10.7	11.4	8.8	5.7	5.7
75°	1238.8	535.3	24.4	17.3	15.6	11.2	10.3	10.9	9.1	5.7	5.3
77.5°	842.2	376.2	20.0	15.6	14.1	9.9	10.5	10.9	9.1	4.6	3.6
80°	525.8	194.1	15.2	12.4	12.2	8.6	10.5	9.5	5.9	1.1	0.0
82.5°	367.7	72.2	8.8	9.5	9.5	6.1	8.2	6.7	3.4	0.0	0.0
85°	154.3	12.4	4.8	6.7	5.9	3.6	6.5	5.1	2.1	0.0	0.0
87.5°	2.7	0.0	1.9	4.0	4.2	2.1	3.4	2.1	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°	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0
2.5°	458.3	438.3	396.2	416.4	414.3	423.5	424.4	402.9	449.2	477.8	482.0
5°	439.5	426.1	423.7	412.2	409.2	426.3	417.0	416.4	438.7	471.3	471.5
7.5°	365.2	354.9	359.7	346.3	311.5	313.6	316.8	330.1	349.2	370.7	378.5
10°	250.7	277.4	257.9	256.2	252.6	241.4	232.6	239.6	264.4	284.2	291.5
12.5°	178.9	183.1	195.1	190.7	196.8	187.3	183.8	205.5	229.7	249.9	264.4
15°	104.6	111.8	118.9	134.1	140.2	138.3	149.2	167.3	186.9	196.2	214.1
17.5°	73.7	74.3	75.8	92.2	102.9	107.1	113.7	127.4	135.4	139.6	146.9
20°	64.4	62.5	60.0	69.3	79.4	84.6	82.7	93.5	100.0	104.2	109.5
22.5°	58.3	55.2	53.7	56.8	64.6	69.3	70.1	76.4	86.3	89.3	90.9
25°	52.6	50.5	49.5	51.2	55.4	59.8	60.6	68.8	77.7	78.9	82.3
27.5°	48.8	44.8	45.3	46.5	48.4	53.9	55.6	60.2	73.0	74.5	75.6
30°	44.8	40.6	41.9	43.2	42.3	49.0	51.6	56.8	69.3	71.6	72.8
32.5°	40.8	37.7	37.5	38.7	40.2	43.8	49.3	55.4	66.7	69.9	73.0
35°	36.4	33.9	34.3	34.5	36.4	41.0	45.0	48.2	56.0	57.7	58.7
37.5°	33.3	31.2	30.7	32.8	34.7	38.3	39.8	41.3	51.6	55.4	55.6
40°	29.5	28.2	28.2	29.7	33.9	33.5	35.4	40.0	49.9	53.9	54.3
42.5°	26.7	25.0	25.5	26.9	29.9	27.8	31.6	38.3	49.3	53.3	53.0
45°	22.5	22.1	22.9	24.2	25.5	23.6	29.5	36.6	47.2	52.4	50.9
47.5°	18.7	18.7	19.8	21.1	20.4	21.1	26.7	34.3	45.9	50.7	49.7
50°	15.4	15.6	16.6	18.7	16.8	18.5	24.0	32.0	43.8	49.0	48.2
52.5°	13.1	13.3	13.9	15.4	14.5	16.8	22.1	29.7	41.7	46.1	45.7
55°	11.4	11.8	11.8	12.6	13.1	15.8	20.0	27.4	38.5	43.4	42.5
57.5°	10.1	10.5	10.3	10.9	11.4	13.9	17.9	24.8	35.4	39.4	38.1
60°	9.1	9.5	9.3	10.1	9.9	12.0	15.6	22.1	32.0	35.2	34.1
62.5°	8.0	8.4	8.4	8.8	9.1	10.1	13.5	19.6	28.6	31.2	30.3
65°	7.2	7.6	7.8	7.6	8.0	8.6	11.4	17.7	24.8	27.4	26.1
67.5°	6.5	6.9	7.4	6.5	6.9	7.2	9.7	15.8	21.9	24.0	22.9
70°	6.3	6.5	6.5	5.7	5.5	5.7	8.4	13.5	19.2	21.3	19.8
72.5°	5.9	6.1	5.9	4.6	4.0	4.4	7.2	11.4	16.2	17.9	16.6
75°	5.5	5.7	5.5	3.8	2.5	3.2	5.9	9.9	13.9	14.7	14.1
77.5°	4.6	5.1	5.1	2.7	0.8	1.9	4.4	8.0	11.6	11.6	11.8
80°	0.4	1.3	2.1	1.5	0.0	0.2	1.5	4.2	7.4	7.2	7.8
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.5	1.9	2.1
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°	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0	445.0
2.5°	472.2	465.6	473.8	498.9	488.8	490.7	483.9	525.4	572.4	573.8
5°	471.9	466.1	478.3	477.2	506.0	537.4	567.7	616.8	686.2	686.7
7.5°	374.9	409.8	418.9	416.2	453.2	496.4	543.1	637.0	694.0	700.1
10°	338.1	353.2	371.7	378.5	393.8	434.9	487.7	594.0	658.0	672.1
12.5°	293.0	341.4	366.1	413.8	422.7	428.6	511.9	604.4	643.3	641.6
15°	242.7	284.8	323.8	382.1	406.1	467.9	533.6	654.7	677.8	700.1
17.5°	171.8	203.6	263.3	324.6	397.8	465.2	593.4	744.5	788.3	814.9
20°	114.9	130.3	184.4	265.4	358.3	425.2	617.8	825.8	873.6	896.5
22.5°	93.3	100.6	128.6	194.5	306.1	423.3	627.7	914.4	1042.8	1073.4
25°	82.1	87.1	102.1	144.0	254.1	414.9	682.4	1014.2	1169.1	1193.8
27.5°	71.8	79.4	90.5	118.7	217.9	409.0	710.2	1181.8	1366.6	1390.8
30°	68.6	77.9	88.6	108.2	192.6	386.3	754.4	1332.9	1508.2	1551.4
32.5°	74.1	77.3	82.5	99.1	173.0	362.3	832.1	1513.5	1625.5	1681.7
35°	58.7	64.4	73.7	90.9	164.8	361.0	876.1	1629.7	1813.5	1848.2
37.5°	57.5	62.7	74.7	88.6	174.7	370.7	941.4	1867.8	2152.4	2223.5
40°	55.8	62.5	73.9	87.6	174.7	380.2	983.0	2058.3	2380.4	2452.6
42.5°	55.2	63.8	73.7	92.0	169.2	385.4	1046.0	2248.4	2621.2	2678.2
45°	54.7	65.0	74.3	97.3	168.0	402.7	1081.6	2340.8	2776.1	2841.6
47.5°	53.7	65.0	82.9	94.1	161.0	401.0	1127.7	2477.8	2868.5	2923.7
50°	52.8	65.5	93.9	88.2	162.1	390.7	1190.2	2606.4	2998.0	3037.3
52.5°	50.9	66.9	92.2	80.0	158.9	389.6	1283.4	2789.4	3168.3	3197.1
55°	46.7	65.0	83.4	69.9	147.8	377.6	1407.0	3027.2	3404.5	3409.5
57.5°	42.9	60.4	69.7	64.2	123.8	379.1	1513.5	3246.2	3615.0	3638.5
60°	39.2	62.7	54.1	59.8	102.5	352.2	1565.1	3329.9	3768.2	3802.7
62.5°	35.6	57.9	46.1	54.9	91.4	327.1	1529.3	3262.6	3787.8	3860.2
65°	31.6	40.2	38.9	49.3	92.4	292.0	1409.7	3065.3	3713.5	3813.2
67.5°	27.2	31.6	34.3	42.5	98.9	261.9	1204.7	2748.7	3513.7	3626.7
70°	23.8	28.4	29.9	37.3	102.9	242.1	950.6	2309.4	3104.5	3208.9
72.5°	19.8	26.3	26.7	32.6	99.1	222.5	677.4	1657.9	2357.4	2407.5
75°	17.1	21.9	24.2	27.4	83.4	166.1	373.2	1026.2	1490.6	1546.6
77.5°	15.4	16.6	18.3	18.9	35.4	86.5	128.4	632.8	834.6	897.8
80°	11.8	13.1	12.6	13.1	19.4	29.9	48.8	296.6	394.3	429.4
82.5°	3.8	6.3	6.9	5.9	12.6	14.7	14.1	102.5	128.2	136.2
85°	0.8	2.3	1.1	0.0	4.2	7.6	1.1	15.6	30.7	22.7
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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