

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: P366873

Luminaire Tested: **MSA-SA1C-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366873
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-SA1C-727-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: 3826 lumens
Efficiency: N/A
Efficacy: 64.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

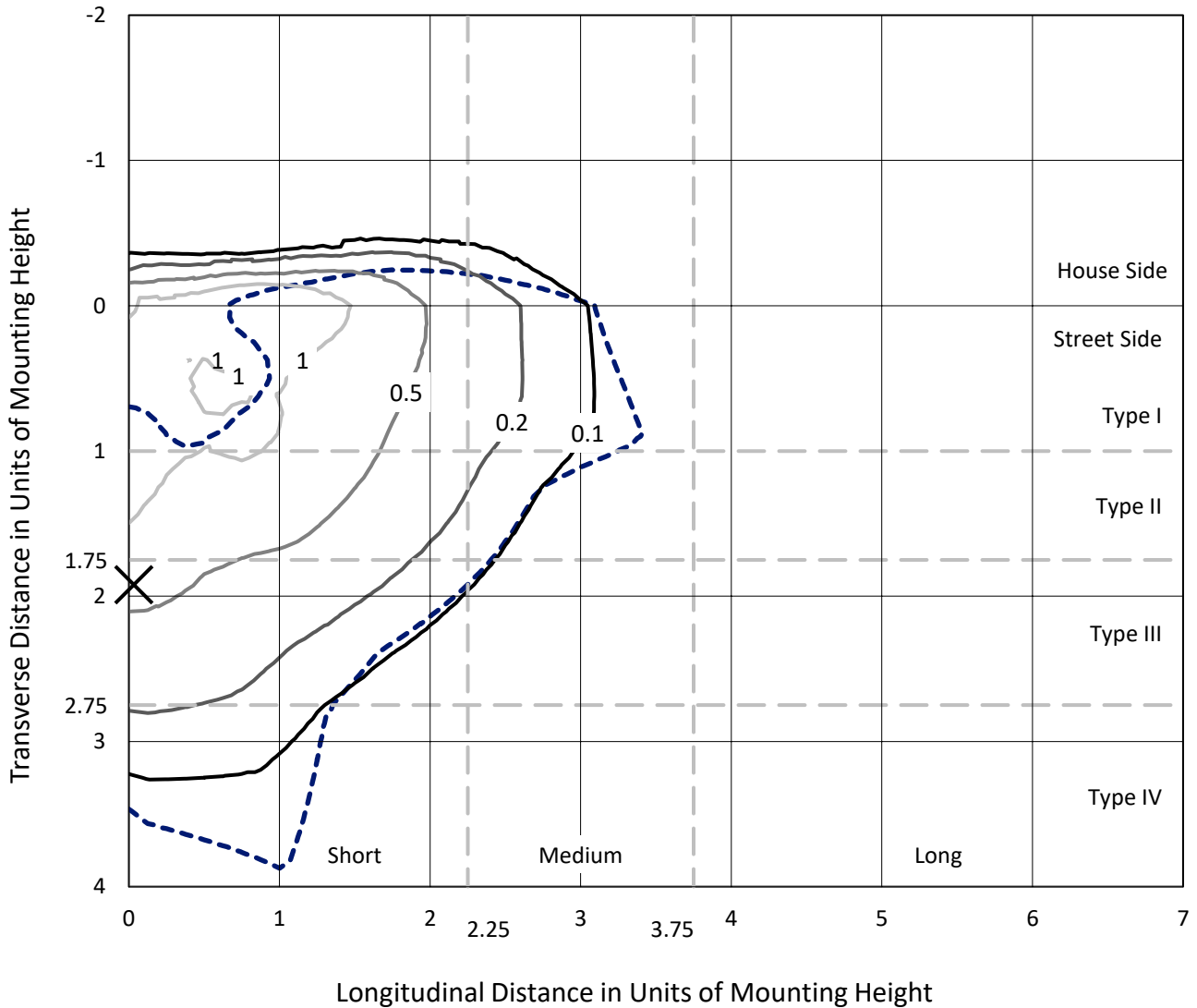
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

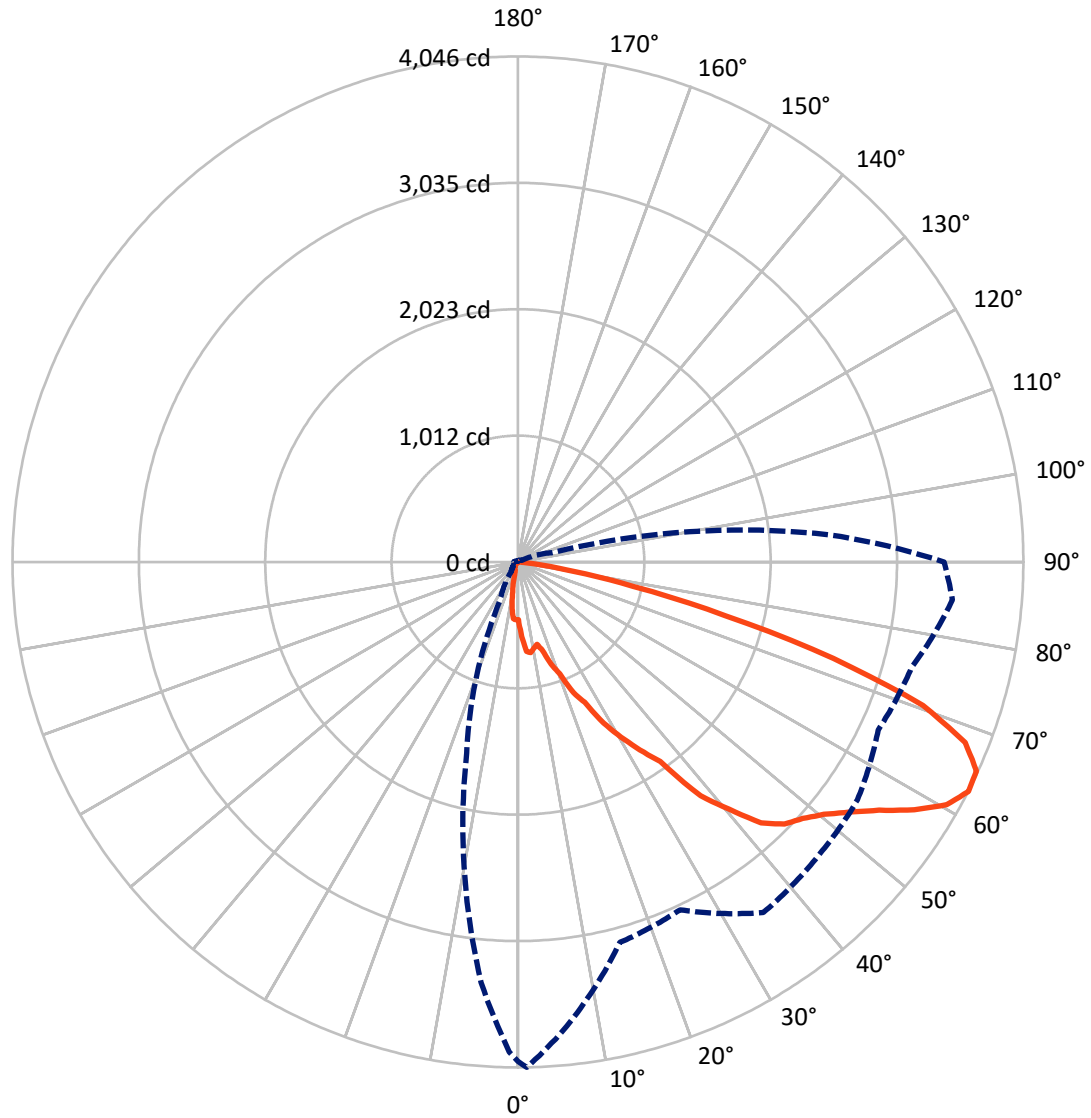
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 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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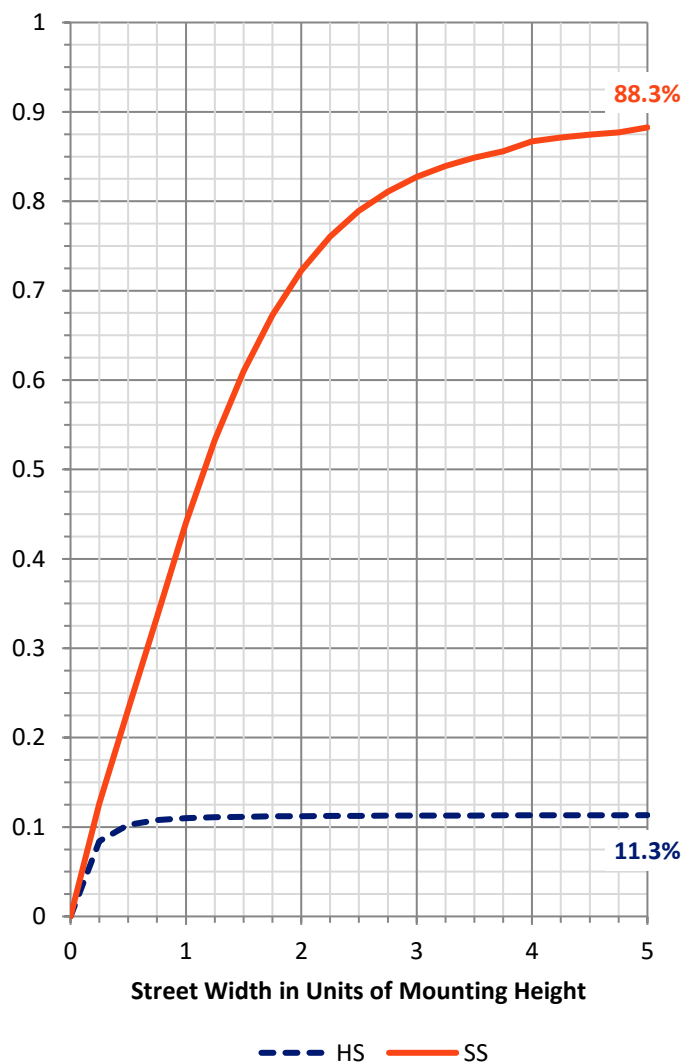
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	437.5	0.0	437.5
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	3388.5	0.0	3388.5
	% Fixture	88.6	0.0	88.6
Total	Lumens	3826.0	0.0	3826.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	1.3
10°-20°	134.5	3.5
20°-30°	217.4	5.7
30°-40°	364.2	9.5
40°-50°	595.5	15.6
50°-60°	881.6	23.0
60°-70°	1012.1	26.5
70°-80°	500.5	13.1
80°-90°	68.7	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°	3826.0	100.0
0°-180°	3826.0	100.0

Coefficient of Utilization

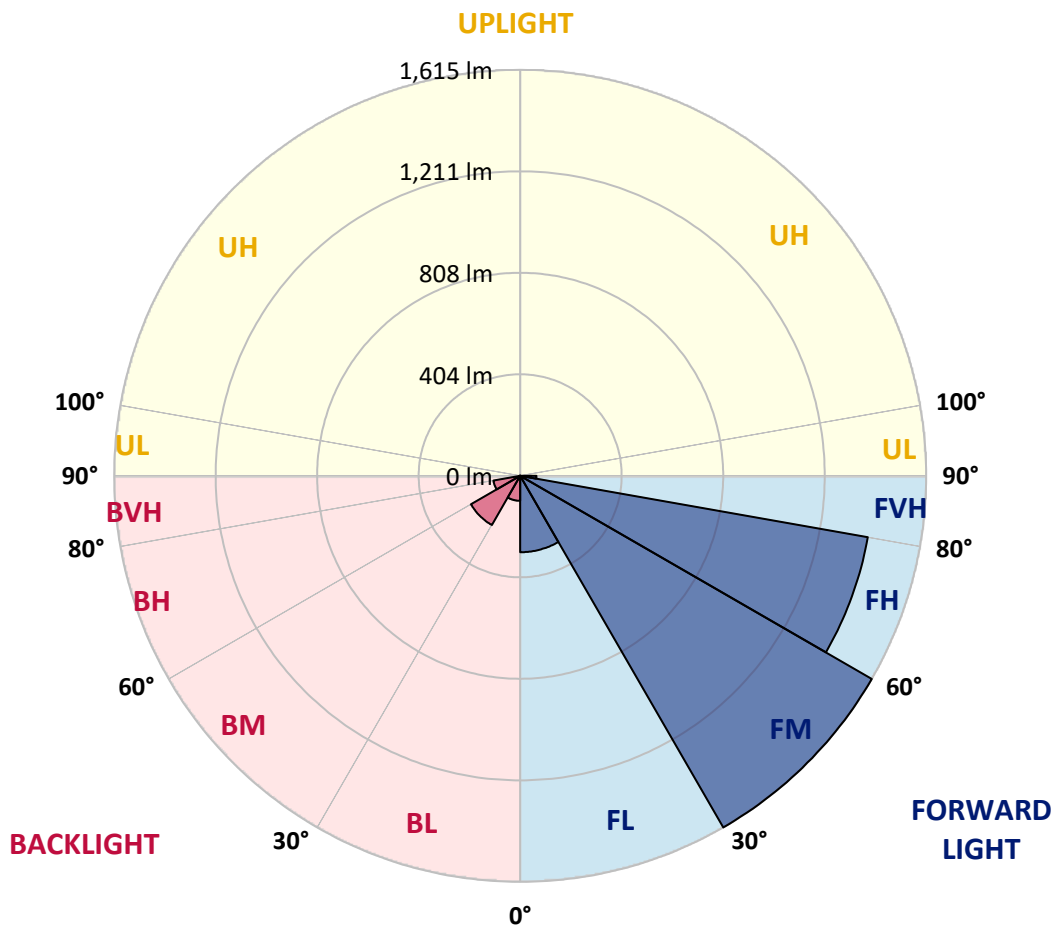


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	303.9	7.9			
FM (30°-60°)	1615.3	42.2			
FH (60°-80°)	1404.4	36.7			G1/1800
FVH (80°-90°)	64.9	1.7			G1/100
BL (0°-30°)	99.5	2.6	B0/110		
BM (30°-60°)	226.0	5.9	B1/1000		
BH (60°-80°)	108.2	2.8	B0/110		G0/110
BVH (80°-90°)	3.8	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-G1
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9
2.5°	594.3	597.2	583.9	582.1	551.2	589.8	590.8	595.4	567.1	512.1	588.9
5°	711.2	719.0	708.8	754.4	767.4	795.6	743.9	790.1	770.5	775.9	787.1
7.5°	725.1	733.2	754.8	831.1	901.5	883.9	878.2	895.6	894.1	853.8	873.8
10°	696.2	702.9	738.9	877.8	908.5	987.9	1007.3	967.2	950.8	862.5	823.9
12.5°	664.5	675.9	721.7	888.2	980.5	1060.7	1124.6	1067.4	1013.2	919.2	883.9
15°	725.1	731.5	803.4	910.0	990.7	1046.1	1098.4	1079.4	1071.2	1003.6	883.9
17.5°	844.0	858.8	910.9	963.4	1027.1	1060.5	1048.0	1042.2	1021.0	1127.2	1003.3
20°	928.6	956.3	1024.5	1047.2	996.6	1027.8	1020.1	1014.9	998.3	1195.9	1140.7
22.5°	1111.7	1137.2	1138.5	1146.6	1028.9	979.1	966.5	968.0	1043.2	1216.4	1311.6
25°	1236.4	1245.1	1314.0	1256.5	1116.9	994.0	945.8	967.4	1075.7	1363.7	1472.3
27.5°	1440.5	1461.2	1504.1	1309.2	1169.7	984.6	907.9	986.3	1161.2	1412.6	1650.9
30°	1606.8	1626.7	1695.8	1381.4	1215.5	1031.0	924.2	1024.5	1214.4	1513.1	1811.3
32.5°	1741.8	1793.0	1871.5	1492.8	1213.7	1084.5	1007.7	1011.9	1279.8	1643.2	1970.1
35°	1914.3	1962.0	2017.2	1569.6	1293.1	1101.7	1032.3	1136.1	1377.0	1779.3	2183.7
37.5°	2303.0	2375.2	2266.1	1762.9	1385.5	1257.3	1129.6	1212.7	1478.9	1918.2	2477.4
40°	2540.2	2601.0	2495.7	1861.7	1545.6	1335.8	1303.1	1345.6	1578.5	1989.9	2698.7
42.5°	2773.9	2854.2	2678.2	2010.4	1697.5	1557.3	1468.0	1502.2	1722.6	2163.0	2947.7
45°	2943.1	2992.8	2717.7	2088.2	1906.4	1809.8	1750.3	1699.3	1923.6	2274.2	3108.4
47.5°	3028.1	3067.8	2795.5	2112.9	2030.7	2076.9	2207.3	2100.7	2101.5	2354.7	3194.9
50°	3145.9	3173.6	2839.1	2142.3	2165.6	2493.1	2558.9	2332.0	2304.7	2435.3	3209.1
52.5°	3311.4	3324.9	2923.7	2219.9	2367.7	2819.1	2842.8	2751.0	2508.1	2585.3	3240.5
55°	3531.3	3507.6	3074.8	2383.0	2578.6	3057.8	3089.6	3009.6	2763.9	2735.1	3337.7
57.5°	3768.5	3741.3	3298.7	2612.8	2807.3	3240.3	3259.2	3265.6	2933.7	2867.7	3503.0
60°	3938.6	3943.6	3580.6	2876.4	2949.4	3414.9	3377.0	3319.4	3105.1	3061.9	3583.4
62.5°	3998.1	4046.3	3800.2	3152.6	3072.0	3425.8	3366.9	3318.3	3181.8	3262.3	3491.2
65°	3949.5	4033.7	3851.2	3395.3	3146.1	3289.1	3227.8	3196.7	3179.4	3344.1	3287.1
67.5°	3756.3	3861.6	3705.1	3397.5	2876.6	2800.5	2872.9	2971.7	2914.5	3276.2	3001.3
70°	3323.6	3438.9	3366.1	3198.2	2396.3	2203.4	2283.1	2432.5	2392.2	2913.9	2580.8
72.5°	2493.5	2641.8	2656.2	2761.1	1902.3	1658.3	1669.8	1665.7	1735.3	2349.6	2013.9
75°	1601.8	1717.2	1873.0	2228.0	1445.1	1210.7	1099.9	1072.9	1202.6	1836.0	1441.8
77.5°	929.9	943.6	1015.6	1681.0	1035.0	872.3	796.9	835.5	880.8	1281.3	955.6
80°	444.8	451.7	481.4	864.9	719.0	755.0	696.8	740.2	604.8	736.5	542.2
82.5°	141.1	142.6	147.6	424.9	446.5	500.1	320.5	429.7	373.9	445.2	361.0
85°	23.5	40.1	49.5	122.7	252.0	168.8	69.5	153.3	208.6	280.8	164.0
87.5°	0.0	0.0	0.0	2.2	20.5	9.6	1.5	8.7	32.0	62.6	7.4
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°	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9
2.5°	611.1	626.2	569.5	518.7	531.5	521.3	505.8	479.4	418.4	463.3	460.2
5°	786.4	758.5	681.8	646.0	602.4	535.9	527.8	476.8	454.4	458.1	454.8
7.5°	847.5	797.5	729.7	622.0	519.8	423.8	394.4	361.0	354.3	368.7	378.1
10°	799.5	746.5	687.2	553.3	474.6	405.3	332.7	286.0	260.8	257.7	260.3
12.5°	821.5	764.4	642.3	539.8	457.6	394.8	313.7	243.3	188.4	192.5	181.6
15°	836.8	771.2	631.6	511.5	422.5	338.6	240.9	170.5	125.6	112.5	104.7
17.5°	926.4	832.6	618.1	478.8	373.5	263.6	151.3	98.8	84.2	79.6	75.9
20°	1041.5	908.3	617.9	444.3	301.1	164.8	94.4	71.5	68.0	70.6	67.8
22.5°	1175.4	1009.0	650.8	401.4	216.1	104.0	73.5	63.4	60.0	62.1	62.4
25°	1310.1	1160.1	677.6	360.6	150.4	79.8	65.4	58.4	54.5	56.5	55.4
27.5°	1553.4	1285.3	671.5	308.5	110.8	70.2	60.8	54.7	48.8	51.9	51.7
30°	1712.6	1506.1	695.3	235.5	87.9	61.5	56.7	49.9	43.6	47.1	46.9
32.5°	1902.9	1601.0	721.0	180.7	73.0	58.2	51.0	44.5	40.8	43.0	42.5
35°	2116.8	1788.5	673.7	150.4	63.4	52.5	45.1	40.1	36.8	37.9	37.9
37.5°	2494.6	1945.2	645.4	122.5	59.1	47.5	42.3	36.2	34.2	34.2	35.3
40°	2709.2	2184.6	560.8	97.0	60.4	43.8	39.5	33.1	30.5	30.3	31.4
42.5°	2988.2	2322.6	507.8	78.5	54.7	42.7	36.2	30.1	27.0	26.8	27.9
45°	3153.7	2399.8	433.2	61.7	49.1	49.7	33.6	27.7	23.1	22.2	24.2
47.5°	3258.2	2502.0	390.9	49.1	42.7	49.5	32.7	24.0	19.4	18.3	20.1
50°	3311.1	2552.6	382.6	42.1	37.1	44.3	37.5	20.1	16.6	15.0	16.6
52.5°	3366.3	2634.8	385.7	38.8	32.7	35.5	35.5	17.2	14.6	12.9	14.0
55°	3477.7	2756.3	378.9	36.8	30.1	27.0	22.9	15.3	13.3	11.3	12.4
57.5°	3614.6	2843.5	378.9	35.1	27.9	23.1	18.3	14.2	12.2	9.8	10.7
60°	3588.7	2751.7	360.2	33.4	26.2	21.6	16.6	13.1	11.3	8.9	9.6
62.5°	3410.6	2502.0	291.7	30.7	24.6	20.5	15.0	12.4	10.7	7.8	8.5
65°	3201.2	2236.9	202.8	27.9	22.9	18.5	13.5	11.8	9.8	7.0	7.4
67.5°	2949.2	1921.0	112.5	25.1	21.1	16.1	12.4	11.6	9.4	6.3	6.8
70°	2511.9	1450.3	60.4	22.9	19.8	14.8	11.8	11.6	9.4	6.1	6.3
72.5°	1885.7	913.3	35.3	20.9	18.1	13.7	11.1	11.8	9.2	5.9	5.9
75°	1283.1	554.4	25.3	17.9	16.1	11.6	10.7	11.3	9.4	5.9	5.5
77.5°	872.3	389.6	20.7	16.1	14.6	10.2	10.9	11.3	9.4	4.8	3.7
80°	544.6	201.0	15.7	12.9	12.6	8.9	10.9	9.8	6.1	1.1	0.0
82.5°	380.9	74.8	9.2	9.8	9.8	6.3	8.5	7.0	3.5	0.0	0.0
85°	159.8	12.9	5.0	7.0	6.1	3.7	6.8	5.2	2.2	0.0	0.0
87.5°	2.8	0.0	2.0	4.1	4.4	2.2	3.5	2.2	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°	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9
2.5°	474.6	453.9	410.3	431.3	429.1	438.7	439.5	417.3	465.3	494.9	499.3
5°	455.2	441.3	438.9	426.9	423.8	441.5	431.9	431.3	454.4	488.2	488.4
7.5°	378.3	367.6	372.6	358.6	322.7	324.9	328.1	341.9	361.7	383.9	392.0
10°	259.7	287.4	267.1	265.3	261.6	250.1	240.9	248.1	273.8	294.3	302.0
12.5°	185.3	189.7	202.1	197.5	203.9	194.0	190.3	212.8	237.9	258.8	273.8
15°	108.4	115.8	123.2	138.9	145.2	143.2	154.6	173.3	193.6	203.2	221.7
17.5°	76.3	77.0	78.5	95.5	106.6	111.0	117.7	131.9	140.2	144.6	152.2
20°	66.7	64.8	62.1	71.7	82.2	87.6	85.7	96.8	103.6	107.9	113.4
22.5°	60.4	57.1	55.6	58.9	66.9	71.7	72.6	79.1	89.4	92.4	94.2
25°	54.5	52.3	51.2	53.0	57.3	61.9	62.8	71.3	80.5	81.8	85.2
27.5°	50.6	46.4	46.9	48.2	50.1	55.8	57.6	62.4	75.7	77.2	78.3
30°	46.4	42.1	43.4	44.7	43.8	50.8	53.4	58.9	71.7	74.1	75.4
32.5°	42.3	39.0	38.8	40.1	41.6	45.3	51.0	57.3	69.1	72.4	75.7
35°	37.7	35.1	35.5	35.8	37.7	42.5	46.7	49.9	58.0	59.7	60.8
37.5°	34.4	32.3	31.8	34.0	36.0	39.7	41.2	42.7	53.4	57.3	57.6
40°	30.5	29.2	29.2	30.7	35.1	34.7	36.6	41.4	51.7	55.8	56.3
42.5°	27.7	25.9	26.4	27.9	31.0	28.8	32.7	39.7	51.0	55.2	54.9
45°	23.3	22.9	23.8	25.1	26.4	24.4	30.5	37.9	48.8	54.3	52.8
47.5°	19.4	19.4	20.5	21.8	21.1	21.8	27.7	35.5	47.5	52.5	51.5
50°	15.9	16.1	17.2	19.4	17.4	19.2	24.9	33.1	45.3	50.8	49.9
52.5°	13.5	13.7	14.4	15.9	15.0	17.4	22.9	30.7	43.2	47.7	47.3
55°	11.8	12.2	12.2	13.1	13.5	16.4	20.7	28.3	39.9	44.9	44.0
57.5°	10.5	10.9	10.7	11.3	11.8	14.4	18.5	25.7	36.6	40.8	39.5
60°	9.4	9.8	9.6	10.5	10.2	12.4	16.1	22.9	33.1	36.4	35.3
62.5°	8.3	8.7	8.7	9.2	9.4	10.5	14.0	20.3	29.7	32.3	31.4
65°	7.4	7.8	8.1	7.8	8.3	8.9	11.8	18.3	25.7	28.3	27.0
67.5°	6.8	7.2	7.6	6.8	7.2	7.4	10.0	16.4	22.7	24.9	23.8
70°	6.5	6.8	6.8	5.9	5.7	5.9	8.7	14.0	19.8	22.0	20.5
72.5°	6.1	6.3	6.1	4.8	4.1	4.6	7.4	11.8	16.8	18.5	17.2
75°	5.7	5.9	5.7	3.9	2.6	3.3	6.1	10.2	14.4	15.3	14.6
77.5°	4.8	5.2	5.2	2.8	0.9	2.0	4.6	8.3	12.0	12.0	12.2
80°	0.4	1.3	2.2	1.5	0.0	0.2	1.5	4.4	7.6	7.4	8.1
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.6	2.0	2.2
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°	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9	460.9
2.5°	489.0	482.3	490.8	516.7	506.3	508.2	501.2	544.2	592.8	594.3
5°	488.8	482.7	495.4	494.3	524.1	556.6	588.0	638.8	710.8	711.2
7.5°	388.3	424.5	433.9	431.0	469.4	514.1	562.5	659.7	718.8	725.1
10°	350.1	365.8	385.0	392.0	407.9	450.4	505.2	615.3	681.5	696.2
12.5°	303.5	353.6	379.1	428.6	437.8	443.9	530.2	625.9	666.3	664.5
15°	251.4	295.0	335.3	395.7	420.6	484.7	552.7	678.1	702.0	725.1
17.5°	177.9	210.8	272.7	336.2	412.1	481.8	614.6	771.2	816.5	844.0
20°	119.0	135.0	191.0	274.9	371.1	440.4	639.9	855.3	904.8	928.6
22.5°	96.6	104.2	133.2	201.5	317.0	438.4	650.1	947.1	1080.1	1111.7
25°	85.0	90.3	105.7	149.1	263.2	429.7	706.8	1050.4	1210.9	1236.4
27.5°	74.3	82.2	93.8	123.0	225.7	423.6	735.6	1224.0	1415.4	1440.5
30°	71.1	80.7	91.8	112.1	199.5	400.1	781.4	1380.5	1562.1	1606.8
32.5°	76.7	80.0	85.5	102.7	179.2	375.2	861.8	1567.6	1683.6	1741.8
35°	60.8	66.7	76.3	94.2	170.7	373.9	907.4	1687.9	1878.3	1914.3
37.5°	59.5	65.0	77.4	91.8	181.0	383.9	975.0	1934.5	2229.3	2303.0
40°	57.8	64.8	76.5	90.7	181.0	393.8	1018.2	2131.8	2465.4	2540.2
42.5°	57.1	66.1	76.3	95.3	175.3	399.2	1083.4	2328.7	2714.8	2773.9
45°	56.7	67.4	77.0	100.7	174.0	417.1	1120.2	2424.4	2875.3	2943.1
47.5°	55.6	67.4	85.9	97.5	166.8	415.3	1168.0	2566.4	2971.0	3028.1
50°	54.7	67.8	97.2	91.4	167.9	404.7	1232.7	2699.6	3105.1	3145.9
52.5°	52.8	69.3	95.5	82.8	164.6	403.6	1329.3	2889.0	3281.5	3311.4
55°	48.4	67.4	86.3	72.4	153.1	391.1	1457.3	3135.4	3526.1	3531.3
57.5°	44.5	62.6	72.2	66.5	128.2	392.7	1567.6	3362.2	3744.1	3768.5
60°	40.6	65.0	56.0	61.9	106.2	364.8	1621.0	3448.9	3902.9	3938.6
62.5°	36.8	60.0	47.7	56.9	94.6	338.8	1583.9	3379.2	3923.1	3998.1
65°	32.7	41.6	40.3	51.0	95.7	302.4	1460.1	3174.9	3846.2	3949.5
67.5°	28.1	32.7	35.5	44.0	102.5	271.2	1247.8	2847.0	3639.3	3756.3
70°	24.6	29.4	31.0	38.6	106.6	250.7	984.6	2391.9	3215.4	3323.6
72.5°	20.5	27.3	27.7	33.8	102.7	230.5	701.6	1717.2	2441.7	2493.5
75°	17.7	22.7	25.1	28.3	86.3	172.0	386.6	1062.9	1543.8	1601.8
77.5°	15.9	17.2	19.0	19.6	36.6	89.6	133.0	655.4	864.5	929.9
80°	12.2	13.5	13.1	13.5	20.1	31.0	50.6	307.2	408.4	444.8
82.5°	3.9	6.5	7.2	6.1	13.1	15.3	14.6	106.2	132.8	141.1
85°	0.9	2.4	1.1	0.0	4.4	7.8	1.1	16.1	31.8	23.5
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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