

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: P367247

Luminaire Tested: **MSA-SA2A-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367247
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-SA2A-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 4607 lumens
Efficiency: N/A
Efficacy: 69.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

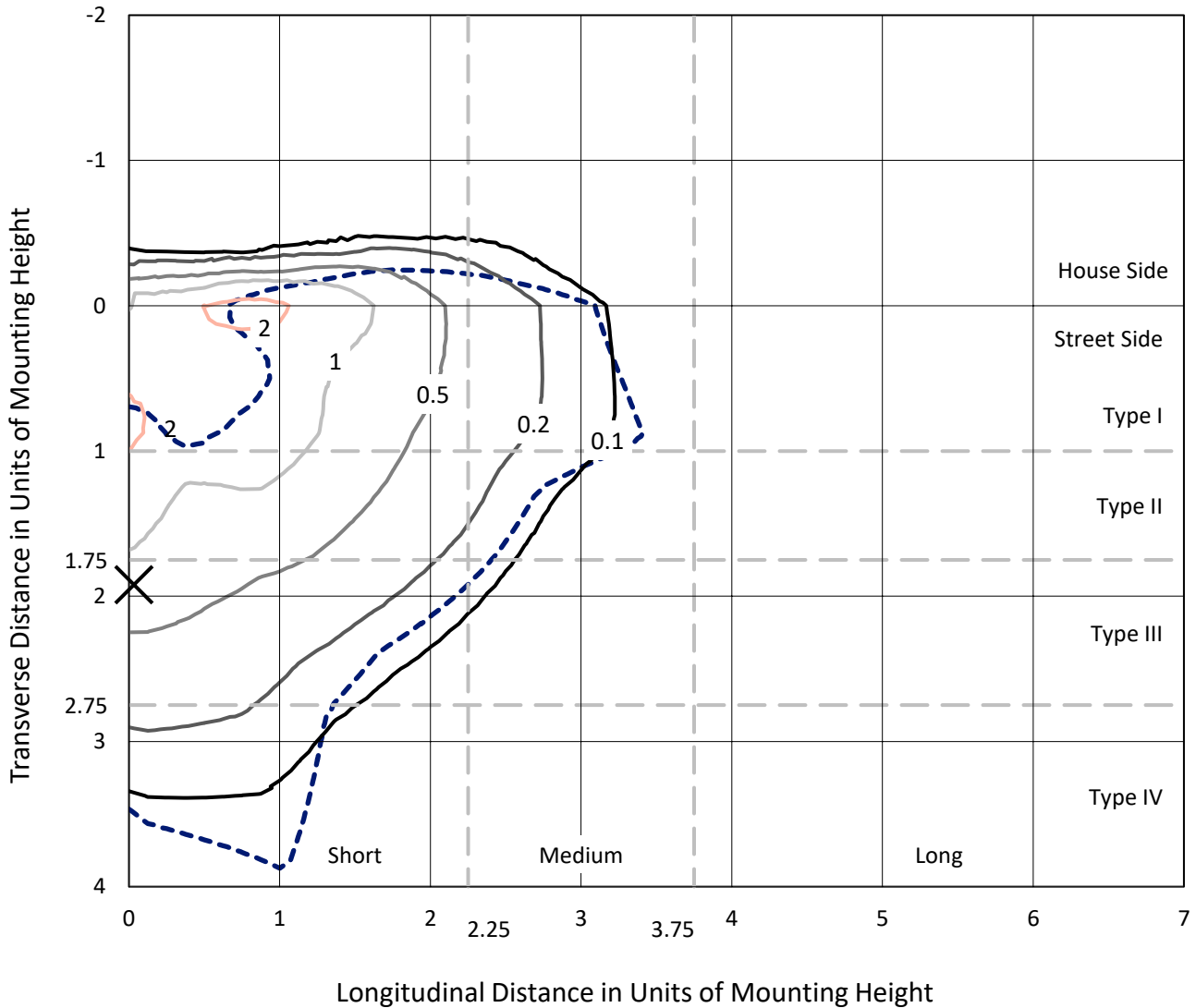
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

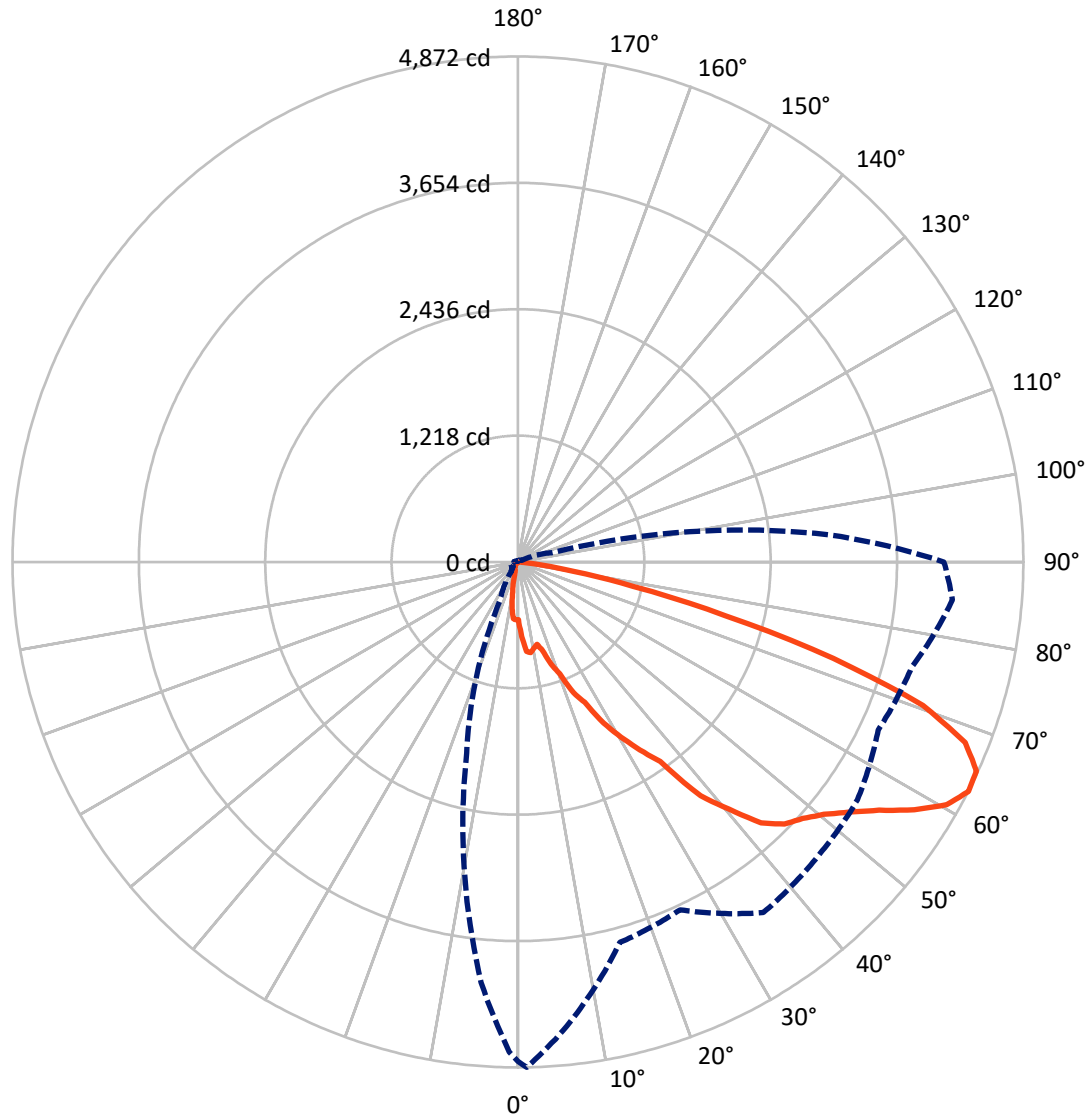
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 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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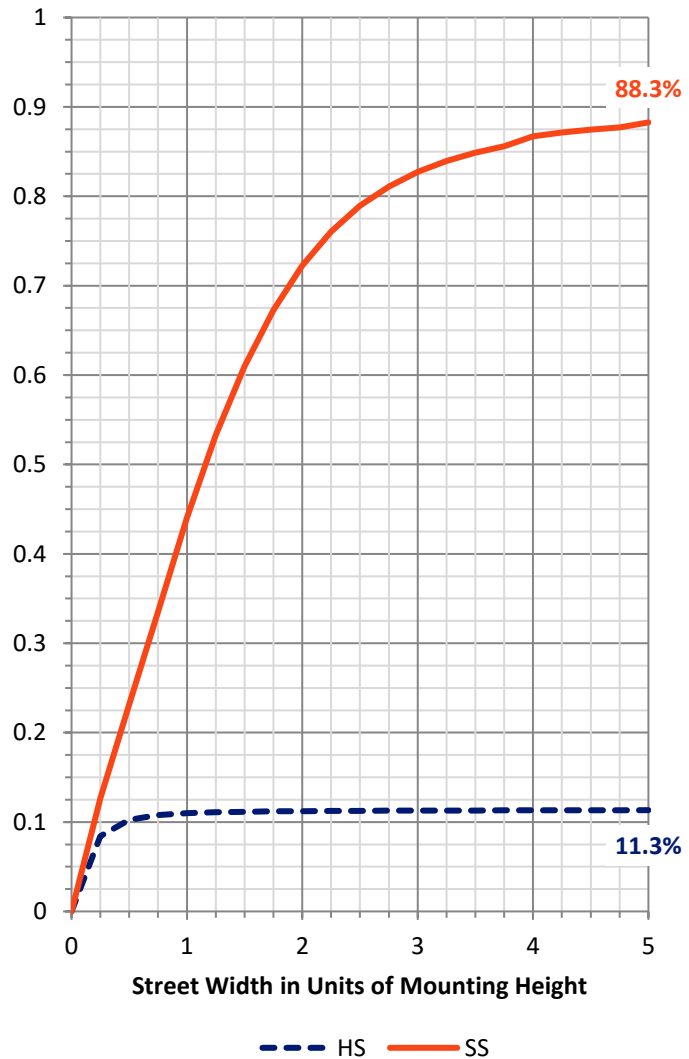
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	526.8	0.0	526.8
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	4080.2	0.0	4080.2
	% Fixture	88.6	0.0	88.6
Total	Lumens	4607.0	0.0	4607.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.0	1.3
10°-20°	162.0	3.5
20°-30°	261.8	5.7
30°-40°	438.6	9.5
40°-50°	717.1	15.6
50°-60°	1061.5	23.0
60°-70°	1218.7	26.5
70°-80°	602.6	13.1
80°-90°	82.7	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°	4607.0	100.0
0°-180°	4607.0	100.0

Coefficient of Utilization



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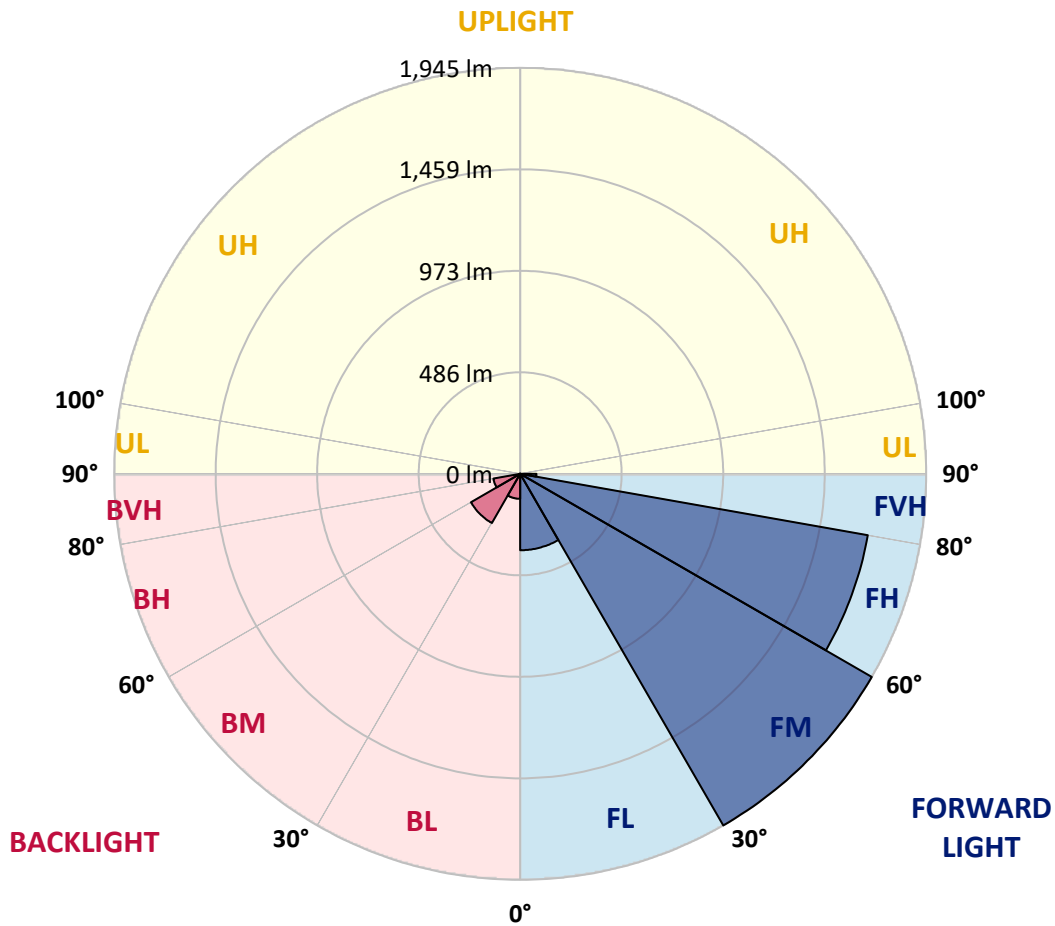
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	365.9	7.9			
FM (30°-60°)	1945.0	42.2			
FH (60°-80°)	1691.1	36.7			G1/1800
FVH (80°-90°)	78.1	1.7			G1/100
BL (0°-30°)	119.9	2.6	B1/500		
BM (30°-60°)	272.1	5.9	B1/1000		
BH (60°-80°)	130.3	2.8	B1/500		G1/500
BVH (80°-90°)	4.6	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°	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0
2.5°	715.7	719.1	703.1	701.0	663.7	710.1	711.5	717.0	682.8	616.7	709.1
5°	856.4	865.8	853.5	908.4	924.1	958.0	895.8	951.4	927.8	934.3	947.7
7.5°	873.2	882.9	908.9	1000.8	1085.6	1064.3	1057.5	1078.5	1076.6	1028.1	1052.2
10°	838.3	846.4	889.7	1056.9	1094.0	1189.5	1212.9	1164.6	1144.9	1038.6	992.1
12.5°	800.2	813.8	869.0	1069.5	1180.6	1277.2	1354.1	1285.3	1220.0	1106.8	1064.3
15°	873.2	880.8	967.4	1095.8	1192.9	1259.6	1322.6	1299.8	1289.8	1208.4	1064.3
17.5°	1016.3	1034.1	1096.8	1160.1	1236.8	1276.9	1262.0	1254.9	1229.4	1357.3	1208.2
20°	1118.1	1151.5	1233.6	1260.9	1200.0	1237.6	1228.4	1222.1	1202.1	1440.0	1373.6
22.5°	1338.6	1369.4	1370.9	1380.6	1238.9	1179.0	1163.8	1165.6	1256.2	1464.7	1579.4
25°	1488.8	1499.3	1582.3	1513.0	1344.9	1196.9	1138.9	1164.8	1295.3	1642.1	1772.9
27.5°	1734.5	1759.5	1811.2	1576.5	1408.5	1185.6	1093.2	1187.7	1398.2	1700.9	1987.9
30°	1934.8	1958.7	2042.0	1663.4	1463.6	1241.5	1112.9	1233.6	1462.3	1822.0	2181.1
32.5°	2097.3	2159.0	2253.6	1797.5	1461.5	1305.8	1213.4	1218.4	1541.0	1978.7	2372.2
35°	2305.0	2362.5	2428.9	1889.9	1557.1	1326.6	1243.1	1368.0	1658.1	2142.5	2629.5
37.5°	2773.1	2860.0	2728.7	2122.8	1668.4	1514.0	1360.2	1460.2	1780.7	2309.7	2983.1
40°	3058.7	3132.0	3005.2	2241.7	1861.1	1608.5	1569.1	1620.3	1900.7	2396.1	3249.6
42.5°	3340.2	3436.8	3224.9	2420.8	2044.1	1875.2	1767.6	1808.8	2074.2	2604.6	3549.4
45°	3543.9	3603.7	3272.4	2514.5	2295.6	2179.3	2107.6	2046.2	2316.3	2738.4	3742.9
47.5°	3646.3	3694.1	3366.2	2544.2	2445.2	2500.9	2657.8	2529.5	2530.5	2835.3	3847.1
50°	3788.0	3821.4	3418.7	2579.6	2607.7	3002.0	3081.3	2808.0	2775.2	2932.5	3864.2
52.5°	3987.3	4003.6	3520.5	2673.1	2851.1	3394.5	3423.1	3312.6	3020.1	3113.1	3902.0
55°	4252.2	4223.6	3702.5	2869.4	3104.9	3682.0	3720.3	3624.0	3328.1	3293.4	4019.1
57.5°	4537.8	4505.0	3972.1	3146.2	3380.3	3901.7	3924.6	3932.2	3532.6	3453.0	4218.1
60°	4742.6	4748.6	4311.5	3463.5	3551.5	4112.0	4066.3	3997.0	3738.9	3687.0	4314.9
62.5°	4814.3	4872.3	4575.9	3796.2	3699.0	4125.1	4054.2	3995.7	3831.4	3928.2	4203.9
65°	4755.7	4857.1	4637.3	4088.4	3788.3	3960.5	3886.7	3849.2	3828.5	4026.7	3958.2
67.5°	4523.1	4649.9	4461.4	4091.0	3463.8	3372.2	3459.3	3578.3	3509.5	3945.0	3614.0
70°	4002.0	4140.9	4053.2	3851.0	2885.5	2653.1	2749.2	2929.0	2880.5	3508.7	3107.6
72.5°	3002.5	3181.1	3198.4	3324.7	2290.6	1996.8	2010.7	2005.7	2089.5	2829.3	2425.0
75°	1928.8	2067.7	2255.4	2682.8	1740.0	1457.8	1324.5	1291.9	1448.1	2210.8	1736.1
77.5°	1119.7	1136.2	1222.9	2024.1	1246.2	1050.4	959.5	1006.0	1060.6	1542.9	1150.7
80°	535.6	544.0	579.7	1041.5	865.8	909.1	839.0	891.3	728.3	886.8	652.9
82.5°	169.9	171.7	177.7	511.7	537.7	602.2	385.9	517.4	450.2	536.1	434.7
85°	28.4	48.3	59.6	147.8	303.5	203.2	83.7	184.6	251.2	338.1	197.4
87.5°	0.0	0.0	0.0	2.6	24.7	11.6	1.8	10.5	38.6	75.3	8.9
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°	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0
2.5°	735.9	754.0	685.7	624.6	640.0	627.7	609.1	577.3	503.8	557.9	554.2
5°	946.9	913.3	820.9	777.9	725.4	645.3	635.6	574.2	547.1	551.6	547.6
7.5°	1020.5	960.3	878.7	749.0	625.9	510.4	474.9	434.7	426.6	443.9	455.2
10°	962.7	898.9	827.5	666.3	571.5	488.0	400.6	344.4	314.0	310.3	313.5
12.5°	989.2	920.4	773.4	650.0	551.0	475.4	377.8	293.0	226.8	231.8	218.7
15°	1007.6	928.6	760.5	615.9	508.8	407.7	290.1	205.3	151.2	135.5	126.0
17.5°	1115.5	1002.6	744.3	576.5	449.7	317.4	182.2	118.9	101.3	95.8	91.4
20°	1254.1	1093.7	744.0	535.0	362.6	198.5	113.7	86.1	81.9	85.1	81.6
22.5°	1415.3	1215.0	783.7	483.3	260.2	125.2	88.5	76.4	72.2	74.8	75.1
25°	1577.5	1396.9	815.9	434.2	181.1	96.1	78.8	70.4	65.6	68.0	66.7
27.5°	1870.5	1547.6	808.6	371.5	133.4	84.5	73.2	65.9	58.8	62.5	62.2
30°	2062.2	1813.6	837.2	283.5	105.8	74.0	68.3	60.1	52.5	56.7	56.4
32.5°	2291.4	1927.8	868.2	217.6	87.9	70.1	61.4	53.6	49.1	51.7	51.2
35°	2548.9	2153.5	811.2	181.1	76.4	63.3	54.3	48.3	44.4	45.7	45.7
37.5°	3003.9	2342.3	777.1	147.5	71.1	57.2	50.9	43.6	41.2	41.2	42.5
40°	3262.2	2630.5	675.2	116.8	72.7	52.8	47.5	39.9	36.8	36.5	37.8
42.5°	3598.2	2796.7	611.4	94.5	65.9	51.5	43.6	36.2	32.6	32.3	33.6
45°	3797.5	2889.7	521.6	74.3	59.1	59.9	40.4	33.3	27.8	26.8	29.1
47.5°	3923.2	3012.8	470.7	59.1	51.5	59.6	39.4	28.9	23.4	22.1	24.2
50°	3987.0	3073.7	460.7	50.7	44.6	53.3	45.2	24.2	20.0	18.1	20.0
52.5°	4053.5	3172.7	464.4	46.7	39.4	42.8	42.8	20.7	17.6	15.5	16.8
55°	4187.6	3318.9	456.3	44.4	36.2	32.6	27.6	18.4	16.0	13.7	15.0
57.5°	4352.5	3423.9	456.3	42.3	33.6	27.8	22.1	17.1	14.7	11.8	12.9
60°	4321.2	3313.4	433.7	40.2	31.5	26.0	20.0	15.8	13.7	10.8	11.6
62.5°	4106.7	3012.8	351.3	37.0	29.7	24.7	18.1	15.0	12.9	9.5	10.2
65°	3854.7	2693.6	244.2	33.6	27.6	22.3	16.3	14.2	11.8	8.4	8.9
67.5°	3551.2	2313.1	135.5	30.2	25.5	19.4	15.0	13.9	11.3	7.6	8.1
70°	3024.6	1746.3	72.7	27.6	23.9	17.9	14.2	13.9	11.3	7.4	7.6
72.5°	2270.6	1099.7	42.5	25.2	21.8	16.5	13.4	14.2	11.0	7.1	7.1
75°	1545.0	667.6	30.5	21.5	19.4	13.9	12.9	13.7	11.3	7.1	6.6
77.5°	1050.4	469.1	24.9	19.4	17.6	12.3	13.1	13.7	11.3	5.8	4.5
80°	655.8	242.1	18.9	15.5	15.2	10.8	13.1	11.8	7.4	1.3	0.0
82.5°	458.6	90.0	11.0	11.8	11.8	7.6	10.2	8.4	4.2	0.0	0.0
85°	192.4	15.5	6.0	8.4	7.4	4.5	8.1	6.3	2.6	0.0	0.0
87.5°	3.4	0.0	2.4	5.0	5.3	2.6	4.2	2.6	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°	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0
2.5°	571.5	546.6	494.1	519.3	516.7	528.2	529.3	502.5	560.2	595.9	601.2
5°	548.2	531.4	528.5	514.0	510.4	531.6	520.1	519.3	547.1	587.8	588.1
7.5°	455.5	442.6	448.7	431.9	388.5	391.2	395.1	411.6	435.5	462.3	472.0
10°	312.7	346.0	321.6	319.5	315.0	301.1	290.1	298.8	329.7	354.4	363.6
12.5°	223.1	228.4	243.4	237.9	245.5	233.7	229.2	256.2	286.4	311.6	329.7
15°	130.5	139.4	148.3	167.2	174.8	172.5	186.1	208.7	233.1	244.7	267.0
17.5°	91.9	92.7	94.5	115.0	128.4	133.6	141.8	158.8	168.8	174.1	183.2
20°	80.3	78.0	74.8	86.4	99.0	105.5	103.2	116.6	124.7	130.0	136.5
22.5°	72.7	68.8	66.9	70.9	80.6	86.4	87.4	95.3	107.6	111.3	113.4
25°	65.6	63.0	61.7	63.8	69.0	74.6	75.6	85.8	96.9	98.4	102.6
27.5°	60.9	55.9	56.4	58.0	60.4	67.2	69.3	75.1	91.1	92.9	94.2
30°	55.9	50.7	52.2	53.8	52.8	61.2	64.3	70.9	86.4	89.3	90.8
32.5°	50.9	47.0	46.7	48.3	50.1	54.6	61.4	69.0	83.2	87.2	91.1
35°	45.4	42.3	42.8	43.1	45.4	51.2	56.2	60.1	69.8	71.9	73.2
37.5°	41.5	38.9	38.3	41.0	43.3	47.8	49.6	51.5	64.3	69.0	69.3
40°	36.8	35.2	35.2	37.0	42.3	41.7	44.1	49.9	62.2	67.2	67.7
42.5°	33.3	31.2	31.8	33.6	37.3	34.7	39.4	47.8	61.4	66.4	66.2
45°	28.1	27.6	28.6	30.2	31.8	29.4	36.8	45.7	58.8	65.4	63.5
47.5°	23.4	23.4	24.7	26.3	25.5	26.3	33.3	42.8	57.2	63.3	62.0
50°	19.2	19.4	20.7	23.4	21.0	23.1	29.9	39.9	54.6	61.2	60.1
52.5°	16.3	16.5	17.3	19.2	18.1	21.0	27.6	37.0	52.0	57.5	57.0
55°	14.2	14.7	14.7	15.8	16.3	19.7	24.9	34.1	48.0	54.1	53.0
57.5°	12.6	13.1	12.9	13.7	14.2	17.3	22.3	31.0	44.1	49.1	47.5
60°	11.3	11.8	11.6	12.6	12.3	15.0	19.4	27.6	39.9	43.8	42.5
62.5°	10.0	10.5	10.5	11.0	11.3	12.6	16.8	24.4	35.7	38.9	37.8
65°	8.9	9.5	9.7	9.5	10.0	10.8	14.2	22.1	31.0	34.1	32.6
67.5°	8.1	8.7	9.2	8.1	8.7	8.9	12.1	19.7	27.3	29.9	28.6
70°	7.9	8.1	8.1	7.1	6.8	7.1	10.5	16.8	23.9	26.5	24.7
72.5°	7.4	7.6	7.4	5.8	5.0	5.5	8.9	14.2	20.2	22.3	20.7
75°	6.8	7.1	6.8	4.7	3.2	3.9	7.4	12.3	17.3	18.4	17.6
77.5°	5.8	6.3	6.3	3.4	1.1	2.4	5.5	10.0	14.4	14.4	14.7
80°	0.5	1.6	2.6	1.8	0.0	0.3	1.8	5.3	9.2	8.9	9.7
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.2	2.4	2.6
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°	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0	555.0
2.5°	588.9	580.7	591.0	622.2	609.6	612.0	603.6	655.3	713.8	715.7
5°	588.6	581.2	596.5	595.2	631.1	670.2	708.0	769.2	855.8	856.4
7.5°	467.6	511.1	522.4	519.0	565.2	619.0	677.3	794.4	865.6	873.2
10°	421.6	440.5	463.6	472.0	491.2	542.4	608.3	740.9	820.7	838.3
12.5°	365.4	425.8	456.5	516.1	527.2	534.5	638.5	753.7	802.3	800.2
15°	302.7	355.2	403.8	476.5	506.4	583.6	665.5	816.5	845.3	873.2
17.5°	214.2	253.9	328.4	404.8	496.2	580.2	740.1	928.6	983.2	1016.3
20°	143.3	162.5	230.0	331.0	446.8	530.3	770.5	1029.9	1089.5	1118.1
22.5°	116.3	125.5	160.4	242.6	381.7	527.9	782.9	1140.4	1300.6	1338.6
25°	102.4	108.7	127.3	179.6	316.9	517.4	851.1	1264.9	1458.1	1488.8
27.5°	89.5	99.0	112.9	148.1	271.7	510.1	885.8	1473.8	1704.3	1734.5
30°	85.6	97.1	110.5	134.9	240.2	481.7	940.9	1662.3	1881.0	1934.8
32.5°	92.4	96.3	102.9	123.7	215.8	451.8	1037.8	1887.6	2027.3	2097.3
35°	73.2	80.3	91.9	113.4	205.6	450.2	1092.6	2032.5	2261.7	2305.0
37.5°	71.7	78.2	93.2	110.5	217.9	462.3	1174.0	2329.4	2684.4	2773.1
40°	69.6	78.0	92.1	109.2	217.9	474.1	1226.0	2567.0	2968.7	3058.7
42.5°	68.8	79.5	91.9	114.7	211.1	480.7	1304.5	2804.1	3269.0	3340.2
45°	68.3	81.1	92.7	121.3	209.5	502.2	1348.9	2919.3	3462.2	3543.9
47.5°	66.9	81.1	103.4	117.4	200.8	500.1	1406.4	3090.2	3577.5	3646.3
50°	65.9	81.6	117.1	110.0	202.1	487.3	1484.3	3250.6	3738.9	3788.0
52.5°	63.5	83.5	115.0	99.8	198.2	485.9	1600.6	3478.8	3951.3	3987.3
55°	58.3	81.1	104.0	87.2	184.3	471.0	1754.7	3775.4	4245.9	4252.2
57.5°	53.6	75.3	86.9	80.1	154.4	472.8	1887.6	4048.5	4508.4	4537.8
60°	48.8	78.2	67.5	74.6	127.9	439.2	1951.9	4153.0	4699.5	4742.6
62.5°	44.4	72.2	57.5	68.5	113.9	408.0	1907.3	4068.9	4724.0	4814.3
65°	39.4	50.1	48.6	61.4	115.3	364.1	1758.2	3823.0	4631.3	4755.7
67.5°	33.9	39.4	42.8	53.0	123.4	326.6	1502.5	3428.1	4382.1	4523.1
70°	29.7	35.4	37.3	46.5	128.4	301.9	1185.6	2880.2	3871.8	4002.0
72.5°	24.7	32.8	33.3	40.7	123.7	277.5	844.8	2067.7	2940.1	3002.5
75°	21.3	27.3	30.2	34.1	104.0	207.1	465.5	1279.8	1859.0	1928.8
77.5°	19.2	20.7	22.8	23.6	44.1	107.9	160.1	789.2	1040.9	1119.7
80°	14.7	16.3	15.8	16.3	24.2	37.3	60.9	369.9	491.7	535.6
82.5°	4.7	7.9	8.7	7.4	15.8	18.4	17.6	127.9	159.9	169.9
85°	1.1	2.9	1.3	0.0	5.3	9.5	1.3	19.4	38.3	28.4
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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