

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: P367137

Luminaire Tested: **MSA-SA2A-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367137
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-727-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: 4849 lumens
Efficiency: N/A
Efficacy: 73.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

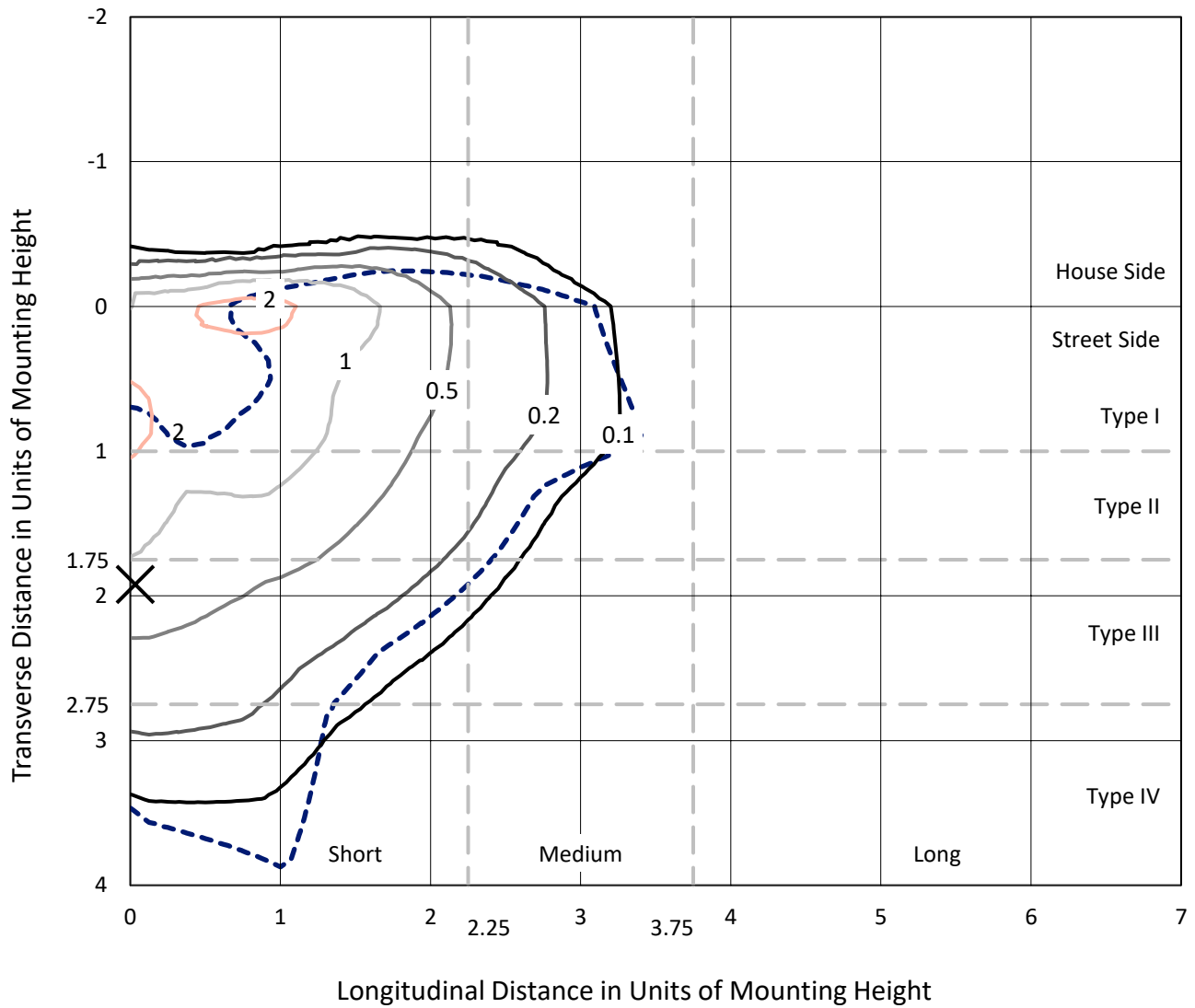
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

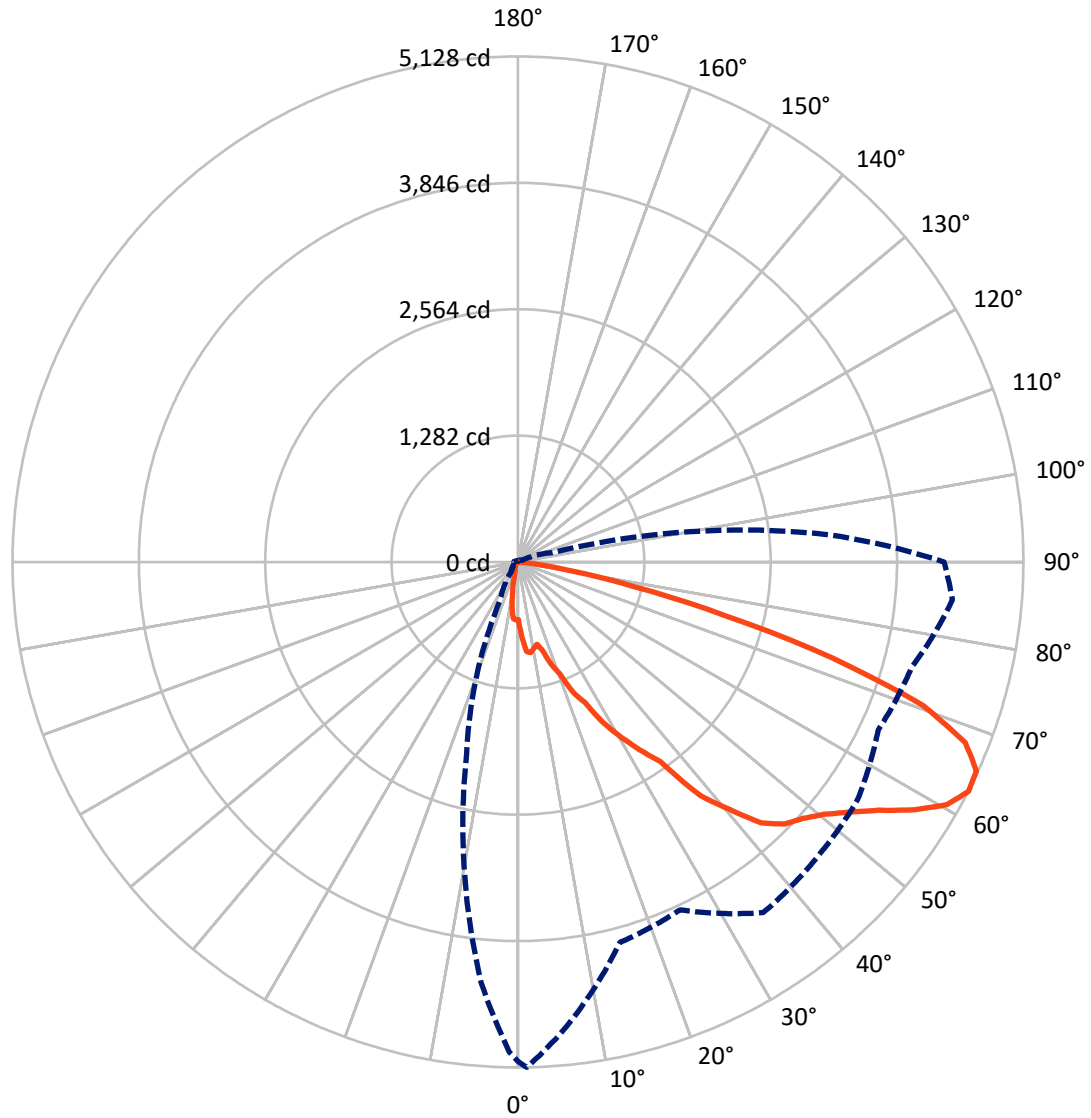
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.5 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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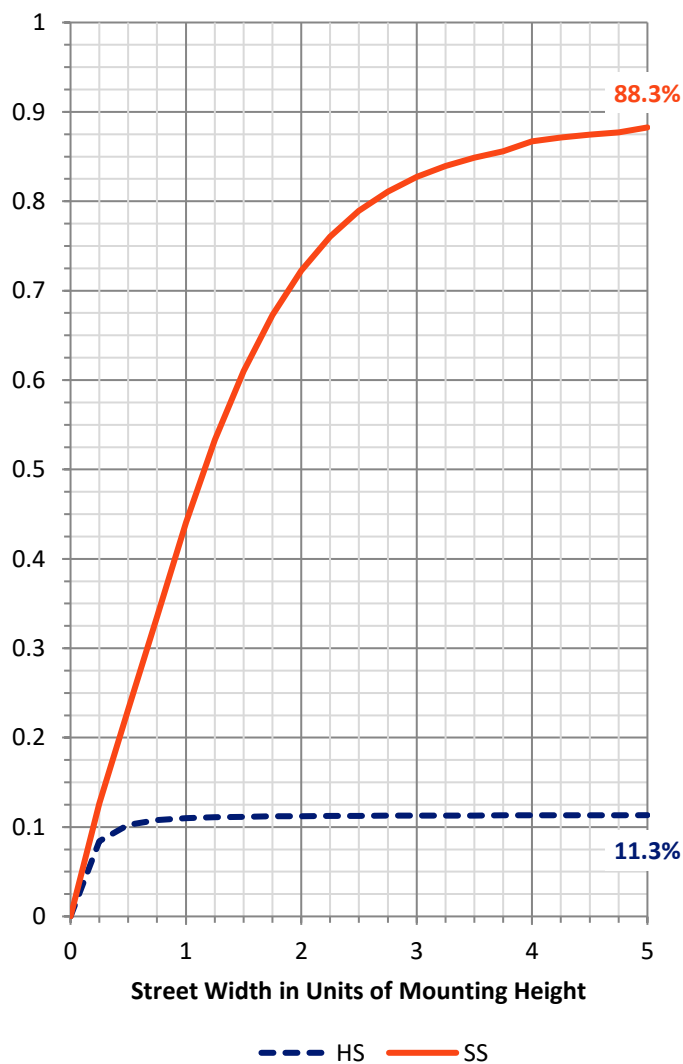
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	554.5	0.0	554.5
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	4294.5	0.0	4294.5
	% Fixture	88.6	0.0	88.6
Total	Lumens	4849.0	0.0	4849.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.3	1.3
10°-20°	170.5	3.5
20°-30°	275.6	5.7
30°-40°	461.6	9.5
40°-50°	754.8	15.6
50°-60°	1117.3	23.0
60°-70°	1282.7	26.5
70°-80°	634.3	13.1
80°-90°	87.1	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°	4849.0	100.0
0°-180°	4849.0	100.0

Coefficient of Utilization

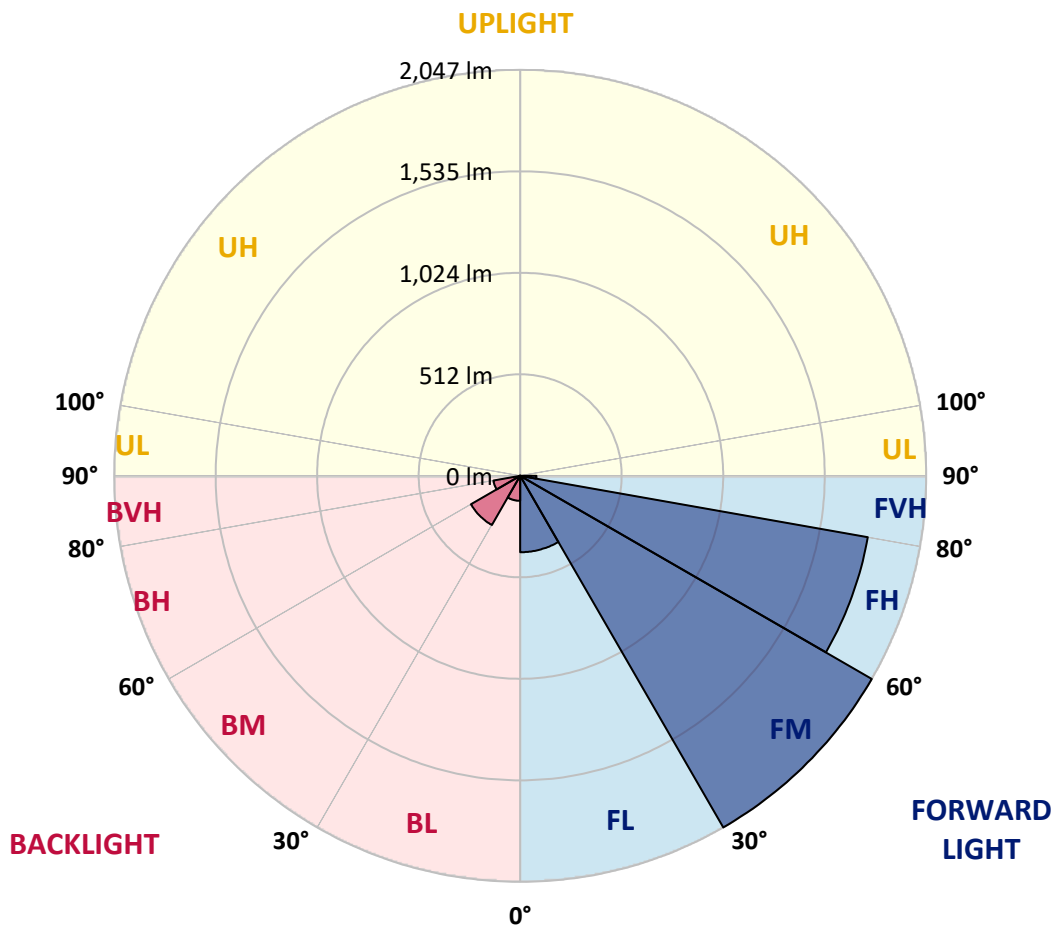


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	385.2	7.9			
FM (30°-60°)	2047.2	42.2			
FH (60°-80°)	1779.9	36.7			G1/1800
FVH (80°-90°)	82.2	1.7			G1/100
BL (0°-30°)	126.2	2.6	B1/500		
BM (30°-60°)	286.4	5.9	B1/1000		
BH (60°-80°)	137.1	2.8	B1/500		G1/500
BVH (80°-90°)	4.8	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°	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1
2.5°	753.2	756.8	740.0	737.8	698.5	747.4	748.8	754.6	718.7	649.1	746.3
5°	901.4	911.3	898.3	956.1	972.6	1008.3	942.8	1001.4	976.5	983.4	997.5
7.5°	919.0	929.3	956.6	1053.3	1142.6	1120.2	1113.0	1135.1	1133.2	1082.1	1107.5
10°	882.3	890.9	936.4	1112.5	1151.4	1252.0	1276.6	1225.8	1205.0	1093.1	1044.2
12.5°	842.2	856.6	914.6	1125.7	1242.6	1344.3	1425.3	1352.9	1284.1	1165.0	1120.2
15°	919.0	927.1	1018.2	1153.4	1255.6	1325.8	1392.1	1368.1	1357.6	1271.9	1120.2
17.5°	1069.6	1088.4	1154.5	1221.1	1301.7	1344.0	1328.3	1320.8	1294.0	1428.6	1271.6
20°	1176.8	1211.9	1298.4	1327.2	1263.1	1302.6	1292.9	1286.3	1265.3	1515.6	1445.7
22.5°	1409.0	1441.3	1442.9	1453.2	1304.0	1241.0	1224.9	1226.9	1322.2	1541.6	1662.3
25°	1567.0	1578.1	1665.4	1592.4	1415.6	1259.7	1198.7	1226.0	1363.4	1728.4	1866.0
27.5°	1825.6	1851.9	1906.3	1659.3	1482.5	1247.9	1150.6	1250.1	1471.7	1790.3	2092.3
30°	2036.5	2061.6	2149.2	1750.8	1540.5	1306.7	1171.3	1298.4	1539.1	1917.7	2295.7
32.5°	2207.5	2272.5	2371.9	1892.0	1538.3	1374.4	1277.1	1282.4	1622.0	2082.6	2496.8
35°	2426.1	2486.6	2556.5	1989.2	1638.9	1396.2	1308.4	1439.9	1745.2	2255.0	2767.6
37.5°	2918.8	3010.2	2872.1	2234.3	1756.0	1593.5	1431.6	1536.9	1874.3	2431.1	3139.8
40°	3219.4	3296.5	3163.0	2359.5	1958.8	1693.0	1651.6	1705.4	2000.6	2522.0	3420.3
42.5°	3515.6	3617.3	3394.3	2547.9	2151.4	1973.8	1860.5	1903.8	2183.2	2741.4	3735.8
45°	3730.0	3793.0	3444.3	2646.6	2416.1	2293.7	2218.3	2153.6	2438.0	2882.3	3939.5
47.5°	3837.8	3888.1	3543.0	2677.8	2573.6	2632.2	2797.5	2662.3	2663.4	2984.3	4049.2
50°	3987.0	4022.1	3598.2	2715.1	2744.7	3159.7	3243.2	2955.5	2921.0	3086.5	4067.1
52.5°	4196.7	4213.9	3705.4	2813.5	3000.8	3572.8	3602.9	3486.6	3178.8	3276.6	4106.9
55°	4475.5	4445.4	3896.9	3020.2	3268.0	3875.4	3915.7	3814.3	3502.9	3466.4	4230.2
57.5°	4776.2	4741.6	4180.7	3311.4	3557.9	4106.7	4130.7	4138.7	3718.2	3634.4	4439.6
60°	4991.7	4998.1	4538.0	3645.5	3738.1	4328.0	4279.9	4207.0	3935.3	3880.6	4541.6
62.5°	5067.1	5128.2	4816.3	3995.6	3893.3	4341.8	4267.2	4205.6	4032.6	4134.6	4424.7
65°	5005.5	5112.2	4880.9	4303.1	3987.3	4168.6	4090.9	4051.4	4029.6	4238.2	4166.1
67.5°	4760.7	4894.2	4695.8	4305.9	3645.8	3549.3	3641.1	3766.2	3693.8	4152.3	3803.8
70°	4212.2	4358.4	4266.1	4053.3	3037.0	2792.5	2893.6	3082.9	3031.8	3693.0	3270.8
72.5°	3160.3	3348.2	3366.4	3499.3	2410.9	2101.7	2116.3	2111.1	2199.2	2977.9	2552.4
75°	2030.1	2176.3	2373.9	2823.7	1831.4	1534.4	1394.0	1359.8	1524.2	2326.9	1827.3
77.5°	1178.5	1195.9	1287.1	2130.4	1311.7	1105.6	1009.9	1058.9	1116.3	1623.9	1211.1
80°	563.7	572.5	610.1	1096.2	911.3	956.9	883.1	938.1	766.5	933.4	687.2
82.5°	178.8	180.7	187.1	538.5	565.9	633.9	406.2	544.6	473.9	564.2	457.6
85°	29.8	50.8	62.7	155.6	319.4	213.9	88.1	194.3	264.4	355.9	207.8
87.5°	0.0	0.0	0.0	2.8	26.0	12.2	1.9	11.1	40.6	79.3	9.4
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°	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1
2.5°	774.5	793.6	721.7	657.4	673.7	660.7	641.1	607.6	530.3	587.2	583.3
5°	996.7	961.3	864.1	818.7	763.5	679.2	669.0	604.3	575.9	580.5	576.4
7.5°	1074.1	1010.8	924.8	788.3	658.7	537.2	499.9	457.6	449.0	467.3	479.1
10°	1013.3	946.1	871.0	701.3	601.5	513.7	421.7	362.5	330.5	326.6	329.9
12.5°	1041.2	968.8	814.0	684.2	580.0	500.4	397.6	308.4	238.7	244.0	230.2
15°	1060.5	977.3	800.5	648.2	535.5	429.1	305.3	216.1	159.2	142.6	132.6
17.5°	1174.1	1055.3	783.4	606.8	473.3	334.1	191.8	125.2	106.7	100.9	96.2
20°	1320.0	1151.1	783.1	563.1	381.6	208.9	119.6	90.6	86.2	89.5	85.9
22.5°	1489.6	1278.8	824.8	508.7	273.8	131.8	93.1	80.4	76.0	78.8	79.0
25°	1660.4	1470.3	858.8	457.0	190.7	101.1	82.9	74.1	69.1	71.6	70.2
27.5°	1968.8	1628.9	851.1	391.0	140.4	89.0	77.1	69.4	61.9	65.8	65.5
30°	2170.5	1908.8	881.2	298.4	111.4	77.9	71.8	63.3	55.3	59.7	59.4
32.5°	2411.7	2029.0	913.8	229.1	92.6	73.8	64.7	56.4	51.7	54.4	53.9
35°	2682.8	2266.7	853.8	190.7	80.4	66.6	57.2	50.8	46.7	48.1	48.1
37.5°	3161.6	2465.3	817.9	155.3	74.9	60.2	53.6	45.9	43.4	43.4	44.8
40°	3433.5	2768.7	710.7	123.0	76.5	55.5	50.0	42.0	38.7	38.4	39.8
42.5°	3787.2	2943.6	643.5	99.5	69.4	54.2	45.9	38.1	34.3	34.0	35.4
45°	3997.0	3041.5	549.0	78.2	62.2	63.0	42.6	35.1	29.3	28.2	30.7
47.5°	4129.3	3171.0	495.4	62.2	54.2	62.7	41.4	30.4	24.6	23.2	25.4
50°	4196.5	3235.2	484.9	53.3	47.0	56.1	47.5	25.4	21.0	19.1	21.0
52.5°	4266.4	3339.3	488.8	49.2	41.4	45.0	45.0	21.8	18.5	16.3	17.7
55°	4407.6	3493.2	480.2	46.7	38.1	34.3	29.0	19.3	16.9	14.4	15.8
57.5°	4581.1	3603.8	480.2	44.5	35.4	29.3	23.2	18.0	15.5	12.4	13.5
60°	4548.2	3487.4	456.5	42.3	33.2	27.4	21.0	16.6	14.4	11.3	12.2
62.5°	4322.5	3171.0	369.7	39.0	31.2	26.0	19.1	15.8	13.5	9.9	10.8
65°	4057.2	2835.0	257.0	35.4	29.0	23.5	17.1	14.9	12.4	8.8	9.4
67.5°	3737.8	2434.7	142.6	31.8	26.8	20.4	15.8	14.6	11.9	8.0	8.6
70°	3183.5	1838.1	76.5	29.0	25.1	18.8	14.9	14.6	11.9	7.7	8.0
72.5°	2389.9	1157.5	44.8	26.5	22.9	17.4	14.1	14.9	11.6	7.5	7.5
75°	1626.1	702.7	32.1	22.7	20.4	14.6	13.5	14.4	11.9	7.5	6.9
77.5°	1105.6	493.8	26.3	20.4	18.5	13.0	13.8	14.4	11.9	6.1	4.7
80°	690.2	254.8	19.9	16.3	16.0	11.3	13.8	12.4	7.7	1.4	0.0
82.5°	482.7	94.8	11.6	12.4	12.4	8.0	10.8	8.8	4.4	0.0	0.0
85°	202.5	16.3	6.4	8.8	7.7	4.7	8.6	6.6	2.8	0.0	0.0
87.5°	3.6	0.0	2.5	5.3	5.5	2.8	4.4	2.8	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°	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1
2.5°	601.5	575.3	520.0	546.6	543.8	556.0	557.1	528.9	589.7	627.2	632.8
5°	577.0	559.3	556.2	541.0	537.2	559.5	547.4	546.6	575.9	618.7	619.0
7.5°	479.4	465.9	472.2	454.5	409.0	411.7	415.9	433.3	458.4	486.6	496.8
10°	329.1	364.2	338.5	336.3	331.6	316.9	305.3	314.5	347.1	373.0	382.7
12.5°	234.9	240.4	256.1	250.3	258.4	245.9	241.2	269.7	301.5	328.0	347.1
15°	137.3	146.7	156.1	176.0	184.0	181.5	195.9	219.7	245.4	257.5	281.0
17.5°	96.7	97.5	99.5	121.0	135.1	140.6	149.2	167.2	177.7	183.2	192.9
20°	84.6	82.1	78.8	90.9	104.2	111.1	108.6	122.7	131.3	136.8	143.7
22.5°	76.5	72.4	70.5	74.6	84.8	90.9	92.0	100.3	113.3	117.2	119.4
25°	69.1	66.3	64.9	67.1	72.7	78.5	79.6	90.4	102.0	103.6	108.0
27.5°	64.1	58.9	59.4	61.1	63.6	70.7	72.9	79.0	95.9	97.8	99.2
30°	58.9	53.3	55.0	56.6	55.5	64.4	67.7	74.6	90.9	93.9	95.6
32.5°	53.6	49.5	49.2	50.8	52.8	57.5	64.7	72.7	87.6	91.7	95.9
35°	47.8	44.5	45.0	45.3	47.8	53.9	59.1	63.3	73.5	75.7	77.1
37.5°	43.7	40.9	40.3	43.1	45.6	50.3	52.2	54.2	67.7	72.7	72.9
40°	38.7	37.0	37.0	39.0	44.5	43.9	46.4	52.5	65.5	70.7	71.3
42.5°	35.1	32.9	33.4	35.4	39.2	36.5	41.4	50.3	64.7	69.9	69.6
45°	29.6	29.0	30.1	31.8	33.4	30.9	38.7	48.1	61.9	68.8	66.9
47.5°	24.6	24.6	26.0	27.6	26.8	27.6	35.1	45.0	60.2	66.6	65.2
50°	20.2	20.4	21.8	24.6	22.1	24.3	31.5	42.0	57.5	64.4	63.3
52.5°	17.1	17.4	18.2	20.2	19.1	22.1	29.0	39.0	54.7	60.5	60.0
55°	14.9	15.5	15.5	16.6	17.1	20.7	26.3	35.9	50.6	56.9	55.8
57.5°	13.3	13.8	13.5	14.4	14.9	18.2	23.5	32.6	46.4	51.7	50.0
60°	11.9	12.4	12.2	13.3	13.0	15.8	20.4	29.0	42.0	46.1	44.8
62.5°	10.5	11.1	11.1	11.6	11.9	13.3	17.7	25.7	37.6	40.9	39.8
65°	9.4	9.9	10.2	9.9	10.5	11.3	14.9	23.2	32.6	35.9	34.3
67.5°	8.6	9.1	9.7	8.6	9.1	9.4	12.7	20.7	28.7	31.5	30.1
70°	8.3	8.6	8.6	7.5	7.2	7.5	11.1	17.7	25.1	27.9	26.0
72.5°	7.7	8.0	7.7	6.1	5.3	5.8	9.4	14.9	21.3	23.5	21.8
75°	7.2	7.5	7.2	5.0	3.3	4.1	7.7	13.0	18.2	19.3	18.5
77.5°	6.1	6.6	6.6	3.6	1.1	2.5	5.8	10.5	15.2	15.2	15.5
80°	0.6	1.7	2.8	1.9	0.0	0.3	1.9	5.5	9.7	9.4	10.2
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.3	2.5	2.8
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°	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1	584.1
2.5°	619.8	611.2	622.0	654.9	641.6	644.1	635.3	689.7	751.3	753.2
5°	619.5	611.8	627.8	626.4	664.3	705.4	745.2	809.6	900.8	901.4
7.5°	492.1	538.0	549.9	546.3	594.9	651.6	712.9	836.1	911.0	919.0
10°	443.8	463.7	488.0	496.8	517.0	570.9	640.2	779.8	863.8	882.3
12.5°	384.6	448.2	480.5	543.2	554.8	562.6	672.0	793.3	844.4	842.2
15°	318.6	373.9	425.0	501.5	533.0	614.3	700.5	859.4	889.7	919.0
17.5°	225.5	267.2	345.7	426.1	522.2	610.7	778.9	977.3	1034.8	1069.6
20°	150.9	171.0	242.1	348.4	470.3	558.2	811.0	1084.0	1146.7	1176.8
22.5°	122.4	132.1	168.8	255.3	401.8	555.7	824.0	1200.3	1368.9	1409.0
25°	107.8	114.4	134.0	189.0	333.5	544.6	895.8	1331.3	1534.7	1567.0
27.5°	94.2	104.2	118.8	155.8	286.0	536.9	932.3	1551.3	1793.9	1825.6
30°	90.1	102.2	116.3	142.0	252.8	507.0	990.3	1749.7	1979.8	2036.5
32.5°	97.3	101.4	108.3	130.1	227.1	475.5	1092.3	1986.7	2133.7	2207.5
35°	77.1	84.6	96.7	119.4	216.4	473.9	1150.0	2139.3	2380.5	2426.1
37.5°	75.4	82.3	98.1	116.3	229.3	486.6	1235.7	2451.8	2825.4	2918.8
40°	73.2	82.1	97.0	114.9	229.3	499.0	1290.4	2701.9	3124.6	3219.4
42.5°	72.4	83.7	96.7	120.8	222.2	505.9	1373.0	2951.4	3440.7	3515.6
45°	71.8	85.4	97.5	127.7	220.5	528.6	1419.7	3072.7	3644.1	3730.0
47.5°	70.5	85.4	108.9	123.5	211.4	526.4	1480.2	3252.6	3765.4	3837.8
50°	69.4	85.9	123.2	115.8	212.8	512.8	1562.3	3421.4	3935.3	3987.0
52.5°	66.9	87.9	121.0	105.0	208.6	511.5	1684.7	3661.5	4158.9	4196.7
55°	61.3	85.4	109.4	91.7	194.0	495.7	1846.9	3973.8	4468.9	4475.5
57.5°	56.4	79.3	91.5	84.3	162.5	497.7	1986.7	4261.1	4745.2	4776.2
60°	51.4	82.3	71.0	78.5	134.6	462.3	2054.4	4371.1	4946.4	4991.7
62.5°	46.7	76.0	60.5	72.1	119.9	429.4	2007.5	4282.7	4972.1	5067.1
65°	41.4	52.8	51.1	64.7	121.3	383.3	1850.5	4023.8	4874.6	5005.5
67.5°	35.6	41.4	45.0	55.8	129.9	343.7	1581.4	3608.2	4612.3	4760.7
70°	31.2	37.3	39.2	48.9	135.1	317.8	1247.9	3031.5	4075.2	4212.2
72.5°	26.0	34.5	35.1	42.8	130.1	292.1	889.2	2176.3	3094.5	3160.3
75°	22.4	28.7	31.8	35.9	109.4	218.0	489.9	1347.1	1956.6	2030.1
77.5°	20.2	21.8	24.0	24.9	46.4	113.6	168.6	830.6	1095.6	1178.5
80°	15.5	17.1	16.6	17.1	25.4	39.2	64.1	389.3	517.5	563.7
82.5°	5.0	8.3	9.1	7.7	16.6	19.3	18.5	134.6	168.3	178.8
85°	1.1	3.0	1.4	0.0	5.5	9.9	1.4	20.4	40.3	29.8
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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