

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: P367159

Luminaire Tested: **MSA-SA2A-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367159
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-730-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: 5280 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

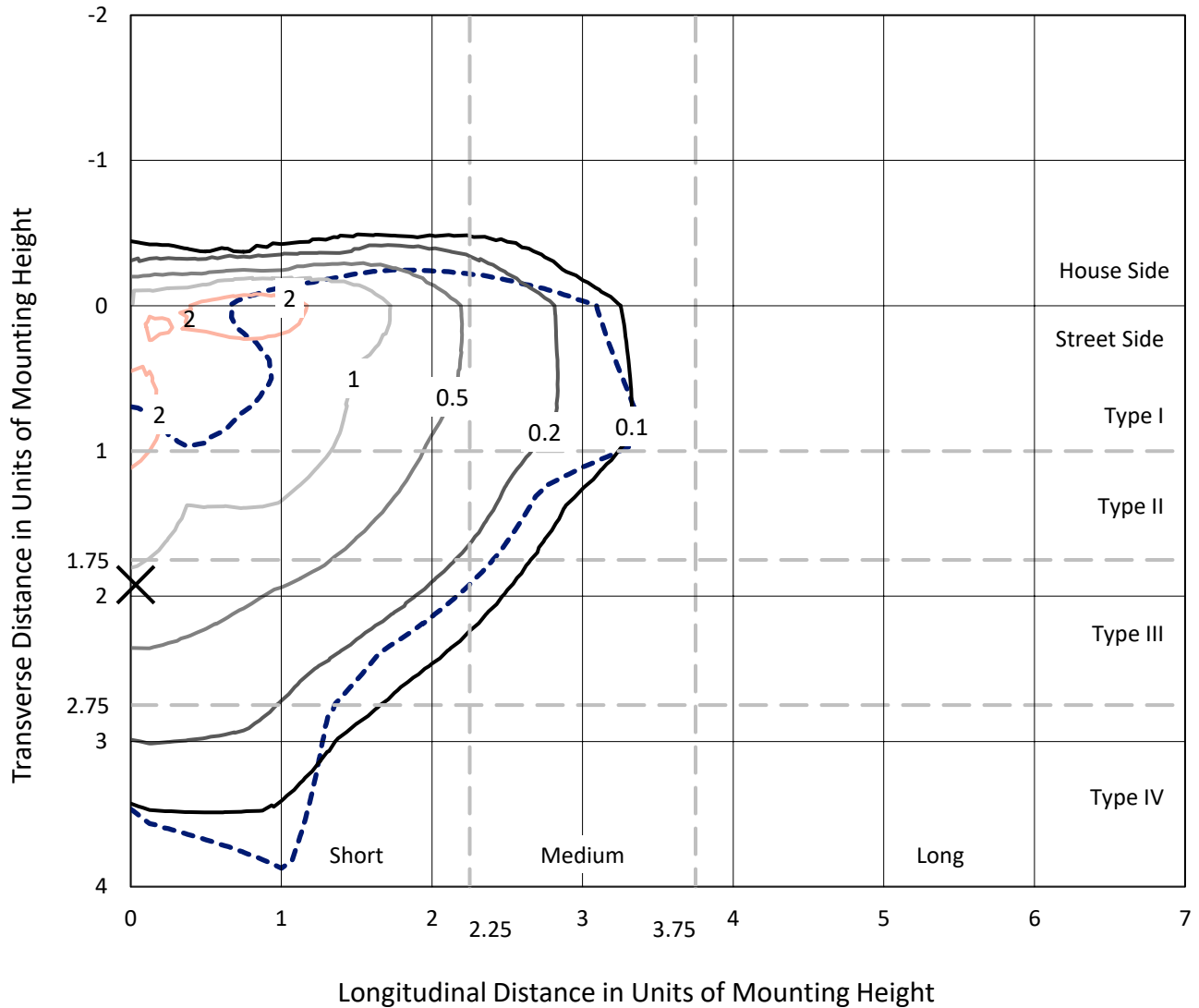
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

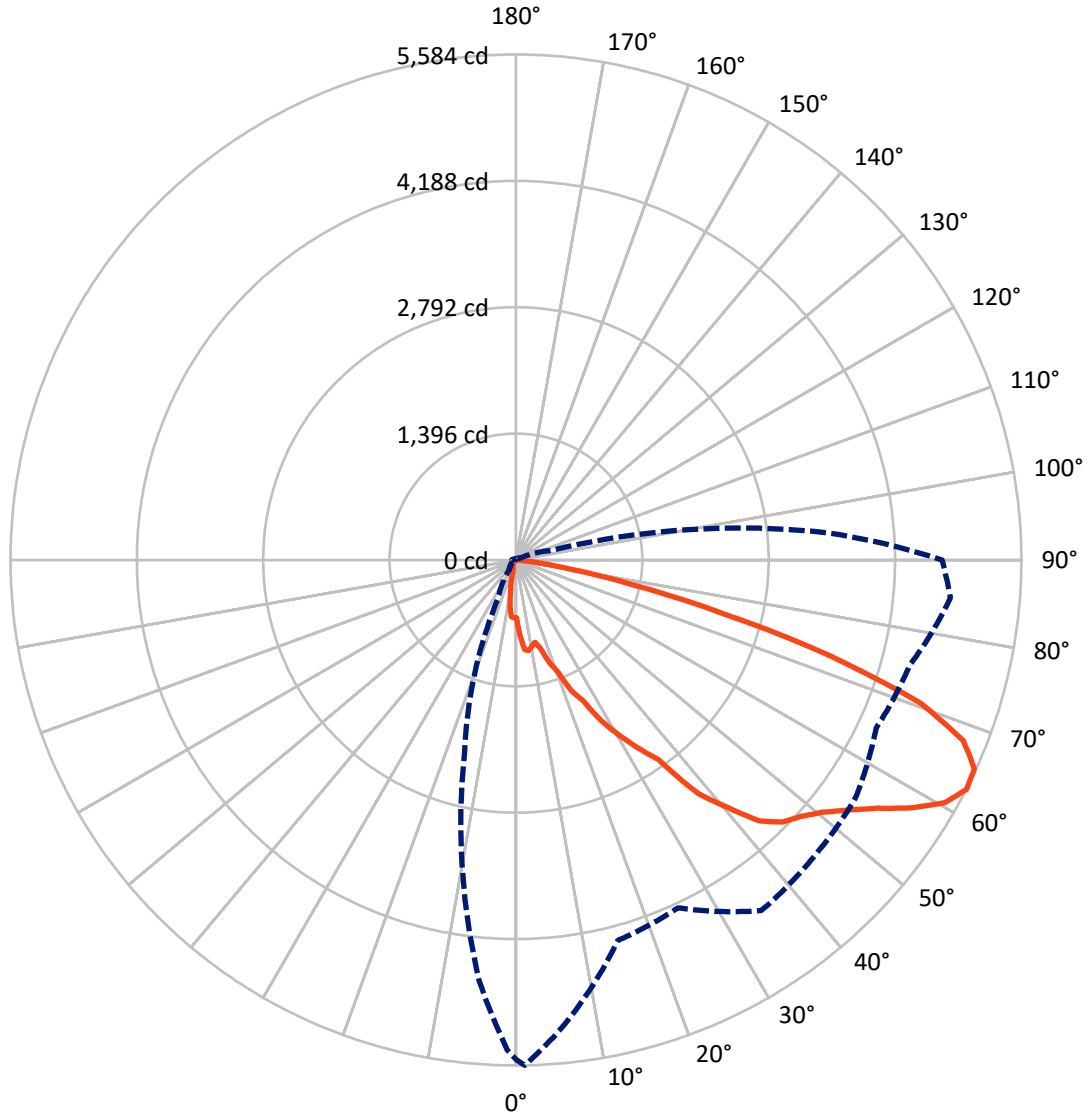
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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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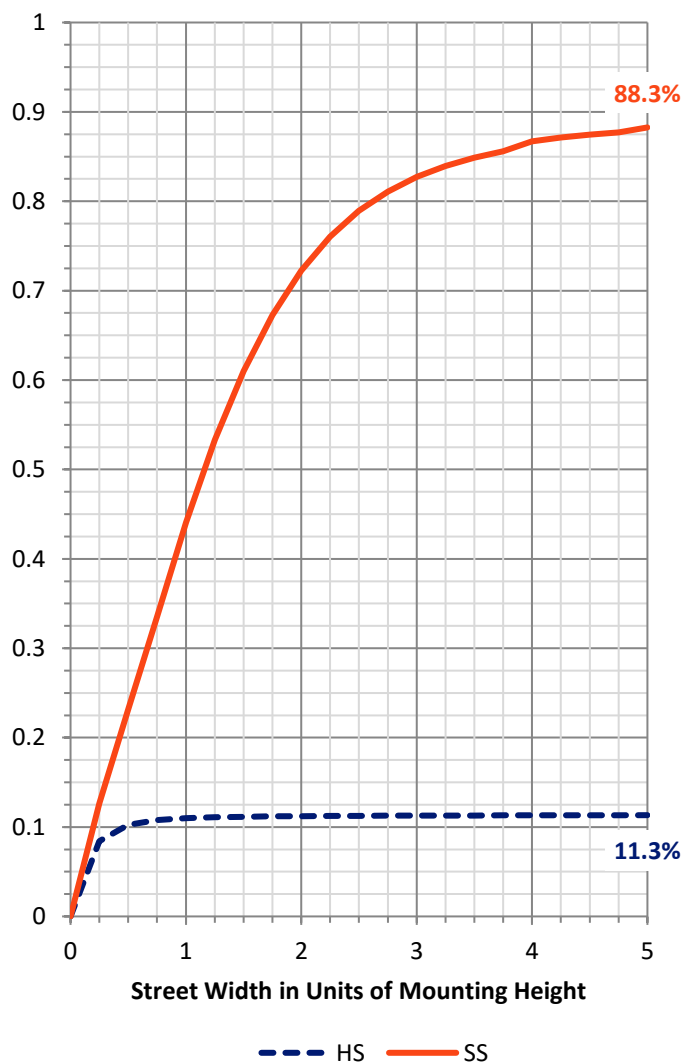
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	603.8	0.0	603.8
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	4676.2	0.0	4676.2
	% Fixture	88.6	0.0	88.6
Total	Lumens	5280.0	0.0	5280.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.1	1.3
10°-20°	185.6	3.5
20°-30°	300.1	5.7
30°-40°	502.6	9.5
40°-50°	821.9	15.6
50°-60°	1216.6	23.0
60°-70°	1396.7	26.5
70°-80°	690.7	13.1
80°-90°	94.8	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°	5280.0	100.0
0°-180°	5280.0	100.0

Coefficient of Utilization



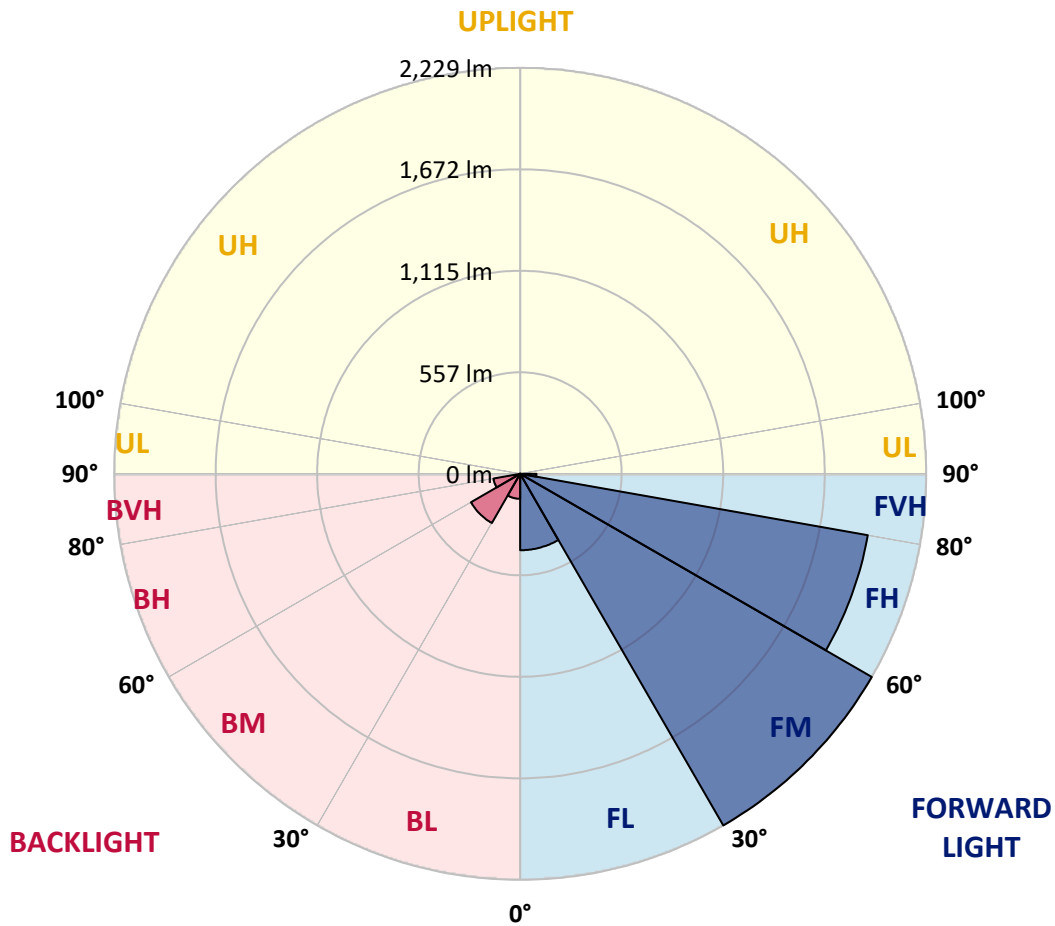
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	419.4	7.9			
FM (30°-60°)	2229.2	42.2			
FH (60°-80°)	1938.1	36.7			G2/5000
FVH (80°-90°)	89.6	1.7			G1/100
BL (0°-30°)	137.4	2.6	B1/500		
BM (30°-60°)	311.9	5.9	B1/1000		
BH (60°-80°)	149.3	2.8	B1/500		G1/500
BVH (80°-90°)	5.3	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°	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1
2.5°	820.2	824.1	805.8	803.3	760.6	813.9	815.4	821.7	782.6	706.8	812.7
5°	981.5	992.3	978.2	1041.0	1059.1	1097.9	1026.6	1090.4	1063.3	1070.8	1086.2
7.5°	1000.7	1011.9	1041.6	1147.0	1244.1	1219.8	1211.9	1236.0	1233.9	1178.2	1205.9
10°	960.7	970.0	1019.7	1211.3	1253.8	1363.3	1390.1	1334.7	1312.1	1190.3	1137.0
12.5°	917.1	932.7	995.9	1225.8	1353.1	1463.8	1551.9	1473.1	1398.2	1268.5	1219.8
15°	1000.7	1009.5	1108.7	1255.9	1367.2	1443.6	1515.8	1489.7	1478.2	1385.0	1219.8
17.5°	1164.7	1185.2	1257.1	1329.6	1417.4	1463.5	1446.3	1438.2	1409.0	1555.6	1384.7
20°	1281.4	1319.7	1413.8	1445.1	1375.3	1418.3	1407.8	1400.6	1377.7	1650.3	1574.2
22.5°	1534.2	1569.4	1571.2	1582.3	1419.9	1351.3	1333.8	1335.9	1439.7	1678.6	1810.1
25°	1706.3	1718.3	1813.4	1734.0	1541.4	1371.7	1305.2	1335.0	1484.5	1882.0	2031.8
27.5°	1987.9	2016.5	2075.8	1806.8	1614.2	1358.8	1252.9	1361.2	1602.5	1949.4	2278.3
30°	2217.5	2244.9	2340.2	1906.4	1677.4	1422.9	1275.4	1413.8	1675.9	2088.1	2499.7
32.5°	2403.7	2474.4	2582.8	2060.1	1675.0	1496.6	1390.7	1396.4	1766.2	2267.7	2718.8
35°	2641.7	2707.6	2783.7	2166.0	1784.5	1520.3	1424.7	1567.9	1900.4	2455.5	3013.6
37.5°	3178.2	3277.8	3127.3	2432.9	1912.1	1735.2	1558.9	1673.5	2040.9	2647.1	3418.9
40°	3505.6	3589.5	3444.2	2569.2	2132.9	1843.5	1798.4	1857.0	2178.4	2746.1	3724.3
42.5°	3828.1	3938.8	3696.0	2774.4	2342.7	2149.2	2025.8	2073.1	2377.3	2985.0	4067.9
45°	4061.6	4130.2	3750.5	2881.8	2630.9	2497.6	2415.5	2345.1	2654.7	3138.5	4289.6
47.5°	4178.9	4233.7	3857.9	2915.8	2802.4	2866.2	3046.1	2899.0	2900.2	3249.5	4409.1
50°	4341.4	4379.6	3918.1	2956.4	2988.6	3440.6	3531.4	3218.2	3180.6	3360.8	4428.7
52.5°	4569.8	4588.4	4034.8	3063.6	3267.6	3890.4	3923.2	3796.5	3461.3	3567.8	4472.0
55°	4873.4	4840.6	4243.3	3288.6	3558.5	4219.8	4263.8	4153.3	3814.3	3774.5	4606.2
57.5°	5200.7	5163.1	4552.3	3605.7	3874.1	4471.7	4497.9	4506.6	4048.6	3957.5	4834.2
60°	5435.4	5442.3	4941.4	3969.5	4070.3	4712.7	4660.3	4580.9	4285.1	4225.6	4945.3
62.5°	5517.5	5584.0	5244.3	4350.7	4239.4	4727.7	4646.5	4579.4	4391.0	4502.1	4818.0
65°	5450.4	5566.6	5314.7	4685.6	4341.7	4539.1	4454.5	4411.5	4387.7	4614.9	4536.4
67.5°	5183.9	5329.2	5113.2	4688.6	3969.8	3864.8	3964.7	4101.0	4022.2	4521.3	4141.9
70°	4586.6	4745.8	4645.3	4413.6	3307.0	3040.7	3150.8	3356.9	3301.3	4021.3	3561.5
72.5°	3441.2	3645.8	3665.6	3810.3	2625.2	2288.5	2304.4	2298.7	2394.7	3242.6	2779.2
75°	2210.6	2369.7	2584.9	3074.7	1994.2	1670.8	1517.9	1480.6	1659.7	2533.7	1989.7
77.5°	1283.3	1302.2	1401.5	2319.8	1428.3	1203.8	1099.7	1153.0	1215.6	1768.3	1318.8
80°	613.8	623.4	664.3	1193.6	992.3	1041.9	961.6	1021.5	834.6	1016.4	748.3
82.5°	194.7	196.8	203.7	586.4	616.2	690.2	442.3	593.0	516.0	614.4	498.3
85°	32.5	55.4	68.3	169.4	347.8	232.9	96.0	211.5	287.9	387.5	226.3
87.5°	0.0	0.0	0.0	3.0	28.3	13.2	2.1	12.0	44.2	86.4	10.2
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°	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1
2.5°	843.4	864.1	785.9	715.8	733.5	719.4	698.0	661.6	577.4	639.4	635.2
5°	1085.3	1046.8	940.9	891.5	831.3	739.6	728.4	658.0	627.0	632.1	627.6
7.5°	1169.5	1100.6	1007.0	858.4	717.3	584.9	544.3	498.3	488.9	508.8	521.7
10°	1103.3	1030.2	948.4	763.6	655.0	559.3	459.1	394.8	359.9	355.6	359.3
12.5°	1133.7	1054.9	886.4	745.0	631.5	544.9	433.0	335.8	260.0	265.7	250.6
15°	1154.8	1064.2	871.6	705.9	583.1	467.3	332.5	235.3	173.3	155.3	144.4
17.5°	1278.4	1149.1	853.0	660.7	515.4	363.8	208.8	136.3	116.1	109.8	104.7
20°	1437.3	1253.5	852.7	613.2	415.5	227.5	130.3	98.7	93.9	97.5	93.6
22.5°	1622.0	1392.5	898.1	553.9	298.2	143.5	101.4	87.6	82.7	85.8	86.1
25°	1808.0	1601.0	935.1	497.7	207.6	110.1	90.3	80.6	75.2	77.9	76.4
27.5°	2143.8	1773.7	926.7	425.7	152.8	96.9	83.9	75.5	67.4	71.6	71.3
30°	2363.4	2078.5	959.5	325.0	121.3	84.8	78.2	68.9	60.2	65.0	64.7
32.5°	2626.1	2209.4	995.0	249.4	100.8	80.3	70.4	61.4	56.3	59.3	58.7
35°	2921.2	2468.1	929.7	207.6	87.6	72.5	62.3	55.4	50.8	52.4	52.4
37.5°	3442.7	2684.5	890.6	169.1	81.5	65.6	58.4	49.9	47.2	47.2	48.7
40°	3738.7	3014.8	773.9	133.9	83.3	60.5	54.5	45.7	42.1	41.8	43.3
42.5°	4123.9	3205.3	700.7	108.3	75.5	59.0	49.9	41.5	37.3	37.0	38.5
45°	4352.2	3311.8	597.8	85.1	67.7	68.6	46.3	38.2	31.9	30.7	33.4
47.5°	4496.4	3452.9	539.5	67.7	59.0	68.3	45.1	33.1	26.8	25.3	27.7
50°	4569.5	3522.7	528.0	58.1	51.1	61.1	51.8	27.7	22.9	20.8	22.9
52.5°	4645.6	3636.1	532.3	53.6	45.1	49.0	49.0	23.8	20.2	17.8	19.3
55°	4799.3	3803.7	522.9	50.8	41.5	37.3	31.6	21.1	18.4	15.6	17.2
57.5°	4988.3	3924.1	522.9	48.4	38.5	31.9	25.3	19.6	16.8	13.5	14.7
60°	4952.5	3797.4	497.1	46.0	36.1	29.8	22.9	18.1	15.6	12.3	13.2
62.5°	4706.7	3452.9	402.6	42.4	34.0	28.3	20.8	17.2	14.7	10.8	11.7
65°	4417.8	3087.0	279.8	38.5	31.6	25.6	18.7	16.2	13.5	9.6	10.2
67.5°	4070.0	2651.1	155.3	34.6	29.2	22.3	17.2	15.9	12.9	8.7	9.3
70°	3466.4	2001.5	83.3	31.6	27.4	20.5	16.2	15.9	12.9	8.4	8.7
72.5°	2602.3	1260.4	48.7	28.9	25.0	19.0	15.3	16.2	12.6	8.1	8.1
75°	1770.7	765.1	34.9	24.7	22.3	15.9	14.7	15.6	12.9	8.1	7.5
77.5°	1203.8	537.7	28.6	22.3	20.2	14.1	15.0	15.6	12.9	6.6	5.1
80°	751.6	277.4	21.7	17.8	17.5	12.3	15.0	13.5	8.4	1.5	0.0
82.5°	525.6	103.2	12.6	13.5	13.5	8.7	11.7	9.6	4.8	0.0	0.0
85°	220.5	17.8	6.9	9.6	8.4	5.1	9.3	7.2	3.0	0.0	0.0
87.5°	3.9	0.0	2.7	5.7	6.0	3.0	4.8	3.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1
2.5°	655.0	626.4	566.3	595.1	592.1	605.4	606.6	575.9	642.1	683.0	689.0
5°	628.2	609.0	605.7	589.1	584.9	609.3	596.0	595.1	627.0	673.7	674.0
7.5°	522.0	507.3	514.2	494.9	445.3	448.3	452.8	471.8	499.2	529.8	541.0
10°	358.3	396.6	368.6	366.2	361.1	345.1	332.5	342.4	377.9	406.2	416.7
12.5°	255.7	261.8	278.9	272.6	281.3	267.8	262.7	293.7	328.3	357.1	377.9
15°	149.5	159.8	170.0	191.7	200.4	197.7	213.3	239.2	267.2	280.4	306.0
17.5°	105.3	106.2	108.3	131.8	147.1	153.1	162.5	182.0	193.5	199.5	210.0
20°	92.1	89.4	85.8	99.0	113.4	121.0	118.2	133.6	142.9	148.9	156.5
22.5°	83.3	78.8	76.7	81.2	92.4	99.0	100.2	109.2	123.4	127.6	130.0
25°	75.2	72.2	70.7	73.1	79.1	85.4	86.7	98.4	111.0	112.8	117.6
27.5°	69.8	64.1	64.7	66.5	69.2	77.0	79.4	86.1	104.4	106.5	108.0
30°	64.1	58.1	59.9	61.7	60.5	70.1	73.7	81.2	99.0	102.3	104.1
32.5°	58.4	53.9	53.6	55.4	57.5	62.6	70.4	79.1	95.4	99.9	104.4
35°	52.1	48.4	49.0	49.3	52.1	58.7	64.4	68.9	80.0	82.4	83.9
37.5°	47.5	44.5	43.9	46.9	49.6	54.8	56.9	59.0	73.7	79.1	79.4
40°	42.1	40.3	40.3	42.4	48.4	47.8	50.5	57.2	71.3	77.0	77.6
42.5°	38.2	35.8	36.4	38.5	42.7	39.7	45.1	54.8	70.4	76.1	75.8
45°	32.2	31.6	32.8	34.6	36.4	33.7	42.1	52.4	67.4	74.9	72.8
47.5°	26.8	26.8	28.3	30.1	29.2	30.1	38.2	49.0	65.6	72.5	71.0
50°	22.0	22.3	23.8	26.8	24.1	26.5	34.3	45.7	62.6	70.1	68.9
52.5°	18.7	19.0	19.9	22.0	20.8	24.1	31.6	42.4	59.6	65.9	65.3
55°	16.2	16.8	16.8	18.1	18.7	22.6	28.6	39.1	55.1	62.0	60.8
57.5°	14.4	15.0	14.7	15.6	16.2	19.9	25.6	35.5	50.5	56.3	54.5
60°	12.9	13.5	13.2	14.4	14.1	17.2	22.3	31.6	45.7	50.2	48.7
62.5°	11.4	12.0	12.0	12.6	12.9	14.4	19.3	28.0	40.9	44.5	43.3
65°	10.2	10.8	11.1	10.8	11.4	12.3	16.2	25.3	35.5	39.1	37.3
67.5°	9.3	9.9	10.5	9.3	9.9	10.2	13.8	22.6	31.3	34.3	32.8
70°	9.0	9.3	9.3	8.1	7.8	8.1	12.0	19.3	27.4	30.4	28.3
72.5°	8.4	8.7	8.4	6.6	5.7	6.3	10.2	16.2	23.2	25.6	23.8
75°	7.8	8.1	7.8	5.4	3.6	4.5	8.4	14.1	19.9	21.1	20.2
77.5°	6.6	7.2	7.2	3.9	1.2	2.7	6.3	11.4	16.5	16.5	16.8
80°	0.6	1.8	3.0	2.1	0.0	0.3	2.1	6.0	10.5	10.2	11.1
82.5°	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.6	2.7	3.0
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°	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1	636.1
2.5°	674.9	665.5	677.3	713.1	698.6	701.4	691.7	751.0	818.1	820.2
5°	674.6	666.1	683.6	682.1	723.3	768.1	811.5	881.6	980.9	981.5
7.5°	535.9	585.8	598.8	594.8	647.8	709.5	776.3	910.5	992.0	1000.7
10°	483.2	504.9	531.4	541.0	562.9	621.6	697.1	849.1	940.6	960.7
12.5°	418.8	488.0	523.2	591.5	604.2	612.6	731.7	863.8	919.5	917.1
15°	346.9	407.1	462.8	546.1	580.4	668.9	762.7	935.7	968.8	1000.7
17.5°	245.5	291.0	376.4	464.0	568.7	664.9	848.2	1064.2	1126.8	1164.7
20°	164.3	186.2	263.6	379.4	512.1	607.8	883.1	1180.4	1248.7	1281.4
22.5°	133.3	143.8	183.8	278.0	437.5	605.1	897.2	1307.0	1490.6	1534.2
25°	117.3	124.6	145.9	205.8	363.2	593.0	975.5	1449.6	1671.1	1706.3
27.5°	102.6	113.4	129.4	169.7	311.4	584.6	1015.2	1689.1	1953.3	1987.9
30°	98.1	111.3	126.7	154.7	275.3	552.1	1078.4	1905.2	2155.8	2217.5
32.5°	105.9	110.4	117.9	141.7	247.3	517.8	1189.4	2163.3	2323.4	2403.7
35°	83.9	92.1	105.3	130.0	235.6	516.0	1252.3	2329.4	2592.1	2641.7
37.5°	82.1	89.7	106.8	126.7	249.7	529.8	1345.5	2669.7	3076.5	3178.2
40°	79.7	89.4	105.6	125.2	249.7	543.4	1405.1	2942.0	3402.4	3505.6
42.5°	78.8	91.2	105.3	131.5	241.9	550.9	1495.1	3213.7	3746.6	3828.1
45°	78.2	93.0	106.2	139.0	240.1	575.6	1545.9	3345.8	3968.0	4061.6
47.5°	76.7	93.0	118.5	134.5	230.2	573.2	1611.8	3541.7	4100.1	4178.9
50°	75.5	93.6	134.2	126.1	231.7	558.4	1701.2	3725.5	4285.1	4341.4
52.5°	72.8	95.7	131.8	114.3	227.2	556.9	1834.5	3987.0	4528.5	4569.8
55°	66.8	93.0	119.1	99.9	211.2	539.8	2011.1	4327.0	4866.1	4873.4
57.5°	61.4	86.4	99.6	91.8	176.9	541.9	2163.3	4639.9	5167.0	5200.7
60°	56.0	89.7	77.3	85.4	146.5	503.4	2237.0	4759.6	5386.1	5435.4
62.5°	50.8	82.7	65.9	78.5	130.6	467.6	2185.9	4663.3	5414.0	5517.5
65°	45.1	57.5	55.7	70.4	132.1	417.3	2015.0	4381.4	5307.8	5450.4
67.5°	38.8	45.1	49.0	60.8	141.4	374.3	1721.9	3928.9	5022.3	5183.9
70°	34.0	40.6	42.7	53.3	147.1	346.0	1358.8	3301.0	4437.4	4586.6
72.5°	28.3	37.6	38.2	46.6	141.7	318.0	968.2	2369.7	3369.6	3441.2
75°	24.4	31.3	34.6	39.1	119.1	237.4	533.5	1466.8	2130.5	2210.6
77.5°	22.0	23.8	26.2	27.1	50.5	123.7	183.5	904.4	1193.0	1283.3
80°	16.8	18.7	18.1	18.7	27.7	42.7	69.8	423.9	563.5	613.8
82.5°	5.4	9.0	9.9	8.4	18.1	21.1	20.2	146.5	183.2	194.7
85°	1.2	3.3	1.5	0.0	6.0	10.8	1.5	22.3	43.9	32.5
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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