

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: P596903

Luminaire Tested: **MSA-SA1D-835-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596903
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-835-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: 4124 lumens
Efficiency: N/A
Efficacy: 61.6 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

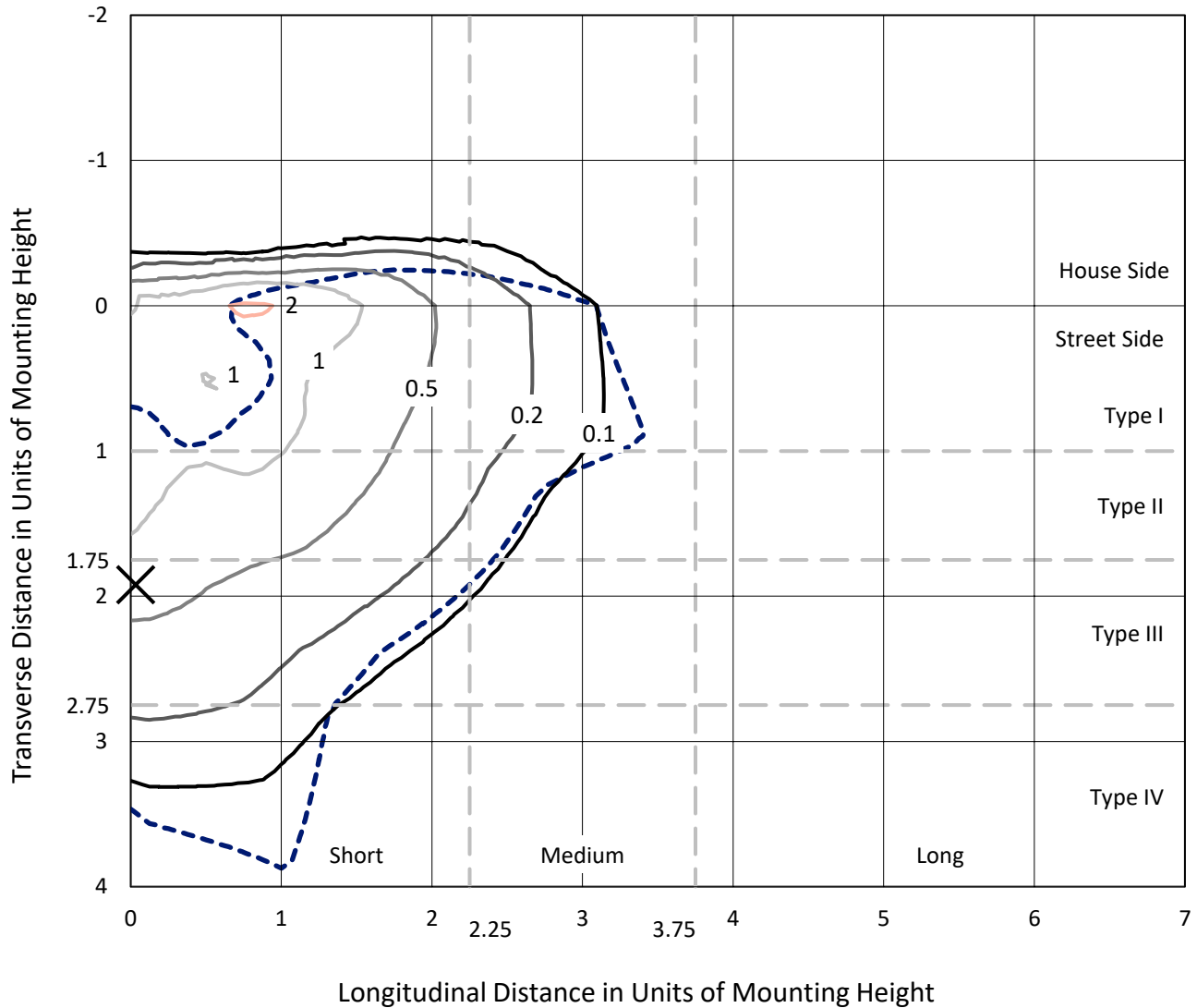
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

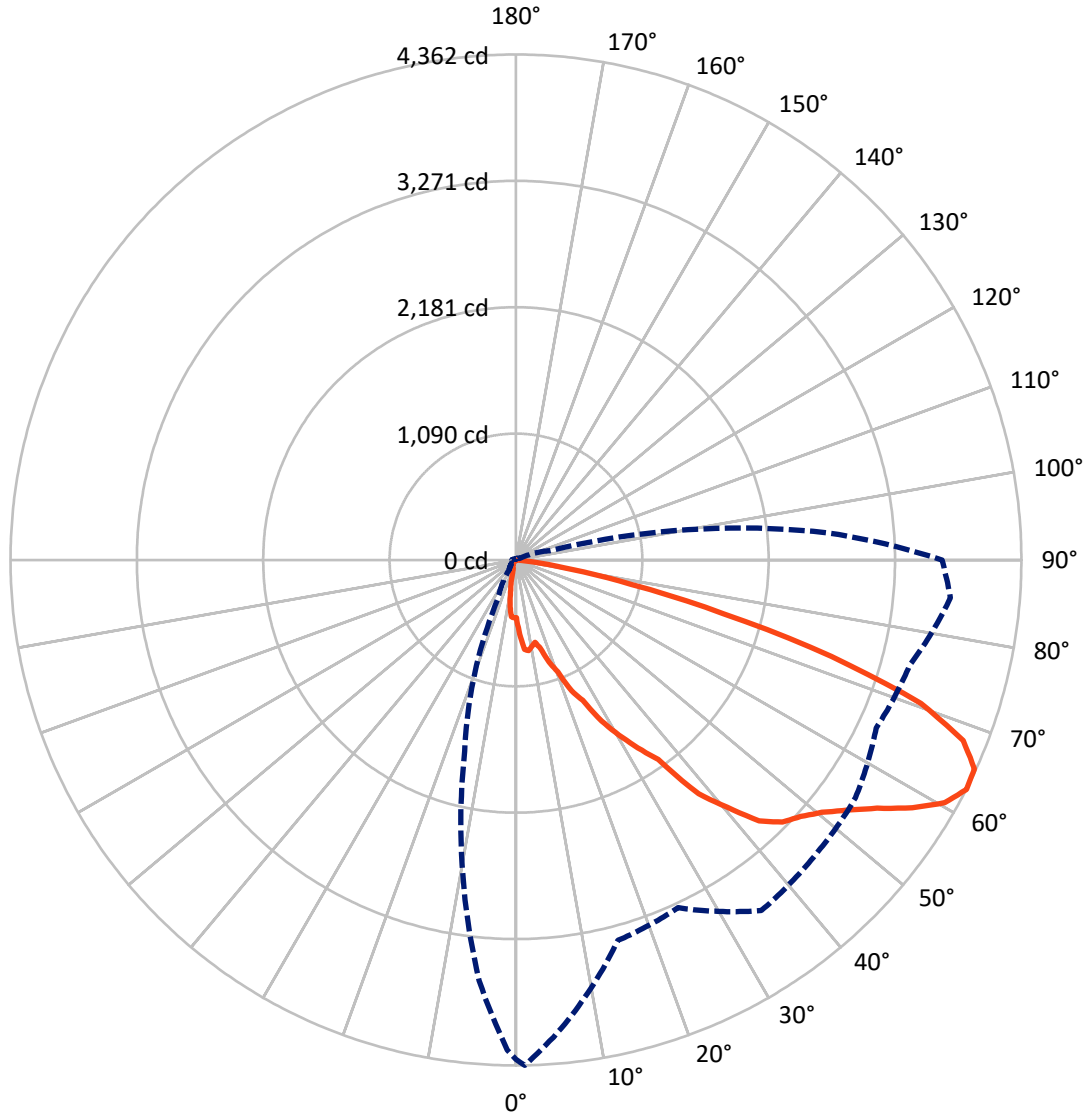
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 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	471.6	0.0	471.6
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	3652.4	0.0	3652.4
	% Fixture	88.6	0.0	88.6
Total	Lumens	4124.0	0.0	4124.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.5	1.3
10°-20°	145.0	3.5
20°-30°	234.4	5.7
30°-40°	392.6	9.5
40°-50°	641.9	15.6
50°-60°	950.2	23.0
60°-70°	1090.9	26.5
70°-80°	539.5	13.1
80°-90°	74.1	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°	4124.0	100.0
0°-180°	4124.0	100.0

Coefficient of Utilization

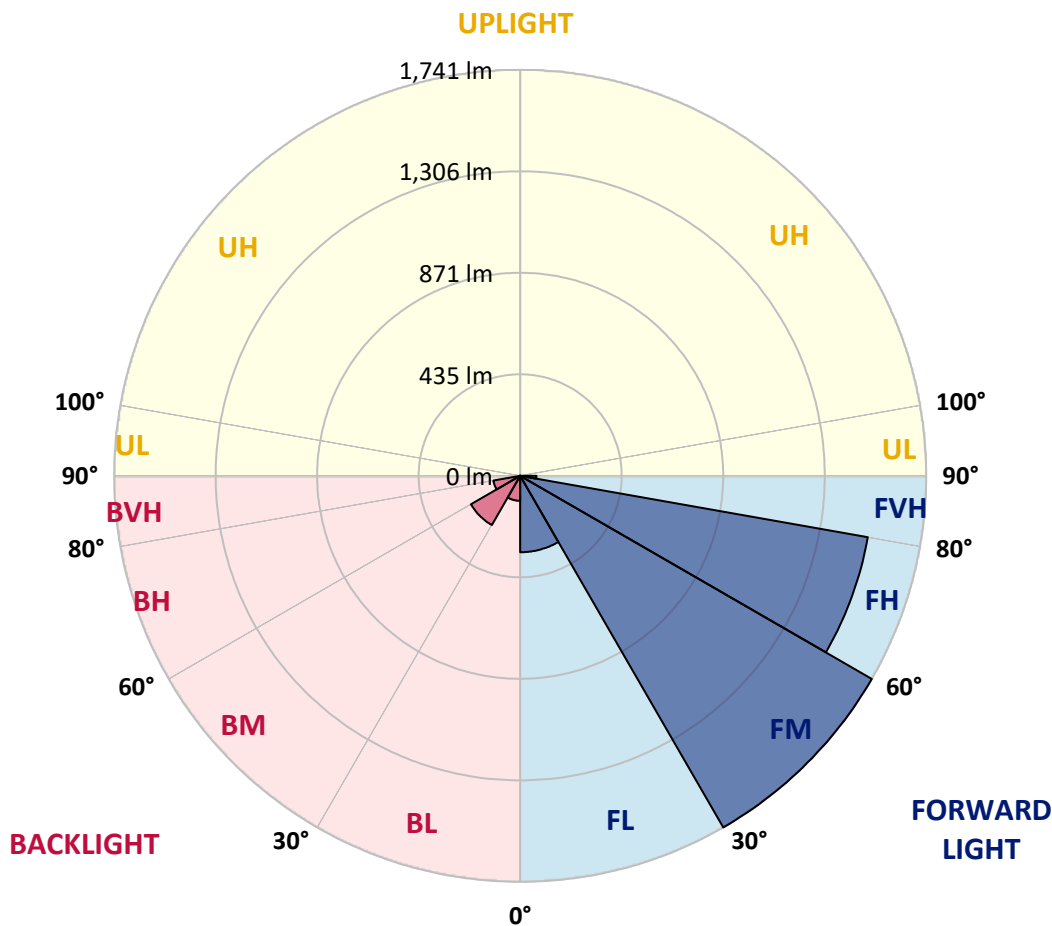


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	327.6	7.9			
FM (30°-60°)	1741.1	42.2			
FH (60°-80°)	1513.8	36.7			G1/1800
FVH (80°-90°)	70.0	1.7			G1/100
BL (0°-30°)	107.3	2.6	B0/110		
BM (30°-60°)	243.6	5.9	B1/1000		
BH (60°-80°)	116.6	2.8	B1/500		G1/500
BVH (80°-90°)	4.1	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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	640.6	643.7	629.3	627.5	594.1	635.7	636.9	641.8	611.2	552.0	634.8
5°	766.6	775.0	764.0	813.1	827.2	857.5	801.8	851.7	830.5	836.4	848.4
7.5°	781.6	790.3	813.6	895.8	971.7	952.7	946.6	965.4	963.8	920.3	941.9
10°	750.4	757.7	796.4	946.1	979.3	1064.8	1085.7	1042.5	1024.9	929.7	888.1
12.5°	716.3	728.5	777.9	957.4	1056.8	1143.3	1212.2	1150.6	1092.1	990.8	952.7
15°	781.6	788.4	866.0	980.9	1067.9	1127.6	1184.0	1163.5	1154.6	1081.7	952.7
17.5°	909.7	925.7	981.9	1038.5	1107.1	1143.1	1129.7	1123.3	1100.5	1215.0	1081.5
20°	1000.9	1030.7	1104.3	1128.7	1074.2	1107.8	1099.6	1094.0	1076.1	1289.0	1229.5
22.5°	1198.3	1225.8	1227.2	1235.9	1109.0	1055.4	1041.8	1043.4	1124.5	1311.1	1413.8
25°	1332.7	1342.1	1416.4	1354.3	1203.9	1071.4	1019.5	1042.7	1159.5	1470.0	1587.0
27.5°	1552.7	1575.0	1621.3	1411.2	1260.8	1061.3	978.6	1063.2	1251.6	1522.6	1779.5
30°	1732.0	1753.4	1827.9	1489.0	1310.2	1111.3	996.2	1104.3	1309.0	1630.9	1952.4
32.5°	1877.5	1932.7	2017.3	1609.1	1308.3	1168.9	1086.2	1090.7	1379.5	1771.2	2123.5
35°	2063.3	2114.8	2174.3	1691.8	1393.8	1187.5	1112.8	1224.6	1484.3	1917.9	2353.8
37.5°	2482.4	2560.2	2442.6	1900.3	1493.5	1355.3	1217.6	1307.1	1594.0	2067.6	2670.4
40°	2738.1	2803.6	2690.1	2006.7	1666.0	1439.9	1404.6	1450.5	1701.4	2144.9	2908.9
42.5°	2990.0	3076.5	2886.8	2167.0	1829.8	1678.6	1582.3	1619.2	1856.8	2331.5	3177.3
45°	3172.3	3225.9	2929.3	2250.9	2054.9	1950.8	1886.6	1831.6	2073.5	2451.3	3350.5
47.5°	3264.0	3306.8	3013.2	2277.4	2188.8	2238.7	2379.2	2264.3	2265.2	2538.1	3443.8
50°	3390.9	3420.7	3060.2	2309.2	2334.3	2687.3	2758.3	2513.6	2484.2	2625.0	3459.0
52.5°	3569.3	3583.8	3151.4	2392.8	2552.2	3038.6	3064.2	2965.3	2703.5	2786.7	3492.9
55°	3806.4	3780.8	3314.3	2568.6	2779.4	3296.0	3330.3	3244.0	2979.2	2948.1	3597.7
57.5°	4062.1	4032.7	3555.6	2816.3	3025.9	3492.7	3513.1	3519.9	3162.2	3091.0	3775.8
60°	4245.4	4250.8	3859.5	3100.4	3179.2	3680.9	3640.0	3578.0	3347.0	3300.4	3862.6
62.5°	4309.5	4361.5	4096.1	3398.2	3311.2	3692.6	3629.2	3576.8	3429.7	3516.4	3763.1
65°	4257.1	4347.8	4151.1	3659.7	3391.1	3545.3	3479.3	3445.7	3427.1	3604.5	3543.2
67.5°	4048.9	4162.4	3993.7	3662.1	3100.7	3018.6	3096.7	3203.1	3141.6	3531.4	3235.1
70°	3582.4	3706.7	3628.3	3447.3	2582.9	2375.0	2461.0	2622.0	2578.5	3140.9	2781.8
72.5°	2687.8	2847.6	2863.1	2976.1	2050.4	1787.5	1799.9	1795.4	1870.4	2532.7	2170.7
75°	1726.6	1850.9	2018.9	2401.5	1557.6	1305.0	1185.6	1156.5	1296.3	1979.0	1554.1
77.5°	1002.3	1017.1	1094.7	1811.9	1115.6	940.3	858.9	900.5	949.4	1381.1	1030.0
80°	479.4	486.9	518.9	932.3	775.0	813.8	751.1	797.8	651.9	793.8	584.5
82.5°	152.0	153.7	159.1	458.0	481.3	539.1	345.5	463.2	403.0	479.9	389.2
85°	25.4	43.2	53.3	132.3	271.7	181.9	75.0	165.2	224.9	302.7	176.7
87.5°	0.0	0.0	0.0	2.4	22.1	10.3	1.6	9.4	34.5	67.4	8.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	658.7	674.9	613.8	559.1	572.9	561.9	545.2	516.8	451.0	499.4	496.1
5°	847.7	817.6	734.9	696.3	649.3	577.6	568.9	514.0	489.8	493.7	490.2
7.5°	913.5	859.7	786.6	670.5	560.3	456.9	425.1	389.2	381.9	397.4	407.5
10°	861.8	804.7	740.7	596.4	511.6	436.9	358.6	308.3	281.1	277.8	280.6
12.5°	885.5	823.9	692.3	581.9	493.3	425.6	338.2	262.3	203.0	207.5	195.8
15°	902.0	831.2	680.8	551.3	455.4	365.0	259.7	183.8	135.4	121.3	112.8
17.5°	998.5	897.5	666.2	516.1	402.6	284.1	163.1	106.5	90.7	85.8	81.8
20°	1122.6	979.0	666.0	478.9	324.5	177.7	101.8	77.1	73.3	76.1	73.1
22.5°	1266.9	1087.6	701.5	432.6	232.9	112.1	79.2	68.4	64.6	67.0	67.2
25°	1412.1	1250.5	730.4	388.7	162.2	86.0	70.5	63.0	58.8	60.9	59.7
27.5°	1674.4	1385.4	723.8	332.5	119.4	75.7	65.6	59.0	52.6	55.9	55.7
30°	1846.0	1623.4	749.4	253.8	94.7	66.3	61.1	53.8	47.0	50.8	50.5
32.5°	2051.1	1725.6	777.2	194.8	78.7	62.7	55.0	47.9	43.9	46.3	45.8
35°	2281.7	1927.8	726.2	162.2	68.4	56.6	48.6	43.2	39.7	40.9	40.9
37.5°	2688.9	2096.7	695.6	132.1	63.7	51.2	45.6	39.0	36.9	36.9	38.1
40°	2920.2	2354.8	604.4	104.6	65.1	47.2	42.5	35.7	32.9	32.7	33.8
42.5°	3221.0	2503.5	547.3	84.6	59.0	46.1	39.0	32.4	29.1	28.9	30.1
45°	3399.4	2586.7	467.0	66.5	52.9	53.6	36.2	29.8	24.9	24.0	26.1
47.5°	3511.9	2696.9	421.4	52.9	46.1	53.3	35.3	25.9	20.9	19.7	21.6
50°	3569.0	2751.4	412.4	45.4	40.0	47.7	40.4	21.6	17.9	16.2	17.9
52.5°	3628.5	2840.0	415.7	41.8	35.3	38.3	38.3	18.6	15.7	13.9	15.0
55°	3748.6	2970.9	408.4	39.7	32.4	29.1	24.7	16.5	14.3	12.2	13.4
57.5°	3896.2	3064.9	408.4	37.8	30.1	24.9	19.7	15.3	13.2	10.6	11.5
60°	3868.2	2966.0	388.2	36.0	28.2	23.3	17.9	14.1	12.2	9.6	10.3
62.5°	3676.2	2696.9	314.4	33.1	26.6	22.1	16.2	13.4	11.5	8.5	9.2
65°	3450.6	2411.2	218.6	30.1	24.7	20.0	14.6	12.7	10.6	7.5	8.0
67.5°	3178.9	2070.6	121.3	27.0	22.8	17.4	13.4	12.5	10.1	6.8	7.3
70°	2707.5	1563.3	65.1	24.7	21.4	16.0	12.7	12.5	10.1	6.6	6.8
72.5°	2032.6	984.4	38.1	22.6	19.5	14.8	12.0	12.7	9.9	6.3	6.3
75°	1383.0	597.6	27.3	19.3	17.4	12.5	11.5	12.2	10.1	6.3	5.9
77.5°	940.3	420.0	22.3	17.4	15.7	11.0	11.8	12.2	10.1	5.2	4.0
80°	587.0	216.7	16.9	13.9	13.6	9.6	11.8	10.6	6.6	1.2	0.0
82.5°	410.6	80.6	9.9	10.6	10.6	6.8	9.2	7.5	3.8	0.0	0.0
85°	172.3	13.9	5.4	7.5	6.6	4.0	7.3	5.6	2.4	0.0	0.0
87.5°	3.1	0.0	2.1	4.5	4.7	2.4	3.8	2.4	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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	511.6	489.3	442.3	464.8	462.5	472.8	473.8	449.8	501.5	533.5	538.2
5°	490.7	475.7	473.1	460.1	456.9	475.9	465.5	464.8	489.8	526.2	526.4
7.5°	407.7	396.2	401.6	386.6	347.8	350.2	353.7	368.5	389.9	413.8	422.5
10°	279.9	309.7	287.9	286.0	282.0	269.6	259.7	267.4	295.2	317.3	325.5
12.5°	199.8	204.5	217.9	212.9	219.7	209.2	205.2	229.4	256.4	279.0	295.2
15°	116.8	124.8	132.8	149.7	156.5	154.4	166.6	186.8	208.7	219.0	239.0
17.5°	82.3	83.0	84.6	102.9	114.9	119.6	126.9	142.2	151.1	155.8	164.0
20°	71.9	69.8	67.0	77.3	88.6	94.5	92.4	104.3	111.6	116.3	122.2
22.5°	65.1	61.6	59.9	63.5	72.1	77.3	78.3	85.3	96.4	99.6	101.5
25°	58.8	56.4	55.2	57.1	61.8	66.7	67.7	76.8	86.7	88.1	91.9
27.5°	54.5	50.1	50.5	51.9	54.1	60.2	62.0	67.2	81.5	83.2	84.4
30°	50.1	45.4	46.8	48.2	47.2	54.8	57.6	63.5	77.3	79.9	81.3
32.5°	45.6	42.1	41.8	43.2	44.9	48.9	55.0	61.8	74.5	78.0	81.5
35°	40.7	37.8	38.3	38.5	40.7	45.8	50.3	53.8	62.5	64.4	65.6
37.5°	37.1	34.8	34.3	36.7	38.8	42.8	44.4	46.1	57.6	61.8	62.0
40°	32.9	31.5	31.5	33.1	37.8	37.4	39.5	44.7	55.7	60.2	60.6
42.5°	29.8	28.0	28.4	30.1	33.4	31.0	35.3	42.8	55.0	59.5	59.2
45°	25.1	24.7	25.6	27.0	28.4	26.3	32.9	40.9	52.6	58.5	56.9
47.5°	20.9	20.9	22.1	23.5	22.8	23.5	29.8	38.3	51.2	56.6	55.5
50°	17.2	17.4	18.6	20.9	18.8	20.7	26.8	35.7	48.9	54.8	53.8
52.5°	14.6	14.8	15.5	17.2	16.2	18.8	24.7	33.1	46.5	51.5	51.0
55°	12.7	13.2	13.2	14.1	14.6	17.6	22.3	30.6	43.0	48.4	47.5
57.5°	11.3	11.8	11.5	12.2	12.7	15.5	20.0	27.7	39.5	43.9	42.5
60°	10.1	10.6	10.3	11.3	11.0	13.4	17.4	24.7	35.7	39.2	38.1
62.5°	8.9	9.4	9.4	9.9	10.1	11.3	15.0	21.9	32.0	34.8	33.8
65°	8.0	8.5	8.7	8.5	8.9	9.6	12.7	19.7	27.7	30.6	29.1
67.5°	7.3	7.8	8.2	7.3	7.8	8.0	10.8	17.6	24.4	26.8	25.6
70°	7.1	7.3	7.3	6.3	6.1	6.3	9.4	15.0	21.4	23.7	22.1
72.5°	6.6	6.8	6.6	5.2	4.5	4.9	8.0	12.7	18.1	20.0	18.6
75°	6.1	6.3	6.1	4.2	2.8	3.5	6.6	11.0	15.5	16.5	15.7
77.5°	5.2	5.6	5.6	3.1	0.9	2.1	4.9	8.9	12.9	12.9	13.2
80°	0.5	1.4	2.4	1.6	0.0	0.2	1.6	4.7	8.2	8.0	8.7
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.8	2.1	2.4
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°	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8	496.8
2.5°	527.1	519.8	529.0	557.0	545.7	547.8	540.3	586.6	639.0	640.6
5°	526.9	520.3	533.9	532.8	565.0	600.0	633.8	688.6	766.1	766.6
7.5°	418.5	457.6	467.7	464.6	506.0	554.1	606.3	711.1	774.8	781.6
10°	377.4	394.3	415.0	422.5	439.7	485.5	544.5	663.2	734.6	750.4
12.5°	327.1	381.2	408.7	462.0	471.9	478.5	571.5	674.7	718.2	716.3
15°	271.0	318.0	361.4	426.5	453.3	522.4	595.7	730.9	756.7	781.6
17.5°	191.8	227.3	294.0	362.4	444.2	519.4	662.5	831.2	880.1	909.7
20°	128.3	145.5	205.9	296.3	400.0	474.7	689.7	921.9	975.3	1000.9
22.5°	104.1	112.3	143.6	217.1	341.7	472.6	700.8	1020.9	1164.2	1198.3
25°	91.7	97.3	114.0	160.7	283.7	463.2	761.9	1132.3	1305.2	1332.7
27.5°	80.1	88.6	101.1	132.5	243.2	456.6	792.9	1319.3	1525.7	1552.7
30°	76.6	87.0	98.9	120.8	215.0	431.2	842.3	1488.1	1683.8	1732.0
32.5°	82.7	86.2	92.1	110.7	193.2	404.4	929.0	1689.7	1814.7	1877.5
35°	65.6	71.9	82.3	101.5	184.0	403.0	978.1	1819.4	2024.6	2063.3
37.5°	64.2	70.0	83.4	98.9	195.1	413.8	1050.9	2085.2	2402.9	2482.4
40°	62.3	69.8	82.5	97.8	195.1	424.4	1097.5	2297.9	2657.4	2738.1
42.5°	61.6	71.2	82.3	102.7	188.9	430.3	1167.7	2510.1	2926.3	2990.0
45°	61.1	72.6	83.0	108.6	187.5	449.6	1207.5	2613.3	3099.3	3172.3
47.5°	59.9	72.6	92.6	105.0	179.8	447.7	1258.9	2766.3	3202.4	3264.0
50°	59.0	73.1	104.8	98.5	181.0	436.2	1328.7	2909.8	3347.0	3390.9
52.5°	56.9	74.7	102.9	89.3	177.4	435.0	1432.8	3114.1	3537.1	3569.3
55°	52.2	72.6	93.1	78.0	165.0	421.6	1570.8	3379.6	3800.7	3806.4
57.5°	47.9	67.4	77.8	71.7	138.2	423.2	1689.7	3624.0	4035.8	4062.1
60°	43.7	70.0	60.4	66.7	114.4	393.2	1747.3	3717.6	4206.8	4245.4
62.5°	39.7	64.6	51.5	61.3	102.0	365.2	1707.3	3642.4	4228.7	4309.5
65°	35.3	44.9	43.5	55.0	103.2	326.0	1573.8	3422.2	4145.7	4257.1
67.5°	30.3	35.3	38.3	47.5	110.5	292.3	1344.9	3068.7	3922.7	4048.9
70°	26.6	31.7	33.4	41.6	114.9	270.3	1061.3	2578.2	3465.9	3582.4
72.5°	22.1	29.4	29.8	36.4	110.7	248.4	756.2	1850.9	2631.8	2687.8
75°	19.0	24.4	27.0	30.6	93.1	185.4	416.7	1145.7	1664.1	1726.6
77.5°	17.2	18.6	20.4	21.2	39.5	96.6	143.4	706.4	931.8	1002.3
80°	13.2	14.6	14.1	14.6	21.6	33.4	54.5	331.1	440.2	479.4
82.5°	4.2	7.1	7.8	6.6	14.1	16.5	15.7	114.4	143.1	152.0
85°	0.9	2.6	1.2	0.0	4.7	8.5	1.2	17.4	34.3	25.4
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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