

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: P366851

Luminaire Tested: **MSA-SA1B-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366851
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-SA1B-830-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: 2936 lumens
Efficiency: N/A
Efficacy: 66.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G1

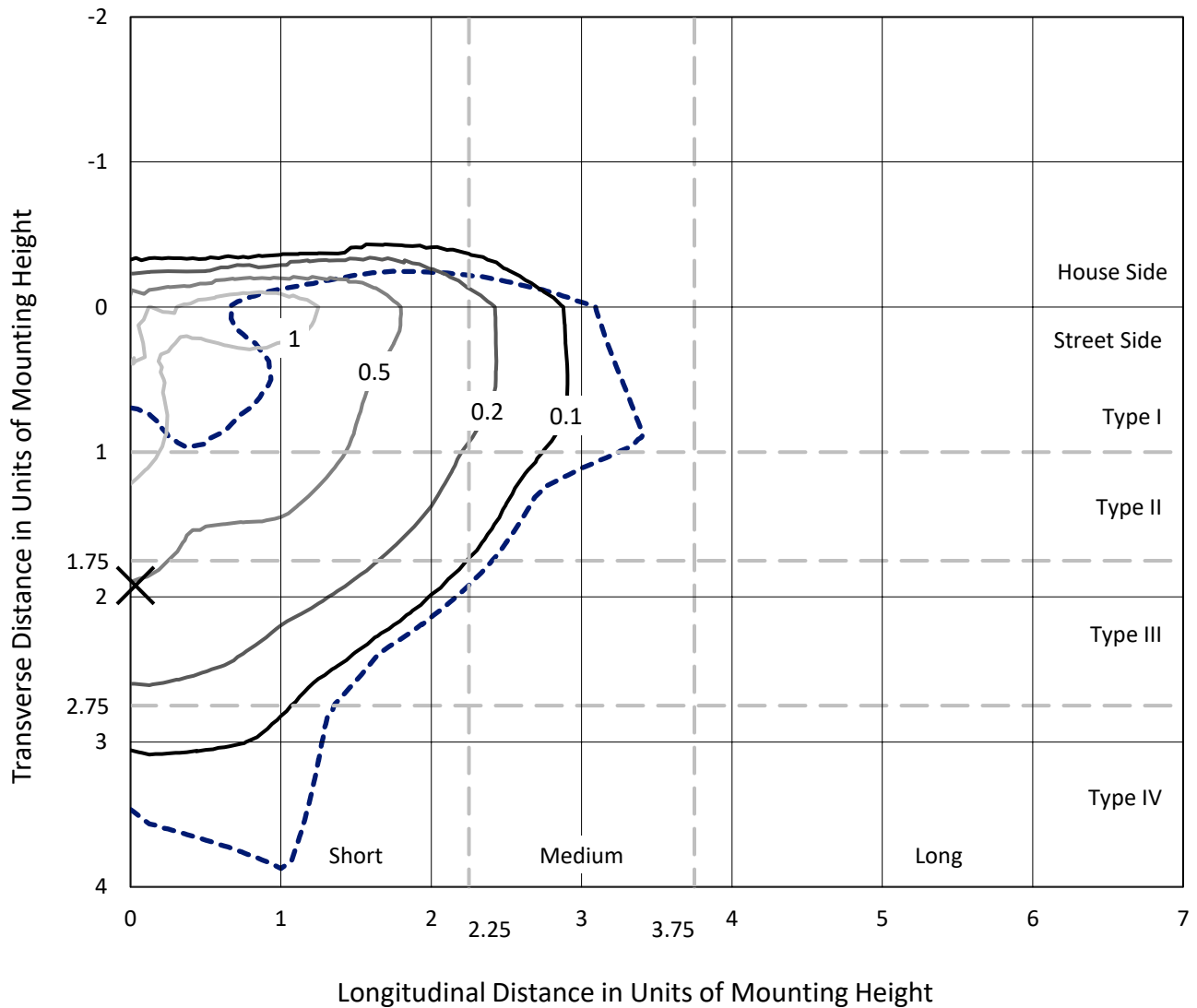
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

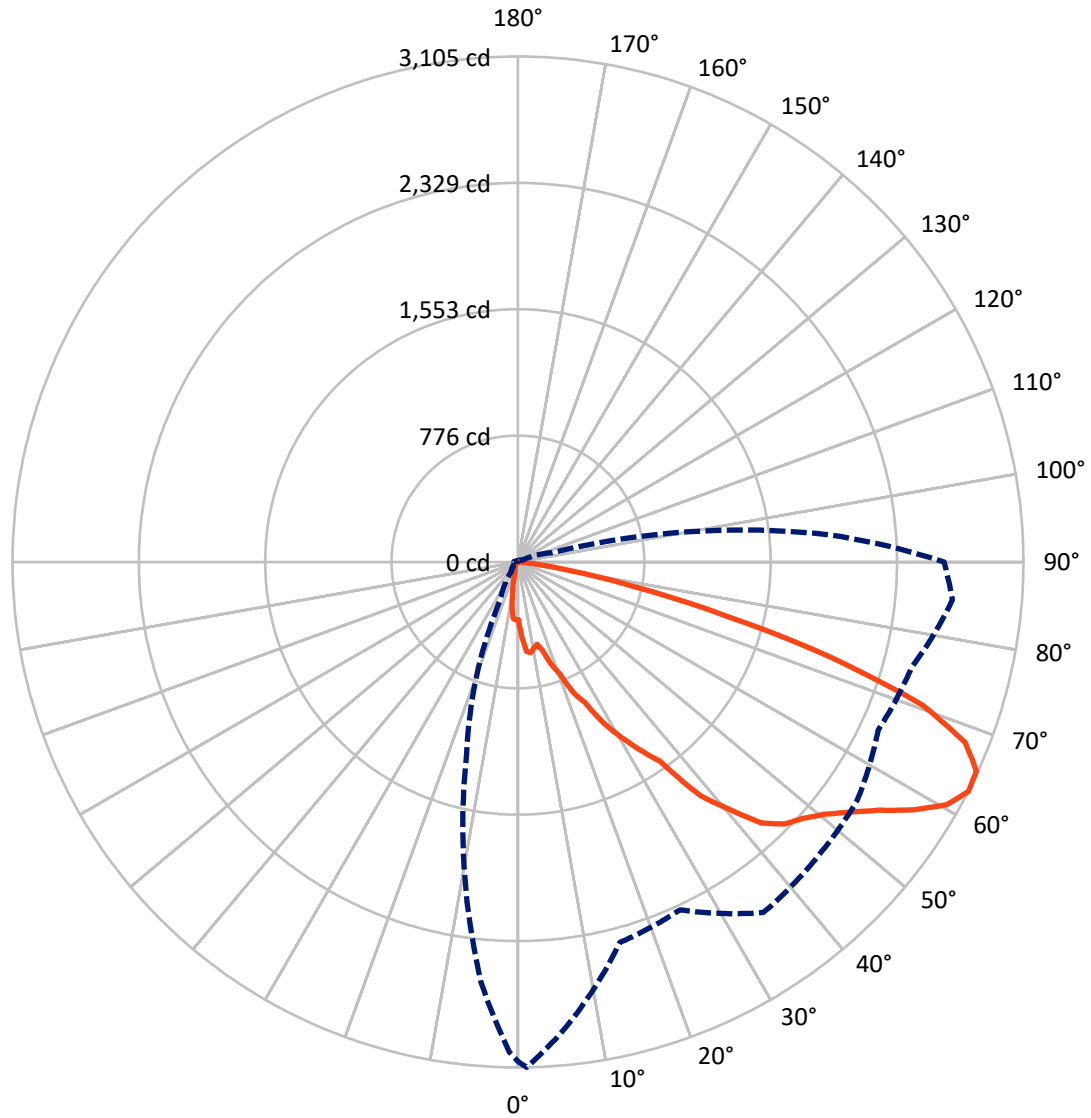
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 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	335.7	0.0	335.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	2600.3	0.0	2600.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	2936.0	0.0	2936.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.5	1.3
10°-20°	103.2	3.5
20°-30°	166.9	5.7
30°-40°	279.5	9.5
40°-50°	457.0	15.6
50°-60°	676.5	23.0
60°-70°	776.7	26.5
70°-80°	384.1	13.1
80°-90°	52.7	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°	2936.0	100.0
0°-180°	2936.0	100.0

Coefficient of Utilization



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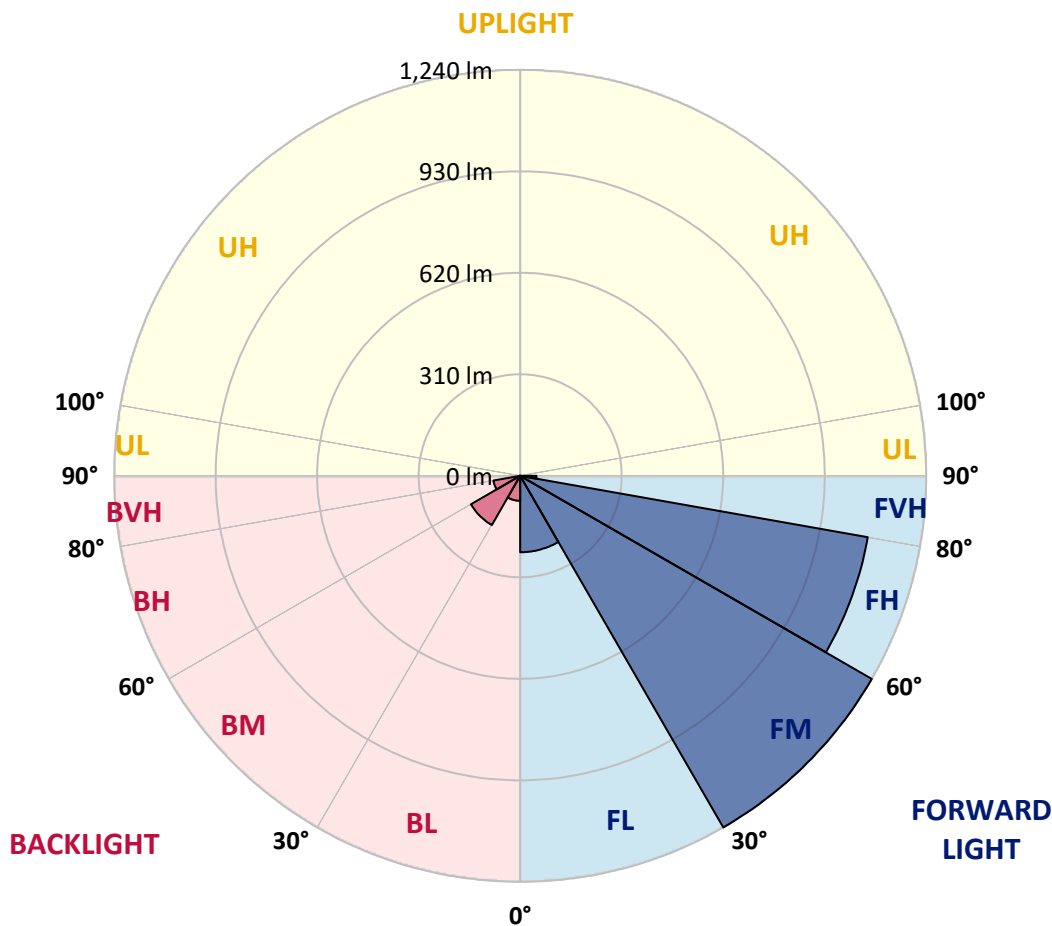
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	233.2	7.9			
FM (30°-60°)	1239.6	42.2			
FH (60°-80°)	1077.7	36.7			G1/1800
FVH (80°-90°)	49.8	1.7			G1/100
BL (0°-30°)	76.4	2.6	B0/110		
BM (30°-60°)	173.4	5.9	B0/220		
BH (60°-80°)	83.0	2.8	B0/110		G0/110
BVH (80°-90°)	2.9	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7
2.5°	456.1	458.3	448.0	446.7	423.0	452.6	453.4	456.9	435.2	393.0	451.9
5°	545.8	551.8	543.9	578.9	588.9	610.5	570.9	606.3	591.3	595.4	604.0
7.5°	556.5	562.7	579.2	637.8	691.8	678.3	673.9	687.3	686.1	655.2	670.6
10°	534.2	539.4	567.0	673.6	697.2	758.1	773.0	742.2	729.6	661.9	632.3
12.5°	510.0	518.7	553.8	681.6	752.4	814.0	863.0	819.1	777.5	705.4	678.3
15°	556.5	561.3	616.5	698.3	760.2	802.7	842.9	828.3	822.0	770.1	678.3
17.5°	647.6	659.0	699.0	739.3	788.2	813.8	804.2	799.7	783.5	865.0	769.9
20°	712.6	733.8	786.2	803.6	764.8	788.7	782.8	778.8	766.1	917.7	875.4
22.5°	853.1	872.7	873.7	879.9	789.5	751.4	741.7	742.8	800.6	933.4	1006.5
25°	948.8	955.5	1008.4	964.2	857.1	762.8	725.8	742.3	825.5	1046.5	1129.8
27.5°	1105.4	1121.3	1154.3	1004.7	897.6	755.6	696.7	756.9	891.1	1084.0	1266.9
30°	1233.1	1248.3	1301.3	1060.1	932.7	791.2	709.2	786.2	931.9	1161.1	1390.0
32.5°	1336.6	1375.9	1436.2	1145.6	931.4	832.2	773.3	776.5	982.1	1261.0	1511.8
35°	1469.0	1505.6	1547.9	1204.4	992.3	845.4	792.2	871.8	1056.7	1365.4	1675.8
37.5°	1767.3	1822.6	1739.0	1352.8	1063.2	964.9	866.8	930.6	1134.8	1472.0	1901.1
40°	1949.3	1996.0	1915.2	1428.6	1186.0	1025.1	1000.0	1032.6	1211.3	1527.0	2070.9
42.5°	2128.7	2190.2	2055.2	1542.7	1302.7	1195.1	1126.5	1152.7	1321.9	1659.9	2262.0
45°	2258.5	2296.6	2085.5	1602.5	1462.9	1388.8	1343.1	1304.0	1476.2	1745.2	2385.3
47.5°	2323.7	2354.2	2145.2	1621.4	1558.3	1593.8	1693.8	1612.0	1612.7	1806.9	2451.7
50°	2414.1	2435.3	2178.7	1644.0	1661.9	1913.2	1963.7	1789.5	1768.6	1868.8	2462.6
52.5°	2541.1	2551.4	2243.6	1703.5	1817.0	2163.3	2181.5	2111.1	1924.7	1983.9	2486.7
55°	2709.9	2691.6	2359.5	1828.7	1978.7	2346.5	2370.9	2309.5	2121.0	2098.9	2561.3
57.5°	2891.9	2871.0	2531.4	2005.0	2154.3	2486.5	2501.1	2505.9	2251.3	2200.6	2688.1
60°	3022.4	3026.3	2747.7	2207.3	2263.3	2620.5	2591.4	2547.3	2382.8	2349.7	2749.9
62.5°	3068.1	3105.1	2916.2	2419.3	2357.4	2628.9	2583.7	2546.4	2441.7	2503.4	2679.1
65°	3030.8	3095.4	2955.3	2605.5	2414.2	2524.0	2477.0	2453.1	2439.8	2566.2	2522.5
67.5°	2882.5	2963.4	2843.2	2607.2	2207.5	2149.1	2204.6	2280.4	2236.6	2514.1	2303.2
70°	2550.4	2638.9	2583.1	2454.2	1838.9	1690.8	1752.0	1866.7	1835.7	2236.1	1980.4
72.5°	1913.5	2027.3	2038.3	2118.8	1459.8	1272.5	1281.4	1278.2	1331.6	1803.1	1545.4
75°	1229.2	1317.7	1437.3	1709.7	1108.9	929.1	844.1	823.3	922.9	1408.9	1106.4
77.5°	713.6	724.1	779.3	1289.9	794.2	669.4	611.5	641.1	675.9	983.3	733.3
80°	341.3	346.7	369.4	663.7	551.8	579.4	534.7	568.0	464.1	565.2	416.1
82.5°	108.2	109.4	113.3	326.1	342.6	383.8	245.9	329.8	286.9	341.6	277.1
85°	18.1	30.8	38.0	94.2	193.4	129.5	53.4	117.6	160.1	215.5	125.8
87.5°	0.0	0.0	0.0	1.7	15.7	7.4	1.2	6.7	24.6	48.0	5.7
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°	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7
2.5°	469.0	480.5	437.0	398.0	407.9	400.0	388.2	367.9	321.1	355.5	353.2
5°	603.5	582.1	523.2	495.7	462.3	411.2	405.1	365.9	348.7	351.5	349.0
7.5°	650.3	612.0	560.0	477.3	398.9	325.2	302.7	277.1	271.9	282.9	290.1
10°	613.5	572.9	527.4	424.6	364.2	311.0	255.3	219.5	200.1	197.8	199.8
12.5°	630.4	586.6	492.9	414.3	351.2	303.0	240.8	186.7	144.6	147.7	139.4
15°	642.1	591.8	484.7	392.5	324.2	259.8	184.9	130.8	96.4	86.3	80.3
17.5°	710.9	638.9	474.3	367.4	286.6	202.3	116.1	75.8	64.6	61.1	58.2
20°	799.2	697.0	474.1	341.0	231.1	126.5	72.4	54.9	52.2	54.2	52.0
22.5°	902.0	774.3	499.4	308.0	165.8	79.8	56.4	48.7	46.0	47.7	47.8
25°	1005.4	890.2	520.0	276.7	115.4	61.2	50.2	44.8	41.8	43.3	42.5
27.5°	1192.1	986.3	515.3	236.7	85.0	53.9	46.7	42.0	37.5	39.8	39.7
30°	1314.2	1155.8	533.5	180.7	67.4	47.2	43.5	38.3	33.5	36.1	36.0
32.5°	1460.3	1228.5	553.3	138.7	56.0	44.7	39.1	34.1	31.3	33.0	32.6
35°	1624.4	1372.4	517.0	115.4	48.7	40.3	34.6	30.8	28.3	29.1	29.1
37.5°	1914.3	1492.7	495.2	94.0	45.3	36.5	32.5	27.8	26.3	26.3	27.1
40°	2079.0	1676.4	430.3	74.5	46.3	33.6	30.3	25.4	23.4	23.3	24.1
42.5°	2293.1	1782.3	389.7	60.2	42.0	32.8	27.8	23.1	20.7	20.6	21.4
45°	2420.1	1841.6	332.4	47.3	37.6	38.1	25.8	21.2	17.7	17.1	18.6
47.5°	2500.2	1920.0	300.0	37.6	32.8	38.0	25.1	18.4	14.9	14.1	15.4
50°	2540.9	1958.8	293.6	32.3	28.4	34.0	28.8	15.4	12.7	11.5	12.7
52.5°	2583.2	2021.9	296.0	29.8	25.1	27.3	27.3	13.2	11.2	9.9	10.7
55°	2668.7	2115.1	290.8	28.3	23.1	20.7	17.6	11.7	10.2	8.7	9.5
57.5°	2773.8	2182.0	290.8	26.9	21.4	17.7	14.1	10.9	9.4	7.5	8.2
60°	2753.9	2111.6	276.4	25.6	20.1	16.6	12.7	10.0	8.7	6.9	7.4
62.5°	2617.2	1920.0	223.9	23.6	18.9	15.7	11.5	9.5	8.2	6.0	6.5
65°	2456.6	1716.6	155.6	21.4	17.6	14.2	10.4	9.0	7.5	5.4	5.7
67.5°	2263.2	1474.1	86.3	19.2	16.2	12.4	9.5	8.9	7.2	4.9	5.2
70°	1927.6	1112.9	46.3	17.6	15.2	11.4	9.0	8.9	7.2	4.7	4.9
72.5°	1447.0	700.9	27.1	16.1	13.9	10.5	8.5	9.0	7.0	4.5	4.5
75°	984.6	425.5	19.4	13.7	12.4	8.9	8.2	8.7	7.2	4.5	4.2
77.5°	669.4	299.0	15.9	12.4	11.2	7.9	8.4	8.7	7.2	3.7	2.8
80°	417.9	154.3	12.0	9.9	9.7	6.9	8.4	7.5	4.7	0.8	0.0
82.5°	292.3	57.4	7.0	7.5	7.5	4.9	6.5	5.4	2.7	0.0	0.0
85°	122.6	9.9	3.8	5.4	4.7	2.8	5.2	4.0	1.7	0.0	0.0
87.5°	2.2	0.0	1.5	3.2	3.3	1.7	2.7	1.7	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°	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7
2.5°	364.2	348.3	314.9	330.9	329.3	336.6	337.3	320.2	357.0	379.8	383.1
5°	349.3	338.6	336.8	327.6	325.2	338.8	331.4	330.9	348.7	374.6	374.8
7.5°	290.3	282.1	285.9	275.2	247.6	249.3	251.8	262.3	277.6	294.6	300.8
10°	199.3	220.5	205.0	203.6	200.8	191.9	184.9	190.4	210.1	225.9	231.7
12.5°	142.2	145.6	155.1	151.6	156.4	148.9	146.1	163.3	182.5	198.6	210.1
15°	83.2	88.8	94.5	106.6	111.4	109.9	118.6	133.0	148.6	155.9	170.2
17.5°	58.6	59.1	60.2	73.3	81.8	85.2	90.3	101.2	107.6	110.9	116.8
20°	51.2	49.7	47.7	55.0	63.1	67.3	65.8	74.3	79.5	82.8	87.0
22.5°	46.3	43.8	42.7	45.2	51.4	55.0	55.7	60.7	68.6	70.9	72.3
25°	41.8	40.2	39.3	40.7	44.0	47.5	48.2	54.7	61.7	62.7	65.4
27.5°	38.8	35.6	36.0	37.0	38.5	42.8	44.2	47.8	58.1	59.2	60.1
30°	35.6	32.3	33.3	34.3	33.6	39.0	41.0	45.2	55.0	56.9	57.9
32.5°	32.5	29.9	29.8	30.8	32.0	34.8	39.1	44.0	53.0	55.5	58.1
35°	28.9	26.9	27.3	27.4	28.9	32.6	35.8	38.3	44.5	45.8	46.7
37.5°	26.4	24.8	24.4	26.1	27.6	30.4	31.6	32.8	41.0	44.0	44.2
40°	23.4	22.4	22.4	23.6	26.9	26.6	28.1	31.8	39.7	42.8	43.2
42.5°	21.2	19.9	20.2	21.4	23.8	22.1	25.1	30.4	39.1	42.3	42.2
45°	17.9	17.6	18.2	19.2	20.2	18.7	23.4	29.1	37.5	41.7	40.5
47.5°	14.9	14.9	15.7	16.7	16.2	16.7	21.2	27.3	36.5	40.3	39.5
50°	12.2	12.4	13.2	14.9	13.4	14.7	19.1	25.4	34.8	39.0	38.3
52.5°	10.4	10.5	11.0	12.2	11.5	13.4	17.6	23.6	33.1	36.6	36.3
55°	9.0	9.4	9.4	10.0	10.4	12.5	15.9	21.7	30.6	34.5	33.8
57.5°	8.0	8.4	8.2	8.7	9.0	11.0	14.2	19.7	28.1	31.3	30.3
60°	7.2	7.5	7.4	8.0	7.9	9.5	12.4	17.6	25.4	27.9	27.1
62.5°	6.4	6.7	6.7	7.0	7.2	8.0	10.7	15.6	22.8	24.8	24.1
65°	5.7	6.0	6.2	6.0	6.4	6.9	9.0	14.1	19.7	21.7	20.7
67.5°	5.2	5.5	5.9	5.2	5.5	5.7	7.7	12.5	17.4	19.1	18.2
70°	5.0	5.2	5.2	4.5	4.3	4.5	6.7	10.7	15.2	16.9	15.7
72.5°	4.7	4.9	4.7	3.7	3.2	3.5	5.7	9.0	12.9	14.2	13.2
75°	4.3	4.5	4.3	3.0	2.0	2.5	4.7	7.9	11.0	11.7	11.2
77.5°	3.7	4.0	4.0	2.2	0.7	1.5	3.5	6.4	9.2	9.2	9.4
80°	0.3	1.0	1.7	1.2	0.0	0.2	1.2	3.3	5.9	5.7	6.2
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.0	1.5	1.7
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°	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7	353.7
2.5°	375.3	370.1	376.6	396.5	388.5	390.0	384.6	417.6	454.9	456.1
5°	375.1	370.4	380.1	379.3	402.2	427.1	451.2	490.2	545.4	545.8
7.5°	298.0	325.7	332.9	330.8	360.2	394.5	431.7	506.3	551.6	556.5
10°	268.7	280.7	295.5	300.8	313.0	345.7	387.7	472.1	523.0	534.2
12.5°	232.9	271.4	290.9	328.9	336.0	340.6	406.9	480.3	511.3	510.0
15°	192.9	226.4	257.3	303.7	322.7	371.9	424.1	520.3	538.7	556.5
17.5°	136.5	161.8	209.3	258.0	316.2	369.7	471.6	591.8	626.6	647.6
20°	91.3	103.6	146.6	211.0	284.8	338.0	491.0	656.3	694.3	712.6
22.5°	74.1	80.0	102.2	154.6	243.3	336.5	498.9	726.8	828.8	853.1
25°	65.2	69.3	81.1	114.4	201.9	329.8	542.4	806.1	929.2	948.8
27.5°	57.1	63.1	71.9	94.4	173.2	325.1	564.5	939.3	1086.2	1105.4
30°	54.5	61.9	70.4	86.0	153.1	307.0	599.6	1059.4	1198.8	1233.1
32.5°	58.9	61.4	65.6	78.8	137.5	287.9	661.4	1202.9	1291.9	1336.6
35°	46.7	51.2	58.6	72.3	131.0	286.9	696.3	1295.3	1441.4	1469.0
37.5°	45.7	49.9	59.4	70.4	138.9	294.6	748.2	1484.5	1710.7	1767.3
40°	44.3	49.7	58.7	69.6	138.9	302.2	781.3	1635.9	1891.9	1949.3
42.5°	43.8	50.7	58.6	73.1	134.5	306.3	831.4	1787.0	2083.3	2128.7
45°	43.5	51.7	59.1	77.3	133.5	320.1	859.6	1860.5	2206.5	2258.5
47.5°	42.7	51.7	65.9	74.8	128.0	318.7	896.3	1969.4	2279.9	2323.7
50°	42.0	52.0	74.6	70.1	128.8	310.5	946.0	2071.6	2382.8	2414.1
52.5°	40.5	53.2	73.3	63.6	126.3	309.7	1020.1	2217.0	2518.1	2541.1
55°	37.1	51.7	66.3	55.5	117.4	300.1	1118.3	2406.1	2705.9	2709.9
57.5°	34.1	48.0	55.4	51.0	98.4	301.3	1202.9	2580.1	2873.2	2891.9
60°	31.1	49.9	43.0	47.5	81.5	279.9	1243.9	2646.6	2995.0	3022.4
62.5°	28.3	46.0	36.6	43.7	72.6	260.0	1215.5	2593.1	3010.5	3068.1
65°	25.1	32.0	31.0	39.1	73.4	232.1	1120.5	2436.3	2951.5	3030.8
67.5°	21.6	25.1	27.3	33.8	78.6	208.1	957.5	2184.7	2792.7	2882.5
70°	18.9	22.6	23.8	29.6	81.8	192.4	755.6	1835.5	2467.5	2550.4
72.5°	15.7	20.9	21.2	25.9	78.8	176.8	538.4	1317.7	1873.7	1913.5
75°	13.6	17.4	19.2	21.7	66.3	132.0	296.6	815.6	1184.7	1229.2
77.5°	12.2	13.2	14.6	15.1	28.1	68.8	102.1	502.9	663.4	713.6
80°	9.4	10.4	10.0	10.4	15.4	23.8	38.8	235.7	313.4	341.3
82.5°	3.0	5.0	5.5	4.7	10.0	11.7	11.2	81.5	101.9	108.2
85°	0.7	1.8	0.8	0.0	3.3	6.0	0.8	12.4	24.4	18.1
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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