

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: P366741

Luminaire Tested: **MSA-SA1B-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366741
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-727-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: 3090 lumens
Efficiency: N/A
Efficacy: 70.2 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

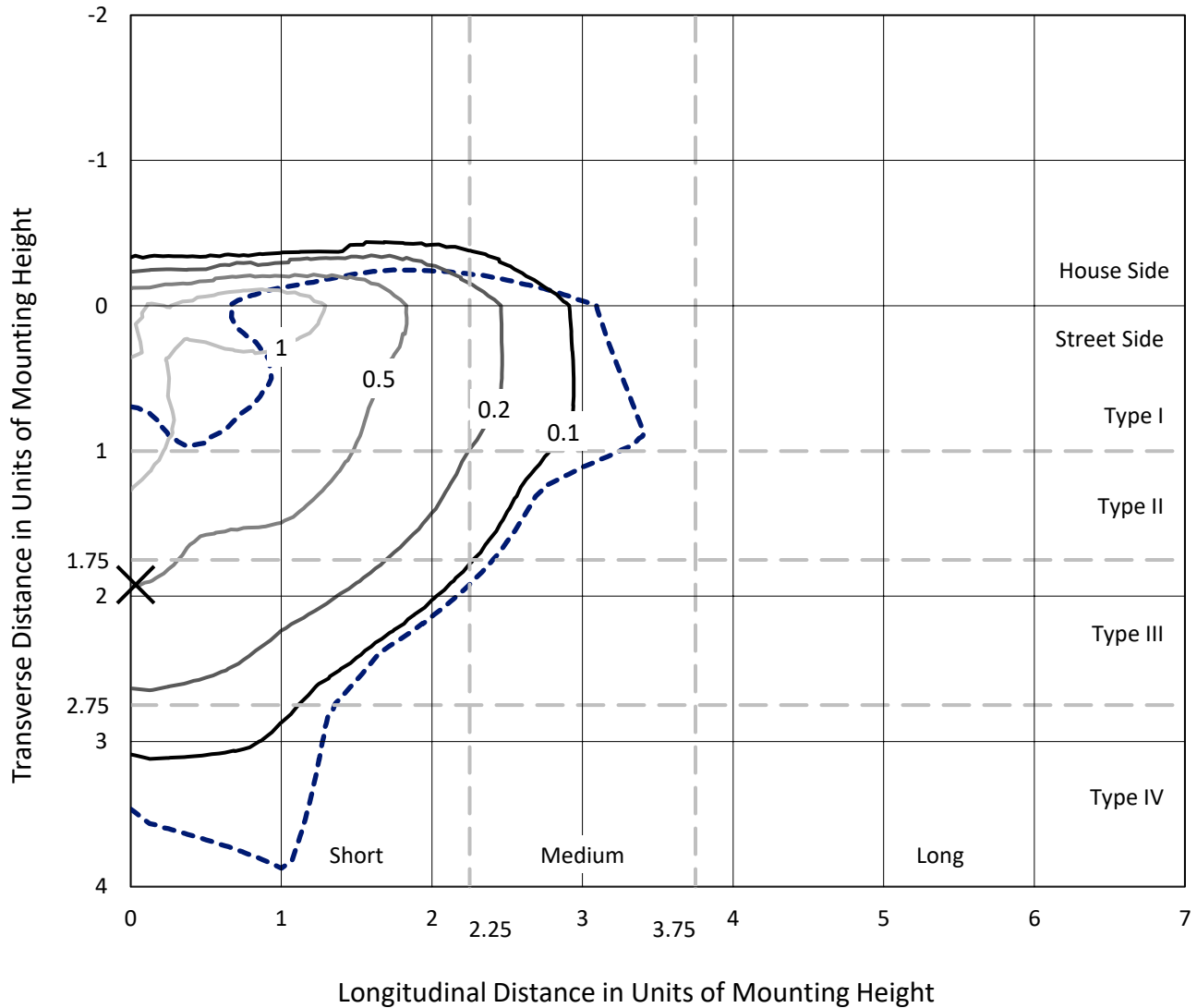
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

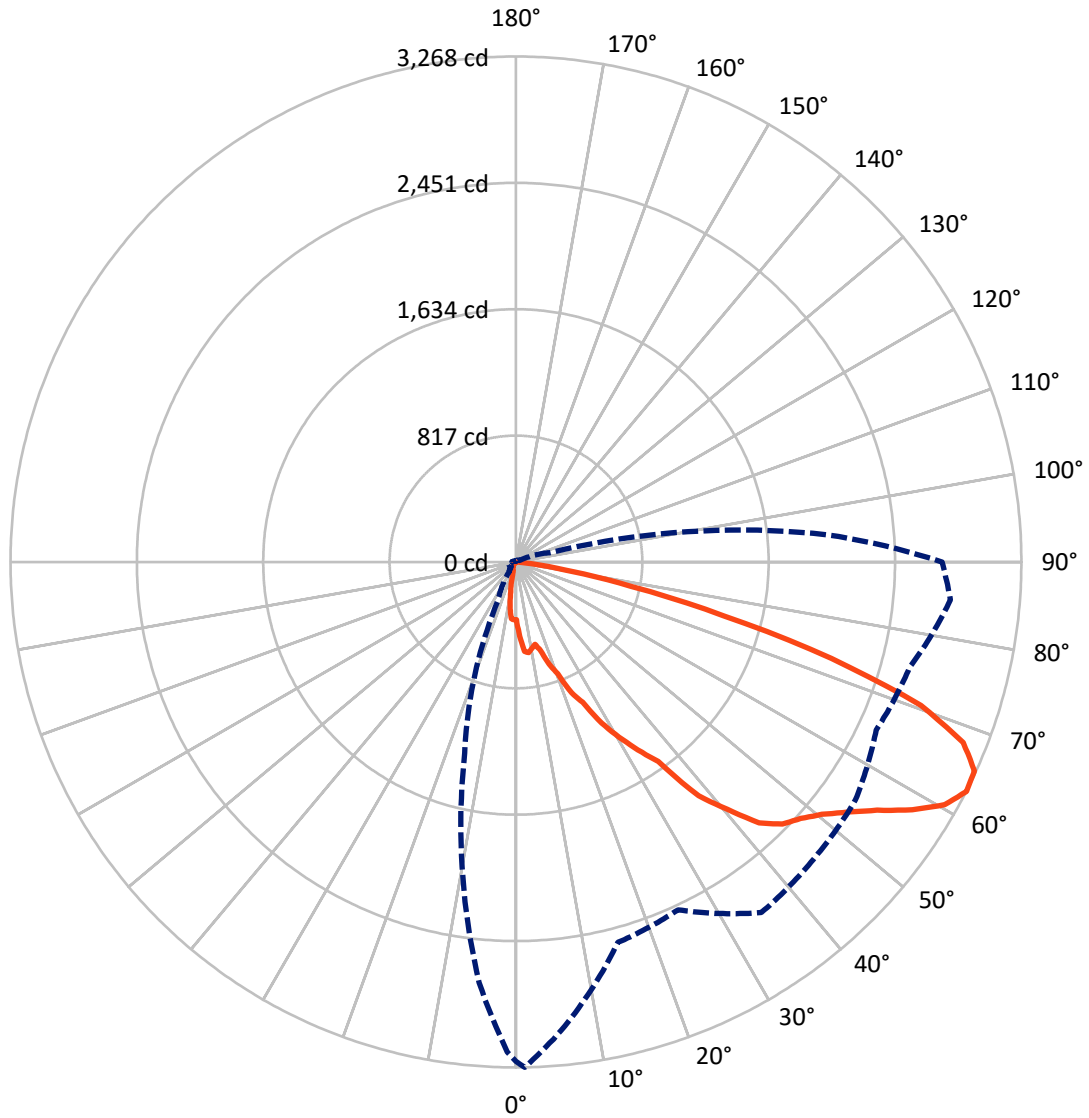
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 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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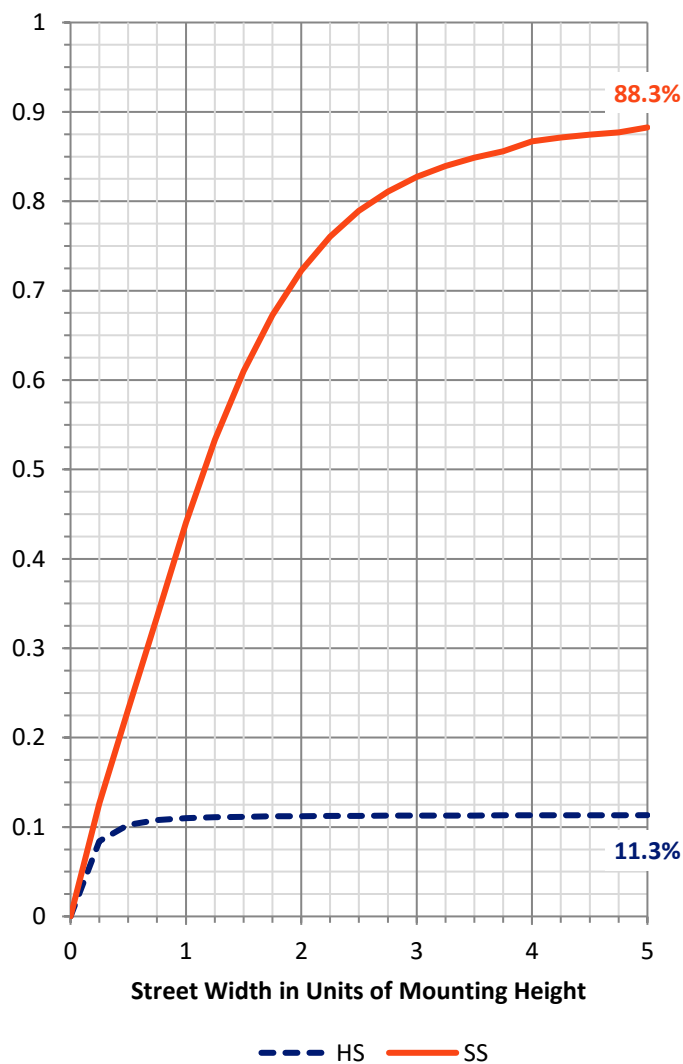
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	353.4	0.0	353.4
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	2736.6	0.0	2736.6
	% Fixture	88.6	0.0	88.6
Total	Lumens	3090.0	0.0	3090.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	1.3
10°-20°	108.6	3.5
20°-30°	175.6	5.7
30°-40°	294.1	9.5
40°-50°	481.0	15.6
50°-60°	712.0	23.0
60°-70°	817.4	26.5
70°-80°	404.2	13.1
80°-90°	55.5	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°	3090.0	100.0
0°-180°	3090.0	100.0

Coefficient of Utilization



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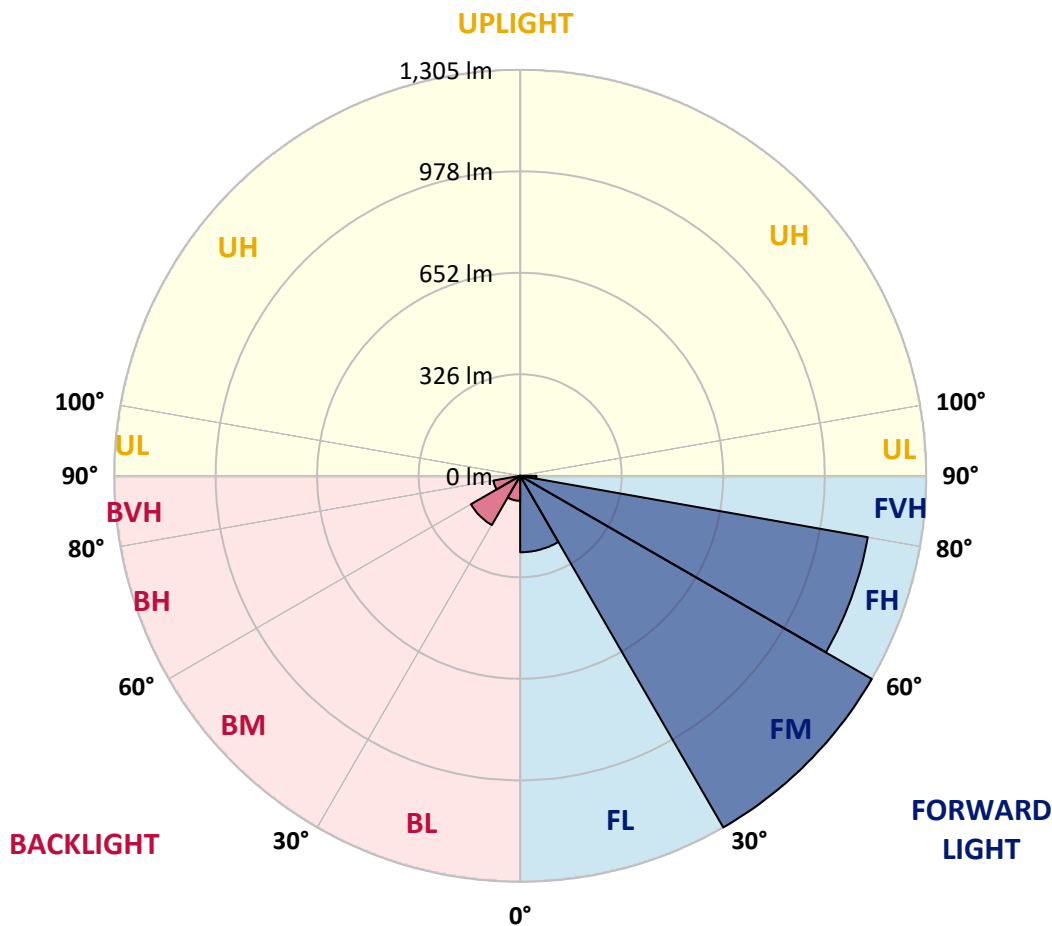
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	245.4	7.9			
FM (30°-60°)	1304.6	42.2			
FH (60°-80°)	1134.2	36.7			G1/1800
FVH (80°-90°)	52.4	1.7			G1/100
BL (0°-30°)	80.4	2.6	B0/110		
BM (30°-60°)	182.5	5.9	B0/220		
BH (60°-80°)	87.4	2.8	B0/110		G0/110
BVH (80°-90°)	3.1	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2
2.5°	480.0	482.3	471.6	470.1	445.1	476.3	477.2	480.9	458.0	413.6	475.6
5°	574.4	580.7	572.4	609.2	619.8	642.5	600.8	638.1	622.3	626.7	635.7
7.5°	585.7	592.2	609.6	671.2	728.1	713.8	709.3	723.4	722.1	689.5	705.7
10°	562.2	567.7	596.7	708.9	733.7	797.8	813.5	781.1	767.9	696.6	665.4
12.5°	536.7	545.9	582.8	717.4	791.8	856.6	908.2	862.1	818.3	742.4	713.8
15°	585.7	590.8	648.9	735.0	800.1	844.8	887.1	871.8	865.1	810.5	713.8
17.5°	681.6	693.6	735.7	778.1	829.5	856.5	846.4	841.7	824.6	910.4	810.3
20°	749.9	772.3	827.4	845.7	804.9	830.1	823.9	819.7	806.3	965.8	921.3
22.5°	897.8	918.5	919.5	926.0	830.9	790.8	780.6	781.8	842.6	982.4	1059.3
25°	998.6	1005.6	1061.3	1014.8	902.1	802.8	763.8	781.3	868.8	1101.4	1189.1
27.5°	1163.4	1180.1	1214.8	1057.4	944.7	795.2	733.2	796.6	937.8	1140.8	1333.3
30°	1297.7	1313.8	1369.6	1115.7	981.7	832.7	746.4	827.4	980.8	1222.0	1462.9
32.5°	1406.7	1448.1	1511.5	1205.6	980.3	875.8	813.9	817.2	1033.6	1327.1	1591.1
35°	1546.0	1584.6	1629.1	1267.6	1044.3	889.7	833.8	917.6	1112.1	1437.0	1763.7
37.5°	1860.0	1918.3	1830.2	1423.8	1119.0	1015.5	912.3	979.4	1194.4	1549.2	2000.8
40°	2051.5	2100.7	2015.6	1503.6	1248.3	1078.9	1052.4	1086.8	1274.8	1607.1	2179.6
42.5°	2240.3	2305.1	2163.0	1623.7	1371.0	1257.8	1185.6	1213.2	1391.2	1746.9	2380.6
45°	2376.9	2417.1	2194.9	1686.5	1539.7	1461.7	1413.6	1372.4	1553.6	1836.7	2510.4
47.5°	2445.6	2477.7	2257.7	1706.4	1640.0	1677.4	1782.7	1696.6	1697.3	1901.7	2580.3
50°	2540.7	2563.1	2293.0	1730.2	1749.0	2013.5	2066.7	1883.4	1861.4	1966.9	2591.8
52.5°	2674.4	2685.3	2361.3	1792.9	1912.3	2276.8	2295.9	2221.8	2025.7	2088.0	2617.1
55°	2852.0	2832.8	2483.3	1924.6	2082.5	2469.6	2495.3	2430.7	2232.2	2209.0	2695.7
57.5°	3043.6	3021.6	2664.1	2110.2	2267.2	2616.9	2632.3	2637.4	2369.4	2316.0	2829.1
60°	3180.9	3185.0	2891.8	2323.1	2382.1	2758.0	2727.4	2680.9	2507.8	2472.9	2894.1
62.5°	3229.0	3267.9	3069.1	2546.2	2481.0	2766.8	2719.3	2680.0	2569.8	2634.7	2819.6
65°	3189.7	3257.7	3110.3	2742.1	2540.9	2656.4	2606.9	2581.7	2567.8	2700.8	2654.8
67.5°	3033.7	3118.8	2992.4	2743.9	2323.2	2261.8	2320.2	2400.0	2353.9	2646.0	2424.0
70°	2684.2	2777.4	2718.5	2583.0	1935.3	1779.5	1843.9	1964.6	1932.0	2353.4	2084.3
72.5°	2013.9	2133.6	2145.2	2229.9	1536.3	1339.3	1348.6	1345.3	1401.4	1897.6	1626.5
75°	1293.7	1386.8	1512.7	1799.4	1167.1	977.8	888.3	866.5	971.3	1482.8	1164.4
77.5°	751.0	762.1	820.2	1357.6	835.9	704.5	643.6	674.8	711.4	1034.8	771.8
80°	359.2	364.8	388.8	698.5	580.7	609.8	562.8	597.8	488.5	594.8	437.9
82.5°	113.9	115.2	119.2	343.2	360.6	403.9	258.8	347.1	302.0	359.6	291.6
85°	19.0	32.4	40.0	99.1	203.6	136.3	56.2	123.8	168.5	226.8	132.4
87.5°	0.0	0.0	0.0	1.8	16.6	7.7	1.2	7.0	25.9	50.5	6.0
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°	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2
2.5°	493.6	505.7	459.9	418.9	429.3	421.0	408.5	387.2	337.9	374.2	371.7
5°	635.1	612.6	550.6	521.7	486.5	432.8	426.3	385.1	367.0	370.0	367.3
7.5°	684.4	644.1	589.4	502.4	419.8	342.3	318.5	291.6	286.1	297.8	305.3
10°	645.7	602.9	555.0	446.9	383.3	327.3	268.7	231.0	210.6	208.1	210.2
12.5°	663.5	617.3	518.7	436.0	369.6	318.9	253.4	196.5	152.1	155.5	146.7
15°	675.8	622.8	510.1	413.1	341.2	273.5	194.6	137.7	101.4	90.9	84.5
17.5°	748.2	672.5	499.2	386.7	301.6	212.9	122.2	79.8	68.0	64.3	61.3
20°	841.1	733.6	499.0	358.9	243.2	133.1	76.2	57.8	54.9	57.1	54.8
22.5°	949.3	814.9	525.6	324.2	174.5	84.0	59.3	51.2	48.4	50.2	50.4
25°	1058.1	936.9	547.3	291.2	121.5	64.4	52.8	47.2	44.0	45.6	44.7
27.5°	1254.6	1038.0	542.3	249.2	89.5	56.7	49.1	44.2	39.4	41.9	41.7
30°	1383.1	1216.4	561.5	190.2	71.0	49.7	45.8	40.3	35.2	38.0	37.9
32.5°	1536.9	1293.0	582.3	146.0	59.0	47.0	41.2	35.9	32.9	34.7	34.3
35°	1709.6	1444.4	544.1	121.5	51.2	42.4	36.4	32.4	29.8	30.6	30.6
37.5°	2014.7	1571.0	521.2	99.0	47.7	38.4	34.2	29.2	27.6	27.6	28.5
40°	2188.0	1764.4	452.9	78.4	48.8	35.4	31.9	26.8	24.7	24.5	25.4
42.5°	2413.4	1875.8	410.1	63.4	44.2	34.5	29.2	24.3	21.8	21.7	22.5
45°	2547.0	1938.1	349.9	49.8	39.6	40.1	27.1	22.4	18.7	18.0	19.5
47.5°	2631.4	2020.7	315.7	39.6	34.5	40.0	26.4	19.4	15.7	14.8	16.2
50°	2674.2	2061.6	309.0	34.0	29.9	35.7	30.3	16.2	13.4	12.1	13.4
52.5°	2718.7	2128.0	311.5	31.3	26.4	28.7	28.7	13.9	11.8	10.4	11.3
55°	2808.7	2226.0	306.0	29.8	24.3	21.8	18.5	12.3	10.7	9.2	10.0
57.5°	2919.3	2296.5	306.0	28.3	22.5	18.7	14.8	11.4	9.9	7.9	8.6
60°	2898.3	2222.3	290.9	26.9	21.1	17.4	13.4	10.6	9.2	7.2	7.7
62.5°	2754.5	2020.7	235.6	24.8	19.9	16.6	12.1	10.0	8.6	6.3	6.9
65°	2585.4	1806.6	163.8	22.5	18.5	15.0	10.9	9.5	7.9	5.6	6.0
67.5°	2381.9	1551.5	90.9	20.2	17.1	13.0	10.0	9.3	7.6	5.1	5.5
70°	2028.7	1171.3	48.8	18.5	16.0	12.0	9.5	9.3	7.6	4.9	5.1
72.5°	1522.9	737.6	28.5	16.9	14.6	11.1	9.0	9.5	7.4	4.8	4.8
75°	1036.3	447.8	20.4	14.4	13.0	9.3	8.6	9.2	7.6	4.8	4.4
77.5°	704.5	314.7	16.7	13.0	11.8	8.3	8.8	9.2	7.6	3.9	3.0
80°	439.9	162.3	12.7	10.4	10.2	7.2	8.8	7.9	4.9	0.9	0.0
82.5°	307.6	60.4	7.4	7.9	7.9	5.1	6.9	5.6	2.8	0.0	0.0
85°	129.1	10.4	4.0	5.6	4.9	3.0	5.5	4.2	1.8	0.0	0.0
87.5°	2.3	0.0	1.6	3.3	3.5	1.8	2.8	1.8	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°	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2
2.5°	383.3	366.6	331.4	348.3	346.5	354.3	355.0	337.0	375.8	399.7	403.2
5°	367.7	356.4	354.5	344.8	342.3	356.6	348.8	348.3	367.0	394.3	394.4
7.5°	305.5	296.9	300.9	289.7	260.6	262.4	265.0	276.1	292.1	310.1	316.6
10°	209.7	232.1	215.7	214.3	211.3	202.0	194.6	200.4	221.2	237.7	243.9
12.5°	149.7	153.2	163.2	159.5	164.6	156.7	153.7	171.9	192.1	209.0	221.2
15°	87.5	93.5	99.5	112.2	117.3	115.7	124.8	140.0	156.4	164.1	179.1
17.5°	61.6	62.2	63.4	77.1	86.1	89.6	95.1	106.5	113.2	116.7	122.9
20°	53.9	52.3	50.2	57.9	66.4	70.8	69.2	78.2	83.6	87.2	91.6
22.5°	48.8	46.1	44.9	47.5	54.1	57.9	58.6	63.9	72.2	74.7	76.1
25°	44.0	42.3	41.4	42.8	46.3	50.0	50.7	57.6	65.0	66.0	68.8
27.5°	40.9	37.5	37.9	38.9	40.5	45.1	46.5	50.4	61.1	62.3	63.2
30°	37.5	34.0	35.0	36.1	35.4	41.0	43.1	47.5	57.9	59.9	60.9
32.5°	34.2	31.5	31.3	32.4	33.6	36.6	41.2	46.3	55.8	58.5	61.1
35°	30.5	28.3	28.7	28.9	30.5	34.3	37.7	40.3	46.8	48.2	49.1
37.5°	27.8	26.1	25.7	27.5	29.1	32.0	33.3	34.5	43.1	46.3	46.5
40°	24.7	23.6	23.6	24.8	28.3	28.0	29.6	33.5	41.7	45.1	45.4
42.5°	22.4	21.0	21.3	22.5	25.0	23.2	26.4	32.0	41.2	44.5	44.4
45°	18.8	18.5	19.2	20.2	21.3	19.7	24.7	30.6	39.4	43.8	42.6
47.5°	15.7	15.7	16.6	17.6	17.1	17.6	22.4	28.7	38.4	42.4	41.6
50°	12.9	13.0	13.9	15.7	14.1	15.5	20.1	26.8	36.6	41.0	40.3
52.5°	10.9	11.1	11.6	12.9	12.1	14.1	18.5	24.8	34.9	38.6	38.2
55°	9.5	9.9	9.9	10.6	10.9	13.2	16.7	22.9	32.2	36.3	35.6
57.5°	8.5	8.8	8.6	9.2	9.5	11.6	15.0	20.8	29.6	32.9	31.9
60°	7.6	7.9	7.7	8.5	8.3	10.0	13.0	18.5	26.8	29.4	28.5
62.5°	6.7	7.0	7.0	7.4	7.6	8.5	11.3	16.4	23.9	26.1	25.4
65°	6.0	6.3	6.5	6.3	6.7	7.2	9.5	14.8	20.8	22.9	21.8
67.5°	5.5	5.8	6.2	5.5	5.8	6.0	8.1	13.2	18.3	20.1	19.2
70°	5.3	5.5	5.5	4.8	4.6	4.8	7.0	11.3	16.0	17.8	16.6
72.5°	4.9	5.1	4.9	3.9	3.3	3.7	6.0	9.5	13.6	15.0	13.9
75°	4.6	4.8	4.6	3.2	2.1	2.6	4.9	8.3	11.6	12.3	11.8
77.5°	3.9	4.2	4.2	2.3	0.7	1.6	3.7	6.7	9.7	9.7	9.9
80°	0.4	1.1	1.8	1.2	0.0	0.2	1.2	3.5	6.2	6.0	6.5
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.1	1.6	1.8
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°	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2	372.2
2.5°	395.0	389.5	396.4	417.3	408.9	410.5	404.8	439.5	478.8	480.0
5°	394.8	389.8	400.1	399.2	423.3	449.5	474.9	515.9	574.0	574.4
7.5°	313.6	342.8	350.4	348.1	379.1	415.2	454.3	532.8	580.5	585.7
10°	282.8	295.5	311.0	316.6	329.5	363.8	408.0	496.9	550.4	562.2
12.5°	245.1	285.6	306.2	346.2	353.6	358.5	428.2	505.5	538.1	536.7
15°	203.0	238.2	270.8	319.6	339.7	391.4	446.4	547.6	567.0	585.7
17.5°	143.7	170.3	220.3	271.5	332.8	389.1	496.4	622.8	659.4	681.6
20°	96.1	109.0	154.2	222.0	299.7	355.7	516.8	690.8	730.7	749.9
22.5°	78.0	84.2	107.6	162.7	256.0	354.1	525.1	764.9	872.3	897.8
25°	68.7	72.9	85.4	120.4	212.5	347.1	570.9	848.4	978.0	998.6
27.5°	60.0	66.4	75.7	99.3	182.2	342.1	594.1	988.5	1143.1	1163.4
30°	57.4	65.2	74.1	90.5	161.1	323.1	631.1	1115.0	1261.6	1297.7
32.5°	62.0	64.6	69.0	82.9	144.7	303.0	696.1	1266.0	1359.7	1406.7
35°	49.1	53.9	61.6	76.1	137.9	302.0	732.9	1363.2	1517.0	1546.0
37.5°	48.1	52.5	62.5	74.1	146.1	310.1	787.4	1562.4	1800.5	1860.0
40°	46.7	52.3	61.8	73.3	146.1	318.0	822.3	1721.7	1991.1	2051.5
42.5°	46.1	53.4	61.6	76.9	141.6	322.4	875.0	1880.7	2192.6	2240.3
45°	45.8	54.4	62.2	81.4	140.5	336.8	904.7	1958.0	2322.2	2376.9
47.5°	44.9	54.4	69.4	78.7	134.7	335.4	943.3	2072.7	2399.5	2445.6
50°	44.2	54.8	78.5	73.8	135.6	326.8	995.6	2180.3	2507.8	2540.7
52.5°	42.6	56.0	77.1	66.9	132.9	325.9	1073.6	2333.3	2650.2	2674.4
55°	39.1	54.4	69.7	58.5	123.6	315.9	1176.9	2532.3	2847.8	2852.0
57.5°	35.9	50.5	58.3	53.7	103.5	317.1	1266.0	2715.4	3023.9	3043.6
60°	32.8	52.5	45.3	50.0	85.8	294.6	1309.2	2785.5	3152.1	3180.9
62.5°	29.8	48.4	38.6	46.0	76.4	273.6	1279.2	2729.1	3168.4	3229.0
65°	26.4	33.6	32.6	41.2	77.3	244.2	1179.2	2564.1	3106.3	3189.7
67.5°	22.7	26.4	28.7	35.6	82.8	219.0	1007.7	2299.3	2939.2	3033.7
70°	19.9	23.8	25.0	31.2	86.1	202.5	795.2	1931.8	2596.9	2684.2
72.5°	16.6	22.0	22.4	27.3	82.9	186.1	566.6	1386.8	1972.0	2013.9
75°	14.3	18.3	20.2	22.9	69.7	138.9	312.2	858.4	1246.8	1293.7
77.5°	12.9	13.9	15.3	15.8	29.6	72.4	107.4	529.3	698.2	751.0
80°	9.9	10.9	10.6	10.9	16.2	25.0	40.9	248.1	329.8	359.2
82.5°	3.2	5.3	5.8	4.9	10.6	12.3	11.8	85.8	107.2	113.9
85°	0.7	1.9	0.9	0.0	3.5	6.3	0.9	13.0	25.7	19.0
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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