

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: P366698

Luminaire Tested: **MSA-SA1A-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366698
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-760-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3462 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

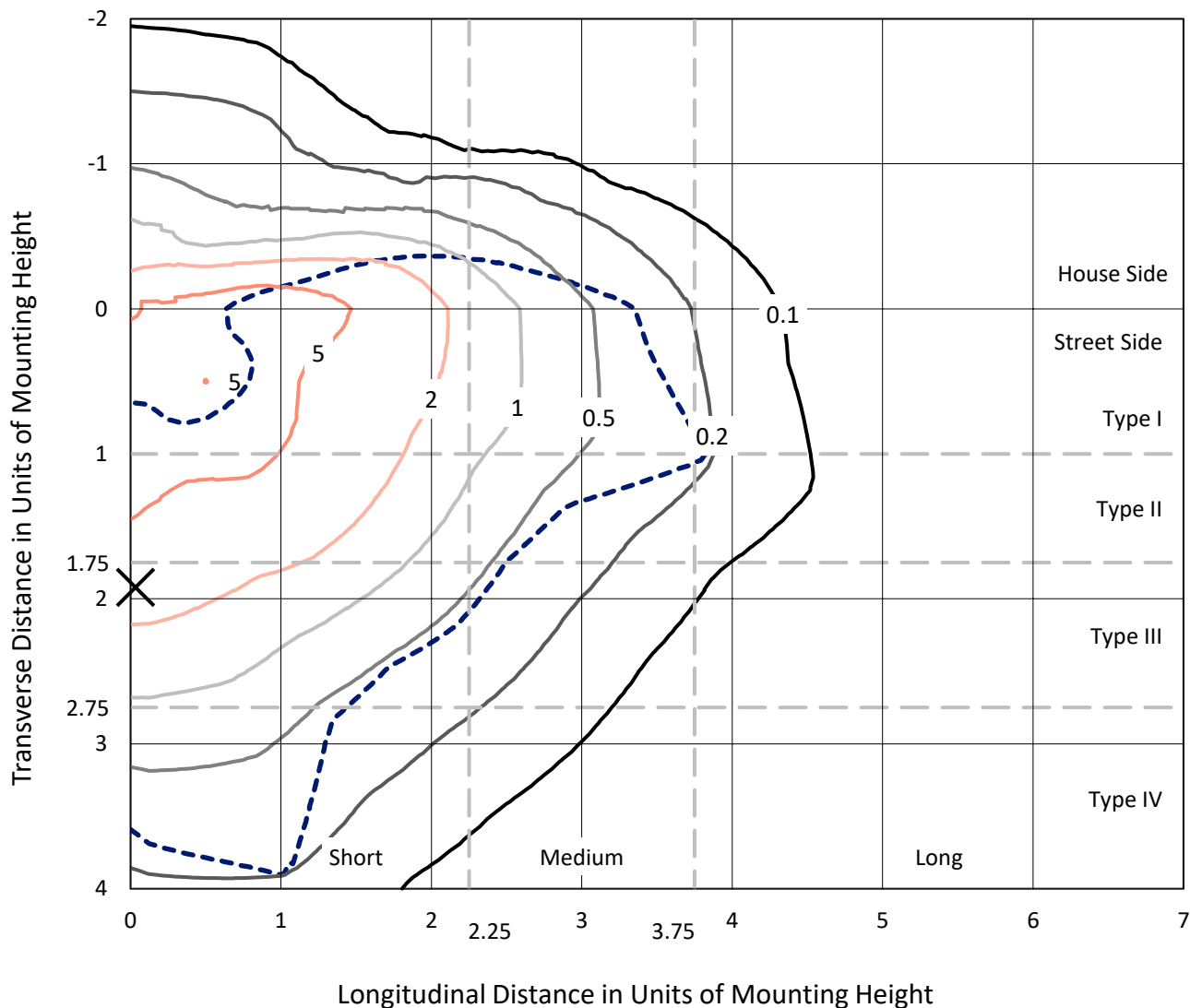
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

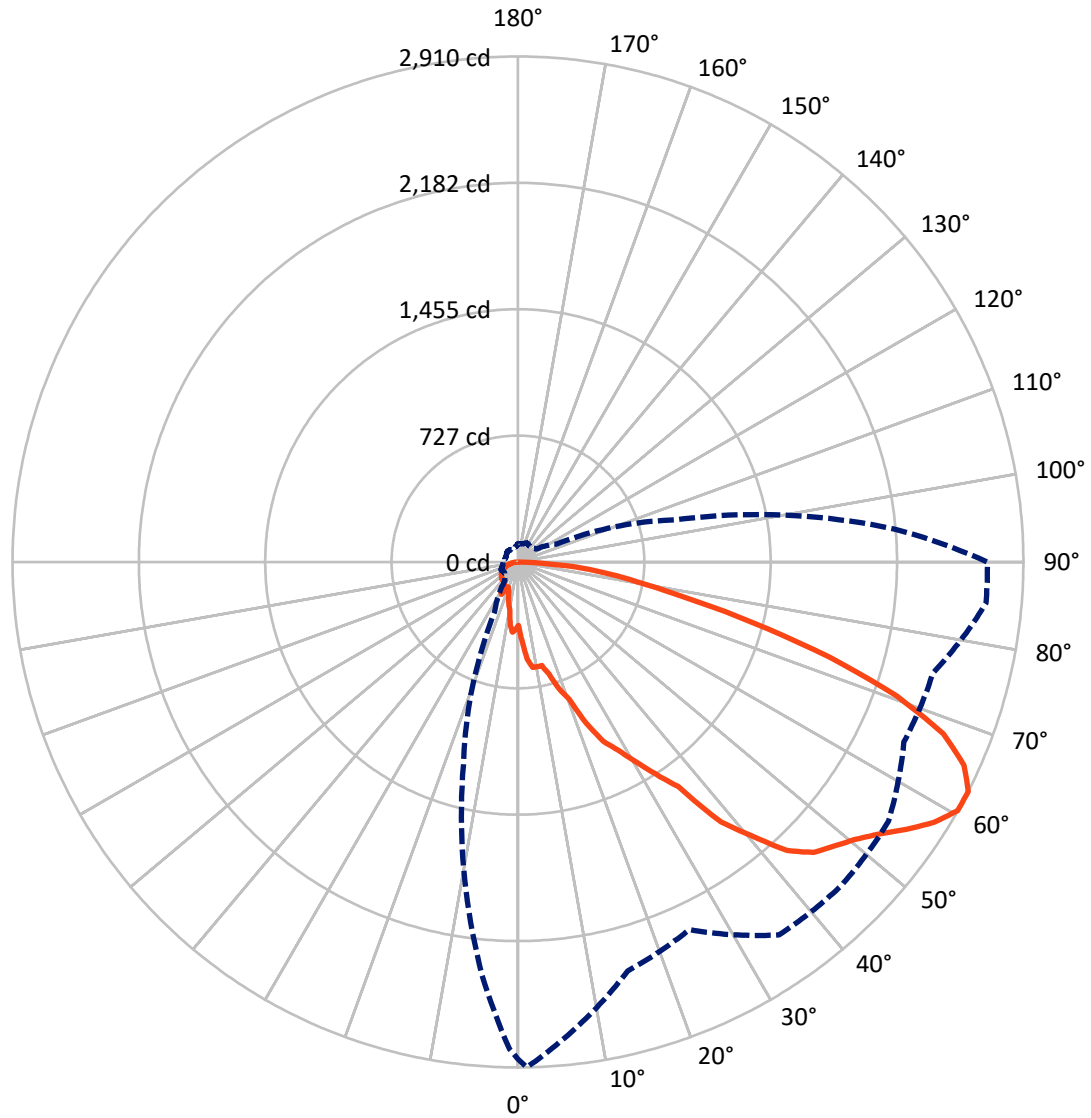
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.2 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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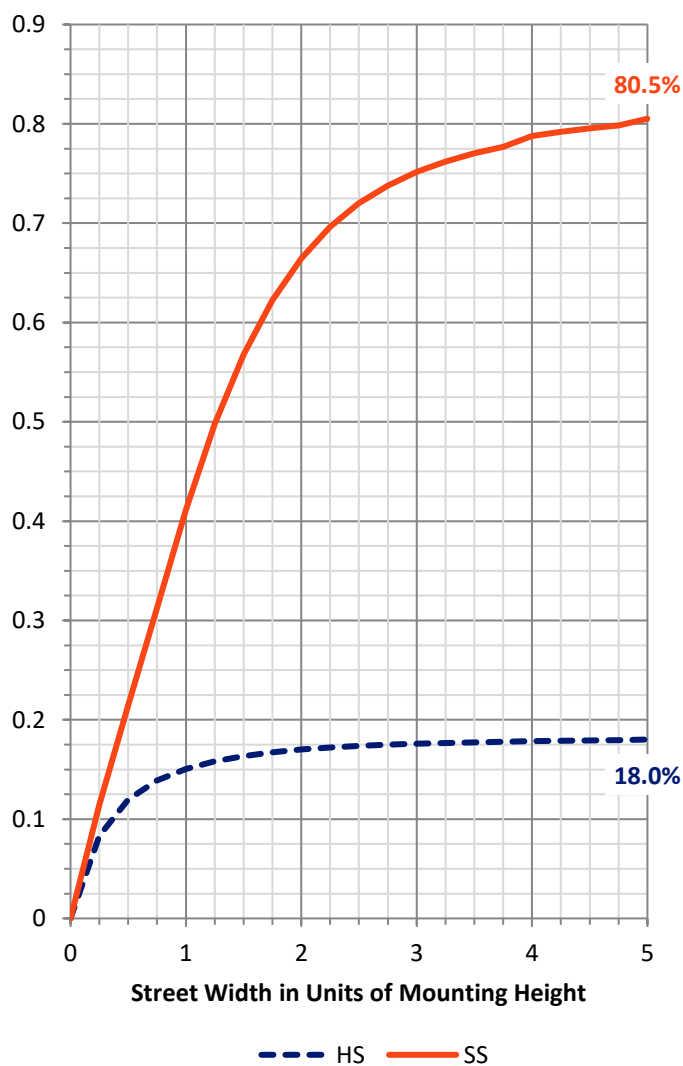
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	630.4	0.0	630.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	2831.6	0.0	2831.6
	% Fixture	81.8	0.0	81.8
Total	Lumens	3462.0	0.0	3462.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.8	1.2
10°-20°	121.6	3.5
20°-30°	214.7	6.2
30°-40°	334.4	9.7
40°-50°	550.7	15.9
50°-60°	785.9	22.7
60°-70°	833.4	24.1
70°-80°	460.3	13.3
80°-90°	119.1	3.4
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°	3462.0	100.0
0°-180°	3462.0	100.0

Coefficient of Utilization



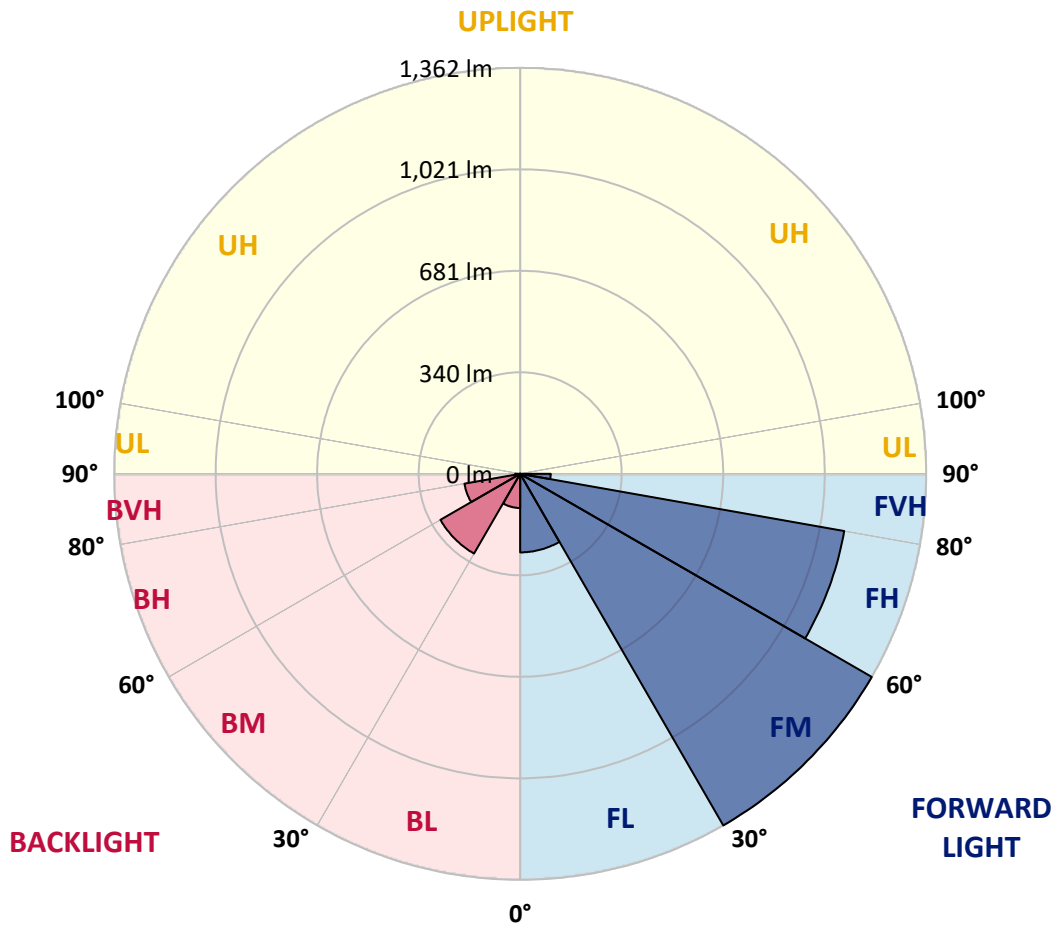
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	263.5	7.6			
FM (30°-60°)	1362.0	39.3			
FH (60°-80°)	1103.8	31.9			G1/1800
FVH (80°-90°)	102.3	3.0			G2/225
BL (0°-30°)	114.7	3.3	B1/500		
BM (30°-60°)	309.0	8.9	B1/1000		
BH (60°-80°)	189.9	5.5	B1/500		G1/500
BVH (80°-90°)	16.8	0.5			G1/100
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°	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1
2.5°	448.9	452.8	444.9	436.0	399.2	434.6	424.0	443.7	437.3	394.6	472.8
5°	554.7	561.8	554.1	580.8	582.5	589.3	525.7	565.3	551.5	548.0	587.5
7.5°	605.8	613.0	632.7	680.2	717.4	683.8	646.6	638.4	627.6	599.6	623.4
10°	609.0	613.0	639.4	740.2	758.2	782.0	758.0	701.4	678.0	617.1	598.9
12.5°	599.4	612.0	646.1	768.9	822.4	848.4	854.3	791.3	734.0	664.4	655.2
15°	663.8	668.3	717.2	789.4	826.2	848.2	867.4	828.6	810.6	755.5	681.4
17.5°	756.0	768.6	808.6	835.3	860.2	864.4	848.6	833.4	804.9	878.5	799.7
20°	818.5	842.9	891.9	897.0	844.7	853.9	851.8	852.8	836.5	972.6	929.2
22.5°	983.8	1010.2	1016.9	987.7	889.2	847.1	855.5	879.8	944.0	1060.6	1109.6
25°	1133.5	1143.7	1205.1	1129.8	972.9	881.0	867.2	930.2	1034.9	1208.8	1243.7
27.5°	1211.6	1224.9	1265.7	1101.9	983.3	837.3	805.1	901.0	1007.7	1139.0	1292.4
30°	1311.6	1332.7	1388.4	1129.8	1014.7	865.9	794.5	886.2	1004.1	1184.7	1395.6
32.5°	1414.6	1455.7	1497.0	1228.1	1010.4	909.6	862.2	869.6	1036.1	1280.5	1502.4
35°	1551.0	1587.3	1622.9	1284.9	1098.4	946.0	899.0	977.3	1118.0	1391.5	1651.4
37.5°	1842.6	1900.1	1806.2	1446.5	1194.1	1110.3	1025.5	1071.8	1204.7	1484.1	1894.9
40°	2028.4	2071.6	1980.9	1556.5	1362.8	1221.0	1207.1	1210.9	1324.2	1563.4	2058.7
42.5°	2213.1	2271.5	2127.2	1707.6	1566.8	1449.7	1377.8	1372.9	1457.9	1705.9	2245.0
45°	2350.8	2385.3	2177.5	1834.9	1785.5	1698.6	1644.7	1559.2	1633.6	1804.5	2360.2
47.5°	2416.3	2444.4	2258.3	1909.0	1927.3	1931.8	2029.1	1883.3	1787.2	1871.2	2420.7
50°	2498.2	2511.4	2305.8	1974.2	2062.0	2261.3	2284.6	2037.5	1936.7	1943.9	2456.5
52.5°	2595.9	2601.5	2375.2	2049.4	2198.3	2478.0	2441.9	2298.9	2079.0	2076.8	2523.9
55°	2718.9	2715.6	2462.2	2150.7	2295.6	2606.9	2579.5	2475.3	2234.1	2186.9	2628.7
57.5°	2828.3	2826.3	2577.6	2244.0	2377.4	2673.1	2681.1	2653.6	2339.6	2265.7	2742.3
60°	2881.9	2907.6	2709.0	2346.0	2382.6	2703.0	2706.0	2662.1	2457.5	2366.8	2772.5
62.5°	2861.0	2909.9	2773.5	2437.7	2334.7	2621.3	2633.9	2603.7	2452.1	2473.0	2705.0
65°	2766.3	2822.7	2717.6	2486.6	2305.3	2484.6	2487.7	2411.3	2375.4	2543.4	2546.7
67.5°	2588.5	2641.5	2539.5	2408.6	2104.0	2116.0	2187.2	2193.4	2141.0	2490.3	2324.5
70°	2277.4	2314.7	2250.9	2216.1	1758.6	1688.7	1766.0	1799.1	1823.0	2298.6	2057.7
72.5°	1803.0	1875.1	1885.1	1907.8	1415.9	1299.5	1356.8	1307.7	1463.1	1956.4	1681.2
75°	1333.9	1394.7	1460.1	1586.6	1116.0	972.9	965.8	940.8	1086.0	1573.3	1246.9
77.5°	942.6	981.5	1031.7	1267.4	842.2	749.3	753.6	728.3	784.2	1189.1	861.3
80°	675.7	696.0	719.4	835.0	621.3	646.5	647.1	623.1	583.1	807.6	574.9
82.5°	481.5	497.3	524.0	550.7	463.2	529.9	529.4	527.9	462.3	545.8	359.7
85°	268.1	289.3	335.7	431.4	334.5	378.8	333.1	366.9	339.4	363.4	182.1
87.5°	18.8	16.8	75.1	250.0	156.1	114.1	59.8	118.4	151.9	189.8	25.4
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°	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1
2.5°	488.9	494.8	471.7	437.1	446.5	436.3	423.4	403.2	361.7	387.4	387.6
5°	587.2	564.8	546.8	529.9	501.3	458.1	452.4	417.8	398.3	408.6	407.1
7.5°	617.9	586.2	559.1	498.5	445.5	378.5	358.3	337.8	329.3	354.1	364.1
10°	584.1	551.0	524.5	450.7	414.8	373.0	317.5	289.1	272.3	278.9	282.7
12.5°	611.4	577.6	494.1	452.9	393.6	368.1	319.5	277.9	253.0	259.1	251.8
15°	637.6	592.0	508.5	426.6	378.5	341.5	302.2	259.2	230.0	219.6	214.0
17.5°	733.3	657.7	506.9	411.8	356.7	314.2	266.8	219.7	200.3	189.5	180.3
20°	850.1	744.7	515.9	396.5	333.5	279.9	228.3	184.6	171.0	164.0	161.4
22.5°	989.0	856.3	567.8	394.3	311.6	254.9	207.1	179.9	164.6	156.9	153.7
25°	1099.4	971.7	606.1	409.1	310.5	234.2	194.4	199.9	192.9	195.2	176.6
27.5°	1206.6	1003.1	584.6	402.5	279.2	197.6	191.4	202.9	209.0	210.8	210.2
30°	1297.1	1135.8	589.3	365.6	235.9	160.9	146.5	152.2	168.8	195.2	200.3
32.5°	1429.7	1199.4	629.5	343.2	210.8	144.0	127.8	125.7	129.5	139.1	147.3
35°	1584.7	1345.5	640.8	337.3	193.5	136.4	125.2	120.1	122.1	129.4	131.0
37.5°	1873.9	1452.0	682.4	330.1	187.2	131.9	123.1	121.3	125.7	131.5	134.9
40°	2033.3	1643.5	684.4	323.9	178.9	130.0	124.5	123.6	126.3	134.4	136.4
42.5°	2245.8	1752.7	716.0	316.7	176.1	132.6	127.2	126.8	129.2	133.9	137.6
45°	2375.4	1825.8	717.7	312.5	175.4	143.6	130.7	129.5	129.0	131.9	135.2
47.5°	2458.9	1931.2	738.2	307.8	179.4	146.5	134.9	129.9	128.2	129.4	131.9
50°	2538.0	2015.3	777.0	307.1	183.6	143.6	142.3	129.7	126.3	125.8	127.7
52.5°	2635.1	2153.8	824.9	313.5	182.6	139.4	147.8	129.0	123.0	121.8	123.6
55°	2776.4	2302.1	875.8	308.1	172.2	131.4	142.5	128.5	119.4	117.3	118.9
57.5°	2867.9	2387.1	932.7	303.6	156.4	125.3	137.6	128.9	119.8	114.9	115.9
60°	2837.5	2341.4	955.1	275.9	141.5	120.6	126.0	126.2	116.8	112.2	113.1
62.5°	2703.1	2175.9	934.2	243.6	130.4	113.9	114.1	121.1	108.0	104.8	106.2
65°	2515.3	1970.1	849.9	222.6	125.2	106.8	104.2	106.3	96.3	93.9	96.6
67.5°	2284.8	1716.5	724.4	200.4	123.3	97.3	94.1	93.2	86.9	84.2	86.9
70°	1995.7	1437.2	579.1	184.8	116.3	86.9	84.3	83.5	78.1	76.1	78.5
72.5°	1604.1	1122.2	446.9	172.9	108.5	77.3	75.1	74.1	69.6	66.7	69.6
75°	1140.9	857.6	332.0	154.6	97.6	67.5	65.0	63.7	59.5	56.8	59.3
77.5°	810.8	643.8	231.8	127.8	80.5	57.1	55.6	53.4	49.7	46.5	49.1
80°	599.4	460.0	149.5	98.6	61.5	45.7	44.9	43.3	39.8	36.0	37.8
82.5°	394.6	331.6	85.7	66.9	44.7	32.9	33.6	32.6	29.2	25.2	26.2
85°	176.7	196.4	45.5	36.8	29.1	19.8	21.7	21.0	18.5	14.6	15.0
87.5°	17.0	33.1	13.9	13.4	10.8	6.2	7.7	6.6	5.5	3.5	2.7
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1
2.5°	393.5	369.8	346.1	360.5	360.9	364.7	365.2	351.0	362.4	371.1	380.2
5°	399.7	384.2	385.1	371.1	363.6	373.3	371.3	367.4	374.3	383.9	395.5
7.5°	354.6	344.6	342.9	329.4	296.9	289.6	295.7	298.2	307.4	322.2	334.7
10°	276.9	296.9	274.3	269.1	260.6	243.8	234.0	232.8	252.5	264.4	274.8
12.5°	249.5	244.4	241.8	227.5	227.5	209.7	204.0	209.2	239.4	248.0	261.4
15°	212.5	208.8	196.4	189.3	186.0	178.8	184.8	189.8	218.1	218.7	232.8
17.5°	176.4	174.2	162.5	161.1	157.8	154.6	160.1	172.2	187.5	184.8	191.4
20°	157.8	150.2	139.4	143.3	139.8	137.3	134.9	152.0	162.8	166.3	170.2
22.5°	153.0	139.3	132.9	129.4	129.5	125.5	126.0	140.3	156.6	158.8	156.4
25°	174.9	150.4	129.7	119.4	115.6	114.2	118.1	130.7	150.4	155.1	156.9
27.5°	204.6	163.3	133.6	116.1	108.4	109.0	114.6	123.3	146.5	154.9	157.1
30°	196.4	153.6	133.7	113.6	104.0	107.5	109.5	117.9	143.5	156.1	167.0
32.5°	151.5	138.1	134.6	115.6	111.7	106.2	109.0	117.1	134.6	142.5	143.0
35°	128.4	118.1	115.8	111.0	105.7	103.3	106.5	113.6	125.0	129.9	129.2
37.5°	127.3	116.1	106.8	104.8	102.6	102.0	103.8	110.4	122.0	130.5	128.7
40°	129.0	115.1	105.7	102.1	103.0	100.0	101.8	109.9	122.5	130.5	128.9
42.5°	127.0	113.9	104.2	101.5	102.3	98.1	100.3	108.7	121.1	130.7	127.5
45°	123.0	111.2	103.3	98.8	102.6	96.4	99.1	105.7	117.1	127.5	123.8
47.5°	118.9	108.0	99.8	96.9	100.8	94.8	95.9	101.6	113.1	123.3	120.1
50°	114.6	104.0	96.9	96.1	98.8	94.4	92.6	97.3	108.2	118.4	115.8
52.5°	109.9	100.6	94.9	94.6	97.1	92.2	89.5	93.2	103.0	113.2	111.0
55°	105.3	96.9	92.4	93.2	96.1	90.4	87.0	89.4	97.4	107.5	104.5
57.5°	100.8	92.7	89.0	91.4	93.6	88.0	83.8	85.2	91.7	101.6	98.1
60°	96.8	89.0	85.3	88.2	90.2	84.5	79.6	80.5	86.4	95.3	92.1
62.5°	91.6	85.0	80.1	83.8	85.3	79.8	74.6	75.6	80.3	88.7	86.4
65°	84.2	80.0	75.4	78.0	80.0	74.3	69.4	70.6	74.1	82.0	80.3
67.5°	77.8	73.8	70.7	72.7	73.1	68.7	64.3	65.0	67.9	75.3	73.4
70°	70.7	66.9	64.5	66.0	65.9	62.2	58.8	59.0	61.3	68.0	65.5
72.5°	63.0	59.3	58.1	59.0	58.3	54.9	51.7	52.9	54.4	59.5	57.5
75°	54.8	51.4	50.7	51.6	50.6	47.4	44.5	45.7	47.0	51.2	48.7
77.5°	46.2	43.2	43.3	43.5	42.2	40.0	37.1	38.3	39.1	42.0	39.5
80°	36.8	34.4	35.1	35.1	33.6	32.1	29.4	29.7	30.2	31.2	29.4
82.5°	26.9	26.9	26.9	27.0	23.9	24.4	22.0	21.8	21.3	21.2	20.0
85°	16.0	16.6	17.0	17.5	12.9	15.1	13.1	12.6	11.6	10.6	10.2
87.5°	3.5	4.5	4.5	4.4	0.0	1.7	0.8	1.3	0.3	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°	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1	365.1
2.5°	369.8	359.7	378.5	395.3	392.6	402.4	379.7	413.3	448.9	448.9
5°	392.4	383.9	388.8	398.5	405.9	439.8	468.0	496.1	554.1	554.7
7.5°	331.0	349.4	353.8	351.0	382.7	426.4	472.9	552.9	601.9	605.8
10°	309.5	317.9	331.1	338.5	351.5	394.5	452.3	547.2	599.3	609.0
12.5°	280.4	311.5	331.6	373.0	383.2	391.8	483.7	565.8	601.8	599.4
15°	248.6	272.2	301.2	346.9	373.0	438.5	502.3	625.6	646.0	663.8
17.5°	198.2	215.5	254.2	306.3	370.8	431.1	548.4	699.6	737.5	756.0
20°	163.1	163.3	201.9	271.0	341.2	400.2	565.8	760.9	809.1	818.5
22.5°	154.2	146.5	166.8	222.9	308.6	418.5	601.1	859.5	960.1	983.8
25°	149.4	139.9	152.7	196.7	285.3	428.1	672.2	995.1	1124.3	1133.5
27.5°	151.4	155.7	159.8	175.4	255.7	410.1	655.7	1055.7	1194.1	1211.6
30°	165.0	172.0	162.8	168.2	231.3	384.0	685.1	1154.2	1282.2	1311.6
32.5°	137.3	134.6	133.7	145.5	207.0	360.5	746.8	1292.8	1377.6	1414.6
35°	123.8	119.6	121.3	134.7	195.0	357.2	781.4	1407.5	1528.3	1551.0
37.5°	123.3	118.4	120.6	130.7	199.2	363.2	836.8	1591.6	1794.1	1842.6
40°	122.1	119.4	120.6	128.2	194.9	366.6	868.7	1746.4	1979.2	2028.4
42.5°	122.0	120.6	121.8	130.2	190.3	368.1	912.9	1886.1	2174.3	2213.1
45°	121.5	122.8	122.8	131.9	188.3	378.2	939.0	1954.7	2302.9	2350.8
47.5°	119.1	123.1	129.7	131.4	180.1	373.5	975.7	2058.7	2371.3	2416.3
50°	116.1	122.6	138.4	128.0	178.8	362.0	1018.8	2141.2	2459.0	2498.2
52.5°	112.1	121.8	136.4	121.5	176.4	360.0	1079.1	2248.3	2561.3	2595.9
55°	106.3	118.8	130.2	114.9	170.7	353.6	1171.3	2381.2	2695.2	2718.9
57.5°	101.1	114.2	121.1	111.2	157.1	355.0	1235.5	2489.6	2807.6	2828.3
60°	96.4	113.7	108.2	107.4	143.1	337.0	1256.3	2488.4	2849.5	2881.9
62.5°	91.4	107.4	99.1	102.1	130.9	318.5	1212.1	2381.7	2804.3	2861.0
65°	84.8	92.1	91.6	98.4	131.2	288.5	1110.8	2193.6	2691.5	2766.3
67.5°	77.1	81.5	84.3	92.4	135.4	265.1	947.9	1967.3	2499.7	2588.5
70°	69.2	73.6	76.8	84.5	139.3	254.4	754.5	1649.4	2187.2	2277.4
72.5°	61.2	65.7	68.2	74.9	134.1	231.3	558.4	1283.4	1755.6	1803.0
75°	52.8	57.1	59.1	65.4	116.4	191.4	385.6	972.0	1285.9	1333.9
77.5°	44.2	48.9	49.6	54.6	88.9	146.3	247.1	745.6	910.6	942.6
80°	35.3	40.0	40.0	42.7	62.5	100.6	148.0	562.5	663.1	675.7
82.5°	25.4	30.4	30.1	30.2	43.2	62.3	85.7	421.5	479.1	481.5
85°	15.0	18.5	18.3	16.8	25.5	33.6	46.4	261.7	267.5	268.1
87.5°	2.9	4.4	3.9	1.7	7.1	9.9	13.4	48.6	19.3	18.8
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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