

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: P366940

Luminaire Tested: **MSA-SA1C-750-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366940
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-SA1C-750-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: 5373 lumens
Efficiency: N/A
Efficacy: 91.1 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

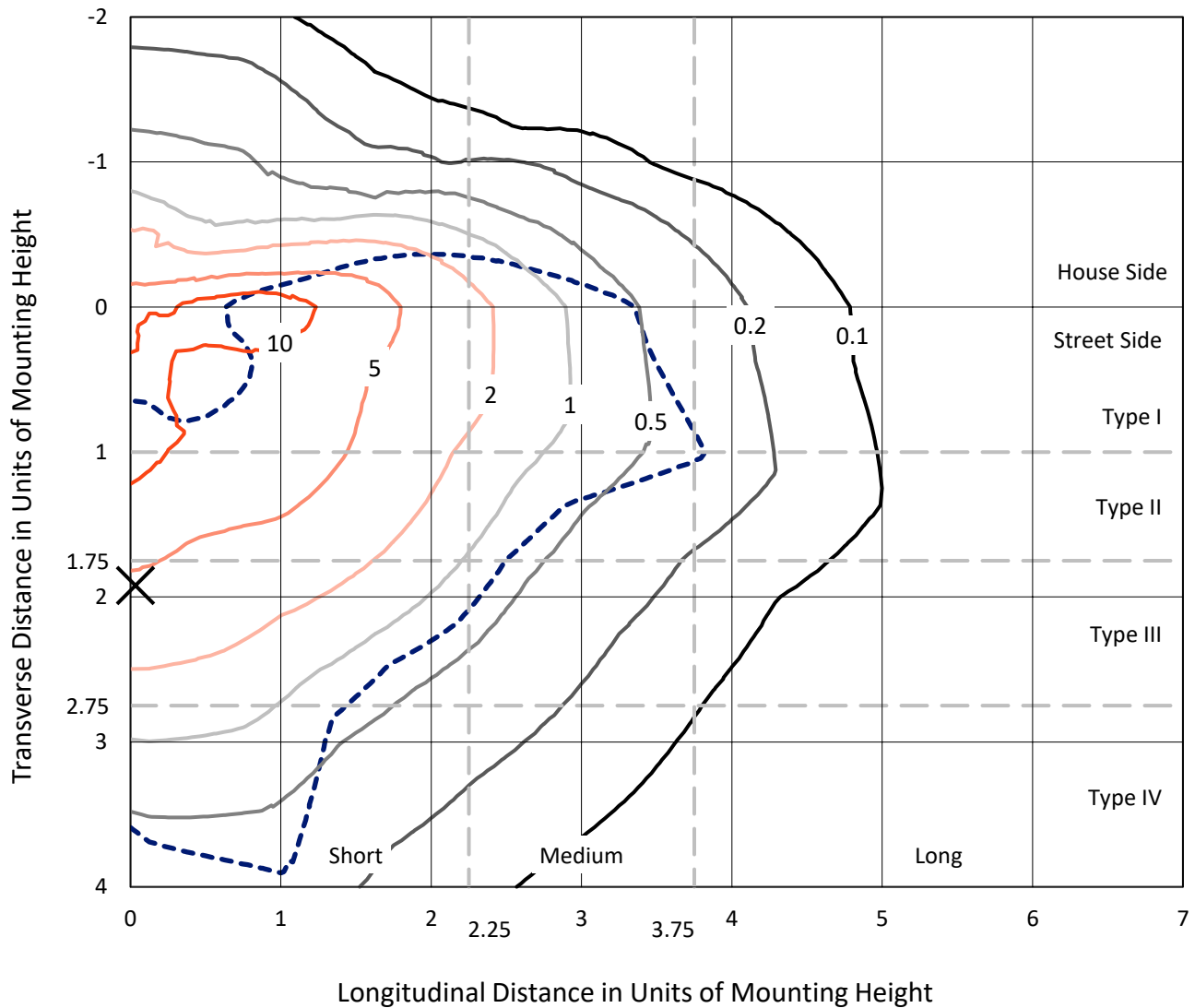
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

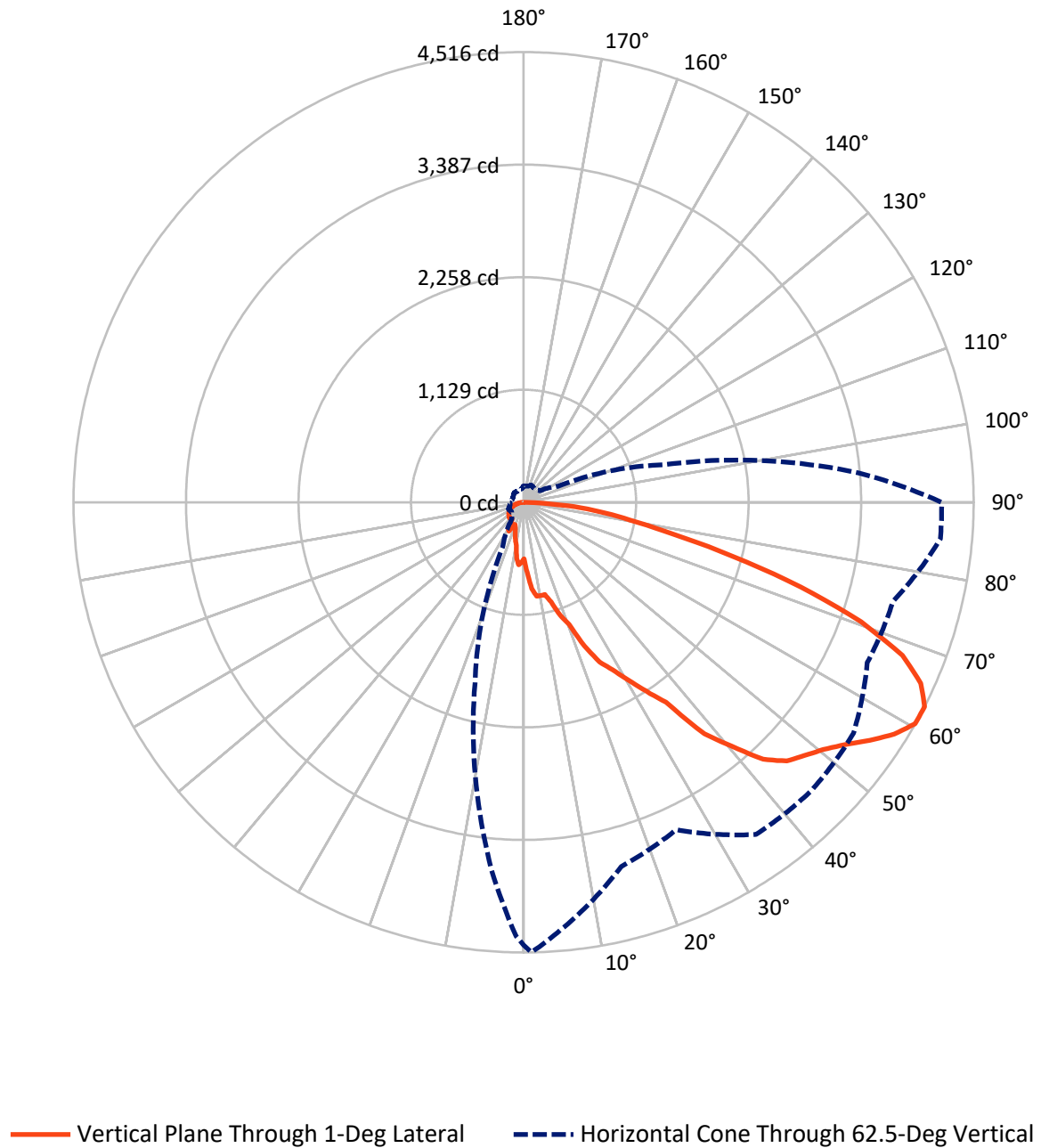
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.3 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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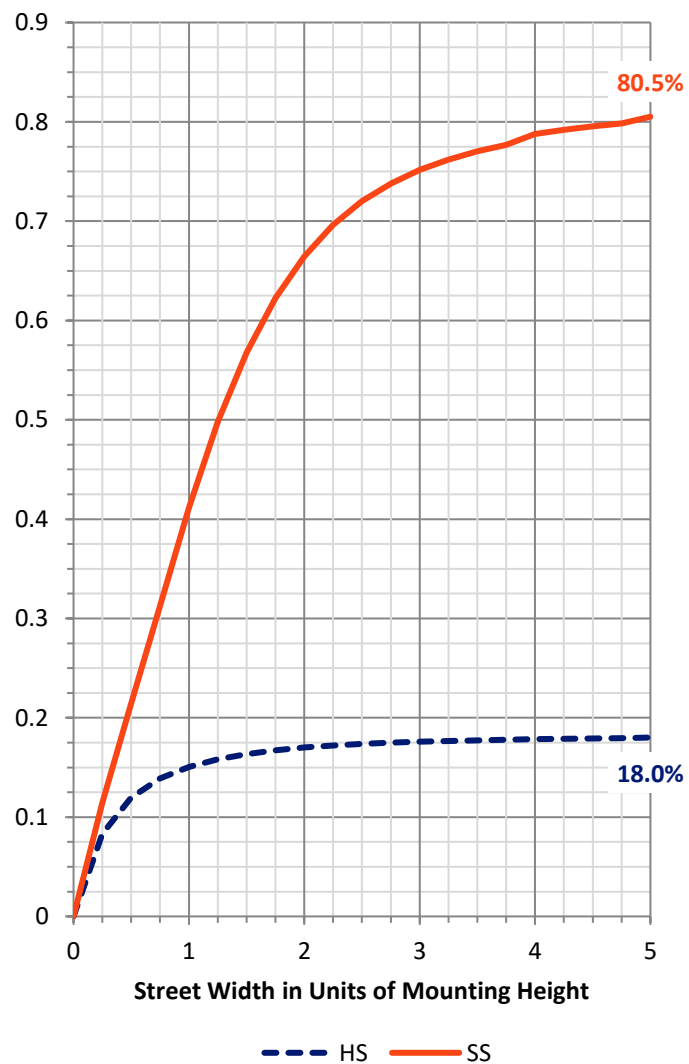
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	978.4	0.0	978.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	4394.6	0.0	4394.6
	% Fixture	81.8	0.0	81.8
Total	Lumens	5373.0	0.0	5373.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.0	1.2
10°-20°	188.7	3.5
20°-30°	333.2	6.2
30°-40°	519.0	9.7
40°-50°	854.6	15.9
50°-60°	1219.8	22.7
60°-70°	1293.4	24.1
70°-80°	714.4	13.3
80°-90°	184.8	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°	5373.0	100.0
0°-180°	5373.0	100.0

Coefficient of Utilization



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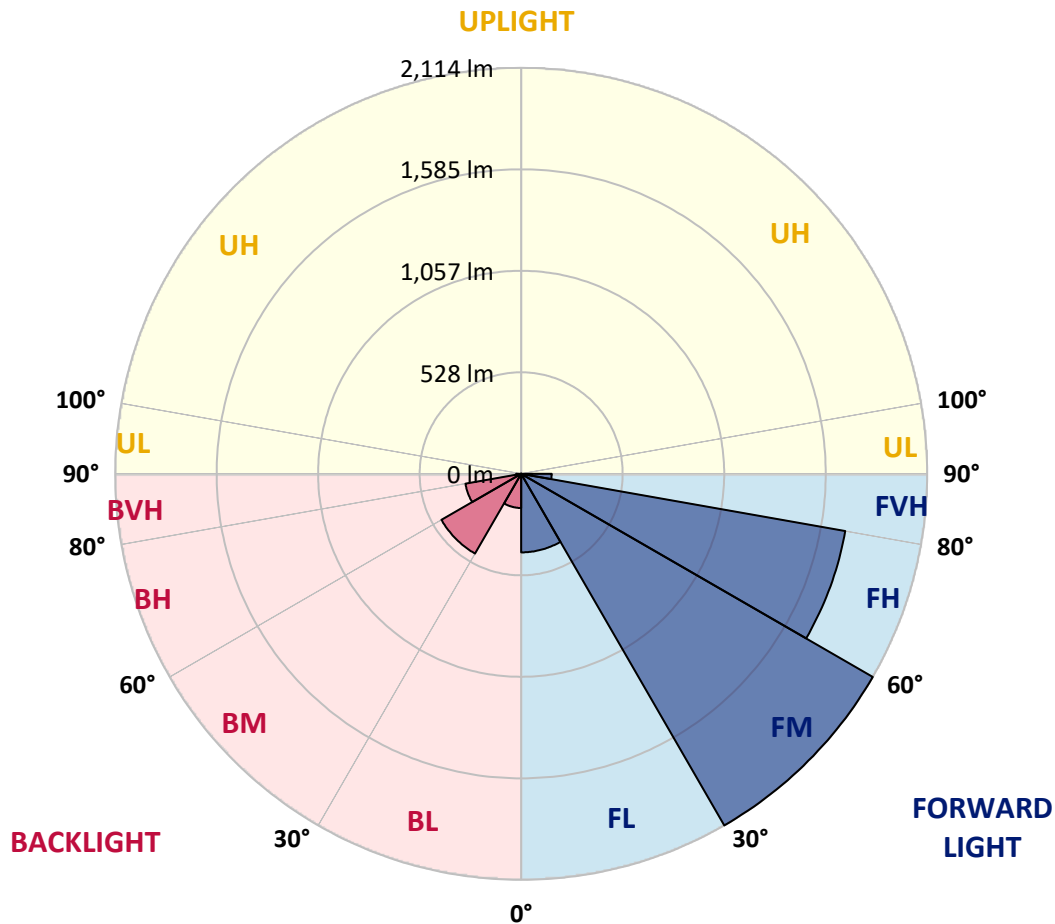
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	409.0	7.6			
FM	(30°-60°)	2113.8	39.3			
FH	(60°-80°)	1713.1	31.9			G1/1800
FVH	(80°-90°)	158.7	3.0			G2/225
BL	(0°-30°)	177.9	3.3	B1/500		
BM	(30°-60°)	479.6	8.9	B1/1000		
BH	(60°-80°)	294.8	5.5	B1/500		G1/500
BVH	(80°-90°)	26.1	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°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	696.7	702.7	690.4	676.6	619.5	674.5	658.1	688.6	678.7	612.5	733.7
5°	860.9	871.9	859.9	901.4	904.0	914.7	815.8	877.4	856.0	850.5	911.8
7.5°	940.2	951.4	981.9	1055.7	1113.3	1061.2	1003.6	990.8	974.1	930.6	967.6
10°	945.2	951.4	992.4	1148.8	1176.7	1213.7	1176.4	1088.6	1052.3	957.7	929.5
12.5°	930.3	949.9	1002.8	1193.4	1276.3	1316.7	1325.8	1228.1	1139.2	1031.2	1016.9
15°	1030.2	1037.2	1113.1	1225.2	1282.3	1316.5	1346.2	1285.9	1258.0	1172.5	1057.5
17.5°	1173.3	1192.9	1254.9	1296.4	1335.0	1341.5	1317.0	1293.5	1249.2	1363.4	1241.1
20°	1270.3	1308.1	1384.2	1392.1	1311.0	1325.3	1321.9	1323.5	1298.2	1509.4	1442.1
22.5°	1526.9	1567.8	1578.2	1532.9	1380.1	1314.6	1327.7	1365.5	1465.1	1646.0	1722.2
25°	1759.2	1775.1	1870.3	1753.4	1509.9	1367.3	1345.9	1443.7	1606.1	1876.0	1930.2
27.5°	1880.4	1901.0	1964.4	1710.2	1526.1	1299.5	1249.4	1398.3	1563.9	1767.8	2005.8
30°	2035.6	2068.4	2154.7	1753.4	1574.8	1343.8	1233.0	1375.4	1558.4	1838.7	2165.9
32.5°	2195.4	2259.3	2323.4	1906.0	1568.1	1411.6	1338.1	1349.6	1608.0	1987.3	2331.8
35°	2407.1	2463.4	2518.7	1994.1	1704.7	1468.2	1395.2	1516.7	1735.2	2159.7	2563.0
37.5°	2859.7	2948.9	2803.2	2244.9	1853.3	1723.2	1591.5	1663.5	1869.7	2303.3	2940.8
40°	3148.1	3215.1	3074.3	2415.7	2115.1	1895.0	1873.4	1879.4	2055.1	2426.4	3195.0
42.5°	3434.7	3525.4	3301.4	2650.1	2431.6	2249.9	2138.3	2130.7	2262.7	2647.5	3484.2
45°	3648.5	3701.9	3379.4	2847.7	2771.1	2636.3	2552.6	2419.9	2535.4	2800.6	3663.1
47.5°	3750.2	3793.7	3504.8	2962.7	2991.2	2998.2	3149.2	2922.8	2773.7	2904.1	3756.9
50°	3877.1	3897.7	3578.6	3063.9	3200.3	3509.5	3545.7	3162.2	3005.8	3017.0	3812.5
52.5°	4028.9	4037.5	3686.3	3180.7	3411.7	3845.8	3789.8	3567.9	3226.6	3223.2	3917.0
55°	4219.7	4214.5	3821.3	3337.9	3562.7	4045.8	4003.3	3841.7	3467.3	3394.0	4079.7
57.5°	4389.5	4386.3	4000.5	3482.6	3689.7	4148.6	4161.1	4118.3	3631.0	3516.3	4256.0
60°	4472.7	4512.5	4204.4	3640.9	3697.7	4195.0	4199.7	4131.6	3814.0	3673.2	4302.9
62.5°	4440.3	4516.2	4304.5	3783.3	3623.4	4068.3	4087.8	4040.9	3805.7	3838.0	4198.1
65°	4293.3	4380.9	4217.7	3859.1	3577.8	3856.0	3861.0	3742.3	3686.5	3947.3	3952.5
67.5°	4017.4	4099.5	3941.3	3738.2	3265.4	3284.0	3394.5	3404.2	3322.8	3864.9	3607.5
70°	3534.5	3592.4	3493.3	3439.4	2729.4	2620.9	2740.8	2792.2	2829.2	3567.4	3193.5
72.5°	2798.2	2910.1	2925.7	2960.9	2197.5	2016.8	2105.7	2029.6	2270.7	3036.3	2609.2
75°	2070.2	2164.6	2266.0	2462.4	1732.1	1509.9	1499.0	1460.1	1685.4	2441.8	1935.2
77.5°	1463.0	1523.2	1601.2	1967.0	1307.1	1162.9	1169.7	1130.3	1217.1	1845.5	1336.8
80°	1048.7	1080.2	1116.5	1295.9	964.2	1003.3	1004.4	967.1	905.0	1253.4	892.2
82.5°	747.3	771.8	813.2	854.7	718.8	822.4	821.6	819.2	717.5	847.1	558.2
85°	416.1	449.0	520.9	669.6	519.1	588.0	517.0	569.4	526.7	564.0	282.6
87.5°	29.2	26.1	116.5	388.0	242.2	177.0	92.8	183.8	235.7	294.6	39.4
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°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	758.7	767.9	732.1	678.4	693.0	677.1	657.1	625.8	561.4	601.3	601.5
5°	911.3	876.6	848.7	822.4	778.0	711.0	702.2	648.4	618.2	634.1	631.8
7.5°	959.0	909.7	867.7	773.6	691.5	587.4	556.1	524.3	511.0	549.6	565.0
10°	906.6	855.2	814.0	699.6	643.8	578.8	492.8	448.7	422.7	432.8	438.8
12.5°	948.8	896.4	766.8	702.9	610.9	571.3	495.9	431.3	392.7	402.1	390.8
15°	989.5	918.8	789.2	662.0	587.4	530.1	469.1	402.3	356.9	340.8	332.2
17.5°	1138.1	1020.8	786.6	639.1	553.5	487.6	414.0	341.0	310.8	294.1	279.8
20°	1319.3	1155.8	800.7	615.3	517.6	434.4	354.3	286.5	265.4	254.5	250.6
22.5°	1534.9	1329.0	881.3	611.9	483.7	395.5	321.5	279.2	255.5	243.5	238.6
25°	1706.3	1508.1	940.7	634.9	481.8	363.5	301.7	310.3	299.3	303.0	274.0
27.5°	1872.6	1556.8	907.4	624.7	433.3	306.6	297.0	315.0	324.4	327.2	326.2
30°	2013.1	1762.8	914.7	567.4	366.1	249.8	227.4	236.2	262.0	303.0	310.8
32.5°	2218.9	1861.4	977.0	532.7	327.2	223.5	198.4	195.0	201.0	215.9	228.7
35°	2459.5	2088.2	994.4	523.6	300.4	211.7	194.2	186.4	189.6	200.8	203.4
37.5°	2908.2	2253.5	1059.1	512.3	290.5	204.7	191.1	188.3	195.0	204.2	209.4
40°	3155.7	2550.8	1062.2	502.7	277.7	201.8	193.2	191.9	196.1	208.6	211.7
42.5°	3485.5	2720.2	1111.3	491.5	273.3	205.7	197.4	196.9	200.5	207.8	213.5
45°	3686.5	2833.7	1113.9	485.0	272.2	222.9	202.9	201.0	200.2	204.7	209.9
47.5°	3816.1	2997.2	1145.7	477.7	278.5	227.4	209.4	201.5	198.9	200.8	204.7
50°	3938.9	3127.8	1205.9	476.6	285.0	222.9	220.8	201.3	196.1	195.3	198.2
52.5°	4089.6	3342.6	1280.2	486.5	283.4	216.4	229.4	200.2	190.9	189.0	191.9
55°	4308.9	3572.9	1359.2	478.2	267.3	203.9	221.1	199.5	185.4	182.0	184.6
57.5°	4451.0	3704.8	1447.6	471.1	242.7	194.5	213.5	200.0	185.9	178.3	179.9
60°	4403.8	3633.9	1482.3	428.1	219.5	187.2	195.6	195.8	181.2	174.2	175.5
62.5°	4195.2	3377.0	1449.9	378.1	202.3	176.8	177.0	188.0	167.7	162.7	164.8
65°	3903.7	3057.6	1319.1	345.5	194.2	165.8	161.7	165.0	149.4	145.8	149.9
67.5°	3546.0	2663.9	1124.3	311.1	191.4	151.0	146.0	144.7	134.8	130.6	134.8
70°	3097.3	2230.6	898.8	286.8	180.4	134.8	130.9	129.6	121.2	118.1	121.8
72.5°	2489.5	1741.7	693.6	268.3	168.4	119.9	116.5	115.0	107.9	103.5	107.9
75°	1770.7	1331.1	515.2	239.9	151.5	104.8	100.9	98.8	92.3	88.1	92.0
77.5°	1258.3	999.1	359.8	198.4	124.9	88.6	86.3	82.9	77.2	72.2	76.1
80°	930.3	713.9	232.1	153.1	95.4	70.9	69.6	67.3	61.8	55.8	58.7
82.5°	612.5	514.7	133.0	103.8	69.4	51.1	52.1	50.6	45.4	39.1	40.7
85°	274.3	304.8	70.7	57.1	45.1	30.8	33.6	32.6	28.7	22.7	23.2
87.5°	26.3	51.4	21.6	20.9	16.7	9.6	12.0	10.2	8.6	5.5	4.2
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	610.6	573.9	537.1	559.5	560.1	566.1	566.8	544.7	562.4	576.0	590.0
5°	620.3	596.3	597.6	576.0	564.2	579.4	576.2	570.2	580.9	595.8	613.8
7.5°	550.4	534.8	532.2	511.3	460.7	449.5	458.9	462.8	477.1	500.1	519.4
10°	429.7	460.7	425.8	417.7	404.4	378.3	363.2	361.4	391.9	410.4	426.6
12.5°	387.2	379.4	375.2	353.0	353.0	325.4	316.5	324.6	371.5	384.8	405.7
15°	329.8	324.1	304.8	293.8	288.6	277.4	286.8	294.6	338.4	339.5	361.4
17.5°	273.8	270.4	252.1	250.0	244.8	239.9	248.5	267.3	291.0	286.8	297.0
20°	244.8	233.1	216.4	222.4	216.9	213.0	209.4	236.0	252.7	258.1	264.1
22.5°	237.5	216.1	206.2	200.8	201.0	194.8	195.6	217.7	243.0	246.4	242.7
25°	271.4	233.4	201.3	185.4	179.4	177.3	183.3	202.9	233.4	240.7	243.5
27.5°	317.6	253.4	207.3	180.2	168.2	169.2	177.8	191.4	227.4	240.4	243.8
30°	304.8	238.3	207.5	176.3	161.4	166.9	170.0	183.0	222.7	242.2	259.2
32.5°	235.2	214.3	208.8	179.4	173.4	164.8	169.2	181.7	208.8	221.1	221.9
35°	199.2	183.3	179.6	172.3	164.0	160.4	165.3	176.3	194.0	201.5	200.5
37.5°	197.6	180.2	165.8	162.7	159.3	158.3	161.1	171.3	189.3	202.6	199.7
40°	200.2	178.6	164.0	158.5	159.8	155.1	158.0	170.5	190.1	202.6	200.0
42.5°	197.1	176.8	161.7	157.5	158.8	152.3	155.7	168.7	188.0	202.9	197.9
45°	190.9	172.6	160.4	153.3	159.3	149.7	153.8	164.0	181.7	197.9	192.2
47.5°	184.6	167.7	154.9	150.4	156.4	147.1	148.9	157.7	175.5	191.4	186.4
50°	177.8	161.4	150.4	149.1	153.3	146.5	143.7	151.0	167.9	183.8	179.6
52.5°	170.5	156.2	147.3	146.8	150.7	143.1	139.0	144.7	159.8	175.7	172.3
55°	163.5	150.4	143.4	144.7	149.1	140.3	135.1	138.7	151.2	166.9	162.2
57.5°	156.4	143.9	138.2	141.8	145.2	136.6	130.1	132.2	142.4	157.7	152.3
60°	150.2	138.2	132.5	136.9	140.0	131.1	123.6	124.9	134.0	147.8	142.9
62.5°	142.1	131.9	124.4	130.1	132.5	123.8	115.8	117.3	124.6	137.7	134.0
65°	130.6	124.1	117.1	121.0	124.1	115.2	107.7	109.5	115.0	127.2	124.6
67.5°	120.7	114.5	109.8	112.9	113.4	106.6	99.9	100.9	105.3	116.8	113.9
70°	109.8	103.8	100.1	102.5	102.2	96.5	91.3	91.5	95.2	105.6	101.7
72.5°	97.8	92.0	90.2	91.5	90.5	85.3	80.3	82.1	84.5	92.3	89.2
75°	85.0	79.8	78.7	80.0	78.5	73.5	69.1	70.9	73.0	79.5	75.6
77.5°	71.7	67.0	67.3	67.5	65.4	62.1	57.6	59.4	60.8	65.2	61.3
80°	57.1	53.5	54.5	54.5	52.1	49.8	45.6	46.2	46.9	48.5	45.6
82.5°	41.7	41.7	41.7	42.0	37.0	37.8	34.2	33.9	33.1	32.9	31.0
85°	24.8	25.8	26.3	27.1	20.1	23.5	20.3	19.6	18.0	16.4	15.9
87.5°	5.5	7.0	7.0	6.8	0.0	2.6	1.3	2.1	0.5	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°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	573.9	558.2	587.4	613.5	609.3	624.5	589.3	641.4	696.7	696.7
5°	609.1	595.8	603.3	618.5	629.9	682.6	726.4	770.0	859.9	860.9
7.5°	513.6	542.3	549.1	544.7	594.0	661.7	734.0	858.1	934.2	940.2
10°	480.3	493.3	513.9	525.4	545.5	612.2	701.9	849.2	930.0	945.2
12.5°	435.2	483.4	514.7	578.8	594.7	608.0	750.7	878.2	934.0	930.3
15°	385.9	422.4	467.5	538.4	578.8	680.5	779.6	971.0	1002.5	1030.2
17.5°	307.7	334.5	394.5	475.3	575.4	669.0	851.0	1085.7	1144.6	1173.3
20°	253.2	253.4	313.4	420.6	529.6	621.1	878.2	1180.9	1255.7	1270.3
22.5°	239.4	227.4	258.9	346.0	479.0	649.5	932.9	1333.9	1490.1	1526.9
25°	231.8	217.2	237.0	305.3	442.7	664.4	1043.2	1544.3	1744.8	1759.2
27.5°	234.9	241.7	248.0	272.2	396.8	636.5	1017.6	1638.5	1853.3	1880.4
30°	256.0	267.0	252.7	261.0	359.0	596.0	1063.3	1791.3	1989.9	2035.6
32.5°	213.0	208.8	207.5	225.8	321.2	559.5	1159.0	2006.4	2138.0	2195.4
35°	192.2	185.6	188.3	209.1	302.7	554.3	1212.7	2184.4	2371.9	2407.1
37.5°	191.4	183.8	187.2	202.9	309.2	563.7	1298.7	2470.2	2784.4	2859.7
40°	189.6	185.4	187.2	198.9	302.5	568.9	1348.3	2710.3	3071.7	3148.1
42.5°	189.3	187.2	189.0	202.1	295.4	571.3	1416.8	2927.3	3374.4	3434.7
45°	188.5	190.6	190.6	204.7	292.3	586.9	1457.2	3033.7	3574.2	3648.5
47.5°	184.9	191.1	201.3	203.9	279.5	579.6	1514.3	3195.0	3680.3	3750.2
50°	180.2	190.3	214.8	198.7	277.4	561.9	1581.1	3323.1	3816.4	3877.1
52.5°	173.9	189.0	211.7	188.5	273.8	558.8	1674.7	3489.4	3975.2	4028.9
55°	165.0	184.3	202.1	178.3	264.9	548.8	1817.8	3695.7	4183.0	4219.7
57.5°	157.0	177.3	188.0	172.6	243.8	550.9	1917.4	3863.8	4357.4	4389.5
60°	149.7	176.5	167.9	166.6	222.1	523.0	1949.8	3862.0	4422.3	4472.7
62.5°	141.8	166.6	153.8	158.5	203.1	494.4	1881.2	3696.4	4352.2	4440.3
65°	131.7	142.9	142.1	152.8	203.6	447.7	1724.0	3404.4	4177.2	4293.3
67.5°	119.7	126.5	130.9	143.4	210.2	411.4	1471.1	3053.2	3879.5	4017.4
70°	107.4	114.2	119.2	131.1	216.1	394.8	1171.0	2559.9	3394.5	3534.5
72.5°	94.9	101.9	105.9	116.3	208.1	359.0	866.7	1991.8	2724.7	2798.2
75°	81.9	88.6	91.8	101.4	180.7	297.0	598.4	1508.6	1995.7	2070.2
77.5°	68.6	75.9	76.9	84.7	137.9	227.1	383.5	1157.1	1413.2	1463.0
80°	54.8	62.1	62.1	66.2	97.0	156.2	229.7	872.9	1029.1	1048.7
82.5°	39.4	47.2	46.7	46.9	67.0	96.7	133.0	654.2	743.6	747.3
85°	23.2	28.7	28.4	26.1	39.6	52.1	72.0	406.2	415.1	416.1
87.5°	4.4	6.8	6.0	2.6	11.0	15.4	20.9	75.4	30.0	29.2
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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