

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: P366786

Luminaire Tested: **MSA-SA1B-740-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366786
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-SA1B-740-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: 4338 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

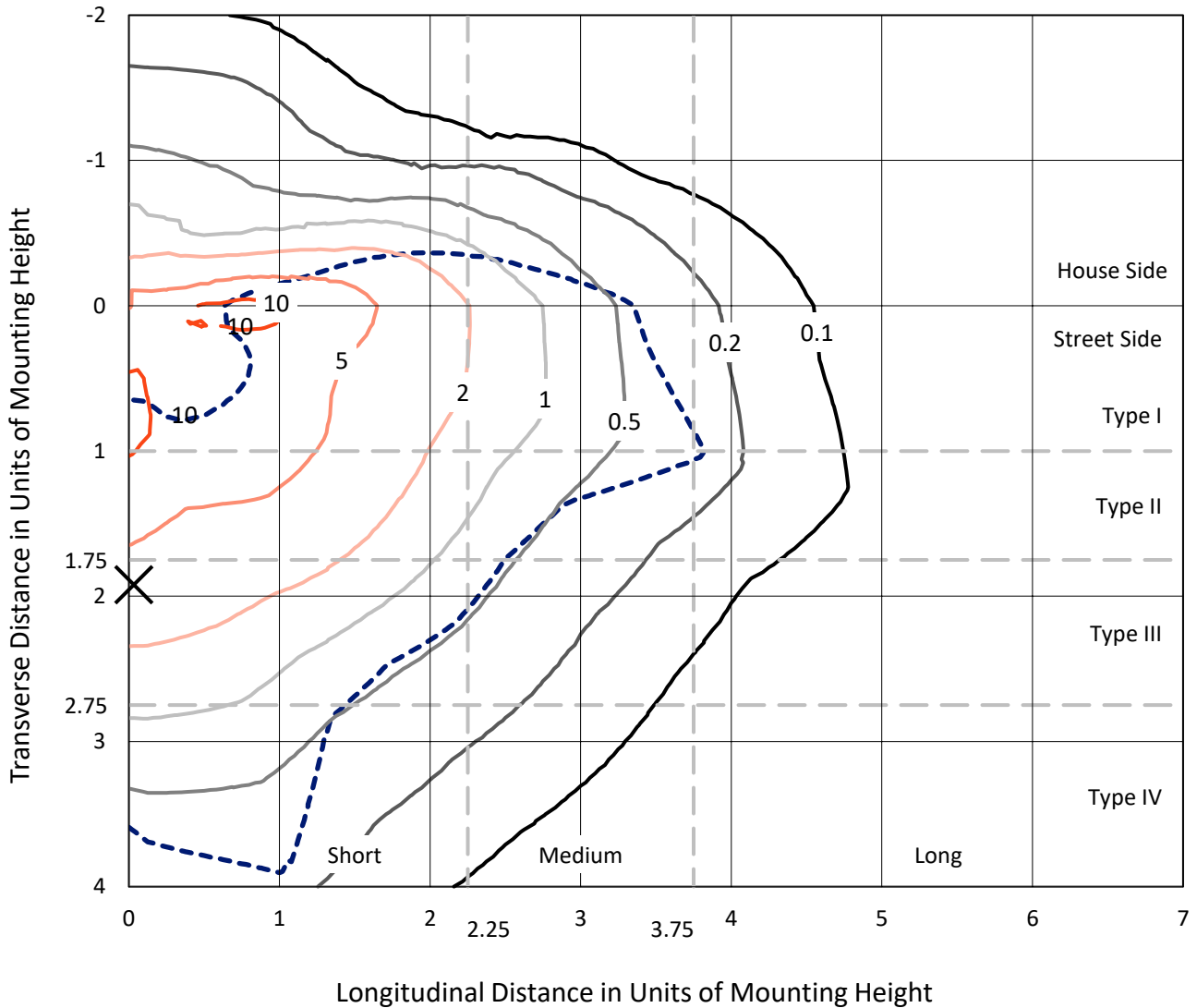
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

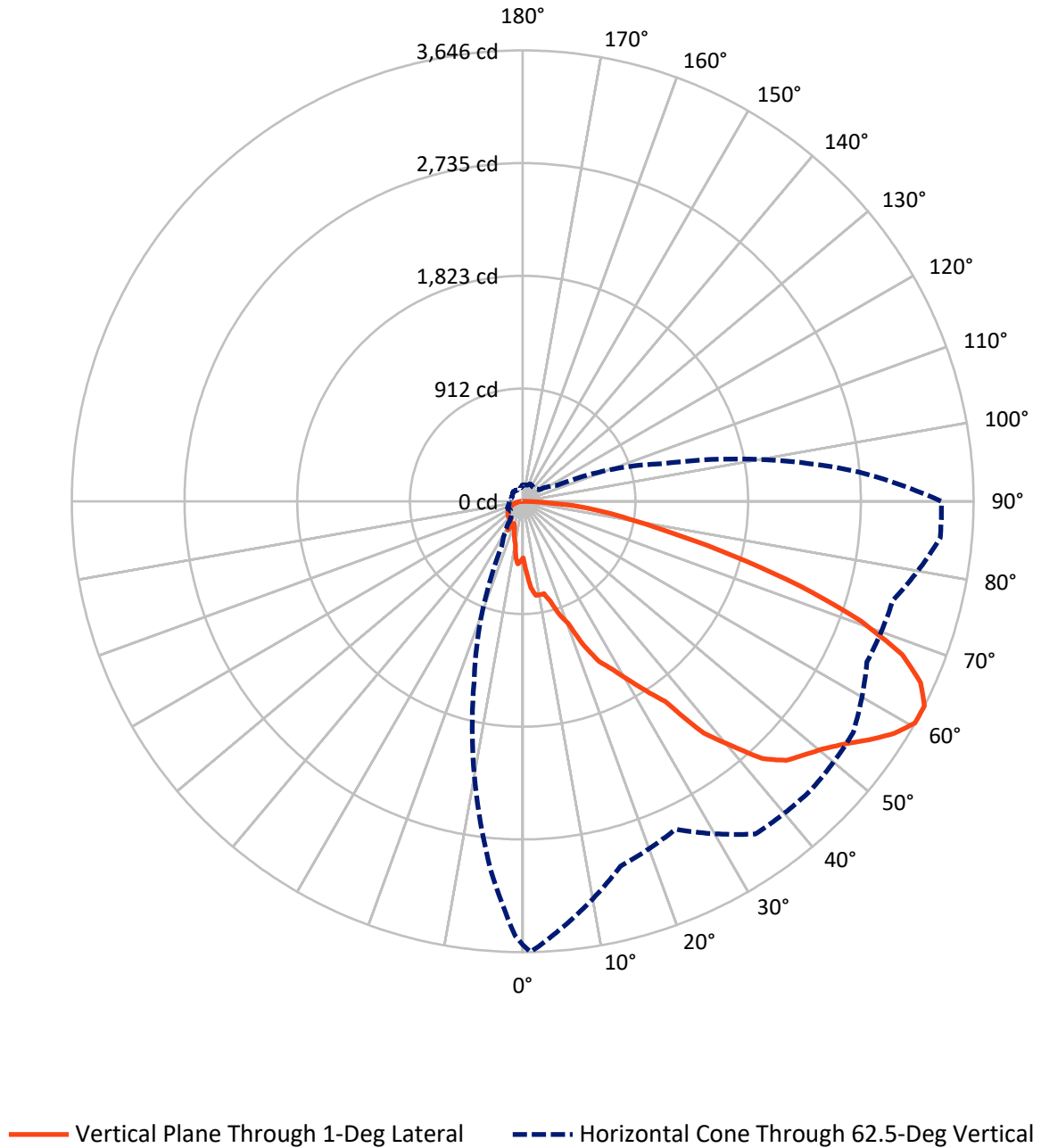
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.6 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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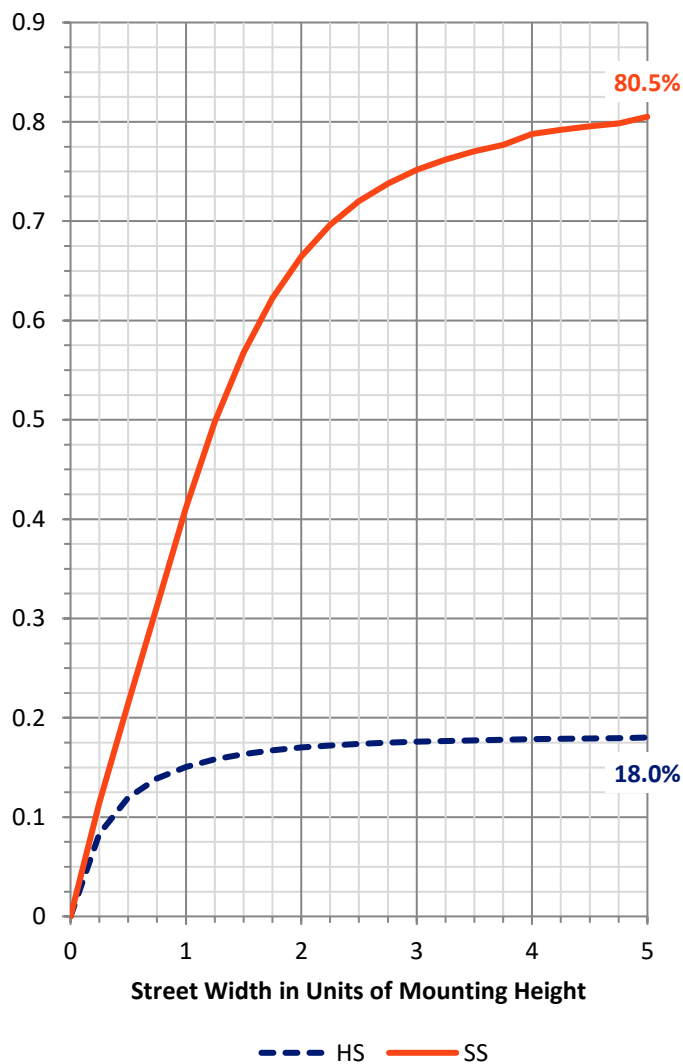
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	789.9	0.0	789.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3548.1	0.0	3548.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	4338.0	0.0	4338.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	1.2
10°-20°	152.4	3.5
20°-30°	269.0	6.2
30°-40°	419.0	9.7
40°-50°	690.0	15.9
50°-60°	984.8	22.7
60°-70°	1044.3	24.1
70°-80°	576.8	13.3
80°-90°	149.2	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°	4338.0	100.0
0°-180°	4338.0	100.0

Coefficient of Utilization

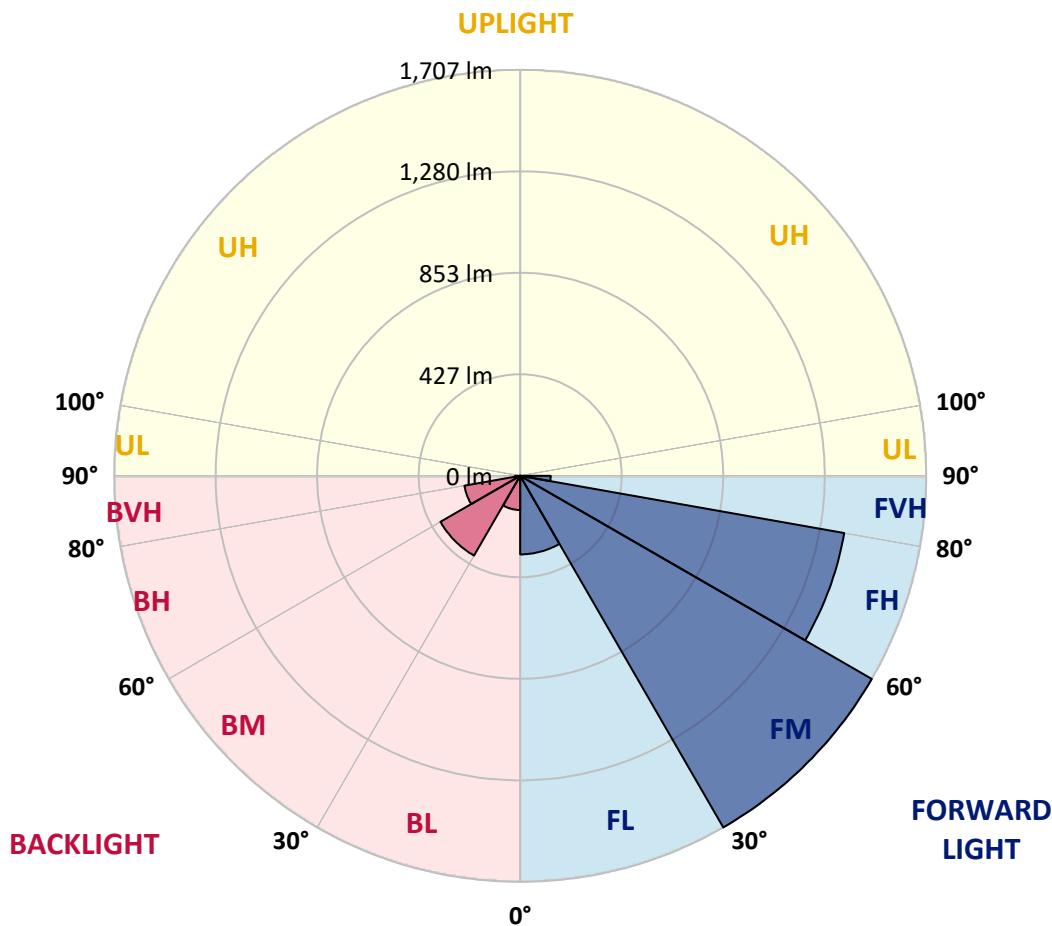


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	330.2	7.6			
FM (30°-60°)	1706.6	39.3			
FH (60°-80°)	1383.1	31.9			G1/1800
FVH (80°-90°)	128.2	3.0			G2/225
BL (0°-30°)	143.7	3.3	B1/500		
BM (30°-60°)	387.2	8.9	B1/1000		
BH (60°-80°)	238.0	5.5	B1/500		G1/500
BVH (80°-90°)	21.0	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°	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4
2.5°	562.5	567.3	557.4	546.3	500.2	544.6	531.3	556.0	548.0	494.5	592.4
5°	695.1	703.9	694.3	727.7	729.8	738.5	658.7	708.4	691.1	686.7	736.2
7.5°	759.1	768.2	792.8	852.4	898.9	856.8	810.3	799.9	786.5	751.3	781.2
10°	763.1	768.2	801.2	927.5	950.0	979.9	949.8	878.9	849.6	773.2	750.5
12.5°	751.1	766.9	809.6	963.5	1030.4	1063.1	1070.4	991.5	919.7	832.6	821.0
15°	831.7	837.4	898.7	989.2	1035.3	1062.9	1086.9	1038.2	1015.7	946.7	853.8
17.5°	947.3	963.1	1013.2	1046.7	1077.8	1083.1	1063.3	1044.3	1008.6	1100.8	1002.0
20°	1025.6	1056.1	1117.6	1123.9	1058.4	1070.0	1067.3	1068.5	1048.1	1218.6	1164.3
22.5°	1232.7	1265.8	1274.2	1237.6	1114.2	1061.4	1071.9	1102.4	1182.9	1328.9	1390.4
25°	1420.3	1433.2	1510.0	1415.7	1219.1	1103.9	1086.7	1165.6	1296.7	1514.6	1558.4
27.5°	1518.2	1534.8	1586.0	1380.7	1232.1	1049.2	1008.8	1129.0	1262.6	1427.3	1619.5
30°	1643.4	1670.0	1739.7	1415.7	1271.5	1085.0	995.5	1110.4	1258.2	1484.5	1748.7
32.5°	1772.5	1824.1	1875.9	1538.8	1266.0	1139.7	1080.3	1089.6	1298.2	1604.5	1882.6
35°	1943.4	1988.9	2033.5	1610.0	1376.3	1185.4	1126.4	1224.5	1400.9	1743.7	2069.3
37.5°	2308.9	2380.9	2263.2	1812.5	1496.3	1391.3	1285.0	1343.1	1509.6	1859.6	2374.3
40°	2541.7	2595.8	2482.1	1950.4	1707.7	1530.0	1512.5	1517.4	1659.2	1959.0	2579.6
42.5°	2773.0	2846.3	2665.5	2139.6	1963.2	1816.5	1726.4	1720.3	1826.8	2137.5	2813.0
45°	2945.7	2988.8	2728.4	2299.2	2237.3	2128.5	2060.9	1953.7	2047.0	2261.1	2957.5
47.5°	3027.8	3062.9	2829.7	2392.0	2415.0	2420.7	2542.5	2359.8	2239.4	2344.7	3033.2
50°	3130.3	3146.9	2889.2	2473.7	2583.8	2833.5	2862.7	2553.1	2426.8	2435.8	3078.1
52.5°	3252.8	3259.7	2976.2	2568.0	2754.5	3105.0	3059.8	2880.6	2605.1	2602.3	3162.5
55°	3406.9	3402.7	3085.2	2694.9	2876.4	3266.5	3232.2	3101.7	2799.4	2740.2	3293.8
57.5°	3543.9	3541.4	3229.9	2811.8	2978.9	3349.4	3359.5	3325.0	2931.6	2838.9	3436.2
60°	3611.1	3643.3	3394.5	2939.6	2985.4	3386.9	3390.7	3335.7	3079.3	2965.7	3474.0
62.5°	3585.0	3646.2	3475.3	3054.5	2925.5	3284.6	3300.4	3262.5	3072.6	3098.7	3389.4
65°	3466.3	3537.0	3405.2	3115.8	2888.6	3113.2	3117.2	3021.4	2976.4	3186.9	3191.1
67.5°	3243.5	3309.8	3182.1	3018.1	2636.4	2651.4	2740.6	2748.4	2682.7	3120.4	2912.6
70°	2853.7	2900.4	2820.4	2776.8	2203.6	2116.0	2212.9	2254.3	2284.2	2880.2	2578.3
72.5°	2259.2	2349.5	2362.1	2390.5	1774.2	1628.3	1700.1	1638.6	1833.3	2451.4	2106.6
75°	1671.4	1747.7	1829.5	1988.1	1398.4	1219.1	1210.2	1178.9	1360.7	1971.4	1562.4
77.5°	1181.2	1229.8	1292.7	1588.1	1055.3	938.9	944.3	912.6	982.7	1490.0	1079.3
80°	846.7	872.1	901.4	1046.2	778.5	810.0	810.9	780.8	730.7	1011.9	720.4
82.5°	603.3	623.1	656.6	690.1	580.4	663.9	663.3	661.4	579.3	683.9	450.7
85°	336.0	362.5	420.6	540.6	419.1	474.7	417.4	459.8	425.2	455.3	228.2
87.5°	23.6	21.1	94.1	313.2	195.6	142.9	74.9	148.4	190.3	237.9	31.8
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°	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4
2.5°	612.6	620.0	591.1	547.7	559.5	546.7	530.5	505.2	453.2	485.4	485.6
5°	735.7	707.7	685.2	663.9	628.2	574.1	566.9	523.5	499.1	512.0	510.1
7.5°	774.3	734.5	700.6	624.6	558.3	474.3	449.0	423.3	412.6	443.8	456.2
10°	731.9	690.5	657.2	564.8	519.7	467.3	397.9	362.3	341.2	349.4	354.3
12.5°	766.0	723.7	619.1	567.5	493.2	461.2	400.4	348.2	317.0	324.6	315.6
15°	798.9	741.8	637.2	534.5	474.3	428.0	378.7	324.8	288.2	275.1	268.2
17.5°	918.9	824.1	635.1	516.0	446.9	393.7	334.3	275.3	250.9	237.5	225.9
20°	1065.2	933.2	646.5	496.8	417.9	350.7	286.1	231.4	214.3	205.5	202.3
22.5°	1239.3	1073.0	711.5	494.1	390.5	319.3	259.6	225.5	206.3	196.6	192.6
25°	1377.6	1217.6	759.5	512.6	389.0	293.5	243.6	250.5	241.7	244.6	221.2
27.5°	1511.9	1257.0	732.6	504.4	349.9	247.6	239.8	254.3	261.9	264.2	263.3
30°	1625.3	1423.3	738.5	458.1	295.6	201.7	183.6	190.7	211.6	244.6	250.9
32.5°	1791.4	1502.8	788.8	430.1	264.2	180.4	160.2	157.5	162.3	174.3	184.6
35°	1985.7	1686.0	802.9	422.7	242.5	170.9	156.8	150.5	153.0	162.1	164.2
37.5°	2348.0	1819.4	855.1	413.7	234.5	165.3	154.3	152.0	157.5	164.8	169.0
40°	2547.8	2059.4	857.6	405.9	224.2	162.9	156.0	154.9	158.3	168.4	170.9
42.5°	2814.1	2196.2	897.2	396.8	220.6	166.1	159.4	158.9	161.9	167.8	172.4
45°	2976.4	2287.8	899.3	391.5	219.8	180.0	163.8	162.3	161.7	165.3	169.5
47.5°	3081.0	2419.8	925.0	385.7	224.8	183.6	169.0	162.7	160.6	162.1	165.3
50°	3180.2	2525.3	973.6	384.8	230.1	180.0	178.3	162.5	158.3	157.7	160.0
52.5°	3301.8	2698.7	1033.6	392.8	228.8	174.7	185.2	161.7	154.1	152.6	154.9
55°	3478.9	2884.6	1097.4	386.1	215.8	164.6	178.5	161.0	149.7	146.9	149.0
57.5°	3593.6	2991.1	1168.8	380.4	196.0	157.0	172.4	161.5	150.1	144.0	145.3
60°	3555.5	2933.9	1196.7	345.7	177.2	151.1	157.9	158.1	146.3	140.6	141.7
62.5°	3387.1	2726.5	1170.6	305.2	163.4	142.7	142.9	151.8	135.4	131.4	133.0
65°	3151.8	2468.6	1065.0	278.9	156.8	133.9	130.5	133.3	120.6	117.7	121.0
67.5°	2862.9	2150.8	907.7	251.1	154.5	121.9	117.9	116.8	108.8	105.5	108.8
70°	2500.6	1800.9	725.6	231.6	145.7	108.8	105.7	104.6	97.9	95.4	98.3
72.5°	2009.9	1406.2	560.0	216.6	136.0	96.8	94.1	92.8	87.2	83.6	87.2
75°	1429.6	1074.7	416.0	193.7	122.3	84.6	81.5	79.8	74.5	71.2	74.3
77.5°	1015.9	806.7	290.5	160.2	100.8	71.6	69.7	66.9	62.3	58.3	61.5
80°	751.1	576.4	187.4	123.6	77.0	57.3	56.2	54.3	49.9	45.0	47.4
82.5°	494.5	415.5	107.4	83.8	56.0	41.3	42.1	40.8	36.6	31.6	32.8
85°	221.5	246.1	57.0	46.1	36.4	24.8	27.2	26.3	23.2	18.3	18.7
87.5°	21.3	41.5	17.5	16.8	13.5	7.8	9.7	8.2	6.9	4.4	3.4
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4
2.5°	493.0	463.3	433.7	451.8	452.2	457.0	457.6	439.8	454.1	465.0	476.4
5°	500.8	481.4	482.5	465.0	455.5	467.8	465.2	460.4	469.0	481.0	495.5
7.5°	444.4	431.8	429.7	412.8	372.0	362.9	370.5	373.7	385.2	403.8	419.3
10°	346.9	372.0	343.8	337.2	326.5	305.4	293.2	291.8	316.4	331.3	344.4
12.5°	312.6	306.3	302.9	285.0	285.0	262.7	255.6	262.1	300.0	310.7	327.6
15°	266.3	261.7	246.1	237.2	233.0	224.0	231.6	237.9	273.2	274.1	291.8
17.5°	221.0	218.3	203.6	201.9	197.7	193.7	200.6	215.8	234.9	231.6	239.8
20°	197.7	188.2	174.7	179.6	175.1	172.0	169.0	190.5	204.0	208.4	213.2
22.5°	191.8	174.5	166.5	162.1	162.3	157.3	157.9	175.8	196.2	198.9	196.0
25°	219.1	188.4	162.5	149.7	144.8	143.1	148.0	163.8	188.4	194.3	196.6
27.5°	256.4	204.6	167.4	145.5	135.8	136.6	143.6	154.5	183.6	194.1	196.8
30°	246.1	192.4	167.6	142.3	130.3	134.7	137.3	147.8	179.8	195.6	209.2
32.5°	189.9	173.0	168.6	144.8	140.0	133.0	136.6	146.7	168.6	178.5	179.1
35°	160.8	148.0	145.0	139.1	132.4	129.5	133.5	142.3	156.6	162.7	161.9
37.5°	159.6	145.5	133.9	131.4	128.6	127.8	130.1	138.3	152.8	163.6	161.3
40°	161.7	144.2	132.4	128.0	129.0	125.3	127.6	137.7	153.5	163.6	161.5
42.5°	159.1	142.7	130.5	127.1	128.2	122.9	125.7	136.2	151.8	163.8	159.8
45°	154.1	139.4	129.5	123.8	128.6	120.8	124.2	132.4	146.7	159.8	155.1
47.5°	149.0	135.4	125.0	121.5	126.3	118.7	120.2	127.4	141.7	154.5	150.5
50°	143.6	130.3	121.5	120.4	123.8	118.3	116.0	121.9	135.6	148.4	145.0
52.5°	137.7	126.1	118.9	118.5	121.7	115.6	112.2	116.8	129.0	141.9	139.1
55°	132.0	121.5	115.8	116.8	120.4	113.3	109.0	112.0	122.1	134.7	130.9
57.5°	126.3	116.2	111.6	114.5	117.3	110.3	105.0	106.7	114.9	127.4	122.9
60°	121.3	111.6	106.9	110.5	113.0	105.9	99.8	100.8	108.2	119.4	115.4
62.5°	114.7	106.5	100.4	105.0	106.9	100.0	93.5	94.7	100.6	111.1	108.2
65°	105.5	100.2	94.5	97.7	100.2	93.0	86.9	88.4	92.8	102.7	100.6
67.5°	97.5	92.4	88.6	91.2	91.6	86.1	80.6	81.5	85.0	94.3	92.0
70°	88.6	83.8	80.8	82.7	82.5	77.9	73.7	73.9	76.8	85.3	82.1
72.5°	78.9	74.3	72.8	73.9	73.0	68.8	64.8	66.3	68.2	74.5	72.0
75°	68.6	64.4	63.6	64.6	63.4	59.4	55.8	57.3	58.9	64.2	61.0
77.5°	57.9	54.1	54.3	54.5	52.8	50.1	46.5	48.0	49.0	52.6	49.5
80°	46.1	43.2	44.0	44.0	42.1	40.2	36.8	37.3	37.9	39.2	36.8
82.5°	33.7	33.7	33.7	33.9	29.9	30.5	27.6	27.4	26.7	26.5	25.1
85°	20.0	20.8	21.3	21.9	16.2	18.9	16.4	15.8	14.5	13.3	12.8
87.5°	4.4	5.7	5.7	5.5	0.0	2.1	1.1	1.7	0.4	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°	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4	457.4
2.5°	463.3	450.7	474.3	495.3	492.0	504.2	475.8	517.9	562.5	562.5
5°	491.8	481.0	487.1	499.3	508.6	551.1	586.5	621.6	694.3	695.1
7.5°	414.7	437.9	443.3	439.8	479.5	534.3	592.6	692.8	754.3	759.1
10°	387.8	398.3	414.9	424.2	440.4	494.3	566.7	685.6	750.9	763.1
12.5°	351.3	390.3	415.5	467.3	480.2	490.9	606.1	709.0	754.0	751.1
15°	311.6	341.0	377.4	434.7	467.3	549.4	629.4	783.9	809.4	831.7
17.5°	248.4	270.1	318.5	383.8	464.6	540.2	687.1	876.6	924.1	947.3
20°	204.4	204.6	253.0	339.6	427.5	501.4	709.0	953.4	1013.8	1025.6
22.5°	193.2	183.6	209.0	279.3	386.7	524.4	753.2	1077.0	1203.1	1232.7
25°	187.1	175.4	191.4	246.5	357.4	536.4	842.2	1246.8	1408.7	1420.3
27.5°	189.7	195.1	200.2	219.8	320.4	513.9	821.6	1322.8	1496.3	1518.2
30°	206.7	215.6	204.0	210.7	289.9	481.2	858.5	1446.2	1606.6	1643.4
32.5°	172.0	168.6	167.6	182.3	259.3	451.8	935.7	1619.9	1726.2	1772.5
35°	155.1	149.9	152.0	168.8	244.4	447.5	979.1	1763.7	1915.0	1943.4
37.5°	154.5	148.4	151.1	163.8	249.7	455.1	1048.5	1994.4	2248.0	2308.9
40°	153.0	149.7	151.1	160.6	244.2	459.3	1088.5	2188.2	2480.0	2541.7
42.5°	152.8	151.1	152.6	163.1	238.5	461.2	1143.9	2363.4	2724.4	2773.0
45°	152.2	153.9	153.9	165.3	236.0	473.9	1176.5	2449.3	2885.7	2945.7
47.5°	149.3	154.3	162.5	164.6	225.7	468.0	1222.6	2579.6	2971.3	3027.8
50°	145.5	153.7	173.5	160.4	224.0	453.6	1276.5	2682.9	3081.2	3130.3
52.5°	140.4	152.6	170.9	152.2	221.0	451.1	1352.1	2817.3	3209.4	3252.8
55°	133.3	148.8	163.1	144.0	213.9	443.1	1467.7	2983.8	3377.2	3406.9
57.5°	126.7	143.1	151.8	139.4	196.8	444.8	1548.1	3119.5	3518.0	3543.9
60°	120.8	142.5	135.6	134.5	179.4	422.3	1574.2	3118.1	3570.5	3611.1
62.5°	114.5	134.5	124.2	128.0	164.0	399.1	1518.8	2984.4	3513.8	3585.0
65°	106.3	115.4	114.7	123.4	164.4	361.4	1391.9	2748.6	3372.6	3466.3
67.5°	96.6	102.1	105.7	115.8	169.7	332.2	1187.7	2465.1	3132.2	3243.5
70°	86.7	92.2	96.2	105.9	174.5	318.7	945.4	2066.8	2740.6	2853.7
72.5°	76.6	82.3	85.5	93.9	168.0	289.9	699.7	1608.1	2199.8	2259.2
75°	66.1	71.6	74.1	81.9	145.9	239.8	483.1	1218.0	1611.2	1671.4
77.5°	55.4	61.3	62.1	68.4	111.4	183.4	309.7	934.2	1141.0	1181.2
80°	44.2	50.1	50.1	53.5	78.3	126.1	185.5	704.8	830.9	846.7
82.5°	31.8	38.1	37.7	37.9	54.1	78.1	107.4	528.2	600.4	603.3
85°	18.7	23.2	22.9	21.1	32.0	42.1	58.1	328.0	335.1	336.0
87.5°	3.6	5.5	4.8	2.1	8.8	12.4	16.8	60.8	24.2	23.6
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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