

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: P367380

Luminaire Tested: **MSA-SA2B-830-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367380
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-SA2B-830-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 6781 lumens
Efficiency: N/A
Efficacy: 79.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

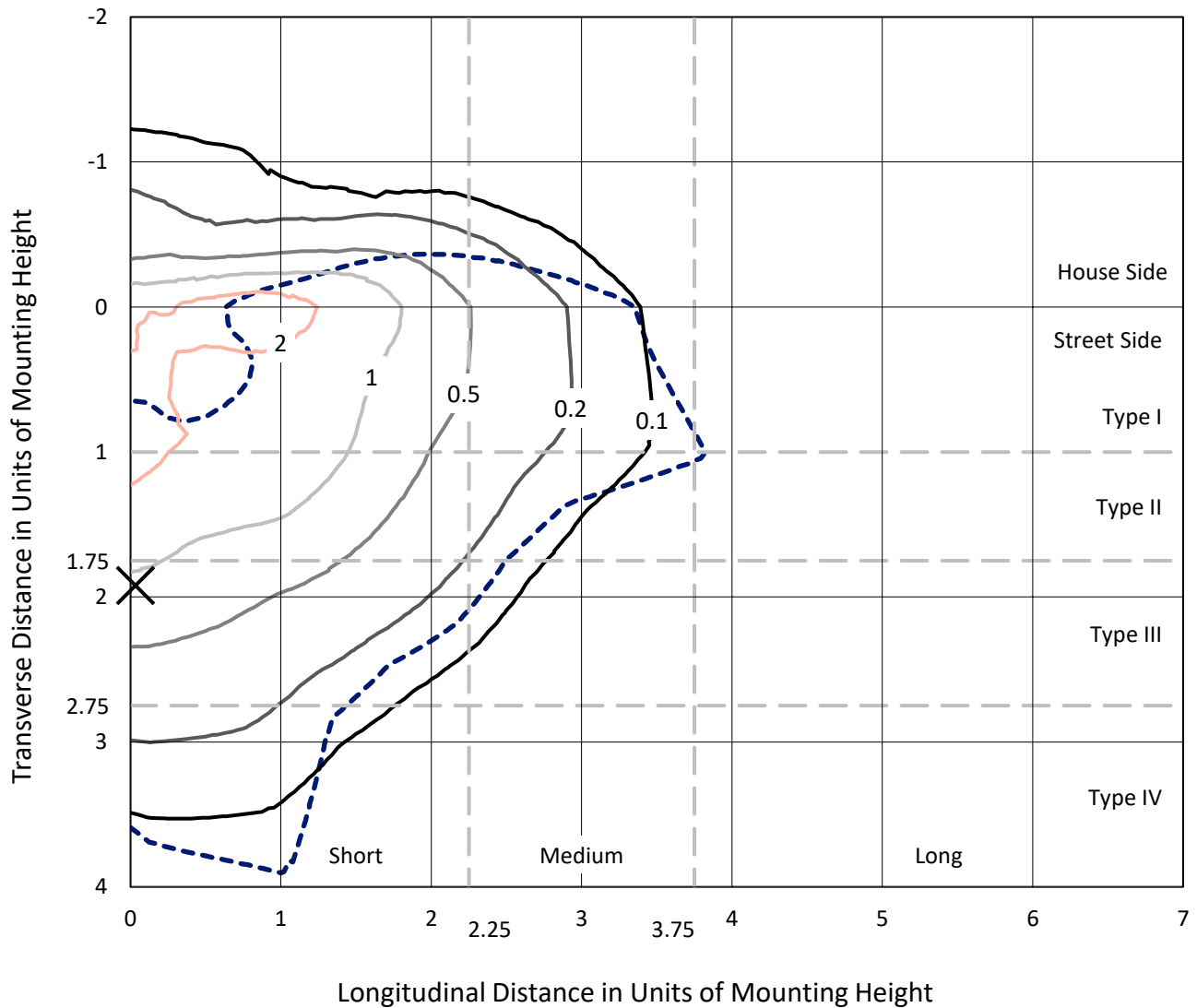
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

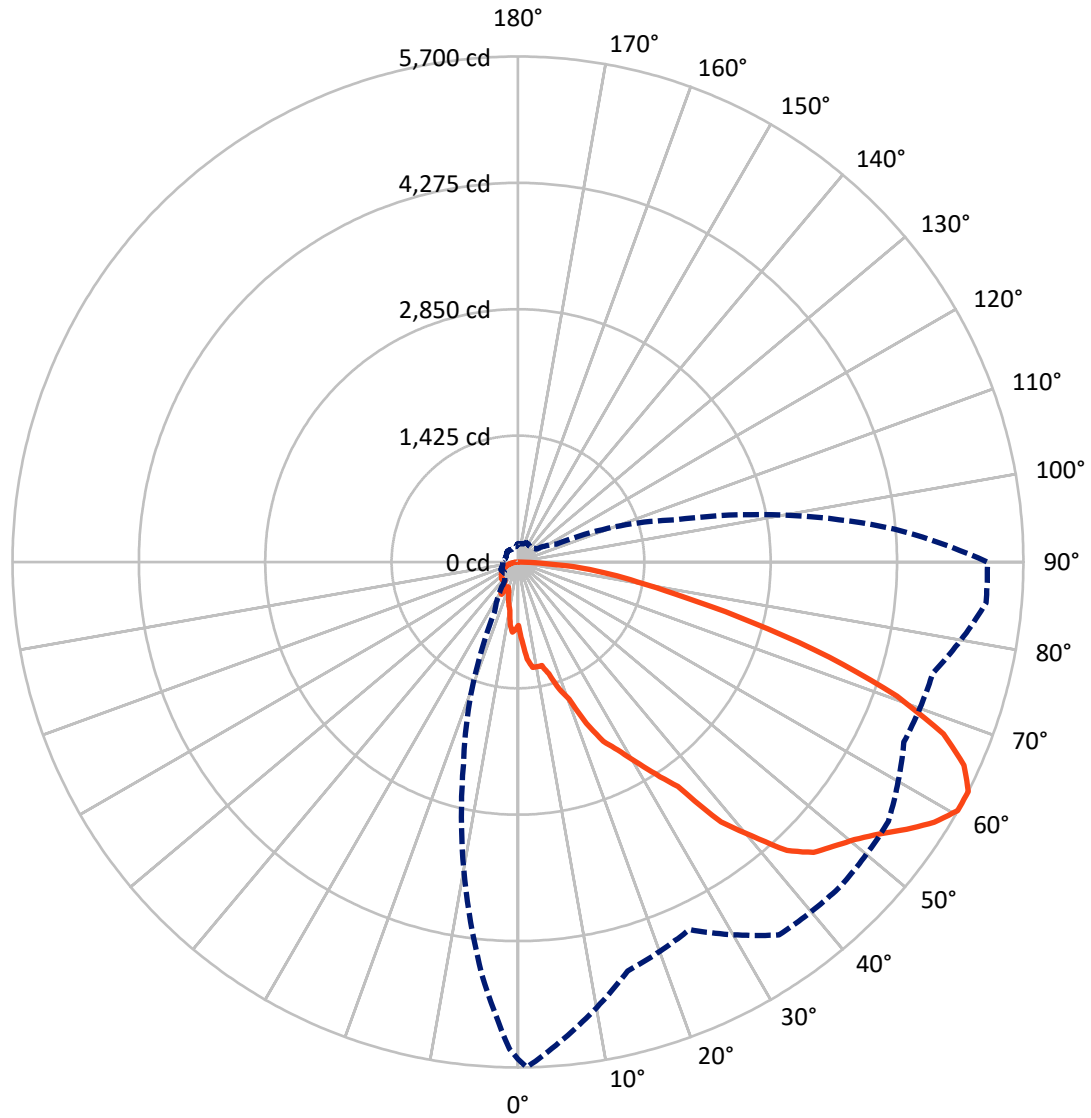
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 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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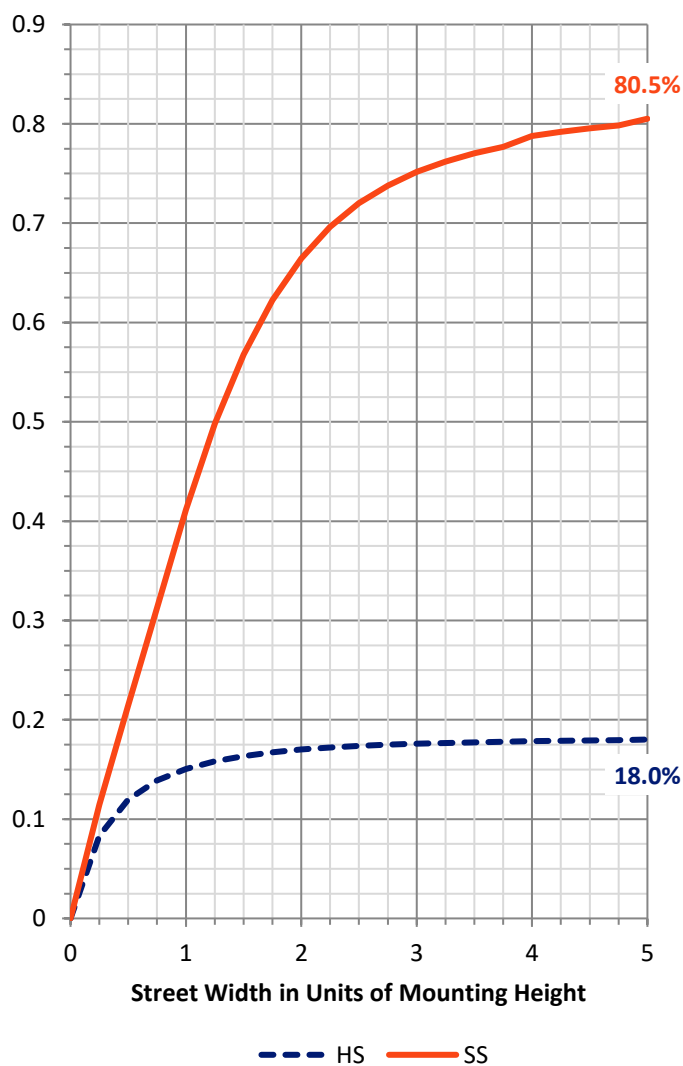
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1234.8	0.0	1234.8
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	5546.2	0.0	5546.2
	% Fixture	81.8	0.0	81.8
Total	Lumens	6781.0	0.0	6781.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.0	1.2
10°-20°	238.2	3.5
20°-30°	420.5	6.2
30°-40°	655.0	9.7
40°-50°	1078.6	15.9
50°-60°	1539.4	22.7
60°-70°	1632.4	24.1
70°-80°	901.7	13.3
80°-90°	233.2	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°	6781.0	100.0
0°-180°	6781.0	100.0

Coefficient of Utilization



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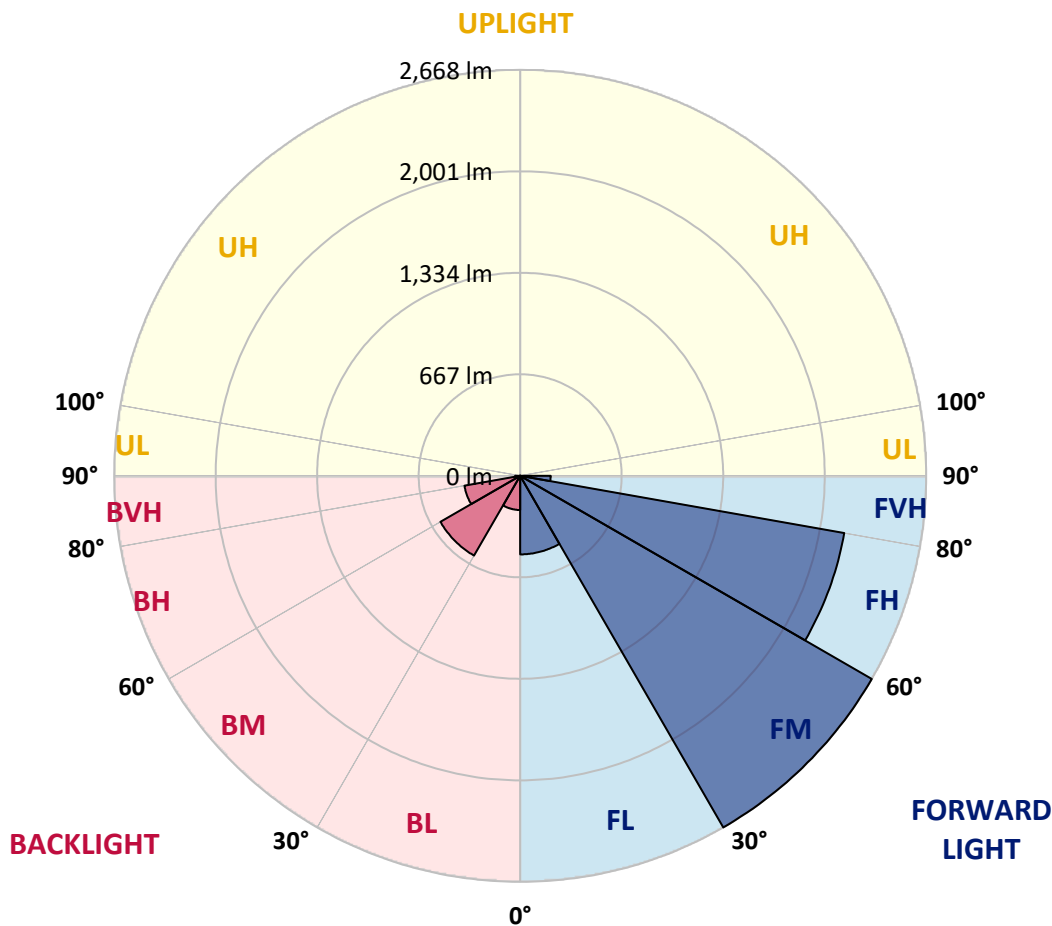
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	516.1	7.6			
FM (30°-60°)	2667.7	39.3			
FH (60°-80°)	2162.1	31.9			G2/5000
FVH (80°-90°)	200.3	3.0			G2/225
BL (0°-30°)	224.6	3.3	B1/500		
BM (30°-60°)	605.3	8.9	B1/1000		
BH (60°-80°)	372.0	5.5	B1/500		G1/500
BVH (80°-90°)	32.9	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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	879.3	886.8	871.4	853.9	781.8	851.3	830.6	869.1	856.5	773.0	926.0
5°	1086.6	1100.4	1085.2	1137.6	1140.9	1154.3	1029.6	1107.3	1080.3	1073.4	1150.7
7.5°	1186.6	1200.7	1239.2	1332.4	1405.1	1339.3	1266.6	1250.4	1229.4	1174.4	1221.1
10°	1192.8	1200.7	1252.4	1449.8	1485.1	1531.8	1484.7	1373.8	1328.1	1208.6	1173.1
12.5°	1174.1	1198.8	1265.6	1506.1	1610.8	1661.8	1673.3	1549.9	1437.7	1301.4	1283.3
15°	1300.1	1309.0	1404.8	1546.3	1618.3	1661.4	1698.9	1622.9	1587.7	1479.8	1334.7
17.5°	1480.8	1505.5	1583.8	1636.1	1684.8	1693.0	1662.1	1632.5	1576.5	1720.7	1566.3
20°	1603.2	1650.9	1747.0	1756.9	1654.5	1672.6	1668.3	1670.3	1638.4	1904.9	1820.0
22.5°	1927.0	1978.6	1991.8	1934.5	1741.7	1659.1	1675.6	1723.3	1849.0	2077.4	2173.4
25°	2220.2	2240.2	2360.4	2212.9	1905.6	1725.6	1698.6	1822.0	2027.0	2367.6	2436.0
27.5°	2373.2	2399.2	2479.1	2158.3	1926.0	1640.0	1576.9	1764.8	1973.7	2231.0	2531.5
30°	2569.0	2610.4	2719.4	2212.9	1987.5	1696.0	1556.1	1735.8	1966.8	2320.5	2733.5
32.5°	2770.7	2851.3	2932.3	2405.4	1979.0	1781.5	1688.7	1703.2	2029.3	2508.1	2942.8
35°	3037.9	3109.0	3178.7	2516.7	2151.4	1852.9	1760.8	1914.1	2189.9	2725.6	3234.7
37.5°	3609.1	3721.7	3537.7	2833.2	2339.0	2174.8	2008.6	2099.4	2359.7	2906.9	3711.5
40°	3973.1	4057.7	3880.0	3048.8	2669.3	2391.6	2364.3	2371.9	2593.7	3062.2	4032.3
42.5°	4334.7	4449.2	4166.6	3344.6	3068.8	2839.5	2698.6	2689.1	2855.6	3341.3	4397.2
45°	4604.6	4672.0	4265.0	3594.0	3497.3	3327.1	3221.5	3054.0	3199.8	3534.4	4623.0
47.5°	4732.9	4787.8	4423.2	3739.1	3775.0	3783.9	3974.4	3688.8	3500.6	3665.1	4741.4
50°	4893.1	4919.1	4516.4	3866.8	4038.9	4429.2	4474.9	3990.9	3793.4	3807.6	4811.5
52.5°	5084.7	5095.5	4652.3	4014.2	4305.8	4853.7	4782.9	4502.9	4072.1	4067.9	4943.5
55°	5325.5	5318.9	4822.7	4212.6	4496.3	5106.0	5052.4	4848.4	4375.9	4283.4	5148.8
57.5°	5539.7	5535.8	5048.8	4395.3	4656.5	5235.7	5251.5	5197.5	4582.5	4437.7	5371.3
60°	5644.7	5695.1	5306.1	4595.0	4666.7	5294.3	5300.2	5214.3	4813.5	4635.8	5430.5
62.5°	5603.9	5699.7	5432.5	4774.7	4573.0	5134.3	5159.0	5099.8	4803.0	4843.8	5298.2
65°	5418.3	5528.9	5322.9	4870.4	4515.4	4866.5	4872.7	4723.0	4652.6	4981.7	4988.2
67.5°	5070.2	5173.8	4974.1	4717.7	4121.2	4144.5	4284.0	4296.2	4193.6	4877.7	4552.9
70°	4460.8	4533.8	4408.8	4340.6	3444.6	3307.7	3459.1	3523.9	3570.6	4502.2	4030.3
72.5°	3531.5	3672.7	3692.4	3736.8	2773.3	2545.3	2657.5	2561.4	2865.8	3831.9	3292.9
75°	2612.7	2731.9	2859.9	3107.7	2186.0	1905.6	1891.8	1842.7	2127.1	3081.7	2442.3
77.5°	1846.4	1922.4	2020.8	2482.4	1649.6	1467.6	1476.2	1426.5	1536.1	2329.1	1687.1
80°	1323.5	1363.3	1409.0	1635.4	1216.9	1266.2	1267.5	1220.5	1142.2	1581.8	1126.0
82.5°	943.1	974.0	1026.3	1078.7	907.2	1037.9	1036.9	1033.9	905.6	1069.1	704.5
85°	525.2	566.6	657.5	845.0	655.2	742.0	652.5	718.7	664.7	711.8	356.7
87.5°	36.9	32.9	147.1	489.6	305.7	223.4	117.1	232.0	297.5	371.8	49.7
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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	957.6	969.1	924.0	856.2	874.6	854.6	829.2	789.7	708.5	758.8	759.1
5°	1150.1	1106.3	1071.1	1037.9	981.9	897.3	886.2	818.4	780.2	800.3	797.3
7.5°	1210.3	1148.1	1095.1	976.3	872.7	741.4	701.9	661.7	645.0	693.7	713.1
10°	1144.1	1079.3	1027.3	882.9	812.5	730.5	621.9	566.3	533.4	546.2	553.8
12.5°	1197.5	1131.3	967.8	887.1	771.0	721.0	625.9	544.3	495.6	507.4	493.3
15°	1248.8	1159.6	996.1	835.5	741.4	669.0	592.0	507.7	450.5	430.1	419.2
17.5°	1436.4	1288.3	992.8	806.5	698.6	615.3	522.5	430.4	392.2	371.2	353.1
20°	1665.0	1458.7	1010.5	776.6	653.2	548.2	447.2	361.6	335.0	321.2	316.2
22.5°	1937.2	1677.2	1112.2	772.3	610.4	499.2	405.7	352.4	322.5	307.3	301.1
25°	2153.4	1903.3	1187.3	801.3	608.1	458.7	380.7	391.6	377.8	382.4	345.8
27.5°	2363.3	1964.8	1145.1	788.4	546.9	387.0	374.8	397.5	409.4	413.0	411.7
30°	2540.7	2224.8	1154.3	716.0	462.0	315.2	286.9	298.1	330.7	382.4	392.2
32.5°	2800.3	2349.2	1233.0	672.3	413.0	282.0	250.4	246.1	253.7	272.5	288.6
35°	3104.0	2635.4	1255.0	660.8	379.1	267.2	245.2	235.3	239.2	253.4	256.7
37.5°	3670.3	2844.1	1336.6	646.6	366.6	258.3	241.2	237.6	246.1	257.7	264.2
40°	3982.6	3219.2	1340.6	634.4	350.5	254.7	243.8	242.2	247.5	263.2	267.2
42.5°	4398.9	3433.1	1402.5	620.3	344.9	259.6	249.1	248.4	253.0	262.3	269.5
45°	4652.6	3576.2	1405.7	612.1	343.5	281.3	256.0	253.7	252.7	258.3	264.9
47.5°	4816.1	3782.6	1445.9	602.8	351.4	286.9	264.2	254.4	251.1	253.4	258.3
50°	4971.1	3947.4	1521.9	601.5	359.7	281.3	278.7	254.0	247.5	246.5	250.1
52.5°	5161.3	4218.6	1615.7	614.0	357.7	273.1	289.6	252.7	240.9	238.6	242.2
55°	5438.1	4509.1	1715.4	603.5	337.3	257.3	279.0	251.7	234.0	229.7	233.0
57.5°	5617.4	4675.6	1826.9	594.6	306.4	245.5	269.5	252.4	234.6	225.1	227.1
60°	5557.8	4586.1	1870.7	540.3	277.1	236.3	246.8	247.1	228.7	219.8	221.5
62.5°	5294.6	4262.0	1829.9	477.1	255.4	223.1	223.4	237.3	211.6	205.3	208.0
65°	4926.7	3858.9	1664.7	436.0	245.2	209.3	204.0	208.3	188.6	183.9	189.2
67.5°	4475.2	3362.0	1418.9	392.6	241.5	190.5	184.3	182.6	170.1	164.9	170.1
70°	3908.9	2815.1	1134.3	362.0	227.7	170.1	165.2	163.5	153.0	149.1	153.7
72.5°	3141.9	2198.1	875.3	338.6	212.6	151.4	147.1	145.1	136.2	130.6	136.2
75°	2234.7	1679.9	650.2	302.7	191.2	132.3	127.3	124.7	116.5	111.2	116.2
77.5°	1588.0	1261.0	454.1	250.4	157.6	111.9	108.9	104.6	97.4	91.1	96.1
80°	1174.1	901.0	292.9	193.2	120.4	89.5	87.9	84.9	78.0	70.4	74.0
82.5°	773.0	649.6	167.8	131.0	87.5	64.5	65.8	63.8	57.3	49.4	51.3
85°	346.2	384.7	89.2	72.1	56.9	38.8	42.4	41.1	36.2	28.6	29.3
87.5°	33.2	64.8	27.3	26.3	21.1	12.2	15.1	12.8	10.9	6.9	5.3
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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	770.7	724.3	677.9	706.2	706.8	714.4	715.4	687.4	709.8	726.9	744.7
5°	782.8	752.6	754.2	726.9	712.1	731.2	727.2	719.7	733.1	751.9	774.6
7.5°	694.6	674.9	671.6	645.3	581.5	567.3	579.1	584.1	602.2	631.1	655.5
10°	542.3	581.5	537.4	527.2	510.4	477.5	458.4	456.1	494.6	517.9	538.3
12.5°	488.7	478.8	473.5	445.5	445.5	410.7	399.5	409.7	468.9	485.7	512.0
15°	416.3	409.0	384.7	370.9	364.3	350.1	362.0	371.8	427.1	428.4	456.1
17.5°	345.5	341.2	318.2	315.6	309.0	302.7	313.6	337.3	367.2	362.0	374.8
20°	309.0	294.2	273.1	280.7	273.8	268.8	264.2	297.8	318.9	325.8	333.3
22.5°	299.8	272.8	260.3	253.4	253.7	245.8	246.8	274.8	306.7	311.0	306.4
25°	342.6	294.5	254.0	234.0	226.4	223.8	231.3	256.0	294.5	303.7	307.3
27.5°	400.8	319.8	261.6	227.4	212.2	213.6	224.4	241.5	286.9	303.4	307.7
30°	384.7	300.8	261.9	222.4	203.7	210.6	214.5	231.0	281.0	305.7	327.1
32.5°	296.8	270.5	263.6	226.4	218.8	208.0	213.6	229.4	263.6	279.0	280.0
35°	251.4	231.3	226.7	217.5	207.0	202.4	208.6	222.4	244.8	254.4	253.0
37.5°	249.4	227.4	209.3	205.3	201.1	199.7	203.4	216.2	238.9	255.7	252.1
40°	252.7	225.4	207.0	200.1	201.7	195.8	199.4	215.2	239.9	255.7	252.4
42.5°	248.8	223.1	204.0	198.8	200.4	192.2	196.4	212.9	237.3	256.0	249.8
45°	240.9	217.8	202.4	193.5	201.1	188.9	194.1	207.0	229.4	249.8	242.5
47.5°	233.0	211.6	195.5	189.9	197.4	185.6	187.9	199.1	221.5	241.5	235.3
50°	224.4	203.7	189.9	188.2	193.5	184.9	181.3	190.5	211.9	232.0	226.7
52.5°	215.2	197.1	185.9	185.3	190.2	180.7	175.4	182.6	201.7	221.8	217.5
55°	206.3	189.9	181.0	182.6	188.2	177.0	170.5	175.1	190.9	210.6	204.7
57.5°	197.4	181.6	174.4	179.0	183.3	172.4	164.2	166.8	179.7	199.1	192.2
60°	189.5	174.4	167.2	172.8	176.7	165.5	156.0	157.6	169.1	186.6	180.3
62.5°	179.3	166.5	157.0	164.2	167.2	156.3	146.1	148.1	157.3	173.7	169.1
65°	164.9	156.6	147.7	152.7	156.6	145.4	135.9	138.2	145.1	160.6	157.3
67.5°	152.4	144.5	138.5	142.5	143.1	134.6	126.0	127.3	132.9	147.4	143.8
70°	138.5	131.0	126.4	129.3	129.0	121.8	115.2	115.5	120.1	133.3	128.3
72.5°	123.4	116.2	113.9	115.5	114.2	107.6	101.4	103.7	106.6	116.5	112.5
75°	107.3	100.7	99.4	101.0	99.0	92.8	87.2	89.5	92.1	100.4	95.4
77.5°	90.5	84.6	84.9	85.2	82.6	78.3	72.7	75.0	76.7	82.3	77.3
80°	72.1	67.5	68.8	68.8	65.8	62.9	57.6	58.2	59.2	61.2	57.6
82.5°	52.6	52.6	52.6	53.0	46.7	47.7	43.1	42.8	41.8	41.5	39.2
85°	31.3	32.6	33.2	34.2	25.3	29.6	25.7	24.7	22.7	20.7	20.1
87.5°	6.9	8.9	8.9	8.6	0.0	3.3	1.6	2.6	0.7	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°	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0	715.0
2.5°	724.3	704.5	741.4	774.3	769.0	788.1	743.7	809.5	879.3	879.3
5°	768.7	751.9	761.4	780.5	795.0	861.5	916.8	971.7	1085.2	1086.6
7.5°	648.3	684.4	693.0	687.4	749.6	835.2	926.3	1082.9	1179.0	1186.6
10°	606.1	622.6	648.6	663.1	688.4	772.6	885.8	1071.8	1173.8	1192.8
12.5°	549.2	610.1	649.6	730.5	750.6	767.4	947.4	1108.3	1178.7	1174.1
15°	487.0	533.1	590.0	679.5	730.5	858.8	983.9	1225.4	1265.2	1300.1
17.5°	388.3	422.2	497.9	599.9	726.2	844.4	1074.1	1370.2	1444.6	1480.8
20°	319.5	319.8	395.5	530.8	668.3	783.8	1108.3	1490.3	1584.8	1603.2
22.5°	302.1	286.9	326.8	436.7	604.5	819.7	1177.4	1683.5	1880.6	1927.0
25°	292.5	274.1	299.1	385.3	558.7	838.4	1316.6	1949.0	2202.1	2220.2
27.5°	296.5	305.0	312.9	343.5	500.8	803.2	1284.3	2067.8	2339.0	2373.2
30°	323.1	337.0	318.9	329.4	453.1	752.2	1341.9	2260.6	2511.4	2569.0
32.5°	268.8	263.6	261.9	285.0	405.4	706.2	1462.7	2532.1	2698.3	2770.7
35°	242.5	234.3	237.6	263.9	382.0	699.6	1530.5	2756.9	2993.5	3037.9
37.5°	241.5	232.0	236.3	256.0	390.3	711.4	1639.1	3117.5	3514.0	3609.1
40°	239.2	234.0	236.3	251.1	381.7	718.0	1701.6	3420.6	3876.7	3973.1
42.5°	238.9	236.3	238.6	255.0	372.8	721.0	1788.1	3694.4	4258.7	4334.7
45°	237.9	240.5	240.5	258.3	368.9	740.7	1839.1	3828.6	4510.8	4604.6
47.5°	233.3	241.2	254.0	257.3	352.8	731.5	1911.2	4032.3	4644.7	4732.9
50°	227.4	240.2	271.1	250.7	350.1	709.1	1995.4	4193.9	4816.5	4893.1
52.5°	219.5	238.6	267.2	237.9	345.5	705.2	2113.6	4403.8	5016.9	5084.7
55°	208.3	232.6	255.0	225.1	334.3	692.7	2294.2	4664.1	5279.1	5325.5
57.5°	198.1	223.8	237.3	217.8	307.7	695.3	2419.9	4876.4	5499.3	5539.7
60°	188.9	222.8	211.9	210.3	280.4	660.1	2460.7	4874.1	5581.2	5644.7
62.5°	179.0	210.3	194.1	200.1	256.3	623.9	2374.2	4665.1	5492.7	5603.9
65°	166.2	180.3	179.3	192.8	257.0	565.0	2175.8	4296.5	5271.9	5418.3
67.5°	151.0	159.6	165.2	181.0	265.2	519.3	1856.6	3853.3	4896.1	5070.2
70°	135.6	144.1	150.4	165.5	272.8	498.2	1477.8	3230.7	4284.0	4460.8
72.5°	119.8	128.7	133.6	146.8	262.6	453.1	1093.8	2513.7	3438.7	3531.5
75°	103.3	111.9	115.8	128.0	228.0	374.8	755.2	1903.9	2518.6	2612.7
77.5°	86.5	95.8	97.1	106.9	174.1	286.6	484.0	1460.4	1783.5	1846.4
80°	69.1	78.3	78.3	83.6	122.4	197.1	289.9	1101.7	1298.8	1323.5
82.5°	49.7	59.6	58.9	59.2	84.6	122.1	167.8	825.6	938.5	943.1
85°	29.3	36.2	35.9	32.9	50.0	65.8	90.8	512.7	523.9	525.2
87.5°	5.6	8.6	7.6	3.3	13.8	19.4	26.3	95.1	37.8	36.9
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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