

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: P367512

Luminaire Tested: **MSA-SA2C-830-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367512
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-SA2C-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: 8397 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

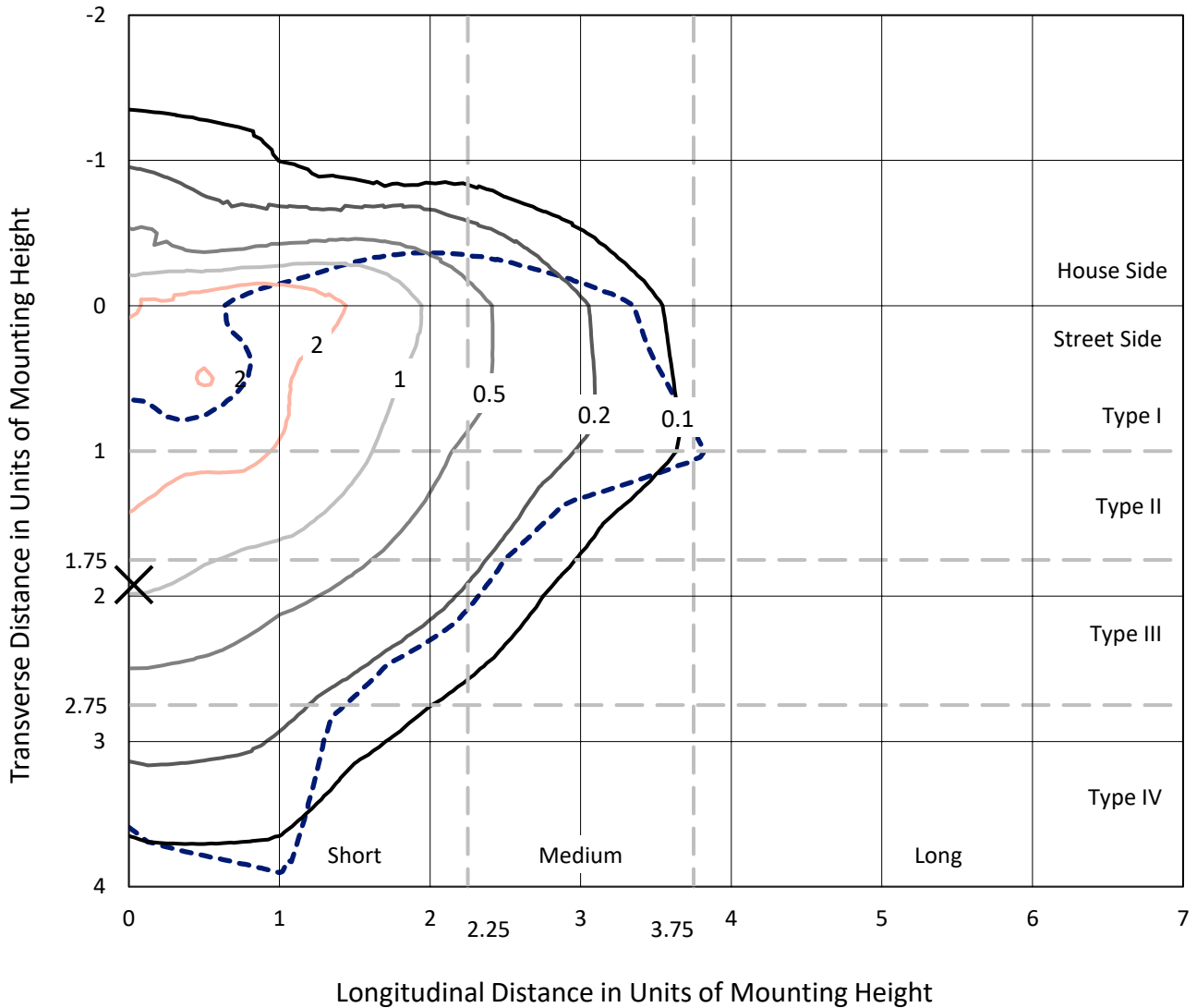
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

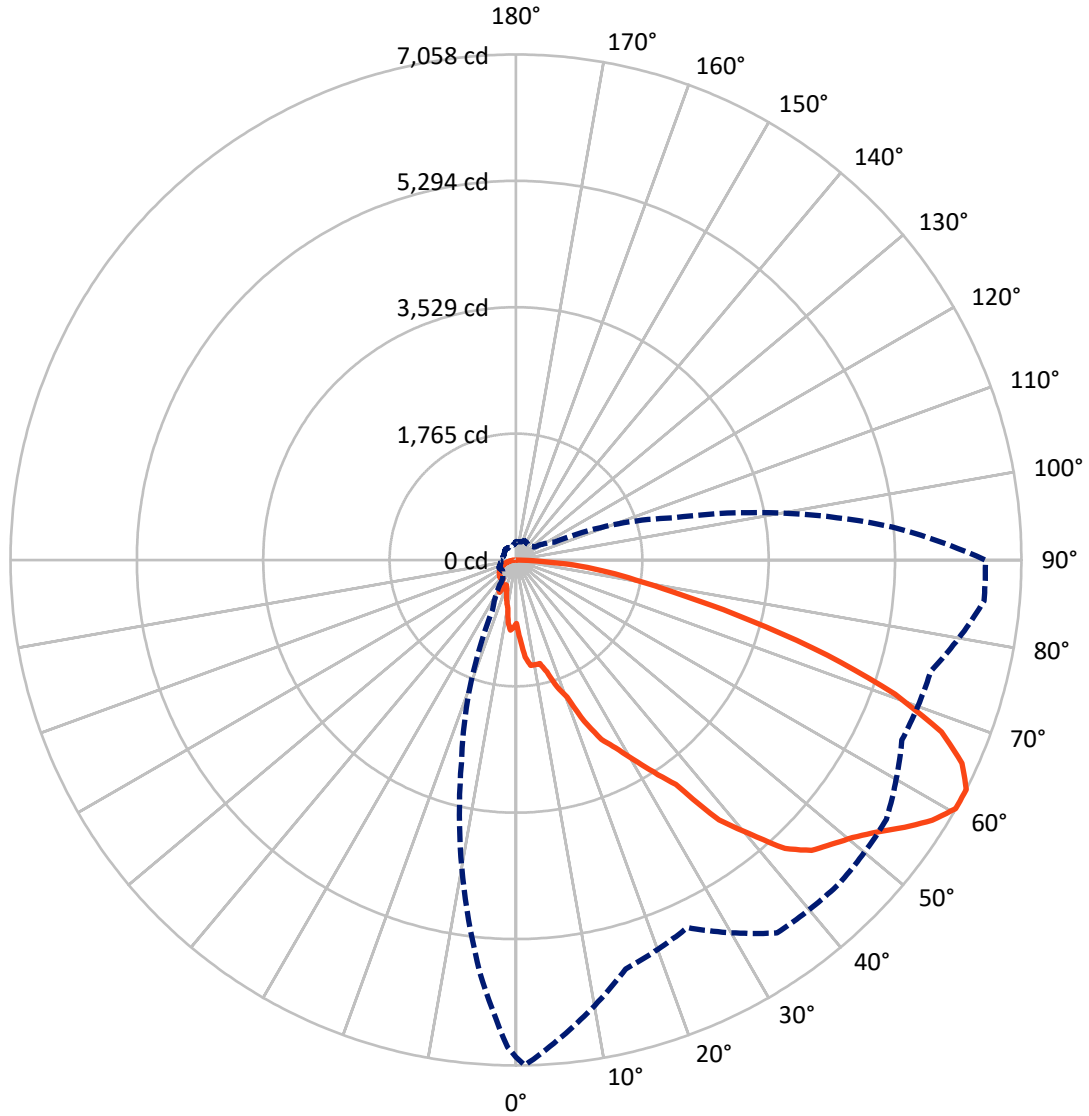
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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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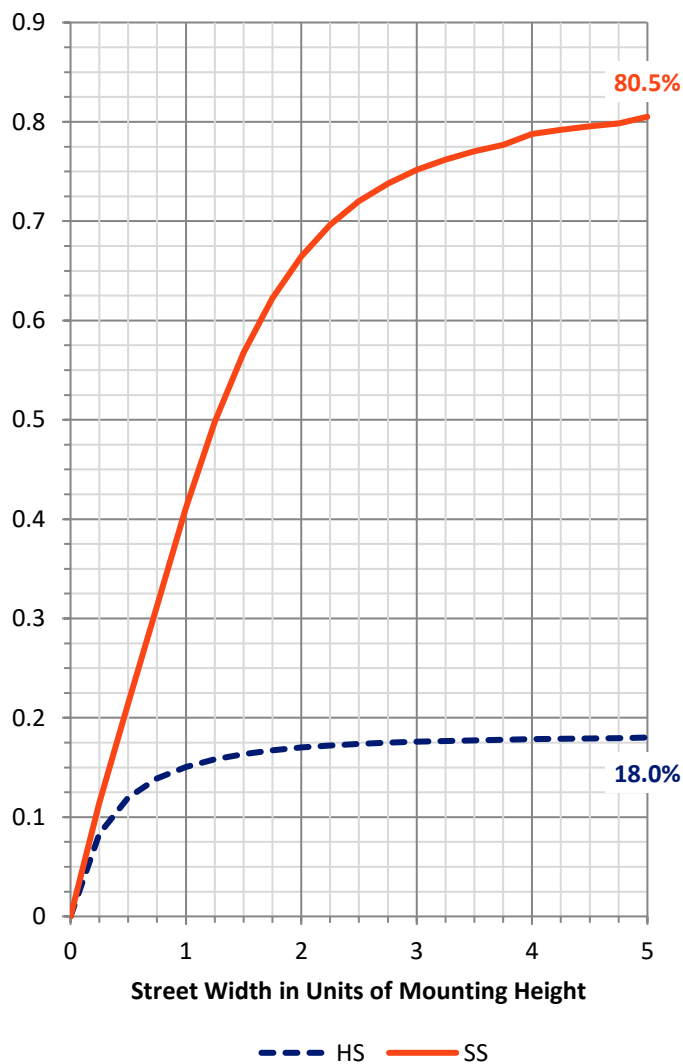
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1529.0	0.0	1529.0
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	6868.0	0.0	6868.0
	% Fixture	81.8	0.0	81.8
Total	Lumens	8397.0	0.0	8397.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.5	1.2
10°-20°	295.0	3.5
20°-30°	520.8	6.2
30°-40°	811.1	9.7
40°-50°	1335.6	15.9
50°-60°	1906.3	22.7
60°-70°	2021.4	24.1
70°-80°	1116.5	13.3
80°-90°	288.8	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°	8397.0	100.0
0°-180°	8397.0	100.0

Coefficient of Utilization

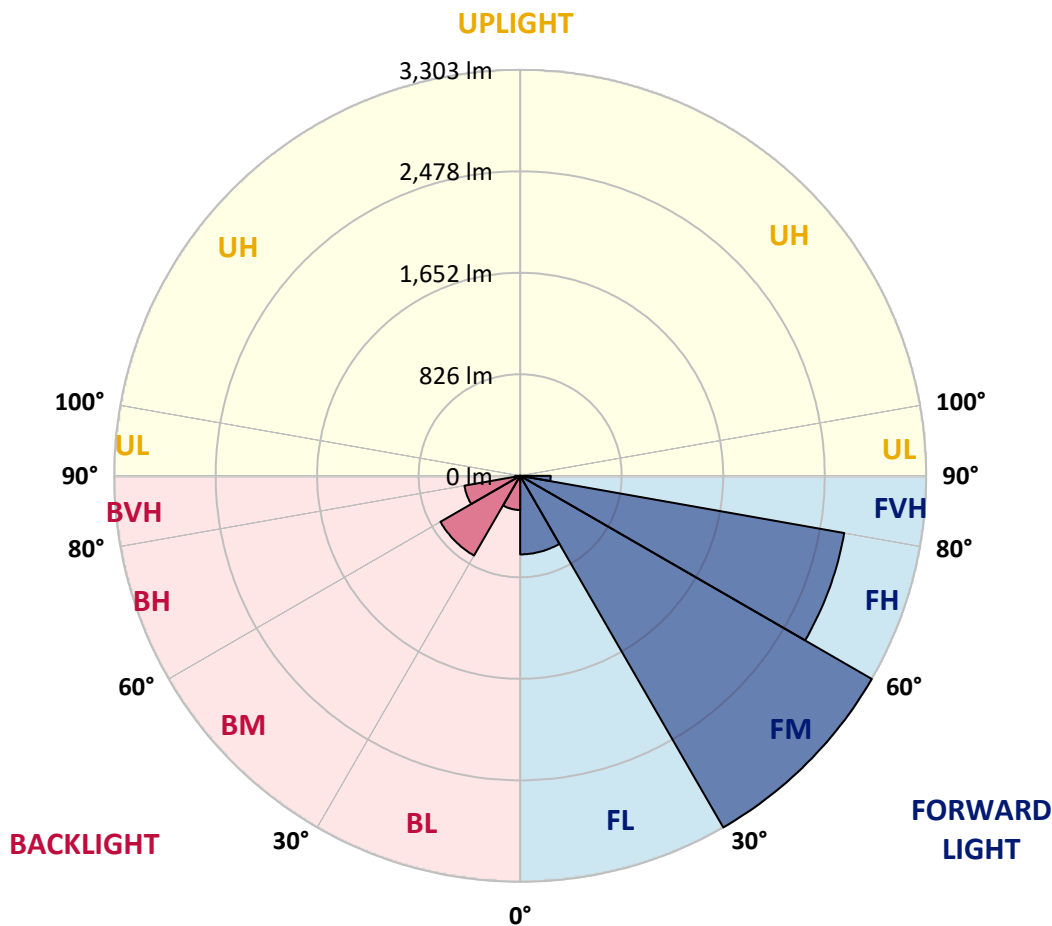


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	639.1	7.6			
FM (30°-60°)	3303.5	39.3			
FH (60°-80°)	2677.3	31.9			G2/5000
FVH (80°-90°)	248.1	3.0			G3/500
BL (0°-30°)	278.1	3.3	B1/500		
BM (30°-60°)	749.6	8.9	B1/1000		
BH (60°-80°)	460.7	5.5	B1/500		G1/500
BVH (80°-90°)	40.7	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-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5
2.5°	1088.8	1098.2	1079.0	1057.4	968.2	1054.2	1028.5	1076.2	1060.7	957.2	1146.7
5°	1345.5	1362.6	1343.9	1408.7	1412.7	1429.4	1275.0	1371.2	1337.8	1329.2	1425.0
7.5°	1469.4	1486.9	1534.6	1649.9	1739.9	1658.4	1568.4	1548.4	1522.3	1454.3	1512.2
10°	1477.1	1486.9	1550.9	1795.4	1839.0	1896.8	1838.6	1701.2	1644.6	1496.7	1452.7
12.5°	1453.9	1484.5	1567.2	1865.0	1994.6	2057.8	2072.0	1919.2	1780.3	1611.6	1589.2
15°	1610.0	1621.0	1739.5	1914.8	2004.0	2057.4	2103.8	2009.7	1966.1	1832.4	1652.7
17.5°	1833.7	1864.2	1961.2	2026.0	2086.3	2096.5	2058.2	2021.5	1952.2	2130.7	1939.6
20°	1985.2	2044.3	2163.3	2175.5	2048.8	2071.2	2065.9	2068.4	2028.8	2358.9	2253.8
22.5°	2386.2	2450.2	2466.5	2395.6	2156.8	2054.5	2074.9	2134.0	2289.6	2572.4	2691.4
25°	2749.3	2774.1	2922.9	2740.3	2359.7	2136.8	2103.4	2256.2	2510.1	2931.8	3016.6
27.5°	2938.7	2970.9	3070.0	2672.7	2385.0	2030.9	1952.6	2185.3	2444.1	2762.7	3134.7
30°	3181.2	3232.5	3367.4	2740.3	2461.2	2100.2	1927.0	2149.5	2435.5	2873.6	3384.9
32.5°	3431.0	3530.8	3631.1	2978.7	2450.6	2206.1	2091.2	2109.1	2512.9	3105.8	3644.1
35°	3761.9	3849.9	3936.3	3116.4	2664.1	2294.5	2180.4	2370.3	2711.8	3375.2	4005.5
37.5°	4469.2	4608.6	4380.8	3508.4	2896.4	2693.0	2487.3	2599.7	2922.0	3599.7	4596.0
40°	4919.9	5024.6	4804.6	3775.3	3305.5	2961.6	2927.7	2937.1	3211.8	3792.0	4993.3
42.5°	5367.7	5509.5	5159.5	4141.6	3800.2	3516.1	3341.7	3329.9	3536.1	4137.6	5445.2
45°	5701.9	5785.4	5281.4	4450.5	4330.7	4120.0	3989.2	3781.8	3962.3	4376.7	5724.7
47.5°	5860.8	5928.8	5477.4	4630.2	4674.6	4685.6	4921.5	4567.9	4334.8	4538.5	5871.4
50°	6059.2	6091.4	5592.7	4788.3	5001.4	5484.7	5541.3	4941.9	4697.4	4715.0	5958.2
52.5°	6296.4	6309.8	5761.0	4970.9	5331.9	6010.3	5922.7	5576.0	5042.6	5037.3	6121.6
55°	6594.7	6586.5	5972.0	5216.6	5567.8	6322.9	6256.5	6003.8	5418.7	5304.2	6375.8
57.5°	6859.9	6855.0	6252.0	5442.7	5766.3	6483.4	6503.0	6436.2	5674.6	5495.3	6651.3
60°	6989.9	7052.3	6570.6	5690.1	5778.9	6556.0	6563.3	6456.9	5960.6	5740.6	6724.7
62.5°	6939.4	7058.0	6727.1	5912.5	5662.8	6357.9	6388.5	6315.1	5947.6	5998.1	6560.8
65°	6709.6	6846.5	6591.4	6031.1	5591.4	6026.2	6034.0	5848.6	5761.4	6168.8	6177.0
67.5°	6278.5	6406.8	6159.5	5842.0	5103.3	5132.2	5305.0	5320.1	5192.9	6040.1	5637.9
70°	5523.8	5614.3	5459.4	5375.1	4265.5	4096.0	4283.4	4363.7	4421.6	5575.1	4990.8
72.5°	4373.1	4547.9	4572.3	4627.3	3434.2	3151.9	3290.8	3171.8	3548.7	4745.1	4077.7
75°	3235.4	3382.9	3541.4	3848.2	2706.9	2359.7	2342.6	2281.9	2634.0	3816.1	3024.3
77.5°	2286.4	2380.5	2502.3	3074.0	2042.7	1817.4	1828.0	1766.4	1902.1	2884.1	2089.2
80°	1638.9	1688.2	1744.8	2025.2	1506.9	1568.0	1569.6	1511.3	1414.4	1958.8	1394.4
82.5°	1167.8	1206.1	1270.9	1335.7	1123.4	1285.2	1284.0	1280.3	1121.4	1323.9	872.4
85°	650.3	701.7	814.1	1046.4	811.3	918.9	808.0	889.9	823.1	881.4	441.7
87.5°	45.6	40.7	182.1	606.3	378.5	276.7	145.1	287.3	368.4	460.5	61.5
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°	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5
2.5°	1185.8	1200.0	1144.2	1060.3	1083.1	1058.2	1026.9	978.0	877.3	939.7	940.1
5°	1424.1	1369.9	1326.3	1285.2	1215.9	1111.2	1097.3	1013.4	966.1	991.0	987.3
7.5°	1498.7	1421.7	1356.1	1209.0	1080.6	918.1	869.2	819.4	798.7	859.0	883.0
10°	1416.8	1336.5	1272.2	1093.3	1006.1	904.6	770.1	701.3	660.5	676.4	685.8
12.5°	1482.8	1400.9	1198.4	1098.6	954.7	892.8	775.0	674.0	613.7	628.3	610.8
15°	1546.4	1436.0	1233.4	1034.6	918.1	828.4	733.1	628.7	557.8	532.6	519.1
17.5°	1778.7	1595.3	1229.4	998.7	865.1	762.0	647.1	533.0	485.7	459.6	437.2
20°	2061.9	1806.4	1251.4	961.7	808.8	678.9	553.8	447.8	414.8	397.7	391.6
22.5°	2398.8	2076.9	1377.3	956.4	755.9	618.1	502.4	436.4	399.3	380.6	372.8
25°	2666.6	2356.9	1470.2	992.2	753.0	568.0	471.5	484.9	467.8	473.5	428.3
27.5°	2926.5	2433.1	1418.0	976.3	677.2	479.2	464.1	492.2	506.9	511.4	509.8
30°	3146.2	2755.0	1429.4	886.7	572.1	390.4	355.3	369.2	409.5	473.5	485.7
32.5°	3467.7	2909.0	1526.8	832.5	511.4	349.2	310.1	304.8	314.2	337.4	357.4
35°	3843.8	3263.5	1554.1	818.2	469.4	330.9	303.6	291.3	296.2	313.8	317.8
37.5°	4545.0	3521.9	1655.2	800.7	453.9	319.9	298.7	294.2	304.8	319.1	327.2
40°	4931.7	3986.4	1660.1	785.6	434.0	315.4	301.9	299.9	306.4	326.0	330.9
42.5°	5447.2	4251.2	1736.7	768.1	427.0	321.5	308.5	307.6	313.4	324.8	333.7
45°	5761.4	4428.5	1740.8	757.9	425.4	348.4	317.0	314.2	312.9	319.9	328.0
47.5°	5963.9	4684.0	1790.5	746.5	435.2	355.3	327.2	315.0	310.9	313.8	319.9
50°	6155.8	4888.1	1884.6	744.9	445.4	348.4	345.1	314.6	306.4	305.2	309.7
52.5°	6391.3	5223.9	2000.7	760.4	442.9	338.2	358.6	312.9	298.3	295.4	299.9
55°	6734.0	5583.7	2124.2	747.3	417.7	318.6	345.5	311.7	289.7	284.4	288.5
57.5°	6956.1	5789.9	2262.3	736.3	379.4	304.0	333.7	312.5	290.5	278.7	281.2
60°	6882.3	5679.1	2316.5	669.1	343.1	292.6	305.6	306.0	283.2	272.2	274.2
62.5°	6556.4	5277.7	2266.0	590.8	316.2	276.3	276.7	293.8	262.0	254.3	257.5
65°	6100.8	4778.5	2061.4	539.9	303.6	259.2	252.6	257.9	233.5	227.8	234.3
67.5°	5541.7	4163.2	1757.1	486.1	299.1	235.9	228.2	226.2	210.7	204.1	210.7
70°	4840.5	3486.0	1404.6	448.2	282.0	210.7	204.6	202.5	189.5	184.6	190.3
72.5°	3890.6	2722.0	1083.9	419.3	263.2	187.4	182.1	179.7	168.7	161.8	168.7
75°	2767.2	2080.2	805.2	374.9	236.7	163.8	157.7	154.4	144.2	137.7	143.8
77.5°	1966.5	1561.5	562.3	310.1	195.2	138.5	134.9	129.6	120.6	112.9	119.0
80°	1453.9	1115.7	362.7	239.2	149.1	110.8	108.8	105.1	96.6	87.2	91.7
82.5°	957.2	804.4	207.8	162.2	108.4	79.9	81.5	79.1	70.9	61.1	63.6
85°	428.7	476.3	110.4	89.2	70.5	48.1	52.6	50.9	44.8	35.5	36.3
87.5°	41.2	80.3	33.8	32.6	26.1	15.1	18.7	15.9	13.4	8.6	6.5
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°	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5
2.5°	954.3	896.9	839.4	874.5	875.3	884.6	885.9	851.2	878.9	900.1	922.1
5°	969.4	931.9	933.9	900.1	881.8	905.4	900.5	891.2	907.9	931.1	959.2
7.5°	860.2	835.7	831.7	799.1	720.0	702.5	717.2	723.3	745.7	781.5	811.7
10°	671.5	720.0	665.4	652.8	632.0	591.3	567.6	564.8	612.4	641.4	666.6
12.5°	605.1	592.9	586.4	551.7	551.7	508.5	494.7	507.3	580.7	601.4	634.0
15°	515.5	506.5	476.3	459.2	451.1	433.6	448.2	460.5	528.9	530.5	564.8
17.5°	427.9	422.6	394.0	390.8	382.6	374.9	388.3	417.7	454.7	448.2	464.1
20°	382.6	364.3	338.2	347.6	339.0	332.9	327.2	368.8	394.8	403.4	412.8
22.5°	371.2	337.8	322.3	313.8	314.2	304.4	305.6	340.2	379.8	385.1	379.4
25°	424.2	364.7	314.6	289.7	280.3	277.1	286.5	317.0	364.7	376.1	380.6
27.5°	496.3	396.1	323.9	281.6	262.8	264.5	277.9	299.1	355.3	375.7	381.0
30°	476.3	372.4	324.4	275.5	252.2	260.8	265.7	286.1	348.0	378.5	405.0
32.5°	367.5	334.9	326.4	280.3	271.0	257.5	264.5	284.0	326.4	345.5	346.8
35°	311.3	286.5	280.8	269.3	256.3	250.6	258.3	275.5	303.2	315.0	313.4
37.5°	308.9	281.6	259.2	254.3	249.0	247.3	251.8	267.7	295.8	316.6	312.1
40°	312.9	279.1	256.3	247.7	249.8	242.5	246.9	266.5	297.1	316.6	312.5
42.5°	308.1	276.3	252.6	246.1	248.2	238.0	243.3	263.6	293.8	317.0	309.3
45°	298.3	269.8	250.6	239.6	249.0	233.9	240.4	256.3	284.0	309.3	300.3
47.5°	288.5	262.0	242.0	235.1	244.5	229.8	232.7	246.5	274.2	299.1	291.3
50°	277.9	252.2	235.1	233.1	239.6	229.0	224.5	235.9	262.4	287.3	280.8
52.5°	266.5	244.1	230.2	229.4	235.5	223.7	217.2	226.2	249.8	274.6	269.3
55°	255.5	235.1	224.1	226.2	233.1	219.2	211.1	216.8	236.3	260.8	253.5
57.5°	244.5	224.9	216.0	221.7	227.0	213.5	203.3	206.6	222.5	246.5	238.0
60°	234.7	216.0	207.0	213.9	218.8	205.0	193.1	195.2	209.4	231.0	223.3
62.5°	222.1	206.2	194.4	203.3	207.0	193.6	180.9	183.4	194.8	215.1	209.4
65°	204.1	194.0	183.0	189.1	194.0	180.1	168.3	171.1	179.7	198.9	194.8
67.5°	188.7	178.9	171.5	176.4	177.3	166.7	156.1	157.7	164.6	182.6	178.1
70°	171.5	162.2	156.5	160.1	159.7	150.8	142.6	143.0	148.7	165.0	158.9
72.5°	152.8	143.8	141.0	143.0	141.4	133.2	125.5	128.4	132.0	144.2	139.4
75°	132.8	124.7	123.1	125.1	122.7	114.9	108.0	110.8	114.1	124.3	118.2
77.5°	112.1	104.7	105.1	105.5	102.3	97.0	90.1	92.9	94.9	101.9	95.8
80°	89.2	83.5	85.2	85.2	81.5	77.8	71.3	72.1	73.3	75.8	71.3
82.5°	65.2	65.2	65.2	65.6	57.9	59.1	53.4	53.0	51.8	51.3	48.5
85°	38.7	40.3	41.2	42.4	31.4	36.7	31.8	30.6	28.1	25.7	24.9
87.5°	8.6	11.0	11.0	10.6	0.0	4.1	2.0	3.3	0.8	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°	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5	885.5
2.5°	896.9	872.4	918.1	958.8	952.3	975.9	920.9	1002.4	1088.8	1088.8
5°	951.9	931.1	942.9	966.5	984.5	1066.8	1135.2	1203.3	1343.9	1345.5
7.5°	802.7	847.6	858.2	851.2	928.2	1034.2	1147.1	1341.0	1460.0	1469.4
10°	750.6	771.0	803.1	821.1	852.4	956.8	1096.9	1327.2	1453.5	1477.1
12.5°	680.1	755.5	804.4	904.6	929.5	950.2	1173.1	1372.4	1459.6	1453.9
15°	603.1	660.1	730.6	841.4	904.6	1063.5	1218.4	1517.5	1566.8	1610.0
17.5°	480.8	522.8	616.5	742.8	899.3	1045.6	1330.0	1696.7	1788.8	1833.7
20°	395.7	396.1	489.8	657.3	827.6	970.6	1372.4	1845.5	1962.4	1985.2
22.5°	374.1	355.3	404.6	540.7	748.5	1015.0	1458.0	2084.7	2328.8	2386.2
25°	362.3	339.4	370.4	477.2	691.9	1038.3	1630.3	2413.5	2726.9	2749.3
27.5°	367.1	377.7	387.5	425.4	620.2	994.7	1590.4	2560.6	2896.4	2938.7
30°	400.1	417.3	394.8	407.9	561.1	931.5	1661.7	2799.4	3109.9	3181.2
32.5°	332.9	326.4	324.4	352.9	502.0	874.5	1811.3	3135.6	3341.3	3431.0
35°	300.3	290.1	294.2	326.8	473.1	866.3	1895.2	3413.9	3706.9	3761.9
37.5°	299.1	287.3	292.6	317.0	483.3	881.0	2029.7	3860.5	4351.5	4469.2
40°	296.2	289.7	292.6	310.9	472.7	889.1	2107.1	4235.8	4800.5	4919.9
42.5°	295.8	292.6	295.4	315.8	461.7	892.8	2214.2	4574.8	5273.6	5367.7
45°	294.6	297.9	297.9	319.9	456.8	917.2	2277.4	4741.0	5585.7	5701.9
47.5°	288.9	298.7	314.6	318.6	436.8	905.8	2366.6	4993.3	5751.6	5860.8
50°	281.6	297.5	335.8	310.5	433.6	878.1	2471.0	5193.3	5964.3	6059.2
52.5°	271.8	295.4	330.9	294.6	427.9	873.2	2617.2	5453.3	6212.4	6296.4
55°	257.9	288.1	315.8	278.7	414.0	857.7	2841.0	5775.6	6537.2	6594.7
57.5°	245.3	277.1	293.8	269.8	381.0	861.0	2996.6	6038.5	6809.8	6859.9
60°	233.9	275.9	262.4	260.4	347.2	817.4	3047.1	6035.6	6911.3	6989.9
62.5°	221.7	260.4	240.4	247.7	317.4	772.6	2940.0	5776.9	6801.7	6939.4
65°	205.8	223.3	222.1	238.8	318.2	699.6	2694.3	5320.5	6528.2	6709.6
67.5°	187.0	197.6	204.6	224.1	328.4	643.0	2299.0	4771.6	6062.9	6278.5
70°	167.9	178.5	186.2	205.0	337.8	616.9	1830.0	4000.6	5305.0	5523.8
72.5°	148.3	159.3	165.4	181.7	325.2	561.1	1354.5	3112.7	4258.2	4373.1
75°	127.9	138.5	143.4	158.5	282.4	464.1	935.2	2357.7	3118.9	3235.4
77.5°	107.2	118.6	120.2	132.4	215.6	354.9	599.4	1808.4	2208.5	2286.4
80°	85.6	97.0	97.0	103.5	151.6	244.1	359.0	1364.2	1608.3	1638.9
82.5°	61.5	73.8	72.9	73.3	104.7	151.2	207.8	1022.4	1162.1	1167.8
85°	36.3	44.8	44.4	40.7	61.9	81.5	112.5	634.9	648.7	650.3
87.5°	6.9	10.6	9.4	4.1	17.1	24.0	32.6	117.8	46.9	45.6
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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