

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: P596992

Luminaire Tested: **MSA-SA2D-835-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596992
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-835-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: 9525 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

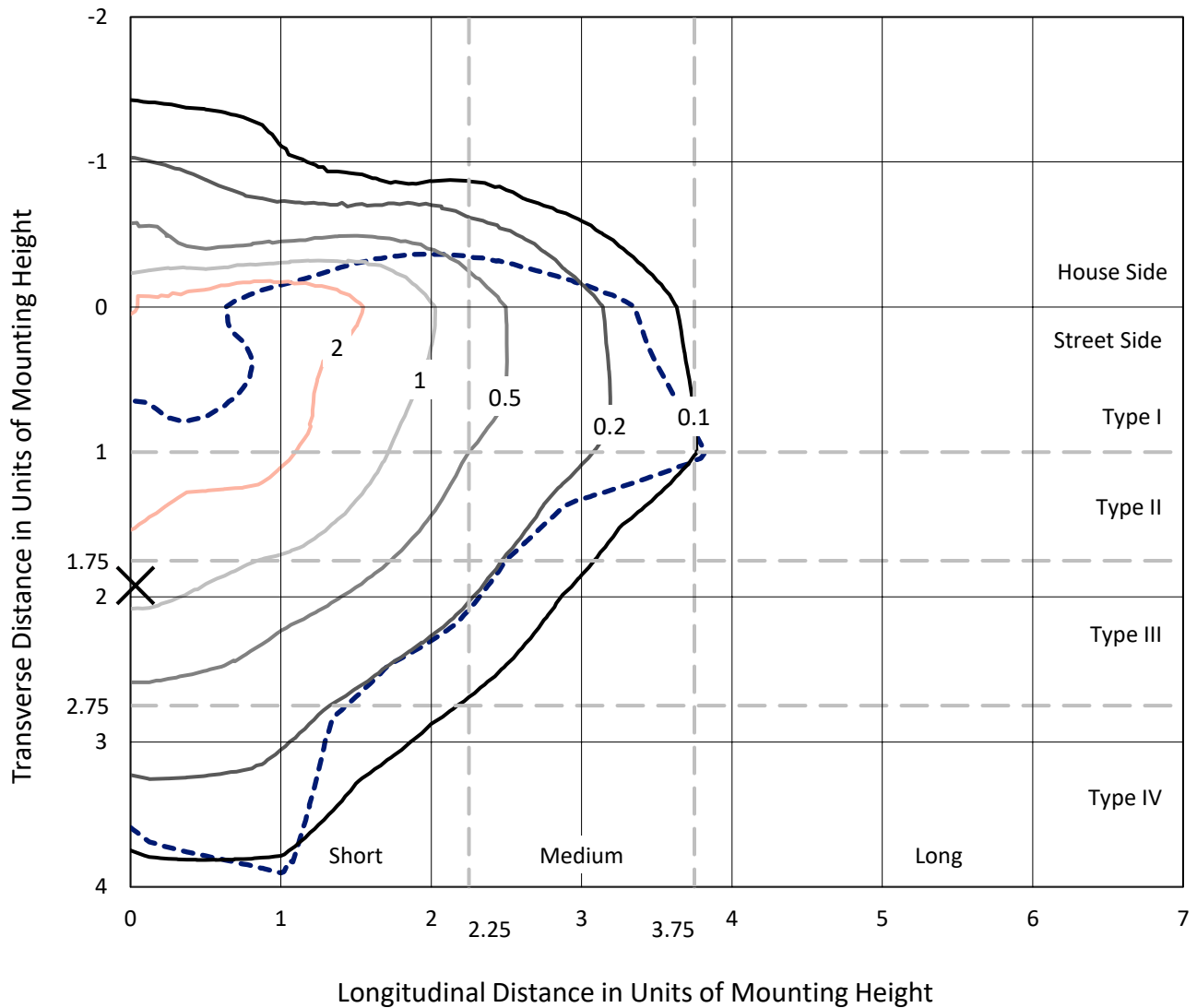
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

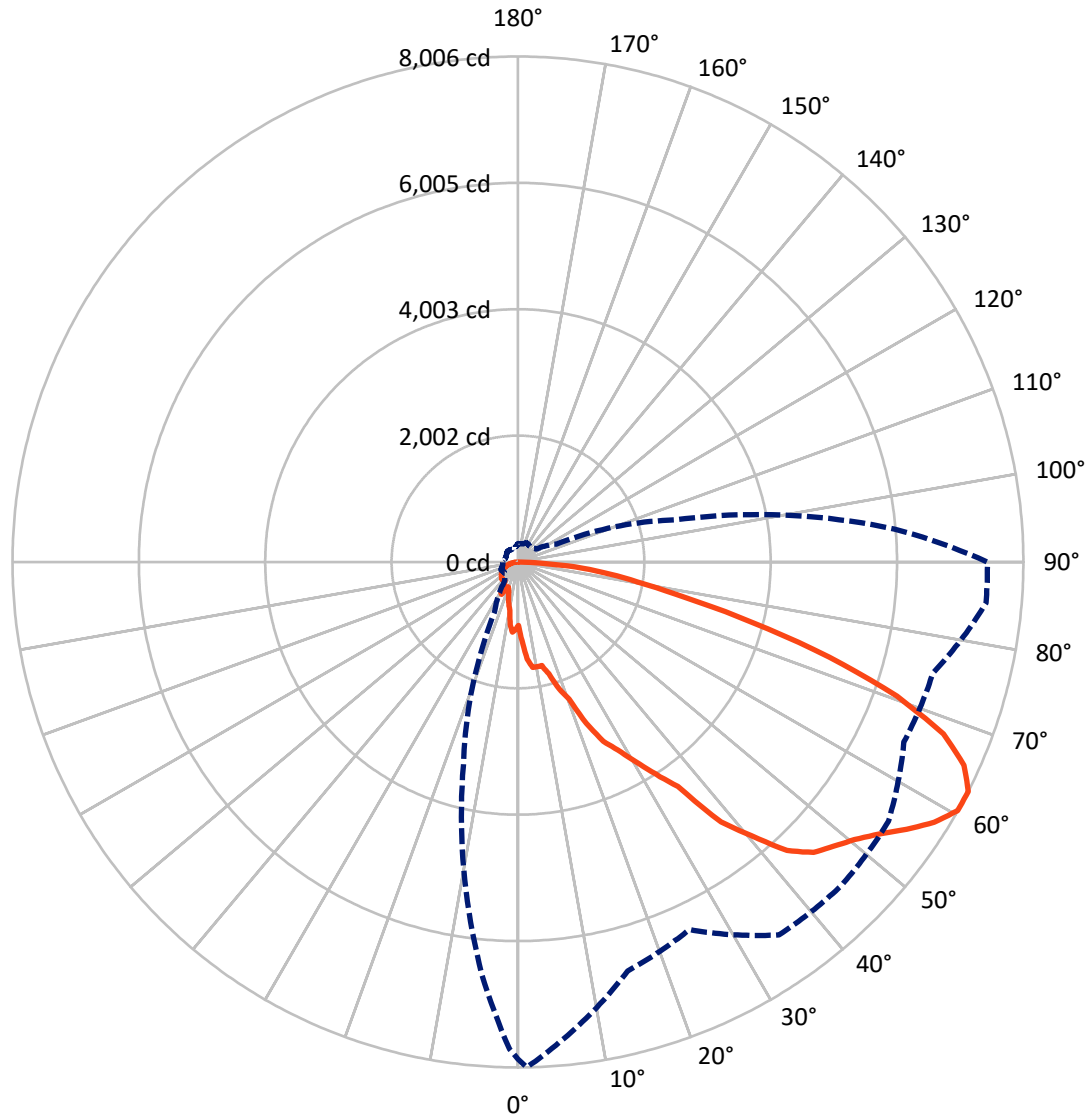
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 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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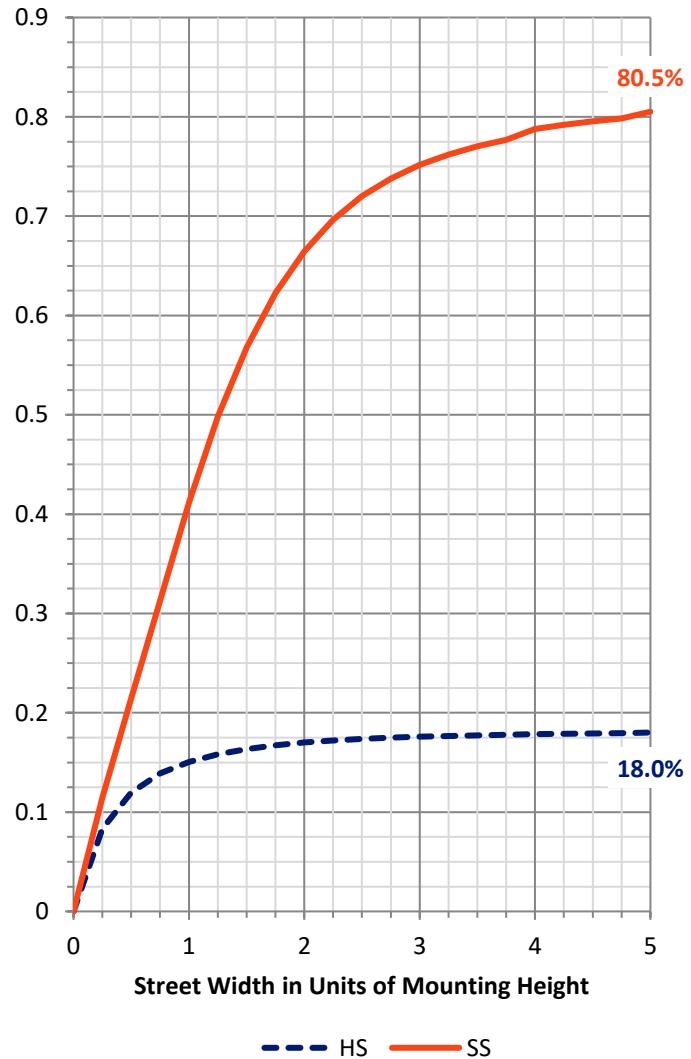
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1734.4	0.0	1734.4
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	7790.6	0.0	7790.6
	% Fixture	81.8	0.0	81.8
Total	Lumens	9525.0	0.0	9525.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.1	1.2
10°-20°	334.6	3.5
20°-30°	590.7	6.2
30°-40°	920.1	9.7
40°-50°	1515.0	15.9
50°-60°	2162.4	22.7
60°-70°	2293.0	24.1
70°-80°	1266.5	13.3
80°-90°	327.6	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°	9525.0	100.0
0°-180°	9525.0	100.0

Coefficient of Utilization



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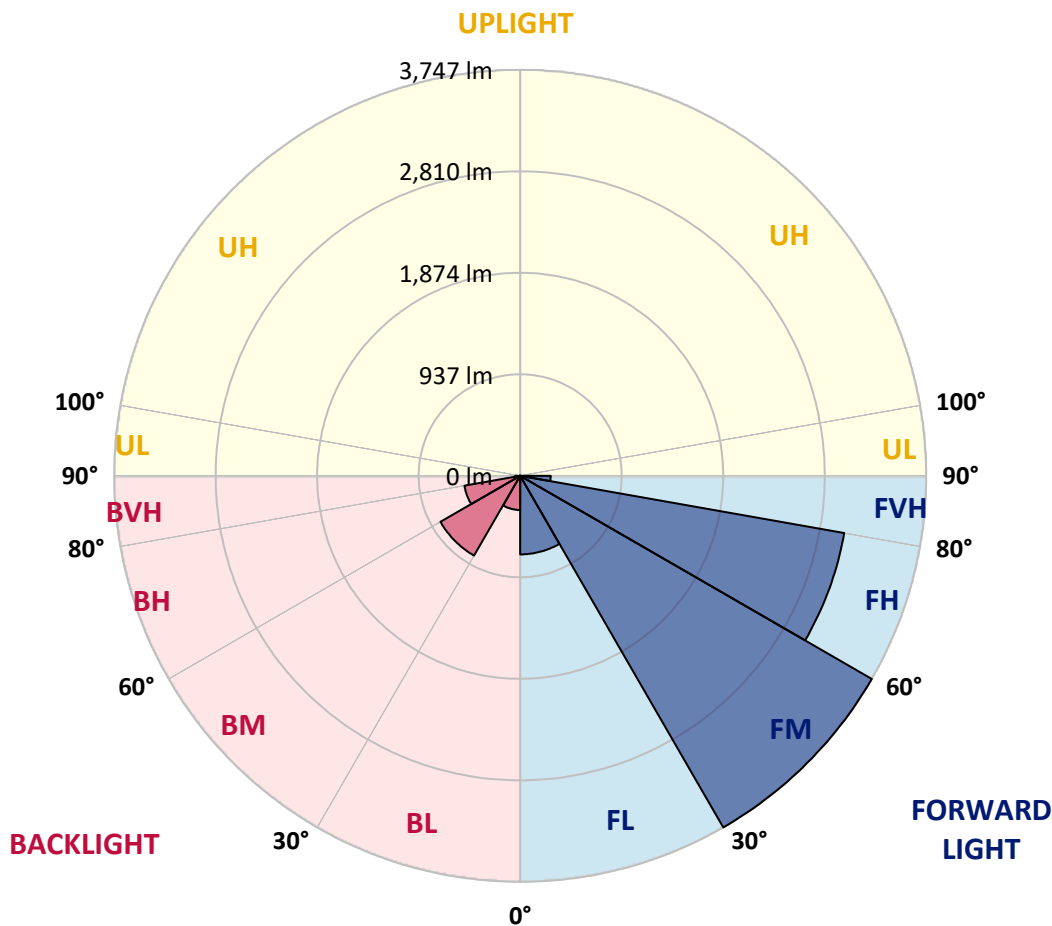
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	725.0	7.6			
FM (30°-60°)	3747.2	39.3			
FH (60°-80°)	3037.0	31.9			G2/5000
FVH (80°-90°)	281.4	3.0			G3/500
BL (0°-30°)	315.4	3.3	B1/500		
BM (30°-60°)	850.3	8.9	B1/1000		
BH (60°-80°)	522.5	5.5	B2/1000		G2/1000
BVH (80°-90°)	46.2	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1235.0	1245.7	1224.0	1199.5	1098.2	1195.8	1166.6	1220.7	1203.2	1085.8	1300.7
5°	1526.2	1545.7	1524.4	1597.9	1602.5	1621.5	1446.3	1555.4	1517.5	1507.8	1616.4
7.5°	1666.8	1686.6	1740.7	1871.5	1973.7	1881.2	1779.1	1756.4	1726.8	1649.7	1715.3
10°	1675.5	1686.6	1759.2	2036.5	2086.0	2151.6	2085.5	1929.8	1865.5	1697.7	1647.8
12.5°	1649.2	1683.9	1777.7	2115.6	2262.6	2334.2	2350.4	2177.1	2019.4	1828.1	1802.7
15°	1826.2	1838.7	1973.2	2172.0	2273.2	2333.7	2386.4	2279.7	2230.2	2078.6	1874.8
17.5°	2080.0	2114.7	2224.7	2298.2	2366.6	2378.1	2334.7	2293.1	2214.5	2416.9	2200.2
20°	2251.9	2319.0	2453.9	2467.8	2324.0	2349.5	2343.4	2346.2	2301.4	2675.8	2556.5
22.5°	2706.8	2779.3	2797.8	2717.4	2446.5	2330.5	2353.6	2420.6	2597.2	2918.0	3053.0
25°	3118.6	3146.8	3315.5	3108.4	2676.7	2423.9	2386.0	2559.3	2847.3	3325.7	3421.8
27.5°	3333.5	3370.0	3482.4	3031.7	2705.4	2303.7	2215.0	2478.9	2772.4	3133.8	3555.8
30°	3608.5	3666.8	3819.8	3108.4	2791.8	2382.3	2185.8	2438.2	2762.7	3259.6	3839.7
32.5°	3891.9	4005.1	4118.8	3378.8	2779.8	2502.5	2372.1	2392.4	2850.5	3523.0	4133.6
35°	4267.2	4367.0	4465.0	3535.1	3022.0	2602.8	2473.3	2688.7	3076.1	3828.6	4543.6
37.5°	5069.6	5227.7	4969.3	3979.7	3285.5	3054.8	2821.4	2949.0	3314.6	4083.2	5213.4
40°	5580.8	5699.6	5450.0	4282.5	3749.5	3359.4	3321.0	3331.7	3643.2	4301.4	5664.0
42.5°	6088.8	6249.7	5852.6	4698.0	4310.7	3988.5	3790.7	3777.3	4011.1	4693.4	6176.6
45°	6467.8	6562.6	5990.8	5048.4	4912.5	4673.5	4525.1	4289.9	4494.6	4964.7	6493.7
47.5°	6648.1	6725.3	6213.1	5252.2	5302.6	5315.1	5582.7	5181.5	4917.1	5148.2	6660.1
50°	6873.2	6909.7	6344.0	5431.5	5673.3	6221.5	6285.7	5605.8	5328.5	5348.3	6758.6
52.5°	7142.2	7157.5	6534.9	5638.6	6048.1	6817.7	6718.4	6325.0	5720.0	5714.0	6943.9
55°	7480.6	7471.3	6774.3	5917.3	6315.8	7172.3	7096.9	6810.3	6146.6	6016.7	7232.3
57.5°	7781.5	7775.9	7091.8	6173.9	6540.9	7354.4	7376.6	7300.7	6436.9	6233.5	7544.8
60°	7928.9	7999.6	7453.3	6454.4	6555.2	7436.6	7445.0	7324.3	6761.3	6511.7	7628.0
62.5°	7871.6	8006.1	7630.8	6706.8	6423.5	7212.0	7246.7	7163.5	6746.5	6803.9	7442.2
65°	7610.9	7766.2	7476.9	6841.3	6342.6	6835.8	6844.5	6634.2	6535.3	6997.5	7006.8
67.5°	7121.9	7267.5	6986.9	6626.8	5788.8	5821.6	6017.6	6034.7	5890.5	6851.5	6395.3
70°	6265.8	6368.5	6192.8	6097.1	4838.5	4646.2	4858.8	4949.9	5015.5	6324.1	5661.3
72.5°	4960.5	5158.8	5186.6	5249.0	3895.6	3575.3	3732.9	3597.9	4025.5	5382.5	4625.4
75°	3670.0	3837.3	4017.1	4365.2	3070.5	2676.7	2657.3	2588.4	2987.8	4328.7	3430.6
77.5°	2593.5	2700.3	2838.5	3487.0	2317.1	2061.5	2073.5	2003.7	2157.6	3271.6	2369.8
80°	1859.0	1915.0	1979.2	2297.2	1709.3	1778.6	1780.5	1714.4	1604.4	2221.9	1581.7
82.5°	1324.7	1368.2	1441.7	1515.2	1274.3	1457.8	1456.5	1452.3	1272.0	1501.7	989.6
85°	737.7	795.9	923.5	1187.0	920.3	1042.3	916.6	1009.5	933.7	999.8	501.0
87.5°	51.8	46.2	206.6	687.8	429.4	313.8	164.5	325.9	417.8	522.3	69.8
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°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1345.1	1361.2	1297.9	1202.7	1228.6	1200.4	1164.8	1109.3	995.2	1065.9	1066.3
5°	1615.5	1554.0	1504.5	1457.8	1379.3	1260.5	1244.8	1149.5	1095.9	1124.1	1120.0
7.5°	1700.0	1612.7	1538.3	1371.4	1225.8	1041.4	985.9	929.5	905.9	974.4	1001.6
10°	1607.1	1516.1	1443.0	1240.1	1141.2	1026.1	873.6	795.5	749.3	767.3	777.9
12.5°	1682.0	1589.1	1359.4	1246.1	1083.0	1012.7	879.1	764.5	696.1	712.7	692.9
15°	1754.1	1628.9	1399.1	1173.6	1041.4	939.7	831.5	713.2	632.8	604.1	588.9
17.5°	2017.6	1809.6	1394.5	1132.9	981.3	864.3	734.0	604.6	551.0	521.4	496.0
20°	2338.8	2049.0	1419.5	1090.8	917.5	770.1	628.2	508.0	470.5	451.1	444.2
22.5°	2721.1	2355.9	1562.3	1084.8	857.4	701.2	569.9	495.0	453.0	431.7	422.9
25°	3024.8	2673.5	1667.7	1125.5	854.2	644.3	534.8	550.0	530.6	537.1	485.8
27.5°	3319.7	2759.9	1608.5	1107.5	768.2	543.6	526.5	558.4	575.0	580.1	578.2
30°	3568.8	3125.1	1621.5	1005.8	649.0	442.8	403.1	418.8	464.5	537.1	551.0
32.5°	3933.5	3299.8	1731.9	944.3	580.1	396.1	351.7	345.7	356.4	382.7	405.4
35°	4360.1	3701.9	1762.9	928.1	532.5	375.3	344.4	330.5	336.0	355.9	360.5
37.5°	5155.6	3995.0	1877.5	908.3	514.9	362.8	338.8	333.7	345.7	361.9	371.2
40°	5594.2	4521.9	1883.1	891.2	492.3	357.8	342.5	340.2	347.6	369.8	375.3
42.5°	6178.9	4822.3	1970.0	871.3	484.4	364.7	349.9	349.0	355.4	368.4	378.6
45°	6535.3	5023.4	1974.6	859.7	482.6	395.2	359.6	356.4	355.0	362.8	372.1
47.5°	6765.0	5313.2	2031.0	846.8	493.6	403.1	371.2	357.3	352.7	355.9	362.8
50°	6982.7	5544.8	2137.8	844.9	505.2	395.2	391.5	356.8	347.6	346.2	351.3
52.5°	7249.9	5925.6	2269.5	862.5	502.4	383.6	406.8	355.0	338.3	335.1	340.2
55°	7638.6	6333.8	2409.5	847.7	473.8	361.5	392.0	353.6	328.6	322.6	327.3
57.5°	7890.5	6567.7	2566.2	835.2	430.3	344.8	378.6	354.5	329.6	316.2	318.9
60°	7806.9	6441.9	2627.7	759.0	389.2	331.9	346.7	347.1	321.2	308.8	311.1
62.5°	7437.1	5986.7	2570.4	670.2	358.7	313.4	313.8	333.3	297.2	288.4	292.1
65°	6920.3	5420.4	2338.4	612.4	344.4	294.0	286.6	292.6	264.9	258.4	265.8
67.5°	6286.2	4722.5	1993.1	551.4	339.3	267.6	258.8	256.5	239.0	231.6	239.0
70°	5490.7	3954.3	1593.3	508.4	319.9	239.0	232.0	229.7	214.9	209.4	215.9
72.5°	4413.3	3087.6	1229.5	475.6	298.6	212.6	206.6	203.8	191.4	183.5	191.4
75°	3138.9	2359.6	913.3	425.2	268.5	185.8	178.9	175.2	163.6	156.2	163.2
77.5°	2230.7	1771.2	637.9	351.7	221.4	157.2	153.0	147.0	136.8	128.0	135.0
80°	1649.2	1265.6	411.4	271.3	169.2	125.7	123.4	119.3	109.5	98.9	104.0
82.5°	1085.8	912.4	235.7	184.0	123.0	90.6	92.4	89.7	80.4	69.3	72.1
85°	486.3	540.3	125.3	101.2	80.0	54.5	59.6	57.8	50.8	40.2	41.1
87.5°	46.7	91.1	38.4	37.0	29.6	17.1	21.3	18.0	15.3	9.7	7.4
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°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1082.5	1017.3	952.2	991.9	992.8	1003.5	1004.9	965.6	997.0	1021.0	1046.0
5°	1099.6	1057.1	1059.4	1021.0	1000.2	1027.1	1021.5	1010.9	1029.8	1056.2	1088.1
7.5°	975.7	948.0	943.4	906.4	816.7	796.9	813.5	820.4	845.9	886.5	920.7
10°	761.7	816.7	754.8	740.5	716.9	670.7	643.9	640.6	694.7	727.5	756.2
12.5°	686.4	672.5	665.1	625.8	625.8	576.8	561.1	575.5	658.7	682.2	719.2
15°	584.7	574.5	540.3	520.9	511.7	491.8	508.4	522.3	600.0	601.8	640.6
17.5°	485.3	479.3	447.0	443.3	434.0	425.2	440.5	473.8	515.8	508.4	526.5
20°	434.0	413.2	383.6	394.3	384.6	377.6	371.2	418.3	447.9	457.6	468.2
22.5°	421.1	383.2	365.6	355.9	356.4	345.3	346.7	386.0	430.8	436.8	430.3
25°	481.2	413.7	356.8	328.6	318.0	314.3	324.9	359.6	413.7	426.6	431.7
27.5°	563.0	449.3	367.5	319.4	298.1	300.0	315.2	339.3	403.1	426.2	432.2
30°	540.3	422.5	367.9	312.5	286.1	295.8	301.4	324.5	394.7	429.4	459.4
32.5°	416.9	379.9	370.2	318.0	307.4	292.1	300.0	322.2	370.2	392.0	393.3
35°	353.1	324.9	318.5	305.5	290.7	284.3	293.0	312.5	343.9	357.3	355.4
37.5°	350.4	319.4	294.0	288.4	282.4	280.6	285.7	303.7	335.6	359.1	354.1
40°	355.0	316.6	290.7	281.0	283.3	275.0	280.1	302.3	337.0	359.1	354.5
42.5°	349.4	313.4	286.6	279.2	281.5	269.9	275.9	299.1	333.3	359.6	350.8
45°	338.3	306.0	284.3	271.8	282.4	265.3	272.7	290.7	322.2	350.8	340.7
47.5°	327.3	297.2	274.6	266.7	277.3	260.7	263.9	279.6	311.1	339.3	330.5
50°	315.2	286.1	266.7	264.4	271.8	259.8	254.7	267.6	297.7	325.9	318.5
52.5°	302.3	276.9	261.2	260.2	267.2	253.8	246.4	256.5	283.3	311.5	305.5
55°	289.8	266.7	254.2	256.5	264.4	248.7	239.4	245.9	268.1	295.8	287.5
57.5°	277.3	255.1	245.0	251.4	257.5	242.2	230.6	234.3	252.4	279.6	269.9
60°	266.2	245.0	234.8	242.7	248.2	232.5	219.1	221.4	237.6	262.1	253.3
62.5°	251.9	233.9	220.5	230.6	234.8	219.6	205.2	208.0	220.9	244.1	237.6
65°	231.6	220.0	207.5	214.5	220.0	204.3	190.9	194.1	203.8	225.6	220.9
67.5°	214.0	202.9	194.6	200.1	201.1	189.0	177.0	178.9	186.7	207.1	202.0
70°	194.6	184.0	177.5	181.7	181.2	171.0	161.8	162.2	168.7	187.2	180.3
72.5°	173.3	163.2	159.9	162.2	160.4	151.1	142.4	145.6	149.8	163.6	158.1
75°	150.7	141.4	139.6	141.9	139.1	130.3	122.5	125.7	129.4	141.0	134.0
77.5°	127.1	118.8	119.3	119.7	116.0	110.0	102.2	105.4	107.7	115.6	108.6
80°	101.2	94.8	96.6	96.6	92.4	88.3	80.9	81.8	83.2	86.0	80.9
82.5°	74.0	74.0	74.0	74.4	65.6	67.0	60.6	60.1	58.7	58.2	55.0
85°	43.9	45.8	46.7	48.1	35.6	41.6	36.1	34.7	31.9	29.1	28.2
87.5°	9.7	12.5	12.5	12.0	0.0	4.6	2.3	3.7	0.9	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°	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4	1004.4
2.5°	1017.3	989.6	1041.4	1087.6	1080.2	1107.0	1044.6	1137.1	1235.0	1235.0
5°	1079.7	1056.2	1069.6	1096.4	1116.7	1210.1	1287.7	1364.9	1524.4	1526.2
7.5°	910.6	961.4	973.4	965.6	1052.9	1173.1	1301.1	1521.2	1656.1	1666.8
10°	851.4	874.5	911.0	931.4	967.0	1085.3	1244.3	1505.4	1648.7	1675.5
12.5°	771.4	857.0	912.4	1026.1	1054.3	1077.9	1330.7	1556.8	1655.7	1649.2
15°	684.1	748.8	828.8	954.5	1026.1	1206.4	1382.0	1721.3	1777.2	1826.2
17.5°	545.4	593.0	699.3	842.6	1020.1	1186.1	1508.7	1924.7	2029.1	2080.0
20°	448.8	449.3	555.6	745.6	938.8	1101.0	1556.8	2093.4	2226.0	2251.9
22.5°	424.3	403.1	459.0	613.4	849.1	1151.4	1653.8	2364.7	2641.6	2706.8
25°	410.9	385.0	420.2	541.3	784.8	1177.7	1849.3	2737.7	3093.2	3118.6
27.5°	416.5	428.5	439.6	482.6	703.5	1128.3	1804.0	2904.6	3285.5	3333.5
30°	453.9	473.3	447.9	462.7	636.5	1056.6	1884.9	3175.4	3527.7	3608.5
32.5°	377.6	370.2	367.9	400.3	569.5	991.9	2054.6	3556.8	3790.2	3891.9
35°	340.7	329.1	333.7	370.7	536.6	982.7	2149.8	3872.5	4204.8	4267.2
37.5°	339.3	325.9	331.9	359.6	548.2	999.3	2302.3	4379.1	4936.0	5069.6
40°	336.0	328.6	331.9	352.7	536.2	1008.6	2390.1	4804.8	5445.4	5580.8
42.5°	335.6	331.9	335.1	358.2	523.7	1012.7	2511.7	5189.3	5982.0	6088.8
45°	334.2	337.9	337.9	362.8	518.1	1040.5	2583.3	5377.9	6336.1	6467.8
47.5°	327.7	338.8	356.8	361.5	495.5	1027.5	2684.6	5664.0	6524.2	6648.1
50°	319.4	337.4	380.9	352.2	491.8	996.1	2802.9	5891.0	6765.5	6873.2
52.5°	308.3	335.1	375.3	334.2	485.3	990.5	2968.8	6185.9	7047.0	7142.2
55°	292.6	326.8	358.2	316.2	469.6	973.0	3222.6	6551.5	7415.4	7480.6
57.5°	278.3	314.3	333.3	306.0	432.2	976.7	3399.2	6849.6	7724.6	7781.5
60°	265.3	312.9	297.7	295.4	393.8	927.2	3456.5	6846.4	7839.7	7928.9
62.5°	251.4	295.4	272.7	281.0	360.1	876.4	3334.9	6552.9	7715.4	7871.6
65°	233.4	253.3	251.9	270.9	361.0	793.6	3056.2	6035.2	7405.2	7610.9
67.5°	212.2	224.2	232.0	254.2	372.5	729.4	2607.8	5412.6	6877.4	7121.9
70°	190.4	202.5	211.2	232.5	383.2	699.8	2075.8	4538.1	6017.6	6265.8
72.5°	168.2	180.7	187.7	206.1	368.9	636.5	1536.4	3530.9	4830.2	4960.5
75°	145.1	157.2	162.7	179.8	320.3	526.5	1060.8	2674.4	3537.8	3670.0
77.5°	121.6	134.5	136.4	150.2	244.5	402.6	679.9	2051.3	2505.2	2593.5
80°	97.1	110.0	110.0	117.4	171.9	276.9	407.2	1547.5	1824.4	1859.0
82.5°	69.8	83.7	82.7	83.2	118.8	171.5	235.7	1159.7	1318.2	1324.7
85°	41.1	50.8	50.4	46.2	70.3	92.4	127.6	720.1	735.9	737.7
87.5°	7.9	12.0	10.6	4.6	19.4	27.3	37.0	133.6	53.2	51.8
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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