

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: P368458

Luminaire Tested: **MSA-SA4C-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368458
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-SA4C-727-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 17238 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

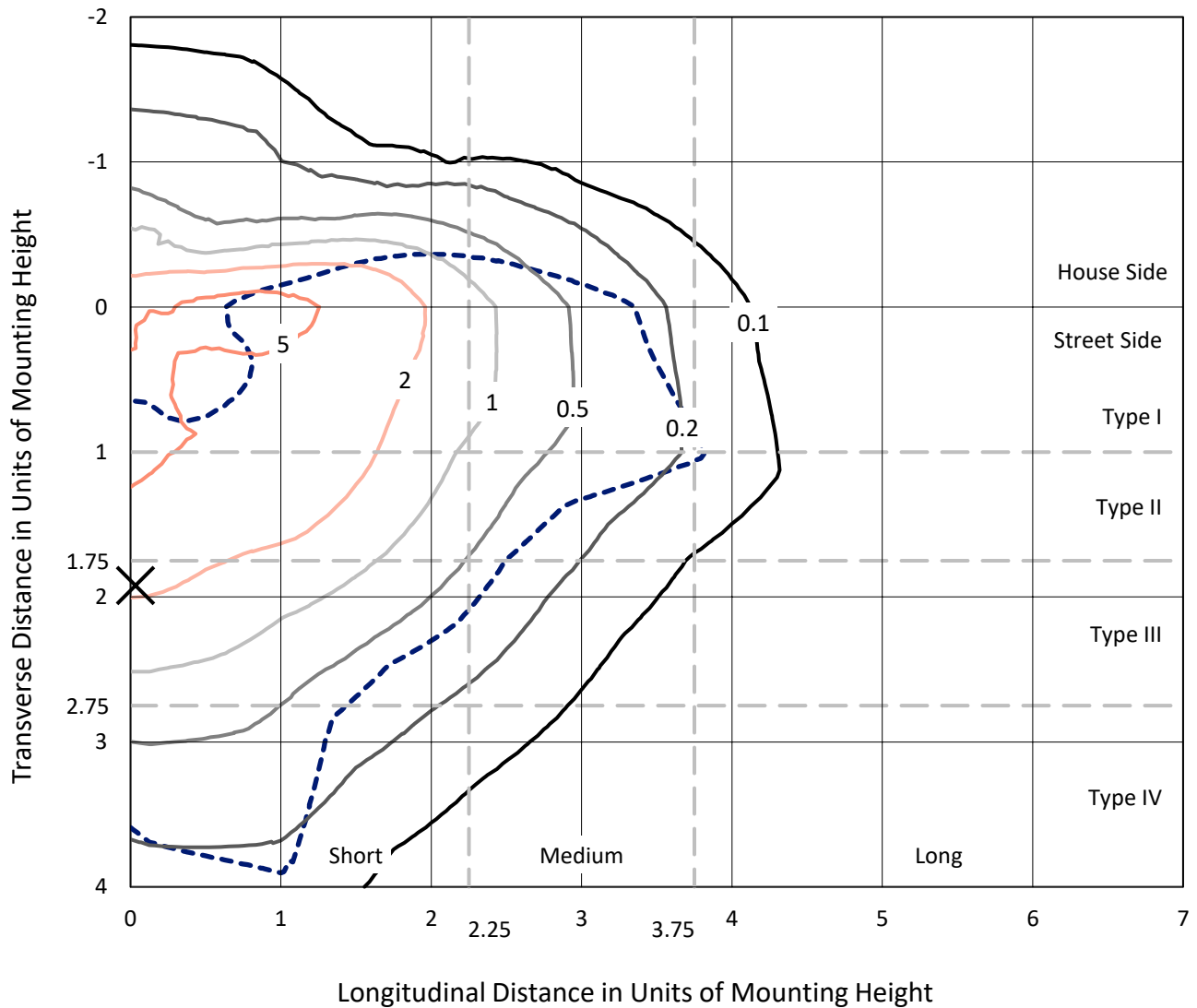
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

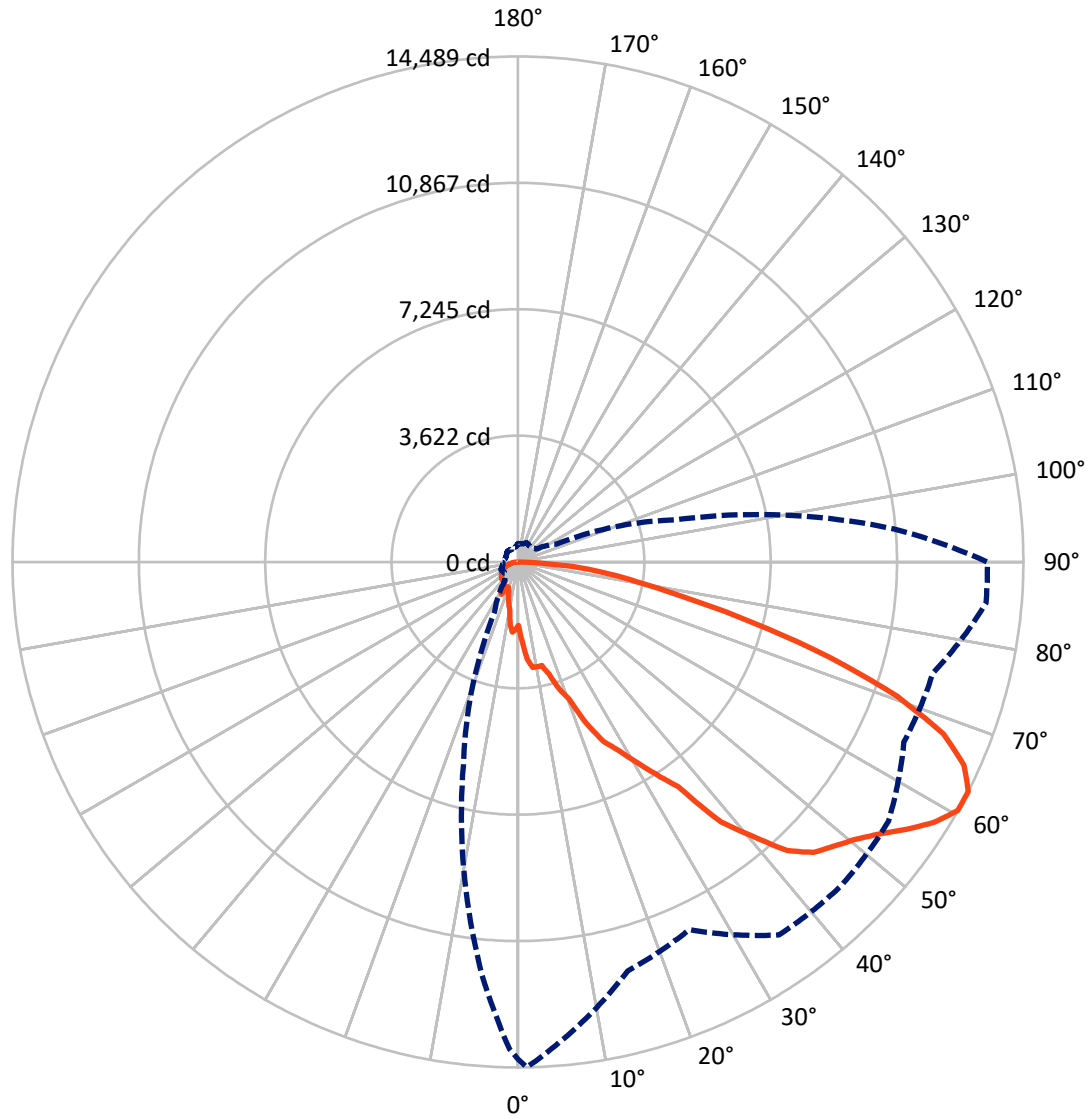
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.3 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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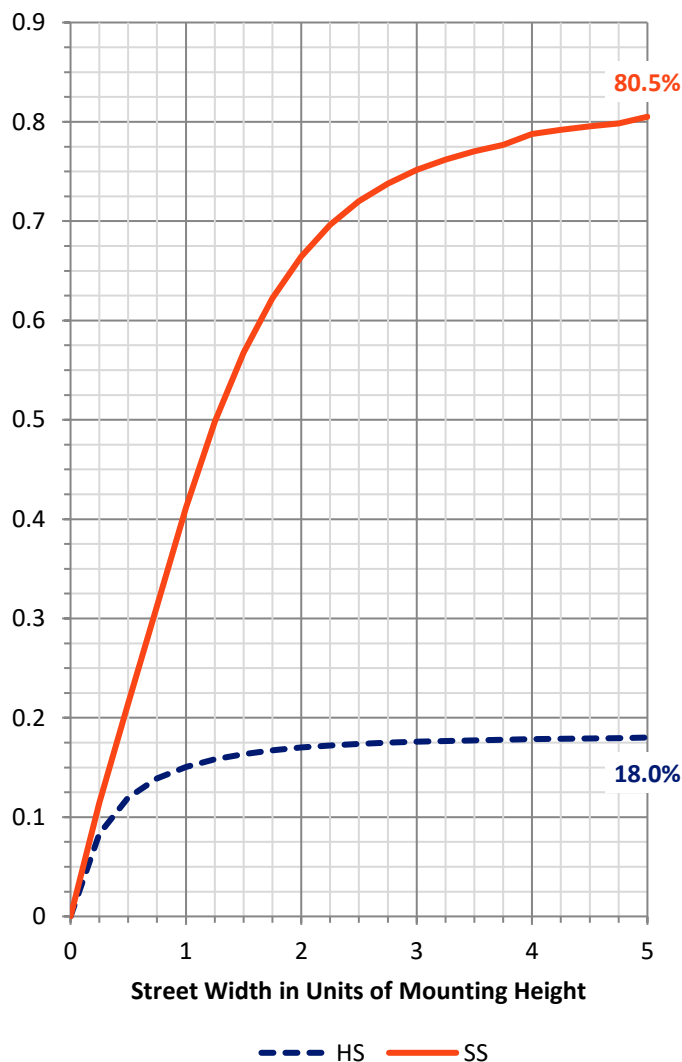
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3138.9	0.0	3138.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	14099.1	0.0	14099.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	17238.0	0.0	17238.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.4	1.2
10°-20°	605.5	3.5
20°-30°	1069.1	6.2
30°-40°	1665.2	9.7
40°-50°	2741.9	15.9
50°-60°	3913.3	22.7
60°-70°	4149.7	24.1
70°-80°	2292.1	13.3
80°-90°	592.8	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°	17238.0	100.0
0°-180°	17238.0	100.0

Coefficient of Utilization

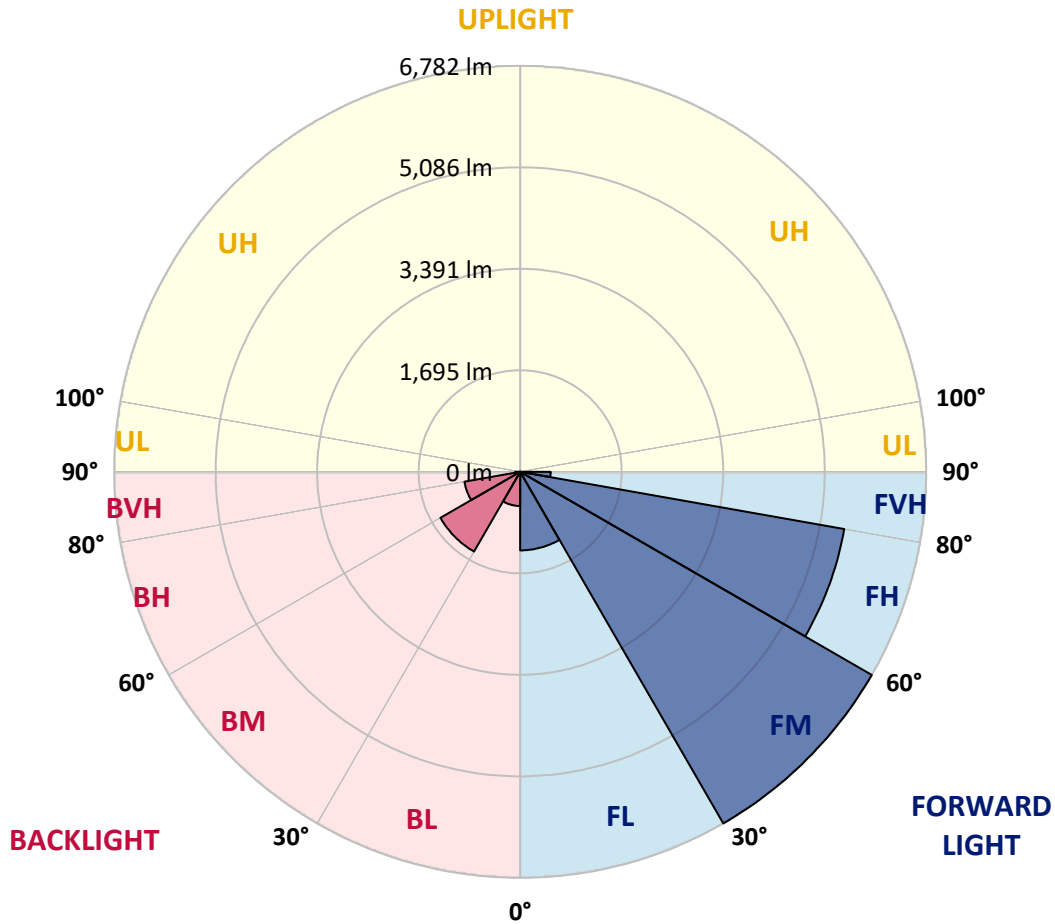


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1312.1	7.6			
FM (30°-60°)	6781.6	39.3			
FH (60°-80°)	5496.2	31.9			G3/7500
FVH (80°-90°)	509.2	3.0			G4/750
BL (0°-30°)	570.9	3.3	B2/1000		
BM (30°-60°)	1538.8	8.9	B2/2500		
BH (60°-80°)	945.7	5.5	B2/1000		G2/1000
BVH (80°-90°)	83.6	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-G4
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7
2.5°	2235.1	2254.4	2215.1	2170.7	1987.5	2164.0	2111.3	2209.2	2177.4	1965.0	2353.9
5°	2762.1	2797.3	2758.8	2891.8	2900.2	2934.5	2617.4	2814.8	2746.3	2728.7	2925.3
7.5°	3016.4	3052.4	3150.3	3387.0	3571.9	3404.6	3219.7	3178.7	3125.2	2985.5	3104.3
10°	3032.3	3052.4	3183.7	3685.6	3775.2	3893.9	3774.3	3492.4	3376.1	3072.5	2982.1
12.5°	2984.7	3047.4	3217.2	3828.7	4094.7	4224.4	4253.6	3939.9	3654.7	3308.4	3262.4
15°	3305.0	3327.6	3571.0	3930.7	4113.9	4223.5	4318.9	4125.7	4036.1	3761.8	3392.9
17.5°	3764.3	3827.0	4026.1	4159.1	4282.9	4303.8	4225.2	4149.9	4007.7	4374.1	3981.8
20°	4075.5	4196.8	4441.0	4466.1	4206.0	4252.0	4241.1	4246.1	4165.0	4842.5	4626.7
22.5°	4898.6	5029.9	5063.4	4917.8	4427.6	4217.7	4259.5	4380.8	4700.3	5280.9	5525.1
25°	5643.9	5694.9	6000.3	5625.5	4844.2	4386.6	4318.0	4631.7	5152.9	6018.7	6192.7
27.5°	6032.9	6099.0	6302.2	5486.6	4896.1	4169.2	4008.5	4486.2	5017.4	5671.5	6435.2
30°	6530.6	6636.0	6912.9	5625.5	5052.5	4311.4	3955.8	4412.6	4999.8	5899.0	6948.9
32.5°	7043.4	7248.3	7454.1	6114.9	5030.8	4528.8	4293.0	4329.8	5158.7	6375.9	7480.9
35°	7722.6	7903.3	8080.7	6397.6	5469.1	4710.4	4476.1	4866.0	5567.0	6928.8	8222.9
37.5°	9174.8	9460.9	8993.3	7202.3	5945.9	5528.5	5106.0	5336.9	5998.6	7389.7	9435.0
40°	10100.0	10315.0	9863.3	7750.2	6785.7	6079.7	6010.3	6029.5	6593.3	7784.5	10250.6
42.5°	11019.3	11310.4	10591.9	8502.3	7801.3	7218.2	6860.2	6835.9	7259.2	8493.9	11178.2
45°	11705.2	11876.7	10842.0	9136.3	8890.4	8457.9	8189.4	7763.6	8134.2	8984.9	11752.1
47.5°	12031.5	12171.2	11244.3	9505.2	9596.4	9619.0	10103.3	9377.2	8898.8	9317.0	12053.2
50°	12438.9	12504.9	11481.1	9829.8	10267.3	11259.4	11375.7	10145.2	9643.3	9679.2	12231.4
52.5°	12925.7	12953.3	11826.5	10204.5	10945.7	12338.5	12158.6	11446.8	10351.8	10340.9	12566.8
55°	13538.0	13521.3	12259.8	10709.0	11430.0	12980.1	12843.7	12325.1	11123.9	10888.8	13088.8
57.5°	14082.6	14072.6	12834.5	11173.2	11837.4	13309.7	13349.8	13212.6	11649.2	11281.1	13654.3
60°	14349.4	14477.4	13488.7	11681.0	11863.3	13458.6	13473.6	13255.3	12236.4	11784.7	13804.9
62.5°	14245.7	14489.1	13809.9	12137.7	11624.9	13052.0	13114.8	12964.2	12209.7	12313.4	13468.6
65°	13773.9	14055.0	13531.3	12381.1	11478.5	12371.1	12387.0	12006.4	11827.4	12663.9	12680.6
67.5°	12888.9	13152.4	12644.6	11993.0	10476.4	10535.8	10890.5	10921.4	10660.4	12399.5	11573.9
70°	11339.7	11525.4	11207.5	11034.4	8756.6	8408.6	8793.4	8958.2	9076.9	11445.1	10245.5
72.5°	8977.4	9336.3	9386.4	9499.4	7050.1	6470.4	6755.6	6511.4	7285.1	9741.1	8370.9
75°	6641.9	6944.7	7270.1	7900.0	5556.9	4844.2	4809.1	4684.4	5407.2	7833.9	6208.6
77.5°	4693.6	4886.9	5137.0	6310.6	4193.4	3730.8	3752.6	3626.3	3904.8	5920.8	4288.8
80°	3364.4	3465.6	3581.9	4157.4	3093.4	3218.9	3222.2	3102.6	2903.5	4021.1	2862.5
82.5°	2397.4	2476.1	2609.1	2742.1	2306.2	2638.3	2635.8	2628.3	2302.1	2717.8	1791.0
85°	1335.1	1440.5	1671.3	2148.2	1665.5	1886.3	1658.8	1826.9	1689.7	1809.4	906.8
87.5°	93.7	83.7	373.9	1244.7	777.1	568.0	297.8	589.7	756.2	945.3	126.3
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7
2.5°	2434.2	2463.5	2348.9	2176.6	2223.4	2172.4	2108.0	2007.6	1801.0	1929.0	1929.8
5°	2923.6	2812.3	2722.8	2638.3	2496.1	2281.2	2252.7	2080.4	1983.4	2034.4	2026.9
7.5°	3076.7	2918.6	2783.9	2481.9	2218.4	1884.7	1784.3	1682.2	1639.6	1763.4	1812.7
10°	2908.5	2743.7	2611.6	2244.3	2065.3	1857.0	1581.0	1439.6	1356.0	1388.6	1407.8
12.5°	3044.0	2875.9	2460.2	2255.2	1959.9	1832.8	1591.0	1383.6	1259.8	1289.9	1253.9
15°	3174.5	2947.9	2532.1	2123.9	1884.7	1700.6	1504.9	1290.7	1145.2	1093.3	1065.7
17.5°	3651.4	3274.9	2523.7	2050.3	1775.9	1564.3	1328.4	1094.2	997.1	943.6	897.6
20°	4232.7	3708.2	2568.9	1974.2	1660.5	1393.6	1136.8	919.3	851.6	816.4	803.9
22.5°	4924.5	4263.7	2827.4	1963.3	1551.7	1269.0	1031.4	895.9	819.8	781.3	765.4
25°	5474.1	4838.4	3018.1	2036.9	1545.9	1166.1	967.8	995.4	960.3	972.0	879.2
27.5°	6007.8	4994.8	2911.0	2004.3	1390.3	983.7	952.8	1010.5	1040.6	1049.8	1046.5
30°	6458.7	5655.6	2934.5	1820.2	1174.5	801.4	729.4	757.9	840.7	972.0	997.1
32.5°	7118.7	5971.8	3134.4	1709.0	1049.8	716.9	636.6	625.7	644.9	692.6	733.6
35°	7890.8	6699.6	3190.4	1679.7	963.7	679.2	623.2	598.1	608.1	644.1	652.5
37.5°	9330.4	7229.9	3397.9	1643.7	931.9	656.7	613.2	604.0	625.7	655.0	671.7
40°	10124.2	8183.5	3407.9	1612.8	890.9	647.5	619.9	615.7	629.1	669.2	679.2
42.5°	11182.4	8727.3	3565.2	1576.8	876.7	660.0	633.2	631.6	643.3	666.7	685.1
45°	11827.4	9091.2	3573.6	1555.9	873.3	715.2	650.8	644.9	642.4	656.7	673.4
47.5°	12243.1	9615.6	3675.6	1532.5	893.4	729.4	671.7	646.6	638.3	644.1	656.7
50°	12637.1	10034.7	3868.8	1529.1	914.3	715.2	708.5	645.8	629.1	626.5	635.7
52.5°	13120.6	10724.0	4107.2	1560.9	909.3	694.3	736.1	642.4	612.3	606.5	615.7
55°	13824.1	11462.7	4360.7	1534.2	857.4	654.1	709.4	639.9	594.8	583.9	592.2
57.5°	14280.0	11885.9	4644.3	1511.6	778.8	624.0	685.1	641.6	596.4	572.2	577.2
60°	14128.6	11658.4	4755.5	1373.5	704.3	600.6	627.4	628.2	581.4	558.8	563.0
62.5°	13459.4	10834.4	4651.8	1212.9	649.1	567.2	568.0	603.1	537.9	522.0	528.7
65°	12524.2	9809.7	4231.9	1108.4	623.2	532.0	518.6	529.5	479.3	467.6	481.0
67.5°	11376.5	8546.6	3607.0	998.0	614.0	484.3	468.4	464.3	432.5	419.1	432.5
70°	9936.9	7156.3	2883.4	920.2	578.9	432.5	419.9	415.7	389.0	378.9	390.6
72.5°	7987.0	5587.9	2225.1	860.8	540.4	384.8	373.9	368.9	346.3	332.1	346.3
75°	5680.7	4270.4	1652.9	769.6	486.0	336.3	323.7	317.0	296.1	282.7	295.3
77.5°	4037.0	3205.5	1154.4	636.6	400.7	284.4	276.9	266.0	247.6	231.7	244.3
80°	2984.7	2290.4	744.5	491.0	306.2	227.5	223.3	215.8	198.3	179.0	188.2
82.5°	1965.0	1651.3	426.6	332.9	222.5	164.0	167.3	162.3	145.6	125.5	130.5
85°	880.0	977.9	226.7	183.2	144.7	98.7	107.9	104.6	92.0	72.8	74.4
87.5°	84.5	164.8	69.4	66.9	53.5	31.0	38.5	32.6	27.6	17.6	13.4
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°	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7
2.5°	1959.1	1841.2	1723.2	1795.1	1796.8	1816.1	1818.6	1747.5	1804.3	1847.8	1893.0
5°	1990.1	1913.1	1917.3	1847.8	1810.2	1858.7	1848.7	1829.4	1863.7	1911.4	1969.1
7.5°	1765.9	1715.7	1707.3	1640.4	1478.1	1442.1	1472.3	1484.8	1530.8	1604.4	1666.3
10°	1378.6	1478.1	1366.0	1340.1	1297.4	1213.8	1165.3	1159.4	1257.3	1316.7	1368.5
12.5°	1242.2	1217.1	1203.7	1132.6	1132.6	1044.0	1015.5	1041.5	1192.0	1234.7	1301.6
15°	1058.2	1039.8	977.9	942.7	926.0	890.0	920.2	945.3	1085.8	1089.1	1159.4
17.5°	878.3	867.5	808.9	802.2	785.5	769.6	797.2	857.4	933.5	920.2	952.8
20°	785.5	747.8	694.3	713.5	696.0	683.4	671.7	757.0	810.6	828.1	847.4
22.5°	762.1	693.5	661.7	644.1	644.9	624.9	627.4	698.5	779.6	790.5	778.8
25°	870.8	748.7	645.8	594.8	575.5	568.8	588.1	650.8	748.7	772.1	781.3
27.5°	1018.9	813.1	665.0	578.0	539.5	542.9	570.5	614.0	729.4	771.3	782.1
30°	977.9	764.6	665.9	565.5	517.8	535.4	545.4	587.2	714.4	777.1	831.5
32.5°	754.5	687.6	670.0	575.5	556.3	528.7	542.9	583.0	670.0	709.4	711.9
35°	639.1	588.1	576.4	552.9	526.2	514.5	530.3	565.5	622.4	646.6	643.3
37.5°	634.1	578.0	532.0	522.0	511.1	507.8	517.0	549.6	607.3	650.0	640.8
40°	642.4	573.0	526.2	508.6	512.8	497.7	506.9	547.1	609.8	650.0	641.6
42.5°	632.4	567.2	518.6	505.3	509.4	488.5	499.4	541.2	603.1	650.8	634.9
45°	612.3	553.8	514.5	491.9	511.1	480.2	493.5	526.2	583.0	634.9	616.5
47.5°	592.2	537.9	496.9	482.7	501.9	471.8	477.6	506.1	563.0	614.0	598.1
50°	570.5	517.8	482.7	478.5	491.9	470.1	460.9	484.3	538.7	589.7	576.4
52.5°	547.1	501.1	472.6	471.0	483.5	459.2	445.9	464.3	512.8	563.8	552.9
55°	524.5	482.7	460.1	464.3	478.5	450.0	433.3	445.0	485.2	535.4	520.3
57.5°	501.9	461.8	443.3	455.1	465.9	438.3	417.4	424.1	456.7	506.1	488.5
60°	481.8	443.3	424.9	439.2	449.2	420.8	396.5	400.7	430.0	474.3	458.4
62.5°	455.9	423.3	399.0	417.4	424.9	397.3	371.4	376.4	399.9	441.7	430.0
65°	419.1	398.2	375.6	388.1	398.2	369.7	345.5	351.3	368.9	408.2	399.9
67.5°	387.3	367.2	352.2	362.2	363.9	342.1	320.4	323.7	337.9	374.8	365.6
70°	352.2	332.9	321.2	328.7	327.9	309.5	292.8	293.6	305.3	338.8	326.2
72.5°	313.7	295.3	289.4	293.6	290.3	273.5	257.6	263.5	271.0	296.1	286.1
75°	272.7	256.0	252.6	256.8	251.8	235.9	221.7	227.5	234.2	255.1	242.6
77.5°	230.0	215.0	215.8	216.7	210.0	199.1	184.9	190.7	194.9	209.1	196.6
80°	183.2	171.5	174.8	174.8	167.3	159.8	146.4	148.1	150.6	155.6	146.4
82.5°	133.8	133.8	133.8	134.7	118.8	121.3	109.6	108.7	106.2	105.4	99.5
85°	79.5	82.8	84.5	87.0	64.4	75.3	65.2	62.7	57.7	52.7	51.0
87.5°	17.6	22.6	22.6	21.7	0.0	8.4	4.2	6.7	1.7	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°	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7	1817.7
2.5°	1841.2	1791.0	1884.7	1968.3	1954.9	2003.4	1890.5	2057.8	2235.1	2235.1
5°	1954.1	1911.4	1935.7	1984.2	2021.0	2190.0	2330.5	2470.2	2758.8	2762.1
7.5°	1647.9	1739.9	1761.7	1747.5	1905.6	2123.1	2354.8	2752.9	2997.2	3016.4
10°	1540.8	1582.7	1648.8	1685.6	1750.0	1964.1	2251.9	2724.5	2983.8	3032.3
12.5°	1396.1	1550.9	1651.3	1857.0	1908.1	1950.7	2408.3	2817.4	2996.4	2984.7
15°	1238.0	1355.1	1499.9	1727.4	1857.0	2183.3	2501.2	3115.2	3216.4	3305.0
17.5°	987.1	1073.2	1265.6	1525.0	1846.2	2146.5	2730.4	3483.2	3672.3	3764.3
20°	812.2	813.1	1005.5	1349.3	1698.9	1992.6	2817.4	3788.5	4028.6	4075.5
22.5°	767.9	729.4	830.7	1110.0	1536.7	2083.7	2993.0	4279.6	4780.6	4898.6
25°	743.7	696.8	760.4	979.5	1420.4	2131.4	3346.9	4954.6	5597.9	5643.9
27.5°	753.7	775.4	795.5	873.3	1273.2	2041.9	3264.9	5256.6	5945.9	6032.9
30°	821.4	856.6	810.6	837.3	1151.9	1912.3	3411.3	5746.8	6384.2	6530.6
32.5°	683.4	670.0	665.9	724.4	1030.6	1795.1	3718.3	6436.9	6859.4	7043.4
35°	616.5	595.6	604.0	670.9	971.2	1778.4	3890.6	7008.3	7609.7	7722.6
37.5°	614.0	589.7	600.6	650.8	992.1	1808.5	4166.6	7925.1	8933.1	9174.8
40°	608.1	594.8	600.6	638.3	970.3	1825.3	4325.6	8695.5	9854.9	10100.0
42.5°	607.3	600.6	606.5	648.3	947.8	1832.8	4545.6	9391.5	10826.1	11019.3
45°	604.8	611.5	611.5	656.7	937.7	1883.0	4675.2	9732.8	11466.8	11705.2
47.5°	593.1	613.2	645.8	654.1	896.7	1859.6	4858.4	10250.6	11807.3	12031.5
50°	578.0	610.7	689.3	637.4	890.0	1802.7	5072.6	10661.3	12244.0	12438.9
52.5°	558.0	606.5	679.2	604.8	878.3	1792.6	5372.9	11195.0	12753.4	12925.7
55°	529.5	591.4	648.3	572.2	849.9	1760.8	5832.1	11856.7	13420.1	13538.0
57.5°	503.6	568.8	603.1	553.8	782.1	1767.5	6151.7	12396.2	13979.7	14082.6
60°	480.2	566.3	538.7	534.5	712.7	1678.0	6255.4	12390.3	14188.0	14349.4
62.5°	455.1	534.5	493.5	508.6	651.6	1586.0	6035.4	11859.2	13963.0	14245.7
65°	422.4	458.4	455.9	490.2	653.3	1436.3	5531.0	10922.3	13401.7	13773.9
67.5°	384.0	405.7	419.9	460.1	674.2	1320.0	4719.6	9795.5	12446.4	12888.9
70°	344.6	366.4	382.3	420.8	693.5	1266.5	3756.8	8212.8	10890.5	11339.7
72.5°	304.5	327.1	339.6	373.1	667.5	1151.9	2780.5	6390.1	8741.5	8977.4
75°	262.7	284.4	294.5	325.4	579.7	952.8	1919.8	4840.0	6402.6	6641.9
77.5°	220.0	243.4	246.8	271.9	442.5	728.6	1230.5	3712.4	4533.9	4693.6
80°	175.7	199.1	199.1	212.5	311.2	501.1	737.0	2800.6	3301.7	3364.4
82.5°	126.3	151.4	149.7	150.6	215.0	310.3	426.6	2098.8	2385.7	2397.4
85°	74.4	92.0	91.2	83.7	127.1	167.3	230.9	1303.3	1331.7	1335.1
87.5°	14.2	21.7	19.2	8.4	35.1	49.4	66.9	241.8	96.2	93.7
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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