

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: P368303

Luminaire Tested: **MSA-SA4A-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368303
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4A-830-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8987 lumens
Efficiency: N/A
Efficacy: 69.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

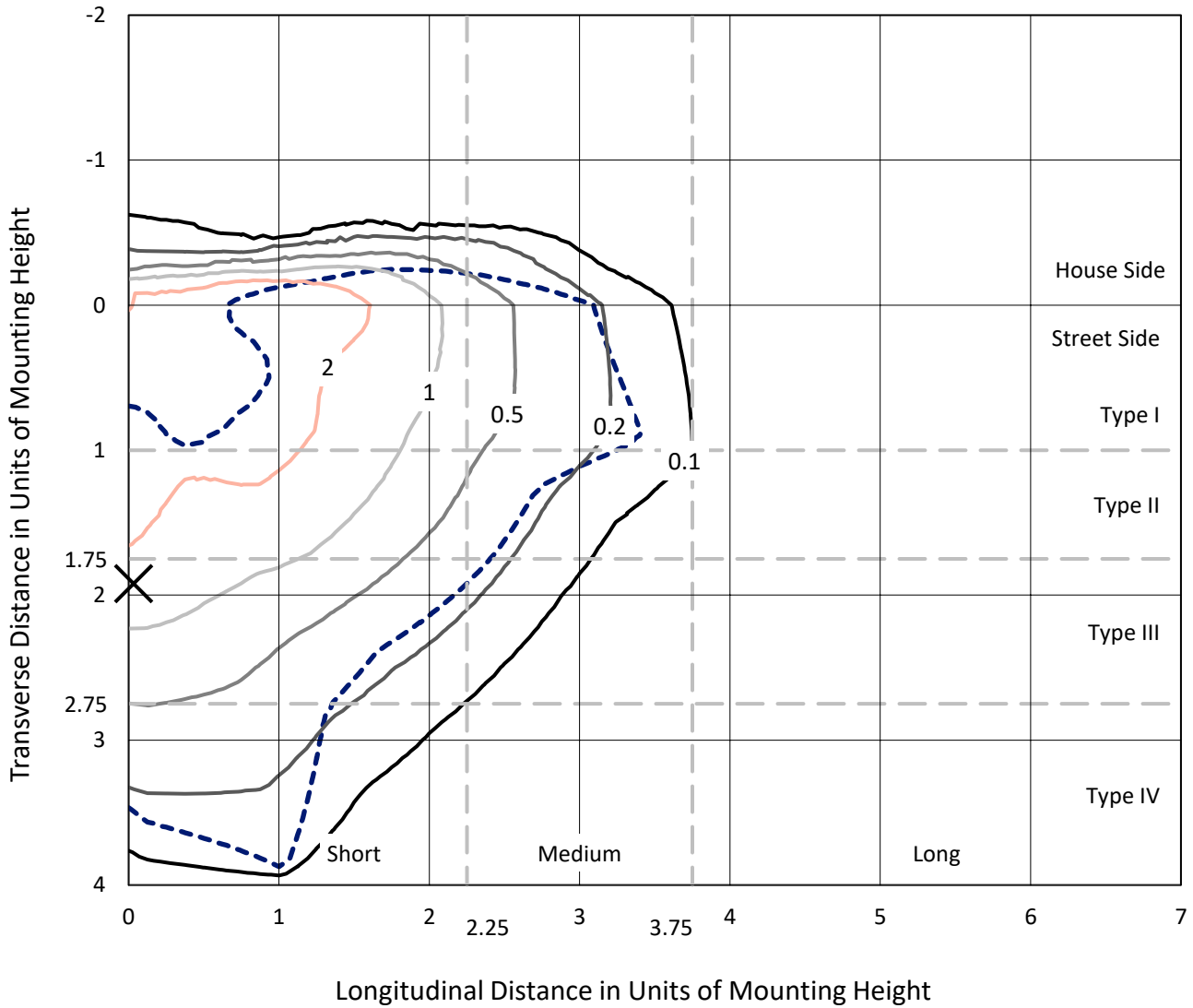
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

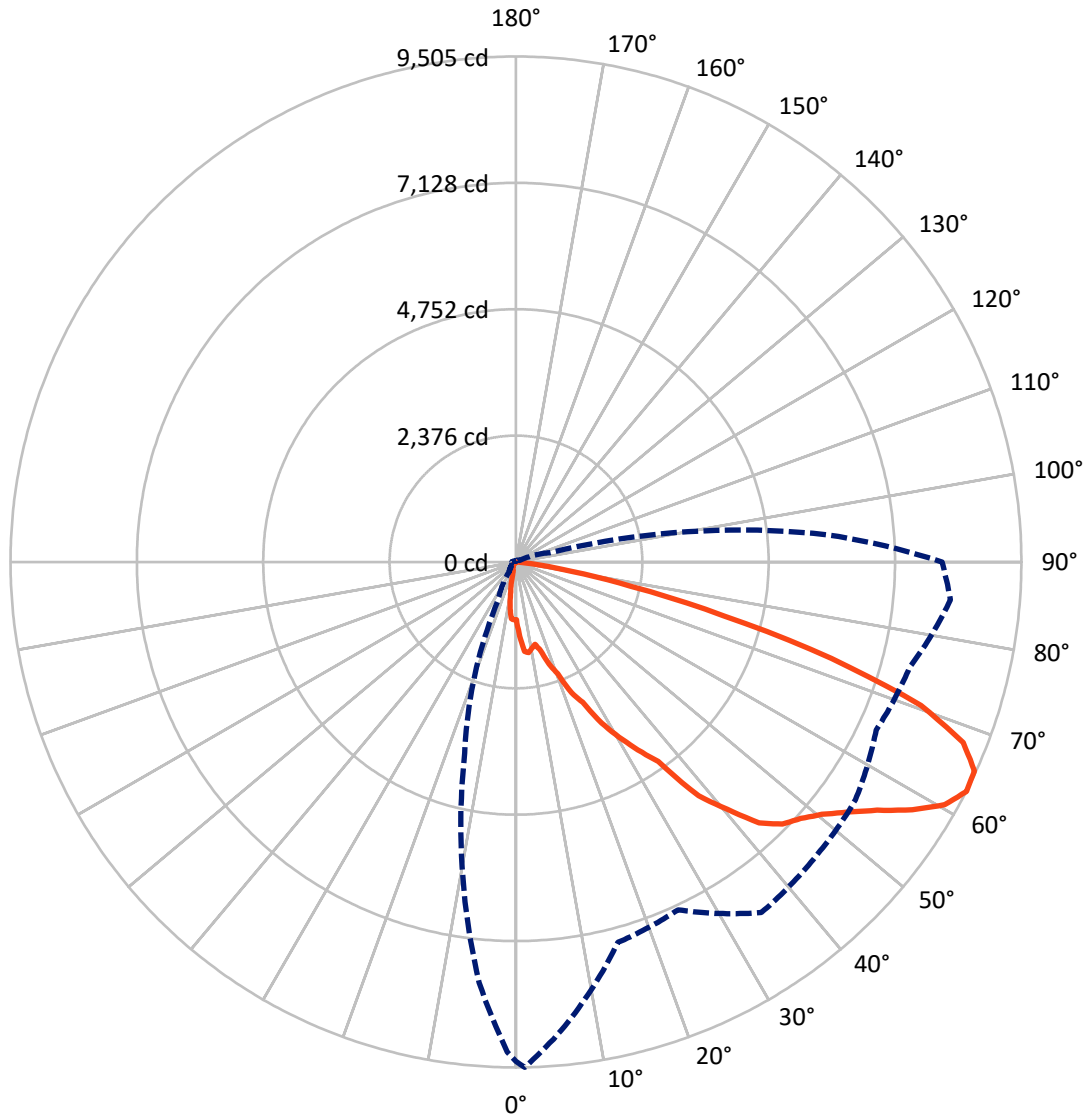
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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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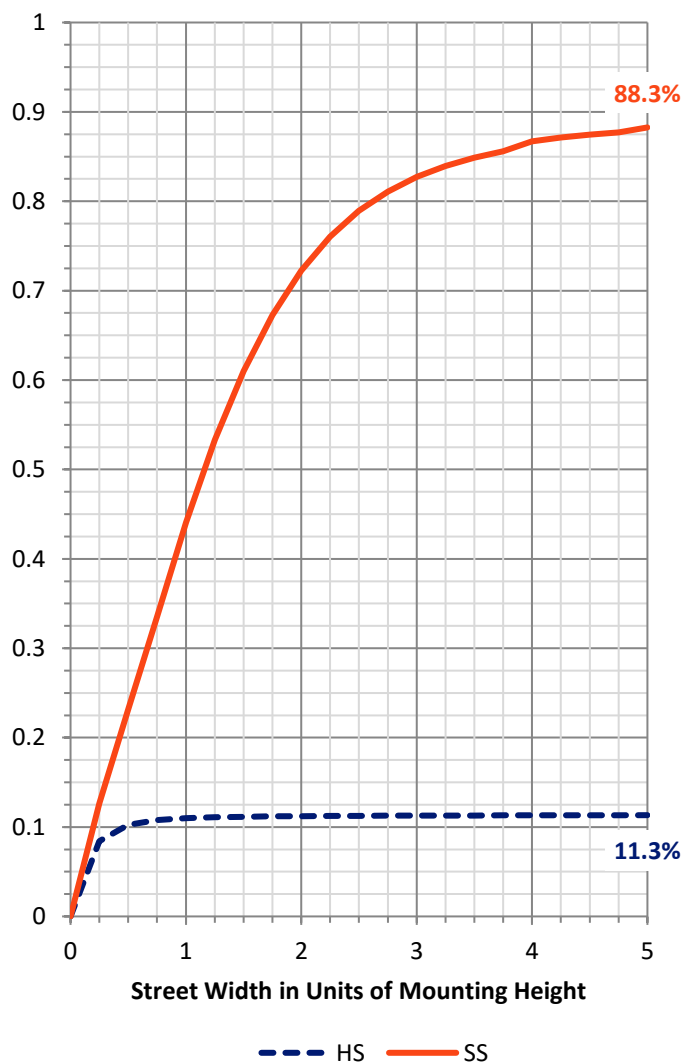
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1027.7	0.0	1027.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7959.3	0.0	7959.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	8987.0	0.0	8987.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.0	1.3
10°-20°	315.9	3.5
20°-30°	510.7	5.7
30°-40°	855.5	9.5
40°-50°	1398.9	15.6
50°-60°	2070.7	23.0
60°-70°	2377.3	26.5
70°-80°	1175.6	13.1
80°-90°	161.4	1.8
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°	8987.0	100.0
0°-180°	8987.0	100.0

Coefficient of Utilization

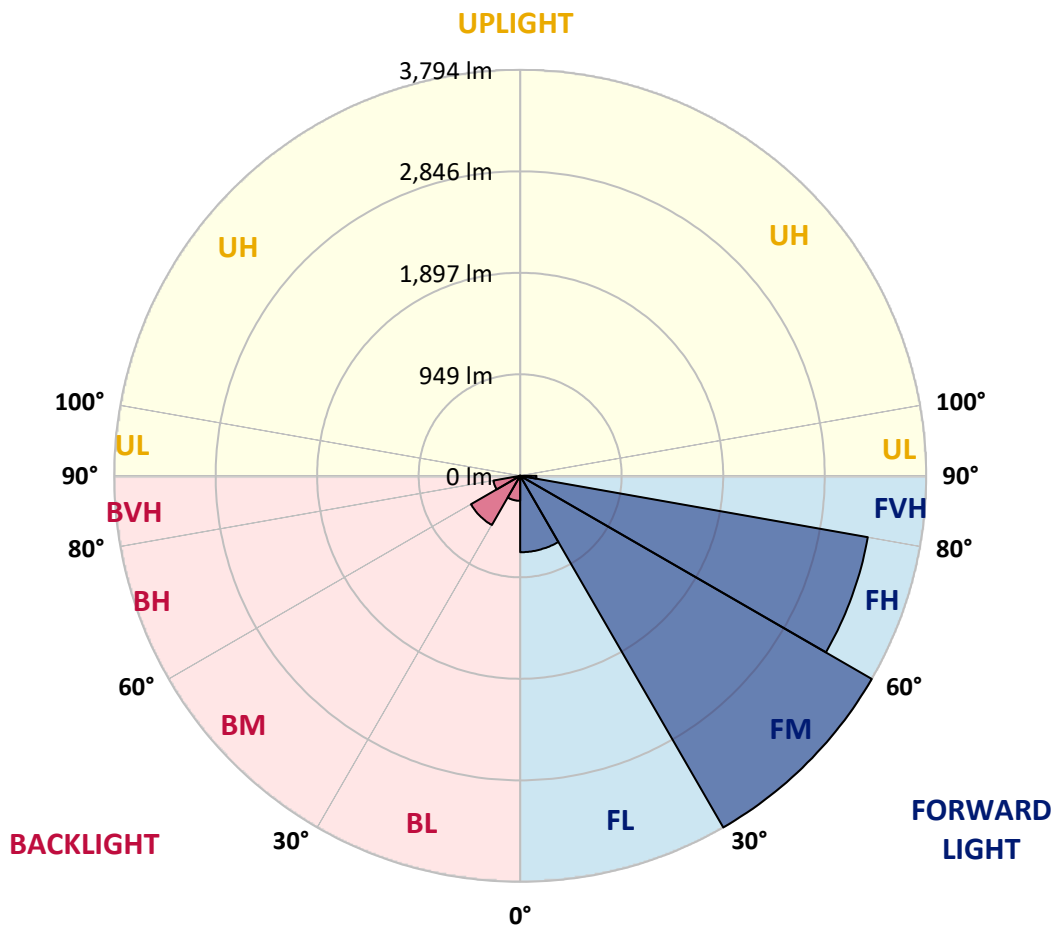


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	713.8	7.9			
FM (30°-60°)	3794.2	42.2			
FH (60°-80°)	3298.8	36.7			G2/5000
FVH (80°-90°)	152.4	1.7			G2/225
BL (0°-30°)	233.8	2.6	B1/500		
BM (30°-60°)	530.8	5.9	B1/1000		
BH (60°-80°)	254.1	2.8	B1/500		G1/500
BVH (80°-90°)	8.9	0.1			G0/10
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°	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6
2.5°	1396.0	1402.7	1371.5	1367.4	1294.6	1385.3	1387.9	1398.6	1332.0	1203.0	1383.2
5°	1670.5	1689.0	1664.9	1771.9	1802.7	1868.7	1747.4	1855.9	1809.8	1822.6	1848.8
7.5°	1703.3	1722.3	1773.0	1952.2	2117.6	2076.1	2062.8	2103.8	2100.2	2005.5	2052.6
10°	1635.2	1651.1	1735.6	2061.8	2134.0	2320.4	2366.0	2271.8	2233.4	2026.0	1935.3
12.5°	1561.0	1587.6	1695.1	2086.4	2303.0	2491.5	2641.5	2507.4	2379.8	2159.1	2076.1
15°	1703.3	1718.2	1887.2	2137.6	2327.1	2457.2	2580.1	2535.5	2516.1	2357.3	2076.1
17.5°	1982.4	2017.3	2139.7	2263.1	2412.6	2491.0	2461.8	2447.9	2398.3	2647.7	2356.8
20°	2181.1	2246.2	2406.5	2459.7	2340.9	2414.1	2396.2	2383.9	2345.0	2809.0	2679.4
22.5°	2611.3	2671.2	2674.3	2693.3	2416.7	2299.9	2270.2	2273.8	2450.5	2857.1	3080.9
25°	2904.2	2924.7	3086.6	2951.4	2623.6	2334.8	2221.6	2272.3	2526.8	3203.3	3458.4
27.5°	3383.6	3432.2	3533.1	3075.3	2747.5	2312.7	2132.5	2316.8	2727.6	3318.0	3877.8
30°	3774.3	3821.0	3983.3	3244.8	2855.1	2421.8	2170.9	2406.5	2852.5	3554.1	4254.7
32.5°	4091.4	4211.7	4396.1	3506.5	2851.0	2547.3	2367.0	2376.8	3006.2	3859.9	4627.5
35°	4496.4	4608.6	4738.2	3686.8	3037.4	2587.8	2424.9	2668.7	3234.6	4179.4	5129.4
37.5°	5409.6	5579.1	5323.0	4141.0	3254.5	2953.4	2653.3	2848.4	3473.7	4505.7	5819.3
40°	5966.7	6109.6	5862.3	4373.0	3630.4	3137.8	3061.0	3160.8	3707.8	4674.1	6339.1
42.5°	6515.7	6704.2	6290.9	4722.3	3987.4	3658.1	3448.1	3528.5	4046.3	5080.8	6923.9
45°	6913.1	7029.9	6383.6	4905.1	4478.0	4251.1	4111.3	3991.5	4518.5	5342.0	7301.3
47.5°	7112.9	7206.1	6566.4	4963.0	4769.9	4878.5	5184.7	4934.3	4936.4	5530.9	7504.7
50°	7389.4	7454.5	6668.9	5032.1	5086.9	5856.1	6010.8	5477.7	5413.7	5720.4	7537.9
52.5°	7778.1	7809.9	6867.6	5214.4	5561.7	6621.8	6677.6	6462.0	5891.5	6072.8	7611.7
55°	8294.9	8239.0	7222.5	5597.5	6056.9	7182.5	7257.3	7069.3	6492.2	6424.6	7840.1
57.5°	8852.0	8788.0	7748.4	6137.3	6594.1	7611.2	7655.7	7670.6	6891.1	6736.0	8228.3
60°	9251.5	9263.3	8410.6	6756.4	6928.0	8021.4	7932.3	7797.1	7293.7	7192.3	8417.3
62.5°	9391.3	9504.5	8926.3	7405.3	7215.8	8047.0	7908.7	7794.5	7473.9	7662.9	8200.6
65°	9277.1	9474.8	9046.1	7975.3	7389.9	7725.9	7582.0	7508.7	7468.3	7854.9	7721.3
67.5°	8823.4	9070.7	8703.0	7980.4	6757.0	6578.2	6748.2	6980.2	6846.1	7695.7	7049.9
70°	7806.8	8077.7	7906.7	7512.3	5628.7	5175.5	5363.0	5713.8	5619.0	6844.5	6062.0
72.5°	5857.2	6205.4	6239.2	6485.5	4468.3	3895.2	3922.4	3912.6	4076.0	5519.2	4730.5
75°	3762.6	4033.5	4399.6	5233.4	3394.4	2843.8	2583.7	2520.2	2824.9	4312.6	3386.7
77.5°	2184.2	2216.5	2385.5	3948.5	2431.0	2049.0	1871.8	1962.5	2069.0	3009.7	2244.6
80°	1044.7	1061.1	1130.8	2031.6	1689.0	1773.5	1636.7	1738.7	1420.6	1730.0	1273.7
82.5°	331.3	334.9	346.7	998.1	1048.8	1174.8	752.8	1009.4	878.3	1045.8	848.1
85°	55.3	94.2	116.3	288.3	592.0	396.4	163.4	360.0	490.1	659.6	385.1
87.5°	0.0	0.0	0.0	5.1	48.1	22.5	3.6	20.5	75.3	147.0	17.4
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6
2.5°	1435.5	1470.8	1337.7	1218.3	1248.6	1224.5	1188.1	1126.2	982.8	1088.3	1081.1
5°	1847.2	1781.7	1601.4	1517.4	1415.0	1258.8	1239.8	1120.0	1067.3	1076.0	1068.3
7.5°	1990.6	1873.3	1714.1	1461.1	1220.9	995.6	926.4	848.1	832.2	866.0	888.0
10°	1878.0	1753.5	1614.2	1299.8	1114.9	952.0	781.5	671.9	612.5	605.3	611.5
12.5°	1929.7	1795.5	1508.7	1268.0	1074.9	927.5	736.9	571.5	442.5	452.2	426.6
15°	1965.5	1811.4	1483.6	1201.4	992.5	795.3	565.9	400.5	295.0	264.3	245.8
17.5°	2176.0	1955.8	1451.9	1124.6	877.3	619.2	355.4	232.0	197.7	186.9	178.2
20°	2446.4	2133.5	1451.4	1043.7	707.2	387.2	221.7	168.0	159.8	165.9	159.3
22.5°	2760.9	2370.1	1528.7	942.8	507.5	244.3	172.6	149.0	140.8	146.0	146.5
25°	3077.3	2725.0	1591.7	847.1	353.4	187.4	153.6	137.2	128.0	132.6	130.1
27.5°	3648.9	3019.0	1577.3	724.7	260.2	164.9	142.9	128.5	114.7	121.9	121.4
30°	4022.7	3537.7	1633.2	553.1	206.4	144.4	133.2	117.3	102.4	110.6	110.1
32.5°	4469.8	3760.5	1693.6	424.6	171.6	136.7	119.8	104.5	95.8	100.9	99.9
35°	4972.2	4200.9	1582.5	353.4	149.0	123.4	106.0	94.2	86.5	89.1	89.1
37.5°	5859.7	4569.2	1515.9	287.8	138.8	111.6	99.4	85.0	80.4	80.4	83.0
40°	6363.6	5131.5	1317.2	227.9	141.9	102.9	92.7	77.8	71.7	71.2	73.7
42.5°	7019.2	5455.6	1192.7	184.4	128.5	100.4	85.0	70.7	63.5	63.0	65.6
45°	7407.9	5636.9	1017.6	144.9	115.2	116.8	78.9	65.0	54.3	52.2	56.8
47.5°	7653.2	5877.1	918.2	115.2	100.4	116.3	76.8	56.3	45.6	43.0	47.1
50°	7777.6	5995.9	898.8	98.8	87.1	104.0	88.1	47.1	38.9	35.3	38.9
52.5°	7907.2	6189.0	905.9	91.2	76.8	83.5	83.5	40.5	34.3	30.2	32.8
55°	8168.9	6474.3	890.1	86.5	70.7	63.5	53.8	35.8	31.2	26.6	29.2
57.5°	8490.5	6679.1	890.1	82.5	65.6	54.3	43.0	33.3	28.7	23.0	25.1
60°	8429.5	6463.5	846.0	78.4	61.5	50.7	38.9	30.7	26.6	21.0	22.5
62.5°	8011.1	5877.1	685.2	72.2	57.9	48.1	35.3	29.2	25.1	18.4	20.0
65°	7519.5	5254.4	476.3	65.6	53.8	43.5	31.8	27.7	23.0	16.4	17.4
67.5°	6927.5	4512.3	264.3	58.9	49.7	37.9	29.2	27.1	22.0	14.9	15.9
70°	5900.2	3406.6	141.9	53.8	46.6	34.8	27.7	27.1	22.0	14.3	14.9
72.5°	4429.4	2145.3	83.0	49.2	42.5	32.3	26.1	27.7	21.5	13.8	13.8
75°	3013.8	1302.3	59.4	42.0	37.9	27.1	25.1	26.6	22.0	13.8	12.8
77.5°	2049.0	915.2	48.7	37.9	34.3	24.1	25.6	26.6	22.0	11.3	8.7
80°	1279.3	472.2	36.9	30.2	29.7	21.0	25.6	23.0	14.3	2.6	0.0
82.5°	894.7	175.7	21.5	23.0	23.0	14.9	20.0	16.4	8.2	0.0	0.0
85°	375.4	30.2	11.8	16.4	14.3	8.7	15.9	12.3	5.1	0.0	0.0
87.5°	6.7	0.0	4.6	9.7	10.2	5.1	8.2	5.1	0.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6
2.5°	1114.9	1066.2	963.8	1013.0	1007.9	1030.4	1032.4	980.2	1092.9	1162.5	1172.8
5°	1069.3	1036.5	1030.9	1002.7	995.6	1037.0	1014.5	1013.0	1067.3	1146.6	1147.2
7.5°	888.5	863.4	875.2	842.4	757.9	763.1	770.7	803.0	849.6	901.8	920.8
10°	609.9	675.0	627.4	623.3	614.5	587.4	565.9	582.8	643.2	691.4	709.3
12.5°	435.3	445.5	474.7	464.0	478.8	455.8	447.1	499.8	558.7	607.9	643.2
15°	254.5	271.9	289.3	326.2	341.1	336.5	363.1	407.1	454.8	477.3	520.8
17.5°	179.2	180.8	184.4	224.3	250.4	260.7	276.5	309.8	329.3	339.5	357.5
20°	156.7	152.1	146.0	168.5	193.1	205.9	201.3	227.4	243.3	253.5	266.3
22.5°	141.9	134.2	130.6	138.3	157.2	168.5	170.5	185.9	210.0	217.1	221.2
25°	128.0	122.9	120.3	124.4	134.7	145.4	147.5	167.5	189.0	192.0	200.2
27.5°	118.8	109.1	110.1	113.2	117.8	131.1	135.2	146.5	177.7	181.3	183.9
30°	109.1	98.8	101.9	105.0	102.9	119.3	125.5	138.3	168.5	174.1	177.2
32.5°	99.4	91.7	91.2	94.2	97.8	106.5	119.8	134.7	162.3	170.0	177.7
35°	88.6	82.5	83.5	84.0	88.6	99.9	109.6	117.3	136.2	140.3	142.9
37.5°	80.9	75.8	74.8	79.9	84.5	93.2	96.8	100.4	125.5	134.7	135.2
40°	71.7	68.6	68.6	72.2	82.5	81.4	86.0	97.3	121.4	131.1	132.1
42.5°	65.0	60.9	62.0	65.6	72.7	67.6	76.8	93.2	119.8	129.6	129.1
45°	54.8	53.8	55.8	58.9	62.0	57.4	71.7	89.1	114.7	127.5	123.9
47.5°	45.6	45.6	48.1	51.2	49.7	51.2	65.0	83.5	111.6	123.4	120.9
50°	37.4	37.9	40.5	45.6	41.0	45.1	58.4	77.8	106.5	119.3	117.3
52.5°	31.8	32.3	33.8	37.4	35.3	41.0	53.8	72.2	101.4	112.2	111.1
55°	27.7	28.7	28.7	30.7	31.8	38.4	48.7	66.6	93.7	105.5	103.4
57.5°	24.6	25.6	25.1	26.6	27.7	33.8	43.5	60.4	86.0	95.8	92.7
60°	22.0	23.0	22.5	24.6	24.1	29.2	37.9	53.8	77.8	85.5	83.0
62.5°	19.5	20.5	20.5	21.5	22.0	24.6	32.8	47.6	69.6	75.8	73.7
65°	17.4	18.4	18.9	18.4	19.5	21.0	27.7	43.0	60.4	66.6	63.5
67.5°	15.9	16.9	17.9	15.9	16.9	17.4	23.6	38.4	53.3	58.4	55.8
70°	15.4	15.9	15.9	13.8	13.3	13.8	20.5	32.8	46.6	51.7	48.1
72.5°	14.3	14.9	14.3	11.3	9.7	10.8	17.4	27.7	39.4	43.5	40.5
75°	13.3	13.8	13.3	9.2	6.1	7.7	14.3	24.1	33.8	35.8	34.3
77.5°	11.3	12.3	12.3	6.7	2.0	4.6	10.8	19.5	28.2	28.2	28.7
80°	1.0	3.1	5.1	3.6	0.0	0.5	3.6	10.2	17.9	17.4	18.9
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	6.1	4.6	5.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6	1082.6
2.5°	1148.7	1132.8	1152.8	1213.7	1189.1	1193.8	1177.4	1278.3	1392.5	1396.0
5°	1148.2	1133.8	1163.5	1161.0	1231.1	1307.5	1381.2	1500.5	1669.5	1670.5
7.5°	912.1	997.1	1019.1	1012.5	1102.6	1207.6	1321.3	1549.7	1688.5	1703.3
10°	822.5	859.3	904.4	920.8	958.2	1058.0	1186.6	1445.2	1600.9	1635.2
12.5°	712.9	830.7	890.6	1006.8	1028.3	1042.7	1245.5	1470.3	1565.0	1561.0
15°	590.5	692.9	787.6	929.5	987.9	1138.4	1298.2	1592.7	1649.0	1703.3
17.5°	417.9	495.2	640.7	789.7	967.9	1131.8	1443.7	1811.4	1917.9	1982.4
20°	279.6	317.0	448.6	645.8	871.6	1034.5	1503.1	2009.1	2125.3	2181.1
22.5°	226.9	244.8	312.9	473.2	744.6	1029.9	1527.2	2224.7	2537.1	2611.3
25°	199.7	212.0	248.4	350.3	618.1	1009.4	1660.3	2467.4	2844.3	2904.2
27.5°	174.6	193.1	220.2	288.8	530.0	995.1	1727.9	2875.1	3324.7	3383.6
30°	167.0	189.5	215.6	263.2	468.6	939.7	1835.4	3242.8	3669.4	3774.3
32.5°	180.3	187.9	200.8	241.2	421.0	881.4	2024.4	3682.2	3954.6	4091.4
35°	142.9	156.7	179.2	221.2	401.0	878.3	2131.5	3964.9	4411.9	4496.4
37.5°	139.8	152.6	181.8	215.6	425.1	901.8	2290.2	4544.1	5236.5	5409.6
40°	135.7	152.1	179.8	213.0	425.1	924.9	2391.6	5007.5	5791.1	5966.7
42.5°	134.2	155.2	179.2	223.8	411.7	937.7	2544.7	5470.0	6377.0	6515.7
45°	133.2	158.2	180.8	236.6	408.7	979.7	2631.3	5694.8	6753.9	6913.1
47.5°	130.6	158.2	201.8	228.9	391.8	975.6	2743.4	6028.2	6978.7	7112.9
50°	128.5	159.3	228.4	214.6	394.3	950.5	2895.5	6341.1	7293.7	7389.4
52.5°	123.9	162.9	224.3	194.6	386.7	947.9	3122.4	6786.1	7708.0	7778.1
55°	113.7	158.2	202.8	170.0	359.5	918.7	3423.0	7364.8	8282.6	8294.9
57.5°	104.5	147.0	169.5	156.2	301.1	922.3	3682.2	7897.5	8794.7	8852.0
60°	95.3	152.6	131.6	145.4	249.4	856.8	3807.6	8101.3	9167.5	9251.5
62.5°	86.5	140.8	112.2	133.7	222.3	795.8	3720.6	7937.4	9215.1	9391.3
65°	76.8	97.8	94.7	119.8	224.8	710.3	3429.7	7457.5	9034.4	9277.1
67.5°	66.1	76.8	83.5	103.4	240.7	637.1	2930.9	6687.3	8548.4	8823.4
70°	57.9	69.1	72.7	90.6	250.4	588.9	2312.7	5618.5	7552.8	7806.8
72.5°	48.1	64.0	65.0	79.4	241.2	541.3	1648.0	4033.5	5735.3	5857.2
75°	41.5	53.3	58.9	66.6	202.8	404.1	908.0	2496.6	3626.3	3762.6
77.5°	37.4	40.5	44.6	46.1	86.0	210.5	312.4	1539.4	2030.6	2184.2
80°	28.7	31.8	30.7	31.8	47.1	72.7	118.8	721.6	959.2	1044.7
82.5°	9.2	15.4	16.9	14.3	30.7	35.8	34.3	249.4	311.9	331.3
85°	2.0	5.6	2.6	0.0	10.2	18.4	2.6	37.9	74.8	55.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

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