

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: P367555

Luminaire Tested: **MSA-SA2D-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367555
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-SA2D-730-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 8960 lumens
Efficiency: N/A
Efficacy: 69.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

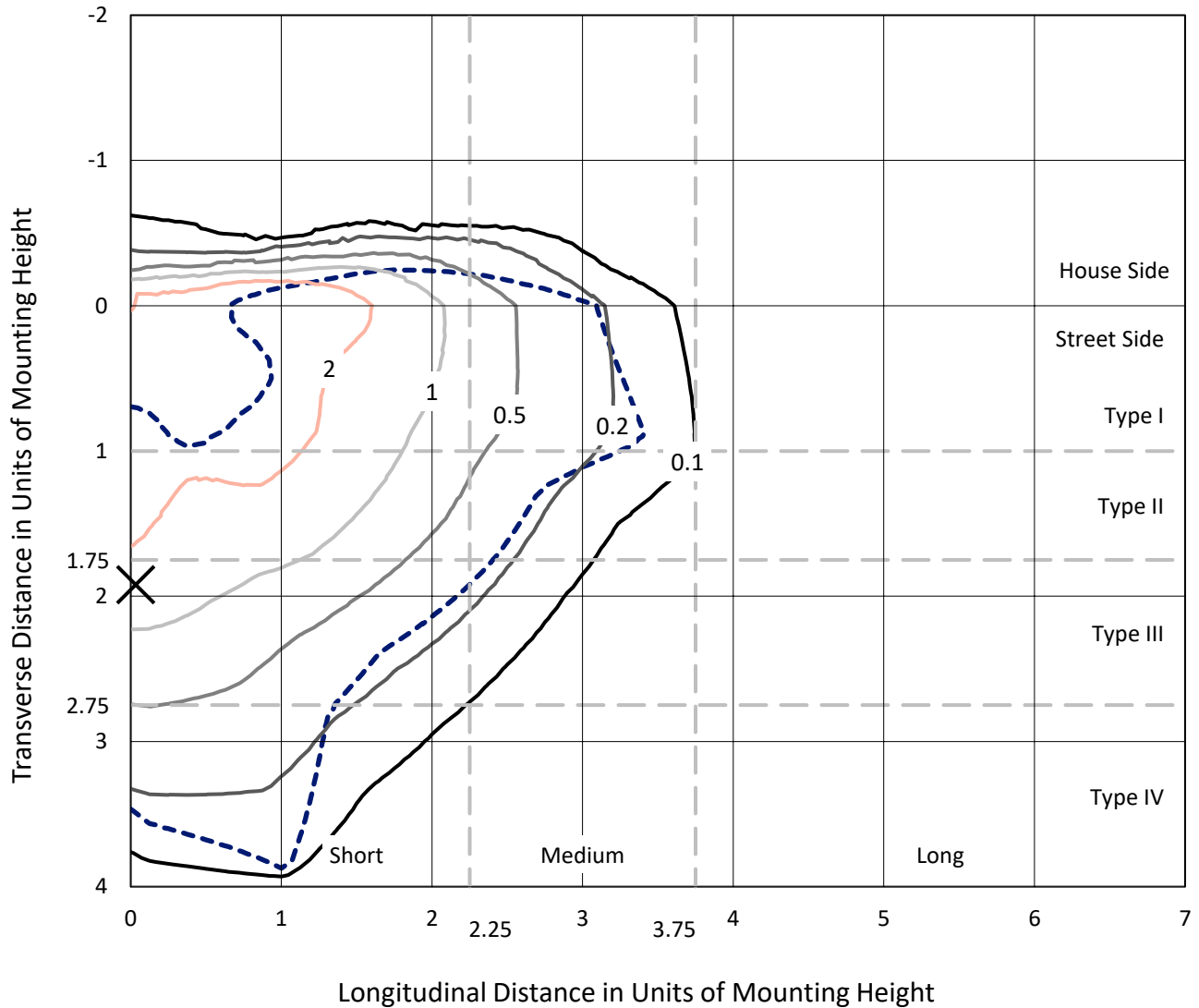
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

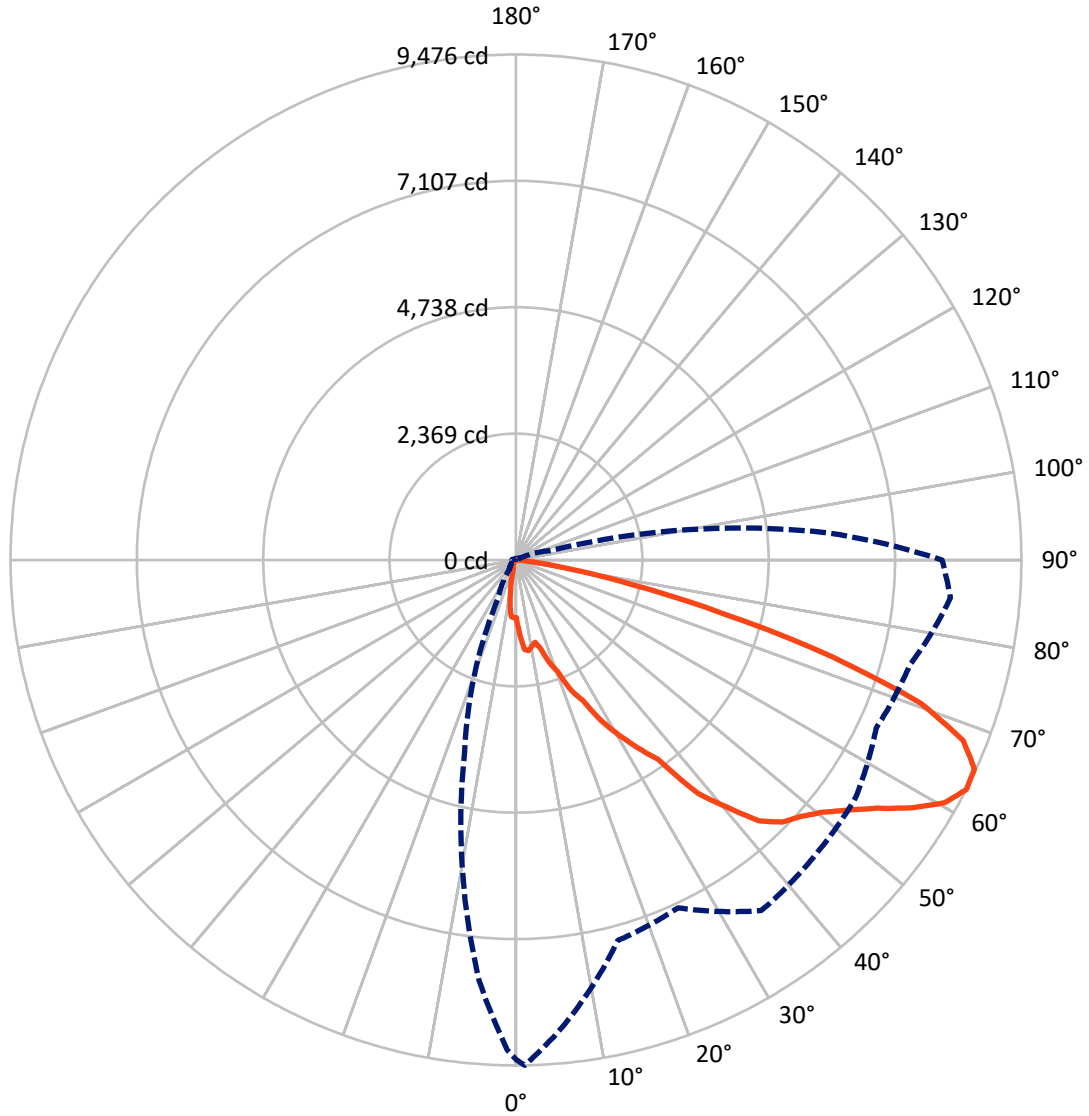
✕ Max cd
 - - - 1/2 Max cd



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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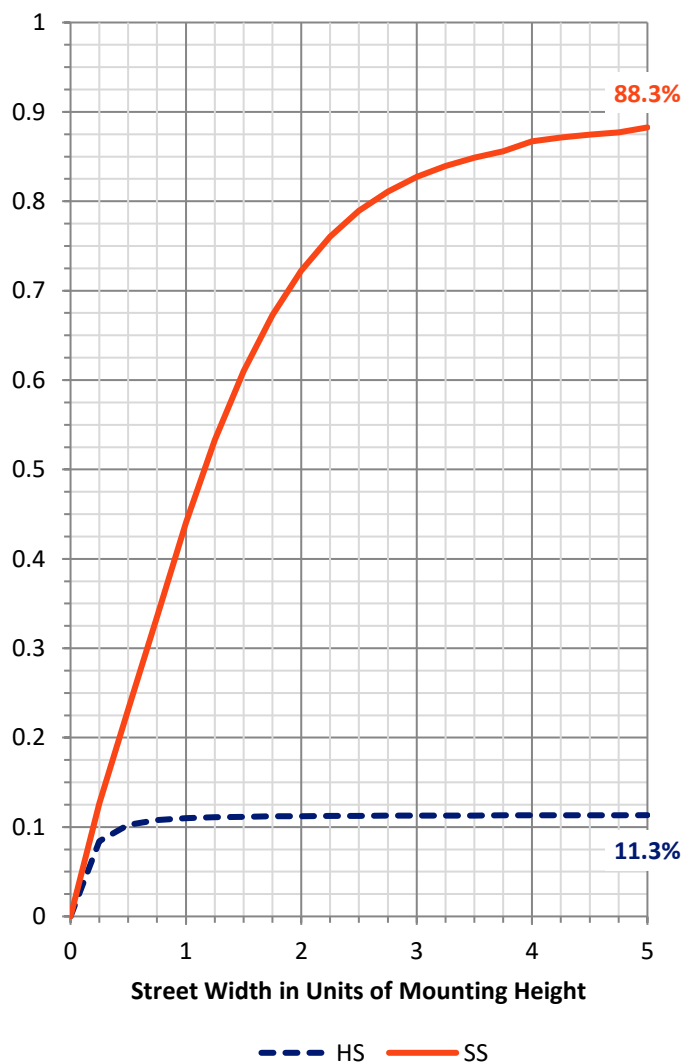
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1024.6	0.0	1024.6
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7935.4	0.0	7935.4
	% Fixture	88.6	0.0	88.6
Total	Lumens	8960.0	0.0	8960.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.6	1.3
10°-20°	315.0	3.5
20°-30°	509.2	5.7
30°-40°	852.9	9.5
40°-50°	1394.7	15.6
50°-60°	2064.5	23.0
60°-70°	2370.2	26.5
70°-80°	1172.1	13.1
80°-90°	160.9	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°	8960.0	100.0
0°-180°	8960.0	100.0

Coefficient of Utilization

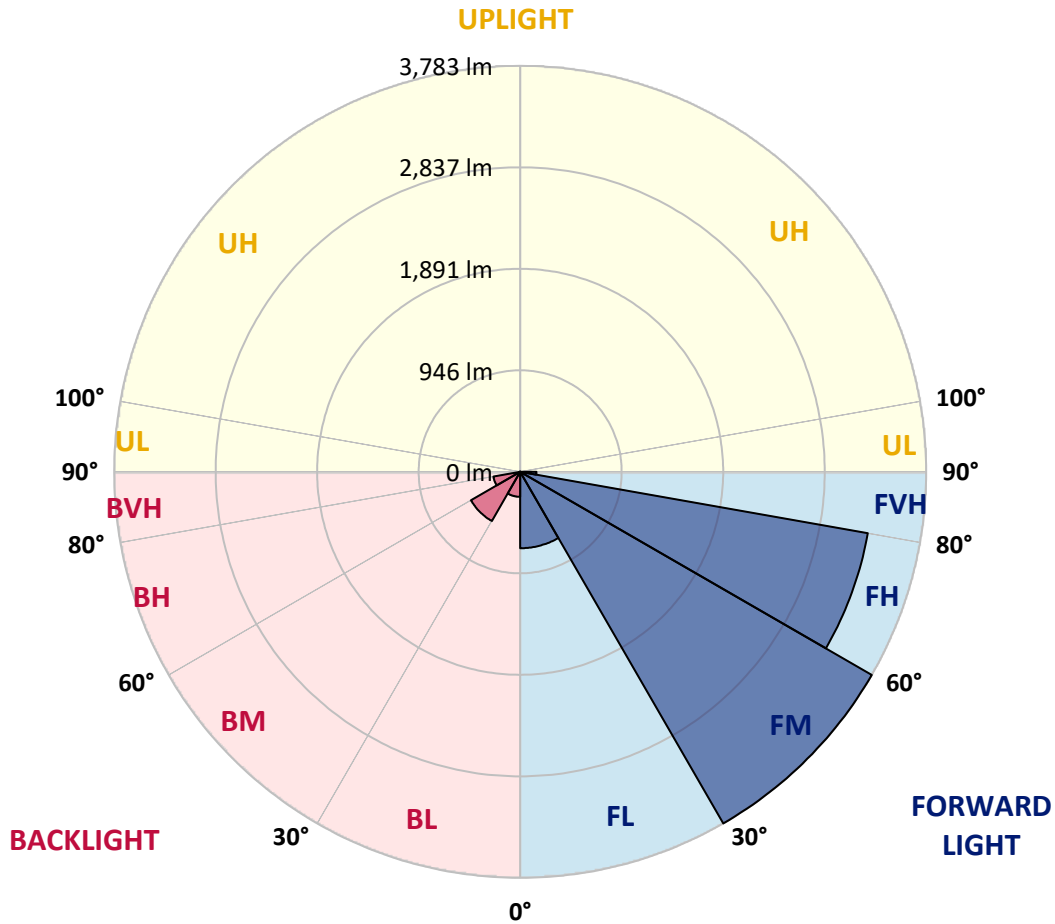


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	711.7	7.9			
FM (30°-60°)	3782.8	42.2			
FH (60°-80°)	3288.9	36.7			G2/5000
FVH (80°-90°)	152.0	1.7			G2/225
BL (0°-30°)	233.1	2.6	B1/500		
BM (30°-60°)	529.2	5.9	B1/1000		
BH (60°-80°)	253.4	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°	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4
2.5°	1391.9	1398.5	1367.3	1363.3	1290.8	1381.1	1383.7	1394.4	1328.0	1199.4	1379.1
5°	1665.5	1683.9	1659.9	1766.6	1797.3	1863.1	1742.1	1850.4	1804.4	1817.2	1843.2
7.5°	1698.2	1717.1	1767.6	1946.3	2111.3	2069.9	2056.6	2097.5	2093.9	1999.4	2046.4
10°	1630.3	1646.1	1730.4	2055.6	2127.6	2313.5	2358.9	2265.0	2226.7	2019.9	1929.5
12.5°	1556.3	1582.8	1690.0	2080.1	2296.1	2484.0	2633.6	2499.8	2372.7	2152.6	2069.9
15°	1698.2	1713.0	1881.5	2131.2	2320.1	2449.8	2572.3	2527.9	2508.5	2350.2	2069.9
17.5°	1976.5	2011.2	2133.2	2256.3	2405.4	2483.5	2454.4	2440.6	2391.1	2639.7	2349.7
20°	2174.6	2239.4	2399.2	2452.3	2333.9	2406.9	2389.0	2376.8	2338.0	2800.6	2671.4
22.5°	2603.5	2663.2	2666.3	2685.2	2409.4	2293.0	2263.4	2267.0	2443.1	2848.6	3071.7
25°	2895.5	2915.9	3077.3	2942.5	2615.7	2327.8	2214.9	2265.5	2519.2	3193.7	3448.0
27.5°	3373.4	3421.9	3522.5	3066.1	2739.3	2305.8	2126.1	2309.9	2719.4	3308.1	3866.1
30°	3763.0	3809.5	3971.3	3235.1	2846.5	2414.6	2164.4	2399.2	2844.0	3543.5	4241.9
32.5°	4079.1	4199.0	4382.9	3496.0	2842.4	2539.6	2359.9	2369.6	2997.1	3848.3	4613.6
35°	4482.9	4594.7	4723.9	3675.7	3028.3	2580.0	2417.6	2660.7	3224.9	4166.9	5114.0
37.5°	5393.3	5562.3	5307.0	4128.6	3244.8	2944.5	2645.3	2839.9	3463.3	4492.1	5801.8
40°	5948.8	6091.3	5844.7	4359.9	3619.5	3128.4	3051.8	3151.3	3696.6	4660.1	6320.0
42.5°	6496.2	6684.1	6272.0	4708.1	3975.4	3647.1	3437.8	3517.9	4034.1	5065.5	6903.1
45°	6892.4	7008.8	6364.4	4890.4	4464.6	4238.4	4099.0	3979.5	4504.9	5325.9	7279.4
47.5°	7091.5	7184.4	6546.7	4948.1	4755.6	4863.8	5169.2	4919.5	4921.5	5514.3	7482.1
50°	7367.2	7432.1	6648.8	5017.0	5071.6	5838.5	5992.7	5461.2	5397.4	5703.2	7515.3
52.5°	7754.8	7786.4	6846.9	5198.8	5544.9	6601.9	6657.5	6442.6	5873.8	6054.5	7588.8
55°	8269.9	8214.3	7200.8	5580.7	6038.7	7160.9	7235.5	7048.1	6472.7	6405.3	7816.5
57.5°	8825.5	8761.6	7725.1	6118.8	6574.3	7588.3	7632.7	7647.5	6870.4	6715.7	8203.6
60°	9223.7	9235.5	8385.3	6736.1	6907.2	7997.3	7908.4	7773.6	7271.7	7170.6	8392.0
62.5°	9363.1	9475.9	8899.5	7383.1	7194.1	8022.8	7885.0	7771.1	7451.5	7639.9	8176.0
65°	9249.2	9446.3	9019.0	7951.3	7367.7	7702.7	7559.2	7486.2	7445.9	7831.3	7698.1
67.5°	8796.9	9043.5	8676.9	7956.4	6736.7	6558.5	6728.0	6959.3	6825.5	7672.6	7028.7
70°	7783.3	8053.4	7882.9	7489.8	5611.8	5160.0	5346.8	5696.6	5602.1	6824.0	6043.8
72.5°	5839.6	6186.8	6220.5	6466.0	4454.8	3883.5	3910.6	3900.9	4063.7	5502.6	4716.3
75°	3751.3	4021.4	4386.4	5217.7	3384.2	2835.3	2575.9	2512.6	2816.4	4299.6	3376.5
77.5°	2177.6	2209.8	2378.3	3936.6	2423.7	2042.8	1866.2	1956.6	2062.8	3000.7	2237.9
80°	1041.6	1057.9	1127.4	2025.5	1683.9	1768.2	1631.8	1733.4	1416.4	1724.8	1269.8
82.5°	330.3	333.9	345.7	995.1	1045.7	1171.3	750.6	1006.4	875.7	1042.6	845.5
85°	55.1	93.9	115.9	287.5	590.2	395.2	162.9	358.9	488.6	657.6	384.0
87.5°	0.0	0.0	0.0	5.1	48.0	22.5	3.6	20.4	75.1	146.5	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°	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4
2.5°	1431.2	1466.4	1333.6	1214.7	1244.8	1220.8	1184.6	1122.8	979.8	1085.0	1077.8
5°	1841.7	1776.3	1596.6	1512.9	1410.7	1255.0	1236.1	1116.6	1064.1	1072.7	1065.1
7.5°	1984.6	1867.7	1708.9	1456.7	1217.2	992.6	923.6	845.5	829.7	863.4	885.4
10°	1872.3	1748.2	1609.4	1295.9	1111.5	949.2	779.2	669.9	610.7	603.5	609.6
12.5°	1923.9	1790.1	1504.2	1264.2	1071.7	924.7	734.7	569.8	441.1	450.8	425.3
15°	1959.6	1805.9	1479.2	1197.8	989.5	792.9	564.2	399.3	294.1	263.5	245.1
17.5°	2169.5	1949.9	1447.5	1121.2	874.6	617.3	354.3	231.3	197.1	186.4	177.7
20°	2439.1	2127.1	1447.0	1040.6	705.1	386.0	221.1	167.5	159.3	165.4	158.8
22.5°	2752.6	2363.0	1524.1	940.0	506.0	243.5	172.1	148.6	140.4	145.5	146.0
25°	3068.1	2716.8	1586.9	844.5	352.3	186.9	153.2	136.8	127.6	132.2	129.7
27.5°	3637.9	3009.9	1572.6	722.5	259.4	164.4	142.5	128.2	114.4	121.5	121.0
30°	4010.6	3527.1	1628.3	551.4	205.8	144.0	132.8	116.9	102.1	110.3	109.8
32.5°	4456.4	3749.2	1688.5	423.3	171.0	136.3	119.5	104.2	95.5	100.6	99.6
35°	4957.3	4188.3	1577.7	352.3	148.6	123.1	105.7	93.9	86.3	88.8	88.8
37.5°	5842.1	4555.4	1511.3	286.9	138.4	111.3	99.1	84.8	80.2	80.2	82.7
40°	6344.5	5116.1	1313.2	227.2	141.4	102.6	92.4	77.6	71.5	71.0	73.5
42.5°	6998.1	5439.3	1189.2	183.8	128.2	100.1	84.8	70.5	63.3	62.8	65.4
45°	7385.6	5620.0	1014.5	144.5	114.9	116.4	78.6	64.8	54.1	52.1	56.7
47.5°	7630.2	5859.5	915.5	114.9	100.1	115.9	76.6	56.2	45.4	42.9	47.0
50°	7754.2	5977.9	896.1	98.5	86.8	103.6	87.8	47.0	38.8	35.2	38.8
52.5°	7883.4	6170.4	903.2	90.9	76.6	83.2	83.2	40.3	34.2	30.1	32.7
55°	8144.3	6454.8	887.4	86.3	70.5	63.3	53.6	35.7	31.1	26.6	29.1
57.5°	8465.0	6659.0	887.4	82.2	65.4	54.1	42.9	33.2	28.6	23.0	25.0
60°	8404.2	6444.1	843.5	78.1	61.3	50.5	38.8	30.6	26.6	20.9	22.5
62.5°	7987.1	5859.5	683.2	72.0	57.7	48.0	35.2	29.1	25.0	18.4	19.9
65°	7496.9	5238.6	474.8	65.4	53.6	43.4	31.7	27.6	23.0	16.3	17.4
67.5°	6906.7	4498.8	263.5	58.7	49.5	37.8	29.1	27.1	22.0	14.8	15.8
70°	5882.4	3396.4	141.4	53.6	46.5	34.7	27.6	27.1	22.0	14.3	14.8
72.5°	4416.0	2138.8	82.7	49.0	42.4	32.2	26.0	27.6	21.4	13.8	13.8
75°	3004.8	1298.4	59.2	41.9	37.8	27.1	25.0	26.6	22.0	13.8	12.8
77.5°	2042.8	912.4	48.5	37.8	34.2	24.0	25.5	26.6	22.0	11.2	8.7
80°	1275.4	470.8	36.8	30.1	29.6	20.9	25.5	23.0	14.3	2.6	0.0
82.5°	892.0	175.1	21.4	23.0	23.0	14.8	19.9	16.3	8.2	0.0	0.0
85°	374.3	30.1	11.7	16.3	14.3	8.7	15.8	12.3	5.1	0.0	0.0
87.5°	6.6	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°	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4
2.5°	1111.5	1063.0	960.9	1009.9	1004.8	1027.3	1029.3	977.3	1089.6	1159.0	1169.2
5°	1066.1	1033.4	1027.8	999.7	992.6	1033.9	1011.5	1009.9	1064.1	1143.2	1143.7
7.5°	885.9	860.8	872.6	839.9	755.7	760.8	768.4	800.6	847.1	899.1	918.0
10°	608.1	673.0	625.5	621.4	612.7	585.6	564.2	581.0	641.3	689.3	707.2
12.5°	434.0	444.2	473.3	462.6	477.4	454.4	445.7	498.3	557.0	606.1	641.3
15°	253.8	271.1	288.5	325.2	340.0	335.5	362.0	405.9	453.4	475.9	519.3
17.5°	178.7	180.2	183.8	223.6	249.7	259.9	275.7	308.9	328.3	338.5	356.4
20°	156.2	151.6	145.5	168.0	192.5	205.3	200.7	226.7	242.5	252.7	265.5
22.5°	141.4	133.8	130.2	137.9	156.7	168.0	170.0	185.3	209.3	216.5	220.6
25°	127.6	122.5	120.0	124.1	134.3	145.0	147.0	167.0	188.4	191.5	199.6
27.5°	118.5	108.8	109.8	112.8	117.4	130.7	134.8	146.0	177.2	180.7	183.3
30°	108.8	98.5	101.6	104.7	102.6	119.0	125.1	137.9	168.0	173.6	176.7
32.5°	99.1	91.4	90.9	93.9	97.5	106.2	119.5	134.3	161.9	169.5	177.2
35°	88.3	82.2	83.2	83.7	88.3	99.6	109.3	116.9	135.8	139.9	142.5
37.5°	80.7	75.6	74.5	79.7	84.2	92.9	96.5	100.1	125.1	134.3	134.8
40°	71.5	68.4	68.4	72.0	82.2	81.2	85.8	97.0	121.0	130.7	131.7
42.5°	64.8	60.8	61.8	65.4	72.5	67.4	76.6	92.9	119.5	129.2	128.7
45°	54.6	53.6	55.7	58.7	61.8	57.2	71.5	88.8	114.4	127.1	123.6
47.5°	45.4	45.4	48.0	51.1	49.5	51.1	64.8	83.2	111.3	123.1	120.5
50°	37.3	37.8	40.3	45.4	40.8	44.9	58.2	77.6	106.2	119.0	116.9
52.5°	31.7	32.2	33.7	37.3	35.2	40.8	53.6	72.0	101.1	111.8	110.8
55°	27.6	28.6	28.6	30.6	31.7	38.3	48.5	66.4	93.4	105.2	103.1
57.5°	24.5	25.5	25.0	26.6	27.6	33.7	43.4	60.2	85.8	95.5	92.4
60°	22.0	23.0	22.5	24.5	24.0	29.1	37.8	53.6	77.6	85.3	82.7
62.5°	19.4	20.4	20.4	21.4	22.0	24.5	32.7	47.5	69.4	75.6	73.5
65°	17.4	18.4	18.9	18.4	19.4	20.9	27.6	42.9	60.2	66.4	63.3
67.5°	15.8	16.8	17.9	15.8	16.8	17.4	23.5	38.3	53.1	58.2	55.7
70°	15.3	15.8	15.8	13.8	13.3	13.8	20.4	32.7	46.5	51.6	48.0
72.5°	14.3	14.8	14.3	11.2	9.7	10.7	17.4	27.6	39.3	43.4	40.3
75°	13.3	13.8	13.3	9.2	6.1	7.7	14.3	24.0	33.7	35.7	34.2
77.5°	11.2	12.3	12.3	6.6	2.0	4.6	10.7	19.4	28.1	28.1	28.6
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°	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4	1079.4
2.5°	1145.2	1129.4	1149.3	1210.1	1185.6	1190.2	1173.8	1274.4	1388.3	1391.9
5°	1144.7	1130.4	1160.0	1157.5	1227.4	1303.5	1377.0	1496.0	1664.5	1665.5
7.5°	909.4	994.1	1016.1	1009.4	1099.3	1204.0	1317.3	1545.0	1683.4	1698.2
10°	820.0	856.8	901.7	918.0	955.3	1054.9	1183.0	1440.9	1596.1	1630.3
12.5°	710.7	828.2	887.9	1003.8	1025.3	1039.6	1241.7	1465.9	1560.3	1556.3
15°	588.7	690.8	785.3	926.7	984.9	1135.0	1294.3	1587.9	1644.1	1698.2
17.5°	416.6	493.7	638.7	787.3	965.0	1128.4	1439.3	1805.9	1912.1	1976.5
20°	278.8	316.1	447.3	643.8	869.0	1031.4	1498.6	2003.0	2118.9	2174.6
22.5°	226.2	244.1	312.0	471.8	742.4	1026.8	1522.6	2218.0	2529.4	2603.5
25°	199.1	211.4	247.6	349.2	616.3	1006.4	1655.3	2460.0	2835.8	2895.5
27.5°	174.1	192.5	219.6	288.0	528.5	992.1	1722.7	2866.4	3314.7	3373.4
30°	166.5	188.9	215.0	262.4	467.2	936.9	1829.9	3233.0	3658.3	3763.0
32.5°	179.7	187.4	200.1	240.5	419.7	878.7	2018.3	3671.1	3942.7	4079.1
35°	142.5	156.2	178.7	220.6	399.8	875.7	2125.1	3952.9	4398.7	4482.9
37.5°	139.4	152.2	181.3	215.0	423.8	899.1	2283.3	4530.4	5220.7	5393.3
40°	135.3	151.6	179.2	212.4	423.8	922.1	2384.4	4992.5	5773.7	5948.8
42.5°	133.8	154.7	178.7	223.1	410.5	934.9	2537.1	5453.6	6357.8	6496.2
45°	132.8	157.8	180.2	235.9	407.4	976.7	2623.4	5677.7	6733.6	6892.4
47.5°	130.2	157.8	201.2	228.2	390.6	972.7	2735.2	6010.1	6957.7	7091.5
50°	128.2	158.8	227.7	213.9	393.2	947.6	2886.8	6322.1	7271.7	7367.2
52.5°	123.6	162.4	223.6	194.0	385.5	945.1	3113.0	6765.8	7684.8	7754.8
55°	113.3	157.8	202.2	169.5	358.4	916.0	3412.7	7342.7	8257.7	8269.9
57.5°	104.2	146.5	169.0	155.7	300.2	919.6	3671.1	7873.7	8768.3	8825.5
60°	95.0	152.2	131.2	145.0	248.7	854.2	3796.2	8076.9	9140.0	9223.7
62.5°	86.3	140.4	111.8	133.3	221.6	793.4	3709.4	7913.5	9187.5	9363.1
65°	76.6	97.5	94.5	119.5	224.1	708.2	3419.4	7435.1	9007.2	9249.2
67.5°	65.9	76.6	83.2	103.1	240.0	635.2	2922.1	6667.2	8522.7	8796.9
70°	57.7	68.9	72.5	90.4	249.7	587.2	2305.8	5601.6	7530.1	7783.3
72.5°	48.0	63.8	64.8	79.1	240.5	539.7	1643.1	4021.4	5718.0	5839.6
75°	41.4	53.1	58.7	66.4	202.2	402.9	905.3	2489.1	3615.4	3751.3
77.5°	37.3	40.3	44.4	46.0	85.8	209.9	311.5	1534.8	2024.5	2177.6
80°	28.6	31.7	30.6	31.7	47.0	72.5	118.5	719.4	956.3	1041.6
82.5°	9.2	15.3	16.8	14.3	30.6	35.7	34.2	248.7	310.9	330.3
85°	2.0	5.6	2.6	0.0	10.2	18.4	2.6	37.8	74.5	55.1
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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