

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: P366764

Luminaire Tested: **MSA-SA1B-730-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366764
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-SA1B-730-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 3951 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

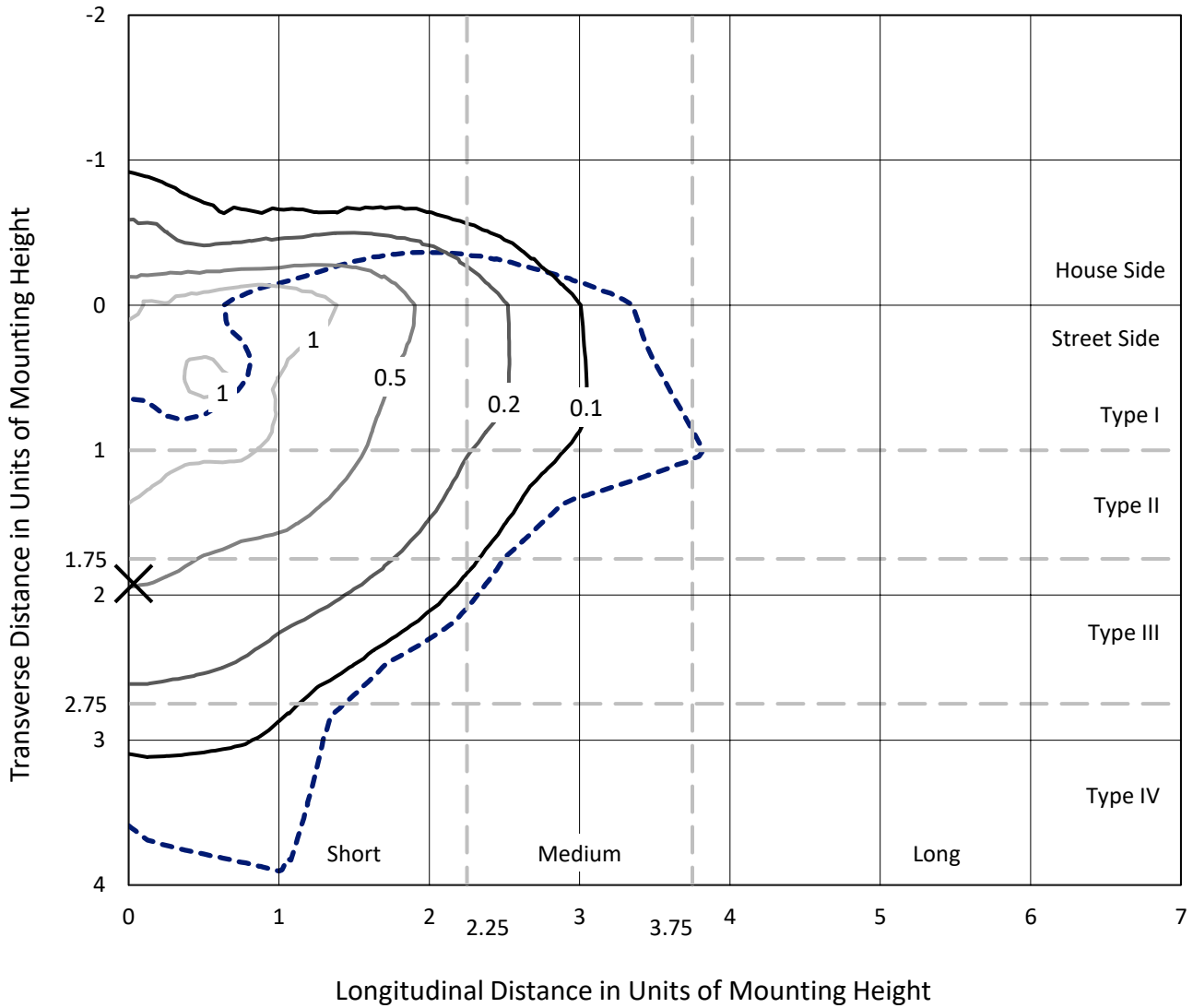
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

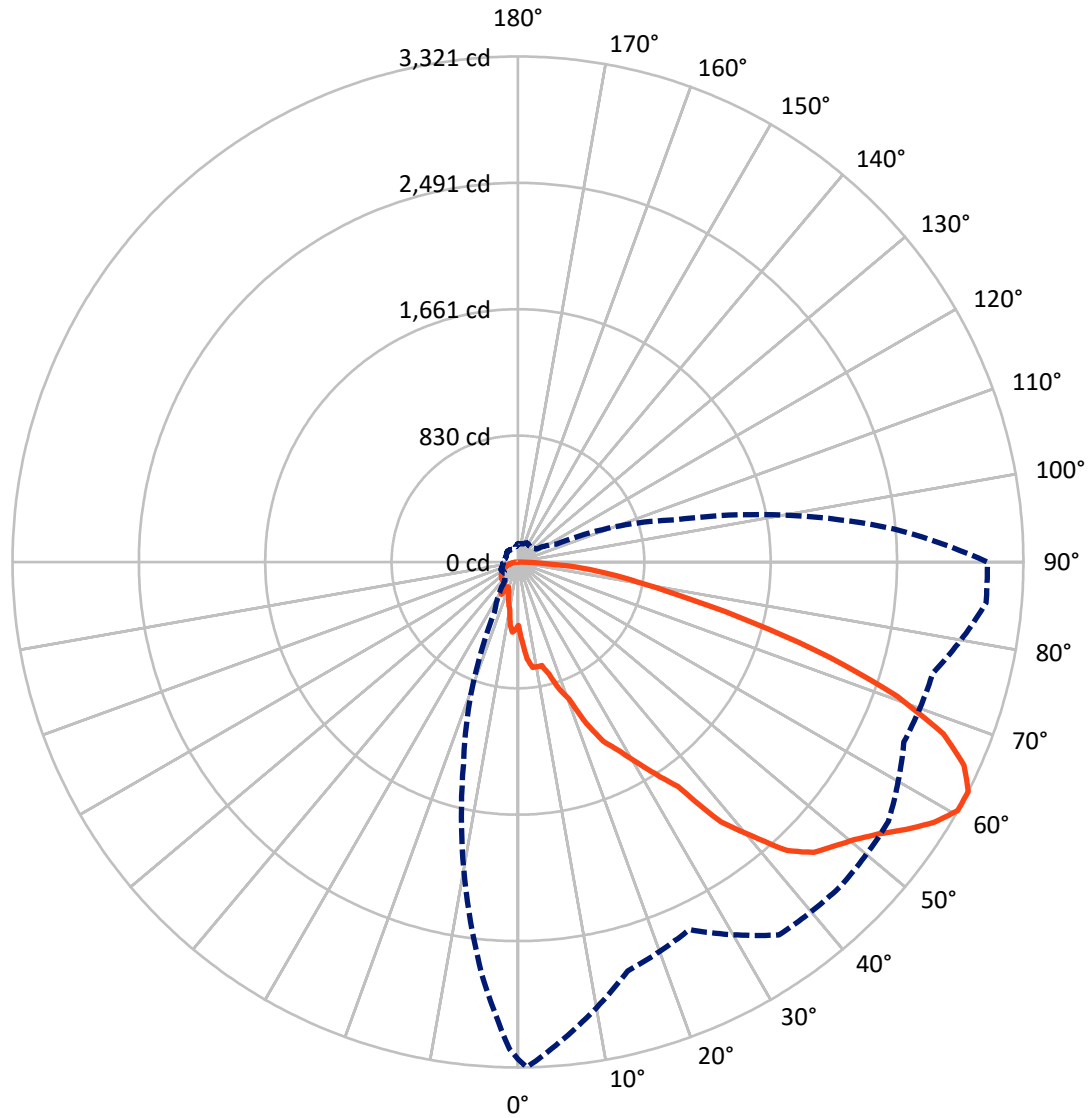
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 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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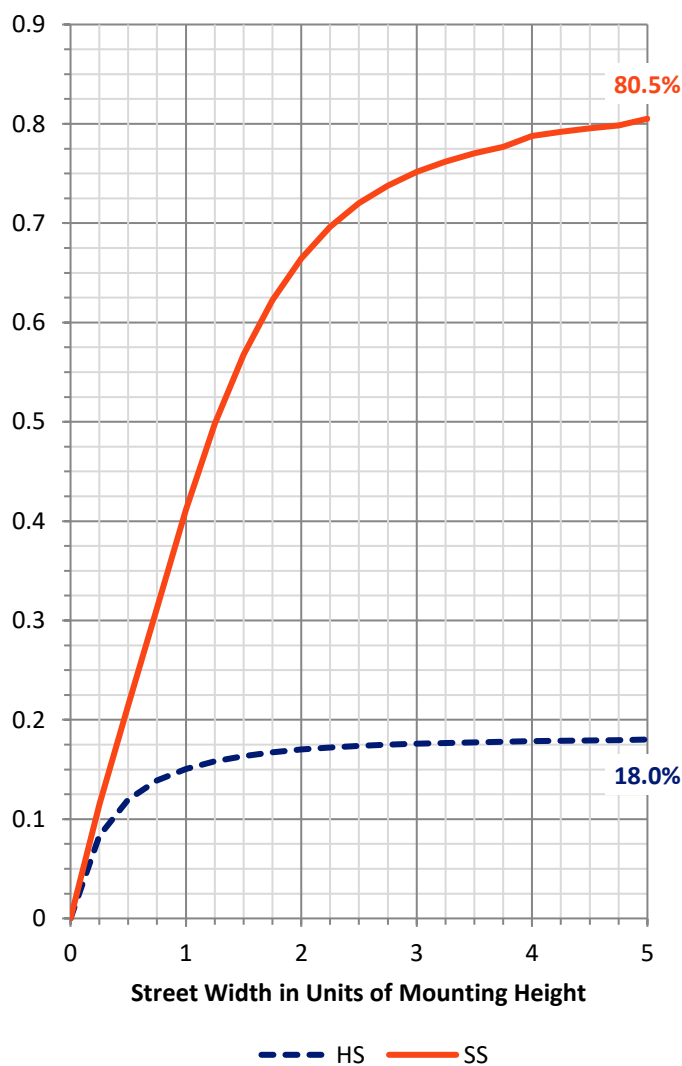
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	719.5	0.0	719.5
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3231.5	0.0	3231.5
	% Fixture	81.8	0.0	81.8
Total	Lumens	3951.0	0.0	3951.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.8	1.2
10°-20°	138.8	3.5
20°-30°	245.0	6.2
30°-40°	381.7	9.7
40°-50°	628.4	15.9
50°-60°	896.9	22.7
60°-70°	951.1	24.1
70°-80°	525.4	13.3
80°-90°	135.9	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°	3951.0	100.0
0°-180°	3951.0	100.0

Coefficient of Utilization



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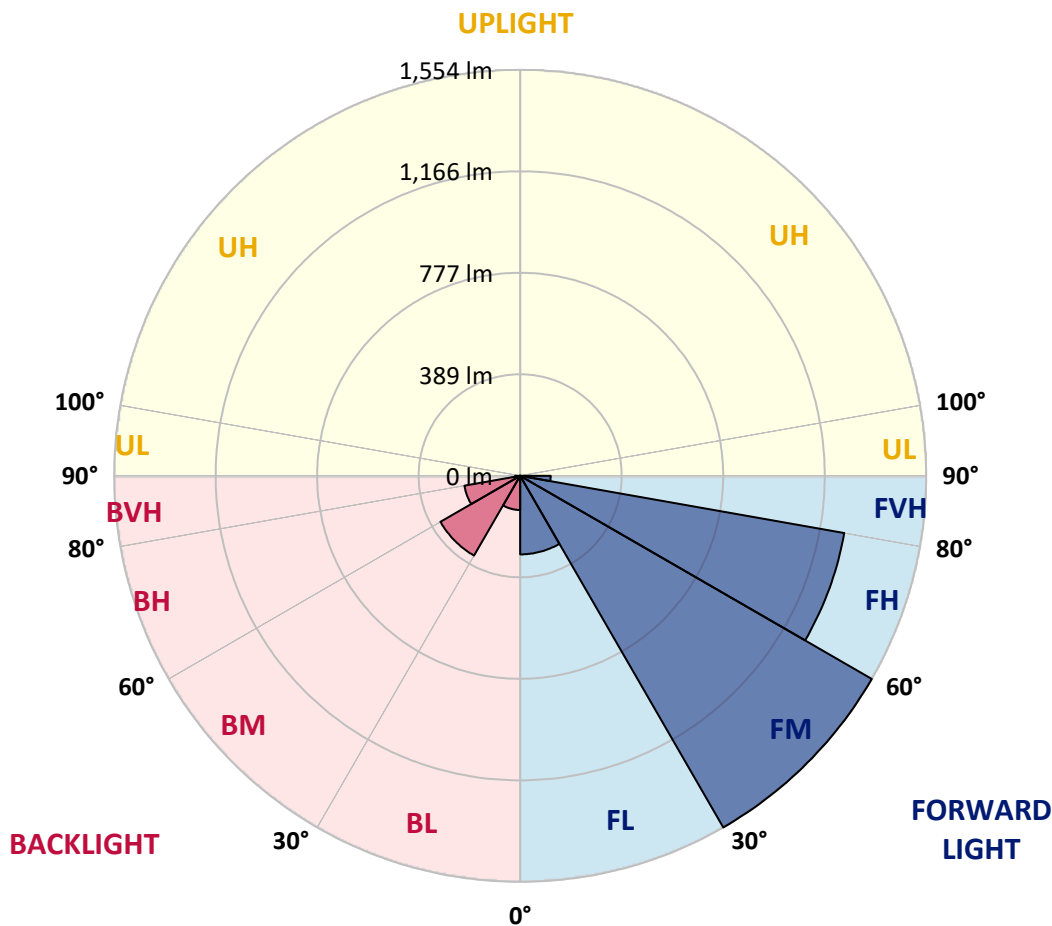
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	300.7	7.6			
FM (30°-60°)	1554.4	39.3			
FH (60°-80°)	1259.7	31.9			G1/1800
FVH (80°-90°)	116.7	3.0			G2/225
BL (0°-30°)	130.8	3.3	B1/500		
BM (30°-60°)	352.7	8.9	B1/1000		
BH (60°-80°)	216.8	5.5	B1/500		G1/500
BVH (80°-90°)	19.2	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6
2.5°	512.3	516.7	507.7	497.5	455.6	496.0	483.9	506.4	499.1	450.4	539.5
5°	633.1	641.1	632.3	662.8	664.7	672.6	599.9	645.2	629.4	625.4	670.5
7.5°	691.4	699.6	722.1	776.3	818.7	780.3	738.0	728.6	716.3	684.3	711.5
10°	695.0	699.6	729.7	844.8	865.3	892.5	865.1	800.5	773.8	704.2	683.5
12.5°	684.1	698.5	737.4	877.5	938.5	968.2	974.9	903.0	837.7	758.3	747.7
15°	757.5	762.7	818.5	900.9	942.9	968.0	989.9	945.6	925.1	862.2	777.7
17.5°	862.8	877.2	922.8	953.3	981.7	986.5	968.4	951.2	918.6	1002.6	912.6
20°	934.1	961.9	1017.9	1023.6	964.0	974.6	972.1	973.2	954.6	1109.9	1060.5
22.5°	1122.8	1152.9	1160.5	1127.2	1014.8	966.7	976.3	1004.1	1077.3	1210.4	1266.4
25°	1293.6	1305.3	1375.3	1289.4	1110.3	1005.4	989.7	1061.6	1181.1	1379.5	1419.4
27.5°	1382.8	1397.9	1444.5	1257.6	1122.2	955.6	918.8	1028.2	1150.0	1299.9	1475.0
30°	1496.8	1521.0	1584.5	1289.4	1158.0	988.2	906.7	1011.4	1146.0	1352.1	1592.7
32.5°	1614.4	1661.3	1708.5	1401.5	1153.1	1038.0	984.0	992.4	1182.4	1461.4	1714.6
35°	1770.1	1811.5	1852.1	1466.3	1253.5	1079.6	1025.9	1115.3	1276.0	1588.1	1884.7
37.5°	2102.9	2168.5	2061.3	1650.8	1362.8	1267.1	1170.3	1223.2	1374.9	1693.7	2162.5
40°	2314.9	2364.2	2260.7	1776.4	1555.3	1393.5	1377.6	1382.0	1511.2	1784.2	2349.5
42.5°	2525.7	2592.4	2427.7	1948.7	1788.1	1654.4	1572.4	1566.8	1663.8	1946.8	2562.1
45°	2682.9	2722.2	2485.0	2094.1	2037.7	1938.6	1877.0	1779.4	1864.4	2059.4	2693.6
47.5°	2757.7	2789.7	2577.2	2178.6	2199.5	2204.7	2315.7	2149.3	2039.6	2135.5	2762.6
50°	2851.0	2866.2	2631.5	2253.0	2353.3	2580.7	2607.3	2325.3	2210.3	2218.5	2803.5
52.5°	2962.6	2968.9	2710.7	2338.9	2508.8	2828.0	2786.8	2623.6	2372.7	2370.2	2880.4
55°	3103.0	3099.1	2810.0	2454.5	2619.8	2975.1	2943.8	2824.9	2549.6	2495.7	3000.0
57.5°	3227.8	3225.5	2941.7	2560.9	2713.2	3050.6	3059.8	3028.4	2670.0	2585.7	3129.6
60°	3288.9	3318.3	3091.6	2677.3	2719.1	3084.7	3088.2	3038.2	2804.6	2701.1	3164.1
62.5°	3265.2	3321.0	3165.3	2782.0	2664.5	2991.6	3005.9	2971.4	2798.5	2822.3	3087.0
65°	3157.0	3221.4	3101.4	2837.8	2630.9	2835.5	2839.1	2751.9	2710.9	2902.6	2906.4
67.5°	2954.2	3014.6	2898.2	2748.8	2401.2	2414.8	2496.1	2503.2	2443.4	2842.0	2652.8
70°	2599.1	2641.7	2568.8	2529.1	2007.0	1927.3	2015.5	2053.2	2080.5	2623.2	2348.3
72.5°	2057.6	2139.9	2151.4	2177.3	1615.9	1483.0	1548.4	1492.4	1669.8	2232.7	1918.6
75°	1522.3	1591.7	1666.3	1810.7	1273.7	1110.3	1102.3	1073.7	1239.3	1795.6	1423.0
77.5°	1075.8	1120.1	1177.4	1446.4	961.1	855.1	860.1	831.1	895.0	1357.1	983.0
80°	771.1	794.3	821.0	952.9	709.0	737.8	738.5	711.1	665.5	921.6	656.1
82.5°	549.5	567.5	598.0	628.5	528.6	604.7	604.1	602.4	527.6	622.9	410.5
85°	306.0	330.2	383.1	492.4	381.7	432.4	380.2	418.7	387.3	414.7	207.8
87.5°	21.5	19.2	85.7	285.3	178.1	130.2	68.3	135.2	173.3	216.7	29.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6
2.5°	557.9	564.6	538.4	498.9	509.6	497.9	483.2	460.2	412.8	442.1	442.3
5°	670.1	644.6	624.1	604.7	572.1	522.8	516.3	476.8	454.6	466.3	464.6
7.5°	705.2	668.9	638.1	568.9	508.5	432.0	409.0	385.6	375.8	404.2	415.5
10°	666.6	628.9	598.6	514.4	473.4	425.6	362.4	330.0	310.8	318.3	322.7
12.5°	697.7	659.2	563.9	516.9	449.2	420.1	364.7	317.1	288.7	295.6	287.4
15°	727.6	675.7	580.4	486.8	432.0	389.8	344.9	295.8	262.5	250.6	244.3
17.5°	836.9	750.6	578.4	469.9	407.0	358.5	304.5	250.8	228.5	216.3	205.7
20°	970.2	849.9	588.8	452.5	380.6	319.4	260.6	210.7	195.2	187.1	184.3
22.5°	1128.7	977.2	648.0	450.0	355.7	290.9	236.4	205.3	187.9	179.1	175.4
25°	1254.7	1109.0	691.8	466.9	354.3	267.3	221.8	228.2	220.1	222.8	201.5
27.5°	1377.0	1144.8	667.2	459.4	318.7	225.5	218.4	231.6	238.5	240.6	239.9
30°	1480.3	1296.3	672.6	417.2	269.2	183.7	167.2	173.7	192.7	222.8	228.5
32.5°	1631.6	1368.8	718.4	391.7	240.6	164.3	145.9	143.4	147.8	158.8	168.1
35°	1808.6	1535.6	731.3	385.0	220.9	155.7	142.8	137.1	139.4	147.6	149.5
37.5°	2138.6	1657.1	778.8	376.7	213.6	150.5	140.5	138.4	143.4	150.1	154.0
40°	2320.5	1875.7	781.1	369.7	204.2	148.4	142.1	141.1	144.2	153.4	155.7
42.5°	2563.0	2000.3	817.2	361.4	200.9	151.3	145.1	144.8	147.4	152.8	157.0
45°	2710.9	2083.7	819.1	356.6	200.2	163.9	149.2	147.8	147.2	150.5	154.3
47.5°	2806.2	2203.9	842.5	351.2	204.8	167.2	154.0	148.2	146.3	147.6	150.5
50°	2896.5	2300.0	886.8	350.5	209.6	163.9	162.4	148.0	144.2	143.6	145.7
52.5°	3007.3	2458.0	941.4	357.8	208.4	159.1	168.7	147.2	140.3	139.0	141.1
55°	3168.5	2627.3	999.5	351.6	196.5	149.9	162.6	146.7	136.3	133.8	135.7
57.5°	3273.0	2724.3	1064.5	346.5	178.5	143.0	157.0	147.1	136.7	131.1	132.3
60°	3238.3	2672.1	1090.0	314.8	161.4	137.7	143.8	144.0	133.3	128.1	129.0
62.5°	3084.9	2483.3	1066.2	278.0	148.8	130.0	130.2	138.2	123.3	119.6	121.2
65°	2870.6	2248.4	970.0	254.0	142.8	121.9	118.9	121.4	109.9	107.2	110.2
67.5°	2607.5	1958.9	826.7	228.7	140.7	111.0	107.4	106.4	99.1	96.1	99.1
70°	2277.6	1640.2	660.9	210.9	132.7	99.1	96.2	95.3	89.2	86.9	89.5
72.5°	1830.6	1280.8	510.0	197.3	123.9	88.2	85.7	84.6	79.4	76.1	79.4
75°	1302.0	978.8	378.9	176.4	111.4	77.1	74.2	72.7	67.9	64.8	67.7
77.5°	925.3	734.7	264.6	145.9	91.8	65.2	63.5	61.0	56.8	53.1	56.0
80°	684.1	525.0	170.6	112.5	70.2	52.2	51.2	49.5	45.4	41.0	43.1
82.5°	450.4	378.5	97.8	76.3	51.0	37.6	38.3	37.2	33.4	28.8	29.9
85°	201.7	224.1	52.0	42.0	33.2	22.6	24.7	24.0	21.1	16.7	17.1
87.5°	19.4	37.8	15.9	15.3	12.3	7.1	8.8	7.5	6.3	4.0	3.1
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°	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6
2.5°	449.0	422.0	395.0	411.5	411.8	416.2	416.8	400.5	413.6	423.5	433.9
5°	456.1	438.5	439.4	423.5	414.9	426.0	423.7	419.3	427.2	438.1	451.3
7.5°	404.7	393.2	391.3	376.0	338.8	330.5	337.4	340.3	350.9	367.7	381.9
10°	316.0	338.8	313.1	307.2	297.4	278.2	267.1	265.7	288.2	301.8	313.7
12.5°	284.7	279.0	275.9	259.6	259.6	239.3	232.8	238.7	273.2	283.0	298.3
15°	242.5	238.3	224.1	216.1	212.2	204.0	210.9	216.7	248.9	249.6	265.7
17.5°	201.3	198.8	185.4	183.9	180.0	176.4	182.7	196.5	214.0	210.9	218.4
20°	180.0	171.4	159.1	163.5	159.5	156.6	154.0	173.5	185.8	189.8	194.2
22.5°	174.7	158.9	151.7	147.6	147.8	143.2	143.8	160.1	178.7	181.2	178.5
25°	199.6	171.6	148.0	136.3	131.9	130.4	134.8	149.2	171.6	177.0	179.1
27.5°	233.5	186.4	152.4	132.5	123.7	124.4	130.8	140.7	167.2	176.8	179.3
30°	224.1	175.2	152.6	129.6	118.7	122.7	125.0	134.6	163.7	178.1	190.6
32.5°	172.9	157.6	153.6	131.9	127.5	121.2	124.4	133.6	153.6	162.6	163.2
35°	146.5	134.8	132.1	126.7	120.6	117.9	121.6	129.6	142.6	148.2	147.4
37.5°	145.3	132.5	121.9	119.6	117.1	116.4	118.5	126.0	139.2	149.0	146.9
40°	147.2	131.3	120.6	116.6	117.5	114.1	116.2	125.4	139.8	149.0	147.1
42.5°	144.9	130.0	118.9	115.8	116.8	112.0	114.5	124.0	138.2	149.2	145.5
45°	140.3	126.9	117.9	112.7	117.1	110.1	113.1	120.6	133.6	145.5	141.3
47.5°	135.7	123.3	113.9	110.6	115.0	108.1	109.5	116.0	129.0	140.7	137.1
50°	130.8	118.7	110.6	109.7	112.7	107.8	105.6	111.0	123.5	135.2	132.1
52.5°	125.4	114.8	108.3	107.9	110.8	105.3	102.2	106.4	117.5	129.2	126.7
55°	120.2	110.6	105.5	106.4	109.7	103.2	99.3	102.0	111.2	122.7	119.3
57.5°	115.0	105.8	101.6	104.3	106.8	100.5	95.7	97.2	104.7	116.0	112.0
60°	110.4	101.6	97.4	100.7	103.0	96.4	90.9	91.8	98.5	108.7	105.1
62.5°	104.5	97.0	91.5	95.7	97.4	91.1	85.1	86.3	91.6	101.2	98.5
65°	96.1	91.3	86.1	89.0	91.3	84.7	79.2	80.5	84.6	93.6	91.6
67.5°	88.8	84.2	80.7	83.0	83.4	78.4	73.4	74.2	77.5	85.9	83.8
70°	80.7	76.3	73.6	75.3	75.2	70.9	67.1	67.3	70.0	77.7	74.8
72.5°	71.9	67.7	66.3	67.3	66.5	62.7	59.1	60.4	62.1	67.9	65.6
75°	62.5	58.7	57.9	58.9	57.7	54.1	50.8	52.2	53.7	58.5	55.6
77.5°	52.7	49.3	49.5	49.7	48.1	45.6	42.4	43.7	44.7	47.9	45.1
80°	42.0	39.3	40.1	40.1	38.3	36.6	33.6	33.9	34.5	35.7	33.6
82.5°	30.7	30.7	30.7	30.9	27.2	27.8	25.1	24.9	24.3	24.2	22.8
85°	18.2	19.0	19.4	19.9	14.8	17.3	15.0	14.4	13.2	12.1	11.7
87.5°	4.0	5.2	5.2	5.0	0.0	1.9	1.0	1.5	0.4	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°	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6	416.6
2.5°	422.0	410.5	432.0	451.1	448.1	459.2	433.3	471.7	512.3	512.3
5°	447.9	438.1	443.7	454.8	463.2	501.9	534.2	566.2	632.3	633.1
7.5°	377.7	398.8	403.8	400.5	436.8	486.6	539.7	631.0	687.0	691.4
10°	353.2	362.8	377.9	386.3	401.1	450.2	516.1	624.5	683.9	695.0
12.5°	320.0	355.5	378.5	425.6	437.3	447.1	552.0	645.7	686.8	684.1
15°	283.8	310.6	343.8	395.9	425.6	500.4	573.3	714.0	737.2	757.5
17.5°	226.2	246.0	290.1	349.5	423.1	492.0	625.8	798.4	841.7	862.8
20°	186.2	186.4	230.5	309.3	389.4	456.7	645.7	868.3	923.4	934.1
22.5°	176.0	167.2	190.4	254.4	352.2	477.6	686.0	980.9	1095.7	1122.8
25°	170.4	159.7	174.3	224.5	325.6	488.5	767.1	1135.6	1283.1	1293.6
27.5°	172.7	177.7	182.3	200.2	291.8	468.0	748.3	1204.8	1362.8	1382.8
30°	188.3	196.3	185.8	191.9	264.0	438.3	781.9	1317.2	1463.3	1496.8
32.5°	156.6	153.6	152.6	166.0	236.2	411.5	852.2	1475.4	1572.2	1614.4
35°	141.3	136.5	138.4	153.8	222.6	407.6	891.7	1606.3	1744.2	1770.1
37.5°	140.7	135.2	137.7	149.2	227.4	414.5	955.0	1816.4	2047.5	2102.9
40°	139.4	136.3	137.7	146.3	222.4	418.4	991.4	1993.0	2258.8	2314.9
42.5°	139.2	137.7	139.0	148.6	217.2	420.1	1041.9	2152.6	2481.4	2525.7
45°	138.6	140.2	140.2	150.5	214.9	431.6	1071.6	2230.8	2628.2	2682.9
47.5°	135.9	140.5	148.0	149.9	205.5	426.2	1113.6	2349.5	2706.3	2757.7
50°	132.5	140.0	158.0	146.1	204.0	413.2	1162.6	2443.6	2806.3	2851.0
52.5°	127.9	139.0	155.7	138.6	201.3	410.9	1231.5	2565.9	2923.1	2962.6
55°	121.4	135.6	148.6	131.1	194.8	403.6	1336.7	2717.6	3075.9	3103.0
57.5°	115.4	130.4	138.2	126.9	179.3	405.1	1410.0	2841.2	3204.2	3227.8
60°	110.1	129.8	123.5	122.5	163.4	384.6	1433.8	2839.9	3251.9	3288.9
62.5°	104.3	122.5	113.1	116.6	149.4	363.5	1383.3	2718.2	3200.4	3265.2
65°	96.8	105.1	104.5	112.4	149.7	329.2	1267.7	2503.4	3071.7	3157.0
67.5°	88.0	93.0	96.2	105.5	154.5	302.5	1081.7	2245.2	2852.7	2954.2
70°	79.0	84.0	87.6	96.4	158.9	290.3	861.1	1882.4	2496.1	2599.1
72.5°	69.8	75.0	77.8	85.5	153.0	264.0	637.3	1464.6	2003.6	2057.6
75°	60.2	65.2	67.5	74.6	132.9	218.4	440.0	1109.3	1467.5	1522.3
77.5°	50.4	55.8	56.6	62.3	101.4	167.0	282.0	850.9	1039.2	1075.8
80°	40.3	45.6	45.6	48.7	71.3	114.8	168.9	641.9	756.8	771.1
82.5°	29.0	34.7	34.3	34.5	49.3	71.1	97.8	481.1	546.8	549.5
85°	17.1	21.1	20.9	19.2	29.1	38.3	52.9	298.7	305.2	306.0
87.5°	3.3	5.0	4.4	1.9	8.1	11.3	15.3	55.4	22.0	21.5
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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