

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: P367248

Luminaire Tested: **MSA-SA2A-830-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367248
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-SA2A-830-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: 5411 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

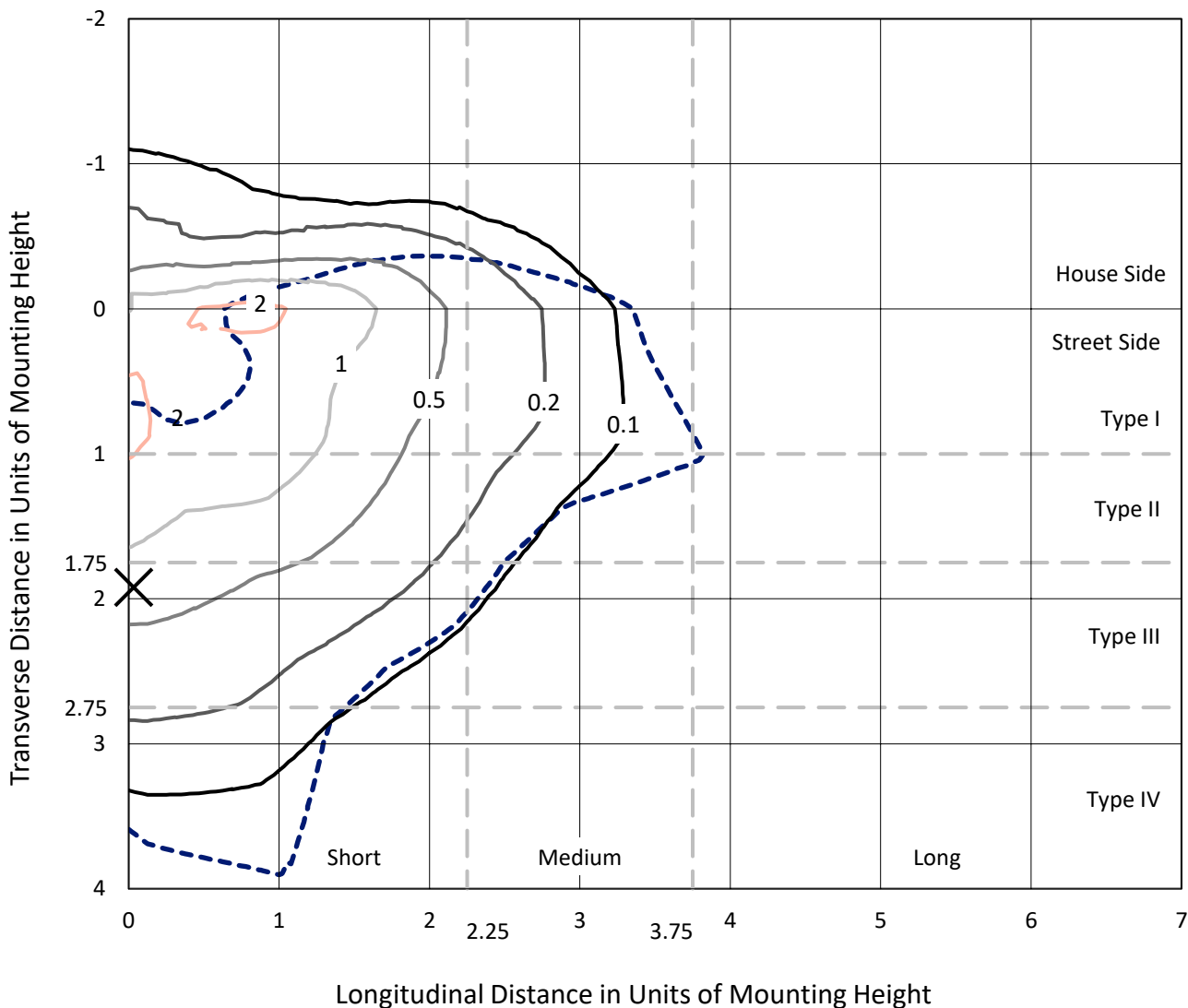
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

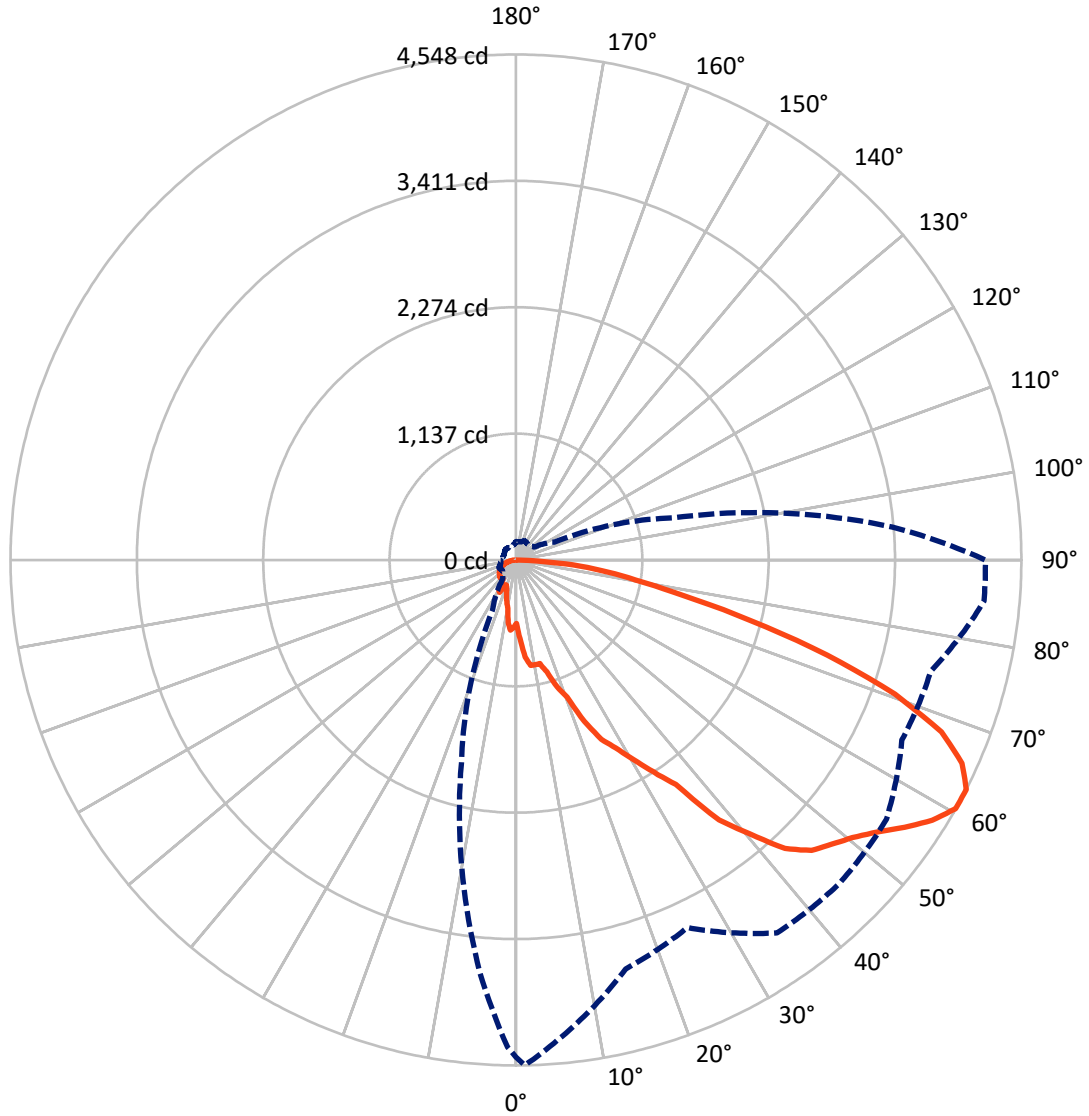
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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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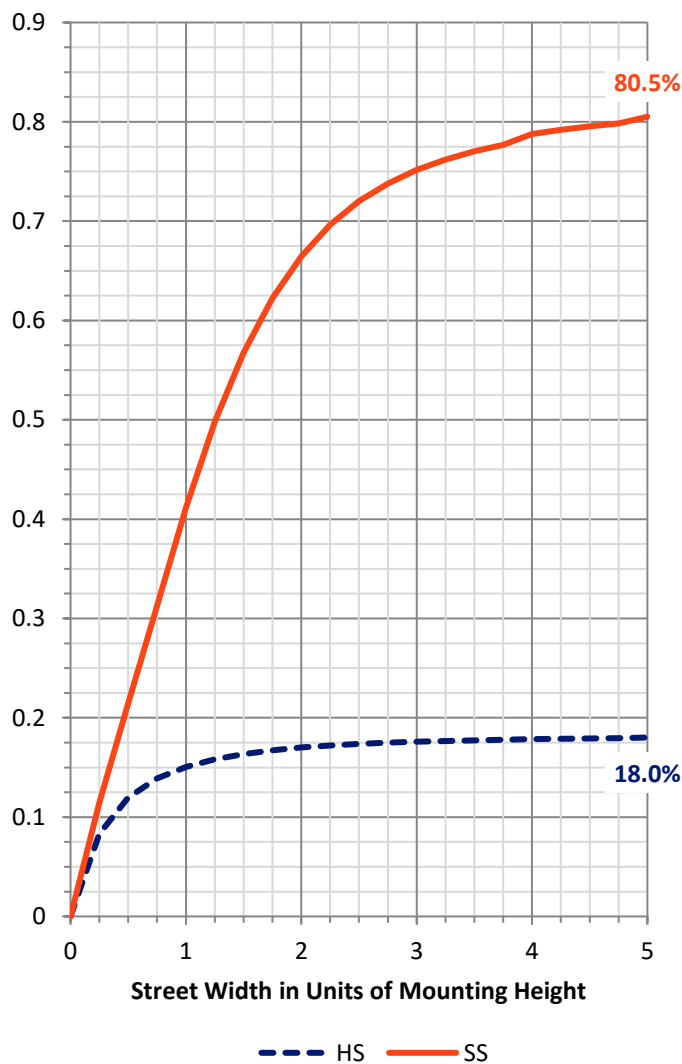
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	985.3	0.0	985.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	4425.7	0.0	4425.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	5411.0	0.0	5411.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.4	1.2
10°-20°	190.1	3.5
20°-30°	335.6	6.2
30°-40°	522.7	9.7
40°-50°	860.7	15.9
50°-60°	1228.4	22.7
60°-70°	1302.6	24.1
70°-80°	719.5	13.3
80°-90°	186.1	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°	5411.0	100.0
0°-180°	5411.0	100.0

Coefficient of Utilization



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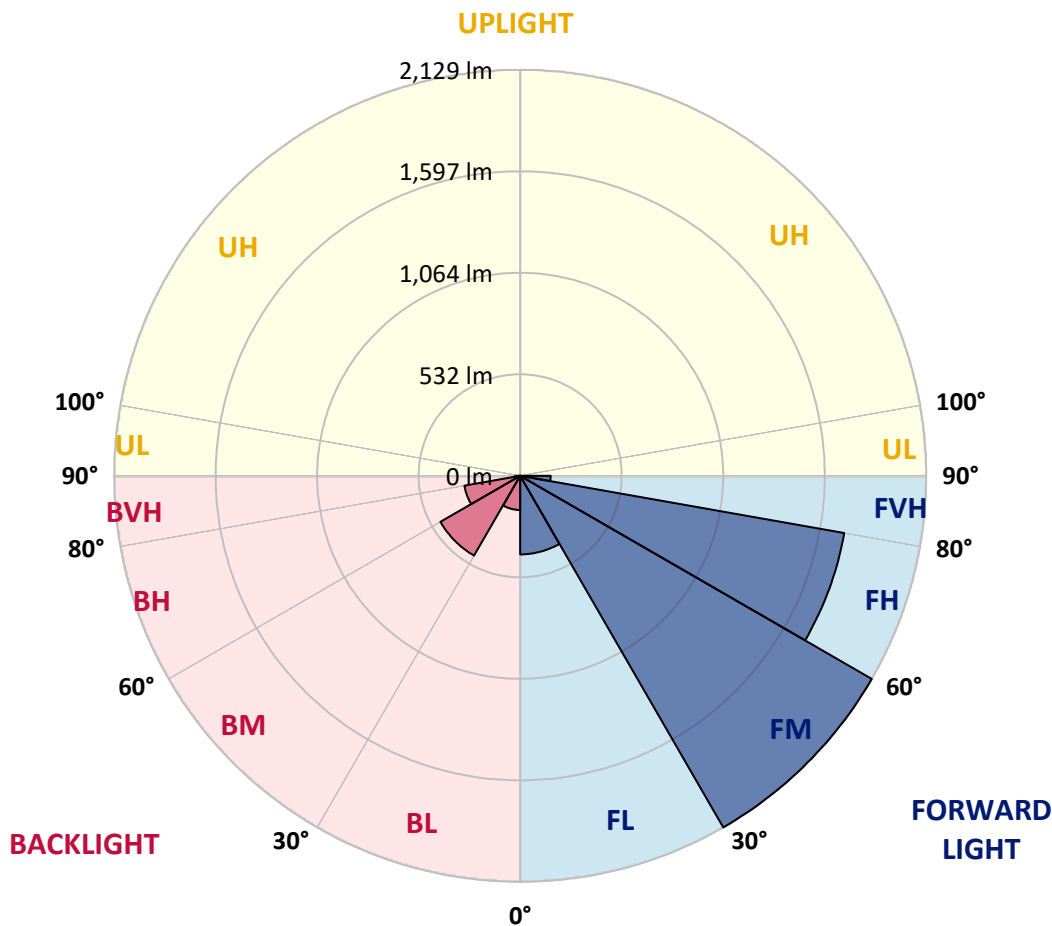
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	411.9	7.6			
FM (30°-60°)	2128.7	39.3			
FH (60°-80°)	1725.2	31.9			G1/1800
FVH (80°-90°)	159.8	3.0			G2/225
BL (0°-30°)	179.2	3.3	B1/500		
BM (30°-60°)	483.0	8.9	B1/1000		
BH (60°-80°)	296.8	5.5	B1/500		G1/500
BVH (80°-90°)	26.2	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°	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6
2.5°	701.6	707.7	695.3	681.4	623.9	679.3	662.7	693.5	683.5	616.8	738.9
5°	867.0	878.1	866.0	907.7	910.4	921.1	821.6	883.6	862.0	856.5	918.2
7.5°	946.9	958.2	988.9	1063.2	1121.2	1068.7	1010.7	997.8	981.0	937.1	974.4
10°	951.8	958.2	999.4	1156.9	1185.0	1222.3	1184.8	1096.3	1059.8	964.5	936.1
12.5°	936.9	956.6	1009.9	1201.8	1285.3	1326.0	1335.2	1236.7	1147.2	1038.5	1024.1
15°	1037.5	1044.5	1121.0	1233.9	1291.4	1325.8	1355.7	1295.0	1266.9	1180.8	1065.0
17.5°	1181.6	1201.3	1263.8	1305.5	1344.4	1351.0	1326.3	1302.7	1258.0	1373.0	1249.9
20°	1279.3	1317.4	1394.0	1401.9	1320.2	1334.7	1331.3	1332.9	1307.4	1520.1	1452.3
22.5°	1537.7	1578.9	1589.4	1543.7	1389.8	1323.9	1337.1	1375.1	1475.4	1657.7	1734.3
25°	1771.6	1787.6	1883.5	1765.8	1520.6	1377.0	1355.4	1453.9	1617.5	1889.3	1943.9
27.5°	1893.7	1914.5	1978.3	1722.3	1536.9	1308.7	1258.3	1408.2	1574.9	1780.3	2020.0
30°	2050.0	2083.0	2170.0	1765.8	1586.0	1353.3	1241.7	1385.1	1569.4	1851.7	2181.2
32.5°	2210.9	2275.2	2339.8	1919.5	1579.2	1421.6	1347.6	1359.1	1619.3	2001.4	2348.2
35°	2424.1	2480.8	2536.5	2008.2	1716.7	1478.6	1405.1	1527.4	1747.5	2174.9	2581.2
37.5°	2880.0	2969.8	2823.0	2260.8	1866.4	1735.4	1602.8	1675.3	1883.0	2319.6	2961.6
40°	3170.4	3237.9	3096.1	2432.8	2130.0	1908.4	1886.6	1892.7	2069.6	2443.6	3217.6
42.5°	3459.0	3550.3	3324.8	2668.9	2448.8	2265.8	2153.4	2145.8	2278.7	2666.2	3508.8
45°	3674.3	3728.1	3403.3	2867.9	2790.7	2654.9	2570.6	2437.0	2553.3	2820.4	3689.0
47.5°	3776.7	3820.5	3529.6	2983.7	3012.3	3019.4	3171.4	2943.5	2793.3	2924.6	3783.5
50°	3904.6	3925.3	3603.9	3085.6	3222.9	3534.3	3570.8	3184.6	3027.0	3038.3	3839.4
52.5°	4057.4	4066.0	3712.3	3203.2	3435.8	3873.0	3816.6	3593.1	3249.4	3246.0	3944.7
55°	4249.6	4244.3	3848.4	3361.5	3587.9	4074.4	4031.6	3868.8	3491.8	3418.0	4108.6
57.5°	4420.5	4417.4	4028.8	3507.3	3715.8	4177.9	4190.5	4147.4	3656.7	3541.1	4286.1
60°	4504.3	4544.5	4234.1	3666.7	3723.9	4224.6	4229.4	4160.8	3841.0	3699.2	4333.3
62.5°	4471.7	4548.1	4334.9	3810.0	3649.1	4097.0	4116.7	4069.5	3832.6	3865.2	4227.8
65°	4323.6	4411.9	4247.5	3886.4	3603.1	3883.3	3888.3	3768.8	3712.6	3975.2	3980.4
67.5°	4045.8	4128.5	3969.1	3764.6	3288.5	3307.2	3418.5	3428.2	3346.3	3892.2	3633.0
70°	3559.5	3617.8	3518.0	3463.7	2748.7	2639.4	2760.2	2812.0	2849.2	3592.6	3216.1
72.5°	2818.0	2930.6	2946.4	2981.8	2213.0	2031.0	2120.6	2043.9	2286.8	3057.7	2627.6
75°	2084.9	2179.9	2282.1	2479.8	1744.3	1520.6	1509.6	1470.4	1697.3	2459.1	1948.9
77.5°	1473.3	1534.0	1612.5	1980.9	1316.3	1171.1	1177.9	1138.3	1225.7	1858.5	1346.2
80°	1056.1	1087.9	1124.4	1305.0	971.0	1010.4	1011.5	973.9	911.4	1262.2	898.5
82.5°	752.6	777.2	819.0	860.7	723.9	828.2	827.4	825.0	722.6	853.1	562.2
85°	419.1	452.2	524.6	674.3	522.8	592.1	520.7	573.5	530.4	568.0	284.6
87.5°	29.4	26.3	117.4	390.7	243.9	178.3	93.5	185.1	237.4	296.7	39.6
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°	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6
2.5°	764.1	773.3	737.3	683.2	697.9	681.9	661.7	630.2	565.3	605.5	605.8
5°	917.7	882.8	854.7	828.2	783.5	716.1	707.1	653.0	622.6	638.6	636.2
7.5°	965.8	916.1	873.9	779.1	696.4	591.6	560.1	528.0	514.7	553.5	569.0
10°	913.0	861.3	819.8	704.5	648.3	582.9	496.3	451.9	425.6	435.9	441.9
12.5°	955.5	902.7	772.2	707.9	615.2	575.3	499.4	434.3	395.4	404.9	393.6
15°	996.5	925.3	794.8	666.7	591.6	533.8	472.4	405.2	359.5	343.2	334.5
17.5°	1146.2	1028.0	792.2	643.6	557.5	491.0	417.0	343.5	313.0	296.2	281.7
20°	1328.7	1164.0	806.4	619.7	521.2	437.5	356.8	288.6	267.3	256.3	252.3
22.5°	1545.8	1338.4	887.5	616.3	487.1	398.3	323.8	281.2	257.3	245.2	240.3
25°	1718.3	1518.8	947.4	639.4	485.2	366.0	303.8	312.5	301.4	305.1	276.0
27.5°	1885.8	1567.9	913.8	629.1	436.4	308.8	299.1	317.2	326.6	329.5	328.5
30°	2027.4	1775.3	921.1	571.4	368.7	251.6	229.0	237.9	263.9	305.1	313.0
32.5°	2234.5	1874.6	983.9	536.4	329.5	225.0	199.8	196.4	202.4	217.4	230.3
35°	2476.9	2103.0	1001.5	527.3	302.5	213.2	195.6	187.7	190.9	202.2	204.8
37.5°	2928.8	2269.5	1066.6	516.0	292.5	206.1	192.5	189.6	196.4	205.6	210.9
40°	3178.0	2568.8	1069.7	506.3	279.6	203.2	194.6	193.3	197.5	210.1	213.2
42.5°	3510.2	2739.5	1119.1	495.0	275.2	207.2	198.8	198.2	201.9	209.3	215.1
45°	3712.6	2853.7	1121.7	488.4	274.1	224.5	204.3	202.4	201.7	206.1	211.4
47.5°	3843.1	3018.3	1153.8	481.0	280.4	229.0	210.9	203.0	200.3	202.2	206.1
50°	3966.8	3149.9	1214.4	480.0	287.0	224.5	222.4	202.7	197.5	196.7	199.6
52.5°	4118.6	3366.3	1289.3	490.0	285.4	217.9	231.1	201.7	192.2	190.4	193.3
55°	4339.4	3598.1	1368.8	481.6	269.1	205.3	222.7	200.9	186.7	183.3	185.9
57.5°	4482.5	3731.0	1457.8	474.5	244.5	195.9	215.1	201.4	187.2	179.6	181.2
60°	4435.0	3659.6	1492.8	431.2	221.1	188.5	196.9	197.2	182.5	175.4	176.7
62.5°	4224.9	3400.9	1460.2	380.7	203.8	178.0	178.3	189.3	168.8	163.8	166.0
65°	3931.3	3079.3	1328.4	347.9	195.6	167.0	162.8	166.2	150.5	146.8	151.0
67.5°	3571.1	2682.8	1132.2	313.3	192.7	152.0	147.0	145.7	135.8	131.6	135.8
70°	3119.2	2246.4	905.1	288.8	181.7	135.8	131.8	130.5	122.1	118.9	122.6
72.5°	2507.1	1754.0	698.5	270.2	169.6	120.8	117.4	115.8	108.7	104.2	108.7
75°	1783.2	1340.5	518.9	241.6	152.6	105.6	101.6	99.5	93.0	88.8	92.7
77.5°	1267.2	1006.2	362.4	199.8	125.8	89.3	86.9	83.5	77.7	72.7	76.7
80°	936.9	718.9	233.7	154.1	96.1	71.4	70.1	67.7	62.2	56.2	59.1
82.5°	616.8	518.3	133.9	104.5	69.8	51.5	52.5	50.9	45.7	39.4	41.0
85°	276.2	307.0	71.2	57.5	45.4	31.0	33.9	32.8	28.9	22.8	23.4
87.5°	26.5	51.7	21.8	21.0	16.8	9.7	12.1	10.2	8.7	5.5	4.2
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°	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6
2.5°	615.0	577.9	540.9	563.5	564.0	570.1	570.8	548.5	566.4	580.0	594.2
5°	624.7	600.5	601.8	580.0	568.2	583.5	580.3	574.3	585.0	600.0	618.1
7.5°	554.3	538.5	535.9	514.9	464.0	452.7	462.1	466.1	480.5	503.6	523.1
10°	432.7	464.0	428.8	420.7	407.3	381.0	365.8	363.9	394.7	413.3	429.6
12.5°	389.9	382.1	377.9	355.5	355.5	327.7	318.8	326.9	374.2	387.6	408.6
15°	332.2	326.4	307.0	295.9	290.7	279.4	288.8	296.7	340.8	341.9	363.9
17.5°	275.7	272.3	253.9	251.8	246.6	241.6	250.2	269.1	293.0	288.8	299.1
20°	246.6	234.7	217.9	224.0	218.5	214.5	210.9	237.6	254.4	260.0	266.0
22.5°	239.2	217.7	207.7	202.2	202.4	196.1	196.9	219.3	244.7	248.1	244.5
25°	273.3	235.0	202.7	186.7	180.7	178.6	184.6	204.3	235.0	242.4	245.2
27.5°	319.8	255.2	208.8	181.4	169.4	170.4	179.1	192.7	229.0	242.1	245.5
30°	307.0	240.0	209.0	177.5	162.5	168.1	171.2	184.3	224.2	243.9	261.0
32.5°	236.8	215.8	210.3	180.7	174.6	166.0	170.4	183.0	210.3	222.7	223.5
35°	200.6	184.6	180.9	173.6	165.2	161.5	166.5	177.5	195.4	203.0	201.9
37.5°	199.0	181.4	167.0	163.8	160.4	159.4	162.3	172.5	190.6	204.0	201.1
40°	201.7	179.9	165.2	159.6	161.0	156.2	159.1	171.7	191.4	204.0	201.4
42.5°	198.5	178.0	162.8	158.6	159.9	153.3	156.8	169.9	189.3	204.3	199.3
45°	192.2	173.8	161.5	154.4	160.4	150.7	154.9	165.2	183.0	199.3	193.5
47.5°	185.9	168.8	156.0	151.5	157.5	148.1	149.9	158.9	176.7	192.7	187.7
50°	179.1	162.5	151.5	150.2	154.4	147.6	144.7	152.0	169.1	185.1	180.9
52.5°	171.7	157.3	148.4	147.8	151.8	144.2	140.0	145.7	161.0	177.0	173.6
55°	164.6	151.5	144.4	145.7	150.2	141.3	136.0	139.7	152.3	168.1	163.3
57.5°	157.5	144.9	139.2	142.8	146.3	137.6	131.0	133.1	143.4	158.9	153.3
60°	151.2	139.2	133.4	137.9	141.0	132.1	124.5	125.8	135.0	148.9	143.9
62.5°	143.1	132.9	125.3	131.0	133.4	124.7	116.6	118.2	125.5	138.6	135.0
65°	131.6	125.0	117.9	121.8	125.0	116.1	108.4	110.3	115.8	128.1	125.5
67.5°	121.6	115.3	110.5	113.7	114.2	107.4	100.6	101.6	106.1	117.6	114.7
70°	110.5	104.5	100.8	103.2	102.9	97.2	91.9	92.2	95.8	106.3	102.4
72.5°	98.5	92.7	90.9	92.2	91.1	85.9	80.9	82.7	85.1	93.0	89.8
75°	85.6	80.3	79.3	80.6	79.0	74.0	69.6	71.4	73.5	80.1	76.1
77.5°	72.2	67.5	67.7	68.0	65.9	62.5	58.0	59.9	61.2	65.6	61.7
80°	57.5	53.8	54.9	54.9	52.5	50.2	46.0	46.5	47.3	48.8	46.0
82.5°	42.0	42.0	42.0	42.3	37.3	38.1	34.4	34.1	33.3	33.1	31.2
85°	24.9	26.0	26.5	27.3	20.2	23.6	20.5	19.7	18.1	16.5	16.0
87.5°	5.5	7.1	7.1	6.8	0.0	2.6	1.3	2.1	0.5	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°	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6	570.6
2.5°	577.9	562.2	591.6	617.8	613.6	628.9	593.4	645.9	701.6	701.6
5°	613.4	600.0	607.6	622.8	634.4	687.4	731.5	775.4	866.0	867.0
7.5°	517.3	546.2	553.0	548.5	598.2	666.4	739.2	864.1	940.8	946.9
10°	483.7	496.8	517.5	529.1	549.3	616.5	706.9	855.2	936.6	951.8
12.5°	438.2	486.8	518.3	582.9	598.9	612.3	756.0	884.4	940.6	936.9
15°	388.6	425.4	470.8	542.2	582.9	685.3	785.1	977.8	1009.6	1037.5
17.5°	309.8	336.9	397.3	478.7	579.5	673.8	857.1	1093.4	1152.7	1181.6
20°	255.0	255.2	315.6	423.5	533.3	625.5	884.4	1189.2	1264.6	1279.3
22.5°	241.0	229.0	260.7	348.4	482.4	654.1	939.5	1343.4	1500.6	1537.7
25°	233.4	218.7	238.7	307.5	445.9	669.1	1050.6	1555.3	1757.2	1771.6
27.5°	236.6	243.4	249.7	274.1	399.6	641.0	1024.8	1650.0	1866.4	1893.7
30°	257.9	268.9	254.4	262.8	361.6	600.3	1070.8	1803.9	2004.0	2050.0
32.5°	214.5	210.3	209.0	227.4	323.5	563.5	1167.2	2020.5	2153.1	2210.9
35°	193.5	187.0	189.6	210.6	304.9	558.2	1221.3	2199.9	2388.7	2424.1
37.5°	192.7	185.1	188.5	204.3	311.4	567.7	1307.9	2487.7	2804.1	2880.0
40°	190.9	186.7	188.5	200.3	304.6	572.9	1357.8	2729.5	3093.4	3170.4
42.5°	190.6	188.5	190.4	203.5	297.5	575.3	1426.9	2948.0	3398.3	3459.0
45°	189.8	191.9	191.9	206.1	294.4	591.1	1467.6	3055.1	3599.4	3674.3
47.5°	186.2	192.5	202.7	205.3	281.5	583.7	1525.1	3217.6	3706.3	3776.7
50°	181.4	191.7	216.4	200.1	279.4	565.9	1592.3	3346.6	3843.4	3904.6
52.5°	175.1	190.4	213.2	189.8	275.7	562.7	1686.5	3514.1	4003.3	4057.4
55°	166.2	185.6	203.5	179.6	266.8	552.7	1830.7	3721.8	4212.6	4249.6
57.5°	158.1	178.6	189.3	173.8	245.5	554.8	1931.0	3891.2	4388.2	4420.5
60°	150.7	177.8	169.1	167.8	223.7	526.7	1963.6	3889.3	4453.6	4504.3
62.5°	142.8	167.8	154.9	159.6	204.5	497.9	1894.5	3722.6	4383.0	4471.7
65°	132.6	143.9	143.1	153.9	205.1	450.8	1736.2	3428.5	4206.8	4323.6
67.5°	120.5	127.4	131.8	144.4	211.6	414.3	1481.5	3074.8	3906.9	4045.8
70°	108.2	115.0	120.0	132.1	217.7	397.5	1179.2	2578.0	3418.5	3559.5
72.5°	95.6	102.7	106.6	117.1	209.5	361.6	872.8	2005.8	2744.0	2818.0
75°	82.4	89.3	92.4	102.1	182.0	299.1	602.6	1519.3	2009.8	2084.9
77.5°	69.1	76.4	77.5	85.3	138.9	228.7	386.3	1165.3	1423.2	1473.3
80°	55.1	62.5	62.5	66.7	97.7	157.3	231.3	879.1	1036.4	1056.1
82.5°	39.6	47.5	47.0	47.3	67.5	97.4	133.9	658.8	748.9	752.6
85°	23.4	28.9	28.6	26.3	39.9	52.5	72.5	409.1	418.0	419.1
87.5°	4.5	6.8	6.0	2.6	11.0	15.5	21.0	75.9	30.2	29.4
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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