

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: P367160

Luminaire Tested: **MSA-SA2A-730-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367160
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-730-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: 6201 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

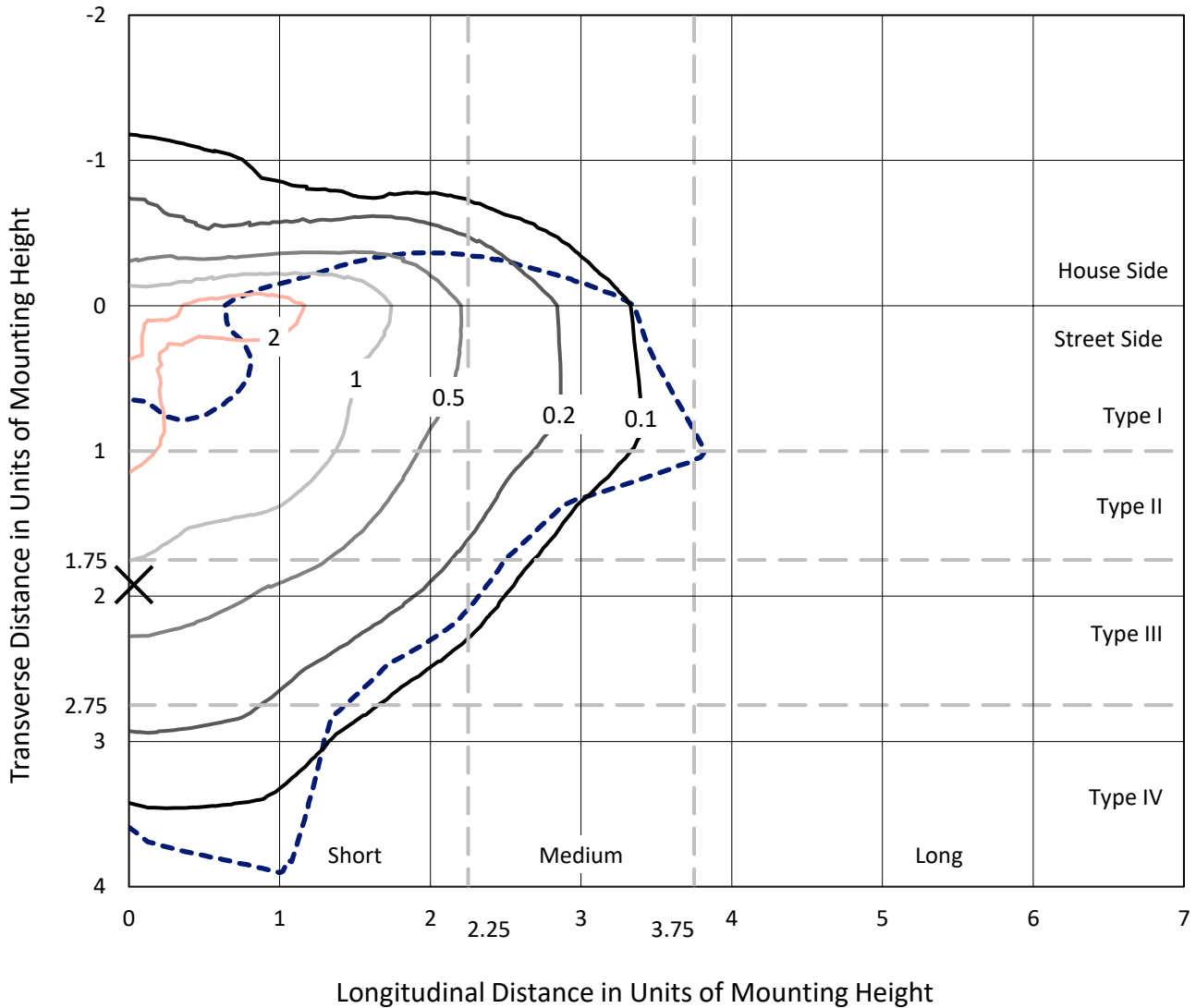
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

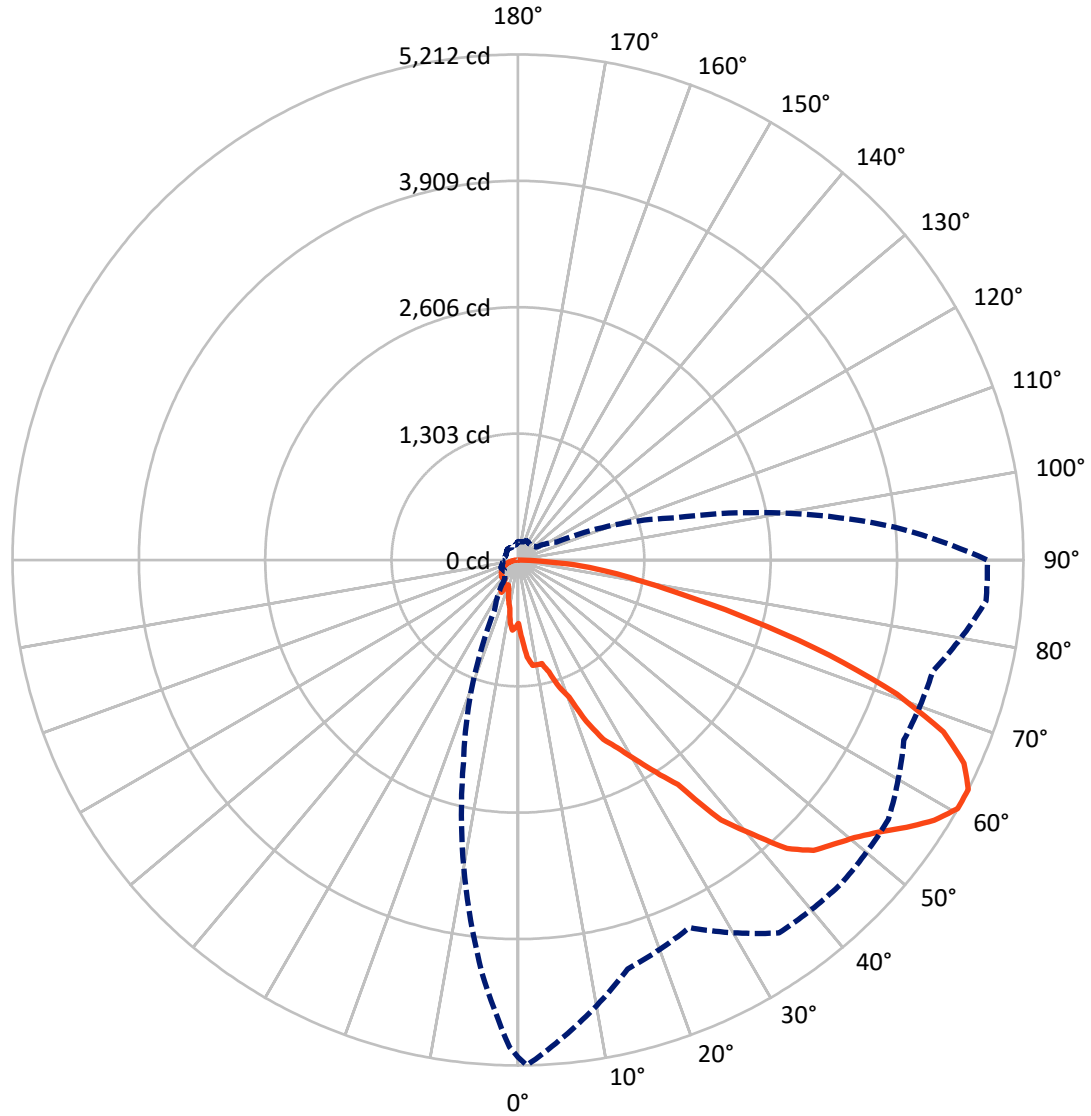
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.6 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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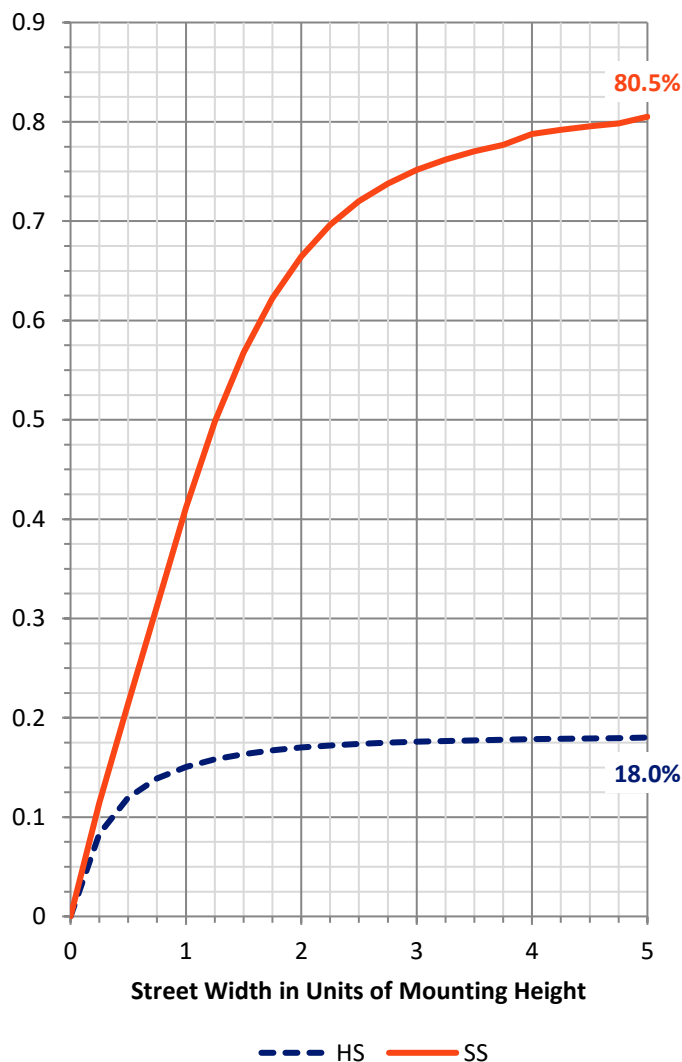
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1129.2	0.0	1129.2
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	5071.8	0.0	5071.8
	% Fixture	81.8	0.0	81.8
Total	Lumens	6201.0	0.0	6201.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.0	1.2
10°-20°	217.8	3.5
20°-30°	384.6	6.2
30°-40°	599.0	9.7
40°-50°	986.3	15.9
50°-60°	1407.7	22.7
60°-70°	1492.8	24.1
70°-80°	824.5	13.3
80°-90°	213.3	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°	6201.0	100.0
0°-180°	6201.0	100.0

Coefficient of Utilization

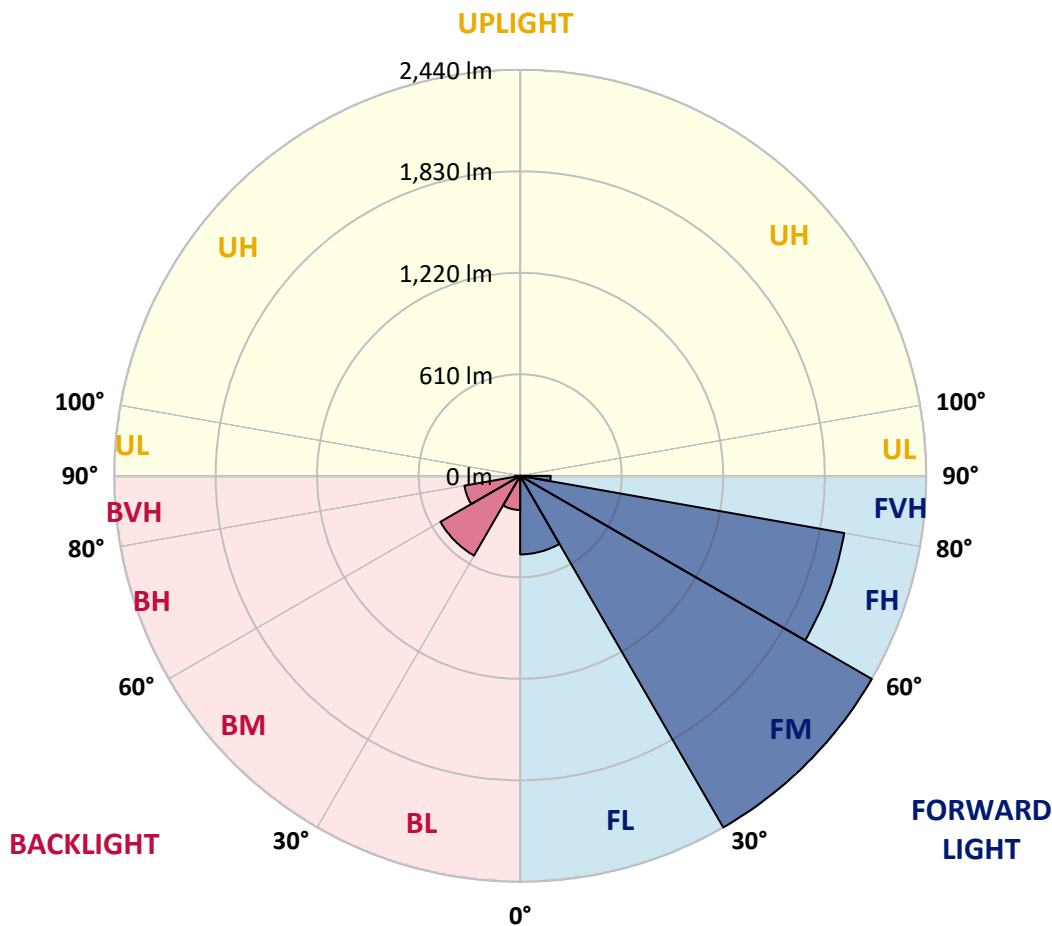


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	472.0	7.6			
FM (30°-60°)	2439.5	39.3			
FH (60°-80°)	1977.1	31.9			G2/5000
FVH (80°-90°)	183.2	3.0			G2/225
BL (0°-30°)	205.4	3.3	B1/500		
BM (30°-60°)	553.5	8.9	B1/1000		
BH (60°-80°)	340.2	5.5	B1/500		G1/500
BVH (80°-90°)	30.1	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°	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9
2.5°	804.0	811.0	796.8	780.9	715.0	778.5	759.5	794.7	783.3	706.9	846.8
5°	993.6	1006.3	992.4	1040.3	1043.3	1055.6	941.6	1012.6	987.9	981.6	1052.3
7.5°	1085.1	1098.0	1133.2	1218.4	1284.9	1224.7	1158.2	1143.5	1124.2	1074.0	1116.7
10°	1090.8	1098.0	1145.3	1325.8	1358.0	1400.8	1357.7	1256.3	1214.5	1105.3	1072.8
12.5°	1073.7	1096.2	1157.3	1377.3	1473.0	1519.6	1530.2	1417.3	1314.7	1190.1	1173.6
15°	1188.9	1197.0	1284.6	1414.0	1479.9	1519.3	1553.6	1484.1	1451.9	1353.2	1220.5
17.5°	1354.1	1376.7	1448.3	1496.2	1540.7	1548.2	1519.9	1492.8	1441.7	1573.5	1432.4
20°	1466.1	1509.7	1597.6	1606.6	1513.0	1529.6	1525.6	1527.4	1498.3	1742.0	1664.4
22.5°	1762.2	1809.4	1821.4	1769.1	1592.7	1517.2	1532.3	1575.9	1690.8	1899.7	1987.5
25°	2030.3	2048.6	2158.5	2023.7	1742.6	1578.0	1553.3	1666.2	1853.6	2165.1	2227.7
27.5°	2170.2	2194.0	2267.1	1973.7	1761.3	1499.8	1442.0	1613.8	1804.9	2040.2	2314.9
30°	2349.2	2387.2	2486.8	2023.7	1817.5	1550.9	1423.0	1587.3	1798.6	2122.1	2499.7
32.5°	2533.7	2607.4	2681.5	2199.7	1809.7	1629.2	1544.3	1557.5	1855.7	2293.6	2691.1
35°	2778.1	2843.0	2906.8	2301.4	1967.4	1694.5	1610.2	1750.4	2002.6	2492.5	2958.0
37.5°	3300.4	3403.4	3235.1	2590.9	2138.9	1988.8	1836.8	1919.8	2157.9	2658.3	3394.0
40°	3633.3	3710.6	3548.1	2788.0	2441.0	2187.1	2162.1	2169.0	2371.8	2800.3	3687.4
42.5°	3964.0	4068.7	3810.2	3058.5	2806.3	2596.6	2467.8	2459.1	2611.3	3055.5	4021.1
45°	4210.7	4272.4	3900.2	3286.6	3198.1	3042.6	2946.0	2792.8	2926.1	3232.1	4227.6
47.5°	4328.1	4378.3	4044.9	3419.3	3452.1	3460.2	3634.5	3373.3	3201.1	3351.6	4335.9
50°	4474.6	4498.4	4130.1	3536.1	3693.4	4050.3	4092.1	3649.5	3469.0	3481.9	4400.0
52.5°	4649.7	4659.7	4254.3	3670.9	3937.5	4438.5	4373.8	4117.7	3723.8	3719.9	4520.7
55°	4870.0	4864.0	4410.2	3852.3	4111.7	4669.3	4620.3	4433.7	4001.6	3917.0	4708.4
57.5°	5065.9	5062.3	4616.9	4019.3	4258.3	4787.9	4802.3	4753.0	4190.5	4058.1	4911.8
60°	5161.9	5207.9	4852.3	4202.0	4267.6	4841.4	4846.8	4768.3	4401.8	4239.3	4966.0
62.5°	5124.6	5212.2	4967.8	4366.3	4181.8	4695.2	4717.8	4663.6	4392.2	4429.5	4845.0
65°	4954.9	5056.0	4867.6	4453.8	4129.2	4450.2	4456.0	4319.0	4254.6	4555.6	4561.6
67.5°	4636.5	4731.3	4548.6	4314.2	3768.7	3790.0	3917.6	3928.8	3834.9	4460.5	4163.5
70°	4079.2	4146.0	4031.7	3969.4	3150.0	3024.8	3163.2	3222.5	3265.2	4117.1	3685.6
72.5°	3229.4	3358.5	3376.6	3417.2	2536.1	2327.6	2430.2	2342.3	2620.7	3504.2	3011.3
75°	2389.3	2498.2	2615.3	2841.8	1999.0	1742.6	1730.0	1685.1	1945.1	2818.1	2233.4
77.5°	1688.4	1757.9	1847.9	2270.1	1508.5	1342.1	1349.9	1304.5	1404.7	2129.9	1542.8
80°	1210.3	1246.7	1288.5	1495.5	1112.8	1157.9	1159.1	1116.1	1044.5	1446.5	1029.7
82.5°	862.4	890.7	938.6	986.4	829.6	949.1	948.2	945.5	828.1	977.7	644.3
85°	480.3	518.2	601.2	772.8	599.1	678.6	596.7	657.2	607.8	650.9	326.2
87.5°	33.7	30.1	134.5	447.8	279.6	204.3	107.1	212.1	272.0	340.0	45.4
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°	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9
2.5°	875.7	886.2	845.0	783.0	799.8	781.5	758.3	722.2	647.9	693.9	694.2
5°	1051.7	1011.7	979.5	949.1	897.9	820.6	810.4	748.4	713.5	731.8	729.1
7.5°	1106.8	1049.9	1001.4	892.8	798.0	678.0	641.9	605.1	589.8	634.3	652.1
10°	1046.3	987.0	939.5	807.4	743.0	668.0	568.7	517.9	487.8	499.5	506.4
12.5°	1095.0	1034.5	885.0	811.3	705.0	659.3	572.3	497.7	453.2	464.0	451.1
15°	1142.0	1060.4	910.9	764.0	678.0	611.8	541.3	464.3	412.0	393.3	383.4
17.5°	1313.5	1178.1	907.9	737.5	638.8	562.7	477.9	393.6	358.7	339.4	322.9
20°	1522.6	1334.0	924.1	710.2	597.3	501.3	408.9	330.7	306.3	293.7	289.2
22.5°	1771.5	1533.8	1017.1	706.2	558.2	456.5	371.0	322.3	294.9	281.1	275.3
25°	1969.2	1740.5	1085.7	732.7	556.1	419.5	348.2	358.1	345.5	349.7	316.3
27.5°	2161.2	1796.8	1047.2	721.0	500.1	353.9	342.7	363.5	374.3	377.6	376.4
30°	2323.4	2034.5	1055.6	654.8	422.5	288.3	262.4	272.6	302.4	349.7	358.7
32.5°	2560.8	2148.2	1127.5	614.8	377.6	257.9	229.0	225.1	232.0	249.2	263.9
35°	2838.5	2410.0	1147.7	604.2	346.7	244.3	224.2	215.2	218.8	231.7	234.7
37.5°	3356.4	2600.8	1222.3	591.3	335.2	236.2	220.6	217.3	225.1	235.6	241.6
40°	3642.0	2943.9	1225.9	580.2	320.5	232.9	223.0	221.5	226.3	240.7	244.3
42.5°	4022.6	3139.5	1282.5	567.2	315.4	237.4	227.8	227.2	231.4	239.8	246.4
45°	4254.6	3270.3	1285.5	559.7	314.2	257.3	234.1	232.0	231.1	236.2	242.2
47.5°	4404.2	3459.0	1322.2	551.3	321.4	262.4	241.6	232.6	229.6	231.7	236.2
50°	4545.9	3609.8	1391.7	550.1	328.9	257.3	254.9	232.3	226.3	225.4	228.7
52.5°	4719.9	3857.7	1477.5	561.5	327.1	249.8	264.8	231.1	220.3	218.2	221.5
55°	4972.9	4123.4	1568.7	551.9	308.4	235.3	255.2	230.2	214.0	210.0	213.0
57.5°	5136.9	4275.7	1670.7	543.8	280.2	224.5	246.4	230.8	214.6	205.8	207.6
60°	5082.5	4193.9	1710.7	494.1	253.4	216.1	225.7	226.0	209.1	201.0	202.5
62.5°	4841.7	3897.5	1673.4	436.3	233.5	204.0	204.3	217.0	193.5	187.8	190.2
65°	4505.3	3528.8	1522.3	398.7	224.2	191.4	186.6	190.5	172.4	168.2	173.0
67.5°	4092.4	3074.5	1297.5	359.0	220.9	174.2	168.5	167.0	155.6	150.8	155.6
70°	3574.6	2574.3	1037.3	331.0	208.2	155.6	151.1	149.6	139.9	136.3	140.5
72.5°	2873.1	2010.1	800.4	309.6	194.4	138.4	134.5	132.7	124.6	119.5	124.6
75°	2043.5	1536.2	594.6	276.8	174.8	121.0	116.5	114.0	106.5	101.7	106.2
77.5°	1452.2	1153.1	415.3	229.0	144.1	102.3	99.6	95.7	89.1	83.4	87.9
80°	1073.7	823.9	267.8	176.6	110.1	81.8	80.3	77.6	71.3	64.4	67.7
82.5°	706.9	594.0	153.5	119.8	80.0	59.0	60.2	58.4	52.4	45.1	46.9
85°	316.6	351.8	81.5	65.9	52.1	35.5	38.8	37.6	33.1	26.2	26.8
87.5°	30.4	59.3	25.0	24.1	19.3	11.1	13.8	11.7	9.9	6.3	4.8
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°	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9
2.5°	704.7	662.3	619.9	645.8	646.4	653.3	654.2	628.6	649.1	664.7	681.0
5°	715.9	688.2	689.7	664.7	651.2	668.6	665.0	658.1	670.4	687.6	708.4
7.5°	635.2	617.2	614.2	590.1	531.7	518.8	529.6	534.1	550.7	577.2	599.4
10°	495.9	531.7	491.4	482.1	466.7	436.6	419.2	417.1	452.3	473.6	492.3
12.5°	446.9	437.8	433.0	407.4	407.4	375.5	365.3	374.6	428.8	444.2	468.2
15°	380.7	374.0	351.8	339.1	333.1	320.2	331.0	340.0	390.6	391.8	417.1
17.5°	316.0	312.0	291.0	288.6	282.6	276.8	286.8	308.4	335.8	331.0	342.7
20°	282.6	269.0	249.8	256.7	250.4	245.8	241.6	272.3	291.6	297.9	304.8
22.5°	274.1	249.5	238.0	231.7	232.0	224.8	225.7	251.3	280.5	284.4	280.2
25°	313.3	269.3	232.3	214.0	207.0	204.6	211.5	234.1	269.3	277.7	281.1
27.5°	366.5	292.5	239.2	207.9	194.1	195.3	205.2	220.9	262.4	277.4	281.4
30°	351.8	275.0	239.5	203.4	186.3	192.6	196.2	211.2	257.0	279.6	299.1
32.5°	271.4	247.4	241.0	207.0	200.1	190.2	195.3	209.7	241.0	255.2	256.1
35°	229.9	211.5	207.3	198.9	189.3	185.1	190.8	203.4	223.9	232.6	231.4
37.5°	228.1	207.9	191.4	187.8	183.9	182.7	186.0	197.7	218.5	233.8	230.5
40°	231.1	206.1	189.3	183.0	184.5	179.0	182.4	196.8	219.4	233.8	230.8
42.5°	227.5	204.0	186.6	181.8	183.3	175.7	179.6	194.7	217.0	234.1	228.4
45°	220.3	199.2	185.1	176.9	183.9	172.7	177.5	189.3	209.7	228.4	221.8
47.5°	213.0	193.5	178.7	173.6	180.5	169.7	171.8	182.1	202.5	220.9	215.2
50°	205.2	186.3	173.6	172.1	176.9	169.1	165.8	174.2	193.8	212.1	207.3
52.5°	196.8	180.2	170.0	169.4	173.9	165.2	160.4	167.0	184.5	202.8	198.9
55°	188.7	173.6	165.5	167.0	172.1	161.9	155.9	160.1	174.5	192.6	187.2
57.5°	180.5	166.1	159.5	163.7	167.6	157.7	150.2	152.6	164.3	182.1	175.7
60°	173.3	159.5	152.9	158.0	161.6	151.4	142.6	144.1	154.7	170.6	164.9
62.5°	164.0	152.3	143.5	150.2	152.9	142.9	133.6	135.4	143.8	158.9	154.7
65°	150.8	143.2	135.1	139.6	143.2	133.0	124.3	126.4	132.7	146.8	143.8
67.5°	139.3	132.1	126.7	130.3	130.9	123.1	115.3	116.5	121.6	134.8	131.5
70°	126.7	119.8	115.6	118.3	118.0	111.3	105.3	105.6	109.8	121.9	117.4
72.5°	112.8	106.2	104.1	105.6	104.4	98.4	92.7	94.8	97.5	106.5	102.9
75°	98.1	92.1	90.9	92.4	90.6	84.9	79.7	81.8	84.3	91.8	87.3
77.5°	82.8	77.3	77.6	77.9	75.5	71.6	66.5	68.6	70.1	75.2	70.7
80°	65.9	61.7	62.9	62.9	60.2	57.5	52.7	53.3	54.2	56.0	52.7
82.5°	48.1	48.1	48.1	48.4	42.7	43.6	39.4	39.1	38.2	37.9	35.8
85°	28.6	29.8	30.4	31.3	23.2	27.1	23.5	22.6	20.8	19.0	18.4
87.5°	6.3	8.1	8.1	7.8	0.0	3.0	1.5	2.4	0.6	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°	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9	653.9
2.5°	662.3	644.3	678.0	708.1	703.2	720.7	680.1	740.3	804.0	804.0
5°	702.9	687.6	696.3	713.8	727.0	787.8	838.4	888.6	992.4	993.6
7.5°	592.8	625.9	633.7	628.6	685.5	763.7	847.1	990.3	1078.2	1085.1
10°	554.3	569.3	593.1	606.3	629.5	706.5	810.1	980.1	1073.4	1090.8
12.5°	502.2	557.9	594.0	668.0	686.4	701.7	866.3	1013.5	1077.9	1073.7
15°	445.4	487.5	539.5	621.4	668.0	785.4	899.7	1120.6	1157.0	1188.9
17.5°	355.1	386.1	455.3	548.6	664.1	772.1	982.2	1253.0	1321.0	1354.1
20°	292.2	292.5	361.7	485.4	611.2	716.8	1013.5	1362.8	1449.2	1466.1
22.5°	276.2	262.4	298.8	399.3	552.8	749.6	1076.7	1539.5	1719.7	1762.2
25°	267.5	250.7	273.5	352.4	511.0	766.7	1204.0	1782.3	2013.7	2030.3
27.5°	271.1	278.9	286.2	314.2	458.0	734.5	1174.5	1891.0	2138.9	2170.2
30°	295.5	308.1	291.6	301.2	414.4	687.9	1227.1	2067.3	2296.6	2349.2
32.5°	245.8	241.0	239.5	260.6	370.7	645.8	1337.6	2315.5	2467.5	2533.7
35°	221.8	214.3	217.3	241.3	349.4	639.7	1399.6	2521.1	2737.4	2778.1
37.5°	220.9	212.1	216.1	234.1	356.9	650.6	1498.9	2850.9	3213.5	3300.4
40°	218.8	214.0	216.1	229.6	349.1	656.6	1556.0	3128.0	3545.1	3633.3
42.5°	218.5	216.1	218.2	233.2	340.9	659.3	1635.2	3378.4	3894.4	3964.0
45°	217.6	220.0	220.0	236.2	337.3	677.4	1681.8	3501.2	4124.9	4210.7
47.5°	213.3	220.6	232.3	235.3	322.6	668.9	1747.7	3687.4	4247.4	4328.1
50°	207.9	219.7	248.0	229.3	320.2	648.5	1824.8	3835.2	4404.5	4474.6
52.5°	200.7	218.2	244.3	217.6	316.0	644.9	1932.8	4027.2	4587.8	4649.7
55°	190.5	212.7	233.2	205.8	305.7	633.4	2098.0	4265.2	4827.6	4870.0
57.5°	181.2	204.6	217.0	199.2	281.4	635.8	2212.9	4459.3	5028.9	5065.9
60°	172.7	203.7	193.8	192.3	256.4	603.6	2250.2	4457.2	5103.8	5161.9
62.5°	163.7	192.3	177.5	183.0	234.4	570.5	2171.1	4266.1	5022.9	5124.6
65°	152.0	164.9	164.0	176.3	235.0	516.7	1989.7	3929.1	4821.0	4954.9
67.5°	138.1	145.9	151.1	165.5	242.5	474.8	1697.8	3523.7	4477.3	4636.5
70°	124.0	131.8	137.5	151.4	249.5	455.6	1351.4	2954.4	3917.6	4079.2
72.5°	109.5	117.7	122.2	134.2	240.1	414.4	1000.2	2298.7	3144.6	3229.4
75°	94.5	102.3	105.9	117.1	208.5	342.7	690.6	1741.1	2303.2	2389.3
77.5°	79.1	87.6	88.8	97.8	159.2	262.1	442.6	1335.5	1631.0	1688.4
80°	63.2	71.6	71.6	76.4	111.9	180.2	265.1	1007.5	1187.7	1210.3
82.5°	45.4	54.5	53.9	54.2	77.3	111.6	153.5	755.0	858.2	862.4
85°	26.8	33.1	32.8	30.1	45.7	60.2	83.1	468.8	479.1	480.3
87.5°	5.1	7.8	6.9	3.0	12.6	17.8	24.1	87.0	34.6	33.7
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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