

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: P367226

Luminaire Tested: **MSA-SA2A-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367226
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-760-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: 6809 lumens
Efficiency: N/A
Efficacy: 103.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

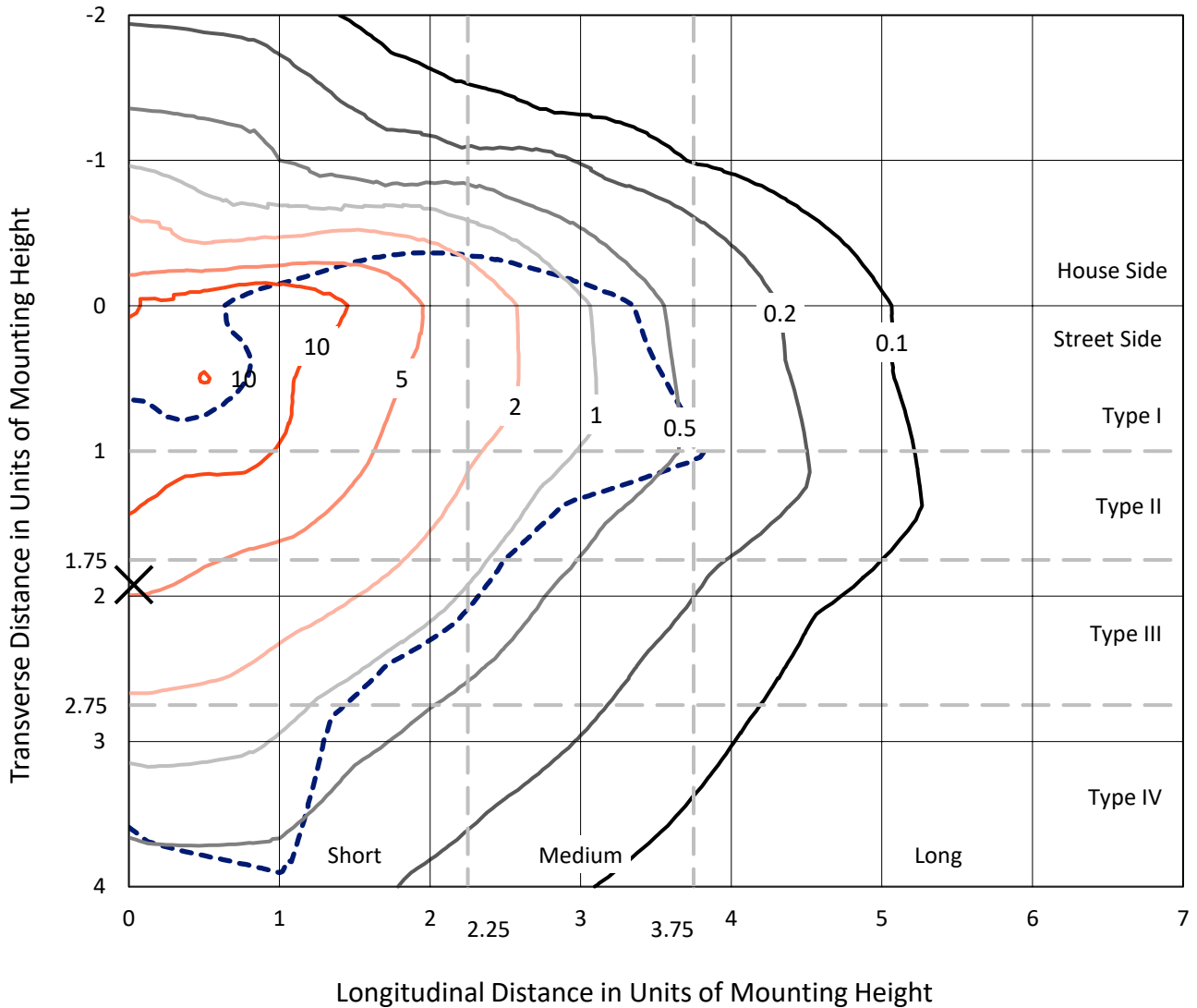
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

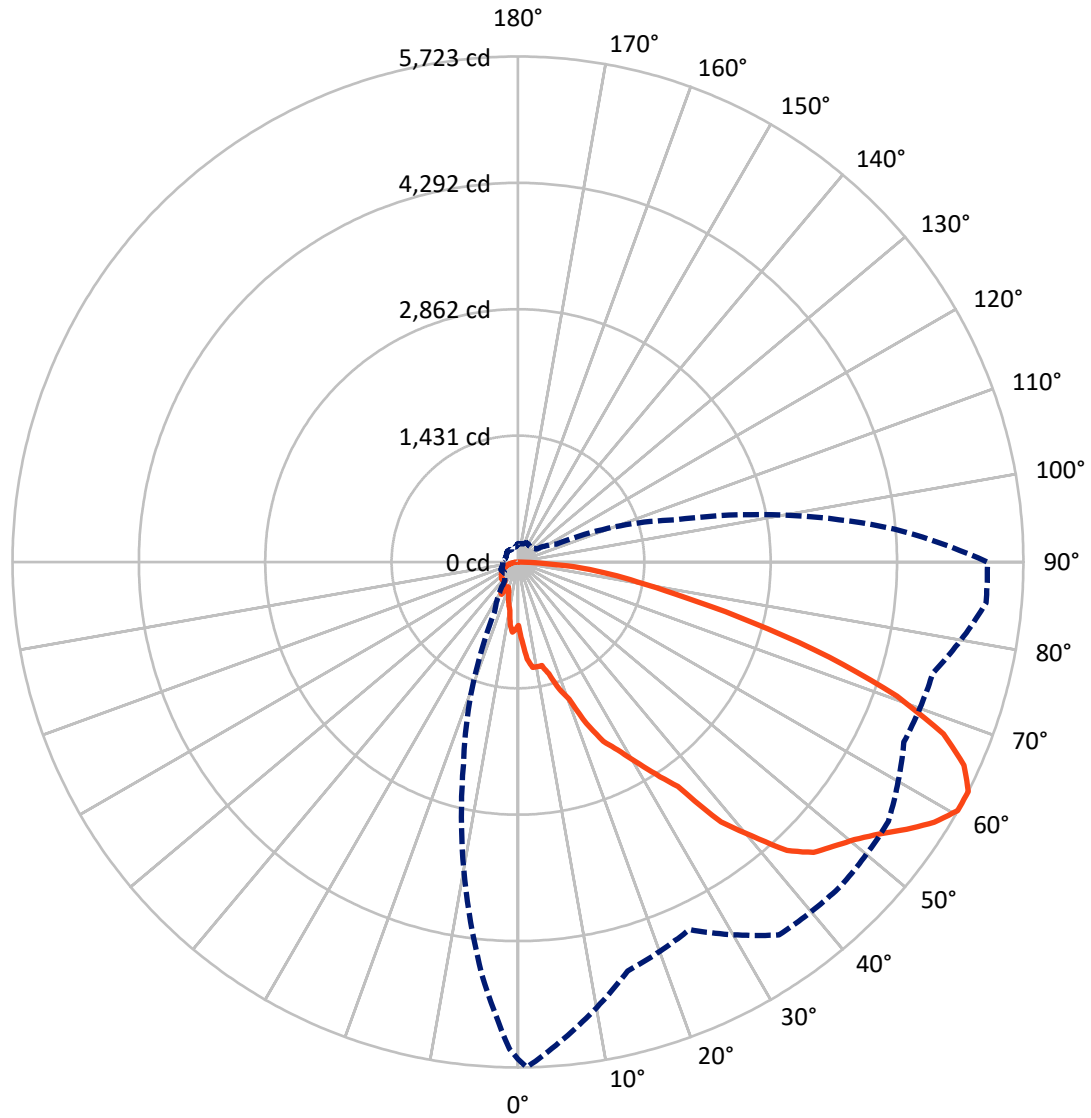
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.1 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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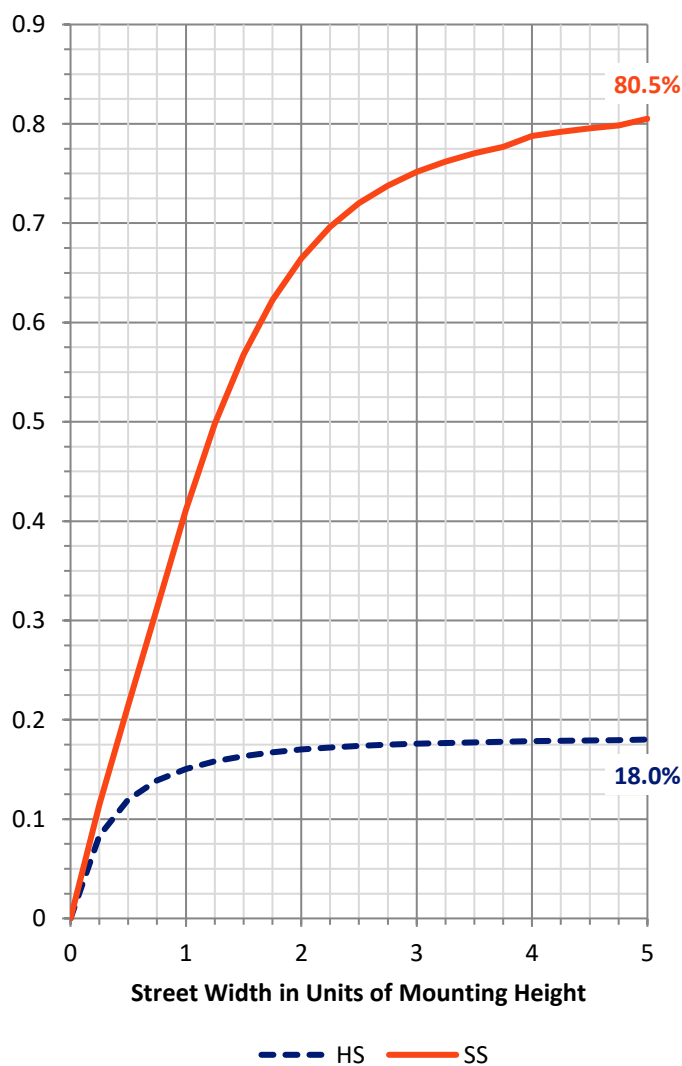
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1239.9	0.0	1239.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	5569.1	0.0	5569.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	6809.0	0.0	6809.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.3	1.2
10°-20°	239.2	3.5
20°-30°	422.3	6.2
30°-40°	657.7	9.7
40°-50°	1083.0	15.9
50°-60°	1545.8	22.7
60°-70°	1639.1	24.1
70°-80°	905.4	13.3
80°-90°	234.2	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°	6809.0	100.0
0°-180°	6809.0	100.0

Coefficient of Utilization



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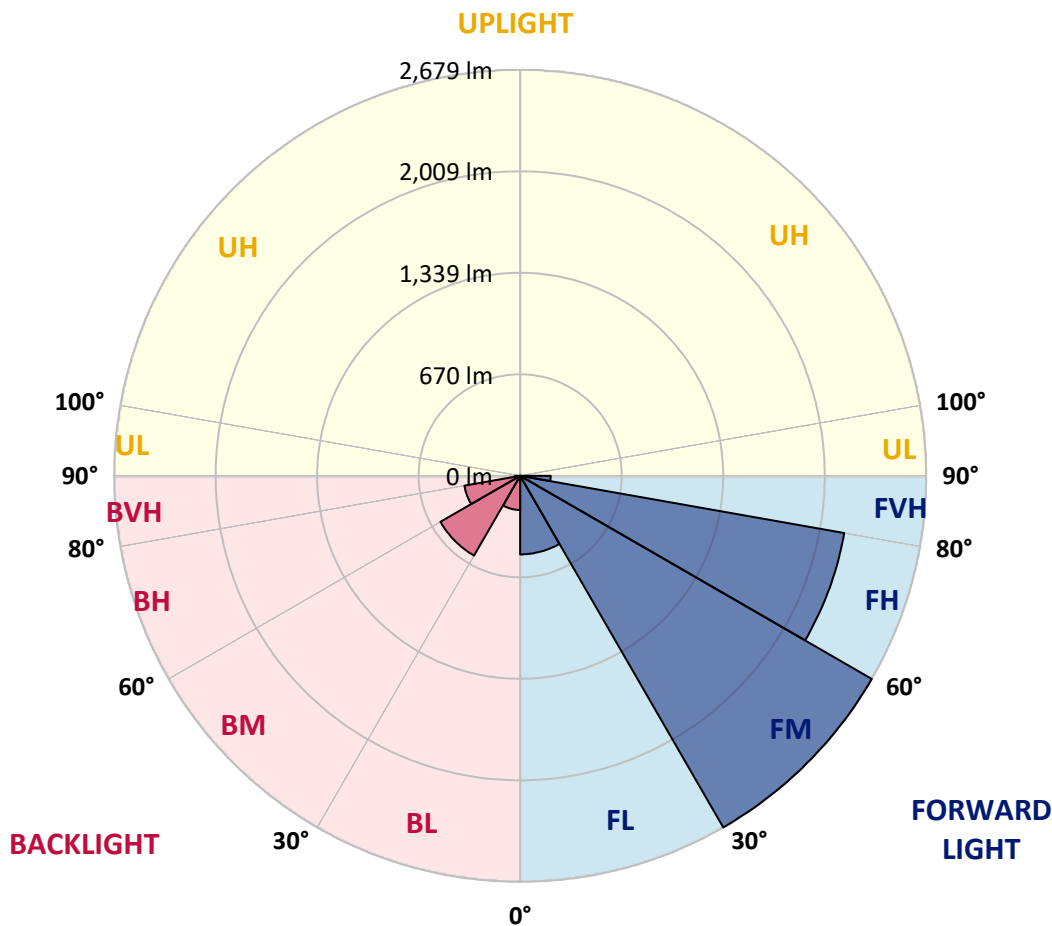
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	518.3	7.6			
FM (30°-60°)	2678.7	39.3			
FH (60°-80°)	2171.0	31.9			G2/5000
FVH (80°-90°)	201.1	3.0			G2/225
BL (0°-30°)	225.5	3.3	B1/500		
BM (30°-60°)	607.8	8.9	B1/1000		
BH (60°-80°)	373.5	5.5	B1/500		G1/500
BVH (80°-90°)	33.0	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°	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0
2.5°	882.9	890.5	875.0	857.4	785.1	854.8	834.0	872.6	860.1	776.2	929.8
5°	1091.0	1104.9	1089.7	1142.3	1145.6	1159.1	1033.9	1111.9	1084.8	1077.8	1155.5
7.5°	1191.5	1205.7	1244.4	1337.9	1410.9	1344.8	1271.8	1255.6	1234.4	1179.3	1226.2
10°	1197.8	1205.7	1257.6	1455.8	1491.2	1538.1	1490.9	1379.5	1333.6	1213.6	1177.9
12.5°	1178.9	1203.7	1270.8	1512.3	1617.4	1668.6	1680.2	1556.3	1443.6	1306.8	1288.6
15°	1305.5	1314.4	1410.6	1552.6	1625.0	1668.3	1706.0	1629.6	1594.3	1485.9	1340.2
17.5°	1486.9	1511.7	1590.3	1642.8	1691.7	1700.0	1669.0	1639.2	1583.0	1727.8	1572.8
20°	1609.8	1657.7	1754.2	1764.1	1661.4	1679.5	1675.2	1677.2	1645.2	1912.8	1827.6
22.5°	1934.9	1986.8	2000.0	1942.5	1748.9	1666.0	1682.5	1730.4	1856.6	2085.9	2182.4
25°	2229.3	2249.5	2370.1	2222.1	1913.5	1732.7	1705.6	1829.5	2035.4	2377.4	2446.1
27.5°	2383.0	2409.1	2489.4	2167.2	1933.9	1646.8	1583.4	1772.0	1981.9	2240.2	2541.9
30°	2579.6	2621.2	2730.6	2222.1	1995.7	1703.0	1562.6	1743.0	1974.9	2330.1	2744.8
32.5°	2782.1	2863.1	2944.4	2415.4	1987.1	1788.9	1695.7	1710.3	2037.7	2518.5	2954.9
35°	3050.4	3121.8	3191.9	2527.1	2160.3	1860.6	1768.1	1922.1	2198.9	2736.9	3248.0
37.5°	3624.0	3737.0	3552.3	2844.9	2348.6	2183.7	2016.9	2108.1	2369.4	2918.9	3726.8
40°	3989.5	4074.4	3896.0	3061.3	2680.4	2401.5	2374.1	2381.7	2604.4	3074.9	4049.0
42.5°	4352.6	4467.6	4183.8	3358.4	3081.5	2851.2	2709.8	2700.2	2867.4	3355.1	4415.4
45°	4623.6	4691.3	4282.6	3608.8	3511.7	3340.9	3234.8	3066.6	3213.0	3549.0	4642.1
47.5°	4752.4	4807.6	4441.5	3754.6	3790.6	3799.5	3990.8	3704.0	3515.0	3680.2	4761.0
50°	4913.3	4939.4	4535.0	3882.8	4055.6	4447.5	4493.4	4007.3	3809.1	3823.3	4831.4
52.5°	5105.6	5116.6	4671.5	4030.8	4323.5	4873.7	4802.7	4521.5	4088.9	4084.6	4963.9
55°	5347.5	5340.9	4842.6	4230.0	4514.9	5127.1	5073.3	4868.4	4393.9	4301.1	5170.1
57.5°	5562.6	5558.7	5069.6	4413.4	4675.8	5257.3	5273.2	5219.0	4601.4	4456.0	5393.4
60°	5668.0	5718.6	5328.0	4614.0	4686.0	5316.1	5322.1	5235.8	4833.4	4655.0	5452.9
62.5°	5627.0	5723.2	5454.9	4794.4	4591.8	5155.5	5180.3	5120.8	4822.8	4863.8	5320.1
65°	5440.7	5551.7	5344.9	4890.5	4534.0	4886.6	4892.9	4742.5	4671.8	5002.2	5008.8
67.5°	5091.1	5195.2	4994.6	4737.2	4138.2	4161.6	4301.7	4314.0	4210.9	4897.8	4571.7
70°	4479.2	4552.5	4427.0	4358.6	3458.8	3321.4	3473.4	3538.5	3585.4	4520.8	4047.0
72.5°	3546.1	3687.8	3707.6	3752.2	2784.8	2555.8	2668.5	2572.0	2877.6	3847.7	3306.5
75°	2623.5	2743.1	2871.7	3120.5	2195.0	1913.5	1899.6	1850.4	2135.8	3094.4	2452.4
77.5°	1854.0	1930.3	2029.1	2492.7	1656.4	1473.7	1482.3	1432.4	1542.4	2338.7	1694.1
80°	1328.9	1368.9	1414.9	1642.2	1221.9	1271.5	1272.8	1225.5	1146.9	1588.3	1130.7
82.5°	947.0	978.0	1030.6	1083.1	911.0	1042.1	1041.2	1038.2	909.3	1073.5	707.4
85°	527.3	569.0	660.2	848.5	657.9	745.1	655.2	721.6	667.4	714.7	358.2
87.5°	37.0	33.0	147.7	491.7	307.0	224.4	117.6	232.9	298.7	373.4	49.9
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°	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0
2.5°	961.5	973.1	927.8	859.8	878.3	858.1	832.7	793.0	711.4	761.9	762.3
5°	1154.8	1110.9	1075.5	1042.1	986.0	901.1	889.8	821.8	783.4	803.6	800.6
7.5°	1215.3	1152.8	1099.6	980.4	876.3	744.4	704.8	664.5	647.6	696.5	716.0
10°	1148.9	1083.8	1031.6	886.5	815.8	733.5	624.5	568.7	535.6	548.5	556.1
12.5°	1202.4	1136.0	971.8	890.8	774.2	723.9	628.5	546.5	497.6	509.5	495.3
15°	1253.9	1164.4	1000.2	838.9	744.4	671.7	594.4	509.8	452.3	431.9	421.0
17.5°	1442.3	1293.6	996.9	809.9	701.5	617.9	524.7	432.2	393.9	372.7	354.5
20°	1671.9	1464.8	1014.7	779.8	655.9	550.5	449.0	363.1	336.4	322.5	317.5
22.5°	1945.2	1684.1	1116.8	775.5	612.9	501.2	407.4	353.9	323.8	308.6	302.3
25°	2162.3	1911.1	1192.2	804.6	610.6	460.6	382.3	393.2	379.3	383.9	347.3
27.5°	2373.1	1972.9	1149.9	791.7	549.2	388.6	376.3	399.1	411.0	414.7	413.4
30°	2551.2	2234.0	1159.1	719.0	463.9	316.5	288.1	299.4	332.1	383.9	393.9
32.5°	2811.9	2358.9	1238.1	675.0	414.7	283.2	251.4	247.2	254.8	273.6	289.8
35°	3116.8	2646.3	1260.2	663.5	380.6	268.3	246.2	236.3	240.2	254.4	257.7
37.5°	3685.5	2855.8	1342.2	649.3	368.1	259.4	242.2	238.6	247.2	258.7	265.3
40°	3999.1	3232.5	1346.1	637.0	351.9	255.7	244.8	243.2	248.5	264.3	268.3
42.5°	4417.1	3447.3	1408.2	622.8	346.3	260.7	250.1	249.5	254.1	263.3	270.6
45°	4671.8	3591.0	1411.6	614.6	345.0	282.5	257.1	254.8	253.8	259.4	266.0
47.5°	4836.0	3798.2	1451.9	605.3	352.9	288.1	265.3	255.4	252.1	254.4	259.4
50°	4991.7	3963.7	1528.2	604.0	361.1	282.5	279.9	255.1	248.5	247.5	251.1
52.5°	5182.6	4236.0	1622.4	616.6	359.2	274.2	290.8	253.8	241.9	239.6	243.2
55°	5460.5	4527.7	1722.5	606.0	338.7	258.4	280.2	252.8	234.9	230.6	233.9
57.5°	5640.6	4694.9	1834.5	597.1	307.6	246.5	270.6	253.4	235.6	226.0	228.0
60°	5580.8	4605.1	1878.4	542.5	278.2	237.2	247.8	248.1	229.6	220.7	222.4
62.5°	5316.5	4279.6	1837.5	479.1	256.4	224.0	224.4	238.2	212.5	206.2	208.8
65°	4947.0	3874.8	1671.6	437.8	246.2	210.1	204.9	209.2	189.3	184.7	190.0
67.5°	4493.7	3375.9	1424.8	394.2	242.5	191.3	185.0	183.4	170.8	165.5	170.8
70°	3925.1	2826.7	1139.0	363.5	228.7	170.8	165.9	164.2	153.6	149.7	154.3
72.5°	3154.8	2207.2	878.9	340.0	213.5	152.0	147.7	145.7	136.8	131.2	136.8
75°	2243.9	1686.8	652.9	304.0	192.0	132.8	127.9	125.2	117.0	111.7	116.6
77.5°	1594.6	1266.2	456.0	251.4	158.3	112.3	109.4	105.1	97.8	91.5	96.5
80°	1178.9	904.7	294.1	194.0	120.9	89.9	88.2	85.2	78.3	70.7	74.3
82.5°	776.2	652.2	168.5	131.5	87.9	64.8	66.1	64.1	57.5	49.6	51.5
85°	347.6	386.3	89.5	72.4	57.2	39.0	42.6	41.3	36.3	28.7	29.4
87.5°	33.4	65.1	27.4	26.4	21.1	12.2	15.2	12.9	10.9	6.9	5.3
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°	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0
2.5°	773.8	727.3	680.7	709.1	709.7	717.3	718.3	690.2	712.7	729.9	747.7
5°	786.1	755.7	757.3	729.9	715.0	734.2	730.2	722.6	736.2	755.0	777.8
7.5°	697.5	677.7	674.4	648.0	583.9	569.6	581.5	586.5	604.7	633.7	658.2
10°	544.5	583.9	539.6	529.3	512.5	479.4	460.3	458.0	496.6	520.1	540.6
12.5°	490.7	480.8	475.5	447.4	447.4	412.4	401.1	411.4	470.8	487.7	514.1
15°	418.0	410.7	386.3	372.4	365.8	351.6	363.5	373.4	428.9	430.2	458.0
17.5°	346.9	342.6	319.5	316.9	310.3	304.0	314.9	338.7	368.7	363.5	376.3
20°	310.3	295.4	274.2	281.8	274.9	270.0	265.3	299.0	320.2	327.1	334.7
22.5°	301.0	273.9	261.4	254.4	254.8	246.8	247.8	275.9	308.0	312.2	307.6
25°	344.0	295.7	255.1	234.9	227.3	224.7	232.3	257.1	295.7	305.0	308.6
27.5°	402.5	321.2	262.7	228.3	213.1	214.4	225.3	242.5	288.1	304.6	308.9
30°	386.3	302.0	263.0	223.4	204.5	211.5	215.4	232.0	282.2	307.0	328.4
32.5°	298.0	271.6	264.7	227.3	219.7	208.8	214.4	230.3	264.7	280.2	281.2
35°	252.4	232.3	227.7	218.4	207.8	203.2	209.5	223.4	245.8	255.4	254.1
37.5°	250.5	228.3	210.1	206.2	201.9	200.6	204.2	217.1	239.9	256.7	253.1
40°	253.8	226.3	207.8	200.9	202.5	196.6	200.2	216.1	240.9	256.7	253.4
42.5°	249.8	224.0	204.9	199.6	201.2	193.0	197.3	213.8	238.2	257.1	250.8
45°	241.9	218.7	203.2	194.3	201.9	189.7	194.9	207.8	230.3	250.8	243.5
47.5°	233.9	212.5	196.3	190.7	198.3	186.4	188.7	199.9	222.4	242.5	236.3
50°	225.3	204.5	190.7	189.0	194.3	185.7	182.1	191.3	212.8	232.9	227.7
52.5°	216.1	197.9	186.7	186.0	191.0	181.4	176.1	183.4	202.5	222.7	218.4
55°	207.2	190.7	181.7	183.4	189.0	177.8	171.2	175.8	191.6	211.5	205.5
57.5°	198.3	182.4	175.1	179.7	184.0	173.1	164.9	167.5	180.4	199.9	193.0
60°	190.3	175.1	167.9	173.5	177.4	166.2	156.6	158.3	169.8	187.3	181.1
62.5°	180.1	167.2	157.6	164.9	167.9	156.9	146.7	148.7	157.9	174.5	169.8
65°	165.5	157.3	148.4	153.3	157.3	146.0	136.5	138.8	145.7	161.2	157.9
67.5°	153.0	145.1	139.1	143.1	143.7	135.1	126.6	127.9	133.5	148.0	144.4
70°	139.1	131.5	126.9	129.9	129.5	122.3	115.6	116.0	120.6	133.8	128.9
72.5°	123.9	116.6	114.3	116.0	114.7	108.0	101.8	104.1	107.1	117.0	113.0
75°	107.7	101.1	99.8	101.4	99.5	93.2	87.6	89.9	92.5	100.8	95.8
77.5°	90.9	84.9	85.2	85.6	82.9	78.6	73.0	75.3	77.0	82.6	77.6
80°	72.4	67.7	69.1	69.1	66.1	63.1	57.8	58.5	59.5	61.5	57.8
82.5°	52.9	52.9	52.9	53.2	46.9	47.9	43.3	43.0	42.0	41.6	39.3
85°	31.4	32.7	33.4	34.4	25.4	29.7	25.8	24.8	22.8	20.8	20.2
87.5°	6.9	8.9	8.9	8.6	0.0	3.3	1.7	2.6	0.7	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°	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0	718.0
2.5°	727.3	707.4	744.4	777.5	772.2	791.4	746.7	812.8	882.9	882.9
5°	771.9	755.0	764.6	783.8	798.3	865.0	920.5	975.7	1089.7	1091.0
7.5°	650.9	687.3	695.9	690.2	752.7	838.6	930.1	1087.4	1183.9	1191.5
10°	608.6	625.2	651.3	665.8	691.2	775.8	889.5	1076.2	1178.6	1197.8
12.5°	551.5	612.6	652.2	733.5	753.7	770.5	951.3	1112.9	1183.6	1178.9
15°	489.0	535.3	592.4	682.3	733.5	862.4	988.0	1230.5	1270.5	1305.5
17.5°	389.9	423.9	499.9	602.4	729.2	847.9	1078.5	1375.9	1450.5	1486.9
20°	320.8	321.2	397.2	533.0	671.1	787.1	1112.9	1496.5	1591.3	1609.8
22.5°	303.3	288.1	328.1	438.5	607.0	823.1	1182.2	1690.4	1888.3	1934.9
25°	293.7	275.2	300.4	386.9	561.1	841.9	1322.0	1957.1	2211.2	2229.3
27.5°	297.7	306.3	314.2	345.0	502.9	806.6	1289.6	2076.4	2348.6	2383.0
30°	324.5	338.3	320.2	330.8	455.0	755.3	1347.5	2270.0	2521.8	2579.6
32.5°	270.0	264.7	263.0	286.1	407.1	709.1	1468.7	2542.6	2709.4	2782.1
35°	243.5	235.3	238.6	265.0	383.6	702.5	1536.8	2768.3	3005.8	3050.4
37.5°	242.5	232.9	237.2	257.1	391.9	714.4	1645.8	3130.4	3528.6	3624.0
40°	240.2	234.9	237.2	252.1	383.3	721.0	1708.6	3434.7	3892.7	3989.5
42.5°	239.9	237.2	239.6	256.1	374.4	723.9	1795.5	3709.6	4276.3	4352.6
45°	238.9	241.5	241.5	259.4	370.4	743.8	1846.7	3844.4	4529.4	4623.6
47.5°	234.3	242.2	255.1	258.4	354.2	734.5	1919.1	4049.0	4663.9	4752.4
50°	228.3	241.2	272.3	251.8	351.6	712.1	2003.7	4211.2	4836.4	4913.3
52.5°	220.4	239.6	268.3	238.9	346.9	708.1	2122.3	4422.0	5037.6	5105.6
55°	209.2	233.6	256.1	226.0	335.7	695.5	2303.7	4683.4	5300.9	5347.5
57.5°	198.9	224.7	238.2	218.7	308.9	698.2	2429.9	4896.5	5522.0	5562.6
60°	189.7	223.7	212.8	211.1	281.5	662.8	2470.9	4894.2	5604.3	5668.0
62.5°	179.7	211.1	194.9	200.9	257.4	626.5	2384.0	4684.4	5515.4	5627.0
65°	166.9	181.1	180.1	193.6	258.1	567.3	2184.7	4314.3	5293.7	5440.7
67.5°	151.7	160.3	165.9	181.7	266.3	521.4	1864.2	3869.2	4916.3	5091.1
70°	136.1	144.7	151.0	166.2	273.9	500.3	1483.9	3244.1	4301.7	4479.2
72.5°	120.3	129.2	134.2	147.4	263.7	455.0	1098.3	2524.1	3452.9	3546.1
75°	103.8	112.3	116.3	128.5	229.0	376.3	758.3	1911.8	2529.0	2623.5
77.5°	86.9	96.2	97.5	107.4	174.8	287.8	486.0	1466.4	1790.9	1854.0
80°	69.4	78.6	78.6	83.9	122.9	197.9	291.1	1106.2	1304.2	1328.9
82.5°	49.9	59.8	59.1	59.5	84.9	122.6	168.5	829.0	942.4	947.0
85°	29.4	36.3	36.0	33.0	50.2	66.1	91.2	514.8	526.0	527.3
87.5°	5.6	8.6	7.6	3.3	13.9	19.5	26.4	95.5	38.0	37.0
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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