

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: P367072

Luminaire Tested: **MSA-SA1D-750-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367072
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-SA1D-750-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: 5874 lumens
Efficiency: N/A
Efficacy: 87.7 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): 67
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

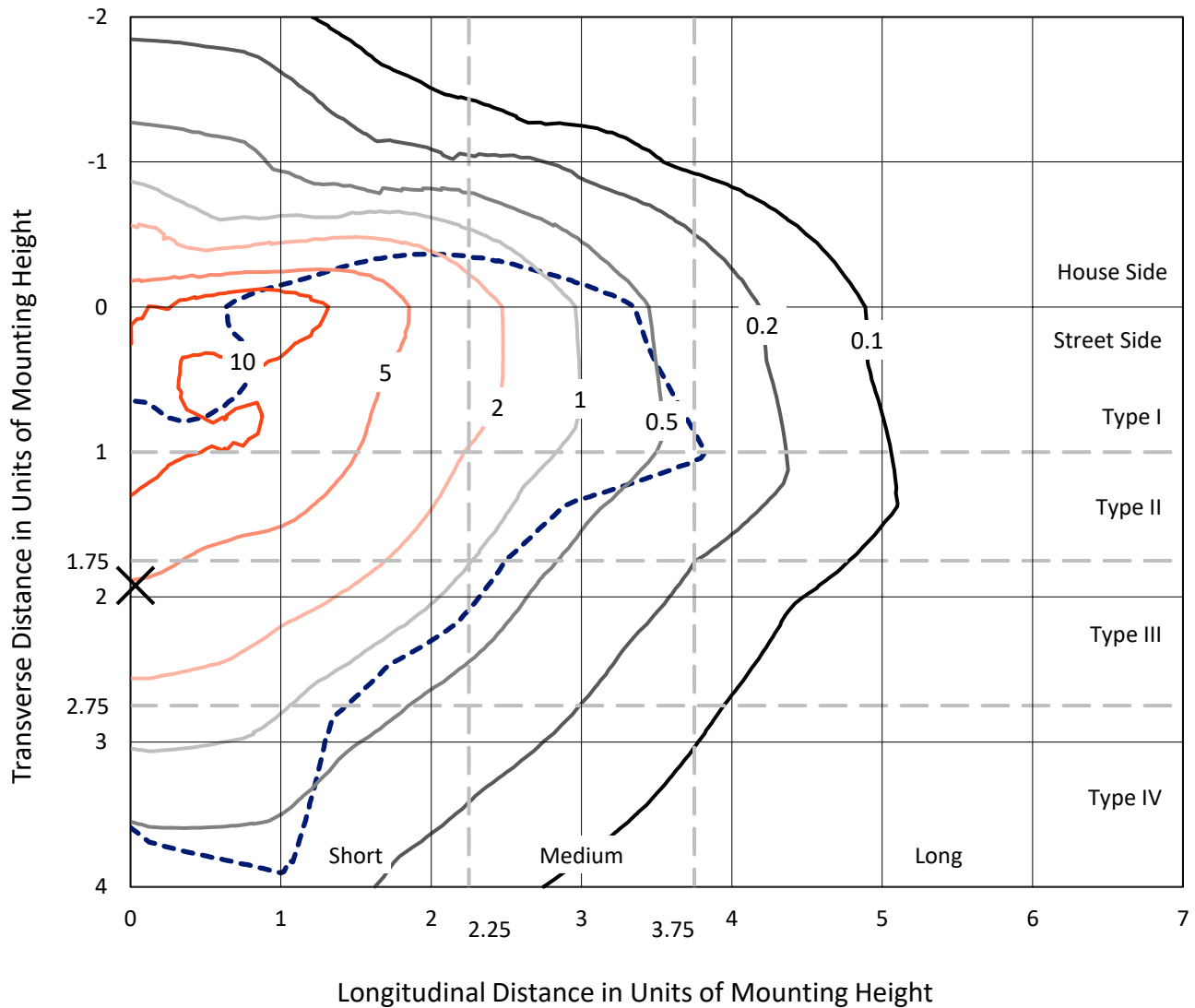


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

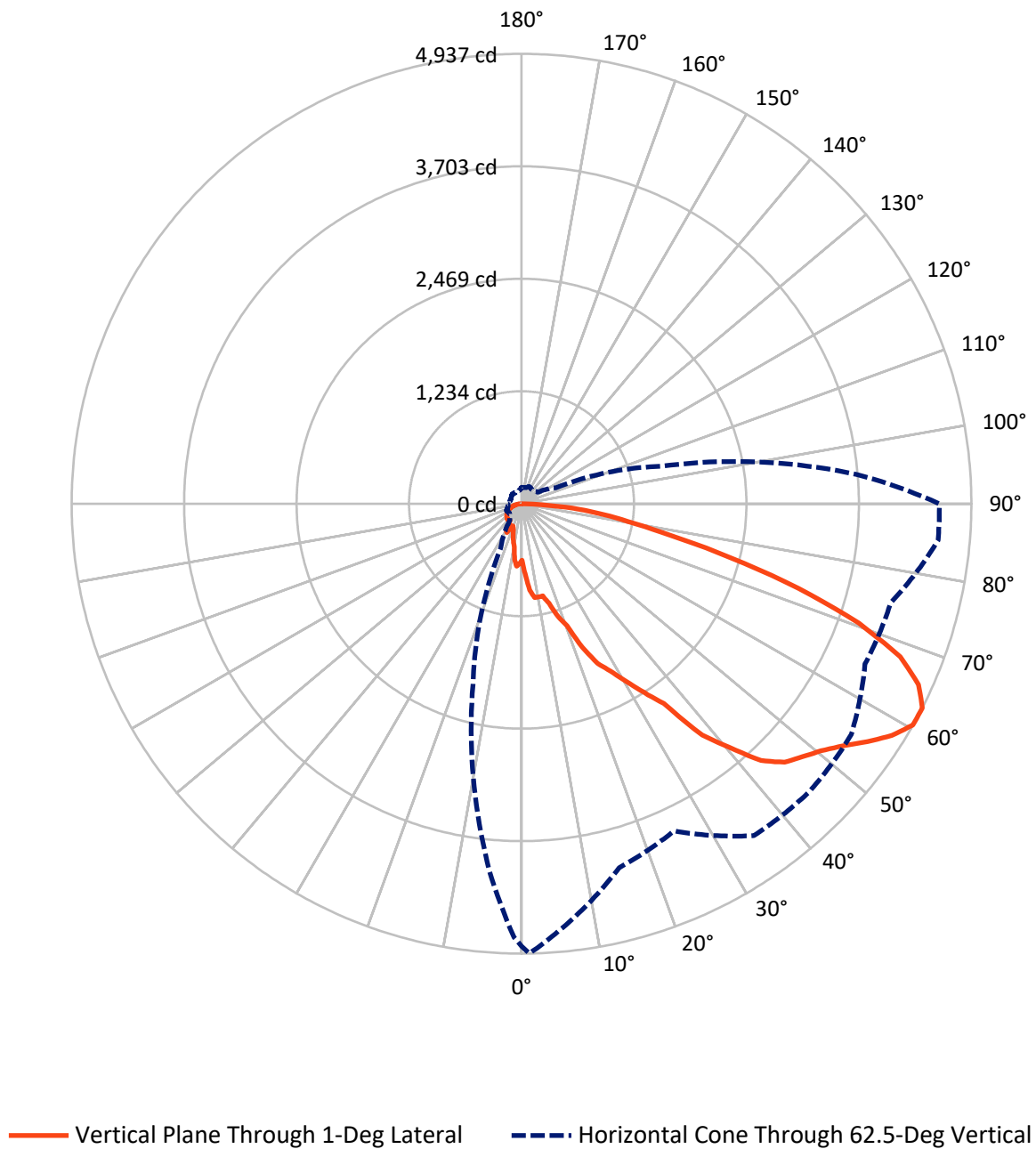


Based on 10 foot mounting height. Maximum calculated value = 15.6 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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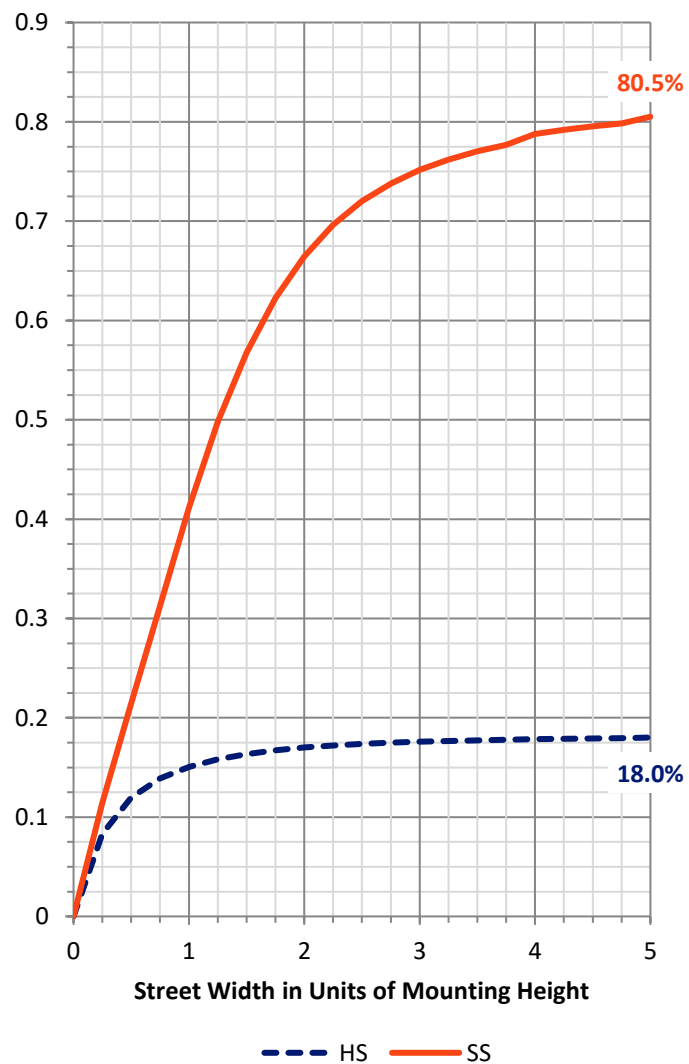
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1069.6	0.0	1069.6
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	4804.4	0.0	4804.4
	% Fixture	81.8	0.0	81.8
Total	Lumens	5874.0	0.0	5874.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.0	1.2
10°-20°	206.3	3.5
20°-30°	364.3	6.2
30°-40°	567.4	9.7
40°-50°	934.3	15.9
50°-60°	1333.5	22.7
60°-70°	1414.1	24.1
70°-80°	781.1	13.3
80°-90°	202.0	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°	5874.0	100.0
0°-180°	5874.0	100.0

Coefficient of Utilization



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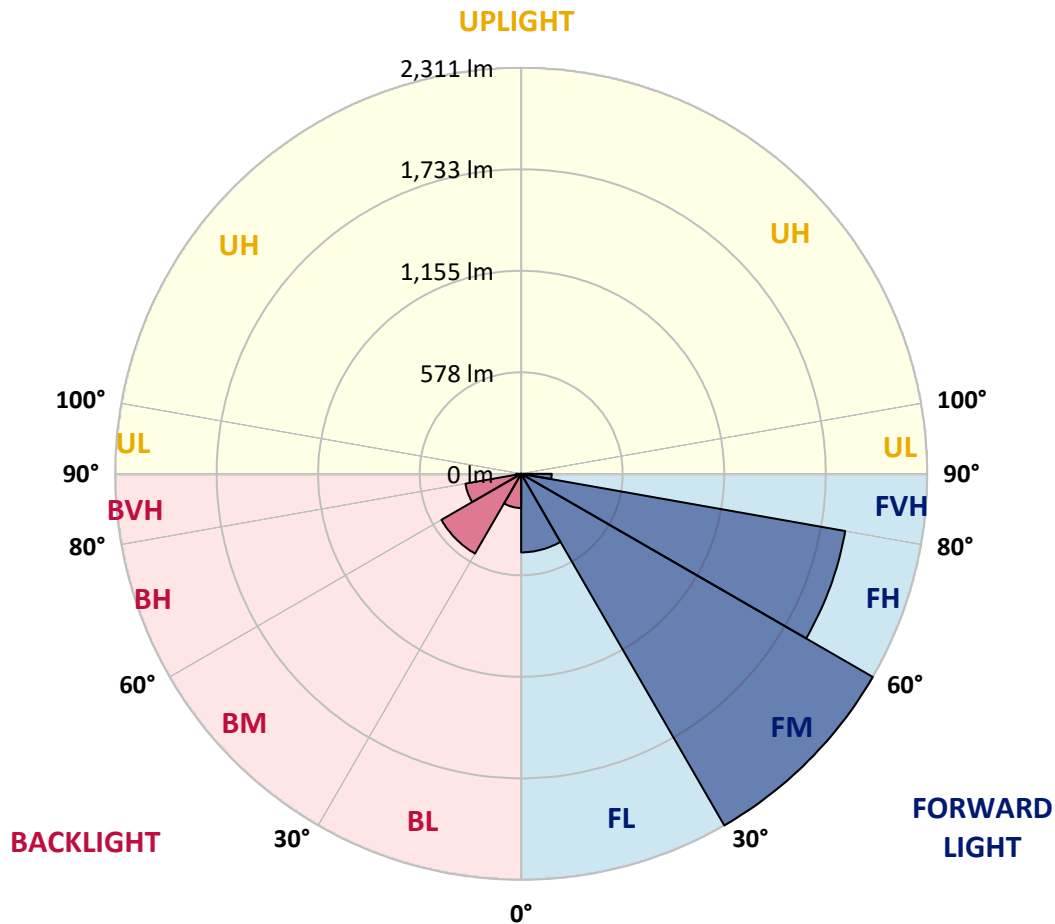
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	447.1	7.6			
FM	(30°-60°)	2310.9	39.3			
FH	(60°-80°)	1872.9	31.9			G2/5000
FVH	(80°-90°)	173.5	3.0			G2/225
BL	(0°-30°)	194.5	3.3	B1/500		
BM	(30°-60°)	524.4	8.9	B1/1000		
BH	(60°-80°)	322.2	5.5	B1/500		G1/500
BVH	(80°-90°)	28.5	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°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	761.6	768.2	754.8	739.7	677.3	737.4	719.5	752.8	742.0	669.6	802.1
5°	941.2	953.2	940.1	985.4	988.3	999.9	891.9	959.2	935.8	929.8	996.8
7.5°	1027.9	1040.1	1073.5	1154.2	1217.2	1160.1	1097.1	1083.2	1064.9	1017.3	1057.8
10°	1033.3	1040.1	1084.9	1255.9	1286.4	1326.9	1286.1	1190.1	1150.5	1047.0	1016.2
12.5°	1017.0	1038.4	1096.3	1304.7	1395.3	1439.5	1449.5	1342.6	1245.4	1127.4	1111.7
15°	1126.2	1133.9	1216.9	1339.4	1401.9	1439.2	1471.7	1405.9	1375.4	1281.9	1156.2
17.5°	1282.7	1304.1	1371.9	1417.3	1459.4	1466.6	1439.8	1414.1	1365.7	1490.5	1356.8
20°	1388.7	1430.1	1513.3	1521.9	1433.2	1448.9	1445.2	1446.9	1419.2	1650.1	1576.6
22.5°	1669.2	1714.0	1725.4	1675.8	1508.8	1437.2	1451.5	1492.8	1601.7	1799.5	1882.7
25°	1923.2	1940.6	2044.6	1916.9	1650.7	1494.8	1471.4	1578.3	1755.9	2050.9	2110.2
27.5°	2055.8	2078.3	2147.5	1869.6	1668.4	1420.7	1365.9	1528.7	1709.7	1932.6	2192.9
30°	2225.4	2261.3	2355.6	1916.9	1721.7	1469.1	1348.0	1503.6	1703.7	2010.2	2367.9
32.5°	2400.1	2469.9	2540.1	2083.7	1714.3	1543.2	1462.9	1475.4	1757.9	2172.6	2549.2
35°	2631.6	2693.1	2753.6	2180.0	1863.6	1605.1	1525.3	1658.1	1897.0	2361.0	2802.0
37.5°	3126.4	3223.9	3064.5	2454.3	2026.1	1883.9	1739.9	1818.6	2044.1	2518.1	3215.0
40°	3441.7	3514.9	3361.0	2641.0	2312.3	2071.7	2048.1	2054.6	2246.7	2652.6	3493.0
42.5°	3754.9	3854.1	3609.3	2897.2	2658.3	2459.7	2337.7	2329.4	2473.6	2894.4	3809.1
45°	3988.7	4047.1	3694.5	3113.3	3029.5	2882.1	2790.6	2645.5	2771.8	3061.7	4004.6
47.5°	4099.8	4147.4	3831.6	3239.0	3270.1	3277.8	3442.8	3195.4	3032.3	3174.9	4107.2
50°	4238.7	4261.2	3912.3	3349.6	3498.7	3836.7	3876.4	3457.1	3286.0	3298.3	4168.0
52.5°	4404.5	4414.0	4030.0	3477.3	3729.8	4204.4	4143.2	3900.6	3527.5	3523.8	4282.3
55°	4613.2	4607.5	4177.7	3649.2	3894.9	4423.1	4376.6	4199.9	3790.6	3710.5	4460.1
57.5°	4798.8	4795.3	4373.5	3807.4	4033.7	4535.4	4549.1	4502.3	3969.6	3844.1	4652.8
60°	4889.7	4933.3	4596.4	3980.4	4042.5	4586.1	4591.3	4516.9	4169.7	4015.7	4704.1
62.5°	4854.4	4937.3	4705.8	4136.0	3961.3	4447.6	4469.0	4417.7	4160.5	4195.9	4589.5
65°	4693.6	4789.4	4610.9	4219.0	3911.4	4215.6	4221.0	4091.3	4030.3	4315.3	4321.0
67.5°	4392.0	4481.8	4308.8	4086.7	3569.9	3590.2	3711.0	3721.6	3632.6	4225.3	3943.9
70°	3864.1	3927.4	3819.1	3760.1	2983.9	2865.3	2996.4	3052.6	3093.0	3900.0	3491.3
72.5°	3059.1	3181.4	3198.5	3237.0	2402.4	2204.8	2302.0	2218.8	2482.5	3319.4	2852.5
75°	2263.3	2366.5	2477.3	2692.0	1893.6	1650.7	1638.7	1596.3	1842.5	2669.5	2115.6
77.5°	1599.4	1665.2	1750.5	2150.4	1428.9	1271.3	1278.7	1235.7	1330.6	2017.6	1461.4
80°	1146.5	1181.0	1220.6	1416.7	1054.1	1096.9	1098.0	1057.2	989.4	1370.2	975.4
82.5°	816.9	843.7	889.1	934.4	785.9	899.0	898.2	895.6	784.4	926.1	610.3
85°	454.9	490.9	569.5	732.0	567.5	642.8	565.2	622.5	575.8	616.6	309.0
87.5°	31.9	28.5	127.4	424.2	264.8	193.5	101.5	201.0	257.7	322.1	43.0
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°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	829.5	839.5	800.4	741.7	757.7	740.3	718.3	684.1	613.7	657.3	657.6
5°	996.2	958.3	927.8	899.0	850.6	777.3	767.6	708.9	675.8	693.2	690.7
7.5°	1048.4	994.5	948.6	845.7	755.9	642.2	608.0	573.2	558.7	600.9	617.7
10°	991.1	935.0	889.9	764.8	703.8	632.8	538.7	490.6	462.1	473.2	479.7
12.5°	1037.3	980.0	838.3	768.5	667.9	624.5	542.2	471.5	429.3	439.5	427.3
15°	1081.8	1004.5	862.8	723.7	642.2	579.5	512.8	439.8	390.2	372.6	363.2
17.5°	1244.2	1116.0	860.0	698.7	605.2	533.0	452.7	372.8	339.8	321.5	305.9
20°	1442.3	1263.6	875.4	672.7	565.8	474.9	387.4	313.3	290.2	278.2	273.9
22.5°	1678.1	1452.9	963.5	669.0	528.8	432.4	351.5	305.3	279.3	266.2	260.8
25°	1865.3	1648.7	1028.5	694.1	526.8	397.4	329.8	339.2	327.2	331.2	299.6
27.5°	2047.2	1702.0	992.0	683.0	473.7	335.2	324.7	344.3	354.6	357.7	356.6
30°	2200.8	1927.2	999.9	620.3	400.2	273.1	248.6	258.3	286.5	331.2	339.8
32.5°	2425.8	2035.0	1068.1	582.4	357.7	244.3	216.9	213.2	219.8	236.0	250.0
35°	2688.8	2282.9	1087.2	572.4	328.4	231.5	212.4	203.8	207.2	219.5	222.3
37.5°	3179.4	2463.7	1157.9	560.1	317.5	223.8	208.9	205.8	213.2	223.2	228.9
40°	3449.9	2788.6	1161.3	549.6	303.6	220.6	211.2	209.8	214.4	228.0	231.5
42.5°	3810.5	2973.9	1214.9	537.3	298.7	224.9	215.8	215.2	219.2	227.2	233.5
45°	4030.3	3097.9	1217.7	530.2	297.6	243.7	221.8	219.8	218.9	223.8	229.5
47.5°	4171.9	3276.6	1252.5	522.2	304.4	248.6	228.9	220.3	217.5	219.5	223.8
50°	4306.2	3419.4	1318.3	521.1	311.6	243.7	241.4	220.1	214.4	213.5	216.6
52.5°	4471.0	3654.3	1399.6	531.9	309.8	236.6	250.8	218.9	208.7	206.7	209.8
55°	4710.7	3906.0	1486.0	522.8	292.2	222.9	241.7	218.1	202.7	199.0	201.8
57.5°	4866.0	4050.2	1582.6	515.1	265.4	212.6	233.5	218.6	203.2	195.0	196.7
60°	4814.4	3972.7	1620.5	468.0	240.0	204.7	213.8	214.1	198.1	190.4	191.8
62.5°	4586.4	3691.9	1585.1	413.3	221.2	193.3	193.5	205.5	183.3	177.9	180.1
65°	4267.7	3342.7	1442.1	377.7	212.4	181.3	176.7	180.4	163.3	159.3	163.9
67.5°	3876.6	2912.3	1229.1	340.1	209.2	165.0	159.6	158.2	147.4	142.8	147.4
70°	3386.1	2438.6	982.6	313.6	197.3	147.4	143.1	141.7	132.5	129.1	133.1
72.5°	2721.6	1904.1	758.2	293.3	184.1	131.1	127.4	125.7	118.0	113.2	118.0
75°	1935.8	1455.2	563.3	262.2	165.6	114.6	110.3	108.0	100.9	96.3	100.6
77.5°	1375.6	1092.3	393.4	216.9	136.5	96.9	94.4	90.6	84.4	79.0	83.2
80°	1017.0	780.5	253.7	167.3	104.3	77.5	76.1	73.5	67.6	61.0	64.1
82.5°	669.6	562.7	145.4	113.4	75.8	55.9	57.0	55.3	49.6	42.8	44.5
85°	299.9	333.2	77.2	62.4	49.3	33.6	36.8	35.6	31.4	24.8	25.4
87.5°	28.8	56.2	23.7	22.8	18.2	10.5	13.1	11.1	9.4	6.0	4.6
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	667.6	627.4	587.2	611.7	612.3	618.8	619.7	595.5	614.8	629.7	645.1
5°	678.1	651.9	653.3	629.7	616.8	633.4	630.0	623.4	635.1	651.3	671.0
7.5°	601.7	584.6	581.8	559.0	503.7	491.4	501.7	506.0	521.6	546.7	567.8
10°	469.8	503.7	465.5	456.6	442.1	413.6	397.1	395.1	428.4	448.7	466.3
12.5°	423.3	414.7	410.2	386.0	386.0	355.7	346.0	354.9	406.2	420.7	443.5
15°	360.6	354.3	333.2	321.2	315.5	303.3	313.6	322.1	370.0	371.1	395.1
17.5°	299.3	295.6	275.6	273.4	267.7	262.2	271.6	292.2	318.1	313.6	324.7
20°	267.7	254.8	236.6	243.1	237.2	232.9	228.9	258.0	276.2	282.2	288.8
22.5°	259.7	236.3	225.5	219.5	219.8	212.9	213.8	238.0	265.7	269.4	265.4
25°	296.7	255.1	220.1	202.7	196.1	193.8	200.4	221.8	255.1	263.1	266.2
27.5°	347.2	277.1	226.6	197.0	183.9	185.0	194.4	209.2	248.6	262.8	266.5
30°	333.2	260.5	226.9	192.7	176.4	182.4	185.9	200.1	243.4	264.8	283.3
32.5°	257.1	234.3	228.3	196.1	189.6	180.1	185.0	198.7	228.3	241.7	242.6
35°	217.8	200.4	196.4	188.4	179.3	175.3	180.7	192.7	212.1	220.3	219.2
37.5°	216.1	197.0	181.3	177.9	174.2	173.0	176.2	187.3	206.9	221.5	218.3
40°	218.9	195.3	179.3	173.3	174.7	169.6	172.7	186.4	207.8	221.5	218.6
42.5°	215.5	193.3	176.7	172.2	173.6	166.5	170.2	184.4	205.5	221.8	216.4
45°	208.7	188.7	175.3	167.6	174.2	163.6	168.2	179.3	198.7	216.4	210.1
47.5°	201.8	183.3	169.3	164.5	171.0	160.8	162.8	172.5	191.8	209.2	203.8
50°	194.4	176.4	164.5	163.0	167.6	160.2	157.1	165.0	183.6	201.0	196.4
52.5°	186.4	170.7	161.1	160.5	164.8	156.5	151.9	158.2	174.7	192.1	188.4
55°	178.7	164.5	156.8	158.2	163.0	153.4	147.7	151.6	165.3	182.4	177.3
57.5°	171.0	157.3	151.1	155.1	158.8	149.4	142.2	144.5	155.6	172.5	166.5
60°	164.2	151.1	144.8	149.6	153.1	143.4	135.1	136.5	146.5	161.6	156.2
62.5°	155.4	144.2	136.0	142.2	144.8	135.4	126.6	128.3	136.3	150.5	146.5
65°	142.8	135.7	128.0	132.3	135.7	126.0	117.7	119.7	125.7	139.1	136.3
67.5°	132.0	125.1	120.0	123.4	124.0	116.6	109.2	110.3	115.2	127.7	124.6
70°	120.0	113.4	109.5	112.0	111.7	105.5	99.8	100.1	104.0	115.4	111.2
72.5°	106.9	100.6	98.6	100.1	98.9	93.2	87.8	89.8	92.4	100.9	97.5
75°	92.9	87.2	86.1	87.5	85.8	80.4	75.5	77.5	79.8	86.9	82.7
77.5°	78.4	73.3	73.5	73.8	71.5	67.8	63.0	65.0	66.4	71.3	67.0
80°	62.4	58.4	59.6	59.6	57.0	54.4	49.9	50.5	51.3	53.0	49.9
82.5°	45.6	45.6	45.6	45.9	40.5	41.3	37.3	37.1	36.2	35.9	33.9
85°	27.1	28.2	28.8	29.6	21.9	25.7	22.2	21.4	19.7	18.0	17.4
87.5°	6.0	7.7	7.7	7.4	0.0	2.9	1.4	2.3	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°	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4	619.4
2.5°	627.4	610.3	642.2	670.7	666.2	682.7	644.2	701.2	761.6	761.6
5°	665.9	651.3	659.6	676.1	688.7	746.3	794.1	841.7	940.1	941.2
7.5°	561.5	592.9	600.3	595.5	649.3	723.4	802.4	938.1	1021.3	1027.9
10°	525.1	539.3	561.8	574.4	596.3	669.3	767.3	928.4	1016.8	1033.3
12.5°	475.7	528.5	562.7	632.8	650.2	664.7	820.7	960.0	1021.0	1017.0
15°	421.9	461.8	511.1	588.6	632.8	744.0	852.3	1061.5	1096.0	1126.2
17.5°	336.4	365.7	431.3	519.6	629.1	731.4	930.4	1186.9	1251.4	1282.7
20°	276.8	277.1	342.6	459.8	578.9	679.0	960.0	1291.0	1372.8	1388.7
22.5°	261.7	248.6	283.1	378.3	523.6	710.1	1019.9	1458.3	1629.0	1669.2
25°	253.4	237.4	259.1	333.8	484.0	726.3	1140.5	1688.3	1907.5	1923.2
27.5°	256.8	264.2	271.1	297.6	433.8	695.8	1112.5	1791.2	2026.1	2055.8
30°	279.9	291.9	276.2	285.3	392.5	651.6	1162.4	1958.3	2175.5	2225.4
32.5°	232.9	228.3	226.9	246.9	351.2	611.7	1267.0	2193.4	2337.4	2400.1
35°	210.1	203.0	205.8	228.6	330.9	606.0	1325.8	2388.1	2593.1	2631.6
37.5°	209.2	201.0	204.7	221.8	338.1	616.3	1419.8	2700.5	3044.0	3126.4
40°	207.2	202.7	204.7	217.5	330.7	622.0	1474.0	2963.1	3358.1	3441.7
42.5°	206.9	204.7	206.7	220.9	323.0	624.5	1548.9	3200.2	3689.1	3754.9
45°	206.1	208.4	208.4	223.8	319.5	641.6	1593.1	3316.5	3907.4	3988.7
47.5°	202.1	208.9	220.1	222.9	305.6	633.7	1655.6	3493.0	4023.4	4099.8
50°	197.0	208.1	234.9	217.2	303.3	614.3	1728.5	3632.9	4172.2	4238.7
52.5°	190.1	206.7	231.5	206.1	299.3	610.9	1830.9	3814.8	4345.8	4404.5
55°	180.4	201.5	220.9	195.0	289.6	600.0	1987.3	4040.3	4573.0	4613.2
57.5°	171.6	193.8	205.5	188.7	266.5	602.3	2096.2	4224.1	4763.7	4798.8
60°	163.6	193.0	183.6	182.1	242.9	571.8	2131.6	4222.1	4834.7	4889.7
62.5°	155.1	182.1	168.2	173.3	222.1	540.4	2056.6	4041.1	4758.0	4854.4
65°	143.9	156.2	155.4	167.0	222.6	489.4	1884.7	3721.9	4566.7	4693.6
67.5°	130.8	138.2	143.1	156.8	229.7	449.8	1608.2	3337.9	4241.2	4392.0
70°	117.4	124.9	130.3	143.4	236.3	431.6	1280.1	2798.6	3711.0	3864.1
72.5°	103.8	111.5	115.7	127.1	227.5	392.5	947.5	2177.5	2978.7	3059.1
75°	89.5	96.9	100.3	110.9	197.5	324.7	654.2	1649.3	2181.8	2263.3
77.5°	75.0	82.9	84.1	92.6	150.8	248.3	419.3	1265.0	1545.0	1599.4
80°	59.9	67.8	67.8	72.4	106.0	170.7	251.1	954.3	1125.1	1146.5
82.5°	43.0	51.6	51.0	51.3	73.3	105.8	145.4	715.2	813.0	816.9
85°	25.4	31.4	31.1	28.5	43.3	57.0	78.7	444.1	453.8	454.9
87.5°	4.8	7.4	6.6	2.9	12.0	16.8	22.8	82.4	32.8	31.9
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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