

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: P367314

Luminaire Tested: **MSA-SA2B-740-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367314
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-SA2B-740-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: 8533 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

Input Watts (W): 85
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

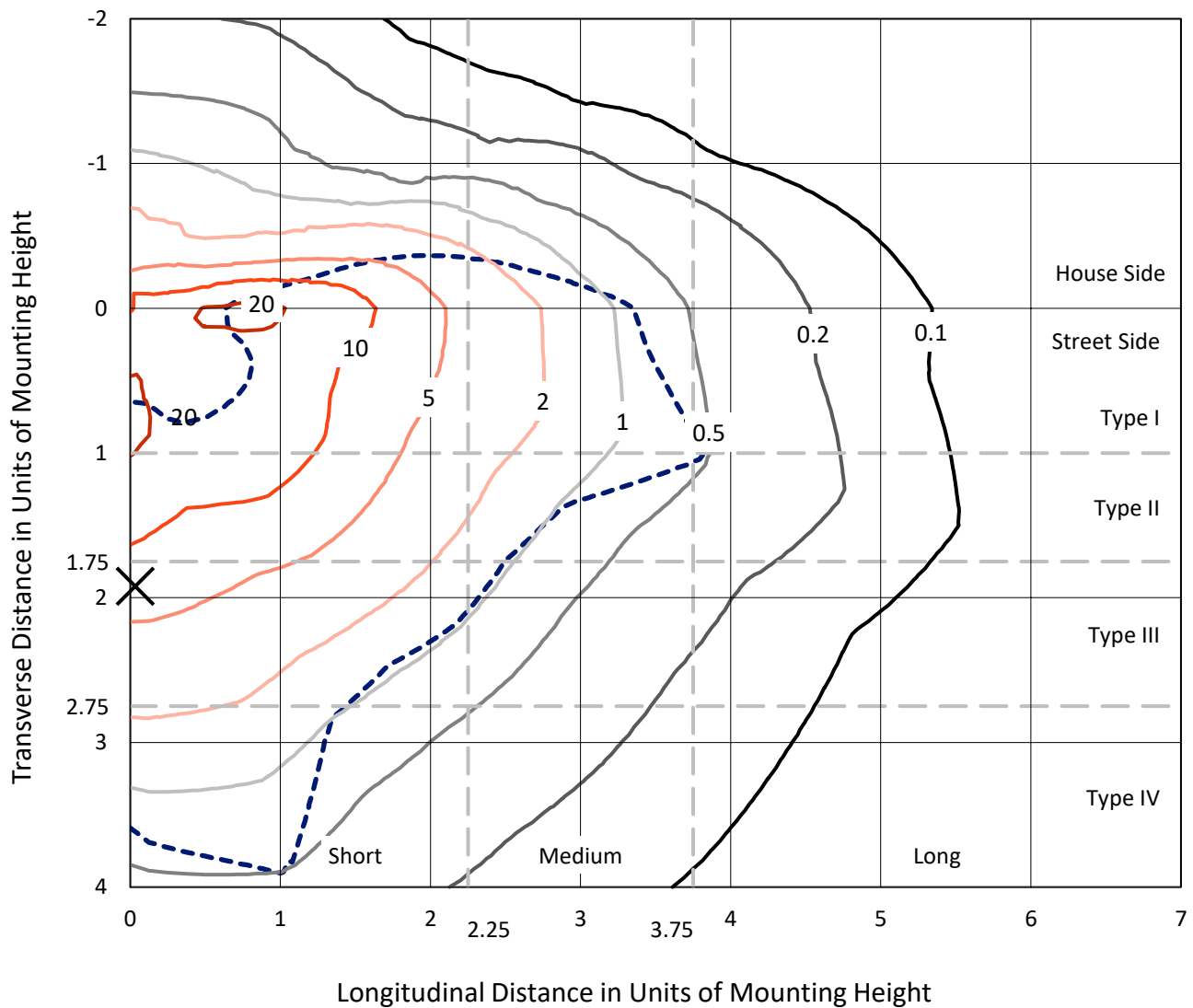


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

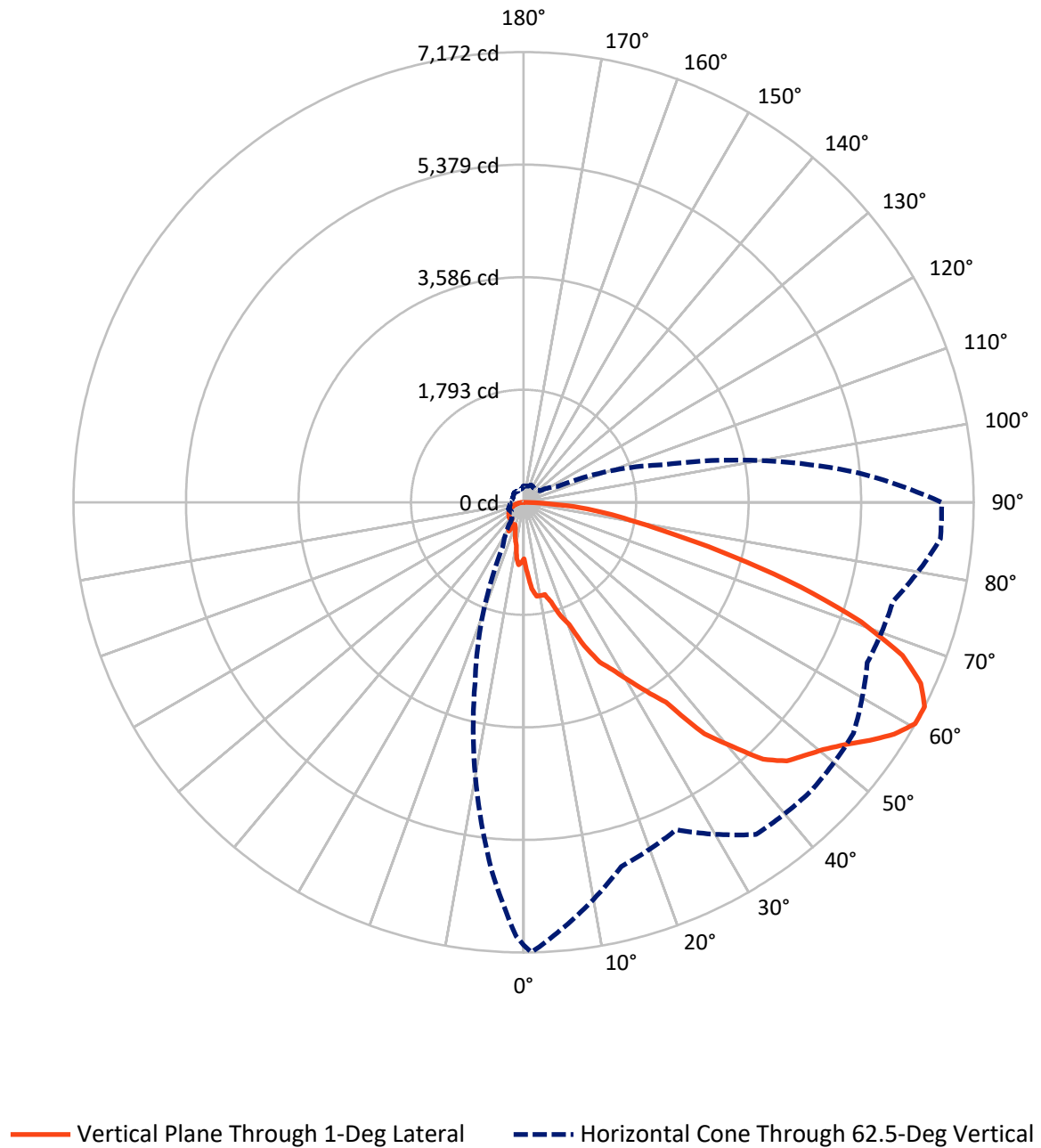


Based on 10 foot mounting height. Maximum calculated value = 22.7 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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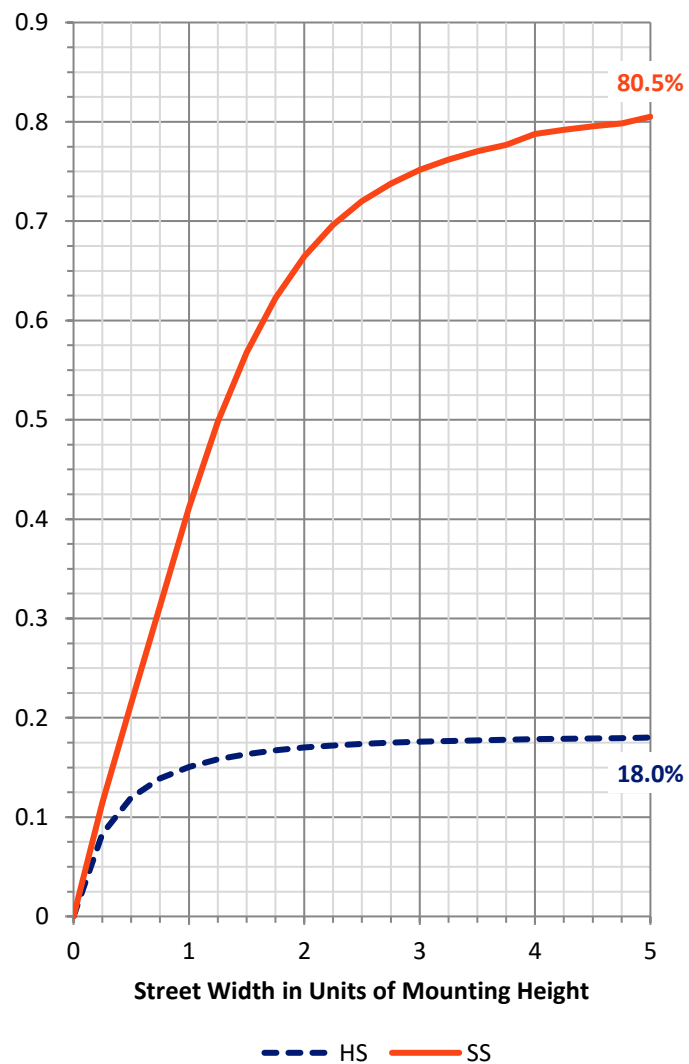
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1553.8	0.0	1553.8
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	6979.2	0.0	6979.2
	% Fixture	81.8	0.0	81.8
Total	Lumens	8533.0	0.0	8533.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.1	1.2
10°-20°	299.7	3.5
20°-30°	529.2	6.2
30°-40°	824.3	9.7
40°-50°	1357.3	15.9
50°-60°	1937.1	22.7
60°-70°	2054.2	24.1
70°-80°	1134.6	13.3
80°-90°	293.5	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°	8533.0	100.0
0°-180°	8533.0	100.0

Coefficient of Utilization



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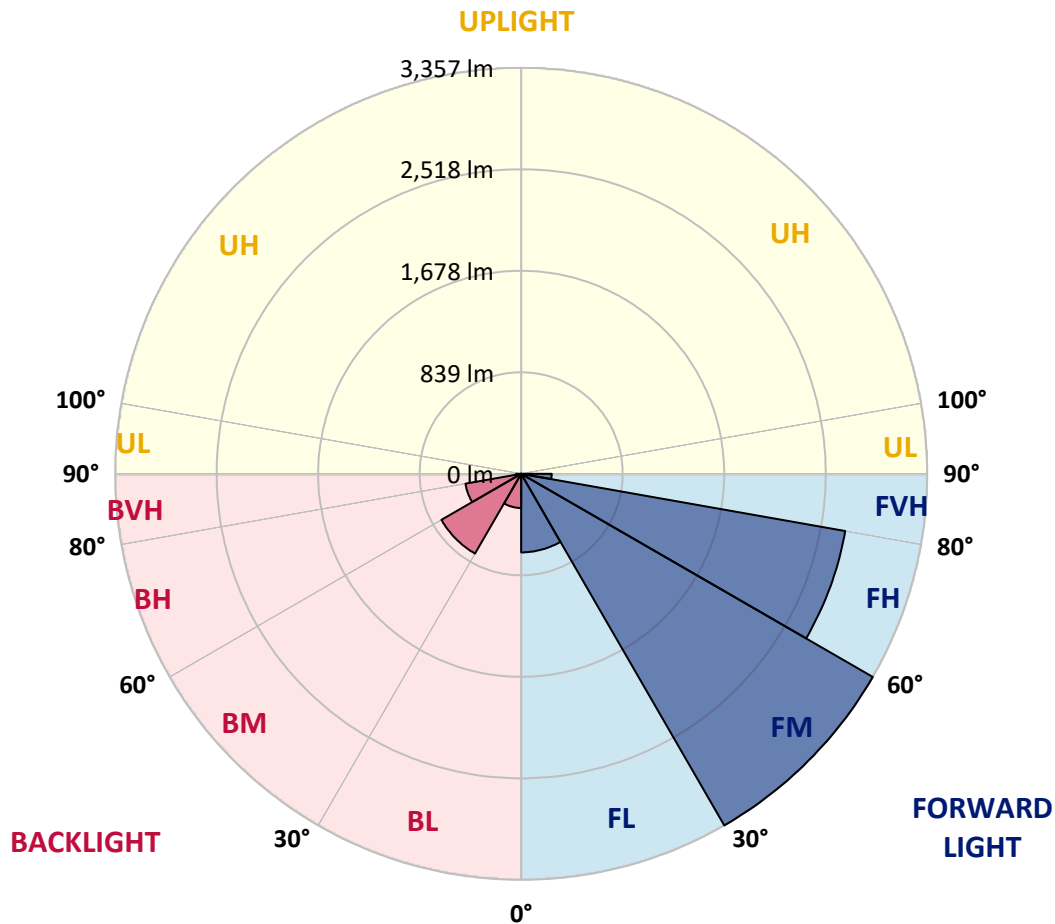
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	649.5	7.6			
FM	(30°-60°)	3357.0	39.3			
FH	(60°-80°)	2720.7	31.9			G2/5000
FVH	(80°-90°)	252.1	3.0			G3/500
BL	(0°-30°)	282.6	3.3	B1/500		
BM	(30°-60°)	761.7	8.9	B1/1000		
BH	(60°-80°)	468.1	5.5	B1/500		G1/500
BVH	(80°-90°)	41.4	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-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8
2.5°	1106.4	1115.9	1096.5	1074.5	983.9	1071.2	1045.1	1093.6	1077.9	972.7	1165.2
5°	1367.3	1384.7	1365.6	1431.5	1435.6	1452.6	1295.7	1393.4	1359.4	1350.7	1448.0
7.5°	1493.2	1511.0	1559.4	1676.6	1768.1	1685.3	1593.8	1573.5	1547.0	1477.9	1536.7
10°	1501.0	1511.0	1576.0	1824.4	1868.7	1927.5	1868.3	1728.8	1671.2	1520.9	1476.2
12.5°	1477.4	1508.5	1592.6	1895.2	2026.9	2091.1	2105.6	1950.3	1809.1	1637.7	1614.9
15°	1636.0	1647.2	1767.7	1945.8	2036.4	2090.7	2137.9	2042.2	1997.9	1862.1	1679.5
17.5°	1863.4	1894.4	1993.0	2058.8	2120.1	2130.4	2091.5	2054.3	1983.9	2165.2	1971.0
20°	2017.4	2077.4	2198.4	2210.8	2082.0	2104.8	2099.4	2101.9	2061.7	2397.1	2290.3
22.5°	2424.9	2489.9	2506.4	2434.4	2191.7	2087.8	2108.5	2168.5	2326.7	2614.1	2735.0
25°	2793.8	2819.1	2970.2	2784.7	2397.9	2171.4	2137.5	2292.8	2550.7	2979.3	3065.4
27.5°	2986.3	3019.1	3119.7	2716.0	2423.6	2063.8	1984.3	2220.7	2483.7	2807.5	3185.5
30°	3232.7	3284.9	3422.0	2784.7	2501.0	2134.2	1958.2	2184.3	2475.0	2920.1	3439.8
32.5°	3486.6	3588.0	3689.9	3026.9	2490.3	2241.8	2125.1	2143.3	2553.6	3156.1	3703.1
35°	3822.8	3912.2	4000.0	3166.9	2707.3	2331.7	2215.7	2408.7	2755.7	3429.8	4070.4
37.5°	4541.6	4683.2	4451.8	3565.2	2943.3	2736.7	2527.5	2641.8	2969.4	3658.0	4670.4
40°	4999.6	5106.0	4882.4	3836.5	3359.0	3009.5	2975.2	2984.7	3263.8	3853.4	5074.1
42.5°	5454.7	5598.8	5243.1	4208.7	3861.7	3573.1	3395.9	3383.9	3593.4	4204.6	5533.4
45°	5794.2	5879.1	5366.9	4522.6	4400.8	4186.8	4053.8	3843.1	4026.5	4447.6	5817.4
47.5°	5955.7	6024.9	5566.1	4705.2	4750.3	4761.5	5001.3	4641.8	4405.0	4612.0	5966.5
50°	6157.4	6190.1	5683.3	4865.9	5082.4	5573.5	5631.1	5022.0	4773.5	4791.3	6054.7
52.5°	6398.4	6412.0	5854.3	5051.4	5418.2	6107.7	6018.7	5666.3	5124.2	5118.9	6220.7
55°	6701.5	6693.2	6068.8	5301.1	5658.0	6425.3	6357.8	6101.1	5506.4	5390.1	6479.1
57.5°	6971.0	6966.1	6353.2	5530.9	5859.6	6588.4	6608.3	6540.4	5766.5	5584.3	6759.0
60°	7103.1	7166.5	6677.0	5782.2	5872.5	6662.1	6669.6	6561.5	6057.2	5833.6	6833.6
62.5°	7051.8	7172.3	6836.0	6008.3	5754.5	6460.9	6491.9	6417.4	6043.9	6095.3	6667.1
65°	6818.2	6957.4	6698.2	6128.8	5682.0	6123.8	6131.7	5943.3	5854.7	6268.8	6277.0
67.5°	6380.1	6510.6	6259.2	5936.7	5185.9	5215.3	5390.9	5406.2	5277.0	6137.9	5729.2
70°	5613.3	5705.2	5547.8	5462.1	4334.6	4162.3	4352.8	4434.4	4493.2	5665.4	5071.7
72.5°	4443.9	4621.5	4646.4	4702.3	3489.9	3202.9	3344.1	3223.2	3606.2	4822.0	4143.7
75°	3287.8	3437.7	3598.8	3910.6	2750.7	2397.9	2380.5	2318.8	2676.6	3877.9	3073.3
77.5°	2323.4	2419.1	2542.9	3123.8	2075.8	1846.8	1857.6	1795.0	1932.9	2930.9	2123.0
80°	1665.4	1715.5	1773.1	2058.0	1531.3	1593.4	1595.0	1535.8	1437.3	1990.5	1417.0
82.5°	1186.8	1225.7	1291.5	1357.4	1141.6	1306.0	1304.8	1301.0	1139.5	1345.3	886.5
85°	660.9	713.0	827.3	1063.4	824.4	933.8	821.1	904.4	836.4	895.7	448.9
87.5°	46.4	41.4	185.1	616.2	384.7	281.2	147.4	291.9	374.3	467.9	62.5
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°	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8
2.5°	1205.0	1219.5	1162.7	1077.4	1100.6	1075.4	1043.5	993.8	891.5	954.9	955.3
5°	1447.2	1392.1	1347.8	1306.0	1235.6	1129.2	1115.1	1029.8	981.8	1007.0	1003.3
7.5°	1523.0	1444.7	1378.1	1228.6	1098.1	932.9	883.2	832.7	811.6	872.9	897.3
10°	1439.8	1358.2	1292.8	1111.0	1022.4	919.3	782.6	712.6	671.2	687.4	696.9
12.5°	1506.8	1423.6	1217.8	1116.4	970.2	907.2	787.6	684.9	623.6	638.5	620.7
15°	1571.4	1459.2	1253.4	1051.3	932.9	841.8	744.9	638.9	566.9	541.2	527.5
17.5°	1807.5	1621.1	1249.3	1014.9	879.1	774.3	657.6	541.6	493.6	467.1	444.3
20°	2095.2	1835.6	1271.6	977.2	821.9	689.9	562.7	455.1	421.5	404.1	397.9
22.5°	2437.7	2110.6	1399.6	971.8	768.1	628.2	510.6	443.5	405.8	386.8	378.9
25°	2709.7	2395.0	1494.0	1008.3	765.2	577.2	479.1	492.8	475.4	481.2	435.2
27.5°	2973.9	2472.5	1441.0	992.1	688.2	487.0	471.6	500.2	515.1	519.7	518.0
30°	3197.1	2799.6	1452.6	901.0	581.4	396.7	361.1	375.2	416.2	481.2	493.6
32.5°	3523.8	2956.1	1551.6	846.0	519.7	354.9	315.1	309.7	319.3	342.9	363.1
35°	3906.0	3316.4	1579.3	831.5	477.0	336.2	308.5	296.1	301.0	318.8	323.0
37.5°	4618.7	3578.9	1682.0	813.7	461.3	325.1	303.5	299.0	309.7	324.2	332.5
40°	5011.6	4050.9	1687.0	798.3	441.0	320.5	306.8	304.8	311.4	331.3	336.2
42.5°	5535.4	4320.1	1764.8	780.5	434.0	326.7	313.5	312.6	318.4	330.0	339.1
45°	5854.7	4500.2	1769.0	770.2	432.3	354.0	322.2	319.3	318.0	325.1	333.3
47.5°	6060.5	4759.9	1819.5	758.6	442.2	361.1	332.5	320.1	315.9	318.8	325.1
50°	6255.5	4967.3	1915.1	756.9	452.6	354.0	350.7	319.7	311.4	310.1	314.7
52.5°	6494.8	5308.5	2033.1	772.7	450.1	343.7	364.4	318.0	303.1	300.2	304.8
55°	6843.1	5674.1	2158.6	759.4	424.4	323.8	351.1	316.8	294.4	289.0	293.2
57.5°	7068.8	5883.7	2299.0	748.2	385.5	308.9	339.1	317.6	295.2	283.2	285.7
60°	6993.8	5771.0	2354.0	679.9	348.7	297.3	310.6	311.0	287.8	276.6	278.7
62.5°	6662.6	5363.2	2302.7	600.4	321.3	280.7	281.2	298.6	266.3	258.4	261.7
65°	6199.6	4855.9	2094.8	548.7	308.5	263.4	256.7	262.1	237.3	231.5	238.1
67.5°	5631.5	4230.7	1785.5	494.0	303.9	239.8	231.9	229.8	214.1	207.5	214.1
70°	4918.9	3542.5	1427.3	455.5	286.5	214.1	207.9	205.8	192.5	187.6	193.4
72.5°	3953.6	2766.1	1101.5	426.1	267.5	190.5	185.1	182.6	171.4	164.4	171.4
75°	2812.0	2113.9	818.2	381.0	240.6	166.5	160.2	156.9	146.6	140.0	146.2
77.5°	1998.4	1586.8	571.4	315.1	198.3	140.8	137.1	131.7	122.6	114.7	120.9
80°	1477.4	1133.8	368.5	243.1	151.6	112.6	110.6	106.8	98.1	88.6	93.2
82.5°	972.7	817.4	211.2	164.8	110.1	81.2	82.8	80.3	72.0	62.1	64.6
85°	435.6	484.1	112.2	90.7	71.6	48.9	53.4	51.8	45.5	36.0	36.9
87.5°	41.8	81.6	34.4	33.1	26.5	15.3	19.0	16.1	13.7	8.7	6.6
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°	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8
2.5°	969.8	911.4	853.0	888.6	889.4	899.0	900.2	865.0	893.2	914.7	937.1
5°	985.1	947.0	949.1	914.7	896.1	920.1	915.1	905.6	922.6	946.2	974.7
7.5°	874.1	849.3	845.1	812.0	731.7	713.9	728.8	735.0	757.8	794.2	824.8
10°	682.4	731.7	676.2	663.4	642.2	600.8	576.8	573.9	622.4	651.8	677.4
12.5°	614.9	602.5	595.9	560.7	560.7	516.8	502.7	515.5	590.1	611.2	644.3
15°	523.8	514.7	484.1	466.7	458.4	440.6	455.5	467.9	537.5	539.1	573.9
17.5°	434.8	429.4	400.4	397.1	388.8	381.0	394.6	424.4	462.1	455.5	471.6
20°	388.8	370.2	343.7	353.2	344.5	338.3	332.5	374.7	401.2	409.9	419.5
22.5°	377.2	343.3	327.5	318.8	319.3	309.3	310.6	345.8	385.9	391.3	385.5
25°	431.1	370.6	319.7	294.4	284.9	281.6	291.1	322.2	370.6	382.2	386.8
27.5°	504.3	402.5	329.2	286.1	267.1	268.7	282.4	303.9	361.1	381.8	387.2
30°	484.1	378.5	329.6	279.9	256.3	265.0	270.0	290.7	353.6	384.7	411.6
32.5°	373.5	340.4	331.7	284.9	275.4	261.7	268.7	288.6	331.7	351.1	352.4
35°	316.4	291.1	285.3	273.7	260.5	254.7	262.5	279.9	308.1	320.1	318.4
37.5°	313.9	286.1	263.4	258.4	253.0	251.3	255.9	272.1	300.6	321.7	317.2
40°	318.0	283.6	260.5	251.8	253.8	246.4	250.9	270.8	301.9	321.7	317.6
42.5°	313.0	280.7	256.7	250.1	252.2	241.8	247.2	267.9	298.6	322.2	314.3
45°	303.1	274.1	254.7	243.5	253.0	237.7	244.3	260.5	288.6	314.3	305.2
47.5°	293.2	266.3	246.0	238.9	248.4	233.5	236.4	250.5	278.7	303.9	296.1
50°	282.4	256.3	238.9	236.9	243.5	232.7	228.2	239.8	266.7	291.9	285.3
52.5°	270.8	248.0	234.0	233.1	239.3	227.3	220.7	229.8	253.8	279.1	273.7
55°	259.6	238.9	227.7	229.8	236.9	222.8	214.5	220.3	240.2	265.0	257.6
57.5°	248.4	228.6	219.5	225.3	230.6	217.0	206.6	209.9	226.1	250.5	241.8
60°	238.5	219.5	210.4	217.4	222.4	208.3	196.3	198.3	212.8	234.8	226.9
62.5°	225.7	209.5	197.5	206.6	210.4	196.7	183.9	186.3	197.9	218.6	212.8
65°	207.5	197.1	185.9	192.1	197.1	183.0	171.0	173.9	182.6	202.1	197.9
67.5°	191.7	181.8	174.3	179.3	180.1	169.4	158.6	160.2	167.3	185.5	181.0
70°	174.3	164.8	159.0	162.7	162.3	153.2	144.9	145.3	151.1	167.7	161.5
72.5°	155.3	146.2	143.3	145.3	143.7	135.4	127.5	130.4	134.2	146.6	141.6
75°	135.0	126.7	125.1	127.1	124.6	116.8	109.7	112.6	115.9	126.3	120.1
77.5°	113.9	106.4	106.8	107.2	103.9	98.6	91.5	94.4	96.5	103.5	97.3
80°	90.7	84.9	86.5	86.5	82.8	79.1	72.5	73.3	74.5	77.0	72.5
82.5°	66.3	66.3	66.3	66.7	58.8	60.0	54.2	53.8	52.6	52.2	49.3
85°	39.3	41.0	41.8	43.1	31.9	37.3	32.3	31.1	28.6	26.1	25.3
87.5°	8.7	11.2	11.2	10.8	0.0	4.1	2.1	3.3	0.8	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°	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8	899.8
2.5°	911.4	886.5	932.9	974.3	967.7	991.7	935.8	1018.6	1106.4	1106.4
5°	967.3	946.2	958.2	982.2	1000.4	1084.1	1153.6	1222.8	1365.6	1367.3
7.5°	815.7	861.3	872.1	865.0	943.3	1050.9	1165.6	1362.7	1483.6	1493.2
10°	762.7	783.4	816.2	834.4	866.3	972.3	1114.7	1348.7	1477.0	1501.0
12.5°	691.1	767.7	817.4	919.3	944.5	965.6	1192.1	1394.6	1483.2	1477.4
15°	612.8	670.8	742.4	855.1	919.3	1080.7	1238.1	1542.0	1592.1	1636.0
17.5°	488.6	531.3	626.5	754.9	913.9	1062.5	1351.6	1724.2	1817.8	1863.4
20°	402.1	402.5	497.7	667.9	841.0	986.3	1394.6	1875.4	1994.2	2017.4
22.5°	380.1	361.1	411.2	549.5	760.7	1031.5	1481.6	2118.4	2366.5	2424.9
25°	368.1	344.9	376.4	484.9	703.1	1055.1	1656.7	2452.6	2771.0	2793.8
27.5°	373.1	383.9	393.8	432.3	630.2	1010.8	1616.2	2602.1	2943.3	2986.3
30°	406.6	424.0	401.2	414.5	570.2	946.6	1688.6	2844.7	3160.3	3232.7
32.5°	338.3	331.7	329.6	358.6	510.1	888.6	1840.6	3186.3	3395.5	3486.6
35°	305.2	294.8	299.0	332.1	480.7	880.3	1925.9	3469.2	3766.9	3822.8
37.5°	303.9	291.9	297.3	322.2	491.1	895.2	2062.5	3923.0	4422.0	4541.6
40°	301.0	294.4	297.3	315.9	480.3	903.5	2141.2	4304.4	4878.3	4999.6
42.5°	300.6	297.3	300.2	320.9	469.2	907.2	2250.1	4648.9	5359.0	5454.7
45°	299.4	302.7	302.7	325.1	464.2	932.1	2314.3	4817.8	5676.2	5794.2
47.5°	293.6	303.5	319.7	323.8	443.9	920.5	2405.0	5074.1	5844.7	5955.7
50°	286.1	302.3	341.2	315.5	440.6	892.3	2511.0	5277.5	6060.9	6157.4
52.5°	276.2	300.2	336.2	299.4	434.8	887.4	2659.6	5541.6	6313.1	6398.4
55°	262.1	292.8	320.9	283.2	420.7	871.6	2887.0	5869.2	6643.1	6701.5
57.5°	249.3	281.6	298.6	274.1	387.2	875.0	3045.1	6136.3	6920.1	6971.0
60°	237.7	280.3	266.7	264.6	352.8	830.6	3096.5	6133.4	7023.2	7103.1
62.5°	225.3	264.6	244.3	251.8	322.6	785.1	2987.6	5870.4	6911.8	7051.8
65°	209.1	226.9	225.7	242.7	323.4	711.0	2737.9	5406.6	6634.0	6818.2
67.5°	190.1	200.8	207.9	227.7	333.7	653.4	2336.2	4848.9	6161.1	6380.1
70°	170.6	181.4	189.2	208.3	343.3	626.9	1859.6	4065.4	5390.9	5613.3
72.5°	150.7	161.9	168.1	184.7	330.4	570.2	1376.4	3163.2	4327.1	4443.9
75°	130.0	140.8	145.8	161.1	287.0	471.6	950.3	2395.9	3169.4	3287.8
77.5°	108.9	120.5	122.2	134.6	219.0	360.7	609.1	1837.7	2244.3	2323.4
80°	87.0	98.6	98.6	105.2	154.0	248.0	364.8	1386.3	1634.4	1665.4
82.5°	62.5	74.9	74.1	74.5	106.4	153.6	211.2	1038.9	1181.0	1186.8
85°	36.9	45.5	45.1	41.4	62.9	82.8	114.3	645.1	659.2	660.9
87.5°	7.0	10.8	9.5	4.1	17.4	24.4	33.1	119.7	47.6	46.4
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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