

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: P596904

Luminaire Tested: **MSA-SA1D-835-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596904
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-835-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: 4843 lumens
Efficiency: N/A
Efficacy: 72.3 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

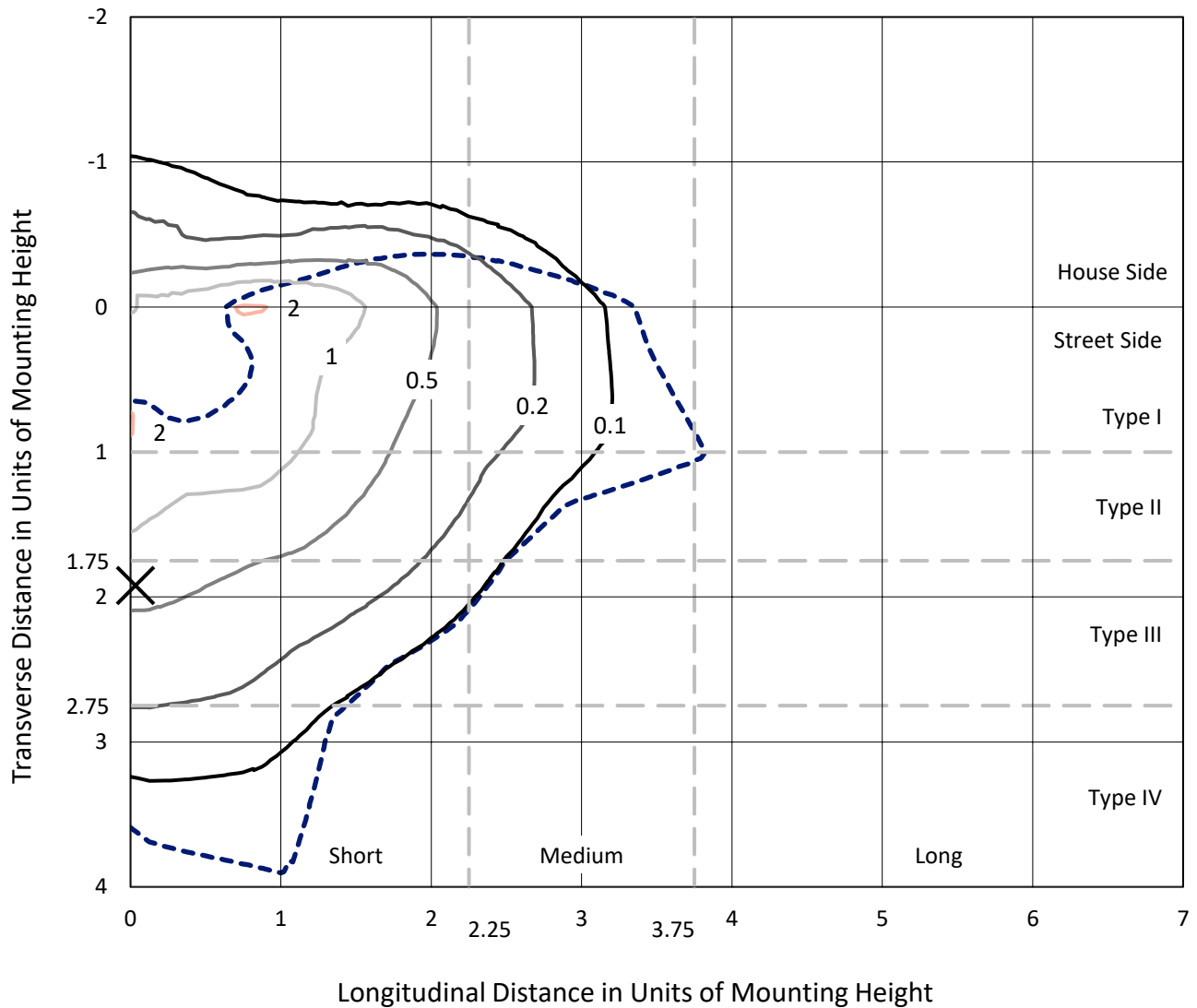
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

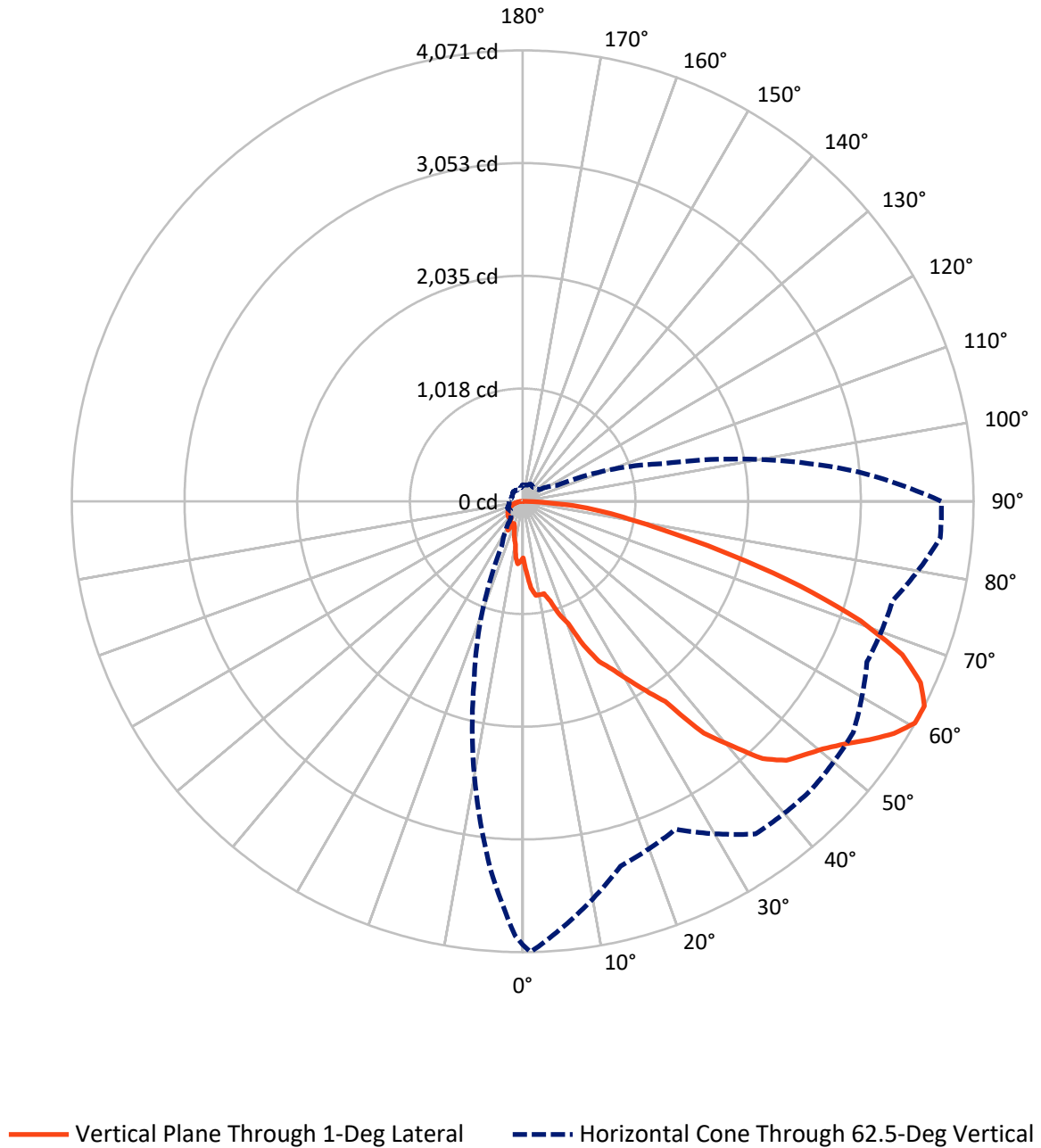
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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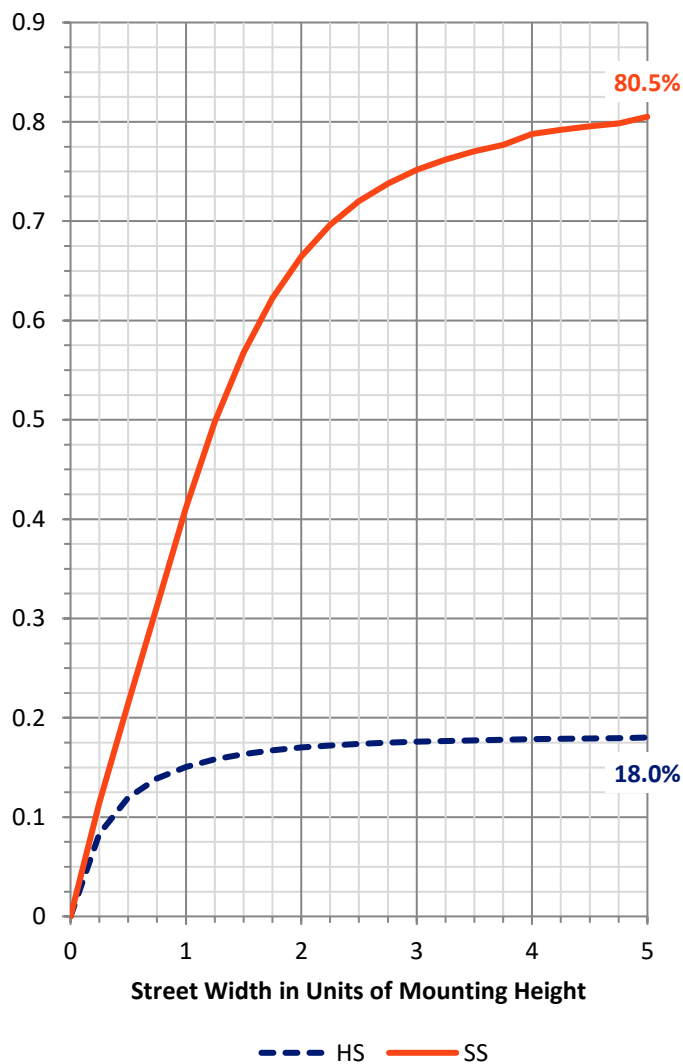
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	881.9	0.0	881.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3961.1	0.0	3961.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	4843.0	0.0	4843.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.5	1.2
10°-20°	170.1	3.5
20°-30°	300.3	6.2
30°-40°	467.8	9.7
40°-50°	770.3	15.9
50°-60°	1099.5	22.7
60°-70°	1165.9	24.1
70°-80°	644.0	13.3
80°-90°	166.6	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°	4843.0	100.0
0°-180°	4843.0	100.0

Coefficient of Utilization



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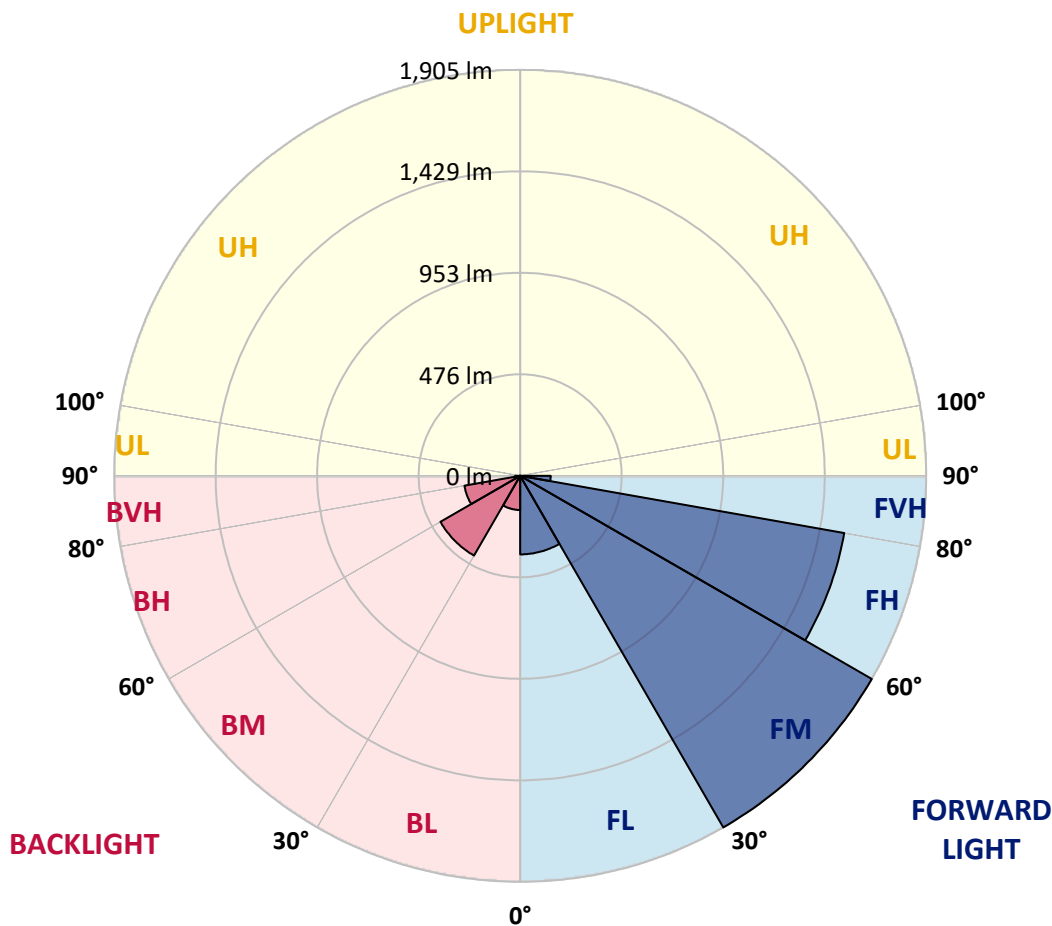
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	368.6	7.6			
FM (30°-60°)	1905.3	39.3			
FH (60°-80°)	1544.1	31.9			G1/1800
FVH (80°-90°)	143.1	3.0			G2/225
BL (0°-30°)	160.4	3.3	B1/500		
BM (30°-60°)	432.3	8.9	B1/1000		
BH (60°-80°)	265.7	5.5	B1/500		G1/500
BVH (80°-90°)	23.5	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°	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7
2.5°	628.0	633.4	622.3	609.9	558.4	608.0	593.2	620.7	611.7	552.1	661.3
5°	776.0	785.9	775.1	812.4	814.8	824.4	735.4	790.8	771.6	766.6	821.9
7.5°	847.5	857.6	885.1	951.6	1003.5	956.5	904.6	893.1	878.0	838.8	872.1
10°	851.9	857.6	894.5	1035.5	1060.6	1094.0	1060.4	981.2	948.5	863.2	837.8
12.5°	838.5	856.2	903.9	1075.7	1150.4	1186.8	1195.1	1106.9	1026.8	929.5	916.6
15°	928.5	934.9	1003.3	1104.3	1155.8	1186.6	1213.4	1159.1	1134.0	1056.9	953.2
17.5°	1057.6	1075.2	1131.1	1168.5	1203.3	1209.2	1187.1	1165.9	1126.0	1228.9	1118.7
20°	1145.0	1179.1	1247.7	1254.7	1181.7	1194.6	1191.5	1192.9	1170.1	1360.5	1299.9
22.5°	1376.3	1413.2	1422.6	1381.7	1243.9	1184.9	1196.7	1230.8	1320.6	1483.7	1552.3
25°	1585.7	1600.0	1685.8	1580.5	1361.0	1232.4	1213.2	1301.3	1447.7	1690.9	1739.8
27.5°	1694.9	1713.5	1770.6	1541.5	1375.5	1171.3	1126.2	1260.4	1409.6	1593.4	1808.0
30°	1834.8	1864.4	1942.2	1580.5	1419.5	1211.3	1111.4	1239.7	1404.7	1657.3	1952.3
32.5°	1978.8	2036.4	2094.2	1718.0	1413.4	1272.4	1206.1	1216.4	1449.3	1791.3	2101.7
35°	2169.7	2220.4	2270.3	1797.4	1536.5	1323.4	1257.6	1367.1	1564.0	1946.6	2310.2
37.5°	2577.7	2658.0	2526.7	2023.5	1670.5	1553.2	1434.5	1499.4	1685.3	2076.1	2650.7
40°	2837.6	2898.0	2771.1	2177.4	1906.4	1708.1	1688.6	1694.0	1852.4	2187.1	2879.9
42.5°	3095.9	3177.6	2975.8	2388.7	2191.8	2028.0	1927.4	1920.5	2039.5	2386.4	3140.5
45°	3288.6	3336.8	3046.0	2566.8	2497.7	2376.2	2300.8	2181.2	2285.3	2524.3	3301.7
47.5°	3380.2	3419.5	3159.1	2670.5	2696.1	2702.4	2838.5	2634.5	2500.1	2617.6	3386.3
50°	3494.7	3513.3	3225.6	2761.7	2884.6	3163.3	3196.0	2850.3	2709.3	2719.4	3436.4
52.5°	3631.5	3639.2	3322.7	2867.0	3075.2	3466.5	3416.0	3216.0	2908.3	2905.3	3530.6
55°	3803.5	3798.8	3444.4	3008.7	3211.3	3646.7	3608.4	3462.7	3125.2	3059.2	3677.3
57.5°	3956.5	3953.7	3605.8	3139.1	3325.7	3739.3	3750.6	3712.1	3272.8	3169.4	3836.2
60°	4031.5	4067.4	3789.6	3281.8	3333.0	3781.2	3785.4	3724.1	3437.8	3310.9	3878.5
62.5°	4002.3	4070.7	3879.9	3410.1	3266.0	3667.0	3684.6	3642.3	3430.3	3459.4	3784.0
65°	3869.8	3948.7	3801.6	3478.5	3224.9	3475.6	3480.1	3373.2	3322.9	3557.9	3562.6
67.5°	3621.1	3695.2	3552.5	3369.4	2943.3	2960.0	3059.7	3068.4	2995.0	3483.6	3251.7
70°	3185.9	3238.0	3148.7	3100.1	2460.1	2362.4	2470.5	2516.8	2550.2	3215.5	2878.5
72.5°	2522.2	2623.0	2637.1	2668.8	1980.7	1817.8	1898.0	1829.4	2046.8	2736.8	2351.8
75°	1866.0	1951.1	2042.5	2219.5	1561.2	1361.0	1351.1	1316.1	1519.1	2200.9	1744.3
77.5°	1318.7	1373.0	1443.2	1773.0	1178.1	1048.2	1054.3	1018.8	1097.1	1663.4	1204.9
80°	945.2	973.7	1006.3	1168.0	869.1	904.3	905.3	871.7	815.7	1129.7	804.2
82.5°	673.6	695.6	733.0	770.4	647.9	741.2	740.5	738.4	646.8	763.6	503.2
85°	375.1	404.7	469.6	603.5	467.9	530.0	466.0	513.3	474.7	508.3	254.8
87.5°	26.3	23.5	105.1	349.7	218.3	159.6	83.7	165.7	212.5	265.6	35.5
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°	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7
2.5°	683.9	692.1	659.9	611.5	624.7	610.3	592.2	564.0	506.0	541.9	542.2
5°	821.4	790.1	765.0	741.2	701.3	640.9	632.9	584.5	557.2	571.6	569.4
7.5°	864.4	820.0	782.1	697.3	623.3	529.5	501.3	472.6	460.6	495.4	509.3
10°	817.2	770.9	733.7	630.5	580.3	521.7	444.2	404.5	381.0	390.1	395.5
12.5°	855.2	808.0	691.2	633.6	550.6	514.9	447.0	388.7	353.9	362.4	352.3
15°	891.9	828.2	711.4	596.7	529.5	477.8	422.8	362.6	321.7	307.2	299.4
17.5°	1025.8	920.1	709.0	576.0	498.9	439.5	373.2	307.4	280.1	265.1	252.2
20°	1189.2	1041.8	721.7	554.6	466.5	391.5	319.4	258.3	239.2	229.4	225.9
22.5°	1383.5	1197.9	794.4	551.6	436.0	356.5	289.8	251.7	230.3	219.5	215.0
25°	1537.9	1359.3	847.9	572.3	434.3	327.6	271.9	279.7	269.8	273.1	247.0
27.5°	1687.9	1403.3	817.9	563.1	390.6	276.4	267.7	283.9	292.4	294.9	294.0
30°	1814.6	1588.9	824.4	511.4	330.0	225.1	204.9	212.9	236.2	273.1	280.1
32.5°	2000.0	1677.8	880.6	480.1	294.9	201.4	178.8	175.8	181.2	194.6	206.1
35°	2216.9	1882.2	896.4	471.9	270.7	190.8	175.1	168.0	170.9	181.0	183.3
37.5°	2621.4	2031.2	954.6	461.8	261.8	184.5	172.3	169.7	175.8	184.0	188.7
40°	2844.4	2299.2	957.5	453.1	250.3	181.9	174.1	173.0	176.7	188.0	190.8
42.5°	3141.7	2451.9	1001.6	443.0	246.3	185.4	177.9	177.4	180.7	187.3	192.5
45°	3322.9	2554.2	1004.0	437.1	245.4	200.9	182.8	181.2	180.5	184.5	189.2
47.5°	3439.7	2701.5	1032.7	430.5	251.0	204.9	188.7	181.7	179.3	181.0	184.5
50°	3550.4	2819.3	1086.9	429.6	256.9	200.9	199.1	181.4	176.7	176.0	178.6
52.5°	3686.2	3012.9	1153.9	438.5	255.5	195.1	206.8	180.5	172.0	170.4	173.0
55°	3883.9	3220.4	1225.1	431.0	240.9	183.8	199.3	179.8	167.1	164.0	166.4
57.5°	4012.0	3339.3	1304.8	424.7	218.8	175.3	192.5	180.3	167.6	160.8	162.2
60°	3969.4	3275.4	1336.1	385.9	197.9	168.7	176.3	176.5	163.3	157.0	158.2
62.5°	3781.4	3043.9	1306.9	340.8	182.4	159.3	159.6	169.4	151.1	146.6	148.5
65°	3518.7	2756.0	1188.9	311.4	175.1	149.5	145.7	148.8	134.7	131.4	135.1
67.5°	3196.2	2401.2	1013.4	280.4	172.5	136.1	131.6	130.4	121.5	117.7	121.5
70°	2791.8	2010.6	810.1	258.5	162.6	121.5	118.0	116.8	109.3	106.5	109.8
72.5°	2243.9	1569.9	625.1	241.8	151.8	108.1	105.1	103.6	97.3	93.3	97.3
75°	1596.0	1199.8	464.4	216.2	136.5	94.5	91.0	89.1	83.2	79.4	83.0
77.5°	1134.2	900.6	324.3	178.8	112.6	79.9	77.8	74.7	69.6	65.1	68.6
80°	838.5	643.5	209.2	138.0	86.0	63.9	62.7	60.6	55.7	50.3	52.9
82.5°	552.1	463.9	119.9	93.5	62.5	46.1	47.0	45.6	40.9	35.3	36.7
85°	247.2	274.7	63.7	51.5	40.7	27.7	30.3	29.4	25.9	20.4	20.9
87.5°	23.7	46.3	19.5	18.8	15.0	8.7	10.8	9.2	7.8	4.9	3.8
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°	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7
2.5°	550.4	517.3	484.1	504.3	504.8	510.2	510.9	490.9	506.9	519.2	531.8
5°	559.1	537.5	538.7	519.2	508.6	522.2	519.4	514.0	523.6	537.0	553.2
7.5°	496.1	482.0	479.7	460.9	415.3	405.2	413.6	417.2	430.1	450.8	468.2
10°	387.3	415.3	383.8	376.5	364.5	341.0	327.4	325.7	353.2	369.9	384.5
12.5°	349.0	341.9	338.2	318.2	318.2	293.3	285.3	292.6	334.9	346.9	365.7
15°	297.3	292.1	274.7	264.9	260.2	250.1	258.5	265.6	305.1	306.0	325.7
17.5°	246.8	243.7	227.3	225.4	220.7	216.2	224.0	240.9	262.3	258.5	267.7
20°	220.7	210.1	195.1	200.5	195.5	192.0	188.7	212.7	227.7	232.7	238.1
22.5°	214.1	194.8	185.9	181.0	181.2	175.6	176.3	196.2	219.0	222.1	218.8
25°	244.7	210.3	181.4	167.1	161.7	159.8	165.2	182.8	210.3	216.9	219.5
27.5°	286.2	228.4	186.8	162.4	151.6	152.5	160.3	172.5	204.9	216.7	219.7
30°	274.7	214.8	187.1	158.9	145.5	150.4	153.2	165.0	200.7	218.3	233.6
32.5°	212.0	193.2	188.2	161.7	156.3	148.5	152.5	163.8	188.2	199.3	200.0
35°	179.6	165.2	161.9	155.3	147.8	144.5	149.0	158.9	174.9	181.7	180.7
37.5°	178.1	162.4	149.5	146.6	143.6	142.7	145.2	154.4	170.6	182.6	180.0
40°	180.5	161.0	147.8	142.9	144.1	139.8	142.4	153.7	171.3	182.6	180.3
42.5°	177.7	159.3	145.7	141.9	143.1	137.2	140.3	152.1	169.4	182.8	178.4
45°	172.0	155.6	144.5	138.2	143.6	134.9	138.7	147.8	163.8	178.4	173.2
47.5°	166.4	151.1	139.6	135.6	141.0	132.5	134.2	142.2	158.2	172.5	168.0
50°	160.3	145.5	135.6	134.4	138.2	132.1	129.5	136.1	151.4	165.7	161.9
52.5°	153.7	140.8	132.8	132.3	135.8	129.0	125.3	130.4	144.1	158.4	155.3
55°	147.4	135.6	129.3	130.4	134.4	126.4	121.7	125.0	136.3	150.4	146.2
57.5°	141.0	129.7	124.6	127.8	130.9	123.1	117.3	119.2	128.3	142.2	137.2
60°	135.4	124.6	119.4	123.4	126.2	118.2	111.4	112.6	120.8	133.3	128.8
62.5°	128.1	118.9	112.1	117.3	119.4	111.6	104.3	105.8	112.3	124.1	120.8
65°	117.7	111.9	105.5	109.0	111.9	103.9	97.1	98.7	103.6	114.7	112.3
67.5°	108.8	103.2	98.9	101.8	102.2	96.1	90.0	91.0	94.9	105.3	102.7
70°	98.9	93.5	90.2	92.4	92.1	87.0	82.3	82.5	85.8	95.2	91.7
72.5°	88.1	83.0	81.3	82.5	81.6	76.9	72.4	74.0	76.1	83.2	80.4
75°	76.6	71.9	71.0	72.1	70.7	66.3	62.3	63.9	65.8	71.7	68.2
77.5°	64.6	60.4	60.6	60.9	59.0	55.9	51.9	53.6	54.8	58.8	55.2
80°	51.5	48.2	49.1	49.1	47.0	44.9	41.1	41.6	42.3	43.7	41.1
82.5°	37.6	37.6	37.6	37.8	33.4	34.1	30.8	30.6	29.8	29.6	28.0
85°	22.3	23.3	23.7	24.4	18.1	21.2	18.3	17.6	16.2	14.8	14.3
87.5°	4.9	6.3	6.3	6.1	0.0	2.4	1.2	1.9	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°	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7	510.7
2.5°	517.3	503.2	529.5	553.0	549.2	562.9	531.1	578.1	628.0	628.0
5°	549.0	537.0	543.8	557.5	567.8	615.3	654.8	694.0	775.1	776.0
7.5°	463.0	488.8	494.9	490.9	535.4	596.5	661.6	773.4	842.1	847.5
10°	432.9	444.7	463.2	473.6	491.7	551.8	632.7	765.4	838.3	851.9
12.5°	392.2	435.7	463.9	521.7	536.1	548.1	676.6	791.5	841.8	838.5
15°	347.8	380.7	421.4	485.3	521.7	613.4	702.7	875.2	903.6	928.5
17.5°	277.3	301.5	355.6	428.4	518.7	603.1	767.1	978.6	1031.7	1057.6
20°	228.2	228.4	282.5	379.1	477.3	559.8	791.5	1064.4	1131.8	1145.0
22.5°	215.7	204.9	233.4	311.9	431.7	585.4	840.9	1202.3	1343.1	1376.3
25°	208.9	195.8	213.6	275.2	399.1	598.8	940.3	1392.0	1572.7	1585.7
27.5°	211.7	217.9	223.5	245.4	357.7	573.7	917.3	1476.8	1670.5	1694.9
30°	230.8	240.7	227.7	235.3	323.6	537.2	958.4	1614.6	1793.6	1834.8
32.5°	192.0	188.2	187.1	203.5	289.5	504.3	1044.6	1808.4	1927.1	1978.8
35°	173.2	167.3	169.7	188.5	272.9	499.6	1093.1	1969.0	2137.9	2169.7
37.5°	172.5	165.7	168.7	182.8	278.7	508.1	1170.6	2226.5	2509.7	2577.7
40°	170.9	167.1	168.7	179.3	272.6	512.8	1215.3	2443.0	2768.7	2837.6
42.5°	170.6	168.7	170.4	182.1	266.3	514.9	1277.1	2638.5	3041.6	3095.9
45°	169.9	171.8	171.8	184.5	263.5	529.0	1313.5	2734.4	3221.6	3288.6
47.5°	166.6	172.3	181.4	183.8	251.9	522.4	1365.0	2879.9	3317.2	3380.2
50°	162.4	171.6	193.7	179.1	250.1	506.5	1425.1	2995.3	3439.9	3494.7
52.5°	156.8	170.4	190.8	169.9	246.8	503.6	1509.5	3145.2	3583.1	3631.5
55°	148.8	166.2	182.1	160.8	238.8	494.7	1638.5	3331.1	3770.4	3803.5
57.5°	141.5	159.8	169.4	155.6	219.7	496.6	1728.3	3482.7	3927.6	3956.5
60°	134.9	159.1	151.4	150.2	200.2	471.4	1757.4	3481.1	3986.1	4031.5
62.5°	127.8	150.2	138.7	142.9	183.1	445.6	1695.6	3331.8	3922.9	4002.3
65°	118.7	128.8	128.1	137.7	183.5	403.5	1553.9	3068.6	3765.2	3869.8
67.5°	107.9	114.0	118.0	129.3	189.4	370.9	1326.0	2752.0	3496.8	3621.1
70°	96.8	102.9	107.4	118.2	194.8	355.8	1055.5	2307.4	3059.7	3185.9
72.5°	85.5	91.9	95.4	104.8	187.5	323.6	781.2	1795.3	2455.9	2522.2
75°	73.8	79.9	82.7	91.4	162.9	267.7	539.4	1359.8	1798.8	1866.0
77.5°	61.8	68.4	69.3	76.4	124.3	204.7	345.7	1043.0	1273.8	1318.7
80°	49.4	55.9	55.9	59.7	87.4	140.8	207.0	786.8	927.6	945.2
82.5°	35.5	42.5	42.1	42.3	60.4	87.2	119.9	589.7	670.3	673.6
85°	20.9	25.9	25.6	23.5	35.7	47.0	64.9	366.2	374.1	375.1
87.5°	4.0	6.1	5.4	2.4	9.9	13.9	18.8	67.9	27.0	26.3
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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