

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: P596552

Luminaire Tested: **MSA-SA1D-827-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596552
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-827-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: 4318 lumens
Efficiency: N/A
Efficacy: 64.4 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

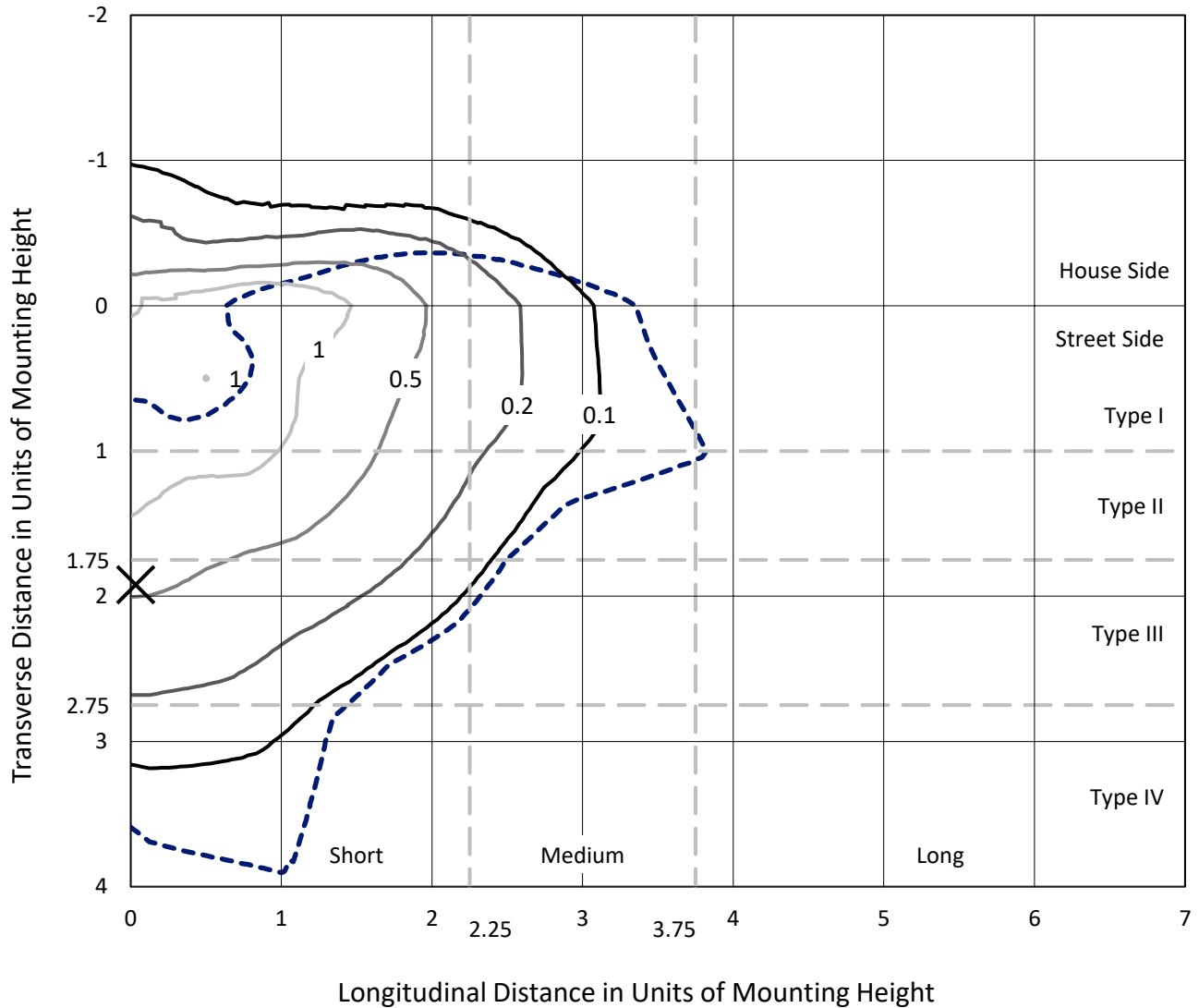
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

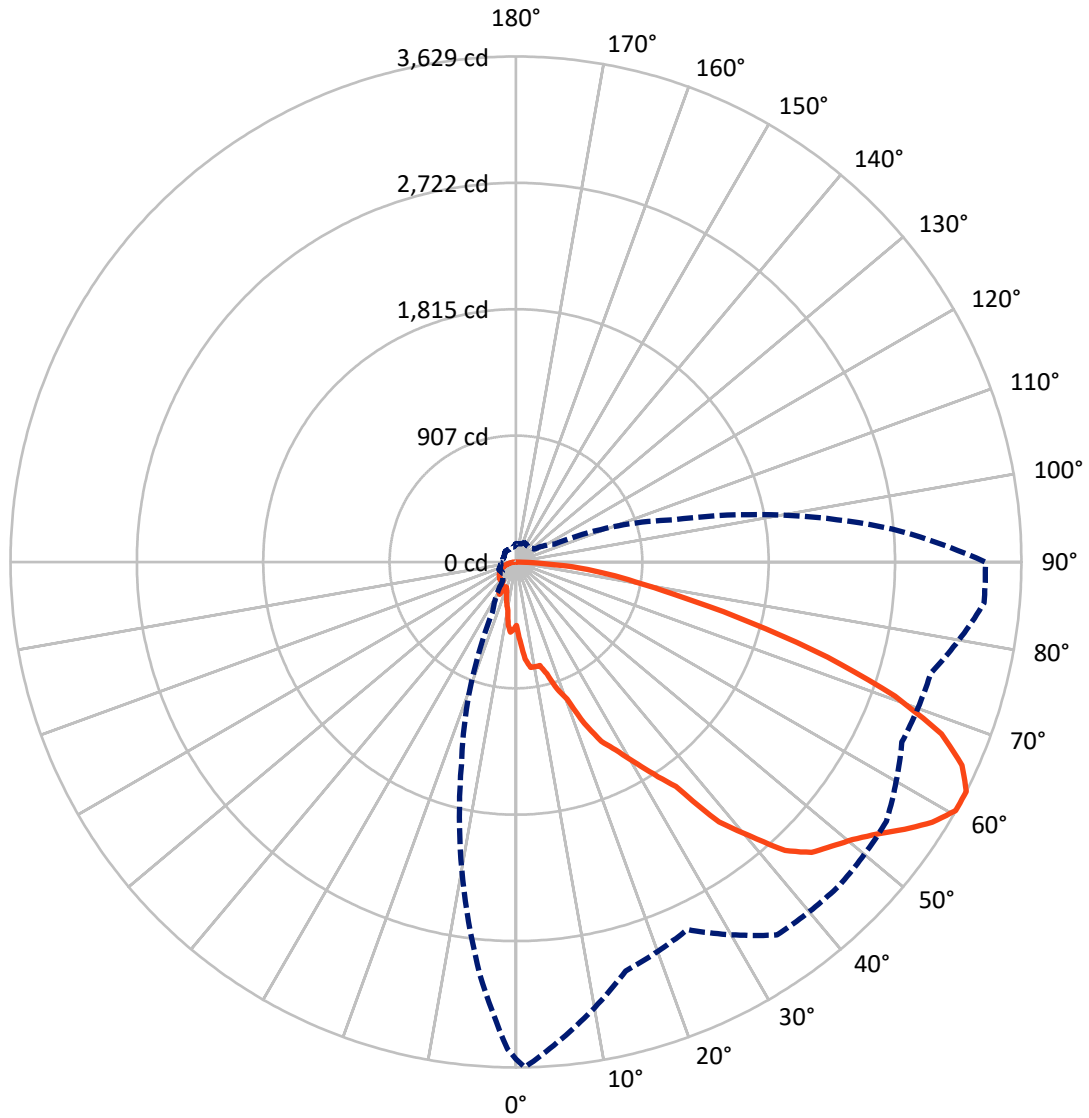
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 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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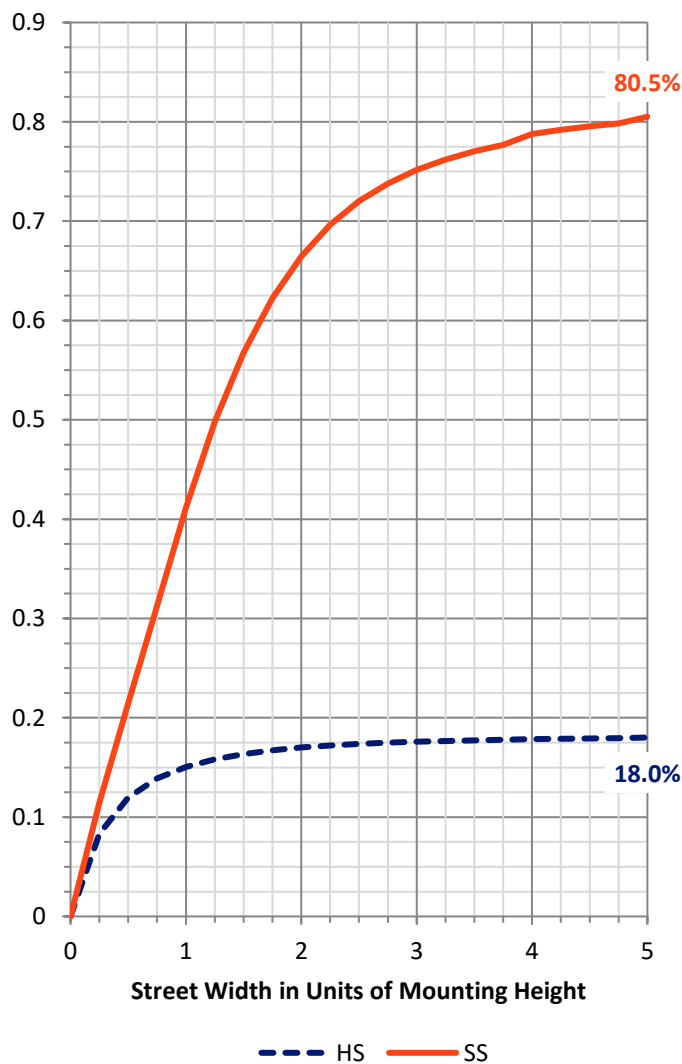
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	786.3	0.0	786.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	3531.7	0.0	3531.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	4318.0	0.0	4318.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	1.2
10°-20°	151.7	3.5
20°-30°	267.8	6.2
30°-40°	417.1	9.7
40°-50°	686.8	15.9
50°-60°	980.3	22.7
60°-70°	1039.5	24.1
70°-80°	574.2	13.3
80°-90°	148.5	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°	4318.0	100.0
0°-180°	4318.0	100.0

Coefficient of Utilization



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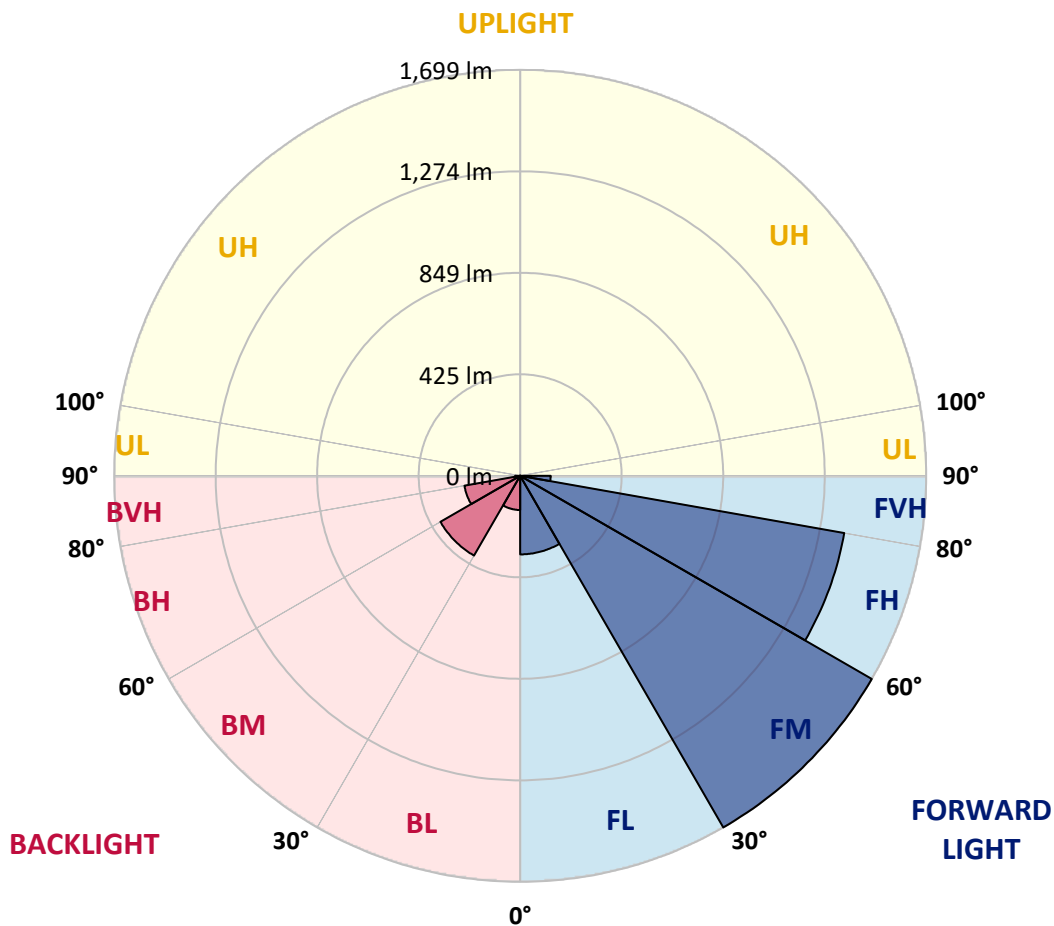
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	328.7	7.6			
FM (30°-60°)	1698.7	39.3			
FH (60°-80°)	1376.8	31.9			G1/1800
FVH (80°-90°)	127.6	3.0			G2/225
BL (0°-30°)	143.0	3.3	B1/500		
BM (30°-60°)	385.5	8.9	B1/1000		
BH (60°-80°)	236.9	5.5	B1/500		G1/500
BVH (80°-90°)	20.9	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°	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3
2.5°	559.9	564.7	554.9	543.8	497.9	542.1	528.9	553.4	545.4	492.2	589.6
5°	691.9	700.7	691.1	724.4	726.5	735.1	655.6	705.1	687.9	683.5	732.8
7.5°	755.6	764.6	789.1	848.4	894.7	852.8	806.5	796.2	782.8	747.8	777.6
10°	759.6	764.6	797.5	923.2	945.7	975.4	945.4	874.8	845.7	769.6	747.0
12.5°	747.6	763.4	805.9	959.1	1025.7	1058.2	1065.5	986.9	915.5	828.7	817.2
15°	827.9	833.5	894.5	984.6	1030.5	1058.0	1081.9	1033.4	1011.0	942.3	849.9
17.5°	942.9	958.6	1008.5	1041.8	1072.8	1078.1	1058.4	1039.5	1003.9	1095.7	997.4
20°	1020.9	1051.3	1112.4	1118.7	1053.6	1065.1	1062.4	1063.6	1043.3	1213.0	1159.0
22.5°	1227.1	1260.0	1268.3	1231.9	1109.1	1056.5	1067.0	1097.4	1177.4	1322.8	1384.0
25°	1413.8	1426.5	1503.0	1409.2	1213.4	1098.8	1081.6	1160.2	1290.8	1507.6	1551.2
27.5°	1511.2	1527.8	1578.7	1374.4	1226.4	1044.3	1004.1	1123.8	1256.8	1420.7	1612.0
30°	1635.9	1662.3	1731.6	1409.2	1265.6	1080.0	990.9	1105.3	1252.4	1477.7	1740.6
32.5°	1764.3	1815.7	1867.2	1531.7	1260.2	1134.4	1075.4	1084.6	1292.2	1597.1	1873.9
35°	1934.5	1979.7	2024.1	1602.6	1370.0	1179.9	1121.2	1218.9	1394.5	1735.6	2059.8
37.5°	2298.2	2369.9	2252.8	1804.1	1489.4	1384.8	1279.0	1336.9	1502.6	1851.1	2363.4
40°	2530.0	2583.8	2470.7	1941.4	1699.8	1522.9	1505.5	1510.4	1651.6	1950.0	2567.7
42.5°	2760.3	2833.2	2653.2	2129.8	1954.2	1808.1	1718.4	1712.4	1818.4	2127.7	2800.1
45°	2932.1	2975.0	2715.8	2288.6	2227.0	2118.7	2051.4	1944.7	2037.6	2250.7	2943.8
47.5°	3013.8	3048.8	2816.6	2381.0	2403.8	2409.5	2530.8	2348.9	2229.1	2333.8	3019.3
50°	3115.8	3132.4	2875.9	2462.3	2571.9	2820.4	2849.5	2541.3	2415.6	2424.6	3063.9
52.5°	3237.8	3244.7	2962.5	2556.2	2741.8	3090.7	3045.7	2867.3	2593.0	2590.3	3147.9
55°	3391.2	3387.0	3071.0	2682.5	2863.1	3251.4	3217.3	3087.4	2786.5	2727.6	3278.7
57.5°	3527.6	3525.1	3215.0	2798.8	2965.2	3334.0	3344.0	3309.7	2918.0	2825.8	3420.3
60°	3594.4	3626.5	3378.8	2926.0	2971.7	3371.3	3375.0	3320.4	3065.1	2952.0	3458.0
62.5°	3568.5	3629.4	3459.3	3040.4	2912.0	3269.4	3285.2	3247.4	3058.4	3084.4	3373.8
65°	3450.3	3520.7	3389.5	3101.4	2875.3	3098.9	3102.9	3007.5	2962.7	3172.2	3176.4
67.5°	3228.6	3294.6	3167.4	3004.2	2624.3	2639.1	2728.0	2735.7	2670.4	3106.0	2899.2
70°	2840.5	2887.0	2807.4	2764.0	2193.5	2106.3	2202.7	2244.0	2273.7	2866.9	2566.4
72.5°	2248.8	2338.7	2351.2	2379.5	1766.0	1620.8	1692.2	1631.1	1824.9	2440.1	2096.9
75°	1663.7	1739.6	1821.1	1978.9	1392.0	1213.4	1204.6	1173.4	1354.5	1962.3	1555.2
77.5°	1175.7	1224.1	1286.8	1580.8	1050.4	934.5	940.0	908.4	978.1	1483.1	1074.3
80°	842.8	868.1	897.2	1041.4	774.9	806.3	807.1	777.2	727.3	1007.3	717.0
82.5°	600.5	620.2	653.6	686.9	577.7	660.9	660.3	658.4	576.7	680.8	448.6
85°	334.4	360.8	418.7	538.1	417.2	472.5	415.5	457.6	423.3	453.2	227.1
87.5°	23.5	21.0	93.7	311.8	194.7	142.3	74.6	147.7	189.4	236.8	31.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3
2.5°	609.8	617.1	588.4	545.2	557.0	544.2	528.0	502.9	451.1	483.2	483.4
5°	732.3	704.5	682.1	660.9	625.3	571.4	564.3	521.1	496.8	509.6	507.7
7.5°	770.7	731.1	697.3	621.7	555.7	472.1	446.9	421.4	410.7	441.7	454.1
10°	728.6	687.3	654.2	562.2	517.4	465.2	396.0	360.6	339.7	347.8	352.7
12.5°	762.5	720.4	616.3	564.9	491.0	459.1	398.5	346.6	315.6	323.1	314.1
15°	795.2	738.4	634.3	532.0	472.1	426.0	377.0	323.3	286.9	273.9	267.0
17.5°	914.6	820.3	632.2	513.6	444.9	391.8	332.7	274.1	249.8	236.4	224.8
20°	1060.3	928.9	643.5	494.5	415.9	349.1	284.8	230.3	213.3	204.5	201.4
22.5°	1233.6	1068.0	708.2	491.8	388.7	317.9	258.4	224.4	205.3	195.7	191.7
25°	1371.2	1212.0	756.0	510.2	387.2	292.1	242.4	249.4	240.6	243.5	220.2
27.5°	1504.9	1251.2	729.2	502.1	348.3	246.4	238.7	253.1	260.7	263.0	262.1
30°	1617.9	1416.7	735.1	456.0	294.2	200.7	182.7	189.8	210.6	243.5	249.8
32.5°	1783.2	1495.9	785.1	428.1	263.0	179.6	159.5	156.7	161.6	173.5	183.8
35°	1976.6	1678.2	799.2	420.8	241.4	170.1	156.1	149.8	152.3	161.3	163.4
37.5°	2337.2	1811.0	851.1	411.7	233.4	164.5	153.6	151.3	156.7	164.1	168.3
40°	2536.1	2049.9	853.7	404.0	223.2	162.2	155.3	154.2	157.6	167.6	170.1
42.5°	2801.1	2186.1	893.1	395.0	219.6	165.3	158.6	158.2	161.1	167.0	171.6
45°	2962.7	2277.3	895.2	389.7	218.8	179.2	163.0	161.6	160.9	164.5	168.7
47.5°	3066.8	2408.7	920.7	383.9	223.8	182.7	168.3	162.0	159.9	161.3	164.5
50°	3165.5	2513.6	969.1	383.0	229.0	179.2	177.5	161.8	157.6	156.9	159.2
52.5°	3286.6	2686.3	1028.8	391.0	227.8	173.9	184.4	160.9	153.4	151.9	154.2
55°	3462.8	2871.3	1092.3	384.3	214.8	163.9	177.7	160.3	149.0	146.3	148.4
57.5°	3577.0	2977.3	1163.4	378.6	195.1	156.3	171.6	160.7	149.4	143.3	144.6
60°	3539.1	2920.3	1191.2	344.1	176.4	150.4	157.2	157.4	145.6	140.0	141.0
62.5°	3371.5	2714.0	1165.2	303.8	162.6	142.1	142.3	151.1	134.7	130.8	132.4
65°	3137.2	2457.3	1060.1	277.6	156.1	133.3	129.9	132.6	120.1	117.1	120.5
67.5°	2849.7	2140.9	903.5	250.0	153.8	121.3	117.3	116.3	108.3	105.0	108.3
70°	2489.1	1792.6	722.3	230.5	145.0	108.3	105.2	104.1	97.4	94.9	97.9
72.5°	2000.7	1399.7	557.4	215.6	135.4	96.4	93.7	92.4	86.7	83.2	86.7
75°	1423.0	1069.7	414.0	192.8	121.7	84.2	81.1	79.4	74.2	70.8	74.0
77.5°	1011.2	803.0	289.2	159.5	100.4	71.2	69.4	66.6	62.0	58.0	61.2
80°	747.6	573.7	186.5	123.0	76.7	57.0	55.9	54.1	49.7	44.8	47.1
82.5°	492.2	413.6	106.9	83.4	55.7	41.1	41.9	40.7	36.5	31.4	32.7
85°	220.4	245.0	56.8	45.9	36.3	24.7	27.0	26.2	23.0	18.2	18.6
87.5°	21.2	41.3	17.4	16.8	13.4	7.8	9.6	8.2	6.9	4.4	3.4
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3
2.5°	490.7	461.2	431.7	449.7	450.1	454.9	455.5	437.7	452.0	462.9	474.2
5°	498.5	479.2	480.3	462.9	453.4	465.6	463.1	458.3	466.9	478.8	493.3
7.5°	442.3	429.8	427.7	410.9	370.3	361.2	368.8	371.9	383.5	401.9	417.4
10°	345.3	370.3	342.2	335.7	325.0	304.0	291.9	290.4	314.9	329.8	342.8
12.5°	311.2	304.9	301.5	283.7	283.7	261.5	254.4	260.9	298.6	309.3	326.0
15°	265.1	260.5	245.0	236.2	232.0	222.9	230.5	236.8	272.0	272.8	290.4
17.5°	220.0	217.3	202.6	200.9	196.8	192.8	199.7	214.8	233.8	230.5	238.7
20°	196.8	187.3	173.9	178.7	174.3	171.2	168.3	189.6	203.0	207.4	212.3
22.5°	190.9	173.7	165.7	161.3	161.6	156.5	157.2	175.0	195.3	198.0	195.1
25°	218.1	187.5	161.8	149.0	144.2	142.5	147.3	163.0	187.5	193.4	195.7
27.5°	255.2	203.7	166.6	144.8	135.2	136.0	142.9	153.8	182.7	193.2	195.9
30°	245.0	191.5	166.8	141.6	129.7	134.1	136.6	147.1	178.9	194.7	208.3
32.5°	189.0	172.2	167.8	144.2	139.3	132.4	136.0	146.0	167.8	177.7	178.3
35°	160.1	147.3	144.4	138.5	131.8	128.9	132.8	141.6	155.9	162.0	161.1
37.5°	158.8	144.8	133.3	130.8	128.0	127.2	129.5	137.7	152.1	162.8	160.5
40°	160.9	143.5	131.8	127.4	128.4	124.7	127.0	137.0	152.8	162.8	160.7
42.5°	158.4	142.1	129.9	126.6	127.6	122.4	125.1	135.6	151.1	163.0	159.0
45°	153.4	138.7	128.9	123.2	128.0	120.3	123.6	131.8	146.0	159.0	154.4
47.5°	148.4	134.7	124.5	120.9	125.7	118.2	119.6	126.8	141.0	153.8	149.8
50°	142.9	129.7	120.9	119.9	123.2	117.8	115.5	121.3	134.9	147.7	144.4
52.5°	137.0	125.5	118.4	118.0	121.1	115.0	111.7	116.3	128.4	141.2	138.5
55°	131.4	120.9	115.2	116.3	119.9	112.7	108.5	111.5	121.5	134.1	130.3
57.5°	125.7	115.7	111.1	114.0	116.7	109.8	104.6	106.2	114.4	126.8	122.4
60°	120.7	111.1	106.4	110.0	112.5	105.4	99.3	100.4	107.7	118.8	114.8
62.5°	114.2	106.0	100.0	104.6	106.4	99.5	93.0	94.3	100.2	110.6	107.7
65°	105.0	99.7	94.1	97.2	99.7	92.6	86.5	88.0	92.4	102.3	100.2
67.5°	97.0	92.0	88.2	90.7	91.1	85.7	80.3	81.1	84.7	93.9	91.6
70°	88.2	83.4	80.5	82.3	82.1	77.5	73.3	73.5	76.5	84.9	81.7
72.5°	78.6	74.0	72.5	73.5	72.7	68.5	64.5	66.0	67.9	74.2	71.7
75°	68.3	64.1	63.3	64.3	63.1	59.1	55.5	57.0	58.7	63.9	60.8
77.5°	57.6	53.9	54.1	54.3	52.6	49.9	46.3	47.8	48.8	52.4	49.2
80°	45.9	43.0	43.8	43.8	41.9	40.0	36.7	37.1	37.7	39.0	36.7
82.5°	33.5	33.5	33.5	33.7	29.8	30.4	27.4	27.2	26.6	26.4	24.9
85°	19.9	20.7	21.2	21.8	16.1	18.9	16.3	15.7	14.5	13.2	12.8
87.5°	4.4	5.7	5.7	5.4	0.0	2.1	1.0	1.7	0.4	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°	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3	455.3
2.5°	461.2	448.6	472.1	493.0	489.7	501.8	473.6	515.5	559.9	559.9
5°	489.5	478.8	484.9	497.0	506.2	548.6	583.8	618.8	691.1	691.9
7.5°	412.8	435.8	441.3	437.7	477.3	531.8	589.9	689.6	750.8	755.6
10°	386.0	396.4	413.0	422.2	438.4	492.0	564.1	682.5	747.4	759.6
12.5°	349.7	388.5	413.6	465.2	478.0	488.6	603.3	705.7	750.6	747.6
15°	310.1	339.5	375.7	432.7	465.2	546.9	626.5	780.3	805.7	827.9
17.5°	247.3	268.8	317.0	382.0	462.5	537.7	683.9	872.5	919.9	942.9
20°	203.5	203.7	251.9	338.0	425.6	499.1	705.7	949.0	1009.1	1020.9
22.5°	192.4	182.7	208.1	278.1	384.9	522.0	749.7	1072.0	1197.5	1227.1
25°	186.3	174.5	190.5	245.4	355.8	533.9	838.4	1241.1	1402.2	1413.8
27.5°	188.8	194.2	199.3	218.8	318.9	511.5	817.8	1316.7	1489.4	1511.2
30°	205.8	214.6	203.0	209.7	288.5	479.0	854.5	1439.5	1599.2	1635.9
32.5°	171.2	167.8	166.8	181.5	258.2	449.7	931.4	1612.4	1718.2	1764.3
35°	154.4	149.2	151.3	168.1	243.3	445.5	974.6	1755.5	1906.2	1934.5
37.5°	153.8	147.7	150.4	163.0	248.5	453.0	1043.7	1985.2	2237.7	2298.2
40°	152.3	149.0	150.4	159.9	243.1	457.2	1083.5	2178.2	2468.6	2530.0
42.5°	152.1	150.4	151.9	162.4	237.4	459.1	1138.6	2352.5	2711.9	2760.3
45°	151.5	153.2	153.2	164.5	234.9	471.7	1171.1	2438.0	2872.4	2932.1
47.5°	148.6	153.6	161.8	163.9	224.6	465.8	1217.0	2567.7	2957.6	3013.8
50°	144.8	153.0	172.7	159.7	222.9	451.6	1270.6	2670.6	3067.0	3115.8
52.5°	139.8	151.9	170.1	151.5	220.0	449.0	1345.9	2804.3	3194.6	3237.8
55°	132.6	148.1	162.4	143.3	212.9	441.1	1460.9	2970.0	3361.6	3391.2
57.5°	126.1	142.5	151.1	138.7	195.9	442.8	1541.0	3105.2	3501.8	3527.6
60°	120.3	141.9	134.9	133.9	178.5	420.3	1566.9	3103.7	3554.0	3594.4
62.5°	114.0	133.9	123.6	127.4	163.2	397.3	1511.8	2970.6	3497.6	3568.5
65°	105.8	114.8	114.2	122.8	163.7	359.8	1385.5	2736.0	3357.0	3450.3
67.5°	96.2	101.6	105.2	115.2	168.9	330.7	1182.2	2453.7	3117.7	3228.6
70°	86.3	91.8	95.8	105.4	173.7	317.2	941.0	2057.3	2728.0	2840.5
72.5°	76.3	81.9	85.1	93.5	167.2	288.5	696.5	1600.7	2189.7	2248.8
75°	65.8	71.2	73.8	81.5	145.2	238.7	480.9	1212.4	1603.8	1663.7
77.5°	55.1	61.0	61.8	68.1	110.8	182.5	308.2	929.9	1135.7	1175.7
80°	44.0	49.9	49.9	53.2	77.9	125.5	184.6	701.5	827.1	842.8
82.5°	31.6	37.9	37.5	37.7	53.9	77.7	106.9	525.7	597.6	600.5
85°	18.6	23.0	22.8	21.0	31.8	41.9	57.8	326.5	333.6	334.4
87.5°	3.6	5.4	4.8	2.1	8.8	12.4	16.8	60.6	24.1	23.5
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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