

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: P596639

Luminaire Tested: **MSA-SA2D-827-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596639
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-827-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7233 lumens
Efficiency: N/A
Efficacy: 56.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

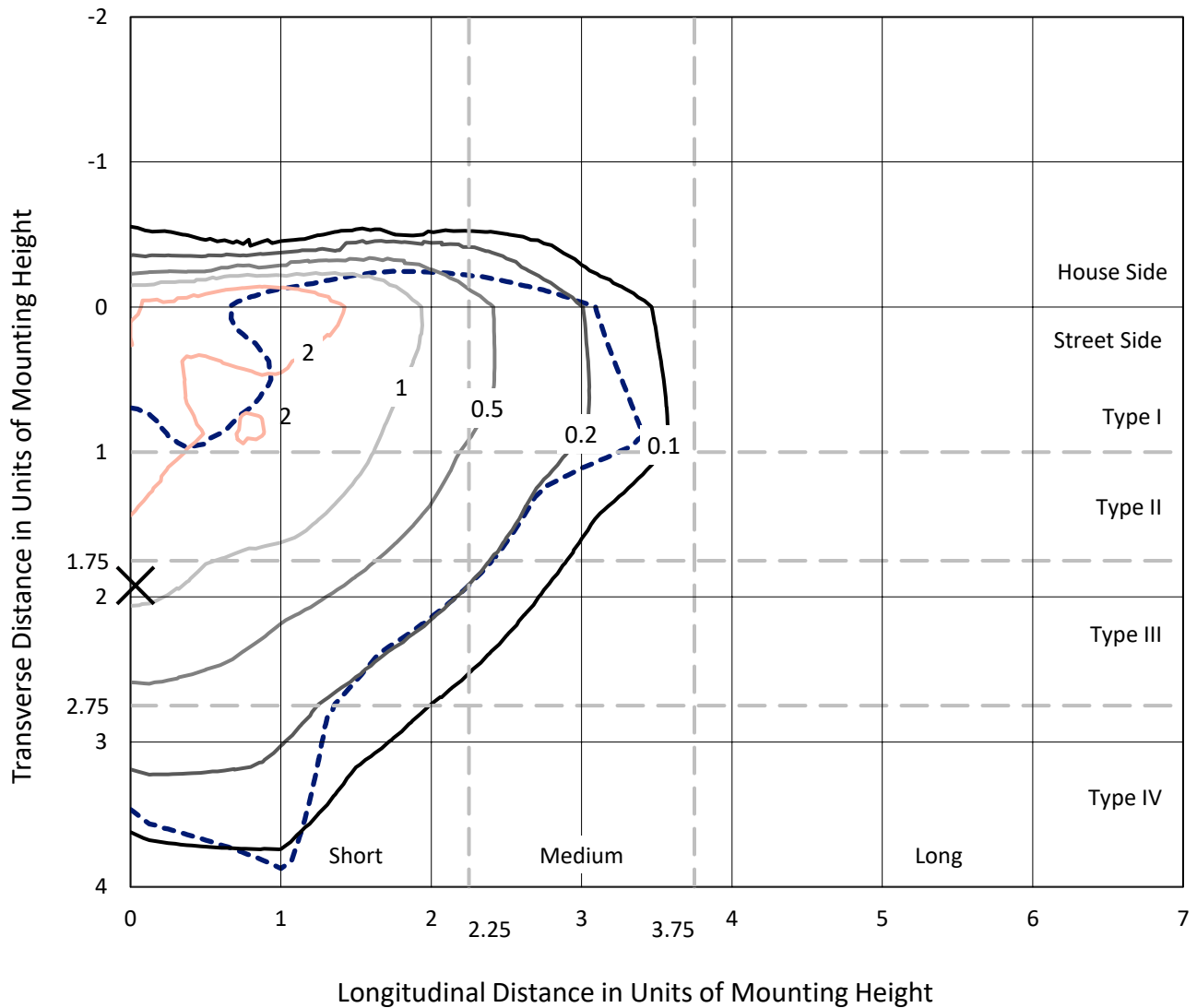
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

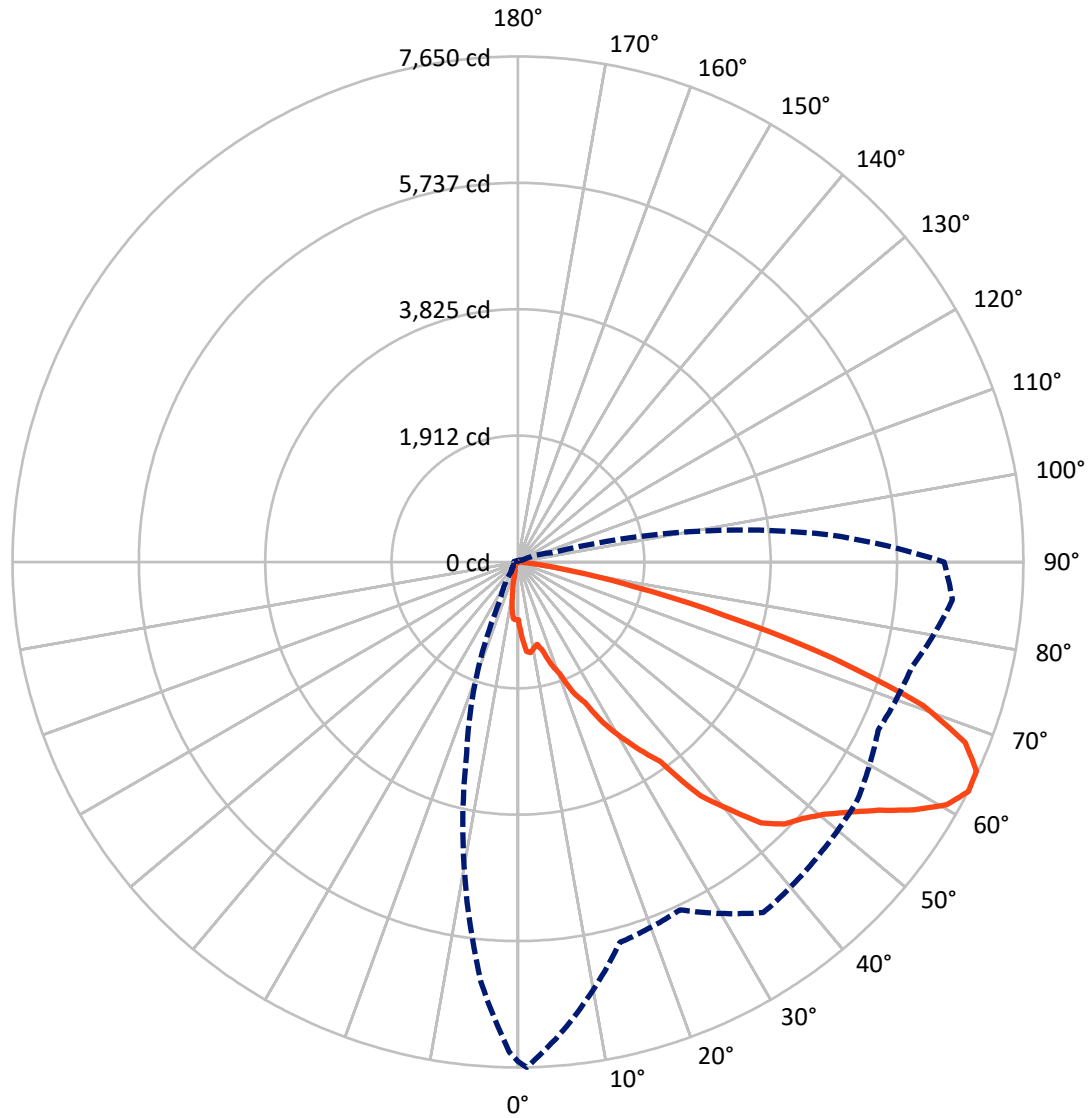
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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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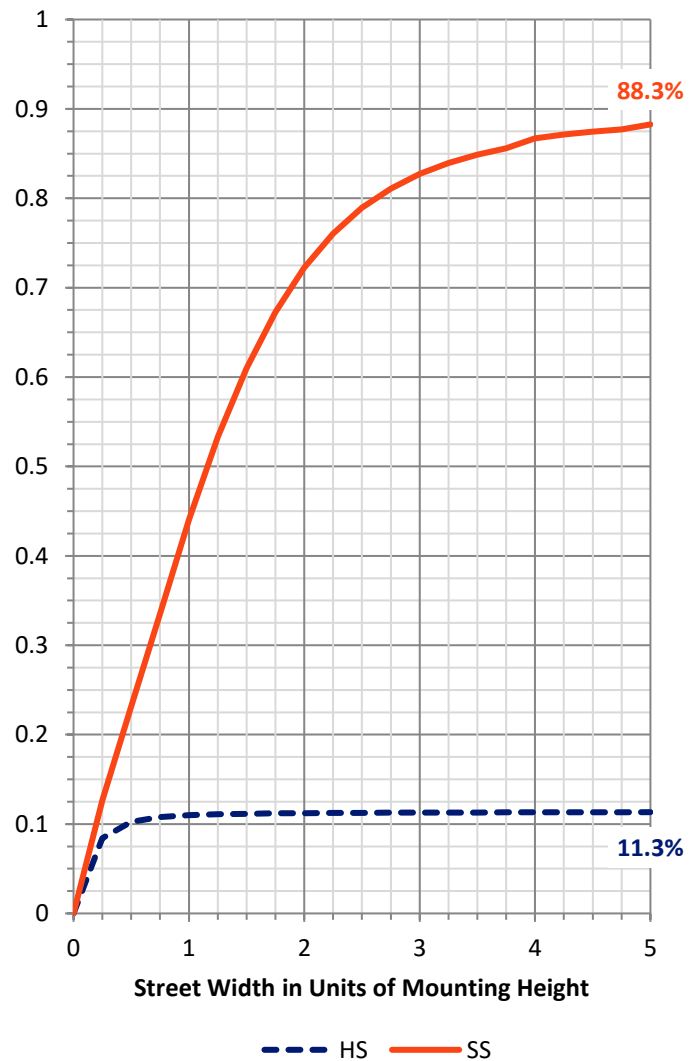
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	827.1	0.0	827.1
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	6405.9	0.0	6405.9
	% Fixture	88.6	0.0	88.6
Total	Lumens	7233.0	0.0	7233.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.4	1.3
10°-20°	254.3	3.5
20°-30°	411.0	5.7
30°-40°	688.5	9.5
40°-50°	1125.8	15.6
50°-60°	1666.6	23.0
60°-70°	1913.3	26.5
70°-80°	946.1	13.1
80°-90°	129.9	1.8
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°	7233.0	100.0
0°-180°	7233.0	100.0

Coefficient of Utilization

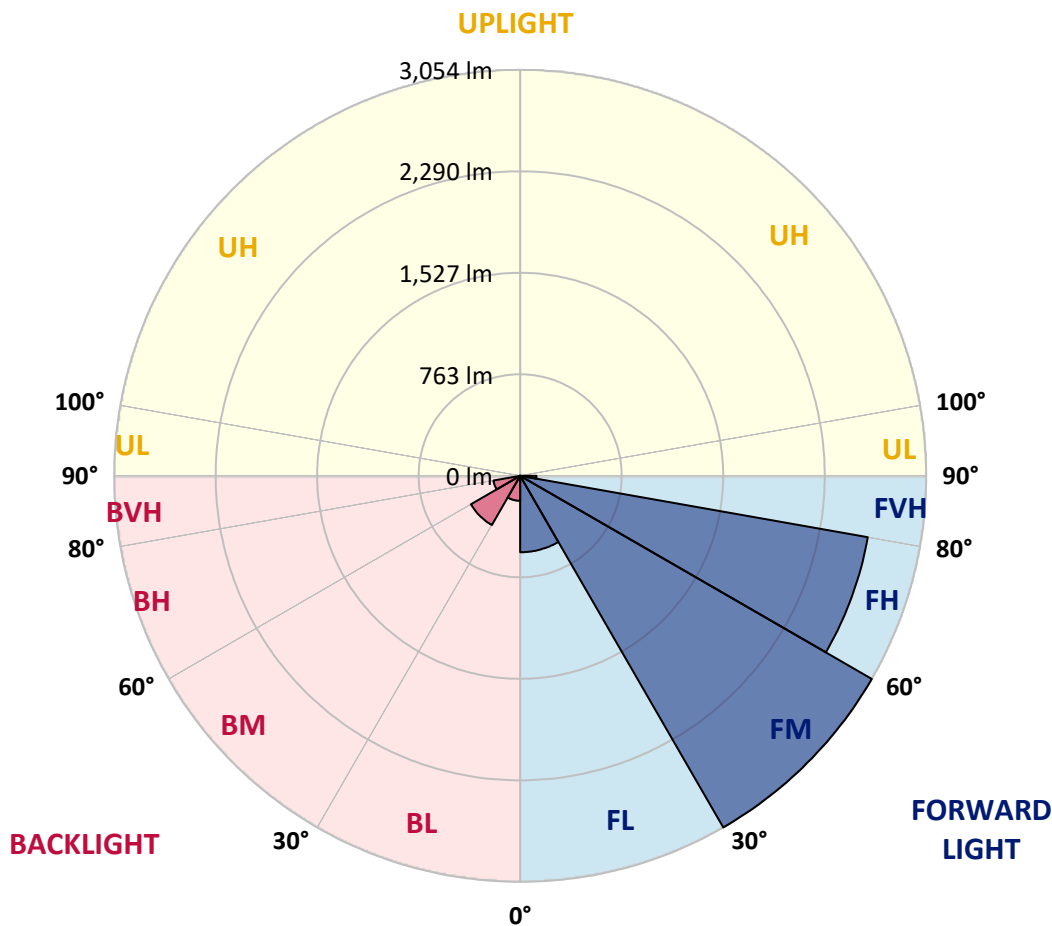


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	574.5	7.9			
FM (30°-60°)	3053.7	42.2			
FH (60°-80°)	2655.0	36.7			G2/5000
FVH (80°-90°)	122.7	1.7			G2/225
BL (0°-30°)	188.2	2.6	B1/500		
BM (30°-60°)	427.2	5.9	B1/1000		
BH (60°-80°)	204.5	2.8	B1/500		G1/500
BVH (80°-90°)	7.2	0.1			G0/10
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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	1123.6	1128.9	1103.8	1100.5	1042.0	1114.9	1117.0	1125.6	1072.1	968.2	1113.3
5°	1344.5	1359.3	1340.0	1426.1	1450.8	1504.0	1406.3	1493.7	1456.6	1466.9	1487.9
7.5°	1370.9	1386.1	1426.9	1571.2	1704.3	1670.9	1660.2	1693.2	1690.3	1614.1	1652.0
10°	1316.1	1328.8	1396.8	1659.4	1717.5	1867.5	1904.2	1828.4	1797.5	1630.6	1557.6
12.5°	1256.3	1277.7	1364.3	1679.2	1853.5	2005.2	2126.0	2018.0	1915.4	1737.7	1670.9
15°	1370.9	1382.8	1518.9	1720.4	1872.9	1977.6	2076.5	2040.7	2025.0	1897.2	1670.9
17.5°	1595.5	1623.5	1722.1	1821.4	1941.7	2004.8	1981.3	1970.2	1930.2	2130.9	1896.8
20°	1755.4	1807.8	1936.8	1979.7	1884.0	1943.0	1928.6	1918.7	1887.3	2260.8	2156.5
22.5°	2101.7	2149.9	2152.4	2167.6	1945.0	1851.1	1827.2	1830.0	1972.2	2299.5	2479.6
25°	2337.4	2353.9	2484.2	2375.3	2111.6	1879.1	1788.0	1828.8	2033.7	2578.1	2783.4
27.5°	2723.2	2762.4	2843.6	2475.1	2211.3	1861.4	1716.3	1864.7	2195.2	2670.5	3121.0
30°	3037.7	3075.2	3205.9	2611.5	2297.9	1949.2	1747.2	1936.8	2295.8	2860.5	3424.3
32.5°	3292.8	3389.7	3538.1	2822.1	2294.6	2050.1	1905.1	1912.9	2419.4	3106.5	3724.4
35°	3618.9	3709.1	3813.4	2967.2	2444.6	2082.7	1951.6	2147.8	2603.3	3363.7	4128.3
37.5°	4353.8	4490.2	4284.1	3332.8	2619.4	2377.0	2135.5	2292.5	2795.8	3626.3	4683.5
40°	4802.2	4917.2	4718.1	3519.5	2921.9	2525.4	2463.5	2543.9	2984.1	3761.9	5101.9
42.5°	5244.1	5395.7	5063.1	3800.6	3209.2	2944.1	2775.2	2839.9	3256.6	4089.2	5572.6
45°	5563.9	5657.9	5137.7	3947.8	3604.0	3421.4	3308.9	3212.5	3636.6	4299.4	5876.3
47.5°	5724.7	5799.7	5284.9	3994.4	3839.0	3926.3	4172.8	3971.3	3972.9	4451.5	6040.0
50°	5947.2	5999.6	5367.3	4050.0	4094.1	4713.2	4837.7	4408.6	4357.1	4604.0	6066.8
52.5°	6260.1	6285.6	5527.2	4196.7	4476.2	5329.4	5374.3	5200.8	4741.6	4887.5	6126.1
55°	6675.9	6631.0	5812.9	4505.0	4874.8	5780.7	5840.9	5689.6	5225.1	5170.7	6309.9
57.5°	7124.4	7072.9	6236.2	4939.5	5307.1	6125.7	6161.6	6173.5	5546.2	5421.3	6622.4
60°	7445.9	7455.4	6769.1	5437.8	5575.9	6455.8	6384.1	6275.3	5870.1	5788.5	6774.5
62.5°	7558.4	7649.5	7184.2	5960.0	5807.5	6476.5	6365.2	6273.3	6015.2	6167.3	6600.1
65°	7466.5	7625.6	7280.6	6418.7	5947.6	6218.0	6102.2	6043.3	6010.7	6321.9	6214.3
67.5°	7101.3	7300.4	7004.4	6422.9	5438.2	5294.3	5431.2	5617.9	5509.9	6193.7	5674.0
70°	6283.1	6501.2	6363.5	6046.1	4530.2	4165.4	4316.3	4598.6	4522.3	5508.7	4878.9
72.5°	4714.0	4994.3	5021.5	5219.7	3596.2	3135.0	3156.8	3149.0	3280.5	4442.0	3807.2
75°	3028.2	3246.3	3541.0	4212.0	2731.9	2288.8	2079.4	2028.3	2273.5	3470.9	2725.7
77.5°	1757.9	1783.9	1919.9	3177.8	1956.6	1649.1	1506.5	1579.4	1665.2	2422.3	1806.5
80°	840.8	854.0	910.1	1635.1	1359.3	1427.4	1317.3	1399.3	1143.4	1392.3	1025.1
82.5°	266.7	269.6	279.0	803.3	844.1	945.5	605.9	812.4	706.9	841.7	682.6
85°	44.5	75.8	93.6	232.1	476.5	319.0	131.5	289.8	394.4	530.9	310.0
87.5°	0.0	0.0	0.0	4.1	38.7	18.1	2.9	16.5	60.6	118.3	14.0
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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	1155.3	1183.8	1076.6	980.6	1004.9	985.5	956.2	906.4	791.0	875.9	870.1
5°	1486.7	1433.9	1288.9	1221.3	1138.8	1013.1	997.9	901.4	859.0	866.0	859.8
7.5°	1602.1	1507.7	1379.5	1175.9	982.6	801.3	745.6	682.6	669.8	697.0	714.7
10°	1511.4	1411.3	1299.2	1046.1	897.3	766.2	629.0	540.8	493.0	487.2	492.1
12.5°	1553.1	1445.1	1214.3	1020.5	865.1	746.4	593.1	460.0	356.1	363.9	343.3
15°	1581.9	1457.9	1194.1	967.0	798.8	640.1	455.4	322.3	237.4	212.7	197.8
17.5°	1751.3	1574.1	1168.5	905.1	706.0	498.3	286.0	186.7	159.1	150.4	143.4
20°	1968.9	1717.1	1168.1	840.0	569.2	311.6	178.5	135.2	128.6	133.5	128.2
22.5°	2222.0	1907.5	1230.3	758.8	408.5	196.6	138.9	119.9	113.3	117.5	117.9
25°	2476.7	2193.2	1281.0	681.7	284.4	150.9	123.7	110.5	103.0	106.8	104.7
27.5°	2936.7	2429.8	1269.5	583.2	209.4	132.7	115.0	103.5	92.3	98.1	97.7
30°	3237.6	2847.3	1314.4	445.1	166.1	116.2	107.2	94.4	82.4	89.0	88.6
32.5°	3597.4	3026.6	1363.1	341.7	138.1	110.0	96.4	84.1	77.1	81.2	80.4
35°	4001.8	3381.0	1273.6	284.4	119.9	99.3	85.3	75.8	69.7	71.7	71.7
37.5°	4716.1	3677.4	1220.0	231.6	111.7	89.9	80.0	68.4	64.7	64.7	66.8
40°	5121.6	4130.0	1060.1	183.4	114.2	82.8	74.6	62.7	57.7	57.3	59.4
42.5°	5649.2	4390.9	959.9	148.4	103.5	80.8	68.4	56.9	51.1	50.7	52.8
45°	5962.1	4536.8	819.0	116.6	92.7	94.0	63.5	52.3	43.7	42.0	45.8
47.5°	6159.5	4730.1	739.0	92.7	80.8	93.6	61.8	45.3	36.7	34.6	37.9
50°	6259.7	4825.7	723.4	79.5	70.1	83.7	70.9	37.9	31.3	28.4	31.3
52.5°	6363.9	4981.1	729.1	73.4	61.8	67.2	67.2	32.6	27.6	24.3	26.4
55°	6574.5	5210.7	716.4	69.7	56.9	51.1	43.3	28.9	25.1	21.4	23.5
57.5°	6833.4	5375.5	716.4	66.4	52.8	43.7	34.6	26.8	23.1	18.5	20.2
60°	6784.3	5202.0	680.9	63.1	49.5	40.8	31.3	24.7	21.4	16.9	18.1
62.5°	6447.6	4730.1	551.5	58.1	46.6	38.7	28.4	23.5	20.2	14.8	16.1
65°	6051.9	4228.9	383.3	52.8	43.3	35.0	25.6	22.3	18.5	13.2	14.0
67.5°	5575.4	3631.6	212.7	47.4	40.0	30.5	23.5	21.8	17.7	12.0	12.8
70°	4748.6	2741.8	114.2	43.3	37.5	28.0	22.3	21.8	17.7	11.5	12.0
72.5°	3564.9	1726.6	66.8	39.6	34.2	26.0	21.0	22.3	17.3	11.1	11.1
75°	2425.6	1048.2	47.8	33.8	30.5	21.8	20.2	21.4	17.7	11.1	10.3
77.5°	1649.1	736.6	39.2	30.5	27.6	19.4	20.6	21.4	17.7	9.1	7.0
80°	1029.6	380.0	29.7	24.3	23.9	16.9	20.6	18.5	11.5	2.1	0.0
82.5°	720.1	141.4	17.3	18.5	18.5	12.0	16.1	13.2	6.6	0.0	0.0
85°	302.1	24.3	9.5	13.2	11.5	7.0	12.8	9.9	4.1	0.0	0.0
87.5°	5.4	0.0	3.7	7.8	8.2	4.1	6.6	4.1	0.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	897.3	858.1	775.7	815.3	811.2	829.3	830.9	788.9	879.6	935.6	943.9
5°	860.6	834.2	829.7	807.0	801.3	834.6	816.5	815.3	859.0	922.9	923.3
7.5°	715.1	694.9	704.4	678.0	610.0	614.1	620.3	646.3	683.8	725.8	741.1
10°	490.9	543.2	504.9	501.6	494.6	472.8	455.4	469.1	517.7	556.4	570.9
12.5°	350.3	358.6	382.1	373.4	385.4	366.8	359.8	402.3	449.7	489.2	517.7
15°	204.8	218.9	232.9	262.6	274.5	270.8	292.2	327.7	366.0	384.1	419.2
17.5°	144.3	145.5	148.4	180.5	201.6	209.8	222.6	249.4	265.0	273.3	287.7
20°	126.1	122.4	117.5	135.6	155.4	165.7	162.0	183.0	195.8	204.0	214.3
22.5°	114.2	108.0	105.1	111.3	126.5	135.6	137.3	149.6	169.0	174.8	178.1
25°	103.0	98.9	96.9	100.2	108.4	117.1	118.7	134.8	152.1	154.6	161.2
27.5°	95.6	87.8	88.6	91.1	94.8	105.5	108.8	117.9	143.0	145.9	148.0
30°	87.8	79.5	82.0	84.5	82.8	96.0	101.0	111.3	135.6	140.1	142.6
32.5°	80.0	73.8	73.4	75.8	78.7	85.7	96.4	108.4	130.7	136.8	143.0
35°	71.3	66.4	67.2	67.6	71.3	80.4	88.2	94.4	109.6	112.9	115.0
37.5°	65.1	61.0	60.2	64.3	68.0	75.0	77.9	80.8	101.0	108.4	108.8
40°	57.7	55.2	55.2	58.1	66.4	65.5	69.2	78.3	97.7	105.5	106.3
42.5°	52.3	49.0	49.9	52.8	58.5	54.4	61.8	75.0	96.4	104.3	103.9
45°	44.1	43.3	44.9	47.4	49.9	46.2	57.7	71.7	92.3	102.6	99.7
47.5°	36.7	36.7	38.7	41.2	40.0	41.2	52.3	67.2	89.9	99.3	97.3
50°	30.1	30.5	32.6	36.7	33.0	36.3	47.0	62.7	85.7	96.0	94.4
52.5°	25.6	26.0	27.2	30.1	28.4	33.0	43.3	58.1	81.6	90.3	89.4
55°	22.3	23.1	23.1	24.7	25.6	30.9	39.2	53.6	75.4	84.9	83.3
57.5°	19.8	20.6	20.2	21.4	22.3	27.2	35.0	48.6	69.2	77.1	74.6
60°	17.7	18.5	18.1	19.8	19.4	23.5	30.5	43.3	62.7	68.8	66.8
62.5°	15.7	16.5	16.5	17.3	17.7	19.8	26.4	38.3	56.1	61.0	59.4
65°	14.0	14.8	15.3	14.8	15.7	16.9	22.3	34.6	48.6	53.6	51.1
67.5°	12.8	13.6	14.4	12.8	13.6	14.0	19.0	30.9	42.9	47.0	44.9
70°	12.4	12.8	12.8	11.1	10.7	11.1	16.5	26.4	37.5	41.6	38.7
72.5°	11.5	12.0	11.5	9.1	7.8	8.7	14.0	22.3	31.7	35.0	32.6
75°	10.7	11.1	10.7	7.4	4.9	6.2	11.5	19.4	27.2	28.9	27.6
77.5°	9.1	9.9	9.9	5.4	1.6	3.7	8.7	15.7	22.7	22.7	23.1
80°	0.8	2.5	4.1	2.9	0.0	0.4	2.9	8.2	14.4	14.0	15.3
82.5°	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	4.9	3.7	4.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3	871.3
2.5°	924.5	911.7	927.8	976.8	957.1	960.8	947.6	1028.8	1120.7	1123.6
5°	924.1	912.5	936.5	934.4	990.9	1052.3	1111.6	1207.7	1343.7	1344.5
7.5°	734.1	802.5	820.2	814.9	887.4	971.9	1063.4	1247.2	1358.9	1370.9
10°	661.9	691.6	727.9	741.1	771.2	851.5	955.0	1163.1	1288.4	1316.1
12.5°	573.7	668.5	716.8	810.3	827.6	839.2	1002.4	1183.3	1259.6	1256.3
15°	475.2	557.7	633.9	748.1	795.1	916.3	1044.9	1281.9	1327.2	1370.9
17.5°	336.3	398.6	515.6	635.6	779.0	910.9	1161.9	1457.9	1543.6	1595.5
20°	225.0	255.1	361.1	519.7	701.5	832.6	1209.7	1616.9	1710.5	1755.4
22.5°	182.6	197.0	251.8	380.8	599.3	828.9	1229.1	1790.5	2041.9	2101.7
25°	160.7	170.6	199.9	281.9	497.5	812.4	1336.3	1985.8	2289.2	2337.4
27.5°	140.6	155.4	177.2	232.5	426.6	800.8	1390.7	2313.9	2675.8	2723.2
30°	134.4	152.5	173.5	211.9	377.1	756.3	1477.2	2609.9	2953.2	3037.7
32.5°	145.1	151.3	161.6	194.1	338.8	709.3	1629.3	2963.5	3182.8	3292.8
35°	115.0	126.1	144.3	178.1	322.7	706.9	1715.5	3191.0	3550.9	3618.9
37.5°	112.5	122.8	146.3	173.5	342.1	725.8	1843.2	3657.2	4214.5	4353.8
40°	109.2	122.4	144.7	171.5	342.1	744.4	1924.8	4030.2	4660.8	4802.2
42.5°	108.0	124.9	144.3	180.1	331.4	754.7	2048.1	4402.4	5132.4	5244.1
45°	107.2	127.4	145.5	190.4	328.9	788.5	2117.7	4583.3	5435.7	5563.9
47.5°	105.1	127.4	162.4	184.2	315.3	785.2	2208.0	4851.7	5616.7	5724.7
50°	103.5	128.2	183.8	172.7	317.4	765.0	2330.4	5103.5	5870.1	5947.2
52.5°	99.7	131.1	180.5	156.6	311.2	762.9	2513.0	5461.7	6203.6	6260.1
55°	91.5	127.4	163.2	136.8	289.3	739.4	2755.0	5927.4	6666.1	6675.9
57.5°	84.1	118.3	136.4	125.7	242.4	742.3	2963.5	6356.1	7078.2	7124.4
60°	76.7	122.8	105.9	117.1	200.7	689.6	3064.5	6520.1	7378.3	7445.9
62.5°	69.7	113.3	90.3	107.6	178.9	640.5	2994.4	6388.2	7416.6	7558.4
65°	61.8	78.7	76.3	96.4	180.9	571.7	2760.3	6002.0	7271.1	7466.5
67.5°	53.2	61.8	67.2	83.3	193.7	512.7	2358.9	5382.1	6880.0	7101.3
70°	46.6	55.6	58.5	73.0	201.6	474.0	1861.4	4521.9	6078.7	6283.1
72.5°	38.7	51.5	52.3	63.9	194.1	435.7	1326.4	3246.3	4615.9	4714.0
75°	33.4	42.9	47.4	53.6	163.2	325.2	730.8	2009.3	2918.6	3028.2
77.5°	30.1	32.6	35.9	37.1	69.2	169.4	251.4	1239.0	1634.3	1757.9
80°	23.1	25.6	24.7	25.6	37.9	58.5	95.6	580.7	772.0	840.8
82.5°	7.4	12.4	13.6	11.5	24.7	28.9	27.6	200.7	251.0	266.7
85°	1.6	4.5	2.1	0.0	8.2	14.8	2.1	30.5	60.2	44.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

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