

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: P596749

Luminaire Tested: **MSA-SA4A-827-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596749
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-SA4A-827-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 8314 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

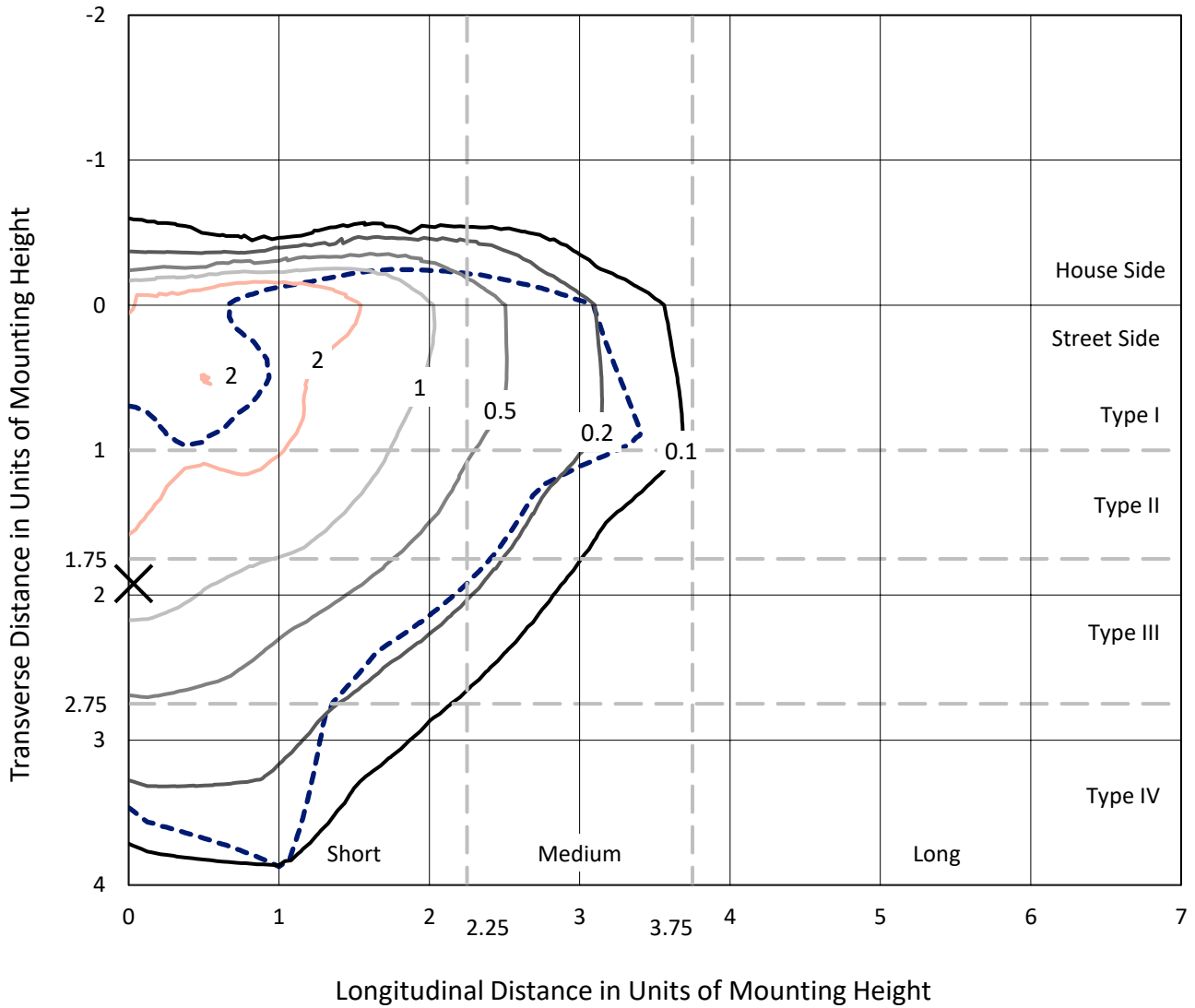
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

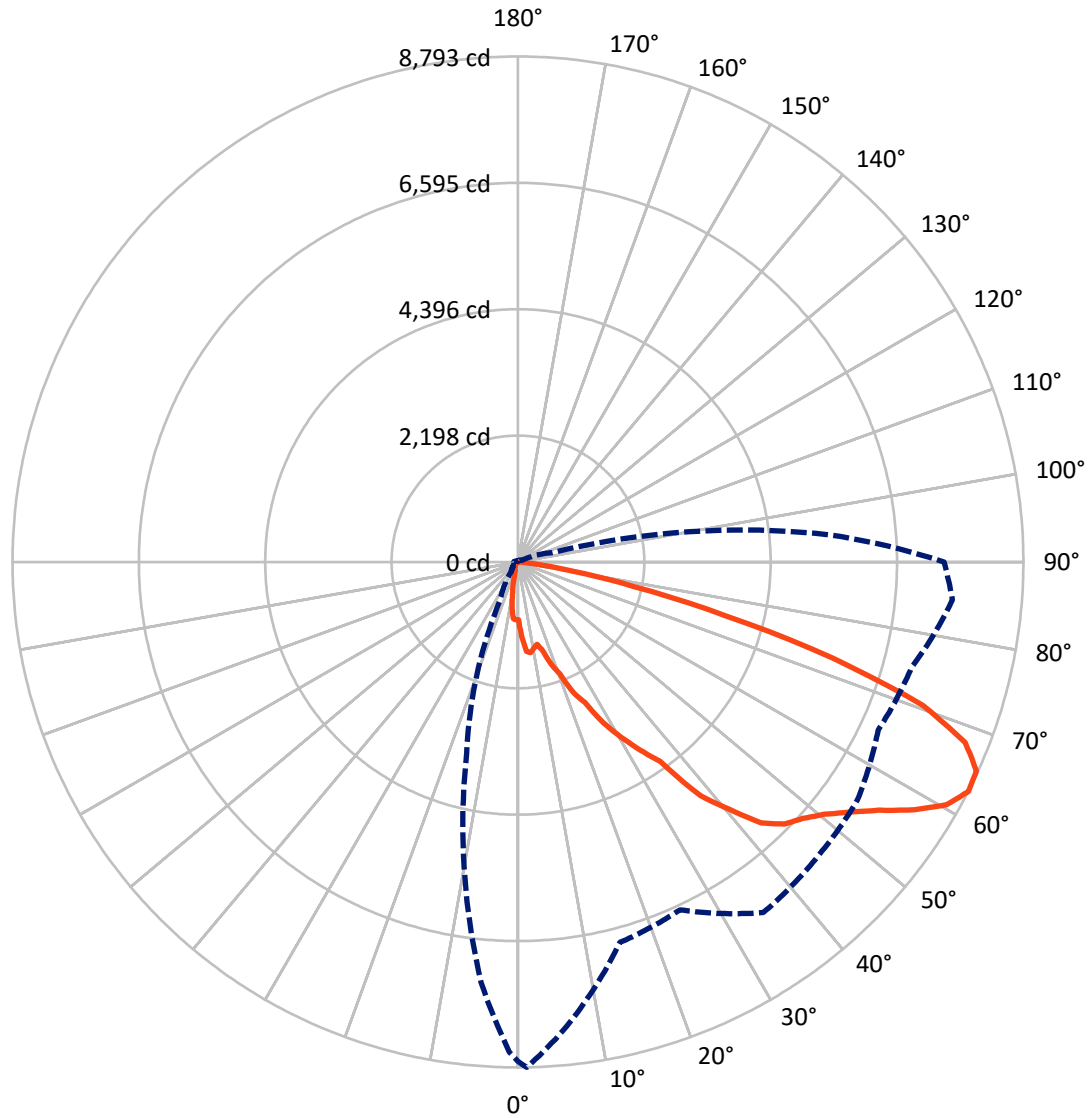
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.3 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	950.7	0.0	950.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7363.3	0.0	7363.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	8314.0	0.0	8314.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	1.3
10°-20°	292.3	3.5
20°-30°	472.5	5.7
30°-40°	791.4	9.5
40°-50°	1294.1	15.6
50°-60°	1915.6	23.0
60°-70°	2199.3	26.5
70°-80°	1087.5	13.1
80°-90°	149.3	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°	8314.0	100.0
0°-180°	8314.0	100.0

Coefficient of Utilization



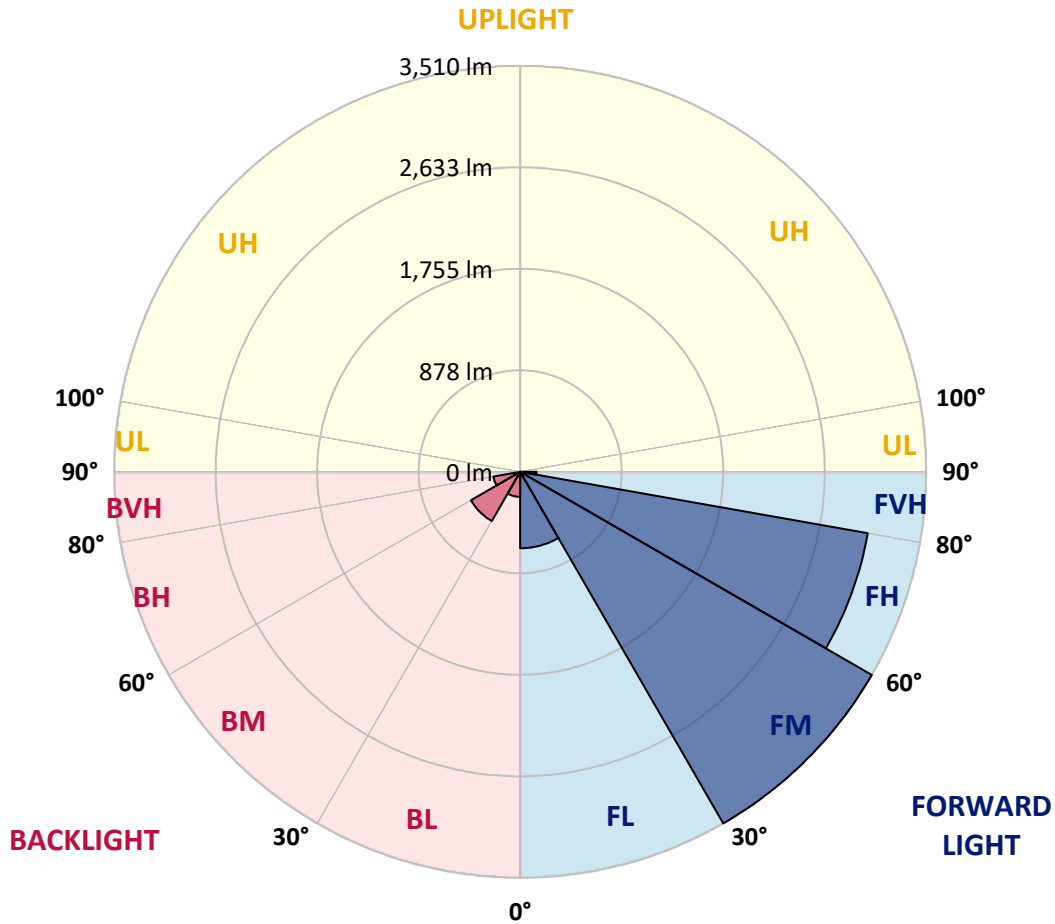
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	660.4	7.9			
FM (30°-60°)	3510.1	42.2			
FH (60°-80°)	3051.8	36.7			G2/5000
FVH (80°-90°)	141.0	1.7			G2/225
BL (0°-30°)	216.3	2.6	B1/500		
BM (30°-60°)	491.1	5.9	B1/1000		
BH (60°-80°)	235.1	2.8	B1/500		G1/500
BVH (80°-90°)	8.3	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°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1291.5	1297.7	1268.8	1265.0	1197.7	1281.6	1283.9	1293.9	1232.3	1112.9	1279.7
5°	1545.4	1562.5	1540.2	1639.3	1667.7	1728.8	1616.5	1717.0	1674.3	1686.2	1710.3
7.5°	1575.8	1593.3	1640.2	1806.0	1959.0	1920.7	1908.4	1946.3	1942.9	1855.3	1898.9
10°	1512.8	1527.4	1605.6	1907.4	1974.2	2146.7	2188.8	2101.7	2066.1	1874.2	1790.4
12.5°	1444.1	1468.7	1568.2	1930.1	2130.6	2304.9	2443.7	2319.6	2201.6	1997.4	1920.7
15°	1575.8	1589.5	1745.9	1977.5	2152.8	2273.2	2386.9	2345.6	2327.6	2180.8	1920.7
17.5°	1834.0	1866.2	1979.4	2093.6	2231.9	2304.4	2277.4	2264.6	2218.7	2449.4	2180.3
20°	2017.8	2078.0	2226.3	2275.5	2165.6	2233.4	2216.8	2205.4	2169.4	2598.6	2478.8
22.5°	2415.8	2471.2	2474.0	2491.6	2235.7	2127.7	2100.2	2103.5	2267.0	2643.2	2850.2
25°	2686.8	2705.7	2855.4	2730.3	2427.1	2159.9	2055.2	2102.1	2337.6	2963.4	3199.4
27.5°	3130.2	3175.2	3268.6	2845.0	2541.8	2139.6	1972.8	2143.3	2523.3	3069.6	3587.4
30°	3491.7	3534.8	3685.0	3001.8	2641.3	2240.5	2008.3	2226.3	2638.9	3288.0	3936.1
32.5°	3785.0	3896.3	4066.9	3243.9	2637.5	2356.5	2189.8	2198.8	2781.0	3570.8	4281.0
35°	4159.7	4263.5	4383.3	3410.7	2809.9	2394.0	2243.3	2468.8	2992.3	3866.5	4745.3
37.5°	5004.5	5161.3	4924.4	3830.9	3010.8	2732.2	2454.6	2635.1	3213.6	4168.2	5383.5
40°	5519.9	5652.1	5423.3	4045.5	3358.6	2902.8	2831.7	2924.1	3430.1	4324.1	5864.4
42.5°	6027.8	6202.2	5819.8	4368.7	3688.8	3384.2	3189.9	3264.3	3743.3	4700.3	6405.4
45°	6395.5	6503.5	5905.6	4537.8	4142.7	3932.8	3803.4	3692.6	4180.1	4941.9	6754.6
47.5°	6580.2	6666.4	6074.7	4591.3	4412.7	4513.2	4796.5	4564.8	4566.7	5116.7	6942.7
50°	6836.1	6896.2	6169.5	4655.3	4706.0	5417.6	5560.7	5067.5	5008.2	5292.0	6973.5
52.5°	7195.7	7225.0	6353.3	4823.9	5145.2	6125.9	6177.5	5978.1	5450.3	5618.0	7041.7
55°	7673.7	7622.0	6681.6	5178.3	5603.3	6644.7	6713.8	6540.0	6006.0	5943.5	7253.0
57.5°	8189.2	8129.9	7168.2	5677.7	6100.3	7041.2	7082.4	7096.2	6375.1	6231.5	7612.1
60°	8558.7	8569.6	7780.8	6250.5	6409.2	7420.7	7338.3	7213.2	6747.5	6653.7	7786.9
62.5°	8688.0	8792.7	8257.9	6850.7	6675.5	7444.4	7316.5	7210.8	6914.2	7089.1	7586.5
65°	8582.4	8765.3	8368.7	7378.1	6836.5	7147.3	7014.2	6946.4	6909.0	7266.7	7143.1
67.5°	8162.6	8391.5	8051.3	7382.8	6251.0	6085.6	6242.9	6457.5	6333.4	7119.4	6521.9
70°	7222.2	7472.8	7314.6	6949.8	5207.2	4787.9	4961.3	5285.9	5198.2	6332.0	5608.0
72.5°	5418.5	5740.7	5772.0	5999.9	4133.7	3603.5	3628.6	3619.6	3770.8	5105.8	4376.2
75°	3480.8	3731.4	4070.2	4841.5	3140.2	2630.9	2390.2	2331.4	2613.3	3989.6	3133.1
77.5°	2020.6	2050.5	2206.8	3652.8	2249.0	1895.6	1731.6	1815.5	1914.0	2784.4	2076.5
80°	966.5	981.7	1046.1	1879.5	1562.5	1640.7	1514.2	1608.5	1314.2	1600.4	1178.3
82.5°	306.5	309.8	320.7	923.4	970.3	1086.8	696.4	933.8	812.5	967.4	784.6
85°	51.2	87.2	107.5	266.7	547.7	366.7	151.1	333.1	453.4	610.2	356.3
87.5°	0.0	0.0	0.0	4.7	44.5	20.8	3.3	19.0	69.6	136.0	16.1
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°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1328.0	1360.7	1237.5	1127.1	1155.1	1132.8	1099.2	1041.8	909.2	1006.8	1000.1
5°	1708.9	1648.3	1481.5	1403.8	1309.0	1164.5	1147.0	1036.1	987.3	995.4	988.3
7.5°	1841.6	1733.1	1585.7	1351.7	1129.5	921.0	857.1	784.6	769.9	801.1	821.5
10°	1737.3	1622.2	1493.3	1202.4	1031.4	880.7	723.0	621.6	566.6	560.0	565.7
12.5°	1785.2	1661.0	1395.7	1173.1	994.4	858.0	681.8	528.7	409.3	418.3	394.7
15°	1818.3	1675.7	1372.5	1111.5	918.2	735.8	523.5	370.5	272.9	244.5	227.4
17.5°	2013.1	1809.3	1343.1	1040.4	811.6	572.8	328.8	214.6	182.9	172.9	164.9
20°	2263.2	1973.7	1342.7	965.5	654.3	358.2	205.1	155.4	147.8	153.5	147.3
22.5°	2554.1	2192.6	1414.2	872.2	469.5	226.0	159.7	137.9	130.3	135.0	135.5
25°	2846.9	2520.9	1472.5	783.6	326.9	173.4	142.1	127.0	118.4	122.7	120.3
27.5°	3375.6	2792.9	1459.2	670.4	240.7	152.6	132.2	118.9	106.1	112.8	112.3
30°	3721.5	3272.8	1510.9	511.7	190.9	133.6	123.2	108.5	94.8	102.3	101.9
32.5°	4135.1	3478.9	1566.8	392.8	158.7	126.5	110.9	96.6	88.6	93.3	92.4
35°	4599.9	3886.4	1464.0	326.9	137.9	114.2	98.1	87.2	80.1	82.4	82.4
37.5°	5420.9	4227.0	1402.4	266.3	128.4	103.3	91.9	78.6	74.4	74.4	76.8
40°	5887.1	4747.2	1218.5	210.8	131.2	95.2	85.8	72.0	66.3	65.9	68.2
42.5°	6493.5	5047.1	1103.4	170.6	118.9	92.9	78.6	65.4	58.7	58.3	60.6
45°	6853.1	5214.8	941.4	134.1	106.6	108.0	73.0	60.2	50.2	48.3	52.6
47.5°	7080.1	5437.0	849.5	106.6	92.9	107.5	71.1	52.1	42.2	39.8	43.6
50°	7195.2	5546.9	831.5	91.4	80.5	96.2	81.5	43.6	36.0	32.7	36.0
52.5°	7315.0	5725.5	838.1	84.3	71.1	77.2	77.2	37.4	31.7	28.0	30.3
55°	7557.1	5989.4	823.4	80.1	65.4	58.7	49.7	33.2	28.9	24.6	27.0
57.5°	7854.7	6178.9	823.4	76.3	60.6	50.2	39.8	30.8	26.5	21.3	23.2
60°	7798.3	5979.5	782.7	72.5	56.9	46.9	36.0	28.4	24.6	19.4	20.8
62.5°	7411.2	5437.0	633.9	66.8	53.5	44.5	32.7	27.0	23.2	17.1	18.5
65°	6956.4	4860.9	440.6	60.6	49.7	40.3	29.4	25.6	21.3	15.2	16.1
67.5°	6408.7	4174.4	244.5	54.5	46.0	35.1	27.0	25.1	20.4	13.7	14.7
70°	5458.3	3151.5	131.2	49.7	43.1	32.2	25.6	25.1	20.4	13.3	13.7
72.5°	4097.7	1984.6	76.8	45.5	39.3	29.8	24.2	25.6	19.9	12.8	12.8
75°	2788.1	1204.8	55.0	38.8	35.1	25.1	23.2	24.6	20.4	12.8	11.8
77.5°	1895.6	846.6	45.0	35.1	31.7	22.3	23.7	24.6	20.4	10.4	8.1
80°	1183.5	436.8	34.1	28.0	27.5	19.4	23.7	21.3	13.3	2.4	0.0
82.5°	827.7	162.5	19.9	21.3	21.3	13.7	18.5	15.2	7.6	0.0	0.0
85°	347.3	28.0	10.9	15.2	13.3	8.1	14.7	11.4	4.7	0.0	0.0
87.5°	6.2	0.0	4.3	9.0	9.5	4.7	7.6	4.7	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°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1031.4	986.4	891.6	937.1	932.4	953.2	955.1	906.8	1011.0	1075.5	1084.9
5°	989.2	958.9	953.7	927.6	921.0	959.4	938.5	937.1	987.3	1060.8	1061.2
7.5°	822.0	798.8	809.7	779.4	701.2	705.9	713.0	742.9	786.0	834.3	851.8
10°	564.3	624.4	580.4	576.6	568.5	543.4	523.5	539.2	595.1	639.6	656.2
12.5°	402.7	412.2	439.2	429.2	443.0	421.7	413.6	462.4	516.9	562.4	595.1
15°	235.5	251.6	267.7	301.8	315.5	311.3	335.9	376.6	420.7	441.6	481.8
17.5°	165.8	167.2	170.6	207.5	231.7	241.2	255.8	286.6	304.6	314.1	330.7
20°	145.0	140.7	135.0	155.9	178.6	190.5	186.2	210.4	225.0	234.5	246.4
22.5°	131.2	124.1	120.8	127.9	145.4	155.9	157.8	172.0	194.2	200.9	204.7
25°	118.4	113.7	111.3	115.1	124.6	134.6	136.4	154.9	174.8	177.7	185.2
27.5°	109.9	100.9	101.9	104.7	109.0	121.3	125.1	135.5	164.4	167.7	170.1
30°	100.9	91.4	94.3	97.1	95.2	110.4	116.1	127.9	155.9	161.1	163.9
32.5°	91.9	84.8	84.3	87.2	90.5	98.5	110.9	124.6	150.2	157.3	164.4
35°	82.0	76.3	77.2	77.7	82.0	92.4	101.4	108.5	126.0	129.8	132.2
37.5°	74.9	70.1	69.2	73.9	78.2	86.2	89.5	92.9	116.1	124.6	125.1
40°	66.3	63.5	63.5	66.8	76.3	75.3	79.6	90.0	112.3	121.3	122.2
42.5°	60.2	56.4	57.3	60.6	67.3	62.5	71.1	86.2	110.9	119.9	119.4
45°	50.7	49.7	51.6	54.5	57.3	53.1	66.3	82.4	106.1	118.0	114.7
47.5°	42.2	42.2	44.5	47.4	46.0	47.4	60.2	77.2	103.3	114.2	111.8
50°	34.6	35.1	37.4	42.2	37.9	41.7	54.0	72.0	98.5	110.4	108.5
52.5°	29.4	29.8	31.3	34.6	32.7	37.9	49.7	66.8	93.8	103.8	102.8
55°	25.6	26.5	26.5	28.4	29.4	35.5	45.0	61.6	86.7	97.6	95.7
57.5°	22.7	23.7	23.2	24.6	25.6	31.3	40.3	55.9	79.6	88.6	85.8
60°	20.4	21.3	20.8	22.7	22.3	27.0	35.1	49.7	72.0	79.1	76.8
62.5°	18.0	19.0	19.0	19.9	20.4	22.7	30.3	44.1	64.4	70.1	68.2
65°	16.1	17.1	17.5	17.1	18.0	19.4	25.6	39.8	55.9	61.6	58.7
67.5°	14.7	15.6	16.6	14.7	15.6	16.1	21.8	35.5	49.3	54.0	51.6
70°	14.2	14.7	14.7	12.8	12.3	12.8	19.0	30.3	43.1	47.9	44.5
72.5°	13.3	13.7	13.3	10.4	9.0	9.9	16.1	25.6	36.5	40.3	37.4
75°	12.3	12.8	12.3	8.5	5.7	7.1	13.3	22.3	31.3	33.2	31.7
77.5°	10.4	11.4	11.4	6.2	1.9	4.3	9.9	18.0	26.1	26.1	26.5
80°	0.9	2.8	4.7	3.3	0.0	0.5	3.3	9.5	16.6	16.1	17.5
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	5.7	4.3	4.7
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°	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6	1001.6
2.5°	1062.7	1048.0	1066.5	1122.8	1100.1	1104.4	1089.2	1182.5	1288.2	1291.5
5°	1062.2	1048.9	1076.4	1074.0	1138.9	1209.5	1277.8	1388.2	1544.5	1545.4
7.5°	843.8	922.4	942.8	936.6	1020.0	1117.2	1222.3	1433.6	1562.0	1575.8
10°	760.9	795.0	836.7	851.8	886.4	978.8	1097.7	1337.0	1481.0	1512.8
12.5°	659.5	768.5	823.9	931.4	951.3	964.6	1152.2	1360.2	1447.8	1444.1
15°	546.3	641.0	728.7	859.9	913.9	1053.2	1201.0	1473.4	1525.5	1575.8
17.5°	386.6	458.1	592.7	730.6	895.4	1047.0	1335.6	1675.7	1774.3	1834.0
20°	258.7	293.3	415.0	597.4	806.4	957.0	1390.5	1858.6	1966.2	2017.8
22.5°	209.9	226.5	289.5	437.8	688.9	952.8	1412.8	2058.1	2347.1	2415.8
25°	184.8	196.1	229.8	324.1	571.8	933.8	1536.0	2282.6	2631.3	2686.8
27.5°	161.6	178.6	203.7	267.2	490.4	920.5	1598.5	2659.8	3075.7	3130.2
30°	154.4	175.3	199.5	243.5	433.5	869.4	1698.0	2999.9	3394.6	3491.7
32.5°	166.8	173.9	185.7	223.1	389.4	815.4	1872.8	3406.4	3658.5	3785.0
35°	132.2	145.0	165.8	204.7	371.0	812.5	1971.8	3667.9	4081.5	4159.7
37.5°	129.3	141.2	168.2	199.5	393.2	834.3	2118.7	4203.8	4844.3	5004.5
40°	125.5	140.7	166.3	197.1	393.2	855.6	2212.5	4632.5	5357.4	5519.9
42.5°	124.1	143.6	165.8	207.0	380.9	867.5	2354.2	5060.4	5899.4	6027.8
45°	123.2	146.4	167.2	218.9	378.1	906.3	2434.2	5268.3	6248.1	6395.5
47.5°	120.8	146.4	186.7	211.8	362.4	902.5	2538.0	5576.8	6456.1	6580.2
50°	118.9	147.3	211.3	198.5	364.8	879.3	2678.7	5866.2	6747.5	6836.1
52.5°	114.7	150.7	207.5	180.0	357.7	877.0	2888.6	6278.0	7130.7	7195.7
55°	105.2	146.4	187.6	157.3	332.6	849.9	3166.7	6813.3	7662.3	7673.7
57.5°	96.6	136.0	156.8	144.5	278.6	853.3	3406.4	7306.0	8136.1	8189.2
60°	88.1	141.2	121.8	134.6	230.7	792.6	3522.5	7494.6	8481.0	8558.7
62.5°	80.1	130.3	103.8	123.7	205.6	736.2	3442.0	7343.0	8525.1	8688.0
65°	71.1	90.5	87.6	110.9	208.0	657.1	3172.9	6899.1	8357.8	8582.4
67.5°	61.1	71.1	77.2	95.7	222.7	589.4	2711.4	6186.5	7908.2	8162.6
70°	53.5	64.0	67.3	83.9	231.7	544.8	2139.6	5197.8	6987.2	7222.2
72.5°	44.5	59.2	60.2	73.4	223.1	500.8	1524.6	3731.4	5305.8	5418.5
75°	38.4	49.3	54.5	61.6	187.6	373.8	840.0	2309.6	3354.8	3480.8
77.5°	34.6	37.4	41.2	42.6	79.6	194.7	289.0	1424.2	1878.5	2020.6
80°	26.5	29.4	28.4	29.4	43.6	67.3	109.9	667.5	887.4	966.5
82.5°	8.5	14.2	15.6	13.3	28.4	33.2	31.7	230.7	288.5	306.5
85°	1.9	5.2	2.4	0.0	9.5	17.1	2.4	35.1	69.2	51.2
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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