

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: P596991

Luminaire Tested: **MSA-SA2D-835-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596991
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-835-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: 8111 lumens
Efficiency: N/A
Efficacy: 62.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

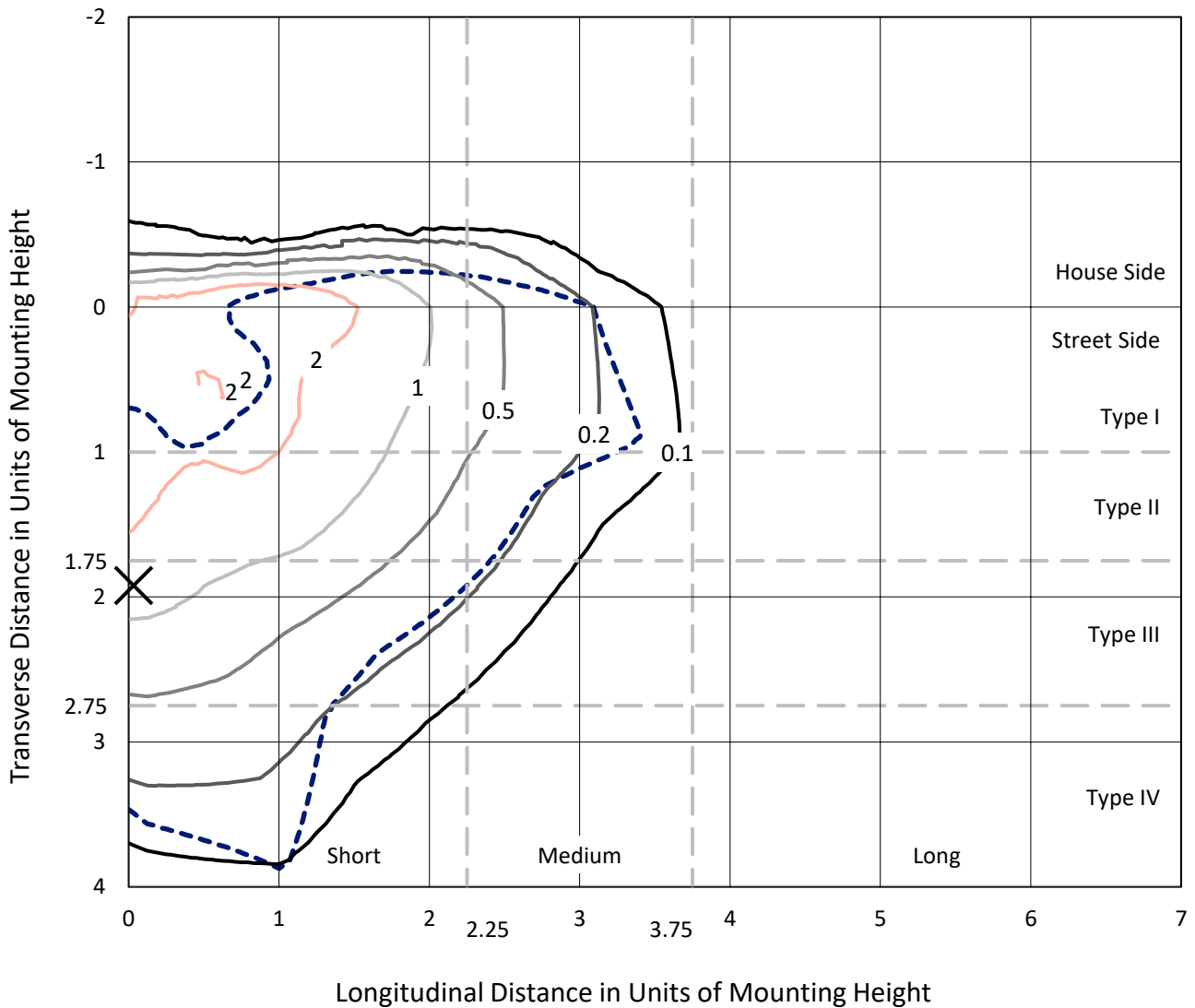
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

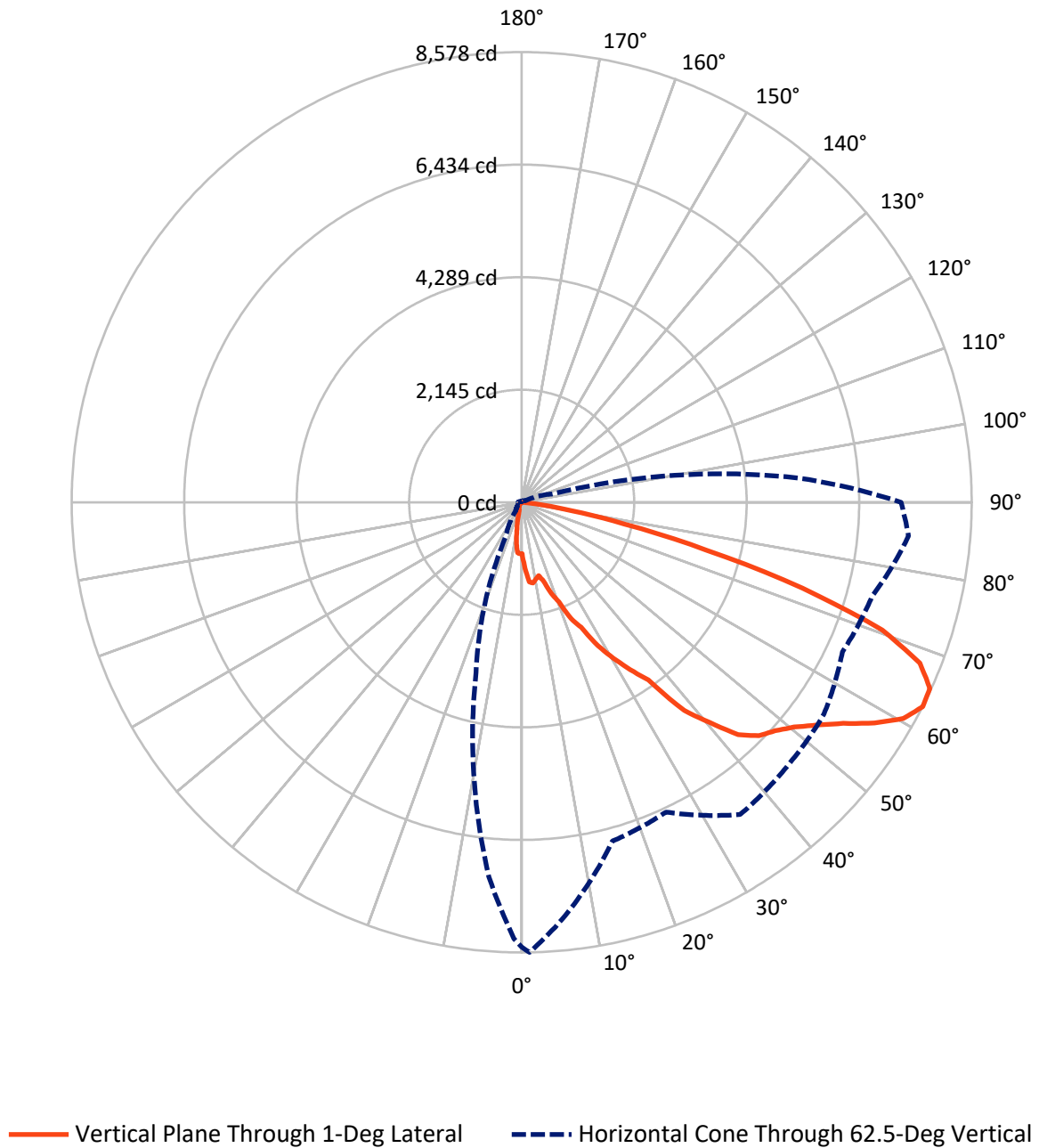
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 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	927.5	0.0	927.5
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7183.5	0.0	7183.5
	% Fixture	88.6	0.0	88.6
Total	Lumens	8111.0	0.0	8111.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.2	1.3
10°-20°	285.2	3.5
20°-30°	460.9	5.7
30°-40°	772.1	9.5
40°-50°	1262.5	15.6
50°-60°	1868.9	23.0
60°-70°	2145.6	26.5
70°-80°	1061.0	13.1
80°-90°	145.6	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°	8111.0	100.0
0°-180°	8111.0	100.0

Coefficient of Utilization

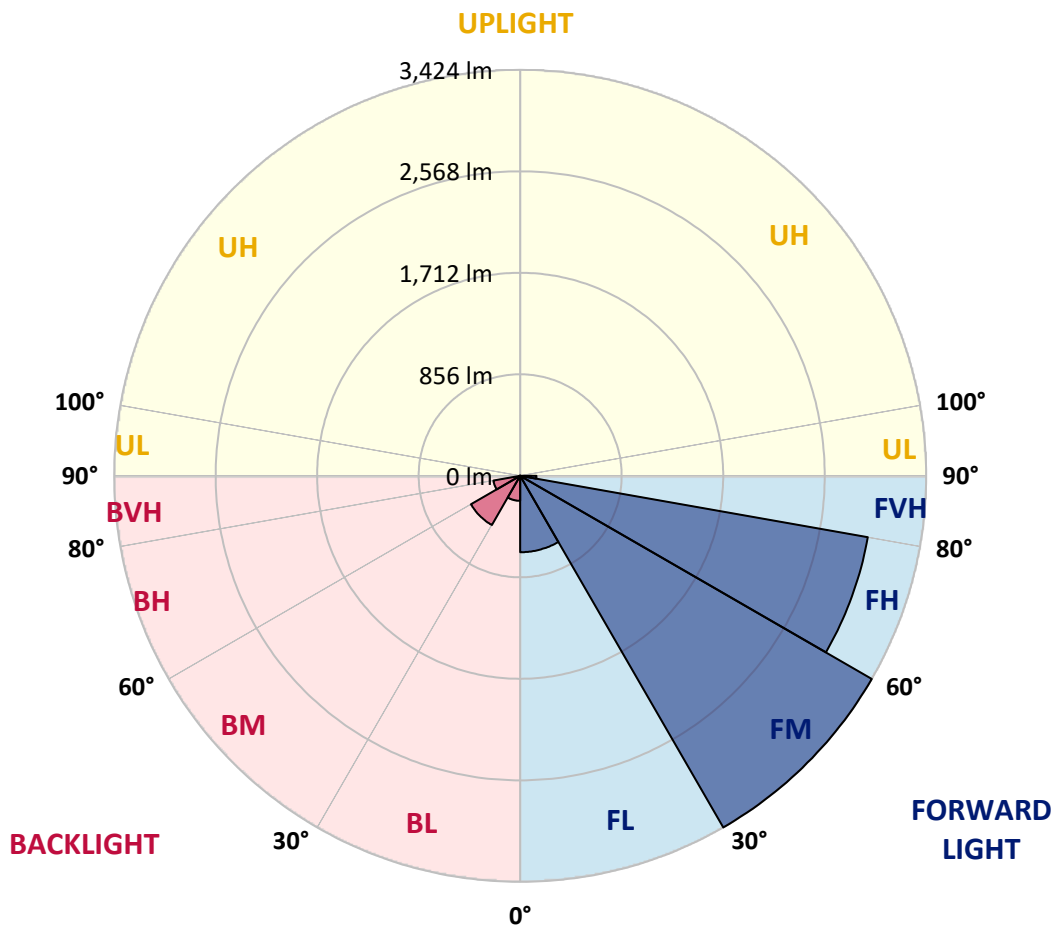


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	644.2	7.9			
FM (30°-60°)	3424.4	42.2			
FH (60°-80°)	2977.2	36.7			G2/5000
FVH (80°-90°)	137.6	1.7			G2/225
BL (0°-30°)	211.0	2.6	B1/500		
BM (30°-60°)	479.1	5.9	B1/1000		
BH (60°-80°)	229.3	2.8	B1/500		G1/500
BVH (80°-90°)	8.1	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°	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1
2.5°	1260.0	1266.0	1237.8	1234.1	1168.5	1250.3	1252.6	1262.3	1202.2	1085.7	1248.4
5°	1507.7	1524.3	1502.6	1599.2	1627.0	1686.6	1577.0	1675.0	1633.4	1645.0	1668.6
7.5°	1537.3	1554.4	1600.2	1761.9	1911.2	1873.8	1861.8	1898.7	1895.5	1810.0	1852.5
10°	1475.8	1490.1	1566.4	1860.8	1926.0	2094.2	2135.4	2050.3	2015.7	1828.5	1746.7
12.5°	1408.8	1432.8	1529.9	1883.0	2078.5	2248.6	2384.0	2263.0	2147.9	1948.7	1873.8
15°	1537.3	1550.7	1703.2	1929.2	2100.3	2217.7	2328.6	2288.4	2270.8	2127.5	1873.8
17.5°	1789.2	1820.6	1931.1	2042.5	2177.4	2248.2	2221.8	2209.3	2164.5	2389.6	2127.1
20°	1968.5	2027.2	2171.9	2220.0	2112.7	2178.8	2162.7	2151.6	2116.4	2535.2	2418.3
22.5°	2356.8	2410.9	2413.6	2430.7	2181.1	2075.8	2049.0	2052.2	2211.6	2578.6	2780.6
25°	2621.2	2639.6	2785.7	2663.7	2367.9	2107.2	2005.0	2050.8	2280.5	2891.1	3121.3
27.5°	3053.8	3097.7	3188.7	2775.5	2479.7	2087.3	1924.6	2091.0	2461.7	2994.6	3499.8
30°	3406.4	3448.5	3595.0	2928.5	2576.8	2185.8	1959.3	2171.9	2574.5	3207.7	3840.0
32.5°	3692.6	3801.2	3967.6	3164.7	2573.1	2299.0	2136.3	2145.1	2713.1	3483.6	4176.5
35°	4058.2	4159.4	4276.3	3327.4	2741.3	2335.5	2188.5	2408.5	2919.3	3772.0	4629.4
37.5°	4882.3	5035.3	4804.2	3737.4	2937.3	2665.5	2394.7	2570.8	3135.1	4066.5	5252.0
40°	5385.1	5514.1	5290.9	3946.8	3276.6	2831.9	2762.6	2852.7	3346.4	4218.5	5721.2
42.5°	5880.6	6050.7	5677.7	4262.0	3598.7	3301.5	3112.0	3184.6	3651.9	4585.5	6249.0
45°	6239.3	6344.7	5761.4	4427.0	4041.5	3836.8	3710.6	3602.4	4078.0	4821.3	6589.6
47.5°	6419.6	6503.7	5926.4	4479.2	4305.0	4403.0	4679.4	4453.3	4455.2	4991.8	6773.1
50°	6669.1	6727.8	6018.8	4541.6	4591.1	5285.3	5424.9	4943.7	4886.0	5162.8	6803.2
52.5°	7020.0	7048.6	6198.2	4706.2	5019.5	5976.3	6026.7	5832.1	5317.2	5480.8	6869.7
55°	7486.3	7435.9	6518.5	5051.9	5466.5	6482.4	6549.9	6380.3	5859.4	5798.4	7075.9
57.5°	7989.2	7931.4	6993.2	5539.1	5951.3	6869.3	6909.5	6922.9	6219.4	6079.4	7426.2
60°	8349.7	8360.4	7590.8	6097.9	6252.7	7239.5	7159.1	7037.1	6582.7	6491.2	7596.8
62.5°	8475.9	8578.1	8056.2	6683.5	6512.5	7262.6	7137.8	7034.7	6745.4	6916.0	7401.3
65°	8372.8	8551.2	8164.4	7197.9	6669.6	6972.8	6842.9	6776.8	6740.3	7089.3	6968.7
67.5°	7963.3	8186.6	7854.7	7202.5	6098.3	5937.0	6090.5	6299.8	6178.7	6945.5	6362.7
70°	7045.8	7290.3	7136.0	6780.1	5080.1	4671.0	4840.2	5156.8	5071.3	6177.4	5471.1
72.5°	5286.2	5600.5	5631.0	5853.4	4032.7	3515.5	3540.0	3531.2	3678.7	4981.2	4269.4
75°	3395.8	3640.3	3970.8	4723.3	3063.5	2566.6	2331.8	2274.5	2549.5	3892.2	3056.6
77.5°	1971.3	2000.4	2152.9	3563.6	2194.1	1849.3	1689.4	1771.2	1867.3	2716.4	2025.8
80°	942.9	957.7	1020.5	1833.6	1524.3	1600.6	1477.2	1569.2	1282.2	1561.3	1149.5
82.5°	299.0	302.3	312.9	900.8	946.6	1060.3	679.4	911.0	792.7	943.8	765.4
85°	49.9	85.0	104.9	260.2	534.3	357.7	147.4	324.9	442.3	595.3	347.6
87.5°	0.0	0.0	0.0	4.6	43.4	20.3	3.2	18.5	67.9	132.7	15.7
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°	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1
2.5°	1295.6	1327.5	1207.3	1099.6	1126.9	1105.1	1072.3	1016.4	887.0	982.2	975.7
5°	1667.2	1608.0	1445.3	1369.5	1277.1	1136.1	1119.0	1010.8	963.2	971.1	964.2
7.5°	1796.6	1690.7	1547.0	1318.7	1101.9	898.5	836.1	765.4	751.1	781.6	801.5
10°	1694.9	1582.6	1456.9	1173.1	1006.2	859.2	705.3	606.4	552.8	546.3	551.9
12.5°	1741.6	1620.5	1361.7	1144.4	970.2	837.1	665.1	515.8	399.3	408.1	385.0
15°	1773.9	1634.8	1339.0	1084.3	895.8	717.8	510.7	361.4	266.2	238.5	221.9
17.5°	1963.9	1765.2	1310.3	1015.0	791.8	558.8	320.8	209.4	178.4	168.7	160.8
20°	2208.0	1925.5	1309.9	942.0	638.3	349.4	200.1	151.6	144.2	149.8	143.7
22.5°	2491.7	2139.1	1379.7	850.9	458.0	220.5	155.8	134.5	127.1	131.7	132.2
25°	2777.4	2459.4	1436.5	764.5	318.9	169.2	138.7	123.9	115.6	119.7	117.4
27.5°	3293.2	2724.7	1423.6	654.0	234.8	148.8	129.0	116.0	103.5	110.0	109.5
30°	3630.6	3192.9	1474.0	499.2	186.3	130.3	120.2	105.8	92.4	99.8	99.4
32.5°	4034.1	3394.0	1528.5	383.2	154.8	123.4	108.2	94.3	86.4	91.1	90.1
35°	4487.5	3791.5	1428.2	318.9	134.5	111.4	95.7	85.0	78.1	80.4	80.4
37.5°	5288.5	4123.8	1368.1	259.8	125.3	100.8	89.7	76.7	72.6	72.6	74.9
40°	5743.4	4631.3	1188.8	205.7	128.0	92.9	83.7	70.3	64.7	64.2	66.6
42.5°	6335.0	4923.9	1076.5	166.4	116.0	90.6	76.7	63.8	57.3	56.9	59.2
45°	6685.8	5087.5	918.4	130.8	104.0	105.4	71.2	58.7	49.0	47.1	51.3
47.5°	6907.2	5304.3	828.7	104.0	90.6	104.9	69.3	50.8	41.1	38.8	42.5
50°	7019.5	5411.5	811.2	89.2	78.6	93.8	79.5	42.5	35.1	31.9	35.1
52.5°	7136.4	5585.7	817.6	82.3	69.3	75.3	75.3	36.5	31.0	27.3	29.6
55°	7372.6	5843.2	803.3	78.1	63.8	57.3	48.5	32.4	28.2	24.0	26.3
57.5°	7662.9	6028.1	803.3	74.4	59.2	49.0	38.8	30.0	25.9	20.8	22.6
60°	7607.9	5833.5	763.6	70.7	55.5	45.8	35.1	27.7	24.0	19.0	20.3
62.5°	7230.3	5304.3	618.4	65.2	52.2	43.4	31.9	26.3	22.6	16.6	18.0
65°	6786.5	4742.2	429.9	59.2	48.5	39.3	28.7	25.0	20.8	14.8	15.7
67.5°	6252.2	4072.5	238.5	53.2	44.8	34.2	26.3	24.5	19.9	13.4	14.3
70°	5325.1	3074.6	128.0	48.5	42.1	31.4	25.0	24.5	19.9	12.9	13.4
72.5°	3997.6	1936.2	74.9	44.4	38.4	29.1	23.6	25.0	19.4	12.5	12.5
75°	2720.1	1175.4	53.6	37.9	34.2	24.5	22.6	24.0	19.9	12.5	11.6
77.5°	1849.3	826.0	43.9	34.2	31.0	21.7	23.1	24.0	19.9	10.2	7.9
80°	1154.6	426.2	33.3	27.3	26.8	19.0	23.1	20.8	12.9	2.3	0.0
82.5°	807.5	158.5	19.4	20.8	20.8	13.4	18.0	14.8	7.4	0.0	0.0
85°	338.8	27.3	10.6	14.8	12.9	7.9	14.3	11.1	4.6	0.0	0.0
87.5°	6.0	0.0	4.2	8.8	9.2	4.6	7.4	4.6	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°	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1
2.5°	1006.2	962.3	869.9	914.2	909.6	930.0	931.8	884.7	986.3	1049.2	1058.4
5°	965.1	935.5	930.4	905.0	898.5	936.0	915.6	914.2	963.2	1034.9	1035.3
7.5°	801.9	779.3	789.9	760.3	684.1	688.7	695.6	724.7	766.8	813.9	831.0
10°	550.5	609.2	566.2	562.5	554.6	530.1	510.7	526.0	580.5	624.0	640.2
12.5°	392.9	402.1	428.5	418.8	432.2	411.4	403.5	451.1	504.3	548.6	580.5
15°	229.7	245.4	261.1	294.4	307.8	303.7	327.7	367.5	410.4	430.8	470.1
17.5°	161.8	163.2	166.4	202.4	226.0	235.3	249.6	279.6	297.2	306.4	322.6
20°	141.4	137.3	131.7	152.1	174.3	185.8	181.6	205.2	219.5	228.8	240.3
22.5°	128.0	121.1	117.9	124.8	141.9	152.1	153.9	167.8	189.5	196.0	199.7
25°	115.6	110.9	108.6	112.3	121.6	131.3	133.1	151.1	170.6	173.3	180.7
27.5°	107.2	98.4	99.4	102.1	106.3	118.3	122.0	132.2	160.4	163.6	165.9
30°	98.4	89.2	92.0	94.8	92.9	107.7	113.2	124.8	152.1	157.1	159.9
32.5°	89.7	82.7	82.3	85.0	88.3	96.1	108.2	121.6	146.5	153.5	160.4
35°	80.0	74.4	75.3	75.8	80.0	90.1	98.9	105.8	122.9	126.6	129.0
37.5°	73.0	68.4	67.5	72.1	76.3	84.1	87.4	90.6	113.2	121.6	122.0
40°	64.7	61.9	61.9	65.2	74.4	73.5	77.7	87.8	109.5	118.3	119.2
42.5°	58.7	55.0	55.9	59.2	65.6	61.0	69.3	84.1	108.2	116.9	116.5
45°	49.5	48.5	50.4	53.2	55.9	51.8	64.7	80.4	103.5	115.1	111.9
47.5°	41.1	41.1	43.4	46.2	44.8	46.2	58.7	75.3	100.8	111.4	109.1
50°	33.7	34.2	36.5	41.1	37.0	40.7	52.7	70.3	96.1	107.7	105.8
52.5°	28.7	29.1	30.5	33.7	31.9	37.0	48.5	65.2	91.5	101.2	100.3
55°	25.0	25.9	25.9	27.7	28.7	34.7	43.9	60.1	84.6	95.2	93.4
57.5°	22.2	23.1	22.6	24.0	25.0	30.5	39.3	54.5	77.7	86.4	83.7
60°	19.9	20.8	20.3	22.2	21.7	26.3	34.2	48.5	70.3	77.2	74.9
62.5°	17.6	18.5	18.5	19.4	19.9	22.2	29.6	43.0	62.9	68.4	66.6
65°	15.7	16.6	17.1	16.6	17.6	19.0	25.0	38.8	54.5	60.1	57.3
67.5°	14.3	15.3	16.2	14.3	15.3	15.7	21.3	34.7	48.1	52.7	50.4
70°	13.9	14.3	14.3	12.5	12.0	12.5	18.5	29.6	42.1	46.7	43.4
72.5°	12.9	13.4	12.9	10.2	8.8	9.7	15.7	25.0	35.6	39.3	36.5
75°	12.0	12.5	12.0	8.3	5.5	6.9	12.9	21.7	30.5	32.4	31.0
77.5°	10.2	11.1	11.1	6.0	1.8	4.2	9.7	17.6	25.4	25.4	25.9
80°	0.9	2.8	4.6	3.2	0.0	0.5	3.2	9.2	16.2	15.7	17.1
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	5.5	4.2	4.6
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°	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1	977.1
2.5°	1036.7	1022.4	1040.4	1095.4	1073.2	1077.4	1062.6	1153.7	1256.7	1260.0
5°	1036.3	1023.3	1050.1	1047.8	1111.1	1180.0	1246.6	1354.3	1506.8	1507.7
7.5°	823.2	899.9	919.8	913.8	995.1	1089.9	1192.5	1398.6	1523.9	1537.3
10°	742.3	775.6	816.3	831.0	864.8	954.9	1070.9	1304.3	1444.9	1475.8
12.5°	643.4	749.7	803.8	908.7	928.1	941.0	1124.1	1327.0	1412.5	1408.8
15°	532.9	625.4	710.9	838.9	891.6	1027.5	1171.7	1437.5	1488.3	1537.3
17.5°	377.2	447.0	578.2	712.7	873.6	1021.5	1303.0	1634.8	1731.0	1789.2
20°	252.4	286.1	404.9	582.8	786.7	933.7	1356.6	1813.2	1918.1	1968.5
22.5°	204.8	220.9	282.4	427.1	672.0	929.5	1378.3	2007.8	2289.8	2356.8
25°	180.3	191.4	224.2	316.1	557.9	911.0	1498.5	2226.9	2567.1	2621.2
27.5°	157.6	174.3	198.7	260.7	478.4	898.1	1559.5	2594.8	3000.6	3053.8
30°	150.7	171.0	194.6	237.6	422.9	848.1	1656.5	2926.7	3311.7	3406.4
32.5°	162.7	169.6	181.2	217.7	379.9	795.5	1827.1	3323.2	3569.1	3692.6
35°	129.0	141.4	161.8	199.7	361.9	792.7	1923.7	3578.4	3981.9	4058.2
37.5°	126.2	137.7	164.1	194.6	383.6	813.9	2067.0	4101.1	4726.0	4882.3
40°	122.5	137.3	162.2	192.3	383.6	834.7	2158.5	4519.4	5226.6	5385.1
42.5°	121.1	140.0	161.8	202.0	371.6	846.3	2296.7	4936.8	5755.4	5880.6
45°	120.2	142.8	163.2	213.5	368.8	884.2	2374.8	5139.7	6095.6	6239.3
47.5°	117.9	142.8	182.1	206.6	353.6	880.5	2476.0	5440.6	6298.5	6419.6
50°	116.0	143.7	206.1	193.7	355.9	857.9	2613.3	5723.0	6582.7	6669.1
52.5°	111.9	147.0	202.4	175.6	349.0	855.5	2818.1	6124.7	6956.6	7020.0
55°	102.6	142.8	183.0	153.5	324.5	829.2	3089.4	6647.0	7475.2	7486.3
57.5°	94.3	132.7	153.0	141.0	271.8	832.4	3323.2	7127.7	7937.4	7989.2
60°	86.0	137.7	118.8	131.3	225.1	773.3	3436.5	7311.6	8273.9	8349.7
62.5°	78.1	127.1	101.2	120.6	200.6	718.3	3357.9	7163.7	8316.9	8475.9
65°	69.3	88.3	85.5	108.2	202.9	641.1	3095.4	6730.6	8153.7	8372.8
67.5°	59.6	69.3	75.3	93.4	217.2	575.0	2645.2	6035.5	7715.1	7963.3
70°	52.2	62.4	65.6	81.8	226.0	531.5	2087.3	5070.8	6816.6	7045.8
72.5°	43.4	57.8	58.7	71.6	217.7	488.5	1487.4	3640.3	5176.2	5286.2
75°	37.4	48.1	53.2	60.1	183.0	364.7	819.5	2253.2	3272.9	3395.8
77.5°	33.7	36.5	40.2	41.6	77.7	190.0	281.9	1389.4	1832.6	1971.3
80°	25.9	28.7	27.7	28.7	42.5	65.6	107.2	651.2	865.7	942.9
82.5°	8.3	13.9	15.3	12.9	27.7	32.4	31.0	225.1	281.5	299.0
85°	1.8	5.1	2.3	0.0	9.2	16.6	2.3	34.2	67.5	49.9
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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