

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: P596463

Luminaire Tested: **MSA-SA4D-722-U-SLL-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596463
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-SA4D-722-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: 14107 lumens
Efficiency: N/A
Efficacy: 54.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

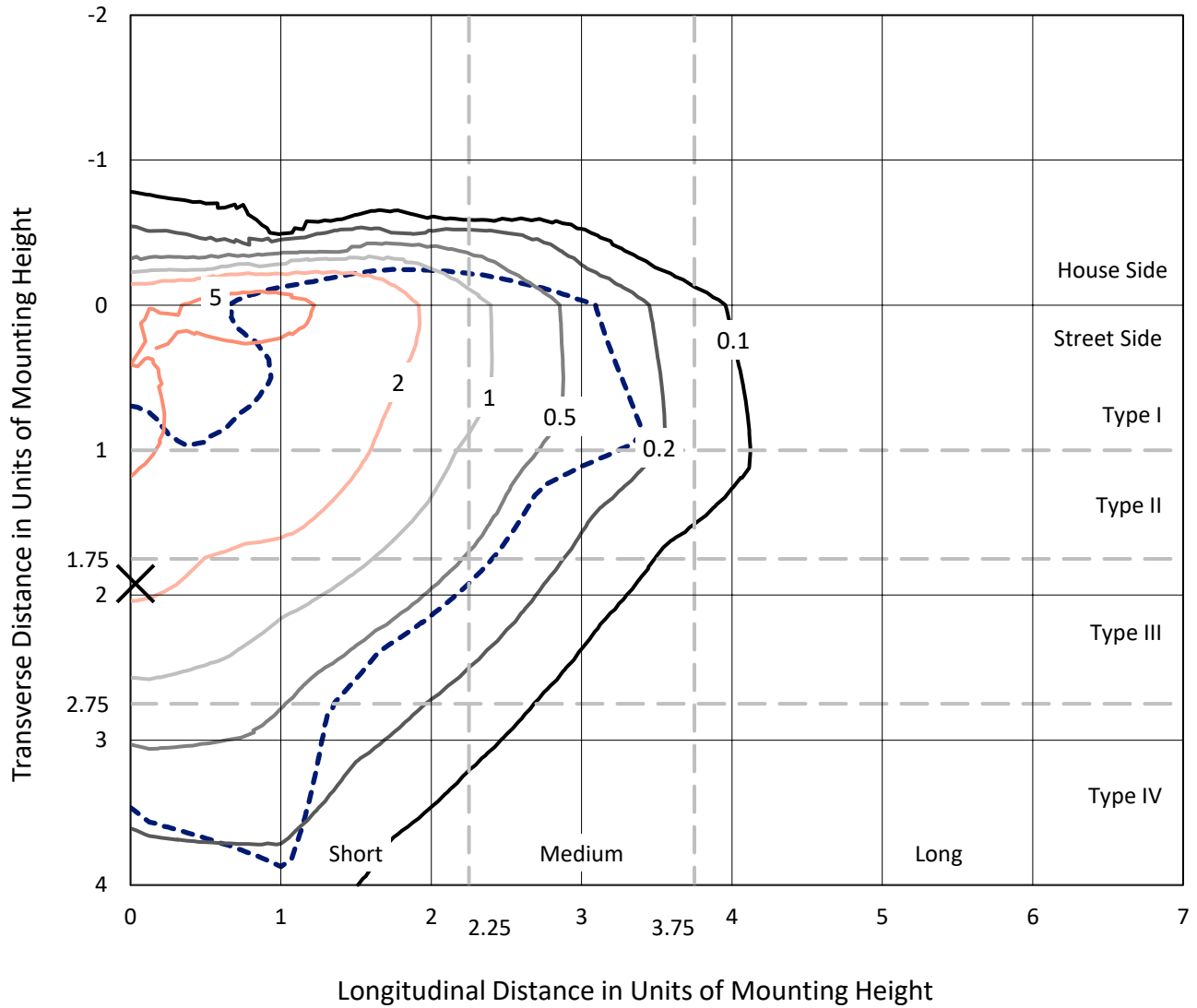
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

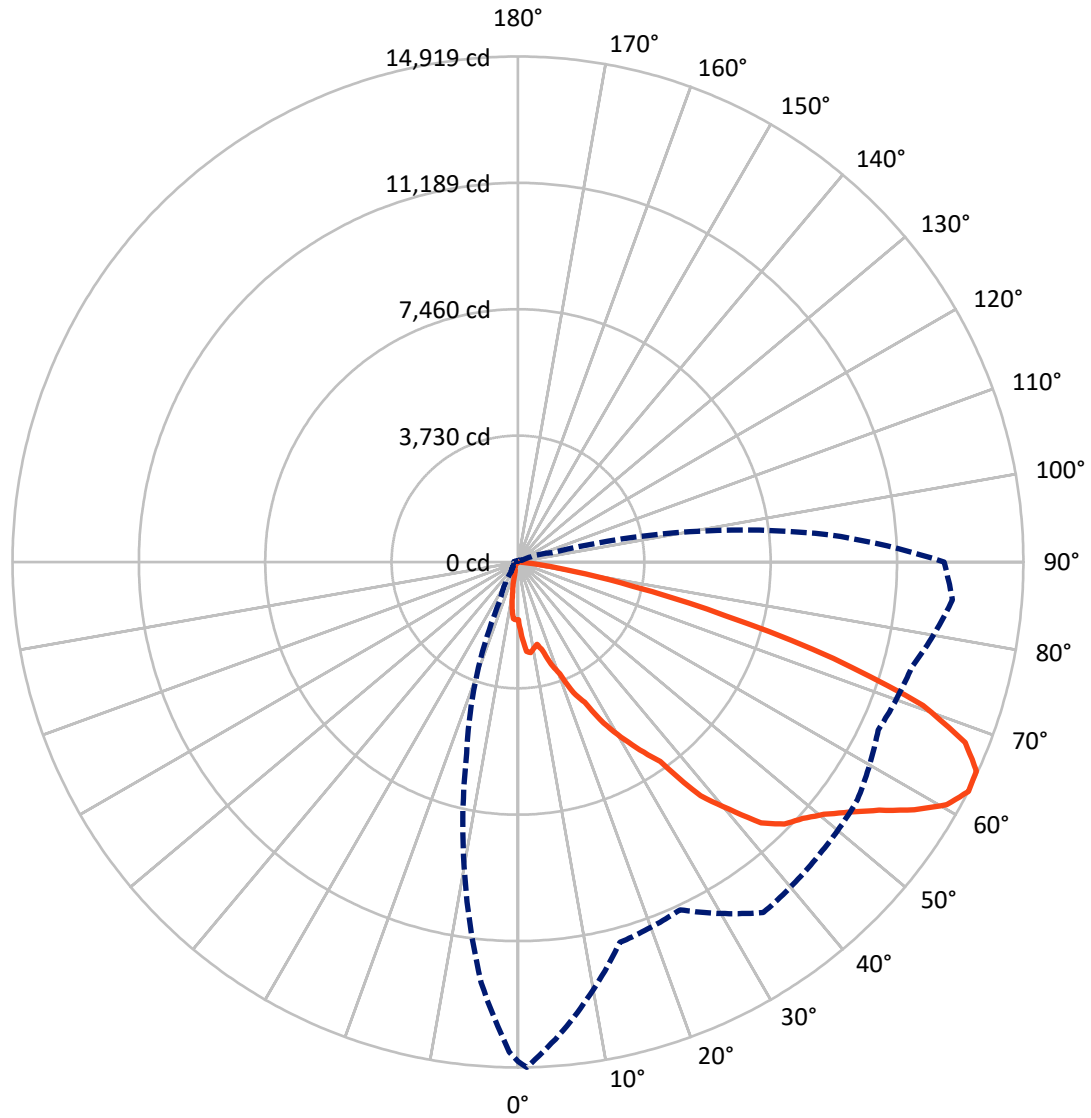
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 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	1613.2	0.0	1613.2
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	12493.8	0.0	12493.8
	% Fixture	88.6	0.0	88.6
Total	Lumens	14107.0	0.0	14107.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.9	1.3
10°-20°	495.9	3.5
20°-30°	801.7	5.7
30°-40°	1342.9	9.5
40°-50°	2195.8	15.6
50°-60°	3250.4	23.0
60°-70°	3731.7	26.5
70°-80°	1845.3	13.1
80°-90°	253.3	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°	14107.0	100.0
0°-180°	14107.0	100.0

Coefficient of Utilization



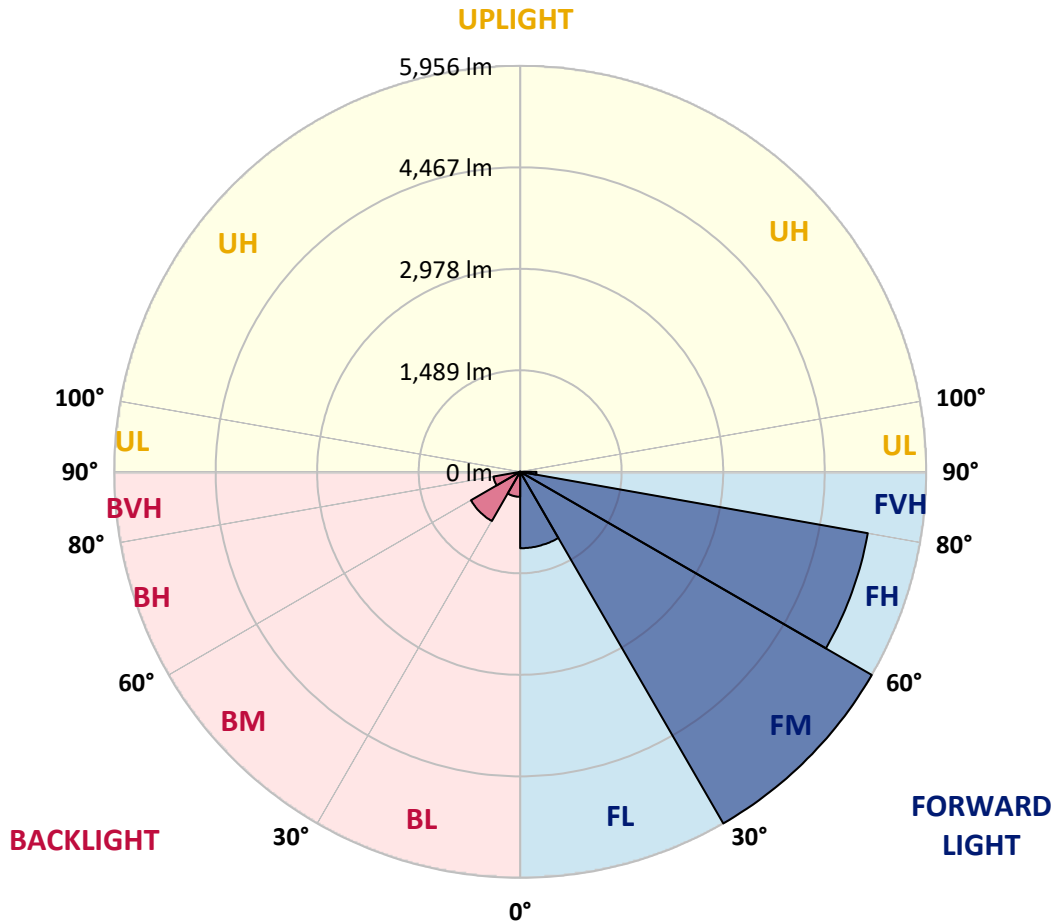
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1120.5	7.9			
FM (30°-60°)	5955.9	42.2			
FH (60°-80°)	5178.1	36.7			G3/7500
FVH (80°-90°)	239.3	1.7			G3/500
BL (0°-30°)	367.0	2.6	B1/500		
BM (30°-60°)	833.2	5.9	B1/1000		
BH (60°-80°)	398.9	2.8	B1/500		G1/500
BVH (80°-90°)	14.0	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4
2.5°	2191.4	2201.8	2152.8	2146.4	2032.2	2174.5	2178.5	2195.4	2090.9	1888.3	2171.3
5°	2622.3	2651.2	2613.4	2781.4	2829.7	2933.4	2742.9	2913.3	2840.9	2861.0	2902.0
7.5°	2673.7	2703.5	2783.1	3064.4	3324.1	3259.0	3238.1	3302.4	3296.7	3148.0	3222.0
10°	2566.8	2591.7	2724.4	3236.4	3349.8	3642.4	3714.0	3566.0	3505.7	3180.2	3037.9
12.5°	2450.2	2492.0	2660.9	3275.0	3615.1	3910.9	4146.4	3935.8	3735.7	3389.2	3259.0
15°	2673.7	2697.0	2962.3	3355.4	3652.9	3857.0	4050.0	3980.0	3949.5	3700.3	3259.0
17.5°	3111.8	3166.5	3358.6	3552.4	3787.1	3910.1	3864.3	3842.6	3764.6	4156.1	3699.5
20°	3423.7	3525.8	3777.5	3861.1	3674.6	3789.5	3761.4	3742.1	3681.0	4409.3	4205.9
22.5°	4099.0	4193.1	4197.9	4227.6	3793.5	3610.3	3563.6	3569.3	3846.6	4484.9	4836.2
25°	4558.8	4591.0	4845.0	4632.8	4118.3	3664.9	3487.3	3566.8	3966.4	5028.3	5428.6
27.5°	5311.3	5387.6	5546.0	4827.3	4312.8	3630.3	3347.4	3636.8	4281.5	5208.4	6087.0
30°	5924.6	5997.8	6252.6	5093.4	4481.7	3801.6	3407.7	3777.5	4477.6	5579.0	6678.7
32.5°	6422.2	6611.2	6900.6	5504.2	4475.2	3998.5	3715.6	3730.8	4718.8	6058.9	7263.9
35°	7058.1	7234.2	7437.6	5787.2	4767.8	4062.0	3806.4	4189.0	5077.3	6560.5	8051.7
37.5°	8491.4	8757.5	8355.6	6500.2	5108.7	4636.0	4164.9	4471.2	5452.8	7072.6	9134.6
40°	9366.1	9590.4	9202.1	6864.4	5698.7	4925.4	4804.8	4961.6	5820.1	7337.1	9950.5
42.5°	10227.8	10523.7	9874.9	7412.6	6259.1	5742.2	5412.6	5538.8	6351.5	7975.3	10868.5
45°	10851.7	11034.9	10020.4	7699.6	7029.2	6673.1	6453.6	6265.5	7092.7	8385.3	11461.0
47.5°	11165.2	11311.5	10307.4	7790.5	7487.4	7657.8	8138.5	7745.4	7748.7	8682.0	11780.1
50°	11599.3	11701.4	10468.2	7899.0	7985.0	9192.4	9435.2	8598.4	8497.9	8979.4	11832.4
52.5°	12209.4	12259.3	10780.1	8185.2	8730.2	10394.2	10481.9	10143.4	9247.9	9532.5	11948.2
55°	13020.5	12932.9	11337.2	8786.5	9507.6	11274.5	11391.9	11096.8	10190.9	10084.7	12306.7
57.5°	13895.2	13794.7	12162.8	9633.8	10350.8	11947.3	12017.3	12040.6	10817.1	10573.5	12916.0
60°	14522.2	14540.7	13202.2	10605.7	10875.0	12591.3	12451.4	12239.2	11448.9	11289.8	13212.7
62.5°	14741.7	14919.3	14011.7	11624.2	11326.7	12631.5	12414.4	12235.1	11731.9	12028.5	12872.6
65°	14562.4	14872.7	14199.8	12518.9	11600.1	12127.4	11901.5	11786.6	11723.1	12330.0	12120.2
67.5°	13850.1	14238.4	13661.2	12527.0	10606.5	10325.9	10592.8	10957.0	10746.3	12080.0	11066.3
70°	12254.4	12679.7	12411.2	11792.2	8835.5	8124.1	8418.3	8969.0	8820.2	10743.9	9515.6
72.5°	9194.0	9740.7	9793.7	10180.4	7013.9	6114.4	6157.0	6141.7	6398.1	8663.5	7425.5
75°	5906.1	6331.4	6906.2	8214.9	5328.2	4464.0	4055.6	3955.9	4434.2	6769.5	5316.1
77.5°	3428.6	3479.2	3744.5	6198.0	3816.0	3216.3	2938.2	3080.5	3247.7	4724.4	3523.4
80°	1639.9	1665.7	1775.0	3189.0	2651.2	2783.9	2569.2	2729.2	2230.0	2715.5	1999.3
82.5°	520.1	525.7	544.2	1566.8	1646.4	1844.1	1181.7	1584.5	1378.7	1641.5	1331.2
85°	86.8	147.9	182.5	452.6	929.3	622.2	256.4	565.1	769.3	1035.4	604.5
87.5°	0.0	0.0	0.0	8.0	75.6	35.4	5.6	32.2	118.2	230.7	27.3
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°	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4
2.5°	2253.3	2308.8	2099.7	1912.4	1959.9	1922.1	1865.0	1767.7	1542.7	1708.3	1697.0
5°	2899.6	2796.7	2513.8	2381.9	2221.1	1976.0	1946.2	1758.1	1675.3	1689.0	1676.9
7.5°	3124.7	2940.6	2690.6	2293.5	1916.5	1562.8	1454.2	1331.2	1306.3	1359.4	1393.9
10°	2947.8	2752.5	2533.8	2040.3	1750.1	1494.4	1226.7	1054.7	961.4	950.2	959.8
12.5°	3029.0	2818.4	2368.2	1990.4	1687.4	1455.8	1156.8	897.1	694.6	709.8	669.6
15°	3085.3	2843.3	2328.9	1885.9	1557.9	1248.4	888.3	628.6	463.0	414.8	385.9
17.5°	3415.7	3070.0	2279.0	1765.3	1377.1	971.9	557.9	364.2	310.3	293.4	279.8
20°	3840.2	3349.0	2278.2	1638.3	1110.2	607.7	348.1	263.7	250.8	260.5	250.0
22.5°	4333.7	3720.4	2399.6	1480.0	796.7	383.5	270.9	233.9	221.1	229.1	229.9
25°	4830.5	4277.5	2498.5	1329.6	554.7	294.2	241.2	215.4	201.0	208.2	204.2
27.5°	5727.7	4738.9	2476.0	1137.5	408.4	258.9	224.3	201.8	180.1	191.3	190.5
30°	6314.5	5553.2	2563.6	868.2	324.0	226.7	209.0	184.1	160.8	173.6	172.8
32.5°	7016.3	5902.9	2658.4	666.4	269.3	214.6	188.1	164.0	150.3	158.4	156.8
35°	7804.9	6594.3	2484.0	554.7	233.9	193.7	166.4	147.9	135.9	139.9	139.9
37.5°	9198.1	7172.3	2379.5	451.8	217.9	175.2	156.0	133.4	126.2	126.2	130.2
40°	9989.1	8054.9	2067.6	357.7	222.7	161.6	145.5	122.2	112.5	111.7	115.8
42.5°	11018.1	8563.8	1872.2	289.4	201.8	157.6	133.4	110.9	99.7	98.9	102.9
45°	11628.2	8848.4	1597.3	227.5	180.9	183.3	123.8	102.1	85.2	82.0	89.2
47.5°	12013.3	9225.4	1441.4	180.9	157.6	182.5	120.6	88.4	71.5	67.5	74.0
50°	12208.6	9411.9	1410.8	155.1	136.7	163.2	138.3	74.0	61.1	55.5	61.1
52.5°	12412.0	9715.0	1422.1	143.1	120.6	131.0	131.0	63.5	53.9	47.4	51.4
55°	12822.8	10162.7	1397.2	135.9	110.9	99.7	84.4	56.3	49.0	41.8	45.8
57.5°	13327.6	10484.3	1397.2	129.4	102.9	85.2	67.5	52.3	45.0	36.2	39.4
60°	13232.0	10145.8	1328.0	123.0	96.5	79.6	61.1	48.2	41.8	33.0	35.4
62.5°	12575.2	9225.4	1075.6	113.3	90.8	75.6	55.5	45.8	39.4	28.9	31.4
65°	11803.5	8247.9	747.6	102.9	84.4	68.3	49.8	43.4	36.2	25.7	27.3
67.5°	10874.2	7083.0	414.8	92.4	78.0	59.5	45.8	42.6	34.6	23.3	24.9
70°	9261.6	5347.4	222.7	84.4	73.2	54.7	43.4	42.6	34.6	22.5	23.3
72.5°	6952.8	3367.5	130.2	77.2	66.7	50.6	41.0	43.4	33.8	21.7	21.7
75°	4730.9	2044.3	93.3	65.9	59.5	42.6	39.4	41.8	34.6	21.7	20.1
77.5°	3216.3	1436.5	76.4	59.5	53.9	37.8	40.2	41.8	34.6	17.7	13.7
80°	2008.1	741.2	57.9	47.4	46.6	33.0	40.2	36.2	22.5	4.0	0.0
82.5°	1404.4	275.7	33.8	36.2	36.2	23.3	31.4	25.7	12.9	0.0	0.0
85°	589.2	47.4	18.5	25.7	22.5	13.7	24.9	19.3	8.0	0.0	0.0
87.5°	10.5	0.0	7.2	15.3	16.1	8.0	12.9	8.0	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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4
2.5°	1750.1	1673.7	1512.9	1590.1	1582.0	1617.4	1620.6	1538.6	1715.5	1824.8	1840.9
5°	1678.5	1627.1	1618.2	1574.0	1562.8	1627.9	1592.5	1590.1	1675.3	1799.9	1800.7
7.5°	1394.7	1355.4	1373.8	1322.4	1189.8	1197.8	1209.8	1260.5	1333.6	1415.6	1445.4
10°	957.4	1059.5	984.8	978.3	964.7	922.1	888.3	914.8	1009.7	1085.2	1113.4
12.5°	683.3	699.4	745.2	728.3	751.6	715.5	701.8	784.6	877.0	954.2	1009.7
15°	399.5	426.9	454.2	512.1	535.4	528.2	570.0	639.1	713.9	749.2	817.6
17.5°	281.4	283.8	289.4	352.1	393.1	409.2	434.1	486.4	516.9	533.0	561.1
20°	246.0	238.8	229.1	264.5	303.1	323.2	315.9	356.9	381.8	397.9	418.0
22.5°	222.7	210.6	205.0	217.0	246.8	264.5	267.7	291.8	329.6	340.8	347.3
25°	201.0	192.9	188.9	195.3	211.4	228.3	231.5	262.9	296.6	301.5	314.3
27.5°	186.5	171.2	172.8	177.7	184.9	205.8	212.2	229.9	278.9	284.6	288.6
30°	171.2	155.1	160.0	164.8	161.6	187.3	197.0	217.0	264.5	273.3	278.1
32.5°	156.0	143.9	143.1	147.9	153.5	167.2	188.1	211.4	254.8	266.9	278.9
35°	139.1	129.4	131.0	131.8	139.1	156.8	172.0	184.1	213.8	220.3	224.3
37.5°	127.0	119.0	117.4	125.4	132.6	146.3	151.9	157.6	197.0	211.4	212.2
40°	112.5	107.7	107.7	113.3	129.4	127.8	135.1	152.7	190.5	205.8	207.4
42.5°	102.1	95.7	97.3	102.9	114.2	106.1	120.6	146.3	188.1	203.4	202.6
45°	86.0	84.4	87.6	92.4	97.3	90.0	112.5	139.9	180.1	200.2	194.5
47.5°	71.5	71.5	75.6	80.4	78.0	80.4	102.1	131.0	175.2	193.7	189.7
50°	58.7	59.5	63.5	71.5	64.3	70.7	91.6	122.2	167.2	187.3	184.1
52.5°	49.8	50.6	53.1	58.7	55.5	64.3	84.4	113.3	159.2	176.1	174.4
55°	43.4	45.0	45.0	48.2	49.8	60.3	76.4	104.5	147.1	165.6	162.4
57.5°	38.6	40.2	39.4	41.8	43.4	53.1	68.3	94.9	135.1	150.3	145.5
60°	34.6	36.2	35.4	38.6	37.8	45.8	59.5	84.4	122.2	134.2	130.2
62.5°	30.5	32.2	32.2	33.8	34.6	38.6	51.4	74.8	109.3	119.0	115.8
65°	27.3	28.9	29.7	28.9	30.5	33.0	43.4	67.5	94.9	104.5	99.7
67.5°	24.9	26.5	28.1	24.9	26.5	27.3	37.0	60.3	83.6	91.6	87.6
70°	24.1	24.9	24.9	21.7	20.9	21.7	32.2	51.4	73.2	81.2	75.6
72.5°	22.5	23.3	22.5	17.7	15.3	16.9	27.3	43.4	61.9	68.3	63.5
75°	20.9	21.7	20.9	14.5	9.6	12.1	22.5	37.8	53.1	56.3	53.9
77.5°	17.7	19.3	19.3	10.5	3.2	7.2	16.9	30.5	44.2	44.2	45.0
80°	1.6	4.8	8.0	5.6	0.0	0.8	5.6	16.1	28.1	27.3	29.7
82.5°	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	9.6	7.2	8.0
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°	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4	1699.4
2.5°	1803.1	1778.2	1809.5	1905.2	1866.6	1873.9	1848.1	2006.5	2185.8	2191.4
5°	1802.3	1779.8	1826.4	1822.4	1932.5	2052.3	2168.1	2355.4	2620.7	2622.3
7.5°	1431.7	1565.2	1599.7	1589.3	1730.8	1895.6	2074.0	2432.6	2650.4	2673.7
10°	1291.0	1348.9	1419.7	1445.4	1504.1	1660.8	1862.6	2268.6	2512.9	2566.8
12.5°	1119.0	1303.9	1398.0	1580.4	1614.2	1636.7	1955.0	2308.0	2456.7	2450.2
15°	926.9	1087.7	1236.4	1459.1	1550.7	1787.0	2037.9	2500.1	2588.5	2673.7
17.5°	656.0	777.4	1005.7	1239.6	1519.3	1776.6	2266.2	2843.3	3010.6	3111.8
20°	438.9	497.6	704.2	1013.7	1368.2	1623.8	2359.4	3153.6	3336.1	3423.7
22.5°	356.1	384.3	491.2	742.8	1168.8	1616.6	2397.2	3492.1	3982.4	4099.0
25°	313.5	332.8	389.9	549.9	970.3	1584.5	2606.2	3873.1	4464.8	4558.8
27.5°	274.1	303.1	345.7	453.4	832.0	1561.9	2712.3	4513.0	5218.8	5311.3
30°	262.1	297.4	338.4	413.2	735.6	1475.1	2881.1	5090.2	5759.8	5924.6
32.5°	283.0	295.0	315.1	378.6	660.8	1383.5	3177.8	5779.9	6207.6	6422.2
35°	224.3	246.0	281.4	347.3	629.4	1378.7	3345.8	6223.7	6925.5	7058.1
37.5°	219.5	239.6	285.4	338.4	667.2	1415.6	3595.0	7132.9	8219.7	8491.4
40°	213.0	238.8	282.2	334.4	667.2	1451.8	3754.1	7860.4	9090.3	9366.1
42.5°	210.6	243.6	281.4	351.3	646.3	1471.9	3994.5	8586.3	10010.0	10227.8
45°	209.0	248.4	283.8	371.4	641.5	1537.8	4130.4	8939.2	10601.6	10851.7
47.5°	205.0	248.4	316.7	359.3	615.0	1531.4	4306.4	9462.5	10954.5	11165.2
50°	201.8	250.0	358.5	336.8	619.0	1492.0	4545.2	9953.7	11448.9	11599.3
52.5°	194.5	255.6	352.1	305.5	606.9	1488.0	4901.3	10652.3	12099.3	12209.4
55°	178.5	248.4	318.3	266.9	564.3	1442.2	5373.2	11560.7	13001.2	13020.5
57.5°	164.0	230.7	266.1	245.2	472.7	1447.8	5779.9	12396.7	13805.1	13895.2
60°	149.5	239.6	206.6	228.3	391.5	1344.9	5976.9	12716.7	14390.4	14522.2
62.5°	135.9	221.1	176.1	209.8	348.9	1249.2	5840.2	12459.4	14465.1	14741.7
65°	120.6	153.5	148.7	188.1	352.9	1115.0	5383.6	11706.2	14181.3	14562.4
67.5°	103.7	120.6	131.0	162.4	377.8	1000.0	4600.6	10497.1	13418.5	13850.1
70°	90.8	108.5	114.2	142.3	393.1	924.5	3630.3	8819.4	11855.7	12254.4
72.5°	75.6	100.5	102.1	124.6	378.6	849.7	2586.9	6331.4	9002.7	9194.0
75°	65.1	83.6	92.4	104.5	318.3	634.3	1425.3	3918.9	5692.3	5906.1
77.5°	58.7	63.5	69.9	72.3	135.1	330.4	490.4	2416.5	3187.4	3428.6
80°	45.0	49.8	48.2	49.8	74.0	114.2	186.5	1132.7	1505.7	1639.9
82.5°	14.5	24.1	26.5	22.5	48.2	56.3	53.9	391.5	489.6	520.1
85°	3.2	8.8	4.0	0.0	16.1	28.9	4.0	59.5	117.4	86.8
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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