

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: P368325

Luminaire Tested: **MSA-SA4B-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368325
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-727-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: 11853 lumens
Efficiency: N/A
Efficacy: 69.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

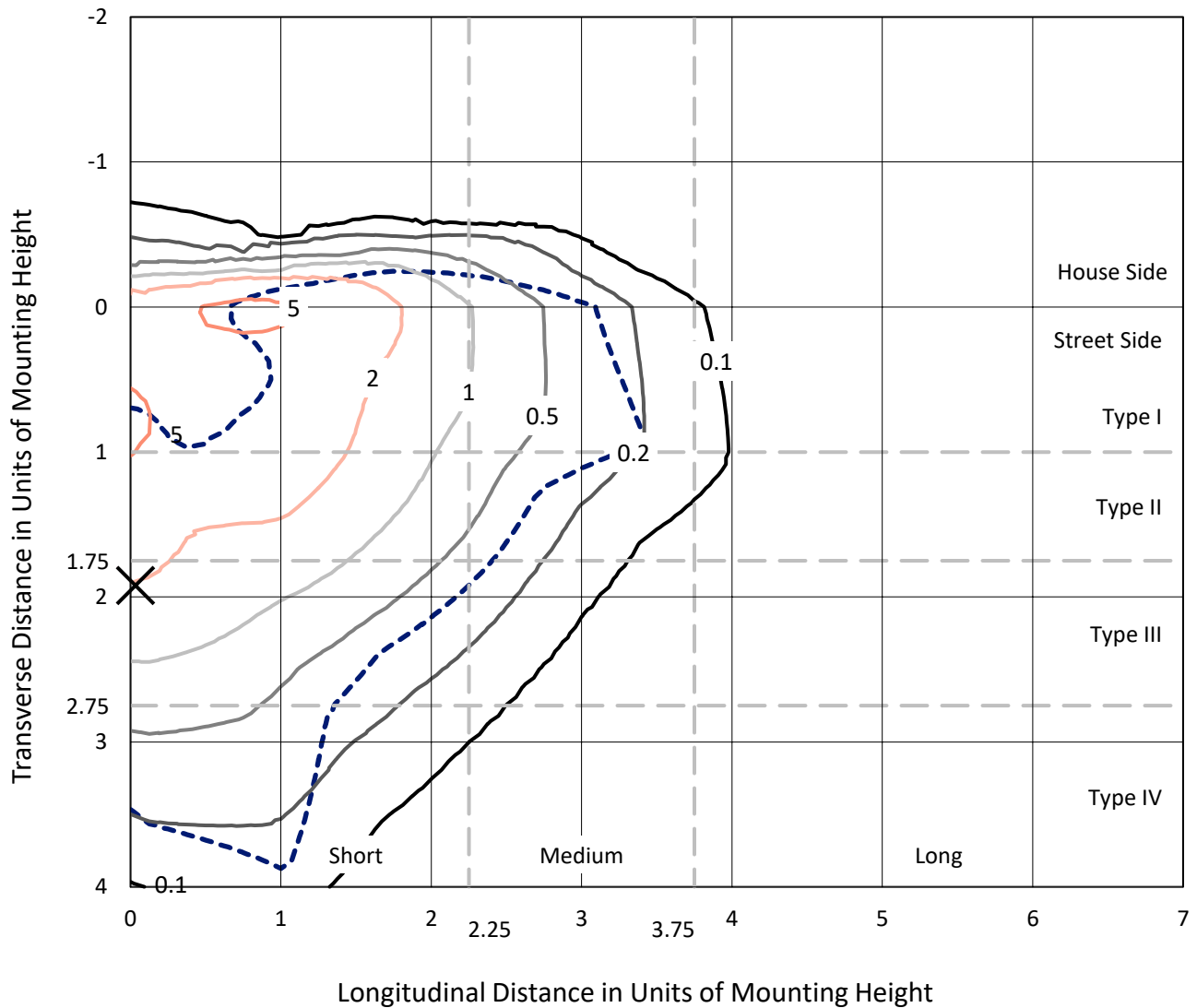
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

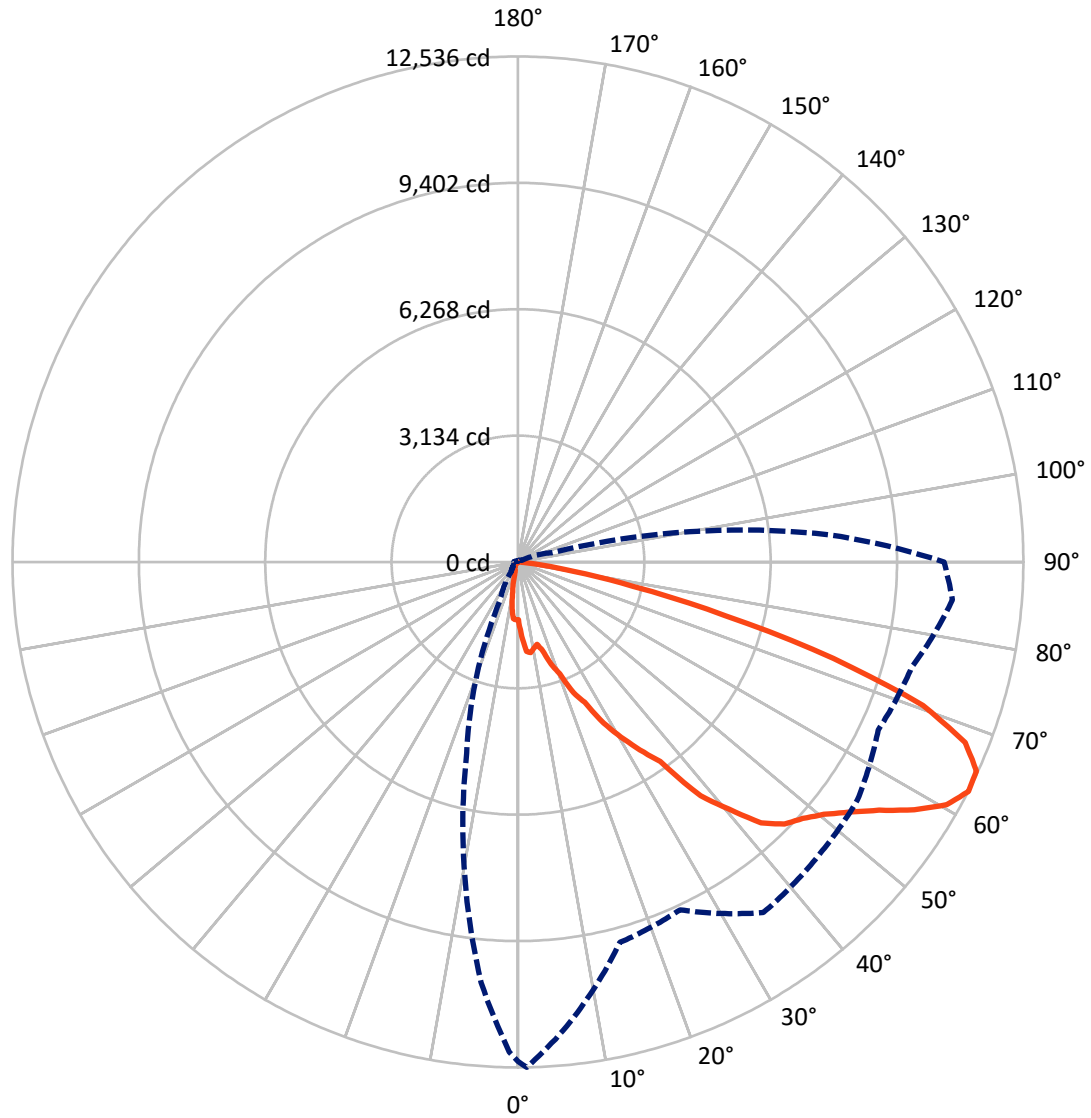
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 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	1355.4	0.0	1355.4
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	10497.6	0.0	10497.6
	% Fixture	88.6	0.0	88.6
Total	Lumens	11853.0	0.0	11853.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.5	1.3
10°-20°	416.7	3.5
20°-30°	673.6	5.7
30°-40°	1128.3	9.5
40°-50°	1845.0	15.6
50°-60°	2731.1	23.0
60°-70°	3135.5	26.5
70°-80°	1550.5	13.1
80°-90°	212.8	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°	11853.0	100.0
0°-180°	11853.0	100.0

Coefficient of Utilization

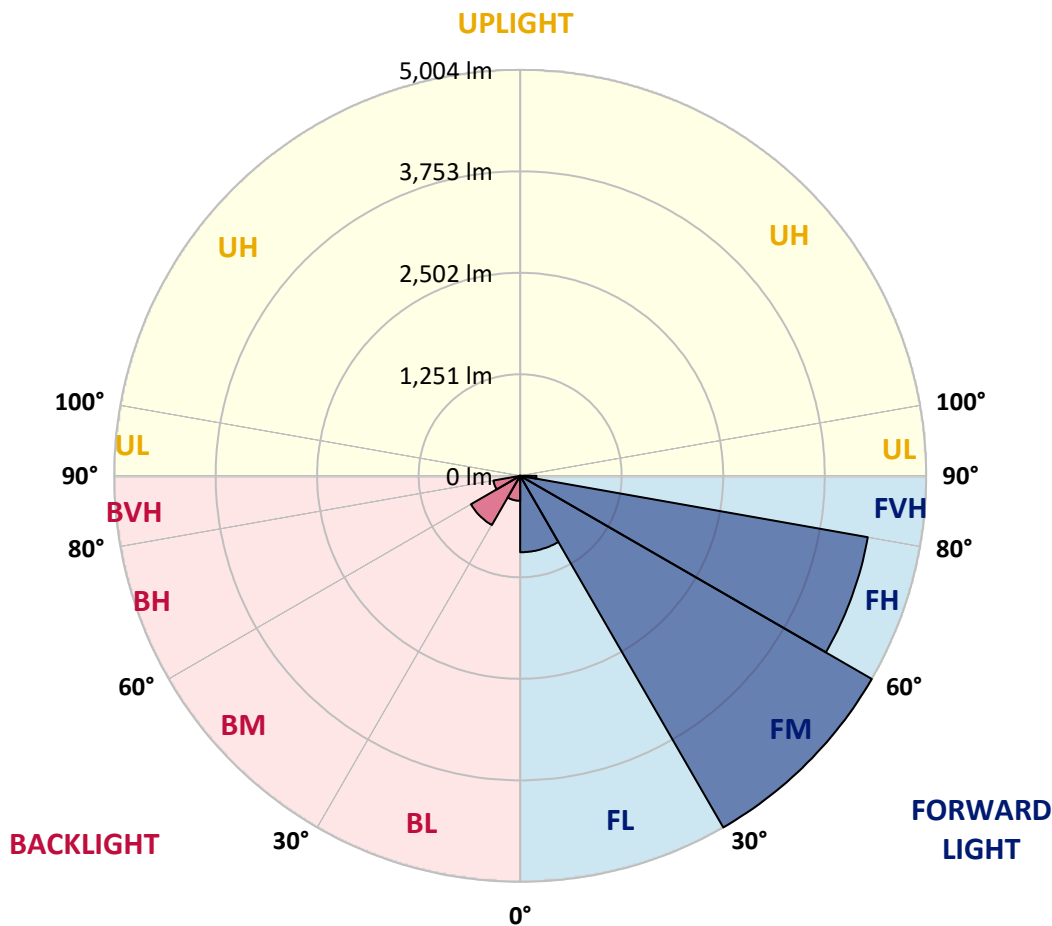


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	941.5	7.9			
FM (30°-60°)	5004.3	42.2			
FH (60°-80°)	4350.8	36.7			G2/5000
FVH (80°-90°)	201.1	1.7			G2/225
BL (0°-30°)	308.4	2.6	B1/500		
BM (30°-60°)	700.1	5.9	B1/1000		
BH (60°-80°)	335.1	2.8	B1/500		G1/500
BVH (80°-90°)	11.8	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-G2
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9
2.5°	1841.3	1850.0	1808.8	1803.4	1707.5	1827.1	1830.4	1844.6	1756.8	1586.6	1824.4
5°	2203.3	2227.6	2195.9	2337.0	2377.6	2464.7	2304.6	2447.8	2387.0	2403.9	2438.3
7.5°	2246.5	2271.5	2338.4	2574.8	2793.0	2738.2	2720.7	2774.7	2770.0	2645.0	2707.2
10°	2156.7	2177.6	2289.1	2719.3	2814.6	3060.4	3120.5	2996.3	2945.6	2672.0	2552.5
12.5°	2058.7	2093.9	2235.7	2751.7	3037.5	3286.0	3483.9	3307.0	3138.8	2847.7	2738.2
15°	2246.5	2266.1	2489.0	2819.3	3069.2	3240.8	3402.9	3344.1	3318.4	3109.1	2738.2
17.5°	2614.6	2660.6	2822.0	2984.8	3182.0	3285.3	3246.8	3228.6	3163.1	3492.0	3108.4
20°	2876.7	2962.5	3173.9	3244.1	3087.4	3184.0	3160.4	3144.2	3092.8	3704.8	3533.9
22.5°	3444.1	3523.1	3527.2	3552.1	3187.4	3033.4	2994.2	2999.0	3232.0	3768.3	4063.5
25°	3830.4	3857.4	4070.9	3892.6	3460.3	3079.3	2930.1	2996.9	3332.6	4224.9	4561.3
27.5°	4462.6	4526.8	4659.9	4056.0	3623.7	3050.3	2812.5	3055.7	3597.4	4376.2	5114.4
30°	4978.0	5039.5	5253.6	4279.6	3765.6	3194.2	2863.2	3173.9	3762.2	4687.6	5611.6
32.5°	5396.1	5554.8	5798.0	4624.7	3760.2	3359.6	3121.9	3134.7	3964.8	5090.8	6103.3
35°	5930.4	6078.3	6249.2	4862.5	4006.0	3413.0	3198.2	3519.7	4266.1	5512.3	6765.2
37.5°	7134.7	7358.3	7020.5	5461.6	4292.4	3895.3	3499.5	3756.8	4581.5	5942.5	7675.0
40°	7869.6	8058.0	7731.8	5767.6	4788.2	4138.4	4037.1	4168.8	4890.2	6164.8	8360.6
42.5°	8593.6	8842.2	8297.1	6228.2	5259.0	4824.7	4547.7	4653.8	5336.7	6701.1	9132.0
45°	9117.8	9271.8	8419.4	6469.4	5906.1	5606.8	5422.4	5264.4	5959.4	7045.5	9629.8
47.5°	9381.2	9504.1	8660.5	6545.7	6291.1	6434.3	6838.2	6507.9	6510.6	7294.8	9897.9
50°	9745.9	9831.7	8795.6	6636.9	6709.2	7723.7	7927.7	7224.5	7140.1	7544.7	9941.8
52.5°	10258.6	10300.5	9057.7	6877.3	7335.3	8733.5	8807.1	8522.7	7770.3	8009.4	10039.1
55°	10940.1	10866.5	9525.8	7382.6	7988.4	9473.1	9571.7	9323.8	8562.6	8473.4	10340.3
57.5°	11675.0	11590.6	10219.4	8094.5	8697.0	10038.4	10097.2	10116.8	9088.7	8884.1	10852.3
60°	12201.9	12217.4	11092.8	8911.1	9137.4	10579.4	10461.9	10283.6	9619.6	9485.9	11101.6
62.5°	12386.3	12535.5	11772.9	9766.9	9517.0	10613.2	10430.8	10280.2	9857.4	10106.6	10815.8
65°	12235.6	12496.3	11931.0	10518.7	9746.6	10189.7	9999.9	9903.3	9850.0	10359.9	10183.6
67.5°	11637.2	11963.4	11478.5	10525.4	8911.8	8676.0	8900.3	9206.3	9029.3	10149.9	9298.1
70°	10296.4	10653.7	10428.1	9908.1	7423.8	6826.0	7073.2	7535.9	7410.9	9027.3	7995.2
72.5°	7725.0	8184.3	8228.9	8553.8	5893.2	5137.4	5173.2	5160.4	5375.8	7279.2	6239.1
75°	4962.5	5319.8	5802.7	6902.3	4476.8	3750.7	3407.6	3323.8	3725.7	5687.9	4466.7
77.5°	2880.8	2923.3	3146.2	5207.7	3206.3	2702.4	2468.7	2588.3	2728.8	3969.6	2960.5
80°	1377.9	1399.5	1491.4	2679.5	2227.6	2339.1	2158.7	2293.1	1873.7	2281.6	1679.8
82.5°	437.0	441.7	457.3	1316.4	1383.3	1549.5	992.9	1331.3	1158.4	1379.3	1118.5
85°	72.9	124.3	153.3	380.3	780.8	522.8	215.5	474.8	646.4	870.0	507.9
87.5°	0.0	0.0	0.0	6.8	63.5	29.7	4.7	27.0	99.3	193.9	23.0
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°	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9
2.5°	1893.3	1939.9	1764.3	1606.9	1646.7	1615.0	1567.0	1485.3	1296.2	1435.3	1425.9
5°	2436.3	2349.9	2112.1	2001.3	1866.2	1660.2	1635.2	1477.2	1407.6	1419.1	1409.0
7.5°	2625.4	2470.8	2260.7	1927.0	1610.3	1313.1	1221.9	1118.5	1097.6	1142.2	1171.2
10°	2476.8	2312.7	2129.0	1714.3	1470.4	1255.6	1030.7	886.2	807.8	798.4	806.5
12.5°	2545.1	2368.1	1989.9	1672.4	1417.8	1223.2	972.0	753.8	583.6	596.4	562.6
15°	2592.3	2389.0	1956.8	1584.6	1309.0	1049.0	746.4	528.2	389.1	348.5	324.2
17.5°	2870.0	2579.5	1914.9	1483.3	1157.0	816.6	468.8	306.0	260.7	246.5	235.1
20°	3226.6	2813.9	1914.2	1376.6	932.8	510.6	292.5	221.5	210.7	218.8	210.1
22.5°	3641.3	3125.9	2016.2	1243.5	669.4	322.2	227.6	196.6	185.7	192.5	193.2
25°	4058.7	3594.0	2099.3	1117.2	466.1	247.2	202.6	181.0	168.9	174.9	171.6
27.5°	4812.5	3981.7	2080.4	955.8	343.1	217.5	188.4	169.5	151.3	160.8	160.1
30°	5305.6	4666.0	2154.0	729.5	272.2	190.5	175.6	154.7	135.1	145.9	145.2
32.5°	5895.3	4959.8	2233.7	559.9	226.3	180.3	158.1	137.8	126.3	133.1	131.7
35°	6557.9	5540.6	2087.1	466.1	196.6	162.8	139.8	124.3	114.1	117.5	117.5
37.5°	7728.4	6026.3	1999.3	379.6	183.0	147.2	131.0	112.1	106.0	106.0	109.4
40°	8393.0	6767.9	1737.2	300.6	187.1	135.8	122.3	102.7	94.6	93.9	97.3
42.5°	9257.6	7195.5	1573.1	243.2	169.5	132.4	112.1	93.2	83.8	83.1	86.5
45°	9770.3	7434.6	1342.1	191.2	152.0	154.0	104.0	85.8	71.6	68.9	75.0
47.5°	10093.8	7751.4	1211.1	152.0	132.4	153.3	101.3	74.3	60.1	56.7	62.1
50°	10257.9	7908.1	1185.4	130.4	114.8	137.1	116.2	62.1	51.3	46.6	51.3
52.5°	10428.8	8162.7	1194.9	120.2	101.3	110.1	110.1	53.4	45.3	39.9	43.2
55°	10774.0	8538.9	1173.9	114.1	93.2	83.8	70.9	47.3	41.2	35.1	38.5
57.5°	11198.1	8809.1	1173.9	108.7	86.5	71.6	56.7	43.9	37.8	30.4	33.1
60°	11117.8	8524.8	1115.8	103.3	81.1	66.9	51.3	40.5	35.1	27.7	29.7
62.5°	10565.9	7751.4	903.7	95.2	76.3	63.5	46.6	38.5	33.1	24.3	26.3
65°	9917.5	6930.0	628.2	86.5	70.9	57.4	41.9	36.5	30.4	21.6	23.0
67.5°	9136.7	5951.3	348.5	77.7	65.5	50.0	38.5	35.8	29.0	19.6	20.9
70°	7781.8	4493.0	187.1	70.9	61.5	45.9	36.5	35.8	29.0	18.9	19.6
72.5°	5841.9	2829.4	109.4	64.8	56.1	42.6	34.4	36.5	28.4	18.2	18.2
75°	3975.0	1717.6	78.4	55.4	50.0	35.8	33.1	35.1	29.0	18.2	16.9
77.5°	2702.4	1207.0	64.2	50.0	45.3	31.7	33.8	35.1	29.0	14.9	11.5
80°	1687.3	622.8	48.6	39.9	39.2	27.7	33.8	30.4	18.9	3.4	0.0
82.5°	1180.0	231.7	28.4	30.4	30.4	19.6	26.3	21.6	10.8	0.0	0.0
85°	495.1	39.9	15.5	21.6	18.9	11.5	20.9	16.2	6.8	0.0	0.0
87.5°	8.8	0.0	6.1	12.8	13.5	6.8	10.8	6.8	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°	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9
2.5°	1470.4	1406.3	1271.2	1336.0	1329.3	1359.0	1361.7	1292.8	1441.4	1533.3	1546.8
5°	1410.3	1367.1	1359.7	1322.5	1313.1	1367.8	1338.1	1336.0	1407.6	1512.3	1513.0
7.5°	1171.9	1138.8	1154.3	1111.1	999.7	1006.4	1016.5	1059.1	1120.6	1189.5	1214.4
10°	804.5	890.2	827.4	822.0	810.5	774.7	746.4	768.7	848.4	911.8	935.5
12.5°	574.1	587.6	626.1	612.0	631.5	601.1	589.7	659.2	736.9	801.7	848.4
15°	335.7	358.7	381.6	430.3	449.8	443.8	478.9	537.0	599.8	629.5	686.9
17.5°	236.4	238.4	243.2	295.8	330.3	343.8	364.7	408.6	434.3	447.8	471.5
20°	206.7	200.6	192.5	222.2	254.6	271.5	265.4	299.9	320.8	334.3	351.2
22.5°	187.1	177.0	172.2	182.4	207.4	222.2	224.9	245.2	276.9	286.4	291.8
25°	168.9	162.1	158.7	164.1	177.6	191.8	194.5	220.9	249.2	253.3	264.1
27.5°	156.7	143.9	145.2	149.3	155.4	172.9	178.3	193.2	234.4	239.1	242.5
30°	143.9	130.4	134.4	138.5	135.8	157.4	165.5	182.4	222.2	229.7	233.7
32.5°	131.0	120.9	120.2	124.3	129.0	140.5	158.1	177.6	214.1	224.2	234.4
35°	116.9	108.7	110.1	110.8	116.9	131.7	144.5	154.7	179.7	185.1	188.4
37.5°	106.7	100.0	98.6	105.4	111.4	122.9	127.7	132.4	165.5	177.6	178.3
40°	94.6	90.5	90.5	95.2	108.7	107.4	113.5	128.3	160.1	172.9	174.3
42.5°	85.8	80.4	81.7	86.5	95.9	89.2	101.3	122.9	158.1	170.9	170.2
45°	72.3	70.9	73.6	77.7	81.7	75.6	94.6	117.5	151.3	168.2	163.5
47.5°	60.1	60.1	63.5	67.5	65.5	67.5	85.8	110.1	147.2	162.8	159.4
50°	49.3	50.0	53.4	60.1	54.0	59.4	77.0	102.7	140.5	157.4	154.7
52.5°	41.9	42.6	44.6	49.3	46.6	54.0	70.9	95.2	133.7	147.9	146.6
55°	36.5	37.8	37.8	40.5	41.9	50.7	64.2	87.8	123.6	139.1	136.4
57.5°	32.4	33.8	33.1	35.1	36.5	44.6	57.4	79.7	113.5	126.3	122.3
60°	29.0	30.4	29.7	32.4	31.7	38.5	50.0	70.9	102.7	112.8	109.4
62.5°	25.7	27.0	27.0	28.4	29.0	32.4	43.2	62.8	91.9	100.0	97.3
65°	23.0	24.3	25.0	24.3	25.7	27.7	36.5	56.7	79.7	87.8	83.8
67.5°	20.9	22.3	23.6	20.9	22.3	23.0	31.1	50.7	70.2	77.0	73.6
70°	20.3	20.9	20.9	18.2	17.6	18.2	27.0	43.2	61.5	68.2	63.5
72.5°	18.9	19.6	18.9	14.9	12.8	14.2	23.0	36.5	52.0	57.4	53.4
75°	17.6	18.2	17.6	12.2	8.1	10.1	18.9	31.7	44.6	47.3	45.3
77.5°	14.9	16.2	16.2	8.8	2.7	6.1	14.2	25.7	37.1	37.1	37.8
80°	1.4	4.1	6.8	4.7	0.0	0.7	4.7	13.5	23.6	23.0	25.0
82.5°	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	8.1	6.1	6.8
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°	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9	1427.9
2.5°	1515.0	1494.1	1520.4	1600.8	1568.4	1574.5	1552.8	1685.9	1836.5	1841.3
5°	1514.3	1495.4	1534.6	1531.2	1623.8	1724.4	1821.7	1979.0	2201.9	2203.3
7.5°	1203.0	1315.1	1344.1	1335.3	1454.2	1592.7	1742.6	2043.9	2226.9	2246.5
10°	1084.8	1133.4	1192.8	1214.4	1263.8	1395.5	1565.0	1906.1	2111.4	2156.7
12.5°	940.2	1095.6	1174.6	1327.9	1356.3	1375.2	1642.7	1939.2	2064.1	2058.7
15°	778.8	913.9	1038.8	1225.9	1302.9	1501.5	1712.2	2100.6	2174.9	2246.5
17.5°	551.2	653.2	845.0	1041.5	1276.6	1492.7	1904.1	2389.0	2529.5	2614.6
20°	368.8	418.1	591.7	851.7	1149.6	1364.4	1982.4	2649.8	2803.1	2876.7
22.5°	299.2	322.9	412.7	624.1	982.1	1358.3	2014.2	2934.1	3346.1	3444.1
25°	263.4	279.6	327.6	462.0	815.3	1331.3	2189.8	3254.3	3751.4	3830.4
27.5°	230.3	254.6	290.4	380.9	699.1	1312.4	2278.9	3791.9	4385.0	4462.6
30°	220.2	249.9	284.4	347.2	618.0	1239.4	2420.8	4276.9	4839.5	4978.0
32.5°	237.8	247.9	264.8	318.1	555.2	1162.4	2670.0	4856.4	5215.8	5396.1
35°	188.4	206.7	236.4	291.8	528.9	1158.4	2811.2	5229.3	5818.9	5930.4
37.5°	184.4	201.3	239.8	284.4	560.6	1189.5	3020.6	5993.2	6906.4	7134.7
40°	179.0	200.6	237.1	281.0	560.6	1219.8	3154.3	6604.5	7637.9	7869.6
42.5°	177.0	204.7	236.4	295.2	543.1	1236.7	3356.3	7214.4	8410.6	8593.6
45°	175.6	208.7	238.4	312.1	539.0	1292.1	3470.4	7510.9	8907.7	9117.8
47.5°	172.2	208.7	266.1	301.9	516.7	1286.7	3618.3	7950.6	9204.2	9381.2
50°	169.5	210.1	301.2	283.0	520.1	1253.6	3818.9	8363.3	9619.6	9745.9
52.5°	163.5	214.8	295.8	256.7	510.0	1250.2	4118.2	8950.3	10166.1	10258.6
55°	149.9	208.7	267.5	224.2	474.2	1211.7	4514.7	9713.5	10923.9	10940.1
57.5°	137.8	193.9	223.6	206.0	397.2	1216.5	4856.4	10416.0	11599.4	11675.0
60°	125.6	201.3	173.6	191.8	328.9	1130.0	5021.9	10684.8	12091.1	12201.9
62.5°	114.1	185.7	147.9	176.3	293.1	1049.6	4907.1	10468.7	12153.9	12386.3
65°	101.3	129.0	125.0	158.1	296.5	936.8	4523.4	9835.8	11915.5	12235.6
67.5°	87.1	101.3	110.1	136.4	317.5	840.2	3865.6	8819.9	11274.5	11637.2
70°	76.3	91.2	95.9	119.6	330.3	776.8	3050.3	7410.3	9961.4	10296.4
72.5°	63.5	84.4	85.8	104.7	318.1	713.9	2173.6	5319.8	7564.3	7725.0
75°	54.7	70.2	77.7	87.8	267.5	532.9	1197.6	3292.8	4782.8	4962.5
77.5°	49.3	53.4	58.8	60.8	113.5	277.6	412.0	2030.4	2678.1	2880.8
80°	37.8	41.9	40.5	41.9	62.1	95.9	156.7	951.7	1265.1	1377.9
82.5°	12.2	20.3	22.3	18.9	40.5	47.3	45.3	328.9	411.3	437.0
85°	2.7	7.4	3.4	0.0	13.5	24.3	3.4	50.0	98.6	72.9
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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