

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: P368413

Luminaire Tested: **MSA-SA4B-760-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368413
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-760-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: 14173 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

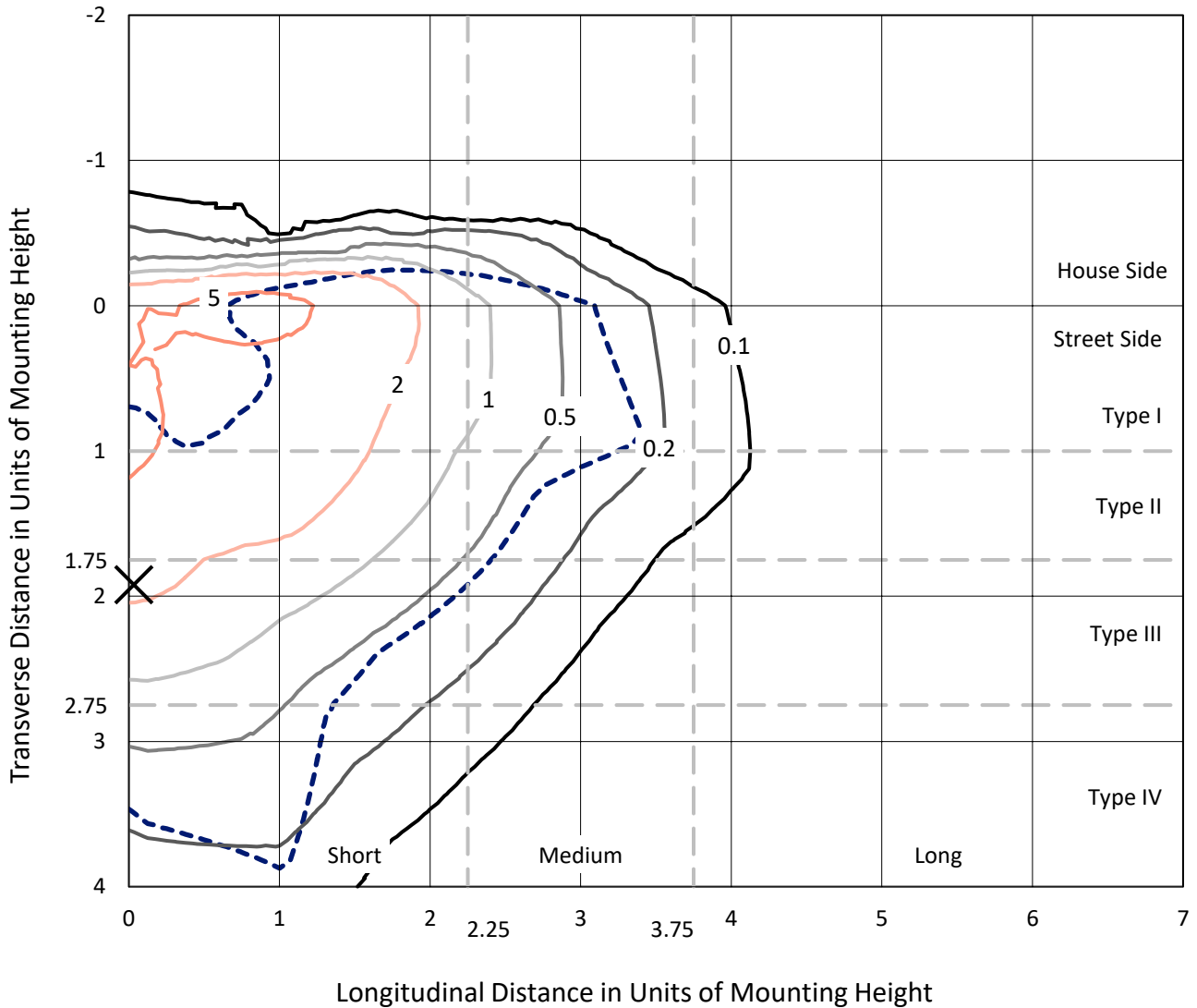
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

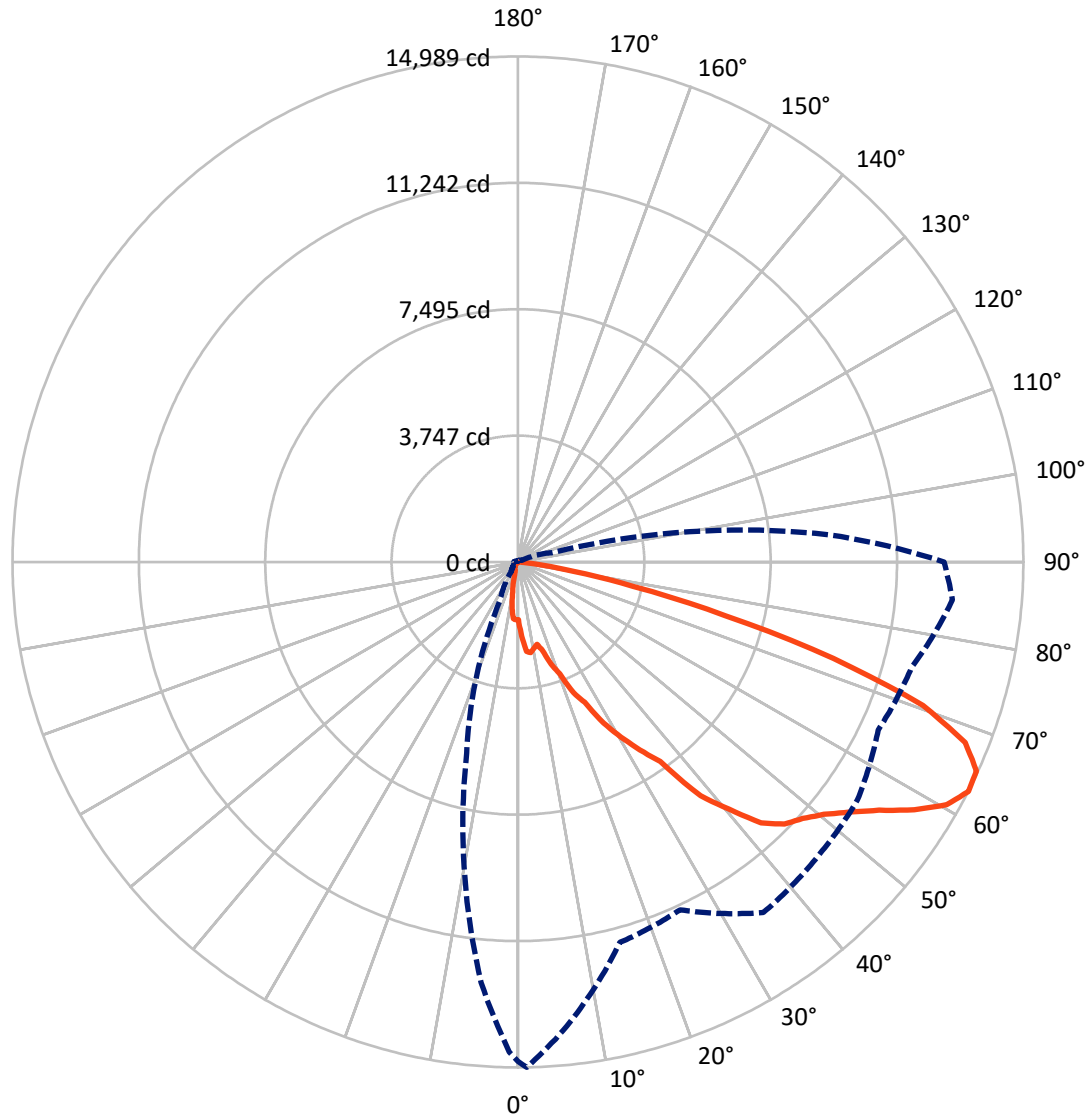
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.3 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	1620.7	0.0	1620.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	12552.3	0.0	12552.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	14173.0	0.0	14173.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.8	1.3
10°-20°	498.3	3.5
20°-30°	805.4	5.7
30°-40°	1349.2	9.5
40°-50°	2206.1	15.6
50°-60°	3265.6	23.0
60°-70°	3749.2	26.5
70°-80°	1854.0	13.1
80°-90°	254.5	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°	14173.0	100.0
0°-180°	14173.0	100.0

Coefficient of Utilization

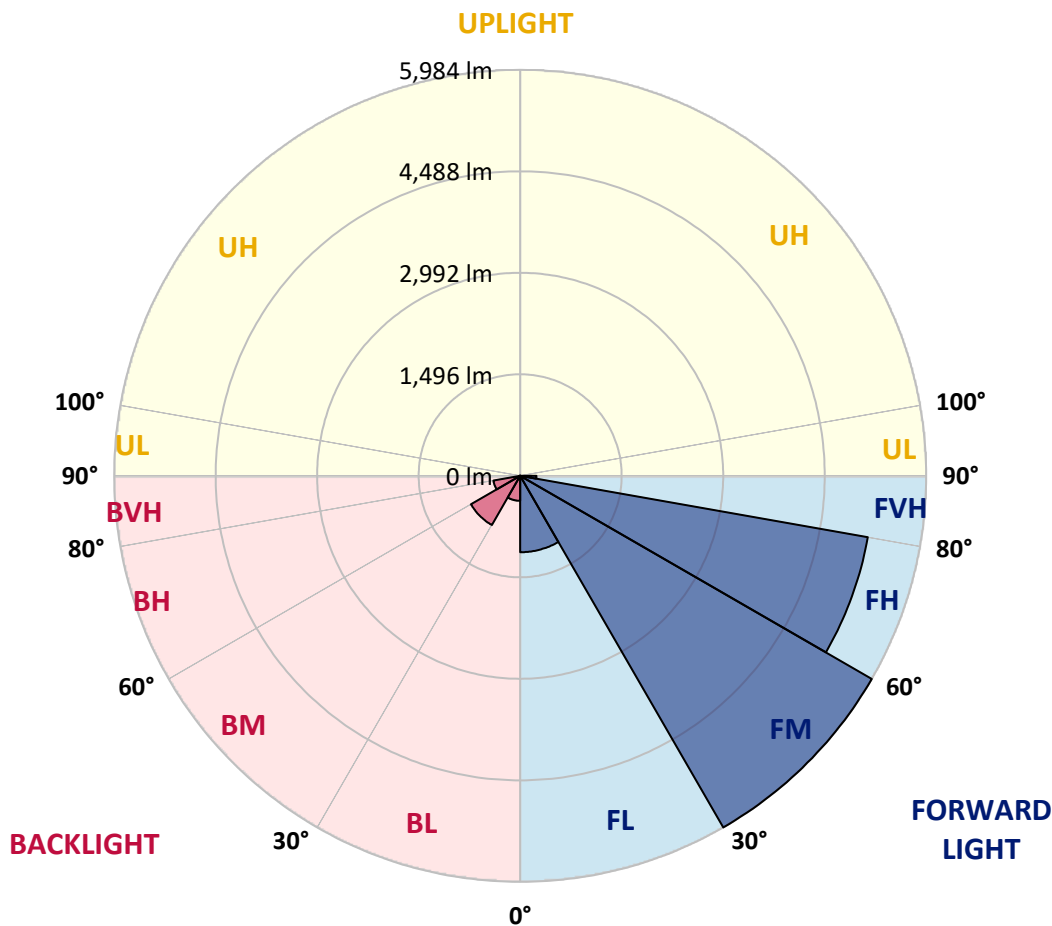


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1125.7	7.9			
FM (30°-60°)	5983.7	42.2			
FH (60°-80°)	5202.4	36.7			G3/7500
FVH (80°-90°)	240.4	1.7			G3/500
BL (0°-30°)	368.7	2.6	B1/500		
BM (30°-60°)	837.1	5.9	B1/1000		
BH (60°-80°)	400.7	2.8	B1/500		G1/500
BVH (80°-90°)	14.1	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°	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4
2.5°	2201.6	2212.1	2162.9	2156.4	2041.7	2184.7	2188.7	2205.7	2100.7	1897.2	2181.5
5°	2634.5	2663.6	2625.7	2794.5	2842.9	2947.1	2755.7	2926.9	2854.2	2874.4	2915.6
7.5°	2686.2	2716.1	2796.1	3078.7	3339.6	3274.2	3253.2	3317.8	3312.2	3162.7	3237.0
10°	2578.8	2603.9	2737.1	3251.6	3365.5	3659.4	3731.3	3582.7	3522.1	3195.1	3052.1
12.5°	2461.7	2503.7	2673.3	3290.4	3632.0	3929.2	4165.8	3954.2	3753.1	3405.0	3274.2
15°	2686.2	2709.7	2976.2	3371.1	3669.9	3875.1	4068.9	3998.7	3968.0	3717.6	3274.2
17.5°	3126.4	3181.3	3374.3	3569.0	3804.8	3928.4	3882.4	3860.6	3782.2	4175.5	3716.8
20°	3439.8	3542.3	3795.1	3879.1	3691.8	3807.2	3779.0	3759.6	3698.2	4429.9	4225.6
22.5°	4118.2	4212.7	4217.5	4247.4	3811.3	3627.1	3580.3	3586.0	3864.6	4505.9	4858.8
25°	4580.2	4612.5	4867.7	4654.5	4137.6	3682.1	3503.6	3583.5	3984.9	5051.8	5454.0
27.5°	5336.1	5412.8	5572.0	4849.9	4333.0	3647.3	3363.0	3653.8	4301.5	5232.7	6115.5
30°	5952.4	6025.9	6281.9	5117.2	4502.6	3819.4	3423.6	3795.1	4498.6	5605.1	6709.9
32.5°	6452.3	6642.1	6932.8	5530.0	4496.2	4017.2	3732.9	3748.3	4740.9	6087.2	7297.9
35°	7091.1	7268.0	7472.3	5814.2	4790.2	4081.0	3824.2	4208.6	5101.1	6591.2	8089.4
37.5°	8531.2	8798.5	8394.7	6530.6	5132.6	4657.7	4184.4	4492.1	5478.3	7105.7	9177.3
40°	9409.9	9635.2	9245.1	6896.5	5725.4	4948.5	4827.3	4984.8	5847.4	7371.4	9997.1
42.5°	10275.7	10572.9	9921.1	7447.3	6288.3	5769.0	5437.9	5564.7	6381.2	8012.7	10919.4
45°	10902.4	11086.6	10067.3	7735.6	7062.1	6704.3	6483.8	6294.8	7125.9	8424.6	11514.6
47.5°	11217.4	11364.4	10355.6	7826.9	7522.4	7693.6	8176.6	7781.7	7784.9	8722.6	11835.3
50°	11653.5	11756.1	10517.2	7935.9	8022.4	9235.4	9479.3	8638.6	8537.6	9021.4	11887.8
52.5°	12266.5	12316.6	10830.5	8223.5	8771.0	10442.9	10530.9	10190.9	9291.2	9577.1	12004.1
55°	13081.5	12993.4	11390.2	8827.6	9552.0	11327.2	11445.2	11148.8	10238.5	10131.9	12364.3
57.5°	13960.2	13859.2	12219.7	9678.8	10399.3	12003.2	12073.5	12096.9	10867.7	10623.0	12976.5
60°	14590.1	14608.7	13264.0	10655.3	10925.8	12650.2	12509.6	12296.4	11502.5	11342.6	13274.5
62.5°	14810.6	14989.1	14077.3	11678.6	11379.7	12690.6	12472.5	12292.4	11786.8	12084.8	12932.8
65°	14630.5	14942.3	14266.3	12577.5	11654.3	12184.2	11957.2	11841.7	11777.9	12387.7	12176.9
67.5°	13914.9	14305.0	13725.1	12585.6	10656.1	10374.2	10642.4	11008.2	10796.6	12136.5	11118.1
70°	12311.8	12739.0	12469.3	11847.4	8876.8	8162.1	8457.7	9010.9	8861.5	10794.2	9560.1
72.5°	9237.1	9786.3	9839.6	10228.0	7046.7	6143.0	6185.8	6170.4	6428.1	8704.0	7460.2
75°	5933.8	6361.0	6938.5	8253.3	5353.1	4484.9	4074.6	3974.4	4455.0	6801.2	5341.0
77.5°	3444.6	3495.5	3762.0	6227.0	3833.9	3231.4	2951.9	3094.9	3262.9	4746.5	3539.9
80°	1647.6	1673.4	1783.3	3203.9	2663.6	2796.9	2581.2	2742.0	2240.4	2728.2	2008.6
82.5°	522.5	528.2	546.8	1574.1	1654.1	1852.7	1187.2	1591.9	1385.1	1649.2	1337.5
85°	87.2	148.6	183.3	454.7	933.6	625.1	257.6	567.8	772.9	1040.2	607.4
87.5°	0.0	0.0	0.0	8.1	75.9	35.5	5.7	32.3	118.7	231.8	27.5
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°	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4
2.5°	2263.8	2319.6	2109.6	1921.4	1969.0	1931.1	1873.7	1776.0	1549.9	1716.2	1704.9
5°	2913.2	2809.8	2525.5	2393.1	2231.5	1985.2	1955.3	1766.3	1683.1	1696.9	1684.8
7.5°	3139.3	2954.4	2703.2	2304.2	1925.4	1570.1	1461.0	1337.5	1312.4	1365.7	1400.5
10°	2961.6	2765.4	2545.7	2049.8	1758.2	1501.4	1232.5	1059.6	965.9	954.6	964.3
12.5°	3043.2	2831.6	2379.3	1999.7	1695.3	1462.6	1162.2	901.3	697.8	713.2	672.8
15°	3099.7	2856.6	2339.8	1894.7	1565.2	1254.3	892.4	631.6	465.2	416.7	387.7
17.5°	3431.7	3084.4	2289.7	1773.6	1383.5	976.4	560.5	365.9	311.8	294.8	281.1
20°	3858.1	3364.7	2288.9	1646.0	1115.4	610.6	349.7	264.9	252.0	261.7	251.2
22.5°	4354.0	3737.8	2410.8	1486.9	800.4	385.2	272.2	235.0	222.1	230.2	231.0
25°	4853.1	4297.5	2510.2	1335.8	557.3	295.6	242.3	216.4	201.9	209.2	205.1
27.5°	5754.5	4761.1	2487.6	1142.8	410.3	260.1	225.3	202.7	180.9	192.2	191.4
30°	6344.1	5579.2	2575.6	872.3	325.5	227.8	210.0	185.0	161.5	174.5	173.6
32.5°	7049.1	5930.5	2670.9	669.5	270.6	215.6	189.0	164.8	151.0	159.1	157.5
35°	7841.4	6625.1	2495.6	557.3	235.0	194.6	167.2	148.6	136.5	140.5	140.5
37.5°	9241.1	7205.8	2390.6	453.9	218.9	176.1	156.7	134.1	126.8	126.8	130.8
40°	10035.8	8092.6	2077.3	359.4	223.7	162.3	146.2	122.8	113.1	112.3	116.3
42.5°	11069.6	8603.9	1881.0	290.8	202.7	158.3	134.1	111.5	100.1	99.3	103.4
45°	11682.6	8889.8	1604.8	228.6	181.7	184.1	124.4	102.6	85.6	82.4	89.6
47.5°	12069.5	9268.6	1448.1	181.7	158.3	183.3	121.1	88.8	71.9	67.8	74.3
50°	12265.7	9455.9	1417.4	155.9	137.3	164.0	138.9	74.3	61.4	55.7	61.4
52.5°	12470.1	9760.4	1428.7	143.8	121.1	131.6	131.6	63.8	54.1	47.7	51.7
55°	12882.8	10210.3	1403.7	136.5	111.5	100.1	84.8	56.5	49.3	42.0	46.0
57.5°	13390.0	10533.3	1403.7	130.0	103.4	85.6	67.8	52.5	45.2	36.3	39.6
60°	13293.9	10193.3	1334.2	123.6	96.9	80.0	61.4	48.5	42.0	33.1	35.5
62.5°	12634.0	9268.6	1080.6	113.9	91.3	75.9	55.7	46.0	39.6	29.1	31.5
65°	11858.7	8286.5	751.1	103.4	84.8	68.6	50.1	43.6	36.3	25.8	27.5
67.5°	10925.0	7116.2	416.7	92.9	78.3	59.8	46.0	42.8	34.7	23.4	25.0
70°	9304.9	5372.5	223.7	84.8	73.5	54.9	43.6	42.8	34.7	22.6	23.4
72.5°	6985.3	3383.2	130.8	77.5	67.0	50.9	41.2	43.6	33.9	21.8	21.8
75°	4753.0	2053.8	93.7	66.2	59.8	42.8	39.6	42.0	34.7	21.8	20.2
77.5°	3231.4	1443.3	76.7	59.8	54.1	38.0	40.4	42.0	34.7	17.8	13.7
80°	2017.5	744.7	58.2	47.7	46.8	33.1	40.4	36.3	22.6	4.0	0.0
82.5°	1411.0	277.0	33.9	36.3	36.3	23.4	31.5	25.8	12.9	0.0	0.0
85°	592.0	47.7	18.6	25.8	22.6	13.7	25.0	19.4	8.1	0.0	0.0
87.5°	10.5	0.0	7.3	15.3	16.2	8.1	12.9	8.1	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°	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4
2.5°	1758.2	1681.5	1520.0	1597.5	1589.4	1625.0	1628.2	1545.8	1723.5	1833.4	1849.5
5°	1686.4	1634.7	1625.8	1581.4	1570.1	1635.5	1599.9	1597.5	1683.1	1808.3	1809.1
7.5°	1401.3	1361.7	1380.3	1328.6	1195.3	1203.4	1215.5	1266.4	1339.9	1422.3	1452.1
10°	961.9	1064.5	989.4	982.9	969.2	926.4	892.4	919.1	1014.4	1090.3	1118.6
12.5°	686.5	702.7	748.7	731.7	755.1	718.8	705.1	788.3	881.1	958.7	1014.4
15°	401.4	428.9	456.3	514.5	537.9	530.6	572.6	642.1	717.2	752.7	821.4
17.5°	282.7	285.1	290.8	353.7	394.9	411.1	436.1	488.6	519.3	535.5	563.7
20°	247.1	239.9	230.2	265.7	304.5	324.7	317.4	358.6	383.6	399.8	420.0
22.5°	223.7	211.6	205.9	218.1	247.9	265.7	268.9	293.2	331.1	342.4	348.9
25°	201.9	193.8	189.8	196.3	212.4	229.4	232.6	264.1	298.0	302.9	315.8
27.5°	187.4	172.0	173.6	178.5	185.8	206.8	213.2	231.0	280.3	285.9	289.9
30°	172.0	155.9	160.7	165.6	162.3	188.2	197.9	218.1	265.7	274.6	279.4
32.5°	156.7	144.6	143.8	148.6	154.3	168.0	189.0	212.4	256.0	268.1	280.3
35°	139.7	130.0	131.6	132.5	139.7	157.5	172.8	185.0	214.8	221.3	225.3
37.5°	127.6	119.5	117.9	126.0	133.3	147.0	152.6	158.3	197.9	212.4	213.2
40°	113.1	108.2	108.2	113.9	130.0	128.4	135.7	153.5	191.4	206.8	208.4
42.5°	102.6	96.1	97.7	103.4	114.7	106.6	121.1	147.0	189.0	204.3	203.5
45°	86.4	84.8	88.0	92.9	97.7	90.5	113.1	140.5	180.9	201.1	195.5
47.5°	71.9	71.9	75.9	80.8	78.3	80.8	102.6	131.6	176.1	194.6	190.6
50°	59.0	59.8	63.8	71.9	64.6	71.1	92.1	122.8	168.0	188.2	185.0
52.5°	50.1	50.9	53.3	59.0	55.7	64.6	84.8	113.9	159.9	176.9	175.3
55°	43.6	45.2	45.2	48.5	50.1	60.6	76.7	105.0	147.8	166.4	163.1
57.5°	38.8	40.4	39.6	42.0	43.6	53.3	68.6	95.3	135.7	151.0	146.2
60°	34.7	36.3	35.5	38.8	38.0	46.0	59.8	84.8	122.8	134.9	130.8
62.5°	30.7	32.3	32.3	33.9	34.7	38.8	51.7	75.1	109.8	119.5	116.3
65°	27.5	29.1	29.9	29.1	30.7	33.1	43.6	67.8	95.3	105.0	100.1
67.5°	25.0	26.7	28.3	25.0	26.7	27.5	37.2	60.6	84.0	92.1	88.0
70°	24.2	25.0	25.0	21.8	21.0	21.8	32.3	51.7	73.5	81.6	75.9
72.5°	22.6	23.4	22.6	17.8	15.3	17.0	27.5	43.6	62.2	68.6	63.8
75°	21.0	21.8	21.0	14.5	9.7	12.1	22.6	38.0	53.3	56.5	54.1
77.5°	17.8	19.4	19.4	10.5	3.2	7.3	17.0	30.7	44.4	44.4	45.2
80°	1.6	4.8	8.1	5.7	0.0	0.8	5.7	16.2	28.3	27.5	29.9
82.5°	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	9.7	7.3	8.1
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°	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4
2.5°	1811.6	1786.5	1818.0	1914.1	1875.4	1882.6	1856.8	2015.9	2196.0	2201.6
5°	1810.7	1788.1	1835.0	1830.9	1941.6	2061.9	2178.2	2366.4	2632.9	2634.5
7.5°	1438.4	1572.5	1607.2	1596.7	1738.9	1904.4	2083.7	2443.9	2662.8	2686.2
10°	1297.1	1355.2	1426.3	1452.1	1511.1	1668.6	1871.3	2279.2	2524.7	2578.8
12.5°	1124.2	1310.0	1404.5	1587.8	1621.8	1644.4	1964.2	2318.8	2468.2	2461.7
15°	931.2	1092.7	1242.2	1465.9	1558.0	1795.4	2047.4	2511.8	2600.6	2686.2
17.5°	659.0	781.0	1010.4	1245.4	1526.5	1784.9	2276.8	2856.6	3024.6	3126.4
20°	441.0	499.9	707.5	1018.4	1374.6	1631.4	2370.4	3168.4	3351.7	3439.8
22.5°	357.8	386.1	493.5	746.3	1174.3	1624.2	2408.4	3508.4	4001.1	4118.2
25°	315.0	334.4	391.7	552.4	974.8	1591.9	2618.4	3891.2	4485.7	4580.2
27.5°	275.4	304.5	347.3	455.5	835.9	1569.3	2725.0	4534.1	5243.2	5336.1
30°	263.3	298.8	340.0	415.1	739.0	1482.0	2894.6	5114.0	5786.8	5952.4
32.5°	284.3	296.4	316.6	380.4	663.9	1390.0	3192.6	5807.0	6236.6	6452.3
35°	225.3	247.1	282.7	348.9	632.4	1385.1	3361.4	6252.8	6957.9	7091.1
37.5°	220.5	240.7	286.7	340.0	670.3	1422.3	3611.8	7166.2	8258.2	8531.2
40°	214.0	239.9	283.5	336.0	670.3	1458.6	3771.7	7897.2	9132.9	9409.9
42.5°	211.6	244.7	282.7	352.9	649.3	1478.8	4013.2	8626.5	10056.8	10275.7
45°	210.0	249.6	285.1	373.1	644.5	1545.0	4149.7	8981.0	10651.2	10902.4
47.5°	205.9	249.6	318.2	361.0	617.8	1538.6	4326.6	9506.8	11005.8	11217.4
50°	202.7	251.2	360.2	338.4	621.9	1499.0	4566.4	10000.3	11502.5	11653.5
52.5°	195.5	256.8	353.7	306.9	609.8	1495.0	4924.2	10702.1	12155.9	12266.5
55°	179.3	249.6	319.8	268.1	567.0	1448.9	5398.3	11614.8	13062.1	13081.5
57.5°	164.8	231.8	267.3	246.3	474.9	1454.6	5807.0	12454.7	13869.7	13960.2
60°	150.2	240.7	207.6	229.4	393.3	1351.2	6004.9	12776.2	14457.7	14590.1
62.5°	136.5	222.1	176.9	210.8	350.5	1255.1	5867.6	12517.7	14532.8	14810.6
65°	121.1	154.3	149.4	189.0	354.6	1120.2	5408.8	11761.0	14247.7	14630.5
67.5°	104.2	121.1	131.6	163.1	379.6	1004.7	4622.2	10546.2	13481.2	13914.9
70°	91.3	109.0	114.7	143.0	394.9	928.8	3647.3	8860.7	11911.2	12311.8
72.5°	75.9	101.0	102.6	125.2	380.4	853.7	2599.0	6361.0	9044.8	9237.1
75°	65.4	84.0	92.9	105.0	319.8	637.2	1432.0	3937.3	5718.9	5933.8
77.5°	59.0	63.8	70.3	72.7	135.7	331.9	492.7	2427.8	3202.3	3444.6
80°	45.2	50.1	48.5	50.1	74.3	114.7	187.4	1138.0	1512.7	1647.6
82.5°	14.5	24.2	26.7	22.6	48.5	56.5	54.1	393.3	491.9	522.5
85°	3.2	8.9	4.0	0.0	16.2	29.1	4.0	59.8	117.9	87.2
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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