

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: P368083

Luminaire Tested: **MSA-SA3D-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368083
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-SA3D-730-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 13223 lumens
Efficiency: N/A
Efficacy: 68.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

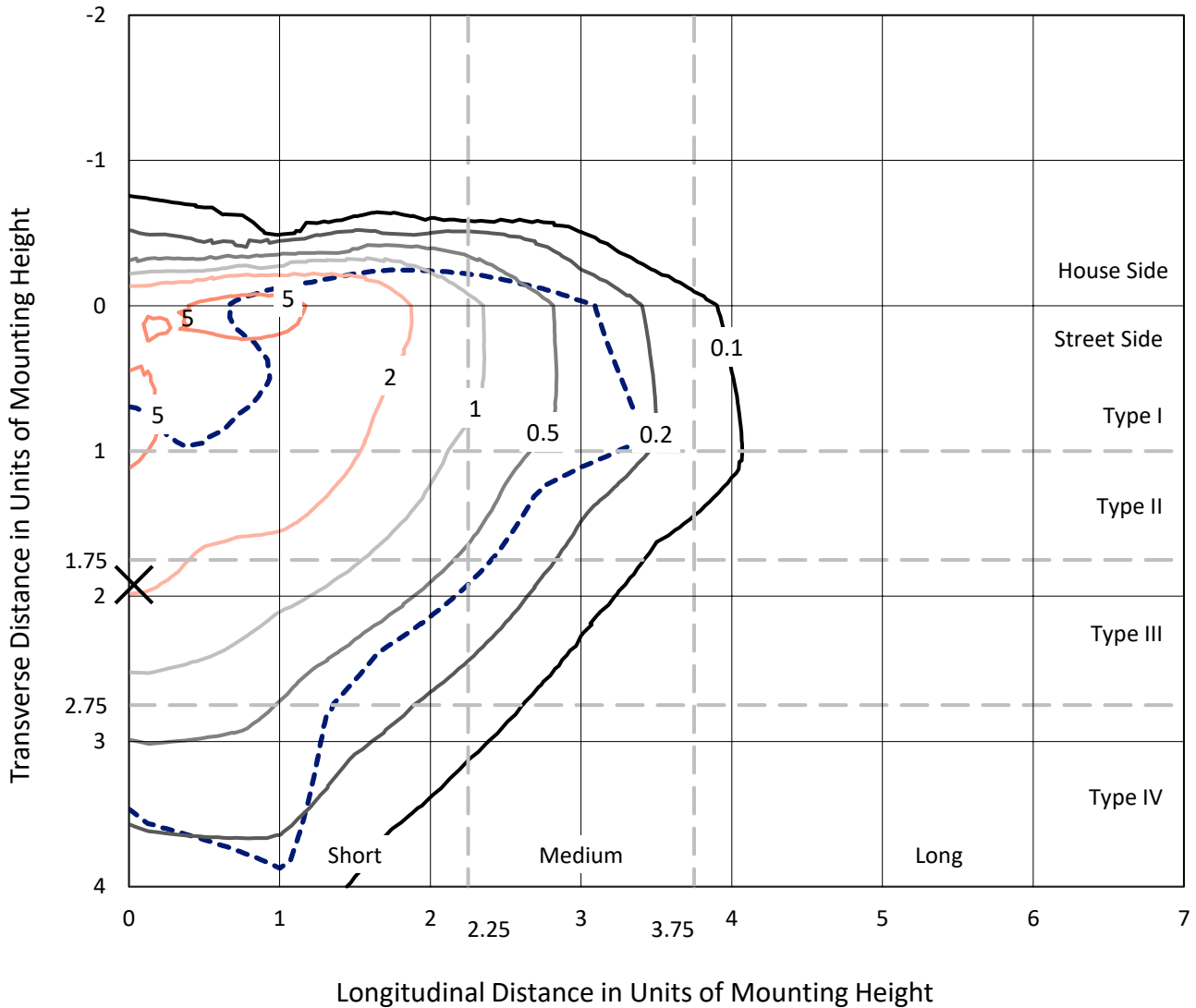
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

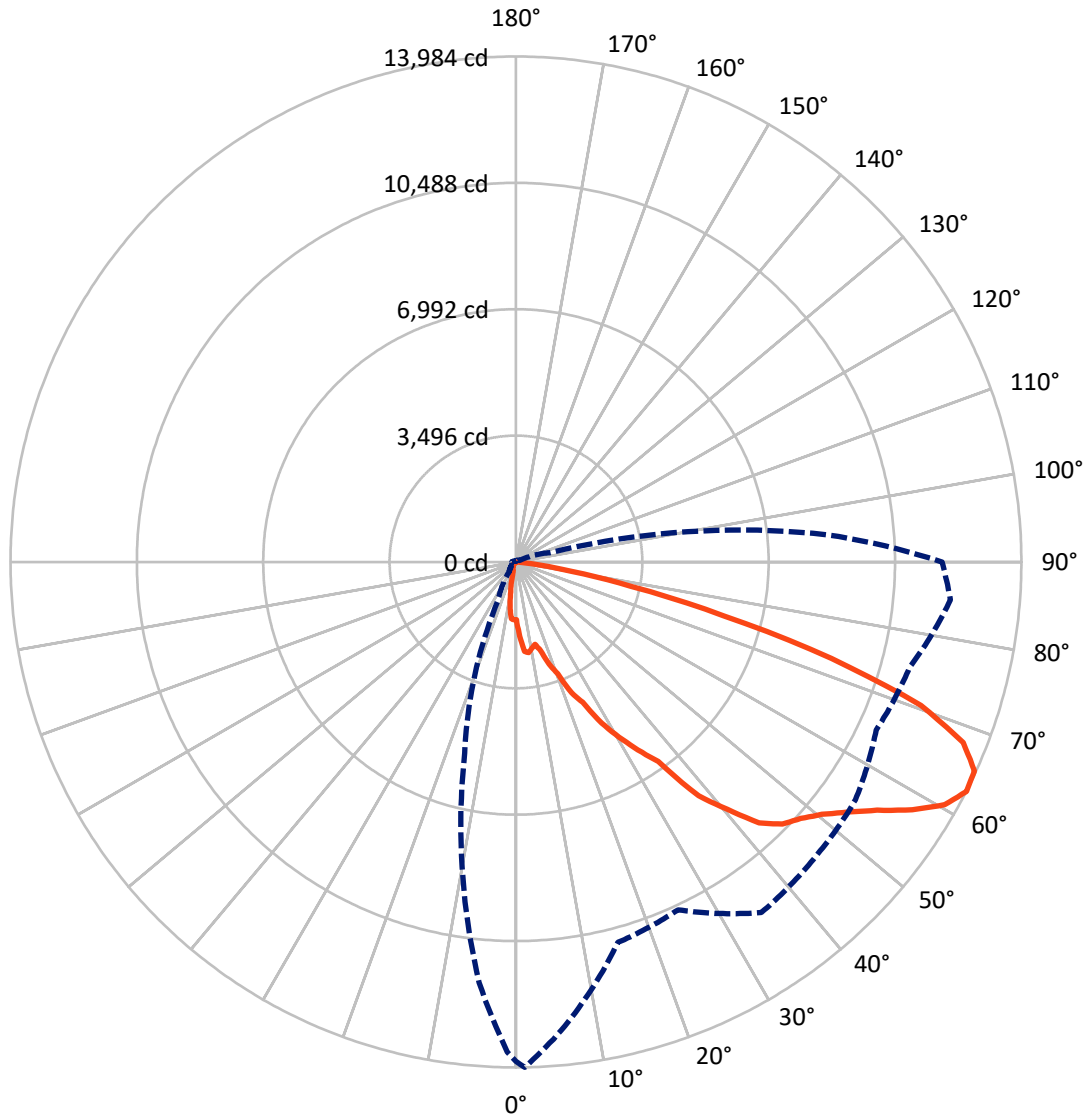
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 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	1512.1	0.0	1512.1
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	11710.9	0.0	11710.9
	% Fixture	88.6	0.0	88.6
Total	Lumens	13223.0	0.0	13223.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.0	1.3
10°-20°	464.9	3.5
20°-30°	751.5	5.7
30°-40°	1258.7	9.5
40°-50°	2058.2	15.6
50°-60°	3046.7	23.0
60°-70°	3497.9	26.5
70°-80°	1729.7	13.1
80°-90°	237.5	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°	13223.0	100.0
0°-180°	13223.0	100.0

Coefficient of Utilization

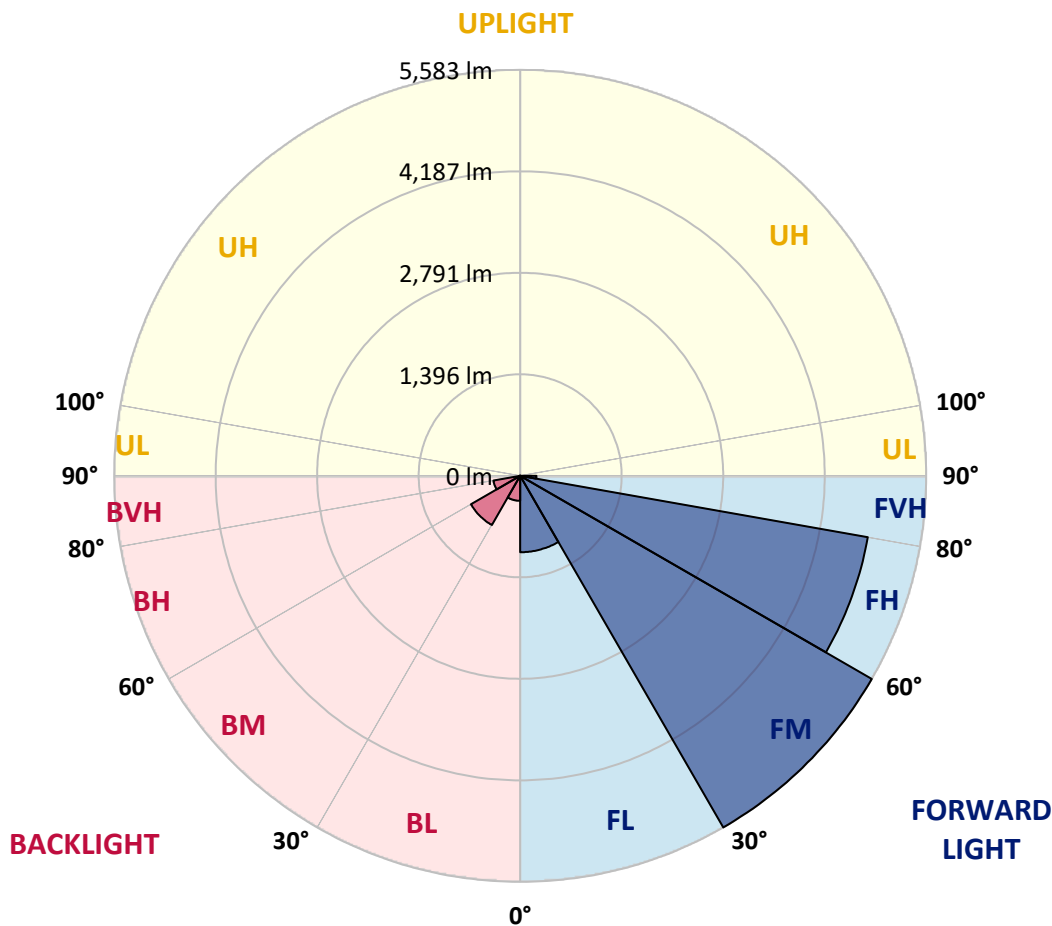


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1050.3	7.9			
FM (30°-60°)	5582.7	42.2			
FH (60°-80°)	4853.7	36.7			G2/5000
FVH (80°-90°)	224.3	1.7			G2/225
BL (0°-30°)	344.0	2.6	B1/500		
BM (30°-60°)	781.0	5.9	B1/1000		
BH (60°-80°)	373.9	2.8	B1/500		G1/500
BVH (80°-90°)	13.2	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°	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	2054.1	2063.9	2017.9	2011.9	1904.9	2038.2	2042.0	2057.8	1959.9	1770.0	2035.2
5°	2458.0	2485.1	2449.7	2607.1	2652.4	2749.6	2571.0	2730.7	2662.9	2681.7	2720.2
7.5°	2506.2	2534.1	2608.7	2872.4	3115.8	3054.7	3035.1	3095.4	3090.1	2950.7	3020.1
10°	2406.0	2429.3	2553.6	3033.6	3139.9	3414.2	3481.2	3342.6	3286.1	2980.9	2847.5
12.5°	2296.7	2335.9	2494.1	3069.8	3388.5	3665.8	3886.6	3689.2	3501.6	3176.8	3054.7
15°	2506.2	2528.0	2776.7	3145.2	3424.0	3615.3	3796.2	3730.6	3702.0	3468.4	3054.7
17.5°	2916.8	2968.1	3148.2	3329.8	3549.8	3665.1	3622.1	3601.8	3528.7	3895.7	3467.7
20°	3209.2	3304.9	3540.7	3619.1	3444.3	3552.1	3525.7	3507.6	3450.3	4133.0	3942.4
22.5°	3842.2	3930.3	3934.8	3962.7	3555.8	3384.0	3340.3	3345.6	3605.6	4203.8	4533.1
25°	4273.2	4303.3	4541.4	4342.5	3860.2	3435.3	3268.7	3343.3	3717.8	4713.2	5088.5
27.5°	4978.4	5050.0	5198.5	4524.8	4042.6	3402.9	3137.6	3408.9	4013.2	4882.0	5705.6
30°	5553.4	5621.9	5860.8	4774.2	4200.8	3563.4	3194.1	3540.7	4197.1	5229.4	6260.2
32.5°	6019.8	6196.9	6468.1	5159.3	4194.8	3748.0	3482.7	3497.0	4423.1	5679.2	6808.7
35°	6615.8	6780.8	6971.5	5424.5	4469.1	3807.5	3567.9	3926.5	4759.2	6149.4	7547.2
37.5°	7959.3	8208.7	7832.0	6092.9	4788.6	4345.5	3903.9	4191.0	5111.1	6629.4	8562.1
40°	8779.2	8989.4	8625.4	6434.2	5341.6	4616.8	4503.7	4650.7	5455.4	6877.3	9327.0
42.5°	9586.9	9864.2	9256.1	6948.1	5866.8	5382.3	5073.4	5191.7	5953.5	7475.6	10187.5
45°	10171.6	10343.4	9392.5	7217.1	6588.7	6254.9	6049.2	5872.9	6648.2	7859.9	10742.8
47.5°	10465.5	10602.7	9661.5	7302.3	7018.2	7177.9	7628.5	7260.1	7263.1	8137.9	11042.0
50°	10872.4	10968.1	9812.2	7404.0	7484.6	8616.4	8844.0	8059.6	7965.4	8416.7	11090.9
52.5°	11444.3	11491.0	10104.6	7672.2	8183.1	9742.9	9825.0	9507.8	8668.4	8935.1	11199.4
55°	12204.6	12122.5	10626.8	8235.9	8911.8	10568.0	10678.0	10401.5	9552.3	9452.8	11535.5
57.5°	13024.4	12930.2	11400.6	9030.1	9702.2	11198.7	11264.2	11286.1	10139.2	9910.9	12106.7
60°	13612.2	13629.5	12374.9	9941.1	10193.5	11802.2	11671.1	11472.2	10731.5	10582.3	12384.7
62.5°	13817.9	13984.4	13133.7	10895.8	10617.0	11839.9	11636.5	11468.4	10996.7	11274.8	12066.0
65°	13649.9	13940.7	13310.0	11734.4	10873.2	11367.5	11155.7	11048.0	10988.5	11557.4	11360.7
67.5°	12982.2	13346.2	12805.2	11742.0	9941.8	9678.8	9929.0	10270.4	10072.9	11323.0	10372.8
70°	11486.5	11885.1	11633.5	11053.3	8281.8	7615.0	7890.8	8406.9	8267.5	10070.7	8919.3
72.5°	8617.9	9130.3	9180.0	9542.5	6574.4	5731.2	5771.1	5756.8	5997.2	8120.6	6960.2
75°	5536.0	5934.7	6473.4	7700.1	4994.3	4184.2	3801.5	3708.0	4156.4	6345.3	4983.0
77.5°	3213.7	3261.2	3509.9	5809.6	3576.9	3014.8	2754.1	2887.5	3044.2	4428.4	3302.6
80°	1537.2	1561.3	1663.8	2989.2	2485.1	2609.4	2408.2	2558.2	2090.2	2545.4	1874.0
82.5°	487.5	492.8	510.1	1468.6	1543.2	1728.6	1107.7	1485.2	1292.3	1538.7	1247.8
85°	81.4	138.6	171.0	424.2	871.1	583.2	240.4	529.7	721.1	970.5	566.6
87.5°	0.0	0.0	0.0	7.5	70.8	33.2	5.3	30.1	110.8	216.3	25.6
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°	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	2112.1	2164.1	1968.2	1792.6	1837.1	1801.6	1748.1	1657.0	1446.0	1601.2	1590.7
5°	2717.9	2621.5	2356.2	2232.7	2082.0	1852.1	1824.3	1647.9	1570.3	1583.1	1571.8
7.5°	2928.9	2756.3	2522.0	2149.8	1796.4	1464.8	1363.1	1247.8	1224.5	1274.2	1306.6
10°	2763.1	2580.0	2375.1	1912.4	1640.4	1400.8	1149.9	988.6	901.2	890.7	899.7
12.5°	2839.2	2641.8	2219.8	1865.7	1581.6	1364.6	1084.3	840.9	651.0	665.4	627.7
15°	2892.0	2665.2	2182.9	1767.7	1460.3	1170.2	832.6	589.2	434.0	388.8	361.7
17.5°	3201.7	2877.7	2136.2	1654.7	1290.8	911.0	522.9	341.3	290.9	275.0	262.2
20°	3599.5	3139.1	2135.5	1535.7	1040.6	569.7	326.3	247.2	235.1	244.1	234.3
22.5°	4062.2	3487.2	2249.2	1387.2	746.7	359.4	253.9	219.3	207.2	214.8	215.5
25°	4527.8	4009.4	2341.9	1246.3	519.9	275.8	226.1	201.9	188.4	195.2	191.4
27.5°	5368.8	4441.9	2320.8	1066.2	382.8	242.6	210.2	189.1	168.8	179.3	178.6
30°	5918.8	5205.3	2402.9	813.8	303.7	212.5	195.9	172.6	150.7	162.8	162.0
32.5°	6576.6	5533.0	2491.9	624.7	252.4	201.2	176.3	153.7	140.9	148.4	146.9
35°	7315.8	6181.1	2328.3	519.9	219.3	181.6	156.0	138.6	127.3	131.1	131.1
37.5°	8621.7	6722.8	2230.4	423.5	204.2	164.3	146.2	125.1	118.3	118.3	122.1
40°	9363.1	7550.2	1938.0	335.3	208.7	151.5	136.4	114.5	105.5	104.7	108.5
42.5°	10327.6	8027.2	1754.9	271.3	189.1	147.7	125.1	104.0	93.4	92.7	96.4
45°	10899.5	8293.9	1497.2	213.2	169.5	171.8	116.0	95.7	79.9	76.9	83.6
47.5°	11260.5	8647.3	1351.0	169.5	147.7	171.0	113.0	82.9	67.1	63.3	69.3
50°	11443.6	8822.1	1322.4	145.4	128.1	153.0	129.6	69.3	57.3	52.0	57.3
52.5°	11634.2	9106.2	1333.0	134.1	113.0	122.8	122.8	59.5	50.5	44.5	48.2
55°	12019.3	9525.9	1309.6	127.3	104.0	93.4	79.1	52.7	46.0	39.2	43.0
57.5°	12492.5	9827.3	1309.6	121.3	96.4	79.9	63.3	49.0	42.2	33.9	36.9
60°	12402.8	9510.1	1244.8	115.3	90.4	74.6	57.3	45.2	39.2	30.9	33.2
62.5°	11787.2	8647.3	1008.2	106.2	85.1	70.8	52.0	43.0	36.9	27.1	29.4
65°	11063.8	7731.0	700.8	96.4	79.1	64.0	46.7	40.7	33.9	24.1	25.6
67.5°	10192.7	6639.2	388.8	86.7	73.1	55.8	43.0	39.9	32.4	21.9	23.4
70°	8681.2	5012.4	208.7	79.1	68.6	51.2	40.7	39.9	32.4	21.1	21.9
72.5°	6517.1	3156.5	122.1	72.3	62.5	47.5	38.4	40.7	31.6	20.3	20.3
75°	4434.4	1916.2	87.4	61.8	55.8	39.9	36.9	39.2	32.4	20.3	18.8
77.5°	3014.8	1346.5	71.6	55.8	50.5	35.4	37.7	39.2	32.4	16.6	12.8
80°	1882.3	694.7	54.3	44.5	43.7	30.9	37.7	33.9	21.1	3.8	0.0
82.5°	1316.4	258.5	31.6	33.9	33.9	21.9	29.4	24.1	12.1	0.0	0.0
85°	552.3	44.5	17.3	24.1	21.1	12.8	23.4	18.1	7.5	0.0	0.0
87.5°	9.8	0.0	6.8	14.3	15.1	7.5	12.1	7.5	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°	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	1640.4	1568.8	1418.1	1490.4	1482.9	1516.1	1519.1	1442.2	1608.0	1710.5	1725.5
5°	1573.3	1525.1	1516.8	1475.4	1464.8	1525.9	1492.7	1490.4	1570.3	1687.1	1687.9
7.5°	1307.3	1270.4	1287.8	1239.5	1115.2	1122.7	1134.0	1181.5	1250.1	1326.9	1354.8
10°	897.4	993.1	923.1	917.0	904.2	864.3	832.6	857.5	946.4	1017.2	1043.6
12.5°	640.5	655.6	698.5	682.7	704.5	670.6	657.8	735.4	822.1	894.4	946.4
15°	374.5	400.1	425.7	480.0	501.8	495.1	534.2	599.0	669.1	702.3	766.3
17.5°	263.7	266.0	271.3	330.0	368.5	383.5	406.9	455.9	484.5	499.6	526.0
20°	230.6	223.8	214.8	247.9	284.1	302.9	296.1	334.6	357.9	373.0	391.8
22.5°	208.7	197.4	192.1	203.4	231.3	247.9	250.9	273.5	308.9	319.5	325.5
25°	188.4	180.8	177.1	183.1	198.2	214.0	217.0	246.4	278.0	282.6	294.6
27.5°	174.8	160.5	162.0	166.5	173.3	192.9	198.9	215.5	261.5	266.7	270.5
30°	160.5	145.4	149.9	154.5	151.5	175.6	184.6	203.4	247.9	256.2	260.7
32.5°	146.2	134.9	134.1	138.6	143.9	156.7	176.3	198.2	238.9	250.2	261.5
35°	130.4	121.3	122.8	123.6	130.4	146.9	161.3	172.6	200.4	206.5	210.2
37.5°	119.1	111.5	110.0	117.5	124.3	137.1	142.4	147.7	184.6	198.2	198.9
40°	105.5	101.0	101.0	106.2	121.3	119.8	126.6	143.2	178.6	192.9	194.4
42.5°	95.7	89.7	91.2	96.4	107.0	99.5	113.0	137.1	176.3	190.6	189.9
45°	80.6	79.1	82.1	86.7	91.2	84.4	105.5	131.1	168.8	187.6	182.3
47.5°	67.1	67.1	70.8	75.4	73.1	75.4	95.7	122.8	164.3	181.6	177.8
50°	55.0	55.8	59.5	67.1	60.3	66.3	85.9	114.5	156.7	175.6	172.6
52.5°	46.7	47.5	49.7	55.0	52.0	60.3	79.1	106.2	149.2	165.0	163.5
55°	40.7	42.2	42.2	45.2	46.7	56.5	71.6	98.0	137.9	155.2	152.2
57.5°	36.2	37.7	36.9	39.2	40.7	49.7	64.0	88.9	126.6	140.9	136.4
60°	32.4	33.9	33.2	36.2	35.4	43.0	55.8	79.1	114.5	125.8	122.1
62.5°	28.6	30.1	30.1	31.6	32.4	36.2	48.2	70.1	102.5	111.5	108.5
65°	25.6	27.1	27.9	27.1	28.6	30.9	40.7	63.3	88.9	98.0	93.4
67.5°	23.4	24.9	26.4	23.4	24.9	25.6	34.7	56.5	78.4	85.9	82.1
70°	22.6	23.4	23.4	20.3	19.6	20.3	30.1	48.2	68.6	76.1	70.8
72.5°	21.1	21.9	21.1	16.6	14.3	15.8	25.6	40.7	58.0	64.0	59.5
75°	19.6	20.3	19.6	13.6	9.0	11.3	21.1	35.4	49.7	52.7	50.5
77.5°	16.6	18.1	18.1	9.8	3.0	6.8	15.8	28.6	41.4	41.4	42.2
80°	1.5	4.5	7.5	5.3	0.0	0.8	5.3	15.1	26.4	25.6	27.9
82.5°	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	9.0	6.8	7.5
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°	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9	1592.9
2.5°	1690.1	1666.8	1696.2	1785.8	1749.7	1756.4	1732.3	1880.8	2048.8	2054.1
5°	1689.4	1668.3	1712.0	1708.2	1811.4	1923.7	2032.2	2207.8	2456.4	2458.0
7.5°	1342.0	1467.1	1499.5	1489.7	1622.3	1776.8	1944.1	2280.1	2484.3	2506.2
10°	1210.1	1264.4	1330.7	1354.8	1409.8	1556.8	1745.9	2126.4	2355.5	2406.0
12.5°	1048.9	1222.2	1310.4	1481.4	1513.1	1534.1	1832.5	2163.3	2302.7	2296.7
15°	868.8	1019.5	1158.9	1367.6	1453.5	1675.1	1910.2	2343.4	2426.3	2506.2
17.5°	614.9	728.6	942.6	1161.9	1424.1	1665.3	2124.1	2665.2	2821.9	2916.8
20°	411.4	466.4	660.1	950.2	1282.5	1522.1	2211.6	2956.0	3127.1	3209.2
22.5°	333.8	360.2	460.4	696.2	1095.6	1515.3	2247.0	3273.3	3732.9	3842.2
25°	293.9	312.0	365.5	515.4	909.5	1485.2	2442.9	3630.4	4185.0	4273.2
27.5°	256.9	284.1	324.0	425.0	779.9	1464.1	2542.3	4230.2	4891.8	4978.4
30°	245.6	278.8	317.2	387.3	689.5	1382.7	2700.6	4771.2	5398.9	5553.4
32.5°	265.2	276.5	295.4	354.9	619.4	1296.8	2978.6	5417.7	5818.6	6019.8
35°	210.2	230.6	263.7	325.5	590.0	1292.3	3136.1	5833.7	6491.5	6615.8
37.5°	205.7	224.5	267.5	317.2	625.4	1326.9	3369.7	6685.9	7704.7	7959.3
40°	199.7	223.8	264.5	313.5	625.4	1360.8	3518.9	7367.8	8520.7	8779.2
42.5°	197.4	228.3	263.7	329.3	605.8	1379.7	3744.2	8048.3	9382.7	9586.9
45°	195.9	232.8	266.0	348.1	601.3	1441.5	3871.5	8379.0	9937.3	10171.6
47.5°	192.1	232.8	296.9	336.8	576.4	1435.4	4036.6	8869.6	10268.1	10465.5
50°	189.1	234.3	336.1	315.7	580.2	1398.5	4260.4	9330.0	10731.5	10872.4
52.5°	182.3	239.6	330.0	286.3	568.9	1394.7	4594.2	9984.8	11341.1	11444.3
55°	167.3	232.8	298.4	250.2	529.0	1351.8	5036.5	10836.2	12186.5	12204.6
57.5°	153.7	216.3	249.4	229.8	443.1	1357.1	5417.7	11619.9	12940.0	13024.4
60°	140.2	224.5	193.7	214.0	367.0	1260.6	5602.4	11919.8	13488.6	13612.2
62.5°	127.3	207.2	165.0	196.7	327.0	1171.0	5474.3	11678.7	13558.7	13817.9
65°	113.0	143.9	139.4	176.3	330.8	1045.1	5046.3	10972.6	13292.7	13649.9
67.5°	97.2	113.0	122.8	152.2	354.2	937.4	4312.3	9839.3	12577.6	12982.2
70°	85.1	101.7	107.0	133.4	368.5	866.5	3402.9	8266.8	11112.8	11486.5
72.5°	70.8	94.2	95.7	116.8	354.9	796.5	2424.8	5934.7	8438.6	8617.9
75°	61.0	78.4	86.7	98.0	298.4	594.5	1336.0	3673.4	5335.6	5536.0
77.5°	55.0	59.5	65.6	67.8	126.6	309.7	459.6	2265.1	2987.7	3213.7
80°	42.2	46.7	45.2	46.7	69.3	107.0	174.8	1061.7	1411.3	1537.2
82.5°	13.6	22.6	24.9	21.1	45.2	52.7	50.5	367.0	458.9	487.5
85°	3.0	8.3	3.8	0.0	15.1	27.1	3.8	55.8	110.0	81.4
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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