

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: P368567

Luminaire Tested: **MSA-SA4C-830-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368567
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-SA4C-830-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: 13948 lumens
Efficiency: N/A
Efficacy: 62.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

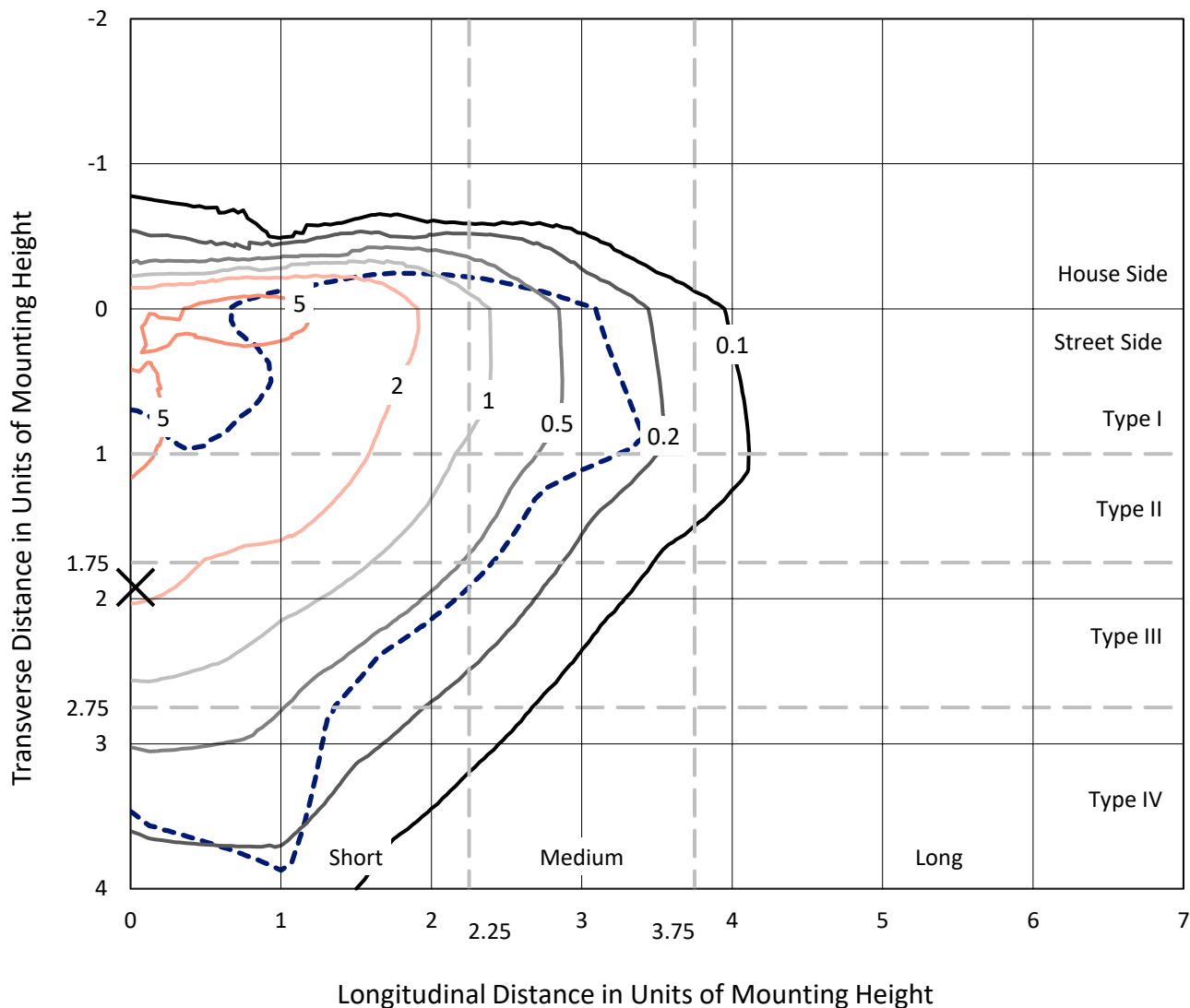
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

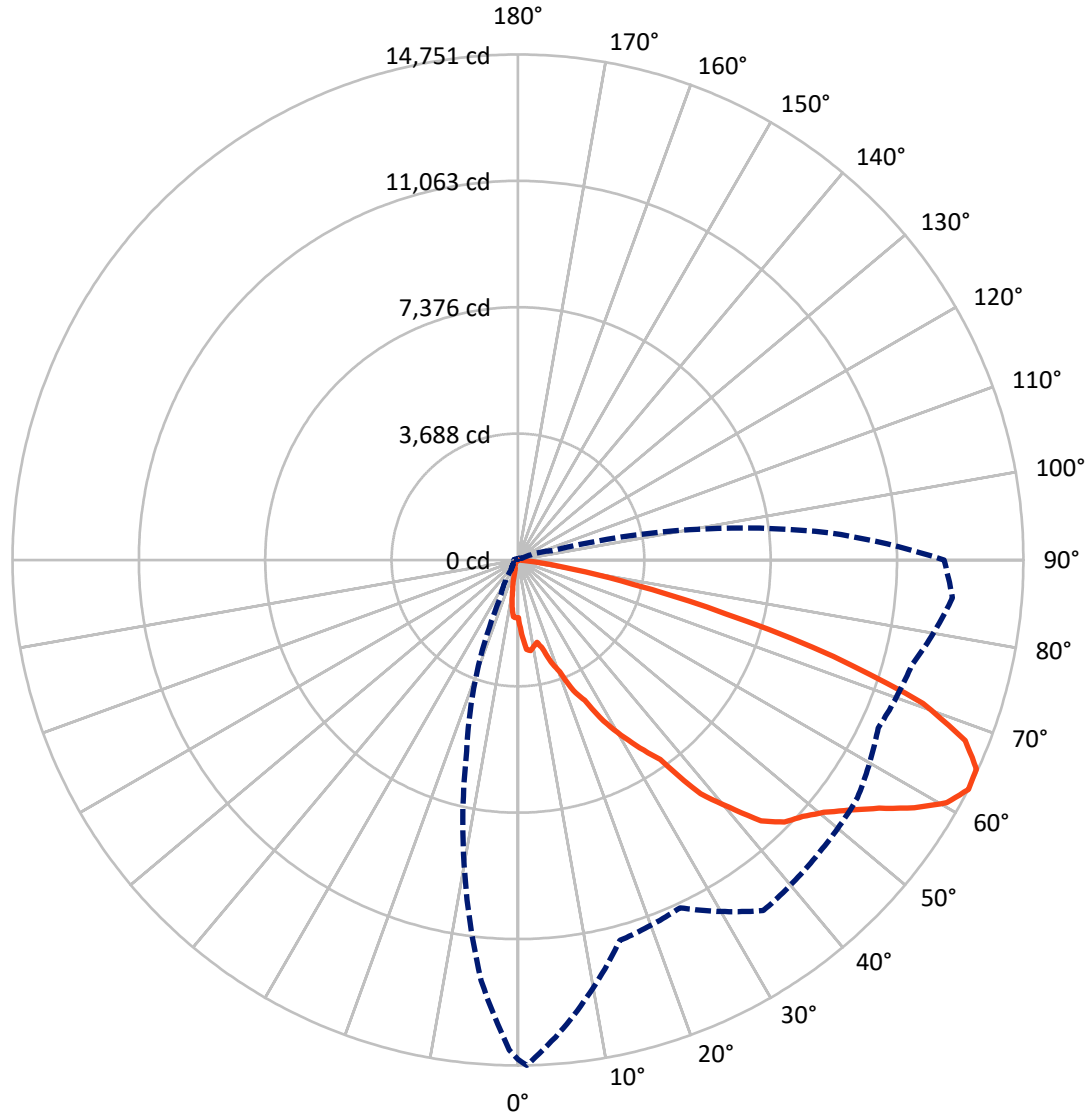
✕ Max cd
 - - - 1/2 Max cd



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	1595.0	0.0	1595.0
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	12353.0	0.0	12353.0
	% Fixture	88.6	0.0	88.6
Total	Lumens	13948.0	0.0	13948.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.7	1.3
10°-20°	490.4	3.5
20°-30°	792.7	5.7
30°-40°	1327.8	9.5
40°-50°	2171.1	15.6
50°-60°	3213.8	23.0
60°-70°	3689.6	26.5
70°-80°	1824.5	13.1
80°-90°	250.5	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°	13948.0	100.0
0°-180°	13948.0	100.0

Coefficient of Utilization



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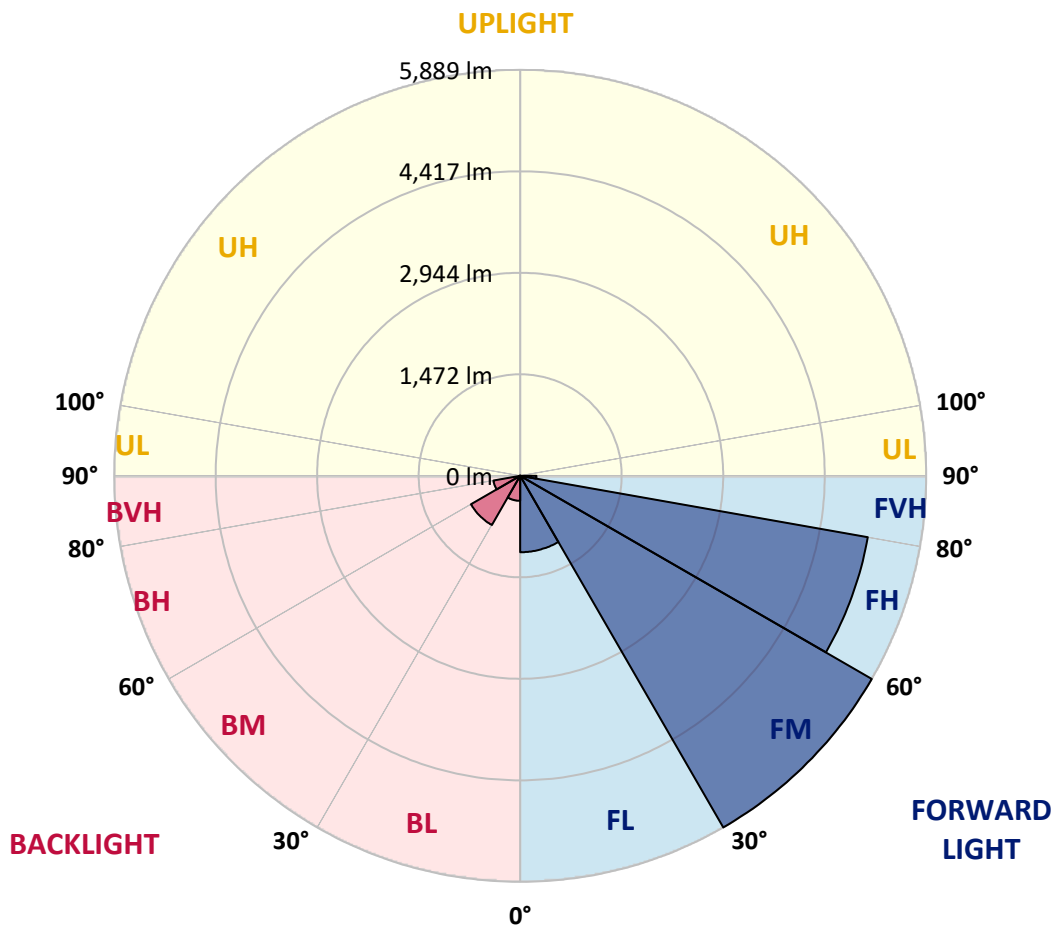
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1107.9	7.9			
FM (30°-60°)	5888.7	42.2			
FH (60°-80°)	5119.8	36.7			G3/7500
FVH (80°-90°)	236.6	1.7			G3/500
BL (0°-30°)	362.9	2.6	B1/500		
BM (30°-60°)	823.9	5.9	B1/1000		
BH (60°-80°)	394.4	2.8	B1/500		G1/500
BVH (80°-90°)	13.9	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°	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3
2.5°	2166.7	2177.0	2128.5	2122.2	2009.3	2150.0	2154.0	2170.7	2067.3	1867.0	2146.8
5°	2592.7	2621.3	2584.0	2750.1	2797.8	2900.3	2711.9	2880.4	2808.9	2828.8	2869.3
7.5°	2643.6	2673.0	2751.7	3029.9	3286.6	3222.2	3201.6	3265.1	3259.6	3112.5	3185.7
10°	2537.9	2562.5	2693.7	3200.0	3312.0	3601.4	3672.1	3525.8	3466.2	3144.3	3003.6
12.5°	2422.6	2464.0	2630.9	3238.1	3574.3	3866.8	4099.7	3891.5	3693.6	3351.0	3222.2
15°	2643.6	2666.6	2928.9	3317.6	3611.7	3813.6	4004.3	3935.2	3905.0	3658.6	3222.2
17.5°	3076.8	3130.8	3320.8	3512.3	3744.4	3866.0	3820.7	3799.3	3722.2	4109.2	3657.8
20°	3385.2	3486.1	3734.9	3817.5	3633.1	3746.8	3719.0	3699.9	3639.5	4359.6	4158.5
22.5°	4052.8	4145.8	4150.6	4180.0	3750.8	3569.6	3523.5	3529.0	3803.2	4434.3	4781.7
25°	4507.5	4539.2	4790.4	4580.6	4071.9	3623.6	3448.0	3526.6	3921.7	4971.6	5367.5
27.5°	5251.4	5326.9	5483.5	4772.9	4264.2	3589.4	3309.7	3595.8	4233.2	5149.7	6018.4
30°	5857.9	5930.2	6182.1	5036.0	4431.1	3758.7	3369.3	3734.9	4427.2	5516.1	6603.4
32.5°	6349.9	6536.6	6822.8	5442.2	4424.8	3953.5	3673.7	3688.8	4665.6	5990.6	7182.0
35°	6978.6	7152.6	7353.7	5721.9	4714.1	4016.3	3763.5	4141.8	5020.1	6486.6	7961.0
37.5°	8395.7	8658.8	8261.4	6427.0	5051.1	4583.8	4118.0	4420.8	5391.3	6992.9	9031.6
40°	9260.5	9482.3	9098.4	6787.0	5634.5	4869.9	4750.7	4905.7	5754.5	7254.4	9838.3
42.5°	10112.6	10405.1	9763.6	7329.1	6188.5	5677.4	5351.6	5476.3	6279.9	7885.5	10746.0
45°	10729.3	10910.6	9907.5	7612.8	6950.0	6597.8	6380.9	6194.9	7012.7	8290.8	11331.8
47.5°	11039.3	11184.0	10191.2	7702.6	7403.0	7571.5	8046.8	7658.1	7661.3	8584.1	11647.4
50°	11468.5	11569.5	10350.2	7810.0	7895.0	9088.8	9328.9	8501.4	8402.1	8878.2	11699.0
52.5°	12071.8	12121.1	10658.6	8092.9	8631.8	10277.1	10363.7	10029.1	9143.7	9425.0	11813.5
55°	12873.8	12787.1	11209.4	8687.4	9400.4	11147.4	11263.5	10971.8	10076.0	9971.1	12168.0
57.5°	13738.6	13639.2	12025.7	9525.2	10234.2	11812.7	11881.8	11904.9	10695.2	10454.3	12770.5
60°	14358.5	14376.8	13053.4	10486.1	10752.4	12449.3	12311.0	12101.2	11319.9	11162.5	13063.7
62.5°	14575.5	14751.2	13853.8	11493.2	11199.1	12489.1	12274.5	12097.2	11599.7	11893.0	12727.5
65°	14398.3	14705.1	14039.8	12377.8	11469.3	11990.7	11767.4	11653.7	11590.9	12191.0	11983.6
67.5°	13694.0	14077.9	13507.3	12385.8	10486.9	10209.5	10473.4	10833.5	10625.2	11943.8	10941.6
70°	12116.3	12536.8	12271.3	11659.3	8735.9	8032.5	8323.4	8867.9	8720.8	10622.8	9408.3
72.5°	9090.4	9630.9	9683.4	10065.7	6934.8	6045.4	6087.6	6072.5	6326.0	8565.8	7341.8
75°	5839.6	6260.0	6828.3	8122.3	5268.1	4413.7	4009.9	3911.3	4384.3	6693.2	5256.2
77.5°	3389.9	3440.0	3702.3	6128.1	3773.0	3180.1	2905.1	3045.8	3211.1	4671.2	3483.7
80°	1621.4	1646.9	1755.0	3153.1	2621.3	2752.5	2540.3	2698.4	2204.8	2684.9	1976.7
82.5°	514.3	519.8	538.1	1549.1	1627.8	1823.3	1168.4	1566.6	1363.1	1623.0	1316.2
85°	85.8	146.2	180.4	447.5	918.8	615.2	253.5	558.8	760.6	1023.7	597.7
87.5°	0.0	0.0	0.0	7.9	74.7	35.0	5.6	31.8	116.8	228.1	27.0
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°	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3
2.5°	2227.9	2282.7	2076.1	1890.9	1937.8	1900.4	1844.0	1747.8	1525.3	1689.0	1677.9
5°	2866.9	2765.2	2485.4	2355.1	2196.1	1953.7	1924.3	1738.3	1656.4	1669.9	1658.0
7.5°	3089.5	2907.5	2660.3	2267.6	1894.9	1545.1	1437.8	1316.2	1291.6	1344.0	1378.2
10°	2914.6	2721.5	2505.3	2017.3	1730.3	1477.6	1212.9	1042.8	950.6	939.5	949.0
12.5°	2994.9	2786.7	2341.6	1968.0	1668.3	1439.4	1143.8	887.0	686.7	701.8	662.1
15°	3050.5	2811.3	2302.6	1864.7	1540.4	1234.4	878.3	621.6	457.8	410.1	381.5
17.5°	3377.2	3035.4	2253.3	1745.4	1361.5	960.9	551.6	360.1	306.8	290.1	276.6
20°	3796.9	3311.2	2252.5	1619.9	1097.7	600.9	344.2	260.7	248.0	257.5	247.2
22.5°	4284.9	3678.5	2372.6	1463.3	787.7	379.1	267.9	231.3	218.6	226.5	227.3
25°	4776.1	4229.3	2470.3	1314.6	548.4	290.9	238.4	213.0	198.7	205.9	201.9
27.5°	5663.1	4685.5	2448.1	1124.7	403.8	255.9	221.8	199.5	178.0	189.2	188.4
30°	6243.4	5490.7	2534.7	858.4	320.3	224.1	206.7	182.0	159.0	171.7	170.9
32.5°	6937.2	5836.4	2628.5	658.9	266.3	212.2	186.0	162.1	148.6	156.6	155.0
35°	7717.0	6519.9	2456.0	548.4	231.3	191.6	164.5	146.2	134.3	138.3	138.3
37.5°	9094.4	7091.4	2352.7	446.7	215.4	173.3	154.2	131.9	124.8	124.8	128.8
40°	9876.5	7964.1	2044.3	353.7	220.2	159.8	143.9	120.8	111.3	110.5	114.5
42.5°	10893.9	8467.3	1851.1	286.1	199.5	155.8	131.9	109.7	98.6	97.8	101.7
45°	11497.1	8748.6	1579.3	224.9	178.8	181.2	122.4	100.9	84.3	81.1	88.2
47.5°	11877.9	9121.4	1425.1	178.8	155.8	180.4	119.2	87.4	70.7	66.8	73.1
50°	12071.0	9305.8	1394.9	153.4	135.1	161.3	136.7	73.1	60.4	54.8	60.4
52.5°	12272.1	9605.5	1406.0	141.5	119.2	129.6	129.6	62.8	53.3	46.9	50.9
55°	12678.3	10048.2	1381.4	134.3	109.7	98.6	83.5	55.6	48.5	41.3	45.3
57.5°	13177.4	10366.1	1381.4	128.0	101.7	84.3	66.8	51.7	44.5	35.8	38.9
60°	13082.8	10031.5	1313.1	121.6	95.4	78.7	60.4	47.7	41.3	32.6	35.0
62.5°	12433.4	9121.4	1063.5	112.1	89.8	74.7	54.8	45.3	38.9	28.6	31.0
65°	11670.4	8154.9	739.2	101.7	83.5	67.6	49.3	42.9	35.8	25.4	27.0
67.5°	10751.6	7003.2	410.1	91.4	77.1	58.8	45.3	42.1	34.2	23.0	24.6
70°	9157.2	5287.2	220.2	83.5	72.3	54.0	42.9	42.1	34.2	22.3	23.0
72.5°	6874.4	3329.5	128.8	76.3	66.0	50.1	40.5	42.9	33.4	21.5	21.5
75°	4677.5	2021.2	92.2	65.2	58.8	42.1	38.9	41.3	34.2	21.5	19.9
77.5°	3180.1	1420.4	75.5	58.8	53.3	37.4	39.7	41.3	34.2	17.5	13.5
80°	1985.5	732.8	57.2	46.9	46.1	32.6	39.7	35.8	22.3	4.0	0.0
82.5°	1388.6	272.6	33.4	35.8	35.8	23.0	31.0	25.4	12.7	0.0	0.0
85°	582.6	46.9	18.3	25.4	22.3	13.5	24.6	19.1	7.9	0.0	0.0
87.5°	10.3	0.0	7.2	15.1	15.9	7.9	12.7	7.9	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°	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3
2.5°	1730.3	1654.8	1495.9	1572.2	1564.2	1599.2	1602.4	1521.3	1696.2	1804.3	1820.1
5°	1659.6	1608.7	1600.0	1556.3	1545.1	1609.5	1574.5	1572.2	1656.4	1779.6	1780.4
7.5°	1379.0	1340.1	1358.4	1307.5	1176.3	1184.3	1196.2	1246.3	1318.6	1399.7	1429.1
10°	946.6	1047.6	973.7	967.3	953.8	911.7	878.3	904.5	998.3	1073.0	1100.8
12.5°	675.6	691.5	736.8	720.1	743.2	707.4	693.9	775.7	867.2	943.5	998.3
15°	395.0	422.1	449.1	506.3	529.4	522.2	563.5	631.9	705.8	740.8	808.3
17.5°	278.2	280.6	286.1	348.1	388.7	404.6	429.2	480.9	511.1	527.0	554.8
20°	243.2	236.1	226.5	261.5	299.6	319.5	312.4	352.9	377.5	393.4	413.3
22.5°	220.2	208.2	202.7	214.6	244.0	261.5	264.7	288.5	325.9	337.0	343.4
25°	198.7	190.8	186.8	193.1	209.0	225.7	228.9	259.9	293.3	298.1	310.8
27.5°	184.4	169.3	170.9	175.7	182.8	203.5	209.8	227.3	275.8	281.4	285.3
30°	169.3	153.4	158.2	162.9	159.8	185.2	194.7	214.6	261.5	270.2	275.0
32.5°	154.2	142.3	141.5	146.2	151.8	165.3	186.0	209.0	252.0	263.9	275.8
35°	137.5	128.0	129.6	130.4	137.5	155.0	170.1	182.0	211.4	217.8	221.8
37.5°	125.6	117.6	116.0	124.0	131.1	144.7	150.2	155.8	194.7	209.0	209.8
40°	111.3	106.5	106.5	112.1	128.0	126.4	133.5	151.0	188.4	203.5	205.1
42.5°	100.9	94.6	96.2	101.7	112.9	104.9	119.2	144.7	186.0	201.1	200.3
45°	85.0	83.5	86.6	91.4	96.2	89.0	111.3	138.3	178.0	197.9	192.3
47.5°	70.7	70.7	74.7	79.5	77.1	79.5	100.9	129.6	173.3	191.6	187.6
50°	58.0	58.8	62.8	70.7	63.6	69.9	90.6	120.8	165.3	185.2	182.0
52.5°	49.3	50.1	52.5	58.0	54.8	63.6	83.5	112.1	157.4	174.1	172.5
55°	42.9	44.5	44.5	47.7	49.3	59.6	75.5	103.3	145.5	163.7	160.6
57.5°	38.2	39.7	38.9	41.3	42.9	52.5	67.6	93.8	133.5	148.6	143.9
60°	34.2	35.8	35.0	38.2	37.4	45.3	58.8	83.5	120.8	132.7	128.8
62.5°	30.2	31.8	31.8	33.4	34.2	38.2	50.9	73.9	108.1	117.6	114.5
65°	27.0	28.6	29.4	28.6	30.2	32.6	42.9	66.8	93.8	103.3	98.6
67.5°	24.6	26.2	27.8	24.6	26.2	27.0	36.6	59.6	82.7	90.6	86.6
70°	23.8	24.6	24.6	21.5	20.7	21.5	31.8	50.9	72.3	80.3	74.7
72.5°	22.3	23.0	22.3	17.5	15.1	16.7	27.0	42.9	61.2	67.6	62.8
75°	20.7	21.5	20.7	14.3	9.5	11.9	22.3	37.4	52.5	55.6	53.3
77.5°	17.5	19.1	19.1	10.3	3.2	7.2	16.7	30.2	43.7	43.7	44.5
80°	1.6	4.8	7.9	5.6	0.0	0.8	5.6	15.9	27.8	27.0	29.4
82.5°	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	9.5	7.2	7.9
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°	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3	1680.3
2.5°	1782.8	1758.2	1789.2	1883.7	1845.6	1852.7	1827.3	1983.9	2161.1	2166.7
5°	1782.0	1759.7	1805.8	1801.9	1910.8	2029.2	2143.6	2328.8	2591.1	2592.7
7.5°	1415.6	1547.5	1581.7	1571.4	1711.3	1874.2	2050.6	2405.1	2620.5	2643.6
10°	1276.5	1333.7	1403.7	1429.1	1487.1	1642.1	1841.6	2243.0	2484.6	2537.9
12.5°	1106.4	1289.2	1382.2	1562.6	1596.0	1618.3	1933.0	2281.9	2429.0	2422.6
15°	916.4	1075.4	1222.4	1442.6	1533.2	1766.9	2014.9	2471.9	2559.3	2643.6
17.5°	648.6	768.6	994.3	1225.6	1502.2	1756.6	2240.6	2811.3	2976.6	3076.8
20°	434.0	492.0	696.3	1002.3	1352.8	1605.5	2332.8	3118.1	3298.5	3385.2
22.5°	352.1	379.9	485.6	734.4	1155.7	1598.4	2370.2	3452.7	3937.6	4052.8
25°	310.0	329.1	385.5	543.7	959.4	1566.6	2576.8	3829.5	4414.5	4507.5
27.5°	271.0	299.6	341.8	448.3	822.6	1544.3	2681.7	4462.1	5160.0	5251.4
30°	259.1	294.1	334.6	408.5	727.3	1458.5	2848.7	5032.8	5694.9	5857.9
32.5°	279.8	291.7	311.6	374.4	653.3	1367.9	3141.9	5714.8	6137.6	6349.9
35°	221.8	243.2	278.2	343.4	622.3	1363.1	3308.1	6153.5	6847.4	6978.6
37.5°	217.0	236.9	282.2	334.6	659.7	1399.7	3554.5	7052.5	8127.1	8395.7
40°	210.6	236.1	279.0	330.6	659.7	1435.5	3711.8	7771.8	8987.9	9260.5
42.5°	208.2	240.8	278.2	347.3	639.0	1455.3	3949.5	8489.5	9897.2	10112.6
45°	206.7	245.6	280.6	367.2	634.3	1520.5	4083.8	8838.5	10482.2	10729.3
47.5°	202.7	245.6	313.2	355.3	608.0	1514.1	4257.9	9355.9	10831.1	11039.3
50°	199.5	247.2	354.5	333.0	612.0	1475.2	4493.9	9841.5	11319.9	11468.5
52.5°	192.3	252.8	348.1	302.0	600.1	1471.2	4846.0	10532.2	11962.9	12071.8
55°	176.5	245.6	314.8	263.9	558.0	1425.9	5312.6	11430.4	12854.7	12873.8
57.5°	162.1	228.1	263.1	242.4	467.4	1431.5	5714.8	12257.0	13649.5	13738.6
60°	147.8	236.9	204.3	225.7	387.1	1329.7	5909.5	12573.3	14228.2	14358.5
62.5°	134.3	218.6	174.1	207.4	345.0	1235.2	5774.4	12319.0	14302.1	14575.5
65°	119.2	151.8	147.0	186.0	348.9	1102.4	5322.9	11574.2	14021.5	14398.3
67.5°	102.5	119.2	129.6	160.6	373.6	988.8	4548.8	10378.8	13267.2	13694.0
70°	89.8	107.3	112.9	140.7	388.7	914.0	3589.4	8720.0	11722.1	12116.3
72.5°	74.7	99.4	100.9	123.2	374.4	840.1	2557.7	6260.0	8901.2	9090.4
75°	64.4	82.7	91.4	103.3	314.8	627.1	1409.2	3874.8	5628.2	5839.6
77.5°	58.0	62.8	69.1	71.5	133.5	326.7	484.8	2389.2	3151.5	3389.9
80°	44.5	49.3	47.7	49.3	73.1	112.9	184.4	1119.9	1488.7	1621.4
82.5°	14.3	23.8	26.2	22.3	47.7	55.6	53.3	387.1	484.0	514.3
85°	3.2	8.7	4.0	0.0	15.9	28.6	4.0	58.8	116.0	85.8
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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