

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: P368611

Luminaire Tested: **MSA-SA4D-730-U-SLL-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368611  
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-SA4D-730-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: 17477 lumens  
Efficiency: N/A  
Efficacy: 67.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

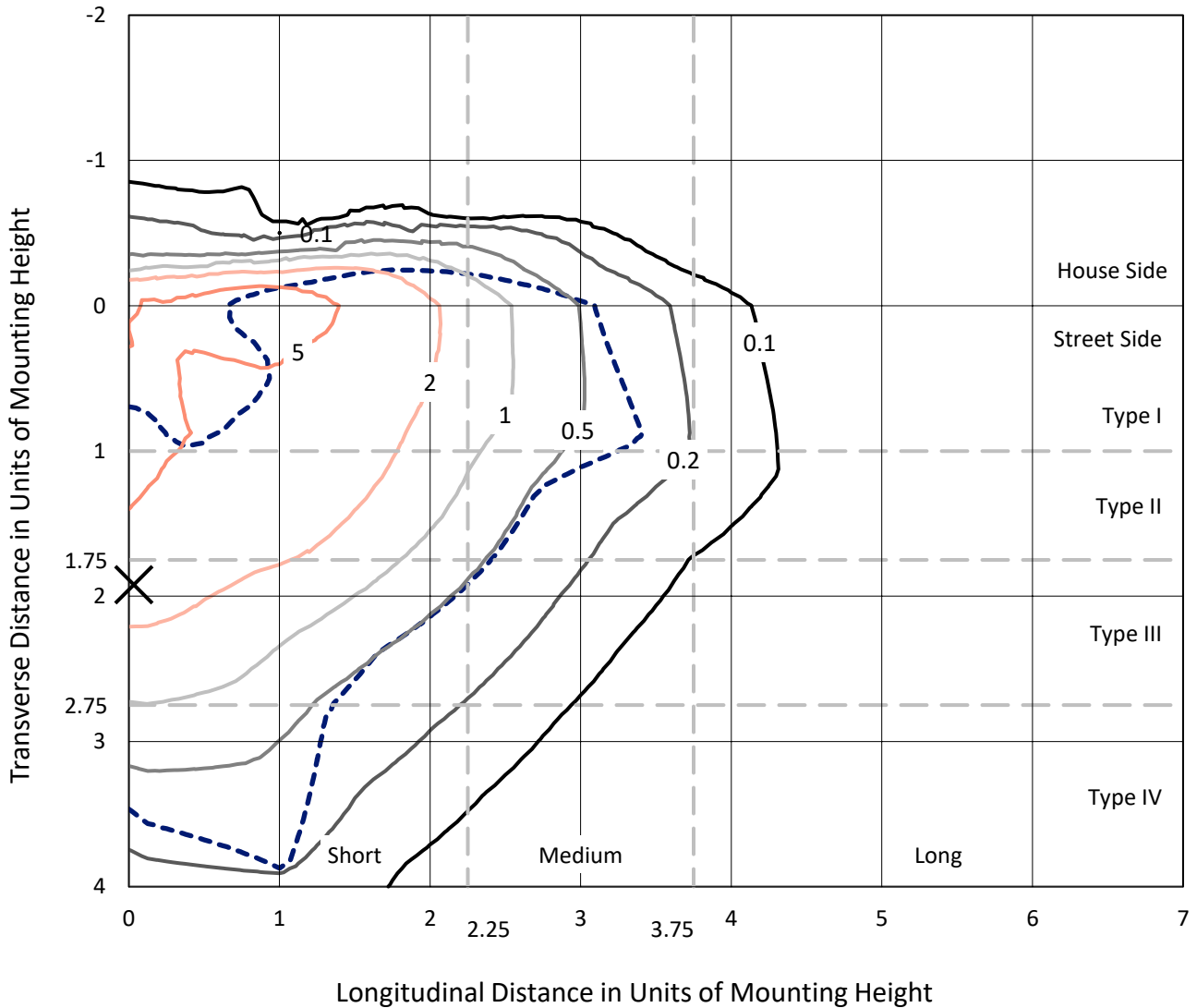
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

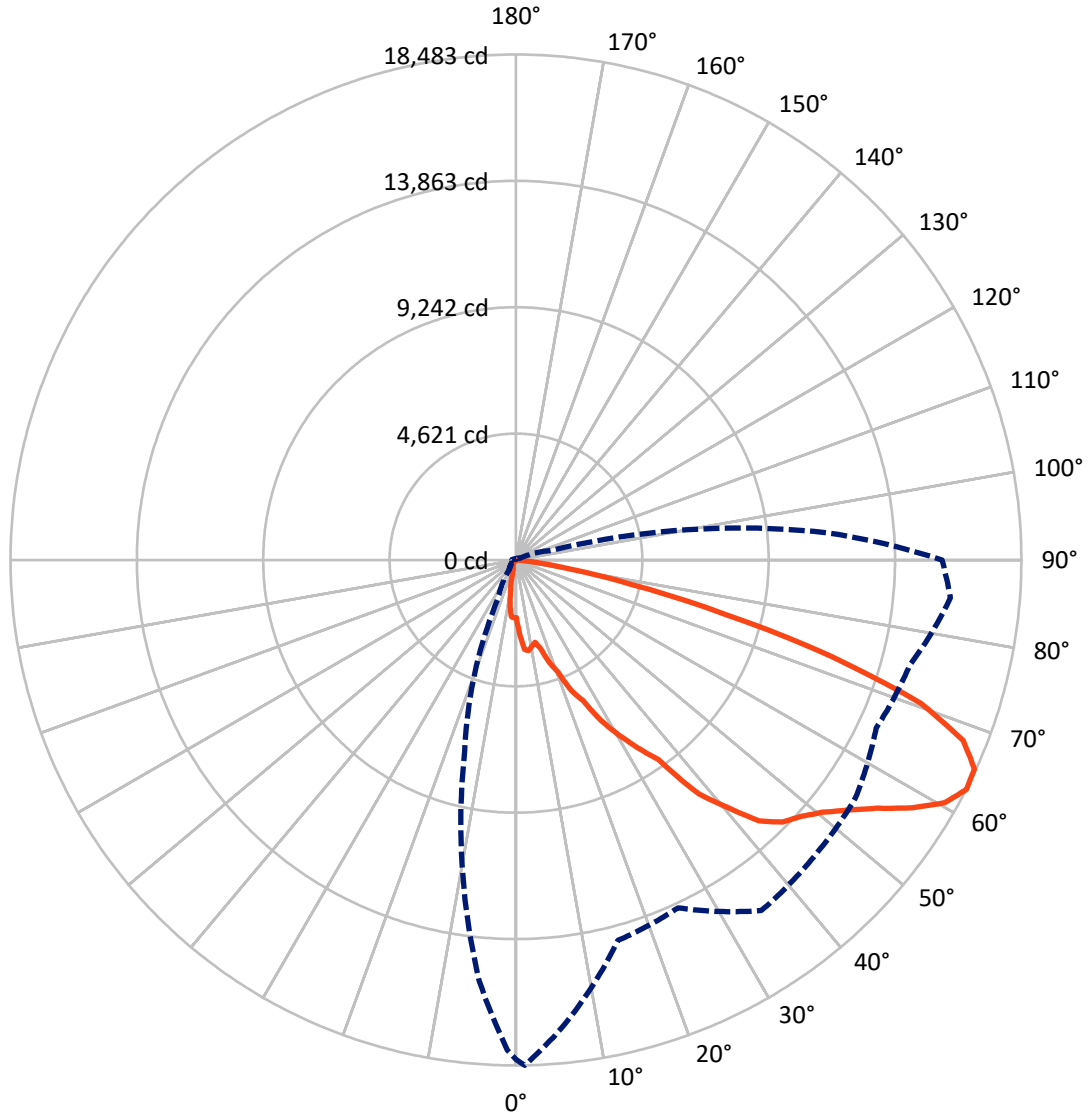
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9 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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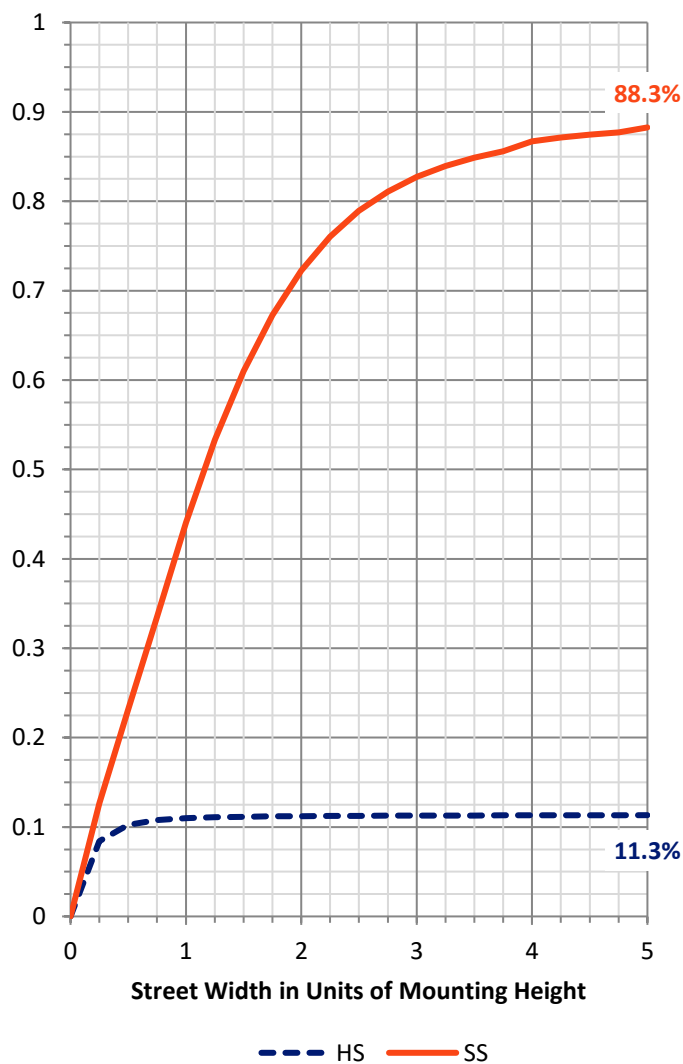
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1998.6	0.0	1998.6
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	15478.4	0.0	15478.4
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	17477.0	0.0	17477.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.2	1.3
10°-20°	614.4	3.5
20°-30°	993.2	5.7
30°-40°	1663.7	9.5
40°-50°	2720.4	15.6
50°-60°	4026.9	23.0
60°-70°	4623.2	26.5
70°-80°	2286.2	13.1
80°-90°	313.8	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°	17477.0	100.0
0°-180°	17477.0	100.0

**Coefficient of Utilization**



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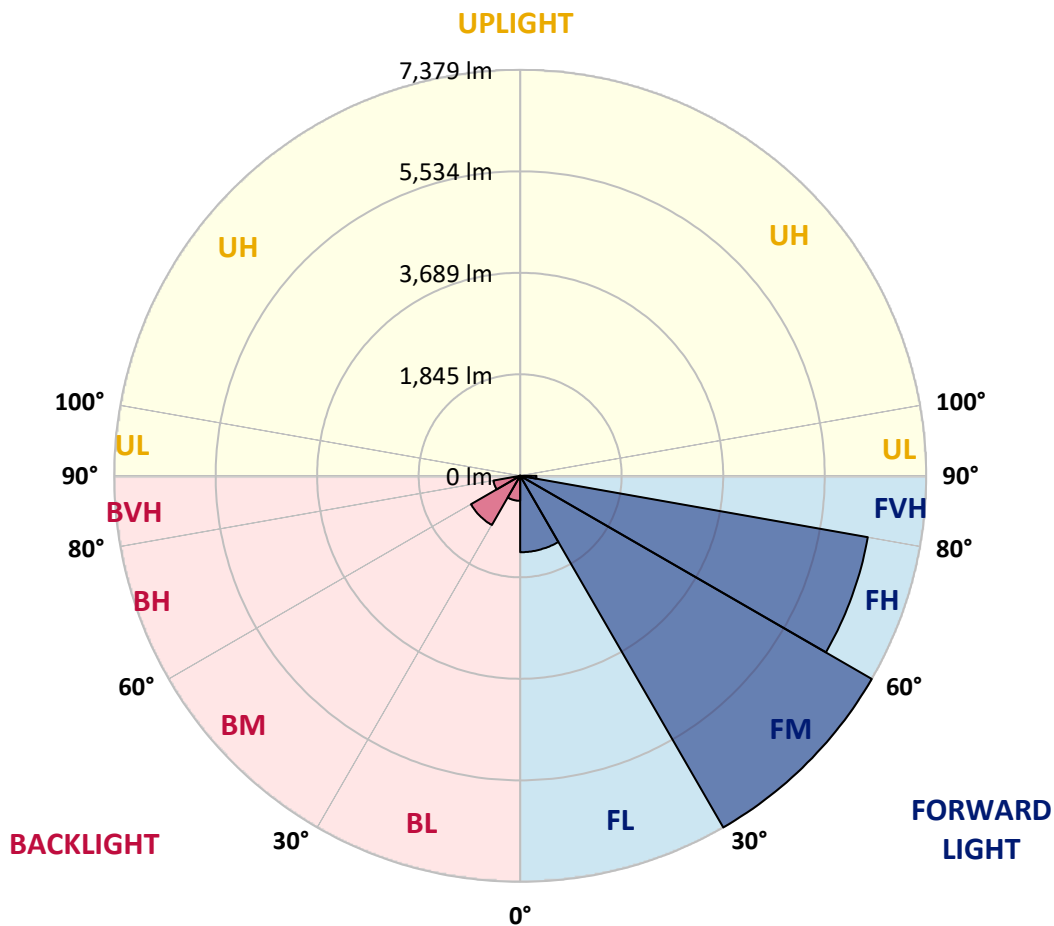
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1388.2	7.9			
FM (30°-60°)	7378.7	42.2			
FH (60°-80°)	6415.2	36.7			G3/7500
FVH (80°-90°)	296.4	1.7			G3/500
BL (0°-30°)	454.7	2.6	B1/500		
BM (30°-60°)	1032.3	5.9	B2/2500		
BH (60°-80°)	494.2	2.8	B1/500		G1/500
BVH (80°-90°)	17.4	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4
2.5°	2714.9	2727.8	2667.1	2659.1	2517.7	2694.0	2699.0	2719.9	2590.4	2339.4	2690.0
5°	3248.7	3284.6	3237.8	3445.9	3505.7	3634.1	3398.1	3609.2	3519.6	3544.5	3595.3
7.5°	3312.4	3349.3	3447.9	3796.5	4118.1	4037.5	4011.6	4091.3	4084.3	3900.0	3991.7
10°	3180.0	3210.9	3375.2	4009.6	4150.0	4512.5	4601.2	4417.9	4343.2	3939.9	3763.6
12.5°	3035.6	3087.4	3296.5	4057.4	4478.7	4845.2	5137.0	4876.0	4628.1	4198.8	4037.5
15°	3312.4	3341.3	3670.0	4157.0	4525.5	4778.4	5017.5	4930.8	4893.0	4584.2	4037.5
17.5°	3855.2	3922.9	4161.0	4401.0	4691.8	4844.2	4787.4	4760.5	4663.9	5148.9	4583.2
20°	4241.6	4368.1	4679.9	4783.4	4552.4	4694.8	4659.9	4636.0	4560.3	5462.6	5210.7
22.5°	5078.2	5194.7	5200.7	5237.6	4699.8	4472.7	4414.9	4421.9	4765.5	5556.3	5991.5
25°	5647.9	5687.7	6002.4	5739.5	5102.1	4540.4	4320.3	4418.9	4913.9	6229.5	6725.5
27.5°	6580.1	6674.7	6870.9	5980.5	5343.1	4497.6	4147.0	4505.6	5304.3	6452.6	7541.1
30°	7340.0	7430.6	7746.3	6310.2	5552.3	4709.7	4221.7	4679.9	5547.3	6911.7	8274.1
32.5°	7956.4	8190.5	8549.0	6819.1	5544.3	4953.7	4603.2	4622.1	5846.1	7506.3	8999.2
35°	8744.2	8962.3	9214.3	7169.7	5906.8	5032.4	4715.7	5189.8	6290.3	8127.7	9975.2
37.5°	10520.0	10849.6	10351.6	8053.0	6329.1	5743.5	5159.9	5539.3	6755.4	8762.1	11316.7
40°	11603.5	11881.4	11400.3	8504.2	7060.1	6102.0	5952.6	6146.8	7210.5	9089.8	12327.6
42.5°	12671.1	13037.6	12233.9	9183.4	7754.3	7113.9	6705.6	6861.9	7868.8	9880.6	13464.9
45°	13444.0	13671.1	12414.2	9539.0	8708.4	8267.2	7995.3	7762.2	8787.0	10388.5	14198.9
47.5°	13832.4	14013.7	12769.7	9651.5	9276.0	9487.2	10082.7	9595.7	9599.7	10756.0	14594.3
50°	14370.2	14496.7	12968.9	9786.0	9892.5	11388.4	11689.2	10652.4	10527.9	11124.5	14659.0
52.5°	15126.1	15187.9	13355.3	10140.5	10815.7	12877.3	12985.9	12566.6	11457.1	11809.7	14802.4
55°	16131.0	16022.4	14045.5	10885.5	11778.8	13967.8	14113.2	13747.7	12625.3	12493.9	15246.6
57.5°	17214.6	17090.1	15068.3	11935.2	12823.5	14801.4	14888.1	14917.0	13401.2	13099.4	16001.5
60°	17991.4	18014.3	16356.1	13139.2	13472.9	15599.2	15425.9	15163.0	14184.0	13986.8	16369.0
62.5°	18263.3	18483.4	17359.0	14401.1	14032.6	15649.0	15380.1	15158.0	14534.5	14902.0	15947.7
65°	18041.2	18425.6	17592.0	15509.5	14371.2	15024.5	14744.7	14602.2	14523.6	15275.5	15015.6
67.5°	17158.8	17639.8	16924.7	15519.5	13140.2	12792.7	13123.3	13574.5	13313.5	14965.8	13709.9
70°	15181.9	15708.7	15376.1	14609.2	10946.2	10064.8	10429.3	11111.5	10927.3	13310.5	11788.8
72.5°	11390.4	12067.6	12133.4	12612.4	8689.4	7575.0	7627.8	7608.9	7926.6	10733.1	9199.4
75°	7317.1	7843.9	8556.0	10177.4	6601.0	5530.4	5024.4	4900.9	5493.5	8386.7	6586.0
77.5°	4247.6	4310.4	4639.0	7678.6	4727.7	3984.7	3640.1	3816.4	4023.5	5853.0	4365.1
80°	2031.7	2063.6	2199.0	3950.8	3284.6	3448.9	3183.0	3381.2	2762.7	3364.2	2476.9
82.5°	644.4	651.3	674.2	1941.1	2039.7	2284.7	1464.0	1963.0	1708.0	2033.7	1649.3
85°	107.6	183.3	226.1	560.7	1151.3	770.8	317.7	700.1	953.1	1282.8	748.9
87.5°	0.0	0.0	0.0	10.0	93.6	43.8	7.0	39.8	146.4	285.8	33.9
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°	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4
2.5°	2791.6	2860.3	2601.4	2369.3	2428.1	2381.3	2310.5	2190.0	1911.2	2116.3	2102.4
5°	3592.3	3464.8	3114.3	2950.9	2751.7	2448.0	2411.1	2178.1	2075.5	2092.4	2077.5
7.5°	3871.2	3643.1	3333.4	2841.4	2374.3	1936.1	1801.6	1649.3	1618.4	1684.1	1726.9
10°	3652.1	3410.0	3139.2	2527.7	2168.1	1851.4	1519.8	1306.7	1191.1	1177.2	1189.1
12.5°	3752.6	3491.7	2934.0	2465.9	2090.4	1803.6	1433.1	1111.5	860.5	879.4	829.6
15°	3822.4	3522.6	2885.2	2336.4	1930.1	1546.7	1100.5	778.8	573.7	513.9	478.0
17.5°	4231.7	3803.4	2823.4	2187.1	1706.0	1204.1	691.2	451.2	384.4	363.5	346.6
20°	4757.5	4149.0	2822.5	2029.7	1375.4	752.9	431.2	326.7	310.7	322.7	309.7
22.5°	5369.0	4609.1	2972.8	1833.5	987.0	475.1	335.6	289.8	273.9	283.8	284.8
25°	5984.5	5299.3	3095.3	1647.3	687.2	364.5	298.8	266.9	249.0	257.9	253.0
27.5°	7096.0	5871.0	3067.4	1409.2	505.9	320.7	277.9	250.0	223.1	237.0	236.0
30°	7823.0	6879.8	3176.0	1075.6	401.4	280.9	258.9	228.1	199.2	215.1	214.1
32.5°	8692.4	7313.1	3293.5	825.6	333.6	265.9	233.0	203.2	186.2	196.2	194.2
35°	9669.4	8169.6	3077.4	687.2	289.8	240.0	206.2	183.3	168.3	173.3	173.3
37.5°	11395.4	8885.6	2947.9	559.7	269.9	217.1	193.2	165.3	156.4	156.4	161.3
40°	12375.4	9979.2	2561.5	443.2	275.9	200.2	180.3	151.4	139.4	138.4	143.4
42.5°	13650.1	10609.6	2319.5	358.5	250.0	195.2	165.3	137.4	123.5	122.5	127.5
45°	14406.1	10962.1	1978.9	281.8	224.1	227.1	153.4	126.5	105.6	101.6	110.5
47.5°	14883.1	11429.2	1785.7	224.1	195.2	226.1	149.4	109.6	88.6	83.7	91.6
50°	15125.1	11660.3	1747.8	192.2	169.3	202.2	171.3	91.6	75.7	68.7	75.7
52.5°	15377.1	12035.7	1761.8	177.3	149.4	162.3	162.3	78.7	66.7	58.8	63.7
55°	15886.0	12590.5	1730.9	168.3	137.4	123.5	104.6	69.7	60.8	51.8	56.8
57.5°	16511.4	12988.8	1730.9	160.3	127.5	105.6	83.7	64.7	55.8	44.8	48.8
60°	16392.9	12569.6	1645.3	152.4	119.5	98.6	75.7	59.8	51.8	40.8	43.8
62.5°	15579.2	11429.2	1332.5	140.4	112.5	93.6	68.7	56.8	48.8	35.9	38.8
65°	14623.2	10218.2	926.2	127.5	104.6	84.7	61.7	53.8	44.8	31.9	33.9
67.5°	13471.9	8775.1	513.9	114.5	96.6	73.7	56.8	52.8	42.8	28.9	30.9
70°	11474.0	6624.9	275.9	104.6	90.6	67.7	53.8	52.8	42.8	27.9	28.9
72.5°	8613.8	4171.9	161.3	95.6	82.7	62.7	50.8	53.8	41.8	26.9	26.9
75°	5861.0	2532.6	115.5	81.7	73.7	52.8	48.8	51.8	42.8	26.9	24.9
77.5°	3984.7	1779.7	94.6	73.7	66.7	46.8	49.8	51.8	42.8	21.9	16.9
80°	2487.8	918.2	71.7	58.8	57.8	40.8	49.8	44.8	27.9	5.0	0.0
82.5°	1739.9	341.6	41.8	44.8	44.8	28.9	38.8	31.9	15.9	0.0	0.0
85°	730.0	58.8	22.9	31.9	27.9	16.9	30.9	23.9	10.0	0.0	0.0
87.5°	12.9	0.0	9.0	18.9	19.9	10.0	15.9	10.0	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°	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4
2.5°	2168.1	2073.5	1874.3	1969.9	1960.0	2003.8	2007.8	1906.2	2125.3	2260.7	2280.7
5°	2079.5	2015.8	2004.8	1950.0	1936.1	2016.7	1972.9	1969.9	2075.5	2229.9	2230.9
7.5°	1727.9	1679.1	1702.0	1638.3	1474.0	1483.9	1498.9	1561.6	1652.2	1753.8	1790.7
10°	1186.1	1312.6	1220.0	1212.0	1195.1	1142.3	1100.5	1133.4	1250.9	1344.5	1379.4
12.5°	846.5	866.5	923.2	902.3	931.2	886.4	869.4	972.0	1086.6	1182.2	1250.9
15°	495.0	528.8	562.7	634.4	663.3	654.3	706.1	791.8	884.4	928.2	1012.9
17.5°	348.6	351.6	358.5	436.2	487.0	506.9	537.8	602.5	640.4	660.3	695.2
20°	304.8	295.8	283.8	327.7	375.5	400.4	391.4	442.2	473.1	493.0	517.9
22.5°	275.9	260.9	254.0	268.9	305.7	327.7	331.6	361.5	408.3	422.3	430.2
25°	249.0	239.0	234.0	242.0	261.9	282.8	286.8	325.7	367.5	373.5	389.4
27.5°	231.1	212.1	214.1	220.1	229.1	255.0	262.9	284.8	345.6	352.6	357.5
30°	212.1	192.2	198.2	204.2	200.2	232.1	244.0	268.9	327.7	338.6	344.6
32.5°	193.2	178.3	177.3	183.3	190.2	207.2	233.0	261.9	315.7	330.6	345.6
35°	172.3	160.3	162.3	163.3	172.3	194.2	213.1	228.1	264.9	272.9	277.9
37.5°	157.4	147.4	145.4	155.4	164.3	181.3	188.2	195.2	244.0	261.9	262.9
40°	139.4	133.5	133.5	140.4	160.3	158.4	167.3	189.2	236.0	255.0	256.9
42.5°	126.5	118.5	120.5	127.5	141.4	131.5	149.4	181.3	233.0	252.0	251.0
45°	106.6	104.6	108.6	114.5	120.5	111.5	139.4	173.3	223.1	248.0	241.0
47.5°	88.6	88.6	93.6	99.6	96.6	99.6	126.5	162.3	217.1	240.0	235.0
50°	72.7	73.7	78.7	88.6	79.7	87.6	113.5	151.4	207.2	232.1	228.1
52.5°	61.7	62.7	65.7	72.7	68.7	79.7	104.6	140.4	197.2	218.1	216.1
55°	53.8	55.8	55.8	59.8	61.7	74.7	94.6	129.5	182.3	205.2	201.2
57.5°	47.8	49.8	48.8	51.8	53.8	65.7	84.7	117.5	167.3	186.2	180.3
60°	42.8	44.8	43.8	47.8	46.8	56.8	73.7	104.6	151.4	166.3	161.3
62.5°	37.8	39.8	39.8	41.8	42.8	47.8	63.7	92.6	135.4	147.4	143.4
65°	33.9	35.9	36.8	35.9	37.8	40.8	53.8	83.7	117.5	129.5	123.5
67.5°	30.9	32.9	34.9	30.9	32.9	33.9	45.8	74.7	103.6	113.5	108.6
70°	29.9	30.9	30.9	26.9	25.9	26.9	39.8	63.7	90.6	100.6	93.6
72.5°	27.9	28.9	27.9	21.9	18.9	20.9	33.9	53.8	76.7	84.7	78.7
75°	25.9	26.9	25.9	17.9	12.0	14.9	27.9	46.8	65.7	69.7	66.7
77.5°	21.9	23.9	23.9	12.9	4.0	9.0	20.9	37.8	54.8	54.8	55.8
80°	2.0	6.0	10.0	7.0	0.0	1.0	7.0	19.9	34.9	33.9	36.8
82.5°	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	12.0	9.0	10.0
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°	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4	2105.4
2.5°	2233.9	2203.0	2241.8	2360.3	2312.5	2321.5	2289.6	2485.8	2707.9	2714.9
5°	2232.9	2205.0	2262.7	2257.8	2394.2	2542.6	2686.0	2918.1	3246.7	3248.7
7.5°	1773.7	1939.1	1981.9	1968.9	2144.2	2348.4	2569.5	3013.7	3283.6	3312.4
10°	1599.5	1671.2	1758.8	1790.7	1863.4	2057.6	2307.6	2810.5	3113.3	3180.0
12.5°	1386.3	1615.4	1731.9	1958.0	1999.8	2027.7	2422.1	2859.3	3043.5	3035.6
15°	1148.3	1347.5	1531.7	1807.6	1921.1	2213.9	2524.7	3097.3	3206.9	3312.4
17.5°	812.7	963.1	1245.9	1535.7	1882.3	2201.0	2807.5	3522.6	3729.7	3855.2
20°	543.8	616.5	872.4	1255.9	1695.1	2011.8	2923.0	3907.0	4133.1	4241.6
22.5°	441.2	476.1	608.5	920.2	1448.1	2002.8	2969.8	4326.3	4933.8	5078.2
25°	388.4	412.3	483.0	681.2	1202.1	1963.0	3228.8	4798.4	5531.4	5647.9
27.5°	339.6	375.5	428.2	561.7	1030.8	1935.1	3360.2	5591.1	6465.5	6580.1
30°	324.7	368.5	419.3	511.9	911.3	1827.5	3569.4	6306.2	7135.8	7340.0
32.5°	350.6	365.5	390.4	469.1	818.7	1714.0	3936.9	7160.7	7690.5	7956.4
35°	277.9	304.8	348.6	430.2	779.8	1708.0	4145.0	7710.4	8579.9	8744.2
37.5°	271.9	296.8	353.6	419.3	826.6	1753.8	4453.8	8836.8	10183.3	10520.0
40°	263.9	295.8	349.6	414.3	826.6	1798.6	4651.0	9738.2	11261.9	11603.5
42.5°	260.9	301.8	348.6	435.2	800.7	1823.5	4948.7	10637.5	12401.3	12671.1
45°	258.9	307.7	351.6	460.1	794.7	1905.2	5117.1	11074.7	13134.3	13444.0
47.5°	254.0	307.7	392.4	445.2	761.9	1897.2	5335.2	11723.0	13571.5	13832.4
50°	250.0	309.7	444.2	417.3	766.9	1848.4	5631.0	12331.5	14184.0	14370.2
52.5°	241.0	316.7	436.2	378.5	751.9	1843.5	6072.2	13197.0	14989.7	15126.1
55°	221.1	307.7	394.4	330.6	699.1	1786.7	6656.8	14322.4	16107.1	16131.0
57.5°	203.2	285.8	329.7	303.8	585.6	1793.7	7160.7	15358.2	17103.0	17214.6
60°	185.2	296.8	256.0	282.8	485.0	1666.2	7404.7	15754.5	17828.0	17991.4
62.5°	168.3	273.9	218.1	259.9	432.2	1547.7	7235.4	15435.8	17920.7	18263.3
65°	149.4	190.2	184.2	233.0	437.2	1381.3	6669.7	14502.7	17569.1	18041.2
67.5°	128.5	149.4	162.3	201.2	468.1	1238.9	5699.7	13004.8	16624.0	17158.8
70°	112.5	134.4	141.4	176.3	487.0	1145.3	4497.6	10926.3	14687.9	15181.9
72.5°	93.6	124.5	126.5	154.4	469.1	1052.7	3204.9	7843.9	11153.4	11390.4
75°	80.7	103.6	114.5	129.5	394.4	785.8	1765.8	4855.1	7052.1	7317.1
77.5°	72.7	78.7	86.6	89.6	167.3	409.3	607.5	2993.7	3948.8	4247.6
80°	55.8	61.7	59.8	61.7	91.6	141.4	231.1	1403.3	1865.4	2031.7
82.5°	17.9	29.9	32.9	27.9	59.8	69.7	66.7	485.0	606.5	644.4
85°	4.0	11.0	5.0	0.0	19.9	35.9	5.0	73.7	145.4	107.6
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

(END OF REPORT)