

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: P368545

Luminaire Tested: **MSA-SA4C-760-U-SLL-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368545  
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-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: 17552 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

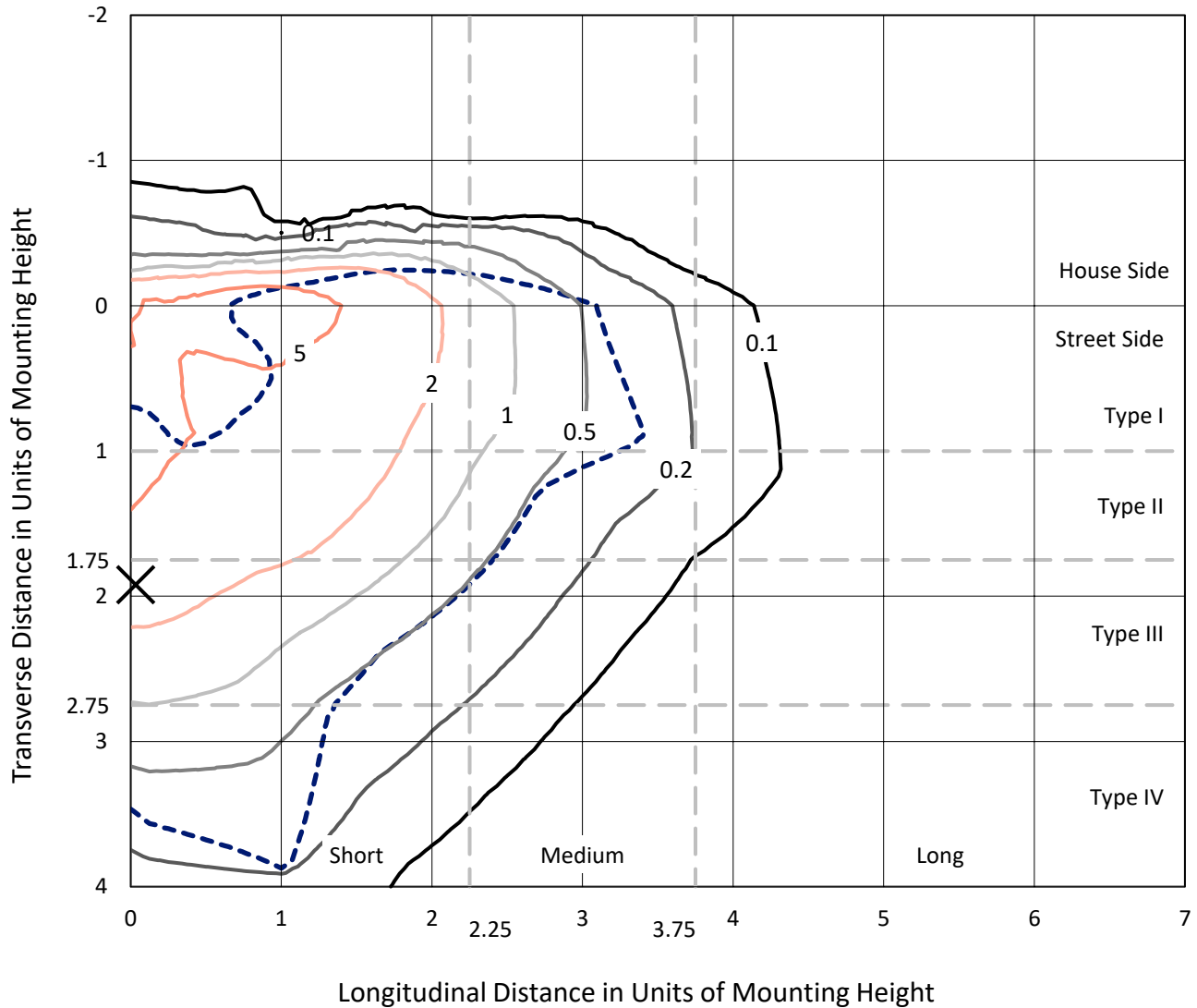
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

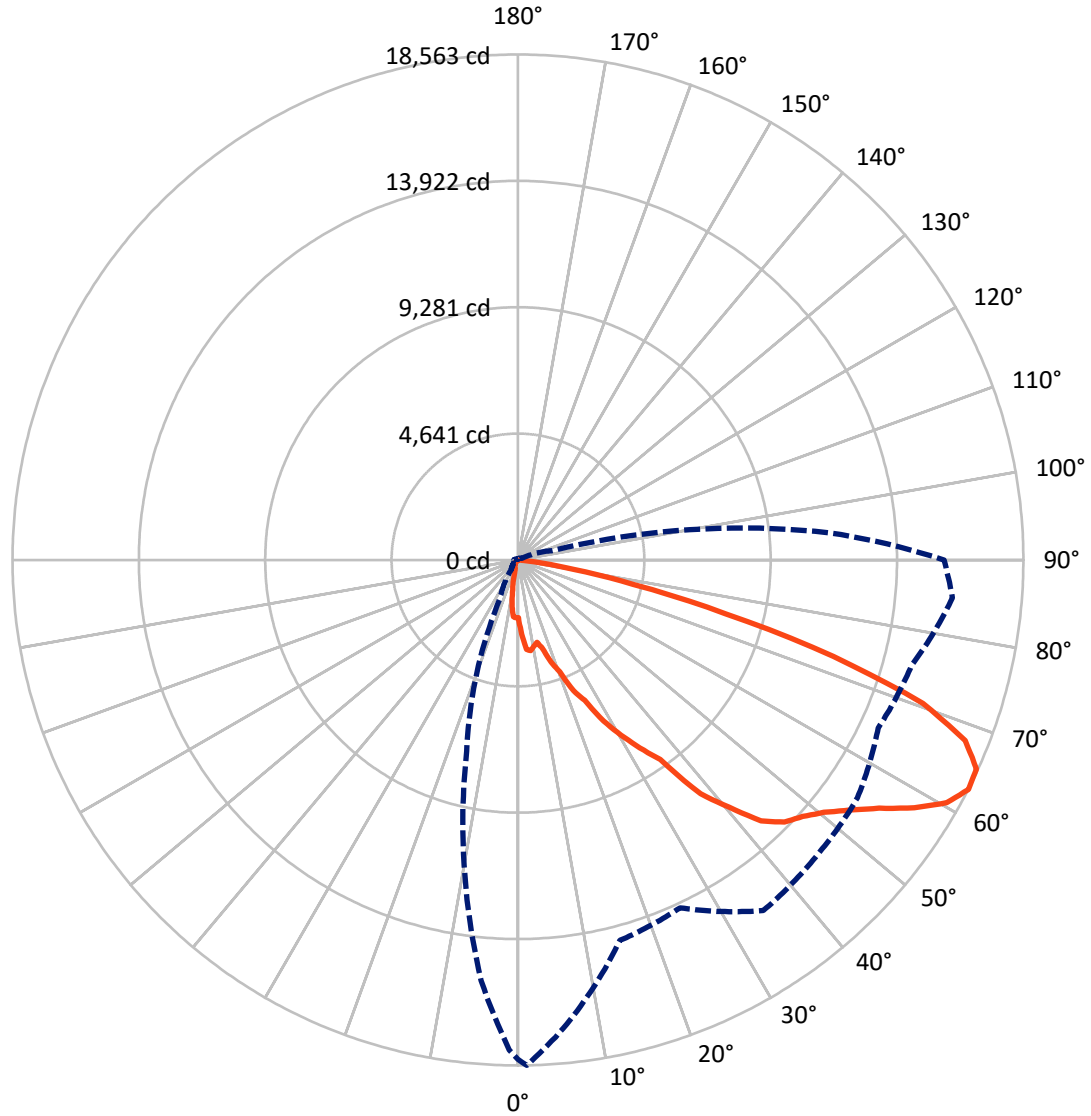
✕ Max cd  
 - - - 1/2 Max cd



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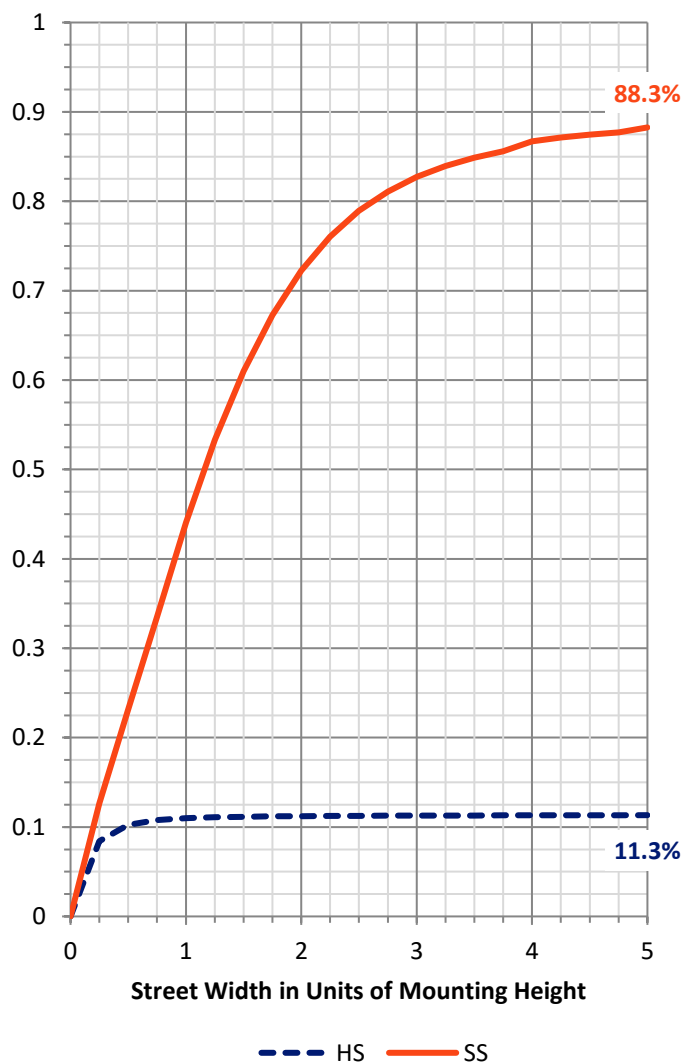
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2007.1	0.0	2007.1
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	15544.9	0.0	15544.9
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	17552.0	0.0	17552.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.3	1.3
10°-20°	617.1	3.5
20°-30°	997.5	5.7
30°-40°	1670.8	9.5
40°-50°	2732.0	15.6
50°-60°	4044.2	23.0
60°-70°	4643.0	26.5
70°-80°	2296.0	13.1
80°-90°	315.2	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°	17552.0	100.0
0°-180°	17552.0	100.0

**Coefficient of Utilization**



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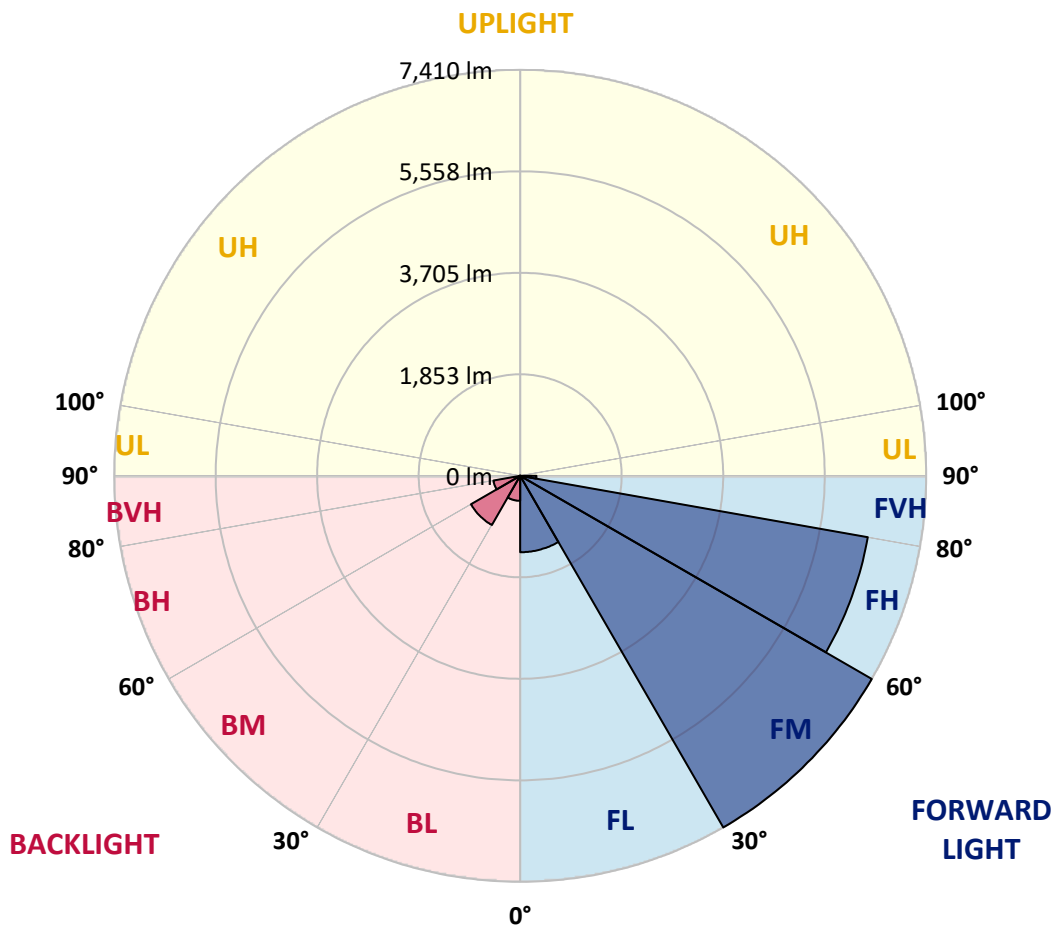
CATALOG NUMBER: MSA-SA4C-760-U-SLL-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1394.1	7.9			
FM (30°-60°)	7410.3	42.2			
FH (60°-80°)	6442.7	36.7			G3/7500
FVH (80°-90°)	297.7	1.7			G3/500
BL (0°-30°)	456.7	2.6	B1/500		
BM (30°-60°)	1036.7	5.9	B2/2500		
BH (60°-80°)	496.3	2.8	B1/500		G1/500
BVH (80°-90°)	17.5	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°	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4
2.5°	2726.5	2739.5	2678.5	2670.5	2528.5	2705.5	2710.5	2731.5	2601.5	2349.5	2701.5
5°	3262.6	3298.7	3251.6	3460.7	3520.7	3649.7	3412.7	3624.7	3534.7	3559.7	3610.7
7.5°	3326.7	3363.7	3462.7	3812.8	4135.8	4054.8	4028.8	4108.8	4101.8	3916.8	4008.8
10°	3193.6	3224.6	3389.7	4026.8	4167.8	4531.9	4620.9	4436.9	4361.9	3956.8	3779.8
12.5°	3048.6	3100.6	3310.7	4074.8	4497.9	4866.0	5159.0	4897.0	4647.9	4216.8	4054.8
15°	3326.7	3355.7	3685.7	4174.8	4544.9	4799.0	5039.0	4952.0	4914.0	4603.9	4054.8
17.5°	3871.8	3939.8	4178.8	4419.9	4711.9	4865.0	4808.0	4780.9	4683.9	5171.0	4602.9
20°	4259.8	4386.9	4699.9	4804.0	4571.9	4714.9	4679.9	4655.9	4579.9	5486.1	5233.0
22.5°	5100.0	5217.0	5223.0	5260.0	4719.9	4491.9	4433.9	4440.9	4786.0	5580.1	6017.2
25°	5672.1	5712.1	6028.2	5764.1	5124.0	4559.9	4338.9	4437.9	4935.0	6256.2	6754.3
27.5°	6608.3	6703.3	6900.4	6006.2	5366.1	4516.9	4164.8	4524.9	5327.1	6480.3	7573.5
30°	7371.5	7462.5	7779.5	6337.3	5576.1	4729.9	4239.8	4699.9	5571.1	6941.4	8309.6
32.5°	7990.6	8225.6	8585.7	6848.4	5568.1	4975.0	4622.9	4641.9	5871.2	7538.5	9037.8
35°	8781.7	9000.8	9253.8	7200.4	5932.2	5054.0	4735.9	5212.0	6317.3	8162.6	10018.0
37.5°	10565.1	10896.2	10396.1	8087.6	6356.3	5768.1	5182.0	5563.1	6784.3	8799.7	11365.3
40°	11653.3	11932.4	11449.3	8540.7	7090.4	6128.2	5978.2	6173.2	7241.4	9128.8	12380.5
42.5°	12725.5	13093.6	12286.4	9222.8	7787.5	7144.4	6734.3	6891.4	7902.6	9923.0	13522.7
45°	13501.7	13729.7	12467.5	9579.9	8745.7	8302.6	8029.6	7795.5	8824.8	10433.1	14259.8
47.5°	13891.8	14073.8	12824.5	9692.9	9315.8	9527.9	10126.0	9636.9	9640.9	10802.1	14656.9
50°	14431.9	14558.9	13024.6	9828.0	9935.0	11437.3	11739.3	10698.1	10573.1	11172.2	14721.9
52.5°	15191.0	15253.0	13412.7	10184.0	10862.2	12932.6	13041.6	12620.5	11506.3	11860.4	14866.0
55°	16200.2	16091.2	14105.8	10932.2	11829.3	14027.8	14173.8	13806.7	12679.5	12547.5	15312.0
57.5°	17288.4	17163.4	15133.0	11986.4	12878.6	14865.0	14952.0	14981.0	13458.7	13155.6	16070.2
60°	18068.6	18091.6	16426.3	13195.6	13530.7	15666.1	15492.1	15228.0	14244.8	14046.8	16439.3
62.5°	18341.6	18562.7	17433.5	14462.9	14092.8	15716.1	15446.1	15223.0	14596.9	14966.0	16016.2
65°	18118.6	18504.7	17667.5	15576.1	14432.9	15089.0	14807.9	14664.9	14585.9	15341.0	15080.0
67.5°	17232.4	17715.5	16997.4	15586.1	13196.6	12847.6	13179.6	13632.7	13370.7	15030.0	13768.7
70°	15247.0	15776.1	15442.1	14671.9	10993.2	10108.0	10474.1	11159.2	10974.2	13367.7	11839.4
72.5°	11439.3	12119.4	12185.4	12666.5	8726.7	7607.5	7660.5	7641.5	7960.6	10779.1	9238.8
75°	7348.5	7877.6	8592.7	10221.0	6629.3	5554.1	5046.0	4922.0	5517.1	8422.7	6614.3
77.5°	4265.8	4328.9	4658.9	7711.5	4747.9	4001.8	3655.7	3832.8	4040.8	5878.2	4383.9
80°	2040.4	2072.4	2208.4	3967.8	3298.7	3463.7	3196.6	3395.7	2774.6	3378.7	2487.5
82.5°	647.1	654.1	677.1	1949.4	2048.4	2294.5	1470.3	1971.4	1715.3	2042.4	1656.3
85°	108.0	184.0	227.0	563.1	1156.2	774.2	319.1	703.1	957.2	1288.3	752.1
87.5°	0.0	0.0	0.0	10.0	94.0	44.0	7.0	40.0	147.0	287.1	34.0
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°	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4
2.5°	2803.6	2872.6	2612.5	2379.5	2438.5	2391.5	2320.5	2199.4	1919.4	2125.4	2111.4
5°	3607.7	3479.7	3127.6	2963.6	2763.5	2458.5	2421.5	2187.4	2084.4	2101.4	2086.4
7.5°	3887.8	3658.7	3347.7	2853.6	2384.5	1944.4	1809.4	1656.3	1625.3	1691.3	1734.3
10°	3667.7	3424.7	3152.6	2538.5	2177.4	1859.4	1526.3	1312.3	1196.2	1182.2	1194.2
12.5°	3768.7	3506.7	2946.6	2476.5	2099.4	1811.4	1439.3	1116.2	864.2	883.2	833.2
15°	3838.8	3537.7	2897.6	2346.5	1938.4	1553.3	1105.2	782.2	576.1	516.1	480.1
17.5°	4249.8	3819.8	2835.6	2196.4	1713.3	1209.2	694.1	453.1	386.1	365.1	348.1
20°	4777.9	4166.8	2834.6	2038.4	1381.3	756.2	433.1	328.1	312.1	324.1	311.1
22.5°	5392.1	4628.9	2985.6	1841.4	991.2	477.1	337.1	291.1	275.1	285.1	286.1
25°	6010.2	5322.1	3108.6	1654.3	690.1	366.1	300.1	268.1	250.0	259.1	254.1
27.5°	7126.4	5896.2	3080.6	1415.3	508.1	322.1	279.1	251.0	224.0	238.0	237.0
30°	7856.6	6909.4	3189.6	1080.2	403.1	282.1	260.1	229.0	200.0	216.0	215.0
32.5°	8729.7	7344.5	3307.7	829.2	335.1	267.1	234.0	204.0	187.0	197.0	195.0
35°	9710.9	8204.6	3090.6	690.1	291.1	241.0	207.0	184.0	169.0	174.0	174.0
37.5°	11444.3	8923.8	2960.6	562.1	271.1	218.0	194.0	166.0	157.0	157.0	162.0
40°	12428.5	10022.0	2572.5	445.1	277.1	201.0	181.0	152.0	140.0	139.0	144.0
42.5°	13708.7	10655.1	2329.5	360.1	251.0	196.0	166.0	138.0	124.0	123.0	128.0
45°	14467.9	11009.2	1987.4	283.1	225.0	228.0	154.0	127.0	106.0	102.0	111.0
47.5°	14947.0	11478.3	1793.4	225.0	196.0	227.0	150.0	110.0	89.0	84.0	92.0
50°	15190.0	11710.3	1755.3	193.0	170.0	203.0	172.0	92.0	76.0	69.0	76.0
52.5°	15443.1	12087.4	1769.4	178.0	150.0	163.0	163.0	79.0	67.0	59.0	64.0
55°	15954.2	12644.5	1738.3	169.0	138.0	124.0	105.0	70.0	61.0	52.0	57.0
57.5°	16582.3	13044.6	1738.3	161.0	128.0	106.0	84.0	65.0	56.0	45.0	49.0
60°	16463.3	12623.5	1652.3	153.0	120.0	99.0	76.0	60.0	52.0	41.0	44.0
62.5°	15646.1	11478.3	1338.3	141.0	113.0	94.0	69.0	57.0	49.0	36.0	39.0
65°	14685.9	10262.0	930.2	128.0	105.0	85.0	62.0	54.0	45.0	32.0	34.0
67.5°	13529.7	8812.7	516.1	115.0	97.0	74.0	57.0	53.0	43.0	29.0	31.0
70°	11523.3	6653.3	277.1	105.0	91.0	68.0	54.0	53.0	43.0	28.0	29.0
72.5°	8650.7	4189.8	162.0	96.0	83.0	63.0	51.0	54.0	42.0	27.0	27.0
75°	5886.2	2543.5	116.0	82.0	74.0	53.0	49.0	52.0	43.0	27.0	25.0
77.5°	4001.8	1787.4	95.0	74.0	67.0	47.0	50.0	52.0	43.0	22.0	17.0
80°	2498.5	922.2	72.0	59.0	58.0	41.0	50.0	45.0	28.0	5.0	0.0
82.5°	1747.3	343.1	42.0	45.0	45.0	29.0	39.0	32.0	16.0	0.0	0.0
85°	733.1	59.0	23.0	32.0	28.0	17.0	31.0	24.0	10.0	0.0	0.0
87.5°	13.0	0.0	9.0	19.0	20.0	10.0	16.0	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°	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4
2.5°	2177.4	2082.4	1882.4	1978.4	1968.4	2012.4	2016.4	1914.4	2134.4	2270.5	2290.5
5°	2088.4	2024.4	2013.4	1958.4	1944.4	2025.4	1981.4	1978.4	2084.4	2239.4	2240.4
7.5°	1735.3	1686.3	1709.3	1645.3	1480.3	1490.3	1505.3	1568.3	1659.3	1761.3	1798.4
10°	1191.2	1318.3	1225.2	1217.2	1200.2	1147.2	1105.2	1138.2	1256.2	1350.3	1385.3
12.5°	850.2	870.2	927.2	906.2	935.2	890.2	873.2	976.2	1091.2	1187.2	1256.2
15°	497.1	531.1	565.1	637.1	666.1	657.1	709.1	795.2	888.2	932.2	1017.2
17.5°	350.1	353.1	360.1	438.1	489.1	509.1	540.1	605.1	643.1	663.1	698.1
20°	306.1	297.1	285.1	329.1	377.1	402.1	393.1	444.1	475.1	495.1	520.1
22.5°	277.1	262.1	255.1	270.1	307.1	329.1	333.1	363.1	410.1	424.1	432.1
25°	250.0	240.0	235.0	243.0	263.1	284.1	288.1	327.1	369.1	375.1	391.1
27.5°	232.0	213.0	215.0	221.0	230.0	256.1	264.1	286.1	347.1	354.1	359.1
30°	213.0	193.0	199.0	205.0	201.0	233.0	245.0	270.1	329.1	340.1	346.1
32.5°	194.0	179.0	178.0	184.0	191.0	208.0	234.0	263.1	317.1	332.1	347.1
35°	173.0	161.0	163.0	164.0	173.0	195.0	214.0	229.0	266.1	274.1	279.1
37.5°	158.0	148.0	146.0	156.0	165.0	182.0	189.0	196.0	245.0	263.1	264.1
40°	140.0	134.0	134.0	141.0	161.0	159.0	168.0	190.0	237.0	256.1	258.1
42.5°	127.0	119.0	121.0	128.0	142.0	132.0	150.0	182.0	234.0	253.1	252.1
45°	107.0	105.0	109.0	115.0	121.0	112.0	140.0	174.0	224.0	249.0	242.0
47.5°	89.0	89.0	94.0	100.0	97.0	100.0	127.0	163.0	218.0	241.0	236.0
50°	73.0	74.0	79.0	89.0	80.0	88.0	114.0	152.0	208.0	233.0	229.0
52.5°	62.0	63.0	66.0	73.0	69.0	80.0	105.0	141.0	198.0	219.0	217.0
55°	54.0	56.0	56.0	60.0	62.0	75.0	95.0	130.0	183.0	206.0	202.0
57.5°	48.0	50.0	49.0	52.0	54.0	66.0	85.0	118.0	168.0	187.0	181.0
60°	43.0	45.0	44.0	48.0	47.0	57.0	74.0	105.0	152.0	167.0	162.0
62.5°	38.0	40.0	40.0	42.0	43.0	48.0	64.0	93.0	136.0	148.0	144.0
65°	34.0	36.0	37.0	36.0	38.0	41.0	54.0	84.0	118.0	130.0	124.0
67.5°	31.0	33.0	35.0	31.0	33.0	34.0	46.0	75.0	104.0	114.0	109.0
70°	30.0	31.0	31.0	27.0	26.0	27.0	40.0	64.0	91.0	101.0	94.0
72.5°	28.0	29.0	28.0	22.0	19.0	21.0	34.0	54.0	77.0	85.0	79.0
75°	26.0	27.0	26.0	18.0	12.0	15.0	28.0	47.0	66.0	70.0	67.0
77.5°	22.0	24.0	24.0	13.0	4.0	9.0	21.0	38.0	55.0	55.0	56.0
80°	2.0	6.0	10.0	7.0	0.0	1.0	7.0	20.0	35.0	34.0	37.0
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°	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4	2114.4
2.5°	2243.4	2212.4	2251.4	2370.5	2322.5	2331.5	2299.5	2496.5	2719.5	2726.5
5°	2242.4	2214.4	2272.5	2267.5	2404.5	2553.5	2697.5	2930.6	3260.6	3262.6
7.5°	1781.4	1947.4	1990.4	1977.4	2153.4	2358.5	2580.5	3026.6	3297.7	3326.7
10°	1606.3	1678.3	1766.4	1798.4	1871.4	2066.4	2317.5	2822.6	3126.6	3193.6
12.5°	1392.3	1622.3	1739.3	1966.4	2008.4	2036.4	2432.5	2871.6	3056.6	3048.6
15°	1153.2	1353.3	1538.3	1815.4	1929.4	2223.4	2535.5	3110.6	3220.6	3326.7
17.5°	816.2	967.2	1251.2	1542.3	1890.4	2210.4	2819.6	3537.7	3745.7	3871.8
20°	546.1	619.1	876.2	1261.3	1702.3	2020.4	2935.6	3923.8	4150.8	4259.8
22.5°	443.1	478.1	611.1	924.2	1454.3	2011.4	2982.6	4344.9	4955.0	5100.0
25°	390.1	414.1	485.1	684.1	1207.2	1971.4	3242.6	4819.0	5555.1	5672.1
27.5°	341.1	377.1	430.1	564.1	1035.2	1943.4	3374.7	5615.1	6493.3	6608.3
30°	326.1	370.1	421.1	514.1	915.2	1835.4	3584.7	6333.3	7166.4	7371.5
32.5°	352.1	367.1	392.1	471.1	822.2	1721.3	3953.8	7191.4	7723.5	7990.6
35°	279.1	306.1	350.1	432.1	783.2	1715.3	4162.8	7743.5	8616.7	8781.7
37.5°	273.1	298.1	355.1	421.1	830.2	1761.3	4472.9	8874.8	10227.0	10565.1
40°	265.1	297.1	351.1	416.1	830.2	1806.4	4670.9	9779.9	11310.2	11653.3
42.5°	262.1	303.1	350.1	437.1	804.2	1831.4	4970.0	10683.1	12454.5	12725.5
45°	260.1	309.1	353.1	462.1	798.2	1913.4	5139.0	11122.2	13190.6	13501.7
47.5°	255.1	309.1	394.1	447.1	765.2	1905.4	5358.1	11773.3	13629.7	13891.8
50°	251.0	311.1	446.1	419.1	770.2	1856.4	5655.1	12384.5	14244.8	14431.9
52.5°	242.0	318.1	438.1	380.1	755.1	1851.4	6098.2	13253.6	15054.0	15191.0
55°	222.0	309.1	396.1	332.1	702.1	1794.4	6685.3	14383.9	16176.2	16200.2
57.5°	204.0	287.1	331.1	305.1	588.1	1801.4	7191.4	15424.1	17176.4	17288.4
60°	186.0	298.1	257.1	284.1	487.1	1673.3	7436.5	15822.1	17904.6	18068.6
62.5°	169.0	275.1	219.0	261.1	434.1	1554.3	7266.4	15502.1	17997.6	18341.6
65°	150.0	191.0	185.0	234.0	439.1	1387.3	6698.3	14564.9	17644.5	18118.6
67.5°	129.0	150.0	163.0	202.0	470.1	1244.2	5724.1	13060.6	16695.3	17232.4
70°	113.0	135.0	142.0	177.0	489.1	1150.2	4516.9	10973.2	14750.9	15247.0
72.5°	94.0	125.0	127.0	155.0	471.1	1057.2	3218.6	7877.6	11201.2	11439.3
75°	81.0	104.0	115.0	130.0	396.1	789.2	1773.4	4876.0	7082.4	7348.5
77.5°	73.0	79.0	87.0	90.0	168.0	411.1	610.1	3006.6	3965.8	4265.8
80°	56.0	62.0	60.0	62.0	92.0	142.0	232.0	1409.3	1873.4	2040.4
82.5°	18.0	30.0	33.0	28.0	60.0	70.0	67.0	487.1	609.1	647.1
85°	4.0	11.0	5.0	0.0	20.0	36.0	5.0	74.0	146.0	108.0
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)