

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: P597079

Luminaire Tested: **MSA-SA3D-835-U-SLL-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597079  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-835-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: 11970 lumens  
Efficiency: N/A  
Efficacy: 62.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

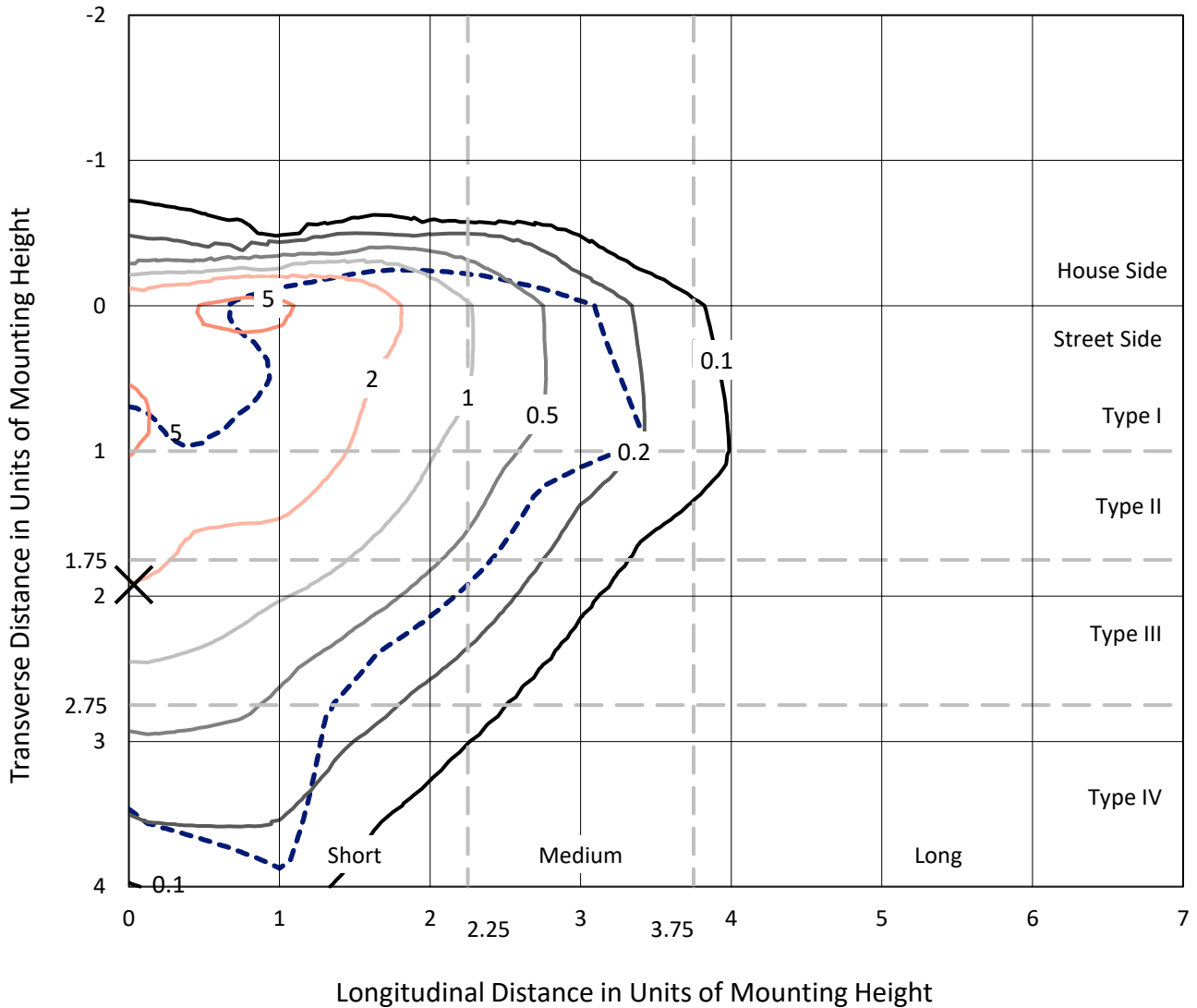
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

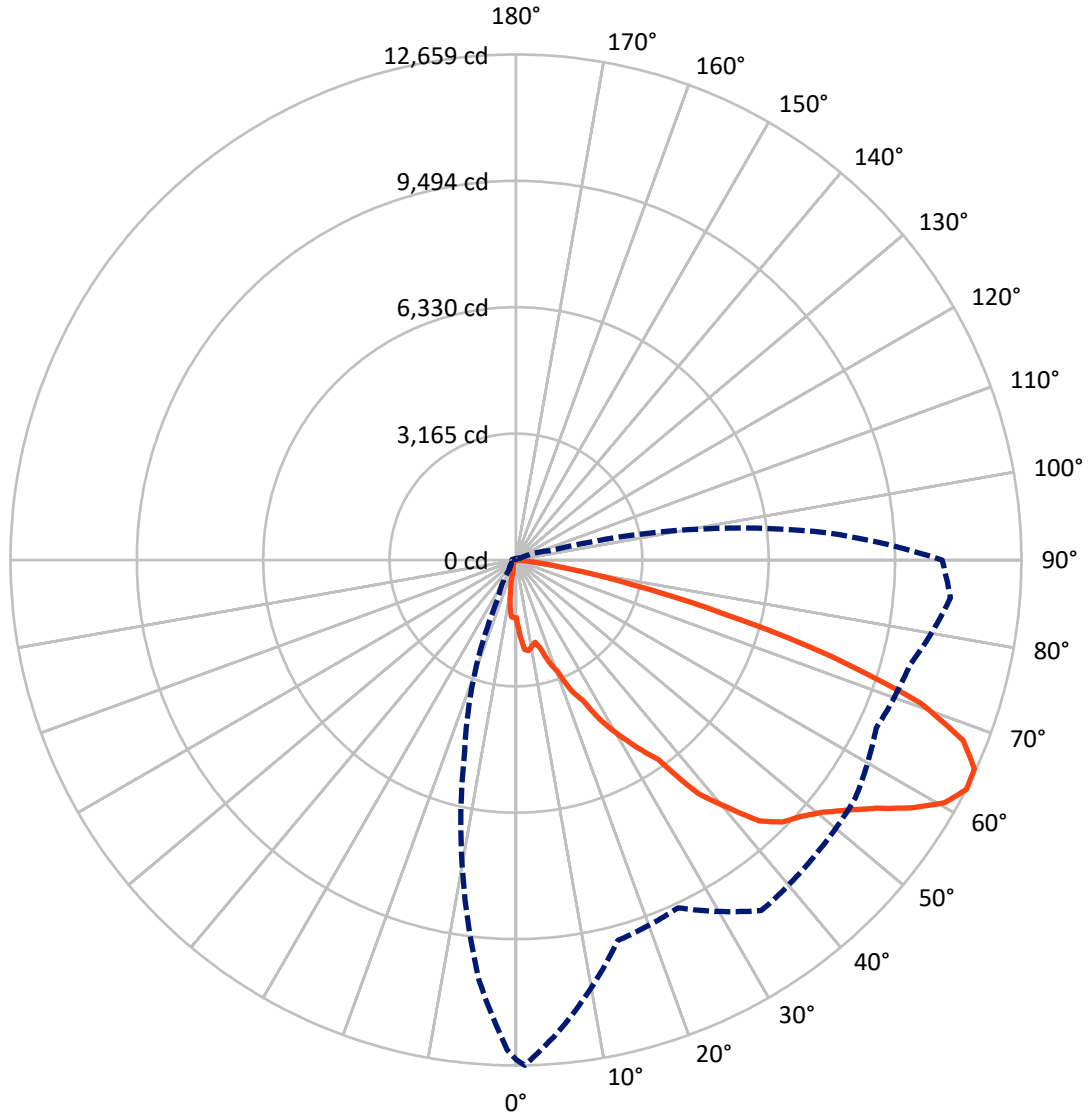
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 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	1368.8	0.0	1368.8
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	10601.2	0.0	10601.2
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	11970.0	0.0	11970.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.1	1.3
10°-20°	420.8	3.5
20°-30°	680.2	5.7
30°-40°	1139.5	9.5
40°-50°	1863.2	15.6
50°-60°	2758.0	23.0
60°-70°	3166.4	26.5
70°-80°	1565.8	13.1
80°-90°	214.9	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°	11970.0	100.0
0°-180°	11970.0	100.0

**Coefficient of Utilization**



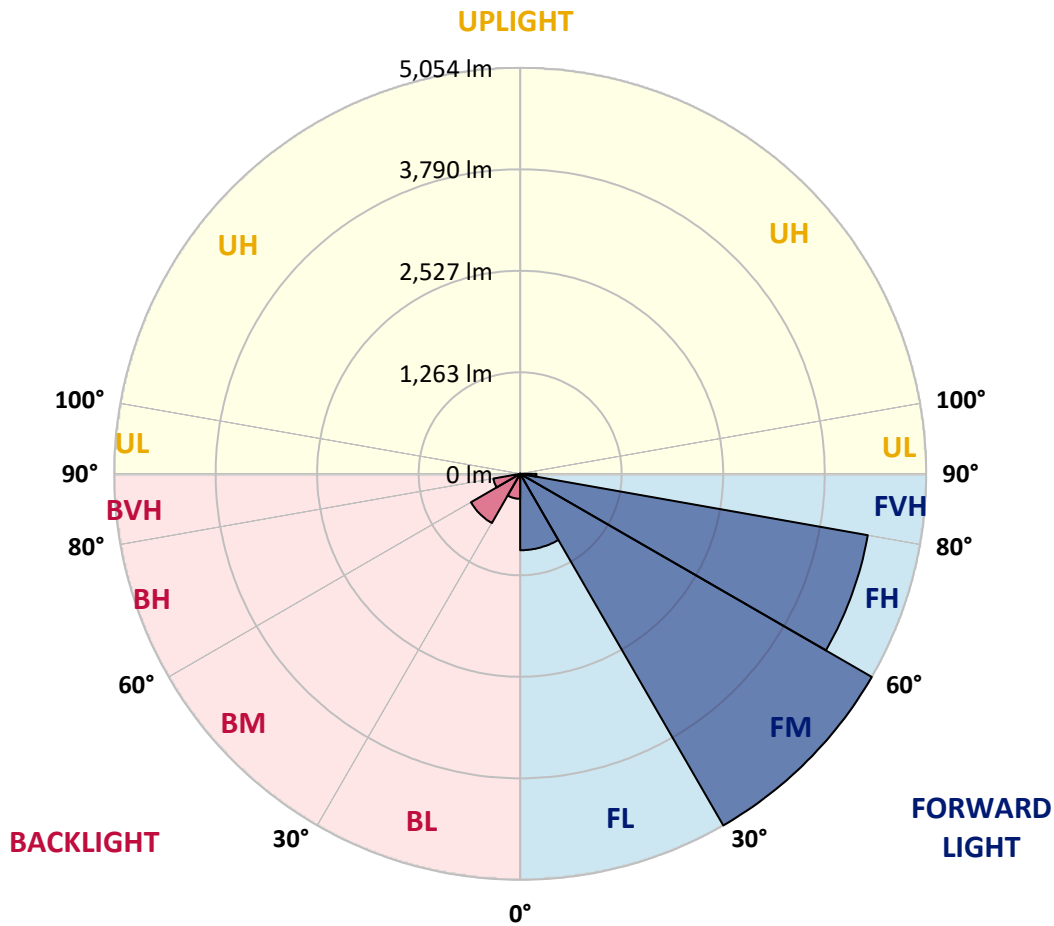
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	950.8	7.9			
FM (30°-60°)	5053.7	42.2			
FH (60°-80°)	4393.7	36.7			G2/5000
FVH (80°-90°)	203.0	1.7			G2/225
BL (0°-30°)	311.4	2.6	B1/500		
BM (30°-60°)	707.0	5.9	B1/1000		
BH (60°-80°)	338.5	2.8	B1/500		G1/500
BVH (80°-90°)	11.9	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0
2.5°	1859.4	1868.3	1826.7	1821.2	1724.4	1845.1	1848.5	1862.8	1774.2	1602.3	1842.4
5°	2225.0	2249.6	2217.5	2360.1	2401.0	2489.0	2327.4	2472.0	2410.6	2427.6	2462.4
7.5°	2268.7	2293.9	2361.5	2600.2	2820.5	2765.3	2747.5	2802.1	2797.3	2671.1	2733.9
10°	2178.0	2199.1	2311.7	2746.2	2842.3	3090.6	3151.3	3025.8	2974.7	2698.4	2577.7
12.5°	2079.1	2114.5	2257.8	2778.9	3067.4	3318.5	3518.3	3339.6	3169.8	2875.8	2765.3
15°	2268.7	2288.5	2513.6	2847.1	3099.5	3272.8	3436.5	3377.1	3351.2	3139.7	2765.3
17.5°	2640.4	2686.8	2849.9	3014.2	3213.4	3317.8	3278.9	3260.5	3194.3	3526.5	3139.1
20°	2905.1	2991.7	3205.2	3276.2	3117.9	3215.5	3191.6	3175.2	3123.4	3741.4	3568.8
22.5°	3478.1	3557.9	3562.0	3587.2	3218.9	3063.4	3023.8	3028.6	3263.9	3805.5	4103.6
25°	3868.2	3895.5	4111.1	3931.0	3494.4	3109.7	2959.0	3026.5	3365.5	4266.6	4606.3
27.5°	4506.7	4571.5	4705.9	4096.1	3659.5	3080.4	2840.3	3085.9	3632.9	4419.4	5164.9
30°	5027.1	5089.2	5305.4	4321.8	3802.8	3225.7	2891.5	3205.2	3799.3	4733.8	5667.0
32.5°	5449.4	5609.7	5855.2	4670.4	3797.3	3392.8	3152.7	3165.7	4004.0	5141.1	6163.5
35°	5988.9	6138.3	6310.9	4910.5	4045.6	3446.7	3229.8	3554.5	4308.2	5566.7	6832.0
37.5°	7205.1	7430.9	7089.8	5515.5	4334.8	3933.7	3534.0	3793.9	4626.7	6001.2	7750.8
40°	7947.3	8137.6	7808.1	5824.5	4835.5	4179.3	4077.0	4210.0	4938.5	6225.6	8443.1
42.5°	8678.5	8929.5	8379.0	6289.7	5310.9	4872.3	4592.6	4699.7	5389.3	6767.2	9222.1
45°	9207.8	9363.3	8502.5	6533.2	5964.4	5662.2	5476.0	5316.4	6018.2	7115.1	9724.8
47.5°	9473.8	9598.0	8746.0	6610.3	6353.2	6497.8	6905.7	6572.1	6574.8	7366.8	9995.6
50°	9842.2	9928.8	8882.4	6702.4	6775.4	7799.9	8005.9	7295.8	7210.6	7619.2	10040.0
52.5°	10359.9	10402.2	9147.1	6945.2	7407.7	8819.7	8894.0	8606.9	7847.0	8088.4	10138.2
55°	11048.1	10973.8	9619.8	7455.5	8067.3	9566.6	9666.2	9415.8	8647.1	8557.1	10442.4
57.5°	11790.3	11705.0	10320.3	8174.4	8782.8	10137.5	10196.8	10216.6	9178.5	8971.8	10959.4
60°	12322.3	12338.0	11202.3	8999.1	9227.6	10683.9	10565.2	10385.1	9714.6	9579.5	11211.1
62.5°	12508.5	12659.3	11889.2	9863.3	9610.9	10718.0	10533.8	10381.7	9954.7	10206.4	10922.6
65°	12356.4	12619.7	12048.8	10622.5	9842.8	10290.3	10098.6	10001.1	9947.2	10462.2	10284.2
67.5°	11752.1	12081.5	11591.8	10629.3	8999.7	8761.7	8988.1	9297.1	9118.4	10250.1	9389.9
70°	10398.1	10758.9	10531.1	10005.9	7497.1	6893.4	7143.0	7610.3	7484.1	9116.4	8074.1
72.5°	7801.3	8265.1	8310.1	8638.2	5951.4	5188.1	5224.3	5211.3	5428.9	7351.1	6300.6
75°	5011.5	5372.3	5860.0	6970.5	4521.0	3787.8	3441.2	3356.7	3762.5	5744.0	4510.8
77.5°	2909.2	2952.2	3177.3	5259.1	3238.0	2729.1	2493.1	2613.8	2755.7	4008.8	2989.7
80°	1391.5	1413.3	1506.1	2705.9	2249.6	2362.1	2180.0	2315.8	1892.2	2304.2	1696.4
82.5°	441.3	446.1	461.8	1329.4	1397.0	1564.8	1002.7	1344.4	1169.8	1392.9	1129.6
85°	73.7	125.5	154.8	384.0	788.5	528.0	217.6	479.5	652.8	878.6	512.9
87.5°	0.0	0.0	0.0	6.8	64.1	30.0	4.8	27.3	100.3	195.8	23.2
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°	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0
2.5°	1912.0	1959.0	1781.7	1622.7	1663.0	1630.9	1582.5	1500.0	1309.0	1449.5	1439.9
5°	2460.4	2373.1	2133.0	2021.1	1884.7	1676.6	1651.4	1491.8	1421.5	1433.1	1422.9
7.5°	2651.4	2495.2	2283.0	1946.1	1626.1	1326.0	1233.9	1129.6	1108.4	1153.4	1182.8
10°	2501.3	2335.5	2150.0	1731.2	1485.0	1268.0	1040.9	894.9	815.8	806.3	814.4
12.5°	2570.2	2391.5	2009.5	1688.9	1431.7	1235.3	981.6	761.2	589.3	602.3	568.2
15°	2617.9	2412.6	1976.1	1600.2	1321.9	1059.3	753.7	533.4	392.9	352.0	327.4
17.5°	2898.3	2605.0	1933.8	1497.9	1168.5	824.7	473.4	309.0	263.3	249.0	237.4
20°	3258.4	2841.7	1933.1	1390.1	942.0	515.7	295.4	223.7	212.8	221.0	212.1
22.5°	3677.2	3156.8	2036.1	1255.8	676.0	325.4	229.9	198.5	187.6	194.4	195.1
25°	4098.8	3629.5	2120.0	1128.2	470.7	249.7	204.6	182.8	170.5	176.7	173.3
27.5°	4860.0	4021.0	2100.9	965.2	346.5	219.6	190.3	171.2	152.8	162.3	161.7
30°	5358.0	4712.0	2175.2	736.7	274.9	192.4	177.3	156.2	136.4	147.3	146.7
32.5°	5953.4	5008.7	2255.7	565.5	228.5	182.1	159.6	139.2	127.6	134.4	133.0
35°	6622.6	5595.3	2107.7	470.7	198.5	164.4	141.2	125.5	115.3	118.7	118.7
37.5°	7804.7	6085.8	2019.0	383.3	184.9	148.7	132.3	113.2	107.1	107.1	110.5
40°	8475.9	6834.7	1754.4	303.5	188.9	137.1	123.5	103.7	95.5	94.8	98.2
42.5°	9349.0	7266.5	1588.6	245.6	171.2	133.7	113.2	94.1	84.6	83.9	87.3
45°	9866.7	7508.0	1355.4	193.0	153.5	155.5	105.0	86.6	72.3	69.6	75.7
47.5°	10193.4	7827.9	1223.0	153.5	133.7	154.8	102.3	75.0	60.7	57.3	62.8
50°	10359.2	7986.1	1197.1	131.6	116.0	138.5	117.3	62.8	51.8	47.1	51.8
52.5°	10531.8	8243.3	1206.7	121.4	102.3	111.2	111.2	53.9	45.7	40.2	43.7
55°	10880.3	8623.2	1185.5	115.3	94.1	84.6	71.6	47.7	41.6	35.5	38.9
57.5°	11308.7	8896.1	1185.5	109.8	87.3	72.3	57.3	44.3	38.2	30.7	33.4
60°	11227.5	8608.9	1126.8	104.4	81.9	67.5	51.8	40.9	35.5	28.0	30.0
62.5°	10670.2	7827.9	912.7	96.2	77.1	64.1	47.1	38.9	33.4	24.6	26.6
65°	10015.4	6998.4	634.4	87.3	71.6	58.0	42.3	36.8	30.7	21.8	23.2
67.5°	9226.9	6010.1	352.0	78.4	66.2	50.5	38.9	36.2	29.3	19.8	21.1
70°	7858.6	4537.4	188.9	71.6	62.1	46.4	36.8	36.2	29.3	19.1	19.8
72.5°	5899.6	2857.4	110.5	65.5	56.6	43.0	34.8	36.8	28.6	18.4	18.4
75°	4014.2	1734.6	79.1	55.9	50.5	36.2	33.4	35.5	29.3	18.4	17.1
77.5°	2729.1	1218.9	64.8	50.5	45.7	32.1	34.1	35.5	29.3	15.0	11.6
80°	1703.9	628.9	49.1	40.2	39.6	28.0	34.1	30.7	19.1	3.4	0.0
82.5°	1191.6	234.0	28.6	30.7	30.7	19.8	26.6	21.8	10.9	0.0	0.0
85°	500.0	40.2	15.7	21.8	19.1	11.6	21.1	16.4	6.8	0.0	0.0
87.5°	8.9	0.0	6.1	13.0	13.6	6.8	10.9	6.8	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°	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0
2.5°	1485.0	1420.2	1283.7	1349.2	1342.4	1372.4	1375.1	1305.6	1455.6	1548.4	1562.0
5°	1424.2	1380.6	1373.1	1335.6	1326.0	1381.3	1351.3	1349.2	1421.5	1527.2	1527.9
7.5°	1183.5	1150.0	1165.7	1122.1	1009.5	1016.3	1026.6	1069.5	1131.6	1201.2	1226.4
10°	812.4	899.0	835.6	830.1	818.5	782.4	753.7	776.2	856.7	920.8	944.7
12.5°	579.8	593.4	632.3	618.0	637.8	607.1	595.5	665.7	744.2	809.7	856.7
15°	339.0	362.2	385.4	434.5	454.3	448.1	483.6	542.3	605.7	635.7	693.7
17.5°	238.7	240.8	245.6	298.8	333.6	347.2	368.3	412.7	438.6	452.2	476.1
20°	208.7	202.6	194.4	224.4	257.2	274.2	268.1	302.9	324.0	337.6	354.7
22.5°	188.9	178.7	173.9	184.2	209.4	224.4	227.1	247.6	279.7	289.2	294.7
25°	170.5	163.7	160.3	165.8	179.4	193.7	196.4	223.0	251.7	255.8	266.7
27.5°	158.2	145.3	146.7	150.7	156.9	174.6	180.1	195.1	236.7	241.5	244.9
30°	145.3	131.6	135.7	139.8	137.1	158.9	167.1	184.2	224.4	231.9	236.0
32.5°	132.3	122.1	121.4	125.5	130.3	141.9	159.6	179.4	216.2	226.5	236.7
35°	118.0	109.8	111.2	111.9	118.0	133.0	146.0	156.2	181.4	186.9	190.3
37.5°	107.8	101.0	99.6	106.4	112.5	124.1	128.9	133.7	167.1	179.4	180.1
40°	95.5	91.4	91.4	96.2	109.8	108.5	114.6	129.6	161.7	174.6	176.0
42.5°	86.6	81.2	82.5	87.3	96.9	90.0	102.3	124.1	159.6	172.6	171.9
45°	73.0	71.6	74.3	78.4	82.5	76.4	95.5	118.7	152.8	169.8	165.1
47.5°	60.7	60.7	64.1	68.2	66.2	68.2	86.6	111.2	148.7	164.4	161.0
50°	49.8	50.5	53.9	60.7	54.6	60.0	77.8	103.7	141.9	158.9	156.2
52.5°	42.3	43.0	45.0	49.8	47.1	54.6	71.6	96.2	135.1	149.4	148.0
55°	36.8	38.2	38.2	40.9	42.3	51.2	64.8	88.7	124.8	140.5	137.8
57.5°	32.7	34.1	33.4	35.5	36.8	45.0	58.0	80.5	114.6	127.6	123.5
60°	29.3	30.7	30.0	32.7	32.1	38.9	50.5	71.6	103.7	113.9	110.5
62.5°	25.9	27.3	27.3	28.6	29.3	32.7	43.7	63.4	92.8	101.0	98.2
65°	23.2	24.6	25.2	24.6	25.9	28.0	36.8	57.3	80.5	88.7	84.6
67.5°	21.1	22.5	23.9	21.1	22.5	23.2	31.4	51.2	70.9	77.8	74.3
70°	20.5	21.1	21.1	18.4	17.7	18.4	27.3	43.7	62.1	68.9	64.1
72.5°	19.1	19.8	19.1	15.0	13.0	14.3	23.2	36.8	52.5	58.0	53.9
75°	17.7	18.4	17.7	12.3	8.2	10.2	19.1	32.1	45.0	47.7	45.7
77.5°	15.0	16.4	16.4	8.9	2.7	6.1	14.3	25.9	37.5	37.5	38.2
80°	1.4	4.1	6.8	4.8	0.0	0.7	4.8	13.6	23.9	23.2	25.2
82.5°	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	8.2	6.1	6.8
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°	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0	1442.0
2.5°	1530.0	1508.8	1535.4	1616.6	1583.9	1590.0	1568.2	1702.5	1854.7	1859.4
5°	1529.3	1510.2	1549.8	1546.3	1639.8	1741.4	1839.6	1998.6	2223.7	2225.0
7.5°	1214.8	1328.1	1357.4	1348.5	1468.6	1608.4	1759.8	2064.1	2248.9	2268.7
10°	1095.5	1144.6	1204.6	1226.4	1276.2	1409.2	1580.4	1924.9	2132.3	2178.0
12.5°	949.5	1106.4	1186.2	1341.0	1369.7	1388.8	1658.9	1958.3	2084.5	2079.1
15°	786.5	922.9	1049.1	1238.0	1315.8	1516.3	1729.1	2121.4	2196.4	2268.7
17.5°	556.6	659.6	853.3	1051.8	1289.2	1507.5	1922.9	2412.6	2554.5	2640.4
20°	372.4	422.2	597.5	860.1	1160.9	1377.9	2002.0	2675.9	2830.8	2905.1
22.5°	302.2	326.0	416.8	630.3	991.8	1371.7	2034.0	2963.1	3379.2	3478.1
25°	266.0	282.4	330.8	466.6	823.3	1344.4	2211.4	3286.4	3788.4	3868.2
27.5°	232.6	257.2	293.3	384.7	706.0	1325.3	2301.4	3829.4	4428.3	4506.7
30°	222.4	252.4	287.2	350.6	624.1	1251.7	2444.7	4319.1	4887.3	5027.1
32.5°	240.1	250.3	267.4	321.3	560.7	1173.9	2696.4	4904.4	5267.2	5449.4
35°	190.3	208.7	238.7	294.7	534.1	1169.8	2838.9	5280.9	5876.4	5988.9
37.5°	186.2	203.3	242.1	287.2	566.2	1201.2	3050.4	6052.4	6974.6	7205.1
40°	180.8	202.6	239.4	283.8	566.2	1231.9	3185.4	6669.7	7713.3	7947.3
42.5°	178.7	206.7	238.7	298.1	548.4	1248.9	3389.4	7285.6	8493.6	8678.5
45°	177.3	210.8	240.8	315.1	544.3	1304.9	3504.7	7585.1	8995.7	9207.8
47.5°	173.9	210.8	268.8	304.9	521.8	1299.4	3654.1	8029.1	9295.1	9473.8
50°	171.2	212.1	304.2	285.8	525.2	1266.0	3856.6	8445.9	9714.6	9842.2
52.5°	165.1	216.9	298.8	259.2	515.0	1262.6	4158.8	9038.6	10266.4	10359.9
55°	151.4	210.8	270.1	226.5	478.8	1223.7	4559.2	9809.4	11031.7	11048.1
57.5°	139.2	195.8	225.8	208.0	401.1	1228.5	4904.4	10518.8	11713.9	11790.3
60°	126.9	203.3	175.3	193.7	332.2	1141.2	5071.5	10790.3	12210.4	12322.3
62.5°	115.3	187.6	149.4	178.0	296.0	1060.0	4955.5	10572.0	12273.9	12508.5
65°	102.3	130.3	126.2	159.6	299.4	946.1	4568.1	9932.9	12033.1	12356.4
67.5°	88.0	102.3	111.2	137.8	320.6	848.5	3903.7	8907.0	11385.8	11752.1
70°	77.1	92.1	96.9	120.7	333.6	784.4	3080.4	7483.4	10059.7	10398.1
72.5°	64.1	85.3	86.6	105.7	321.3	721.0	2195.0	5372.3	7638.9	7801.3
75°	55.3	70.9	78.4	88.7	270.1	538.2	1209.4	3325.3	4830.0	5011.5
77.5°	49.8	53.9	59.3	61.4	114.6	280.3	416.1	2050.4	2704.6	2909.2
80°	38.2	42.3	40.9	42.3	62.8	96.9	158.2	961.1	1277.6	1391.5
82.5°	12.3	20.5	22.5	19.1	40.9	47.7	45.7	332.2	415.4	441.3
85°	2.7	7.5	3.4	0.0	13.6	24.6	3.4	50.5	99.6	73.7
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)