

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: P368061

Luminaire Tested: **MSA-SA3D-727-U-SLL-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368061  
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-727-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**

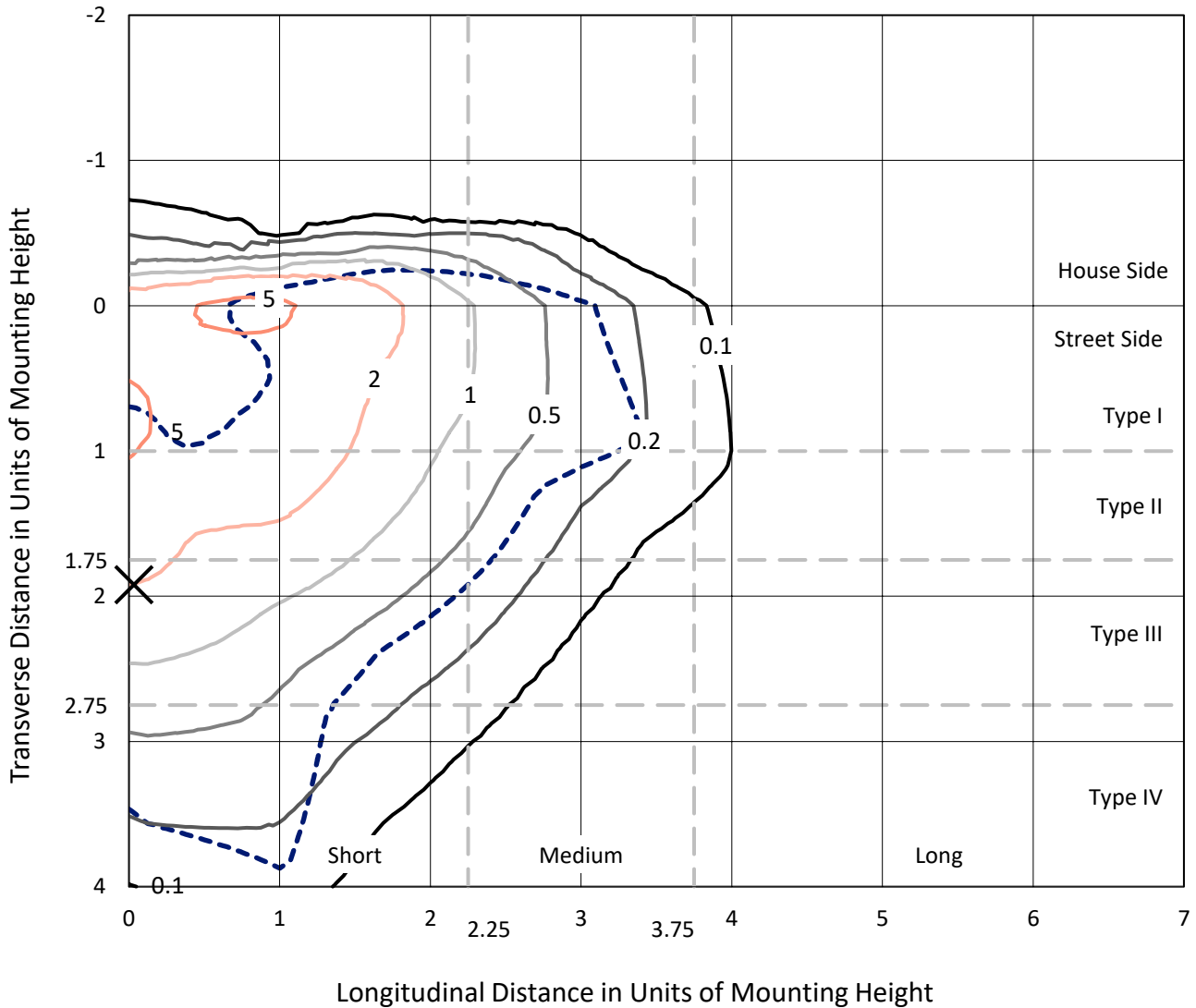
Lumens per Lamp: N/A  
Luminaire Lumens: 12143 lumens  
Efficiency: N/A  
Efficacy: 63.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

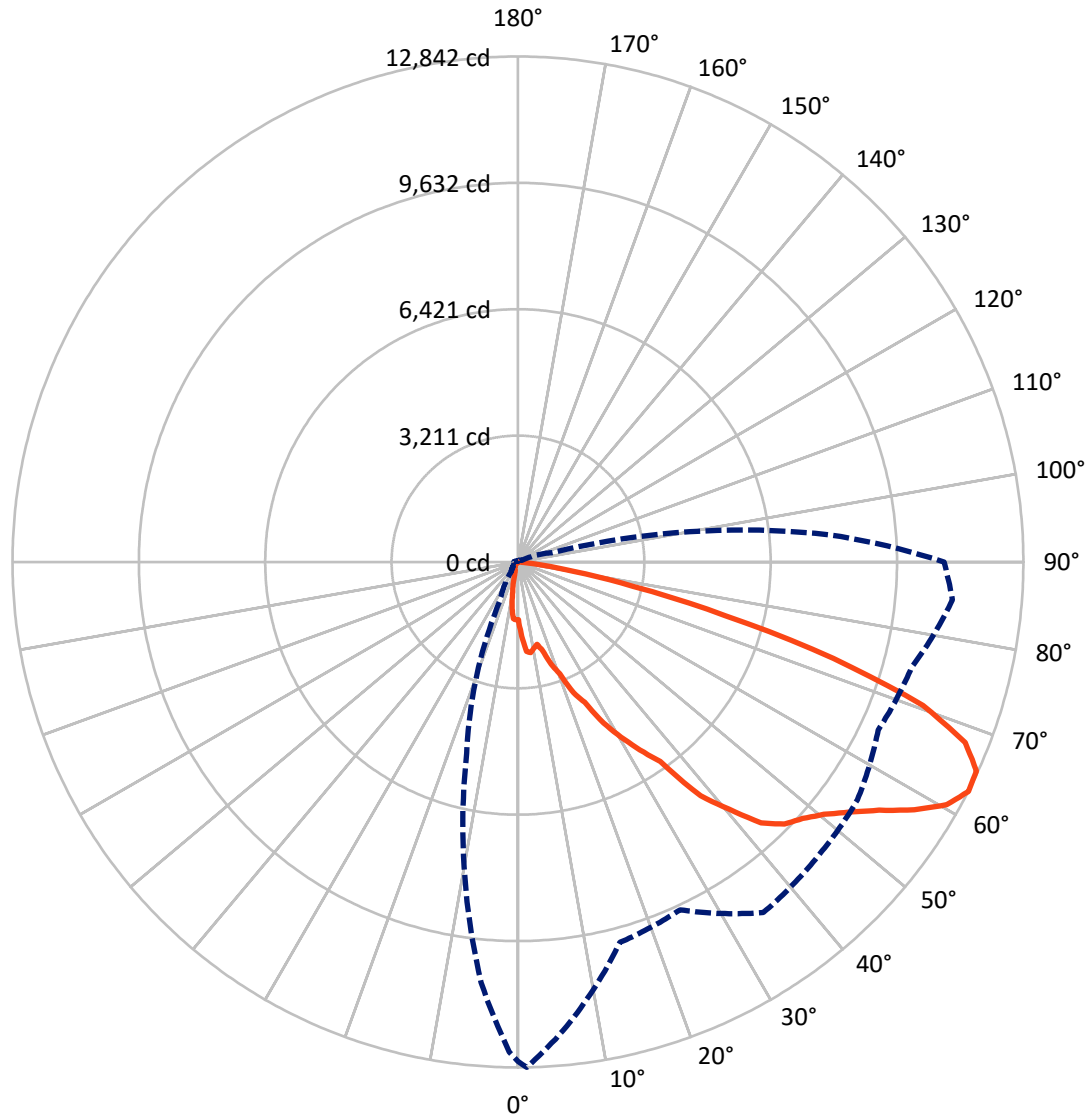
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 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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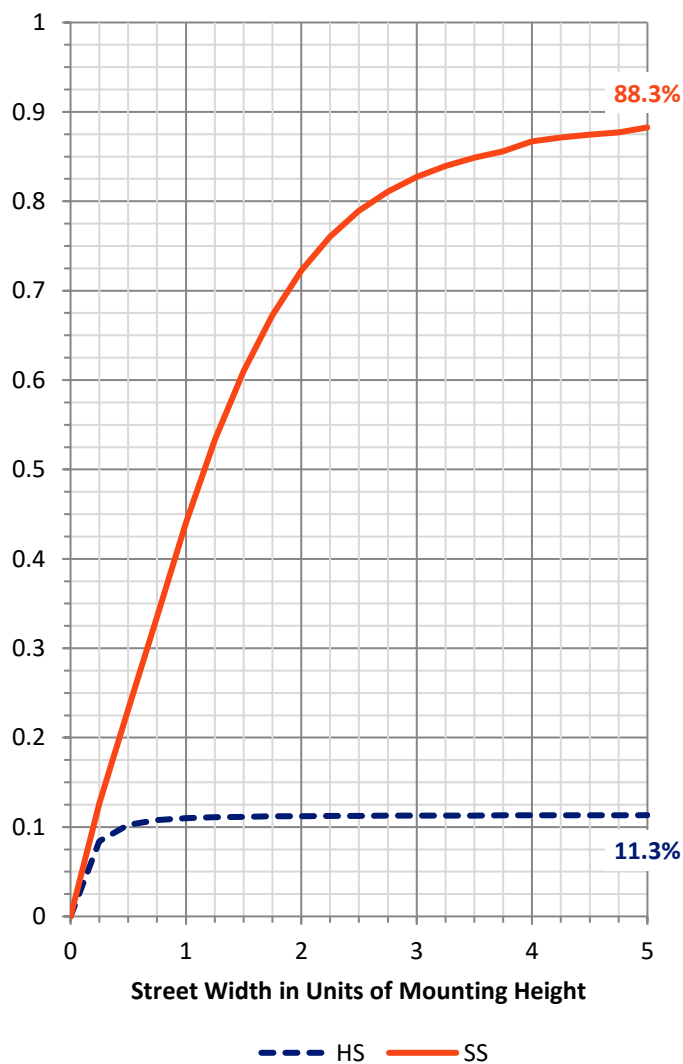
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1388.6	0.0	1388.6
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	10754.4	0.0	10754.4
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	12143.0	0.0	12143.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.5	1.3
10°-20°	426.9	3.5
20°-30°	690.1	5.7
30°-40°	1155.9	9.5
40°-50°	1890.1	15.6
50°-60°	2797.9	23.0
60°-70°	3212.2	26.5
70°-80°	1588.4	13.1
80°-90°	218.1	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°	12143.0	100.0
0°-180°	12143.0	100.0

**Coefficient of Utilization**

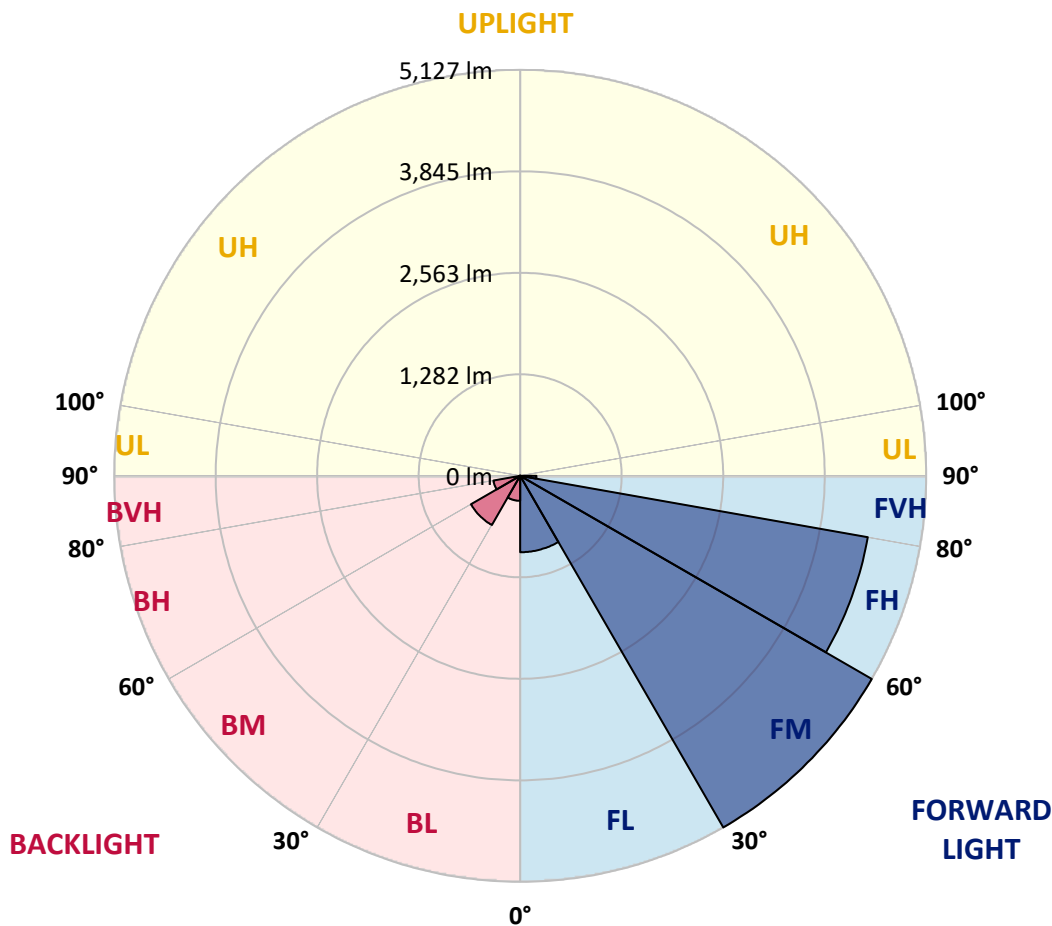


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	964.5	7.9			
FM (30°-60°)	5126.7	42.2			
FH (60°-80°)	4457.2	36.7			G2/5000
FVH (80°-90°)	206.0	1.7			G2/225
BL (0°-30°)	315.9	2.6	B1/500		
BM (30°-60°)	717.2	5.9	B1/1000		
BH (60°-80°)	343.4	2.8	B1/500		G1/500
BVH (80°-90°)	12.1	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°	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8
2.5°	1886.3	1895.3	1853.1	1847.6	1749.3	1871.8	1875.2	1889.8	1799.8	1625.4	1869.0
5°	2257.2	2282.1	2249.6	2394.2	2435.7	2525.0	2361.0	2507.7	2445.4	2462.7	2498.0
7.5°	2301.5	2327.1	2395.6	2637.8	2861.3	2805.2	2787.2	2842.6	2837.8	2709.7	2773.4
10°	2209.5	2230.9	2345.1	2785.9	2883.4	3135.3	3196.9	3069.6	3017.7	2737.4	2614.9
12.5°	2109.1	2145.1	2290.4	2819.1	3111.8	3366.4	3569.2	3387.9	3215.6	2917.3	2805.2
15°	2301.5	2321.6	2549.9	2888.3	3144.3	3320.1	3486.1	3425.9	3399.6	3185.1	2805.2
17.5°	2678.6	2725.7	2891.0	3057.8	3259.9	3365.7	3326.3	3307.6	3240.5	3577.5	3184.4
20°	2947.1	3035.0	3251.6	3323.5	3163.0	3261.9	3237.7	3221.1	3168.5	3795.4	3620.4
22.5°	3528.3	3609.3	3613.5	3639.1	3265.4	3107.6	3067.5	3072.3	3311.1	3860.5	4162.9
25°	3924.1	3951.8	4170.5	3987.8	3544.9	3154.7	3001.8	3070.3	3414.2	4328.3	4672.9
27.5°	4571.8	4637.6	4773.9	4155.3	3712.4	3124.9	2881.4	3130.5	3685.4	4483.3	5239.6
30°	5099.8	5162.8	5382.1	4384.3	3857.7	3272.3	2933.2	3251.6	3854.3	4802.3	5748.9
32.5°	5528.1	5690.7	5939.8	4737.9	3852.2	3441.8	3198.3	3211.4	4061.8	5215.4	6252.6
35°	6075.5	6227.0	6402.1	4981.5	4104.1	3496.5	3276.5	3605.8	4370.5	5647.1	6930.7
37.5°	7309.3	7538.3	7192.3	5595.2	4397.5	3990.6	3585.1	3848.7	4693.6	6087.9	7862.8
40°	8062.1	8255.2	7921.0	5908.7	4905.4	4239.7	4135.9	4270.8	5009.8	6315.6	8565.2
42.5°	8803.9	9058.5	8500.1	6380.6	5387.7	4942.7	4659.0	4767.7	5467.2	6865.0	9355.4
45°	9340.9	9498.6	8625.4	6627.7	6050.6	5744.0	5555.1	5393.2	6105.2	7217.9	9865.4
47.5°	9610.7	9736.7	8872.4	6705.9	6445.0	6591.7	7005.5	6667.1	6669.9	7473.2	10140.1
50°	9984.4	10072.3	9010.8	6799.3	6873.3	7912.6	8121.6	7401.3	7314.8	7729.3	10185.1
52.5°	10509.6	10552.5	9279.3	7045.6	7514.8	8947.1	9022.6	8731.2	7960.4	8205.3	10284.7
55°	11207.8	11132.4	9758.8	7563.2	8183.9	9704.8	9805.9	9551.9	8772.1	8680.7	10593.3
57.5°	11960.7	11874.2	10469.5	8292.5	8909.8	10284.0	10344.2	10364.3	9311.1	9101.4	11117.8
60°	12500.4	12516.3	11364.2	9129.1	9360.9	10838.3	10717.9	10535.2	9855.0	9718.0	11373.2
62.5°	12689.3	12842.2	12061.0	10005.8	9749.8	10872.9	10686.1	10531.7	10098.6	10353.9	11080.5
65°	12535.0	12802.1	12222.9	10776.0	9985.1	10439.0	10244.6	10145.6	10091.0	10613.4	10432.8
67.5°	11921.9	12256.1	11759.3	10782.9	9129.8	8888.3	9118.1	9431.5	9250.2	10398.2	9525.6
70°	10548.4	10914.4	10683.3	10150.5	7605.4	6993.0	7246.3	7720.3	7592.3	9248.1	8190.8
72.5°	7914.0	8384.6	8430.2	8763.1	6037.4	5263.1	5299.8	5286.6	5507.4	7457.3	6391.7
75°	5083.9	5449.9	5944.7	7071.2	4586.4	3842.5	3491.0	3405.2	3816.9	5827.1	4576.0
77.5°	2951.2	2994.8	3223.2	5335.1	3284.8	2768.6	2529.1	2651.6	2795.5	4066.7	3032.9
80°	1411.6	1433.8	1527.9	2745.0	2282.1	2396.3	2211.5	2349.2	1919.5	2337.5	1720.9
82.5°	447.7	452.5	468.5	1348.6	1417.1	1587.4	1017.2	1363.9	1186.7	1413.0	1145.9
85°	74.7	127.3	157.1	389.6	799.9	535.6	220.7	486.5	662.2	891.3	520.4
87.5°	0.0	0.0	0.0	6.9	65.0	30.4	4.8	27.7	101.7	198.6	23.5
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°	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8
2.5°	1939.6	1987.3	1807.4	1646.2	1687.0	1654.5	1605.4	1521.6	1327.9	1470.4	1460.7
5°	2495.9	2407.4	2163.8	2050.3	1911.9	1700.9	1675.3	1513.3	1442.1	1453.8	1443.4
7.5°	2689.7	2531.2	2316.0	1974.2	1649.7	1345.2	1251.8	1145.9	1124.4	1170.1	1199.9
10°	2537.4	2369.3	2181.1	1756.2	1506.4	1286.4	1055.9	907.9	827.6	817.9	826.2
12.5°	2607.3	2426.0	2038.5	1713.3	1452.4	1253.2	995.7	772.2	597.9	611.0	576.4
15°	2655.8	2447.5	2004.6	1623.4	1341.0	1074.6	764.6	541.1	398.6	357.1	332.1
17.5°	2940.2	2642.6	1961.7	1519.6	1185.3	836.6	480.2	313.5	267.1	252.6	240.8
20°	3305.5	2882.7	1961.0	1410.2	955.6	523.1	299.6	227.0	215.9	224.2	215.2
22.5°	3730.4	3202.4	2065.5	1273.9	685.7	330.1	233.2	201.4	190.3	197.2	197.9
25°	4158.0	3682.0	2150.6	1144.5	477.5	253.3	207.6	185.4	173.0	179.2	175.8
27.5°	4930.3	4079.1	2131.3	979.1	351.5	222.8	193.1	173.7	155.0	164.7	164.0
30°	5435.4	4780.1	2206.7	747.3	278.9	195.1	179.9	158.5	138.4	149.5	148.8
32.5°	6039.5	5081.1	2288.3	573.6	231.8	184.8	161.9	141.2	129.4	136.3	134.9
35°	6718.3	5676.2	2138.2	477.5	201.4	166.8	143.2	127.3	116.9	120.4	120.4
37.5°	7917.5	6173.7	2048.2	388.9	187.5	150.8	134.2	114.9	108.6	108.6	112.1
40°	8598.4	6933.5	1779.7	307.9	191.7	139.1	125.2	105.2	96.9	96.2	99.6
42.5°	9484.1	7371.5	1611.6	249.1	173.7	135.6	114.9	95.5	85.8	85.1	88.6
45°	10009.3	7616.5	1374.9	195.8	155.7	157.8	106.6	87.9	73.3	70.6	76.8
47.5°	10340.8	7941.0	1240.7	155.7	135.6	157.1	103.8	76.1	61.6	58.1	63.7
50°	10508.9	8101.6	1214.4	133.5	117.6	140.5	119.0	63.7	52.6	47.7	52.6
52.5°	10684.0	8362.4	1224.1	123.2	103.8	112.8	112.8	54.7	46.4	40.8	44.3
55°	11037.6	8747.9	1202.6	116.9	95.5	85.8	72.7	48.4	42.2	36.0	39.4
57.5°	11472.1	9024.6	1202.6	111.4	88.6	73.3	58.1	45.0	38.8	31.1	33.9
60°	11389.8	8733.3	1143.1	105.9	83.0	68.5	52.6	41.5	36.0	28.4	30.4
62.5°	10824.4	7941.0	925.9	97.6	78.2	65.0	47.7	39.4	33.9	24.9	27.0
65°	10160.2	7099.6	643.5	88.6	72.7	58.8	42.9	37.4	31.1	22.1	23.5
67.5°	9360.2	6096.9	357.1	79.6	67.1	51.2	39.4	36.7	29.8	20.1	21.5
70°	7972.2	4603.0	191.7	72.7	63.0	47.1	37.4	36.7	29.8	19.4	20.1
72.5°	5984.8	2898.7	112.1	66.4	57.4	43.6	35.3	37.4	29.1	18.7	18.7
75°	4072.2	1759.7	80.3	56.7	51.2	36.7	33.9	36.0	29.8	18.7	17.3
77.5°	2768.6	1236.5	65.7	51.2	46.4	32.5	34.6	36.0	29.8	15.2	11.8
80°	1728.5	638.0	49.8	40.8	40.1	28.4	34.6	31.1	19.4	3.5	0.0
82.5°	1208.9	237.3	29.1	31.1	31.1	20.1	27.0	22.1	11.1	0.0	0.0
85°	507.2	40.8	15.9	22.1	19.4	11.8	21.5	16.6	6.9	0.0	0.0
87.5°	9.0	0.0	6.2	13.1	13.8	6.9	11.1	6.9	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°	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8
2.5°	1506.4	1440.7	1302.3	1368.7	1361.8	1392.2	1395.0	1324.4	1476.7	1570.8	1584.6
5°	1444.8	1400.5	1392.9	1354.9	1345.2	1401.2	1370.8	1368.7	1442.1	1549.3	1550.0
7.5°	1200.6	1166.7	1182.6	1138.3	1024.1	1031.0	1041.4	1085.0	1148.0	1218.6	1244.2
10°	824.1	912.0	847.7	842.1	830.4	793.7	764.6	787.5	869.1	934.2	958.4
12.5°	588.2	602.0	641.5	626.9	647.0	615.9	604.1	675.4	754.9	821.4	869.1
15°	343.9	367.4	391.0	440.8	460.9	454.6	490.6	550.1	614.5	644.9	703.7
17.5°	242.2	244.3	249.1	303.1	338.4	352.2	373.7	418.6	444.9	458.8	483.0
20°	211.7	205.5	197.2	227.7	260.9	278.2	271.9	307.2	328.7	342.5	359.8
22.5°	191.7	181.3	176.5	186.8	212.4	227.7	230.4	251.2	283.7	293.4	298.9
25°	173.0	166.1	162.6	168.1	182.0	196.5	199.3	226.3	255.3	259.5	270.6
27.5°	160.5	147.4	148.8	152.9	159.2	177.1	182.7	197.9	240.1	245.0	248.4
30°	147.4	133.5	137.7	141.9	139.1	161.2	169.5	186.8	227.7	235.3	239.4
32.5°	134.2	123.9	123.2	127.3	132.2	143.9	161.9	182.0	219.4	229.7	240.1
35°	119.7	111.4	112.8	113.5	119.7	134.9	148.1	158.5	184.1	189.6	193.1
37.5°	109.3	102.4	101.0	107.9	114.2	125.9	130.8	135.6	169.5	182.0	182.7
40°	96.9	92.7	92.7	97.6	111.4	110.0	116.3	131.5	164.0	177.1	178.5
42.5°	87.9	82.3	83.7	88.6	98.3	91.3	103.8	125.9	161.9	175.1	174.4
45°	74.0	72.7	75.4	79.6	83.7	77.5	96.9	120.4	155.0	172.3	167.5
47.5°	61.6	61.6	65.0	69.2	67.1	69.2	87.9	112.8	150.8	166.8	163.3
50°	50.5	51.2	54.7	61.6	55.4	60.9	78.9	105.2	143.9	161.2	158.5
52.5°	42.9	43.6	45.7	50.5	47.7	55.4	72.7	97.6	137.0	151.5	150.2
55°	37.4	38.8	38.8	41.5	42.9	51.9	65.7	90.0	126.6	142.5	139.8
57.5°	33.2	34.6	33.9	36.0	37.4	45.7	58.8	81.7	116.3	129.4	125.2
60°	29.8	31.1	30.4	33.2	32.5	39.4	51.2	72.7	105.2	115.6	112.1
62.5°	26.3	27.7	27.7	29.1	29.8	33.2	44.3	64.4	94.1	102.4	99.6
65°	23.5	24.9	25.6	24.9	26.3	28.4	37.4	58.1	81.7	90.0	85.8
67.5°	21.5	22.8	24.2	21.5	22.8	23.5	31.8	51.9	72.0	78.9	75.4
70°	20.8	21.5	21.5	18.7	18.0	18.7	27.7	44.3	63.0	69.9	65.0
72.5°	19.4	20.1	19.4	15.2	13.1	14.5	23.5	37.4	53.3	58.8	54.7
75°	18.0	18.7	18.0	12.5	8.3	10.4	19.4	32.5	45.7	48.4	46.4
77.5°	15.2	16.6	16.6	9.0	2.8	6.2	14.5	26.3	38.1	38.1	38.8
80°	1.4	4.2	6.9	4.8	0.0	0.7	4.8	13.8	24.2	23.5	25.6
82.5°	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	8.3	6.2	6.9
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°	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8	1462.8
2.5°	1552.1	1530.6	1557.6	1640.0	1606.7	1613.0	1590.8	1727.2	1881.5	1886.3
5°	1551.4	1532.0	1572.1	1568.7	1663.5	1766.6	1866.2	2027.5	2255.8	2257.2
7.5°	1232.4	1347.3	1377.0	1368.0	1489.8	1631.7	1785.3	2093.9	2281.4	2301.5
10°	1111.3	1161.1	1222.0	1244.2	1294.7	1429.6	1603.3	1952.7	2163.1	2209.5
12.5°	963.2	1122.4	1203.3	1360.4	1389.5	1408.8	1682.9	1986.6	2114.7	2109.1
15°	797.8	936.2	1064.2	1255.9	1334.8	1538.2	1754.1	2152.0	2228.1	2301.5
17.5°	564.6	669.1	865.7	1067.0	1307.8	1529.2	1950.7	2447.5	2591.4	2678.6
20°	377.8	428.3	606.2	872.6	1177.7	1397.8	2030.9	2714.6	2871.7	2947.1
22.5°	306.5	330.8	422.8	639.4	1006.1	1391.5	2063.4	3005.9	3428.0	3528.3
25°	269.9	286.5	335.6	473.3	835.2	1363.9	2243.4	3333.9	3843.2	3924.1
27.5°	236.0	260.9	297.5	390.3	716.2	1344.5	2334.7	3884.7	4492.3	4571.8
30°	225.6	256.0	291.3	355.7	633.2	1269.8	2480.0	4381.5	4957.9	5099.8
32.5°	243.6	254.0	271.3	325.9	568.8	1190.9	2735.3	4975.2	5343.4	5528.1
35°	193.1	211.7	242.2	298.9	541.8	1186.7	2880.0	5357.2	5961.3	6075.5
37.5°	188.9	206.2	245.6	291.3	574.3	1218.6	3094.5	6139.8	7075.4	7309.3
40°	183.4	205.5	242.9	287.9	574.3	1249.7	3231.5	6766.1	7824.8	8062.1
42.5°	181.3	209.7	242.2	302.4	556.3	1267.0	3438.4	7390.9	8616.4	8803.9
45°	179.9	213.8	244.3	319.7	552.2	1323.7	3555.3	7694.7	9125.7	9340.9
47.5°	176.5	213.8	272.6	309.3	529.4	1318.2	3706.9	8145.1	9429.4	9610.7
50°	173.7	215.2	308.6	289.9	532.8	1284.3	3912.4	8567.9	9855.0	9984.4
52.5°	167.5	220.0	303.1	262.9	522.4	1280.8	4218.9	9169.3	10414.8	10509.6
55°	153.6	213.8	274.0	229.7	485.8	1241.4	4625.1	9951.2	11191.2	11207.8
57.5°	141.2	198.6	229.0	211.1	406.9	1246.2	4975.2	10670.8	11883.2	11960.7
60°	128.7	206.2	177.8	196.5	337.0	1157.7	5144.8	10946.2	12386.9	12500.4
62.5°	116.9	190.3	151.5	180.6	300.3	1075.3	5027.1	10724.8	12451.3	12689.3
65°	103.8	132.2	128.0	161.9	303.8	959.8	4634.1	10076.4	12207.0	12535.0
67.5°	89.3	103.8	112.8	139.8	325.2	860.8	3960.1	9035.7	11550.3	11921.9
70°	78.2	93.4	98.3	122.5	338.4	795.8	3124.9	7591.6	10205.1	10548.4
72.5°	65.0	86.5	87.9	107.3	325.9	731.4	2226.8	5449.9	7749.3	7914.0
75°	56.0	72.0	79.6	90.0	274.0	546.0	1226.9	3373.3	4899.8	5083.9
77.5°	50.5	54.7	60.2	62.3	116.3	284.4	422.1	2080.1	2743.7	2951.2
80°	38.8	42.9	41.5	42.9	63.7	98.3	160.5	975.0	1296.1	1411.6
82.5°	12.5	20.8	22.8	19.4	41.5	48.4	46.4	337.0	421.4	447.7
85°	2.8	7.6	3.5	0.0	13.8	24.9	3.5	51.2	101.0	74.7
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)