

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: P565292

Luminaire Tested: **MSA-SA2D-827-U-T1**

Issue Date: 8/19/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P565292  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2108-334-1)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 8/19/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-827-U-T1  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.  
Light Source: -  
Ballast/Driver: -

**Summary**

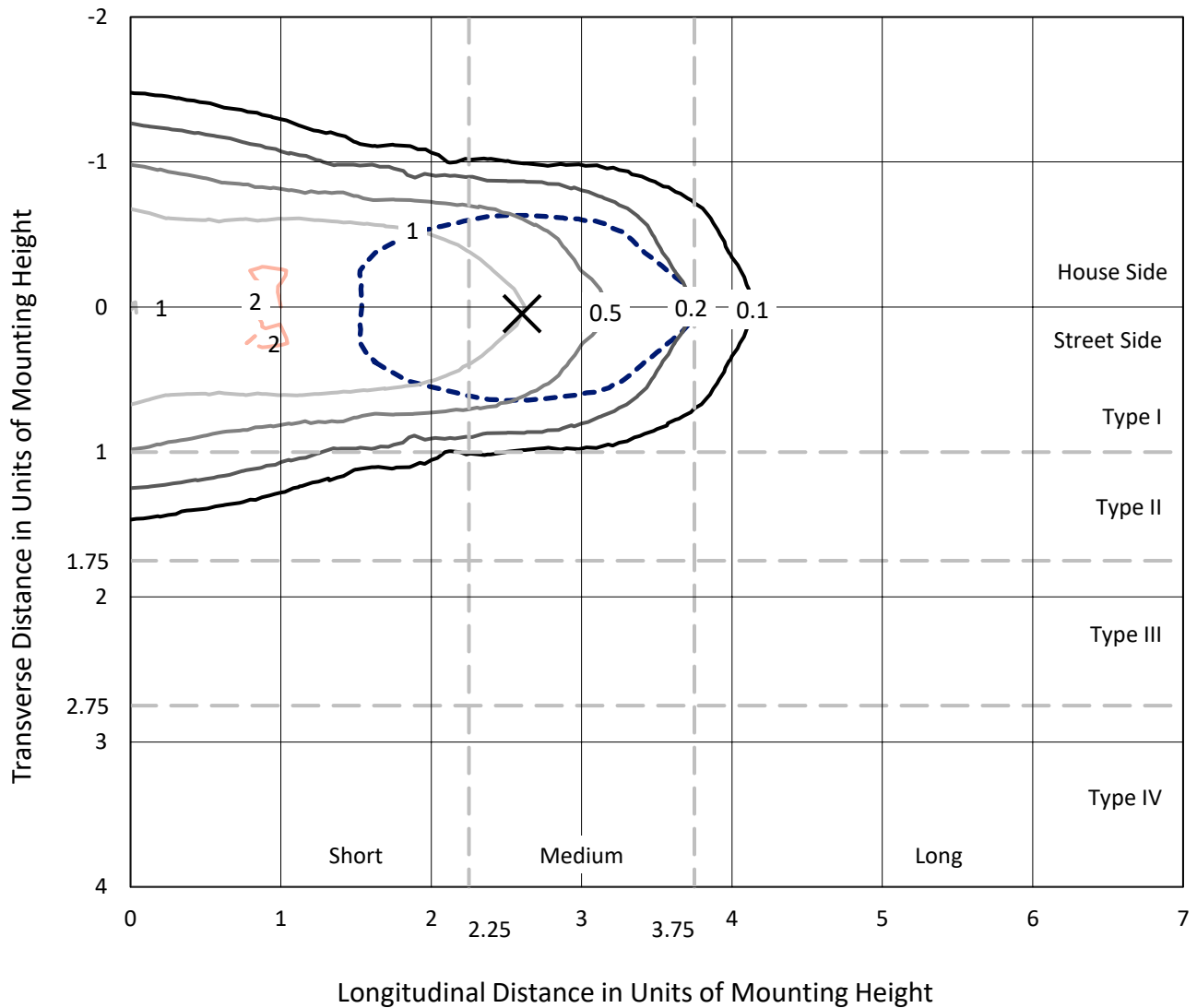
Lumens per Lamp: N/A  
Luminaire Lumens: 8964 lumens  
Efficiency: N/A  
Efficacy: 69.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

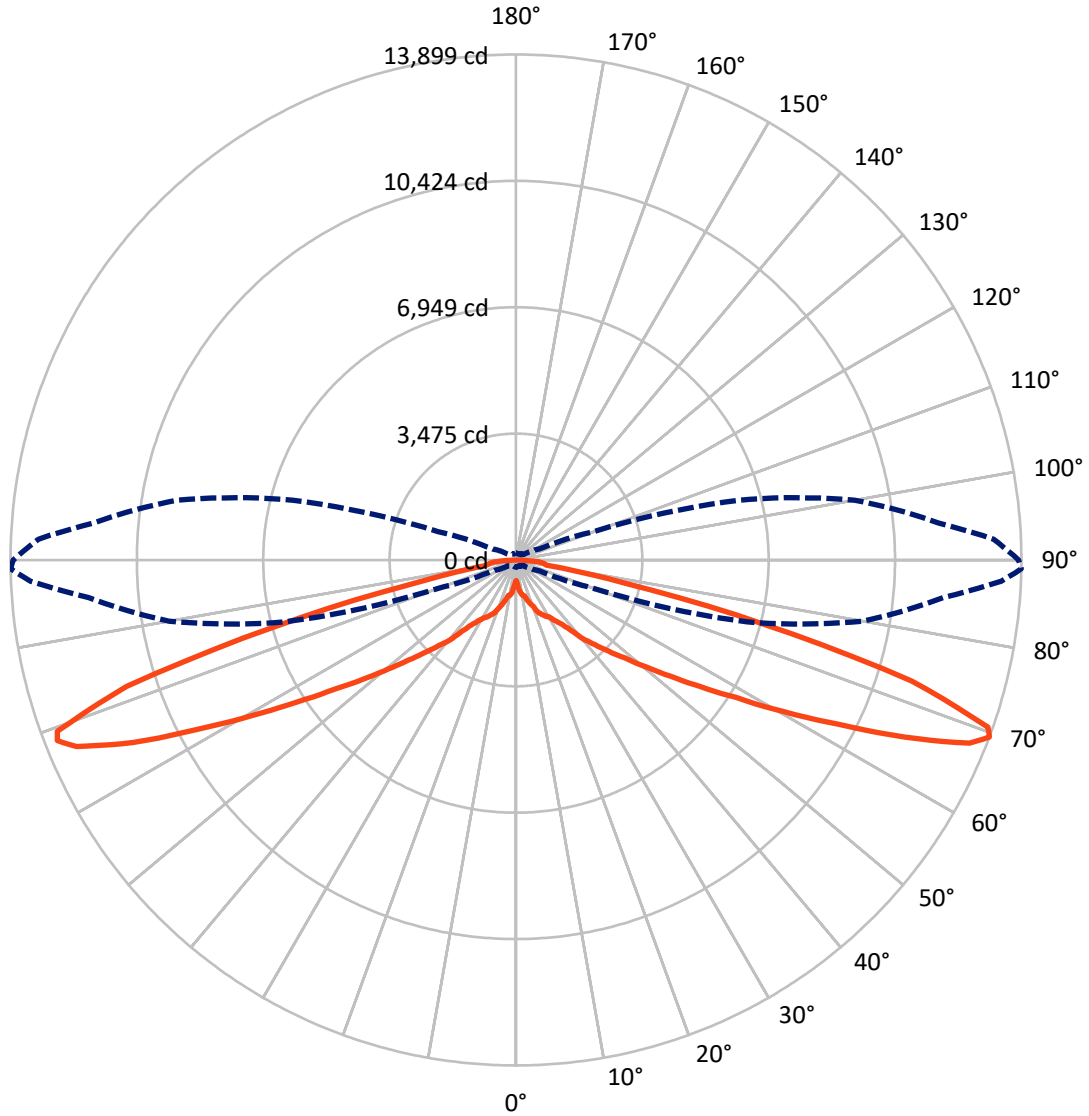
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc  
 Type I - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4481.9	0.0	4481.9
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	4482.1	0.0	4482.1
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	8964.0	0.0	8964.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.4	0.8
10°-20°	328.7	3.7
20°-30°	655.8	7.3
30°-40°	991.8	11.1
40°-50°	1439.7	16.1
50°-60°	1891.5	21.1
60°-70°	2307.4	25.7
70°-80°	1166.6	13.0
80°-90°	111.2	1.2
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°	8964.0	100.0
0°-180°	8964.0	100.0

**Coefficient of Utilization**



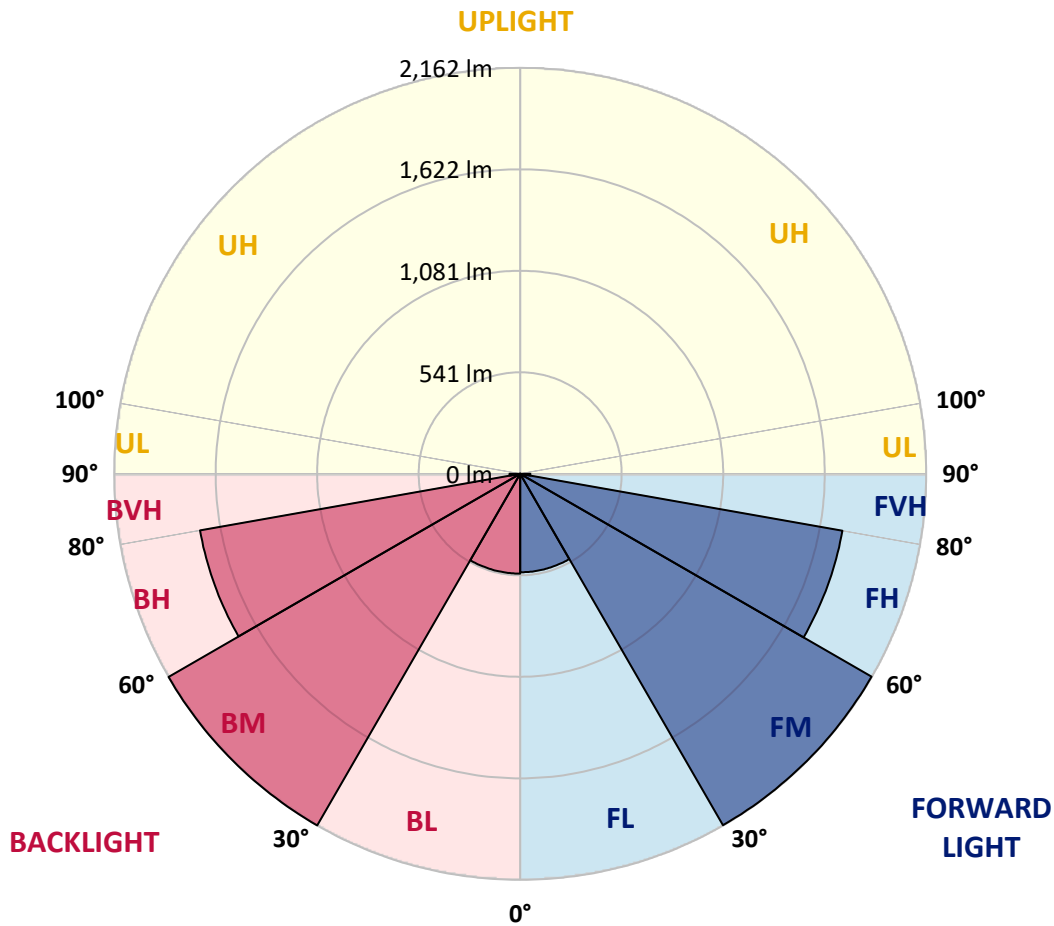
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	524.2	5.8			
FM (30°-60°)	2160.8	24.1			
FH (60°-80°)	1742.5	19.4			G1/1800
FVH (80°-90°)	54.5	0.6			G1/100
BL (0°-30°)	531.6	5.9	B2/1000		
BM (30°-60°)	2162.2	24.1	B2/2500		
BH (60°-80°)	1731.4	19.3	B3/2500		G3/2500
BVH (80°-90°)	56.7	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type I Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	80°
0°	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8
2.5°	666.3	589.5	582.8	564.4	577.8	582.8	571.1	554.4	572.8	582.8	564.4
5°	840.0	726.4	688.0	656.3	592.8	566.1	592.8	661.3	669.6	711.4	699.7
7.5°	925.1	906.8	858.3	753.1	651.3	594.5	666.3	764.8	814.9	855.0	896.8
10°	988.6	978.6	893.4	818.3	776.5	779.9	781.5	813.3	856.7	923.5	946.9
12.5°	1003.6	1000.3	1013.7	997.0	1000.3	1018.7	1000.3	991.9	1017.0	1038.7	1015.3
15°	1100.5	1098.8	1103.8	1107.2	1174.0	1202.4	1174.0	1148.9	1130.5	1112.2	1150.6
17.5°	1167.3	1158.9	1160.6	1192.3	1267.5	1346.0	1330.9	1297.5	1255.8	1280.8	1312.6
20°	1204.0	1189.0	1199.0	1212.4	1339.3	1426.1	1436.1	1391.1	1366.0	1397.7	1424.5
22.5°	1239.1	1215.7	1180.6	1194.0	1310.9	1436.1	1484.6	1472.9	1491.3	1501.3	1496.3
25°	1197.3	1212.4	1174.0	1212.4	1330.9	1446.2	1543.0	1611.5	1613.2	1608.2	1644.9
27.5°	1172.3	1160.6	1095.5	1194.0	1292.5	1364.3	1611.5	1726.7	1761.8	1654.9	1726.7
30°	1128.9	1147.2	1058.7	1140.6	1265.8	1386.1	1690.0	1855.3	1803.5	1790.2	1806.9
32.5°	1102.2	1090.5	1048.7	1093.8	1189.0	1451.2	1740.1	1930.5	1995.6	1963.8	1960.5
35°	1058.7	1067.1	1002.0	1050.4	1184.0	1396.1	1773.5	2119.2	2219.4	2194.3	2174.3
37.5°	1065.4	1037.0	990.3	1025.3	1152.3	1426.1	1857.0	2301.2	2459.8	2473.2	2381.3
40°	1015.3	998.6	928.5	986.9	1092.1	1407.8	1877.0	2508.2	2777.1	2837.2	2705.3
42.5°	943.5	921.8	881.7	946.9	1057.1	1317.6	1905.4	2757.1	3099.4	3224.7	3104.4
45°	840.0	811.6	791.6	878.4	980.3	1294.2	1875.3	2964.1	3408.3	3580.4	3577.0
47.5°	714.7	696.4	686.3	778.2	916.8	1235.8	1813.6	3094.4	3623.8	4064.6	3997.8
50°	572.8	559.4	557.8	654.6	809.9	1115.5	1743.4	3159.5	3951.1	4508.8	4567.3
52.5°	459.2	449.2	447.5	526.0	678.0	953.5	1596.5	3209.6	4263.4	5013.2	5313.7
55°	359.0	349.0	350.7	415.8	539.4	779.9	1372.7	3152.8	4537.2	5529.2	6098.6
57.5°	293.9	283.9	285.6	322.3	412.5	596.2	1093.8	3029.3	4660.8	6167.1	7013.7
60°	258.8	248.8	243.8	260.5	317.3	449.2	813.3	2548.3	4680.8	6696.5	8007.4
62.5°	240.5	230.5	225.4	230.5	262.2	344.0	586.1	2019.0	4565.6	7149.0	8917.5
65°	223.8	215.4	208.7	213.8	230.5	273.9	427.5	1382.7	3962.8	7356.1	9578.8
67.5°	205.4	198.7	192.0	198.7	210.4	230.5	332.3	875.0	2970.8	7087.2	9854.3
69°	195.4	185.4	182.0	187.0	198.7	212.1	287.2	698.0	2259.4	6576.2	9687.3
70°	185.4	178.7	173.7	182.0	192.0	202.1	258.8	592.8	1771.8	5919.9	9273.2
72.5°	163.7	158.6	155.3	163.7	172.0	178.7	212.1	422.5	1027.0	4031.2	7354.4
75°	143.6	138.6	136.9	143.6	150.3	153.6	178.7	290.6	606.2	2109.1	4412.0
77.5°	120.2	113.6	115.2	123.6	128.6	130.3	150.3	208.7	357.4	955.2	2044.0
80°	88.5	88.5	95.2	101.9	101.9	101.9	120.2	152.0	217.1	439.2	848.3
82.5°	61.8	63.5	65.1	75.1	76.8	70.1	91.8	110.2	135.3	192.0	293.9
85°	35.1	36.7	38.4	45.1	46.8	41.7	60.1	70.1	78.5	95.2	153.6
87.5°	13.4	15.0	20.0	23.4	25.0	18.4	28.4	33.4	33.4	40.1	68.5
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):**

	85°	87.5°	89°	90°	92.5°	95°	100°	105°	110°	115°	125°
0°	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8	567.8
2.5°	602.8	614.5	636.2	641.3	622.9	602.8	557.8	586.1	597.8	576.1	582.8
5°	746.5	771.5	798.2	766.5	746.5	733.1	711.4	713.1	701.4	663.0	599.5
7.5°	908.4	880.1	900.1	921.8	890.1	891.7	911.8	870.0	838.3	773.2	654.6
10°	983.6	983.6	988.6	988.6	975.2	975.2	973.6	906.8	868.4	840.0	806.6
12.5°	988.6	986.9	1007.0	991.9	995.3	998.6	1007.0	1037.0	1027.0	990.3	1020.3
15°	1127.2	1120.5	1127.2	1125.5	1130.5	1145.6	1138.9	1132.2	1133.9	1160.6	1205.7
17.5°	1257.5	1260.8	1254.1	1265.8	1265.8	1275.8	1299.2	1275.8	1255.8	1305.9	1341.0
20°	1407.8	1396.1	1369.4	1389.4	1394.4	1396.1	1434.5	1406.1	1377.7	1396.1	1437.8
22.5°	1559.7	1558.1	1561.4	1563.1	1569.7	1544.7	1492.9	1484.6	1502.9	1477.9	1482.9
25°	1653.2	1654.9	1663.3	1664.9	1636.5	1663.3	1681.6	1626.5	1626.5	1621.5	1588.1
27.5°	1766.8	1741.7	1751.8	1765.1	1753.4	1760.1	1738.4	1658.3	1743.4	1755.1	1621.5
30°	1843.6	1831.9	1820.2	1833.6	1845.3	1875.3	1813.6	1805.2	1811.9	1873.7	1698.3
32.5°	2005.6	2022.3	2000.6	1978.9	2000.6	1993.9	1967.2	1955.5	2039.0	1957.2	1751.8
35°	2155.9	2162.6	2164.2	2160.9	2174.3	2150.9	2150.9	2194.3	2219.4	2130.8	1768.5
37.5°	2518.3	2494.9	2446.5	2423.1	2464.8	2499.9	2396.4	2448.1	2438.1	2287.8	1893.7
40°	2778.8	2832.2	2847.2	2840.6	2847.2	2747.1	2768.8	2807.2	2762.1	2513.3	1850.3
42.5°	3159.5	3192.9	3181.2	3166.2	3172.9	3154.5	3089.4	3231.3	3069.3	2765.4	1917.1
45°	3506.9	3582.0	3587.0	3535.3	3577.0	3511.9	3538.6	3588.7	3425.0	2954.1	1898.7
47.5°	3921.0	4076.3	4017.9	4017.9	4059.6	3919.3	3982.8	4049.6	3615.4	3081.0	1798.5
50°	4533.9	4617.4	4614.0	4599.0	4617.4	4542.2	4532.2	4523.9	3907.7	3201.3	1736.7
52.5°	5226.9	5340.5	5297.0	5313.7	5338.8	5196.9	5308.7	5003.1	4273.4	3246.4	1596.5
55°	6112.0	6190.5	6147.0	6061.9	6175.4	6085.3	6122.0	5525.8	4527.2	3117.8	1362.7
57.5°	7165.7	7205.8	7134.0	7125.6	7200.8	7103.9	7042.1	6113.6	4659.1	3020.9	1088.8
60°	8396.5	8521.7	8476.6	8404.8	8473.3	8388.1	7920.5	6613.0	4632.4	2568.4	843.3
62.5°	9872.7	9999.6	9949.5	9901.1	9944.5	9722.4	8745.5	7007.1	4512.2	2035.7	616.2
65°	11091.7	11664.5	11739.7	11741.3	11530.9	11016.6	9403.4	7160.7	3877.6	1421.1	450.9
67.5°	11893.3	13084.0	13454.7	13321.1	12838.5	11664.5	9669.0	6860.1	2994.2	898.4	337.3
69°	11801.5	13362.9	13898.9	13823.8	13145.8	11654.5	9461.9	6354.1	2287.8	714.7	285.6
70°	11377.3	13134.1	13770.3	13803.7	12950.4	11207.0	9092.8	5773.0	1850.3	609.5	262.2
72.5°	9079.5	10822.9	11382.3	11601.1	10754.4	8974.3	7456.3	4073.0	1072.1	425.8	212.1
75°	5624.4	6562.9	7027.1	7154.0	6641.4	5589.3	4525.5	2266.1	652.9	300.6	178.7
77.5°	2521.6	2793.8	3061.0	3061.0	2860.6	2551.7	2074.1	1095.5	370.7	213.8	150.3
80°	845.0	876.7	853.3	861.7	828.3	796.6	833.3	472.6	228.8	160.3	121.9
82.5°	574.5	721.4	766.5	766.5	719.7	567.8	320.6	217.1	140.3	115.2	93.5
85°	467.6	571.1	612.9	631.2	594.5	479.3	168.7	105.2	83.5	73.5	63.5
87.5°	157.0	147.0	138.6	135.3	141.9	148.6	83.5	45.1	38.4	35.1	33.4
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):**

	135°	145°	155°	165°	175°	180°
0°	567.8	567.8	567.8	567.8	567.8	567.8
2.5°	594.5	574.5	582.8	591.2	651.3	696.4
5°	591.2	619.5	683.0	763.2	799.9	890.1
7.5°	607.9	711.4	830.0	913.5	946.9	975.2
10°	813.3	831.6	871.7	951.9	1018.7	1030.4
12.5°	1050.4	1045.4	1017.0	1053.7	1020.3	1043.7
15°	1235.8	1180.6	1142.2	1137.2	1125.5	1125.5
17.5°	1337.6	1289.2	1235.8	1222.4	1187.3	1215.7
20°	1457.9	1374.4	1240.8	1227.4	1215.7	1189.0
22.5°	1434.5	1351.0	1212.4	1195.7	1257.5	1254.1
25°	1462.9	1351.0	1219.1	1200.7	1229.1	1229.1
27.5°	1392.7	1300.9	1205.7	1095.5	1182.3	1202.4
30°	1374.4	1270.8	1160.6	1062.1	1150.6	1132.2
32.5°	1471.2	1195.7	1087.1	1057.1	1122.2	1108.8
35°	1396.1	1182.3	1068.8	1013.7	1090.5	1077.1
37.5°	1427.8	1165.6	1037.0	990.3	1052.1	1072.1
40°	1421.1	1087.1	1000.3	940.2	1002.0	1012.0
42.5°	1309.2	1027.0	938.5	878.4	910.1	943.5
45°	1275.8	990.3	878.4	794.9	796.6	835.0
47.5°	1214.0	906.8	768.2	691.4	691.4	723.1
50°	1110.5	794.9	642.9	572.8	571.1	596.2
52.5°	956.9	686.3	542.7	465.9	460.9	486.0
55°	783.2	552.8	427.5	377.4	367.4	377.4
57.5°	609.5	430.8	337.3	297.2	295.6	303.9
60°	472.6	337.3	268.9	245.5	248.8	262.2
62.5°	357.4	268.9	228.8	220.4	225.4	238.8
65°	283.9	232.1	208.7	203.7	208.7	222.1
67.5°	230.5	210.4	193.7	187.0	190.4	203.7
69°	212.1	198.7	185.4	177.0	180.4	190.4
70°	202.1	192.0	178.7	170.3	173.7	183.7
72.5°	177.0	172.0	162.0	153.6	155.3	163.7
75°	155.3	152.0	145.3	135.3	135.3	145.3
77.5°	130.3	131.9	125.2	115.2	113.6	118.6
80°	103.5	106.9	103.5	93.5	90.2	90.2
82.5°	75.1	81.8	78.5	68.5	66.8	66.8
85°	46.8	51.8	50.1	43.4	43.4	38.4
87.5°	21.7	28.4	26.7	23.4	21.7	15.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)