

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: P565298

Luminaire Tested: **MSA-SA4B-827-U-T1**

Issue Date: 8/19/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P565298  
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-SA4B-827-U-T1  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12913 lumens  
Efficiency: N/A  
Efficacy: 75.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B3 - U0 - G3

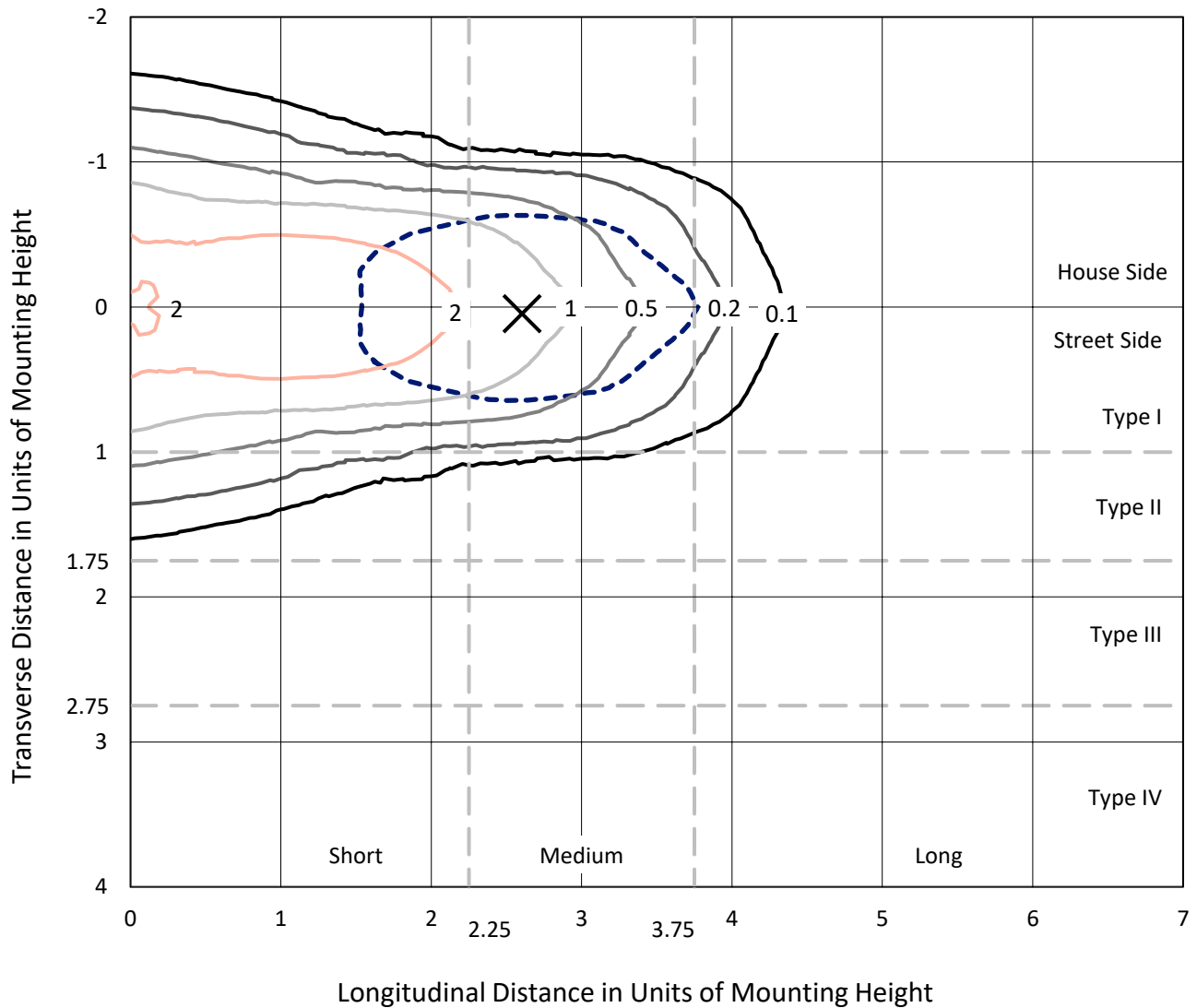
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

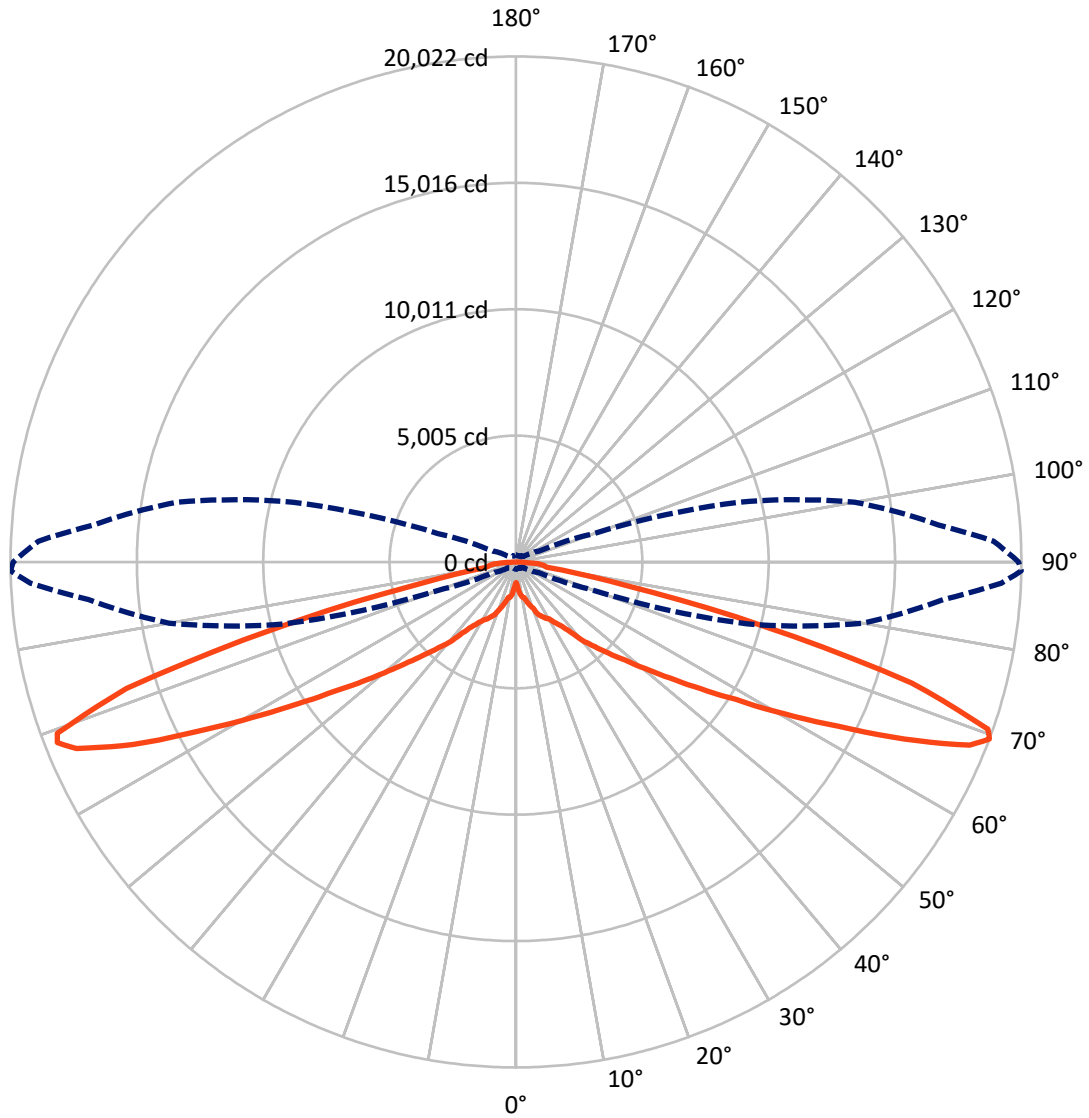
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 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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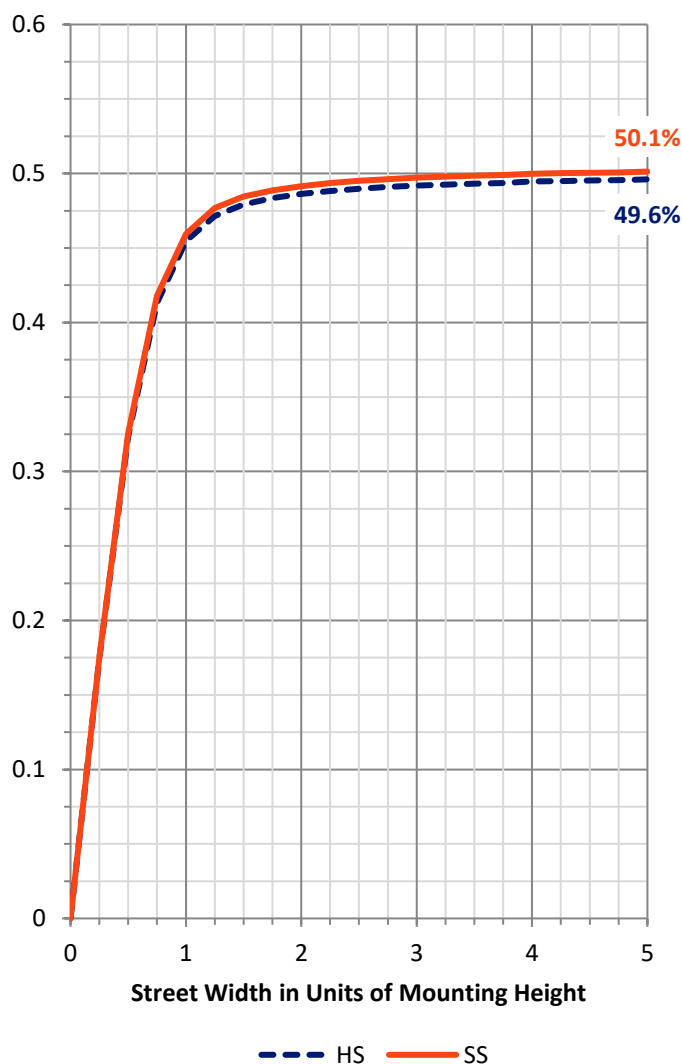
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6456.4	0.0	6456.4
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6456.6	0.0	6456.6
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	12913.0	0.0	12913.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.8	0.8
10°-20°	473.5	3.7
20°-30°	944.7	7.3
30°-40°	1428.8	11.1
40°-50°	2074.0	16.1
50°-60°	2724.8	21.1
60°-70°	3323.9	25.7
70°-80°	1680.5	13.0
80°-90°	160.2	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°	12913.0	100.0
0°-180°	12913.0	100.0

**Coefficient of Utilization**

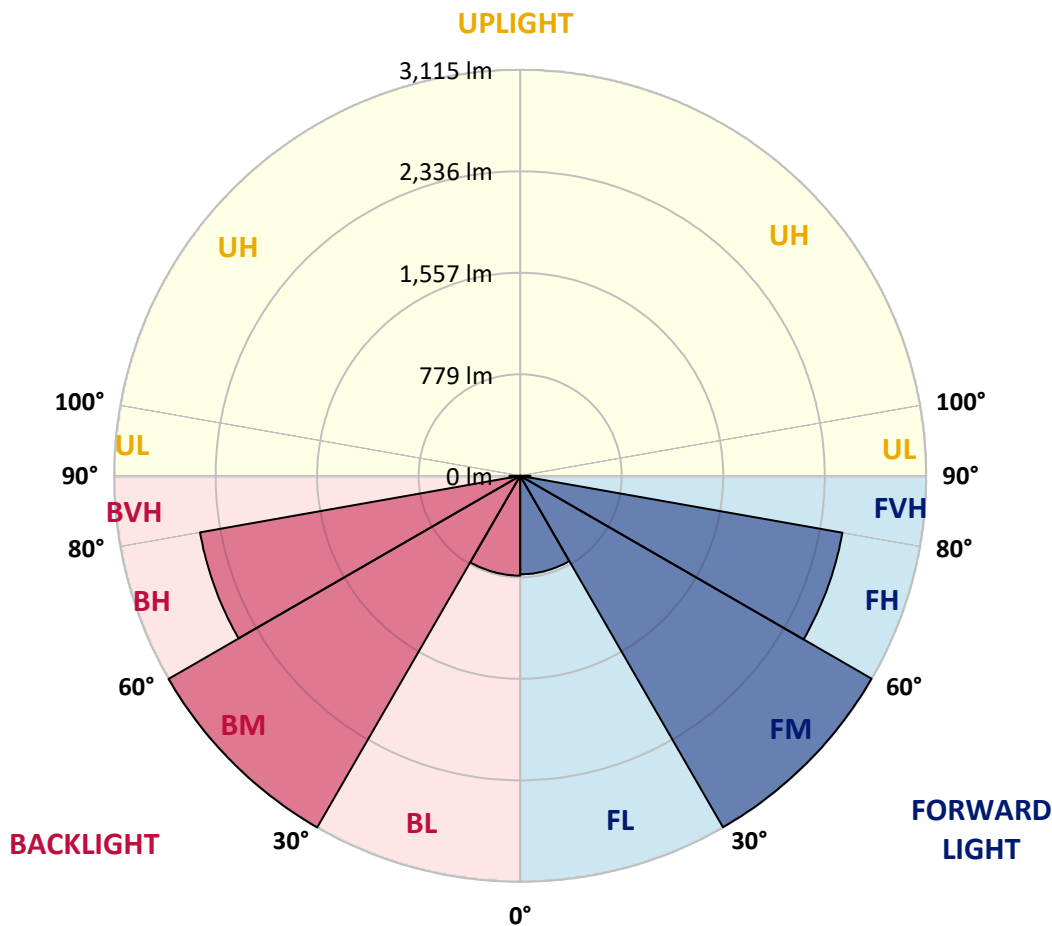


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	755.2	5.8			
FM (30°-60°)	3112.7	24.1			
FH (60°-80°)	2510.2	19.4			G2/5000
FVH (80°-90°)	78.6	0.6			G1/100
BL (0°-30°)	765.8	5.9	B2/1000		
BM (30°-60°)	3114.8	24.1	B3/5000		
BH (60°-80°)	2494.2	19.3	B3/2500		G3/2500
BVH (80°-90°)	81.6	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°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	959.8	849.2	839.6	813.1	832.3	839.6	822.7	798.7	825.1	839.6	813.1
5°	1210.0	1046.4	991.1	945.4	854.0	815.5	854.0	952.6	964.7	1024.8	1008.0
7.5°	1332.7	1306.2	1236.5	1084.9	938.2	856.4	959.8	1101.8	1173.9	1231.7	1291.8
10°	1424.1	1409.7	1287.0	1178.8	1118.6	1123.4	1125.8	1171.5	1234.1	1330.3	1364.0
12.5°	1445.8	1441.0	1460.2	1436.2	1441.0	1467.4	1441.0	1428.9	1465.0	1496.3	1462.6
15°	1585.3	1582.9	1590.1	1594.9	1691.1	1732.0	1691.1	1655.1	1628.6	1602.1	1657.5
17.5°	1681.5	1669.5	1671.9	1717.6	1825.9	1938.9	1917.3	1869.2	1809.0	1845.1	1890.8
20°	1734.4	1712.8	1727.2	1746.5	1929.3	2054.4	2068.8	2003.9	1967.8	2013.5	2052.0
22.5°	1785.0	1751.3	1700.8	1720.0	1888.4	2068.8	2138.6	2121.8	2148.2	2162.6	2155.4
25°	1724.8	1746.5	1691.1	1746.5	1917.3	2083.3	2222.8	2321.4	2323.8	2316.6	2369.5
27.5°	1688.7	1671.9	1578.1	1720.0	1861.9	1965.4	2321.4	2487.4	2537.9	2384.0	2487.4
30°	1626.2	1652.7	1525.2	1643.0	1823.5	1996.7	2434.5	2672.6	2598.1	2578.8	2602.9
32.5°	1587.7	1570.9	1510.7	1575.7	1712.8	2090.5	2506.7	2780.9	2874.7	2829.0	2824.2
35°	1525.2	1537.2	1443.4	1513.1	1705.6	2011.1	2554.8	3052.7	3197.1	3161.0	3132.1
37.5°	1534.8	1493.9	1426.5	1477.0	1659.9	2054.4	2675.0	3314.9	3543.5	3562.7	3430.4
40°	1462.6	1438.6	1337.5	1421.7	1573.3	2027.9	2703.9	3613.2	4000.5	4087.1	3897.1
42.5°	1359.2	1327.9	1270.2	1364.0	1522.8	1898.0	2744.8	3971.7	4464.8	4645.2	4472.0
45°	1210.0	1169.1	1140.3	1265.4	1412.1	1864.4	2701.5	4270.0	4909.9	5157.6	5152.8
47.5°	1029.6	1003.1	988.7	1121.0	1320.7	1780.2	2612.5	4457.6	5220.2	5855.3	5759.0
50°	825.1	805.9	803.5	943.0	1166.7	1607.0	2511.5	4551.4	5691.7	6495.2	6579.4
52.5°	661.5	647.1	644.7	757.8	976.7	1373.6	2299.8	4623.6	6141.5	7221.7	7654.7
55°	517.2	502.8	505.2	599.0	777.0	1123.4	1977.4	4541.8	6536.1	7965.0	8785.3
57.5°	423.4	409.0	411.4	464.3	594.2	858.8	1575.7	4363.8	6714.1	8883.9	10103.6
60°	372.9	358.4	351.2	375.3	457.1	647.1	1171.5	3671.0	6742.9	9646.5	11534.9
62.5°	346.4	332.0	324.8	332.0	377.7	495.6	844.4	2908.4	6577.0	10298.4	12846.0
65°	322.4	310.3	300.7	307.9	332.0	394.5	615.8	1991.8	5708.5	10596.7	13798.6
67.5°	295.9	286.3	276.6	286.3	303.1	332.0	478.7	1260.5	4279.6	10209.4	14195.5
69°	281.5	267.0	262.2	269.4	286.3	305.5	413.8	1005.5	3254.8	9473.3	13955.0
70°	267.0	257.4	250.2	262.2	276.6	291.1	372.9	854.0	2552.4	8527.9	13358.4
72.5°	235.8	228.5	223.7	235.8	247.8	257.4	305.5	608.6	1479.5	5807.2	10594.3
75°	206.9	199.7	197.3	206.9	216.5	221.3	257.4	418.6	873.2	3038.3	6355.6
77.5°	173.2	163.6	166.0	178.0	185.2	187.6	216.5	300.7	514.8	1376.0	2944.5
80°	127.5	127.5	137.1	146.7	146.7	146.7	173.2	218.9	312.7	632.7	1222.1
82.5°	89.0	91.4	93.8	108.3	110.7	101.0	132.3	158.8	194.9	276.6	423.4
85°	50.5	52.9	55.3	65.0	67.4	60.1	86.6	101.0	113.1	137.1	221.3
87.5°	19.2	21.7	28.9	33.7	36.1	26.5	40.9	48.1	48.1	57.7	98.6
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°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	868.4	885.3	916.5	923.8	897.3	868.4	803.5	844.4	861.2	829.9	839.6
5°	1075.3	1111.4	1149.9	1104.2	1075.3	1056.1	1024.8	1027.2	1010.4	955.0	863.6
7.5°	1308.7	1267.8	1296.6	1327.9	1282.2	1284.6	1313.5	1253.3	1207.6	1113.8	943.0
10°	1416.9	1416.9	1424.1	1424.1	1404.9	1404.9	1402.5	1306.2	1250.9	1210.0	1161.9
12.5°	1424.1	1421.7	1450.6	1428.9	1433.7	1438.6	1450.6	1493.9	1479.5	1426.5	1469.8
15°	1623.8	1614.2	1623.8	1621.4	1628.6	1650.3	1640.6	1631.0	1633.4	1671.9	1736.9
17.5°	1811.4	1816.2	1806.6	1823.5	1823.5	1837.9	1871.6	1837.9	1809.0	1881.2	1931.7
20°	2027.9	2011.1	1972.6	2001.5	2008.7	2011.1	2066.4	2025.5	1984.6	2011.1	2071.2
22.5°	2246.8	2244.4	2249.3	2251.7	2261.3	2225.2	2150.6	2138.6	2165.1	2129.0	2136.2
25°	2381.6	2384.0	2396.0	2398.4	2357.5	2396.0	2422.5	2343.1	2343.1	2335.9	2287.7
27.5°	2545.1	2509.1	2523.5	2542.7	2525.9	2535.5	2504.2	2388.8	2511.5	2528.3	2335.9
30°	2655.8	2639.0	2622.1	2641.4	2658.2	2701.5	2612.5	2600.5	2610.1	2699.1	2446.5
32.5°	2889.1	2913.2	2881.9	2850.7	2881.9	2872.3	2833.8	2817.0	2937.3	2819.4	2523.5
35°	3105.6	3115.3	3117.7	3112.9	3132.1	3098.4	3098.4	3161.0	3197.1	3069.6	2547.5
37.5°	3627.7	3594.0	3524.2	3490.5	3550.7	3601.2	3452.1	3526.6	3512.2	3295.7	2728.0
40°	4002.9	4079.9	4101.6	4092.0	4101.6	3957.2	3988.5	4043.8	3978.9	3620.5	2665.4
42.5°	4551.4	4599.5	4582.7	4561.0	4570.7	4544.2	4450.4	4654.9	4421.5	3983.7	2761.6
45°	5051.8	5160.0	5167.3	5092.7	5152.8	5059.0	5097.5	5169.7	4933.9	4255.5	2735.2
47.5°	5648.4	5872.1	5787.9	5787.9	5848.1	5646.0	5737.4	5833.6	5208.2	4438.4	2590.8
50°	6531.2	6651.5	6646.7	6625.1	6651.5	6543.3	6528.8	6516.8	5629.1	4611.6	2501.8
52.5°	7529.6	7693.2	7630.6	7654.7	7690.8	7486.3	7647.5	7207.2	6156.0	4676.5	2299.8
55°	8804.6	8917.6	8855.1	8732.4	8896.0	8766.1	8819.0	7960.2	6521.6	4491.3	1963.0
57.5°	10322.5	10380.2	10276.8	10264.8	10373.0	10233.5	10144.5	8807.0	6711.7	4351.8	1568.5
60°	12095.4	12275.9	12210.9	12107.5	12206.1	12083.4	11409.8	9526.2	6673.2	3699.8	1214.8
62.5°	14222.0	14404.8	14332.7	14262.9	14325.4	14005.5	12598.2	10094.0	6500.0	2932.4	887.7
65°	15978.1	16803.2	16911.5	16913.9	16610.8	15869.8	13546.0	10315.3	5585.8	2047.2	649.5
67.5°	17132.8	18848.0	19382.0	19189.6	18494.4	16803.2	13928.5	9882.3	4313.3	1294.2	485.9
69°	17000.5	19249.7	20021.9	19913.7	18937.0	16788.8	13630.2	9153.4	3295.7	1029.6	411.4
70°	16389.5	18920.2	19836.7	19884.8	18655.5	16144.1	13098.6	8316.2	2665.4	878.0	377.7
72.5°	13079.3	15590.8	16396.7	16711.8	15492.2	12927.8	10741.1	5867.3	1544.4	613.4	305.5
75°	8102.1	9454.1	10122.8	10305.7	9567.1	8051.6	6519.2	3264.4	940.6	433.0	257.4
77.5°	3632.5	4024.6	4409.5	4409.5	4120.8	3675.8	2987.8	1578.1	534.0	307.9	216.5
80°	1217.2	1262.9	1229.3	1241.3	1193.2	1147.5	1200.4	680.8	329.6	230.9	175.6
82.5°	827.5	1039.2	1104.2	1104.2	1036.8	817.9	461.9	312.7	202.1	166.0	134.7
85°	673.6	822.7	882.9	909.3	856.4	690.4	243.0	151.6	120.3	105.8	91.4
87.5°	226.1	211.7	199.7	194.9	204.5	214.1	120.3	65.0	55.3	50.5	48.1
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°	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	856.4	827.5	839.6	851.6	938.2	1003.1
5°	851.6	892.5	983.9	1099.4	1152.3	1282.2
7.5°	875.6	1024.8	1195.6	1315.9	1364.0	1404.9
10°	1171.5	1198.0	1255.7	1371.2	1467.4	1484.3
12.5°	1513.1	1505.9	1465.0	1517.9	1469.8	1503.5
15°	1780.2	1700.8	1645.4	1638.2	1621.4	1621.4
17.5°	1926.9	1857.1	1780.2	1760.9	1710.4	1751.3
20°	2100.1	1979.8	1787.4	1768.1	1751.3	1712.8
22.5°	2066.4	1946.1	1746.5	1722.4	1811.4	1806.6
25°	2107.3	1946.1	1756.1	1729.6	1770.5	1770.5
27.5°	2006.3	1874.0	1736.9	1578.1	1703.2	1732.0
30°	1979.8	1830.7	1671.9	1530.0	1657.5	1631.0
32.5°	2119.3	1722.4	1566.1	1522.8	1616.6	1597.3
35°	2011.1	1703.2	1539.6	1460.2	1570.9	1551.6
37.5°	2056.8	1679.1	1493.9	1426.5	1515.5	1544.4
40°	2047.2	1566.1	1441.0	1354.4	1443.4	1457.8
42.5°	1886.0	1479.5	1352.0	1265.4	1311.1	1359.2
45°	1837.9	1426.5	1265.4	1145.1	1147.5	1202.8
47.5°	1748.9	1306.2	1106.6	995.9	995.9	1041.6
50°	1599.7	1145.1	926.2	825.1	822.7	858.8
52.5°	1378.4	988.7	781.8	671.2	663.9	700.0
55°	1128.2	796.3	615.8	543.7	529.2	543.7
57.5°	878.0	620.6	485.9	428.2	425.8	437.8
60°	680.8	485.9	387.3	353.6	358.4	377.7
62.5°	514.8	387.3	329.6	317.5	324.8	344.0
65°	409.0	334.4	300.7	293.5	300.7	319.9
67.5°	332.0	303.1	279.1	269.4	274.2	293.5
69°	305.5	286.3	267.0	255.0	259.8	274.2
70°	291.1	276.6	257.4	245.4	250.2	264.6
72.5°	255.0	247.8	233.3	221.3	223.7	235.8
75°	223.7	218.9	209.3	194.9	194.9	209.3
77.5°	187.6	190.0	180.4	166.0	163.6	170.8
80°	149.1	154.0	149.1	134.7	129.9	129.9
82.5°	108.3	117.9	113.1	98.6	96.2	96.2
85°	67.4	74.6	72.2	62.5	62.5	55.3
87.5°	31.3	40.9	38.5	33.7	31.3	21.7
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)