

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: P565296

Luminaire Tested: **MSA-SA3D-827-U-T1**

Issue Date: 8/19/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P565296  
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-SA3D-827-U-T1  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS.  
Light Source: -  
Ballast/Driver: -

**Summary**

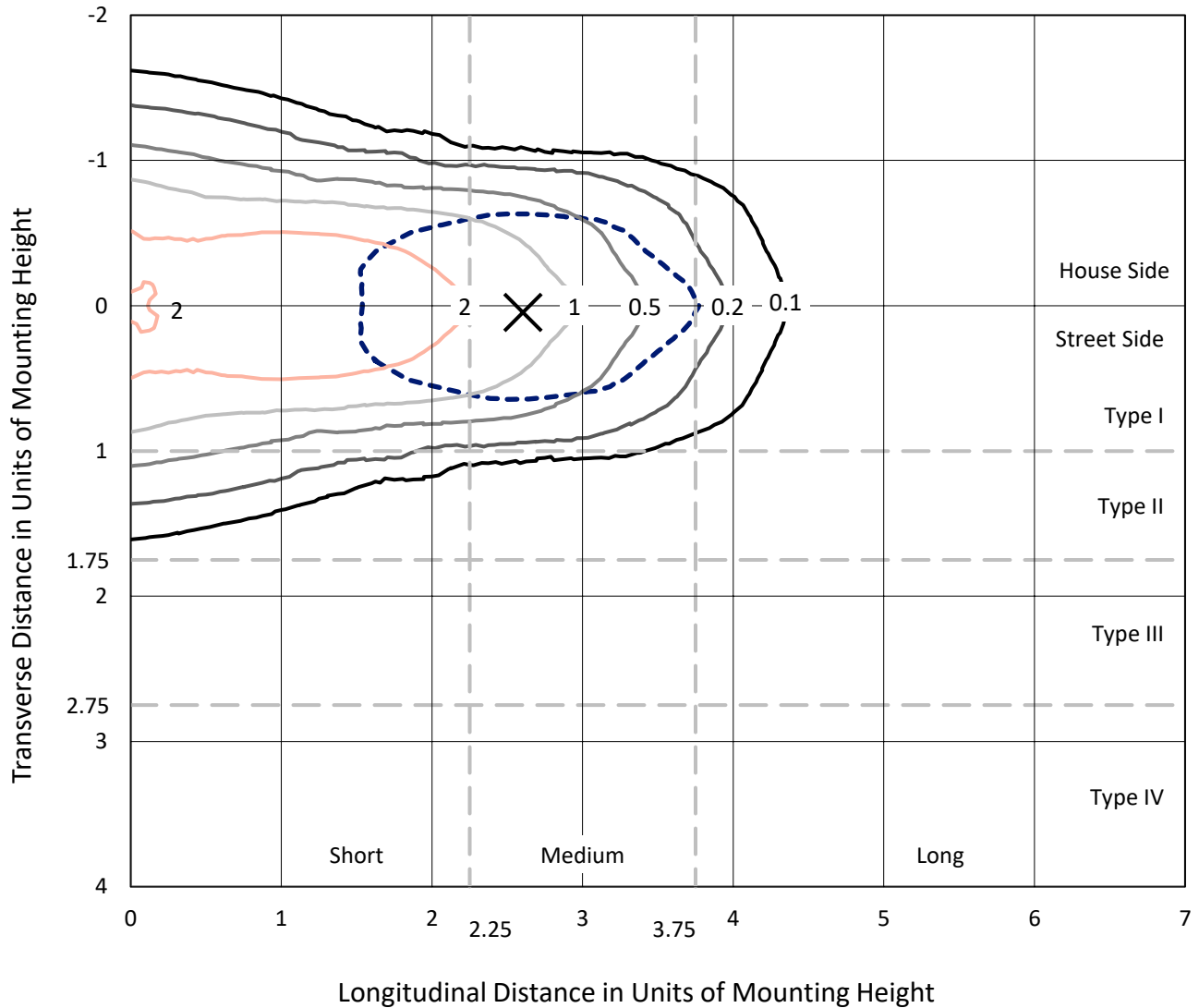
Lumens per Lamp: N/A  
Luminaire Lumens: 13229 lumens  
Efficiency: N/A  
Efficacy: 68.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B4 - U0 - G4  
  
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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

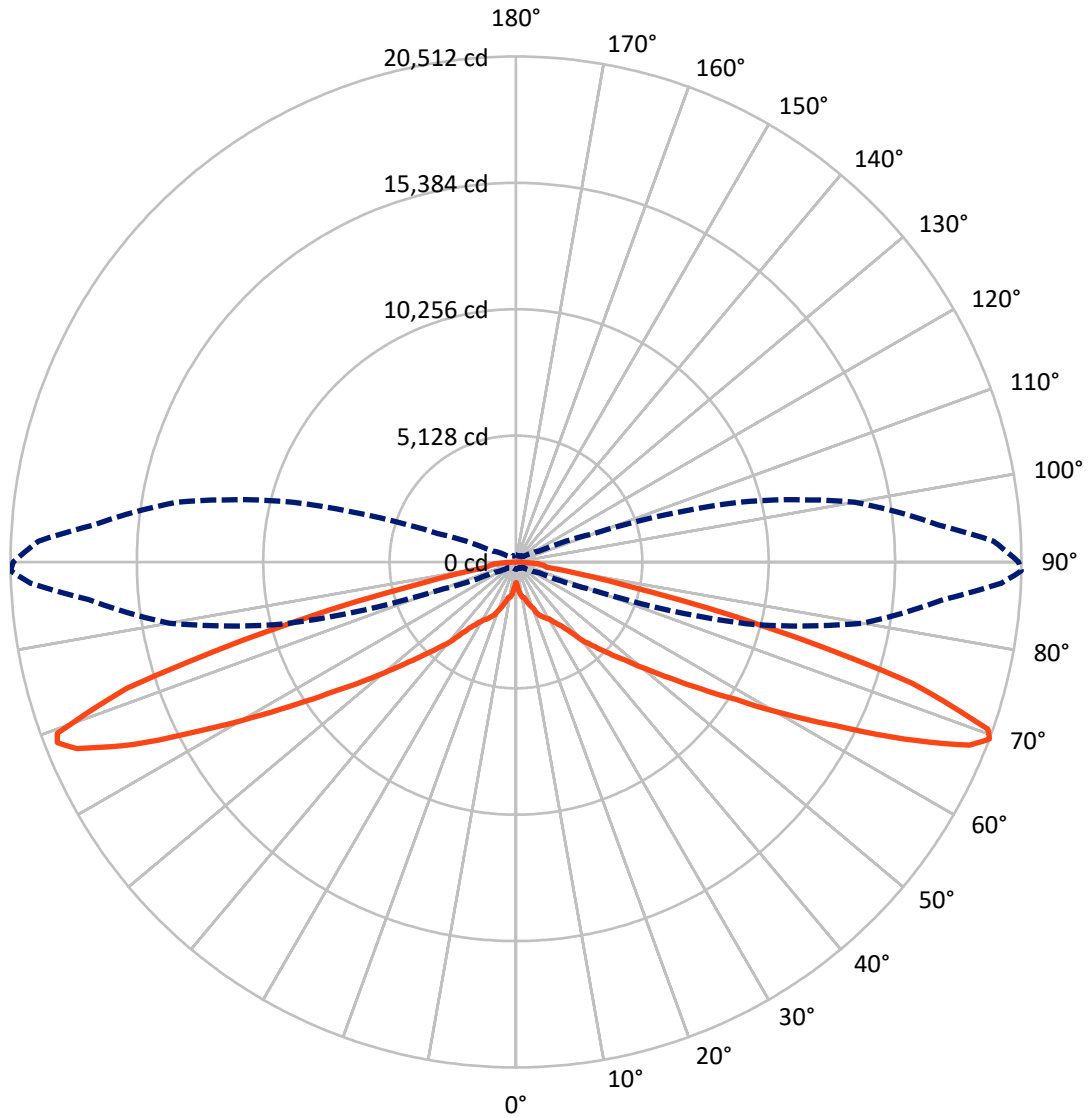
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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	6614.4	0.0	6614.4
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6614.6	0.0	6614.6
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	13229.0	0.0	13229.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.3	0.8
10°-20°	485.1	3.7
20°-30°	967.8	7.3
30°-40°	1463.7	11.1
40°-50°	2124.7	16.1
50°-60°	2791.5	21.1
60°-70°	3405.2	25.7
70°-80°	1721.6	13.0
80°-90°	164.1	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°	13229.0	100.0
0°-180°	13229.0	100.0

**Coefficient of Utilization**

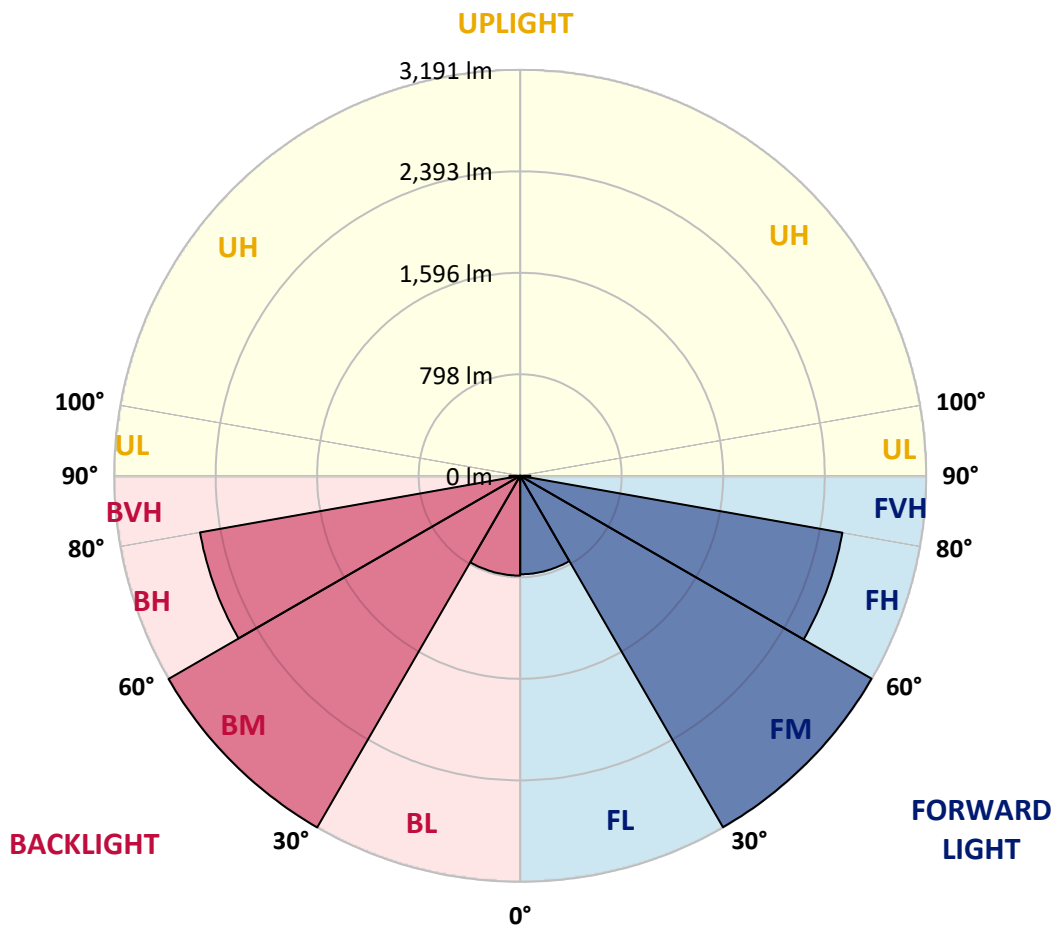


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	773.6	5.8			
FM (30°-60°)	3188.9	24.1			
FH (60°-80°)	2571.6	19.4			G2/5000
FVH (80°-90°)	80.5	0.6			G1/100
BL (0°-30°)	784.5	5.9	B2/1000		
BM (30°-60°)	3191.0	24.1	B3/5000		
BH (60°-80°)	2555.2	19.3	B4/5000		G4/5000
BVH (80°-90°)	83.6	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**  
 Type I Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	80°
0°	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9
2.5°	983.3	870.0	860.1	833.0	852.7	860.1	842.9	818.2	845.3	860.1	833.0
5°	1239.6	1072.1	1015.4	968.5	874.9	835.5	874.9	975.9	988.3	1049.9	1032.6
7.5°	1365.3	1338.2	1266.7	1111.5	961.1	877.4	983.3	1128.7	1202.7	1261.8	1323.4
10°	1459.0	1444.2	1318.5	1207.6	1146.0	1150.9	1153.4	1200.2	1264.3	1362.9	1397.4
12.5°	1481.2	1476.2	1495.9	1471.3	1476.2	1503.3	1476.2	1463.9	1500.9	1532.9	1498.4
15°	1624.1	1621.6	1629.0	1634.0	1732.5	1774.4	1732.5	1695.6	1668.5	1641.3	1698.0
17.5°	1722.7	1710.4	1712.8	1759.6	1870.5	1986.4	1964.2	1914.9	1853.3	1890.3	1937.1
20°	1776.9	1754.7	1769.5	1789.2	1976.5	2104.7	2119.5	2052.9	2015.9	2062.8	2102.2
22.5°	1828.6	1794.1	1742.4	1762.1	1934.6	2119.5	2190.9	2173.7	2200.8	2215.6	2208.2
25°	1767.0	1789.2	1732.5	1789.2	1964.2	2134.2	2277.2	2378.2	2380.7	2373.3	2427.5
27.5°	1730.1	1712.8	1616.7	1762.1	1907.5	2013.5	2378.2	2548.3	2600.0	2442.3	2548.3
30°	1666.0	1693.1	1562.5	1683.2	1868.1	2045.5	2494.1	2738.0	2661.6	2641.9	2666.6
32.5°	1626.6	1609.3	1547.7	1614.2	1754.7	2141.6	2568.0	2848.9	2945.1	2898.2	2893.3
35°	1562.5	1574.8	1478.7	1550.2	1747.3	2060.3	2617.3	3127.4	3275.3	3238.3	3208.8
37.5°	1572.3	1530.4	1461.4	1513.2	1700.5	2104.7	2740.5	3396.1	3630.2	3649.9	3514.4
40°	1498.4	1473.8	1370.3	1456.5	1611.8	2077.6	2770.1	3701.7	4098.4	4187.2	3992.5
42.5°	1392.4	1360.4	1301.2	1397.4	1560.0	1944.5	2812.0	4068.9	4574.1	4758.9	4581.5
45°	1239.6	1197.7	1168.2	1296.3	1446.7	1910.0	2767.6	4374.5	5030.0	5283.9	5278.9
47.5°	1054.8	1027.7	1012.9	1148.4	1353.0	1823.7	2676.4	4566.7	5347.9	5998.6	5900.0
50°	845.3	825.6	823.1	966.1	1195.3	1646.3	2572.9	4662.8	5831.0	6654.1	6740.4
52.5°	677.7	662.9	660.5	776.3	1000.6	1407.2	2356.0	4736.7	6291.8	7398.4	7842.0
55°	529.9	515.1	517.5	613.7	796.0	1150.9	2025.8	4652.9	6696.0	8159.9	9000.3
57.5°	433.7	419.0	421.4	475.6	608.7	879.8	1614.2	4470.6	6878.4	9101.3	10350.8
60°	382.0	367.2	359.8	384.5	468.3	662.9	1200.2	3760.8	6907.9	9882.6	11817.2
62.5°	354.9	340.1	332.7	340.1	386.9	507.7	865.0	2979.6	6737.9	10550.5	13160.3
65°	330.2	317.9	308.1	315.5	340.1	404.2	630.9	2040.6	5848.2	10856.1	14136.3
67.5°	303.1	293.3	283.4	293.3	310.5	340.1	490.4	1291.4	4384.3	10459.3	14542.9
69°	288.3	273.6	268.6	276.0	293.3	313.0	423.9	1030.2	3334.4	9705.1	14296.5
70°	273.6	263.7	256.3	268.6	283.4	298.2	382.0	874.9	2614.8	8736.6	13685.3
72.5°	241.5	234.1	229.2	241.5	253.8	263.7	313.0	623.5	1515.7	5949.3	10853.6
75°	211.9	204.6	202.1	211.9	221.8	226.7	263.7	428.8	894.6	3112.6	6511.2
77.5°	177.4	167.6	170.0	182.4	189.8	192.2	221.8	308.1	527.4	1409.7	3016.5
80°	130.6	130.6	140.5	150.3	150.3	150.3	177.4	224.3	320.4	648.2	1252.0
82.5°	91.2	93.7	96.1	110.9	113.4	103.5	135.5	162.7	199.6	283.4	433.7
85°	51.8	54.2	56.7	66.5	69.0	61.6	88.7	103.5	115.8	140.5	226.7
87.5°	19.7	22.2	29.6	34.5	37.0	27.1	41.9	49.3	49.3	59.1	101.0
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):**

	85°	87.5°	89°	90°	92.5°	95°	100°	105°	110°	115°	125°
0°	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9
2.5°	889.7	906.9	939.0	946.4	919.3	889.7	823.1	865.0	882.3	850.2	860.1
5°	1101.6	1138.6	1178.0	1131.2	1101.6	1081.9	1049.9	1052.3	1035.1	978.4	884.7
7.5°	1340.7	1298.8	1328.4	1360.4	1313.6	1316.0	1345.6	1284.0	1237.2	1141.1	966.1
10°	1451.6	1451.6	1459.0	1459.0	1439.3	1439.3	1436.8	1338.2	1281.5	1239.6	1190.3
12.5°	1459.0	1456.5	1486.1	1463.9	1468.8	1473.8	1486.1	1530.4	1515.7	1461.4	1505.8
15°	1663.5	1653.7	1663.5	1661.1	1668.5	1690.6	1680.8	1670.9	1673.4	1712.8	1779.4
17.5°	1855.8	1860.7	1850.8	1868.1	1868.1	1882.9	1917.4	1882.9	1853.3	1927.2	1979.0
20°	2077.6	2060.3	2020.9	2050.5	2057.8	2060.3	2117.0	2075.1	2033.2	2060.3	2121.9
22.5°	2301.8	2299.4	2304.3	2306.8	2316.6	2279.6	2203.2	2190.9	2218.0	2181.1	2188.5
25°	2439.8	2442.3	2454.6	2457.1	2415.2	2454.6	2481.7	2400.4	2400.4	2393.0	2343.7
27.5°	2607.4	2570.5	2585.2	2605.0	2587.7	2597.6	2565.5	2447.2	2572.9	2590.2	2393.0
30°	2720.8	2703.5	2686.3	2706.0	2723.3	2767.6	2676.4	2664.1	2674.0	2765.2	2506.4
32.5°	2959.8	2984.5	2952.5	2920.4	2952.5	2942.6	2903.2	2885.9	3009.1	2888.4	2585.2
35°	3181.6	3191.5	3194.0	3189.0	3208.8	3174.3	3174.3	3238.3	3275.3	3144.7	2609.9
37.5°	3716.4	3681.9	3610.5	3576.0	3637.6	3689.3	3536.5	3612.9	3598.1	3376.3	2794.7
40°	4100.9	4179.8	4201.9	4192.1	4201.9	4054.1	4086.1	4142.8	4076.3	3709.0	2730.6
42.5°	4662.8	4712.1	4694.8	4672.7	4682.5	4655.4	4559.3	4768.8	4529.7	4081.2	2829.2
45°	5175.4	5286.3	5293.7	5217.3	5278.9	5182.8	5222.2	5296.2	5054.7	4359.7	2802.1
47.5°	5786.6	6015.8	5929.5	5929.5	5991.2	5784.1	5877.8	5976.4	5335.6	4547.0	2654.2
50°	6691.1	6814.3	6809.4	6787.2	6814.3	6703.4	6688.6	6676.3	5766.9	4724.4	2563.1
52.5°	7713.8	7881.4	7817.3	7842.0	7879.0	7669.5	7834.6	7383.6	6306.6	4791.0	2356.0
55°	9020.0	9135.8	9071.8	8946.1	9113.7	8980.6	9034.8	8155.0	6681.2	4601.2	2011.0
57.5°	10575.1	10634.2	10528.3	10516.0	10626.9	10483.9	10392.7	9022.5	6875.9	4458.3	1606.8
60°	12391.4	12576.3	12509.7	12403.7	12504.8	12379.1	11689.0	9759.4	6836.5	3790.4	1244.6
62.5°	14570.0	14757.3	14683.4	14611.9	14676.0	14348.2	12906.5	10341.0	6659.0	3004.2	909.4
65°	16369.1	17214.4	17325.3	17327.8	17017.3	16258.2	13877.5	10567.7	5722.5	2097.3	665.4
67.5°	17552.1	19309.2	19856.3	19659.2	18947.0	17214.4	14269.4	10124.1	4418.8	1325.9	497.8
69°	17416.5	19720.8	20511.9	20401.0	19400.4	17199.6	13963.8	9377.4	3376.3	1054.8	421.4
70°	16790.5	19383.2	20322.1	20371.4	19112.1	16539.2	13419.1	8519.7	2730.6	899.5	386.9
72.5°	13399.4	15972.3	16797.9	17120.8	15871.3	13244.1	11003.9	6010.9	1582.2	628.4	313.0
75°	8300.4	9685.4	10370.5	10557.8	9801.3	8248.6	6678.8	3344.3	963.6	443.6	263.7
77.5°	3721.4	4123.1	4517.4	4517.4	4221.7	3765.7	3060.9	1616.7	547.1	315.5	221.8
80°	1247.0	1293.9	1259.4	1271.7	1222.4	1175.6	1229.8	697.4	337.6	236.6	179.9
82.5°	847.8	1064.7	1131.2	1131.2	1062.2	837.9	473.2	320.4	207.0	170.0	138.0
85°	690.1	842.9	904.5	931.6	877.4	707.3	248.9	155.3	123.2	108.4	93.7
87.5°	231.7	216.9	204.6	199.6	209.5	219.3	123.2	66.5	56.7	51.8	49.3
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°	837.9	837.9	837.9	837.9	837.9	837.9
2.5°	877.4	847.8	860.1	872.4	961.1	1027.7
5°	872.4	914.3	1008.0	1126.3	1180.5	1313.6
7.5°	897.1	1049.9	1224.8	1348.1	1397.4	1439.3
10°	1200.2	1227.3	1286.5	1404.8	1503.3	1520.6
12.5°	1550.2	1542.8	1500.9	1555.1	1505.8	1540.3
15°	1823.7	1742.4	1685.7	1678.3	1661.1	1661.1
17.5°	1974.1	1902.6	1823.7	1804.0	1752.2	1794.1
20°	2151.5	2028.3	1831.1	1811.4	1794.1	1754.7
22.5°	2117.0	1993.8	1789.2	1764.6	1855.8	1850.8
25°	2158.9	1993.8	1799.1	1772.0	1813.9	1813.9
27.5°	2055.4	1919.8	1779.4	1616.7	1744.9	1774.4
30°	2028.3	1875.5	1712.8	1567.4	1698.0	1670.9
32.5°	2171.2	1764.6	1604.4	1560.0	1656.1	1636.4
35°	2060.3	1744.9	1577.3	1495.9	1609.3	1589.6
37.5°	2107.1	1720.2	1530.4	1461.4	1552.6	1582.2
40°	2097.3	1604.4	1476.2	1387.5	1478.7	1493.5
42.5°	1932.2	1515.7	1385.0	1296.3	1343.1	1392.4
45°	1882.9	1461.4	1296.3	1173.1	1175.6	1232.2
47.5°	1791.7	1338.2	1133.7	1020.3	1020.3	1067.1
50°	1638.9	1173.1	948.8	845.3	842.9	879.8
52.5°	1412.1	1012.9	801.0	687.6	680.2	717.2
55°	1155.8	815.7	630.9	557.0	542.2	557.0
57.5°	899.5	635.8	497.8	438.7	436.2	448.5
60°	697.4	497.8	396.8	362.3	367.2	386.9
62.5°	527.4	396.8	337.6	325.3	332.7	352.4
65°	419.0	342.6	308.1	300.7	308.1	327.8
67.5°	340.1	310.5	285.9	276.0	281.0	300.7
69°	313.0	293.3	273.6	261.2	266.2	281.0
70°	298.2	283.4	263.7	251.4	256.3	271.1
72.5°	261.2	253.8	239.1	226.7	229.2	241.5
75°	229.2	224.3	214.4	199.6	199.6	214.4
77.5°	192.2	194.7	184.8	170.0	167.6	175.0
80°	152.8	157.7	152.8	138.0	133.1	133.1
82.5°	110.9	120.8	115.8	101.0	98.6	98.6
85°	69.0	76.4	73.9	64.1	64.1	56.7
87.5°	32.0	41.9	39.4	34.5	32.0	22.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)