

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: FAIL-SAFE

Report Number: P709166

Luminaire Tested: **4APN-24-26L835-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709166  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-24-26L835-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

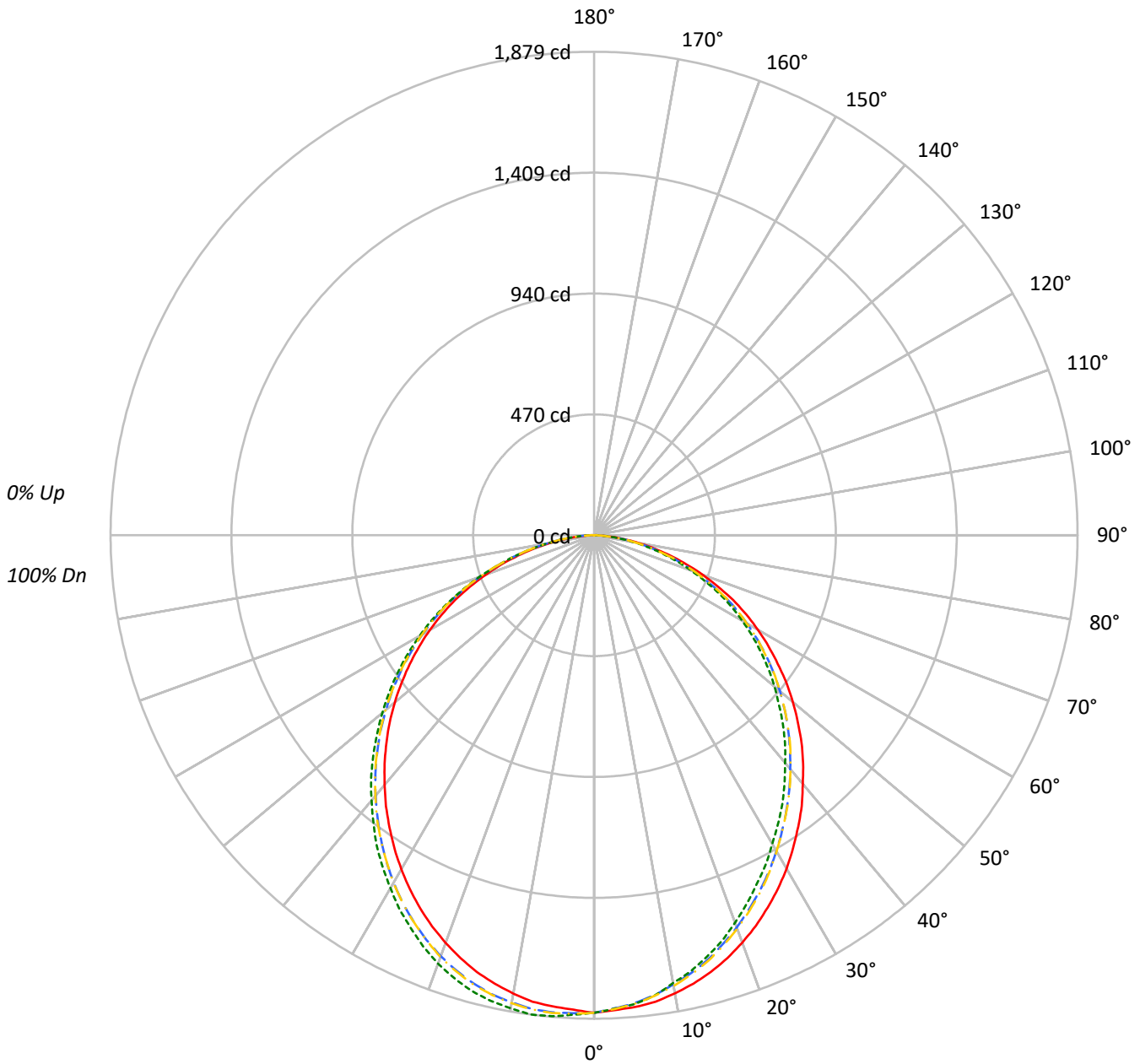
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4905.2 lumens  
Efficiency: N/A  
Efficacy: 87.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.19 / 1.32  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 56  
Input Voltage (V): 120  
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: 25 FT

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### Luminous Intensity Polar Plot



— 0°-180°    - - 45°-225°    - - - 90°-270°    - · - 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	62	62	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	41	41	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	36	36	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	32	32	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	29	29	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	17121	17121	17121	17121
5°	17045	16934	17024	17378
10°	16935	16558	16946	17487
15°	16778	16195	16788	17517
20°	16540	15727	16551	17396
25°	16250	15230	16284	17149
30°	15939	14755	15962	16868
35°	15575	14372	15611	16593
40°	15197	13911	15250	16208
45°	14872	13536	14886	15839
50°	14483	13138	14514	15421
55°	14022	12707	14075	14987
60°	13572	12265	13592	14437
65°	13011	11728	13011	13797
70°	12080	10847	12053	12816
75°	10954	9828	10876	11535
80°	9436	8453	9261	9898
85°	7262	6457	7040	7961



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.2	3.6
10°-20°	496.2	10.1
20°-30°	734.6	15.0
30°-40°	861.9	17.6
40°-50°	873.5	17.8
50°-60°	775.2	15.8
60°-70°	582.0	11.9
70°-80°	323.2	6.6
80°-90°	83.5	1.7
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°-30°	1406.0	28.7
0°-40°	2267.9	46.2
0°-60°	3916.6	79.8
0°-90°	4905.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4905.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1856	1856	1856	1856	1856	
5°	1840	1828	1838	1876	1840	175
15°	1756	1696	1758	1834	1756	495
25°	1596	1496	1600	1685	1596	736
35°	1383	1276	1386	1473	1383	865
45°	1140	1037	1141	1214	1140	879
55°	872	790	875	932	872	780
65°	596	537	596	632	596	588
75°	307	276	305	324	307	327
85°	69	61	66	75	69	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7
2.5°	1847.0	1851.3	1856.8	1851.3	1842.6	1838.2	1838.2	1837.2	1840.4	1841.5	1840.4
5°	1840.4	1842.6	1843.7	1837.2	1827.3	1821.9	1819.7	1818.6	1823.0	1828.4	1823.0
7.5°	1828.4	1827.3	1826.3	1817.5	1806.6	1799.0	1795.7	1794.7	1799.0	1804.5	1800.1
10°	1807.7	1806.6	1803.4	1792.5	1778.3	1768.5	1765.2	1762.0	1765.2	1767.4	1765.2
12.5°	1784.9	1780.5	1776.1	1764.1	1748.9	1738.0	1732.5	1728.2	1732.5	1735.8	1733.6
15°	1756.5	1750.0	1742.4	1729.3	1714.0	1702.0	1695.5	1691.1	1694.4	1695.5	1695.5
17.5°	1722.7	1715.1	1707.5	1691.1	1672.6	1659.5	1651.9	1646.5	1650.8	1653.0	1653.0
20°	1684.6	1675.9	1666.1	1648.6	1629.0	1614.9	1606.2	1599.6	1600.7	1601.8	1601.8
22.5°	1643.2	1632.3	1620.3	1601.8	1581.1	1565.8	1557.1	1549.5	1549.5	1550.6	1550.6
25°	1596.3	1584.4	1572.4	1553.8	1532.1	1515.7	1504.8	1497.2	1497.2	1496.1	1498.3
27.5°	1548.4	1535.3	1523.3	1503.7	1480.8	1464.5	1453.6	1446.0	1444.9	1443.8	1446.0
30°	1496.1	1480.8	1467.8	1447.1	1425.3	1408.9	1398.0	1389.3	1387.1	1385.0	1387.1
32.5°	1440.5	1426.4	1412.2	1390.4	1368.6	1352.3	1341.4	1332.6	1331.6	1330.5	1332.6
35°	1382.8	1367.5	1354.4	1333.7	1311.9	1295.6	1283.6	1276.0	1276.0	1276.0	1276.0
37.5°	1326.1	1310.9	1296.7	1276.0	1254.2	1237.8	1225.9	1218.2	1216.1	1215.0	1216.1
40°	1261.8	1248.7	1235.7	1216.1	1194.3	1177.9	1168.1	1159.4	1157.2	1155.0	1158.3
42.5°	1203.0	1189.9	1175.7	1157.2	1135.4	1119.1	1108.2	1100.6	1099.5	1098.4	1099.5
45°	1139.8	1124.5	1110.4	1092.9	1073.3	1058.1	1047.2	1039.5	1038.4	1037.4	1038.4
47.5°	1073.3	1061.3	1049.3	1031.9	1012.3	997.0	987.2	978.5	976.3	974.2	976.3
50°	1009.0	995.9	984.0	967.6	949.1	934.9	926.2	918.6	916.4	915.3	916.4
52.5°	941.5	929.5	918.6	902.2	887.0	872.8	863.0	856.5	855.4	854.3	855.4
55°	871.7	860.8	851.0	837.9	822.7	809.6	800.9	793.3	792.2	790.0	792.2
57.5°	804.2	795.4	785.6	771.5	757.3	745.3	737.7	731.2	730.1	729.0	730.1
60°	735.5	726.8	718.1	706.1	691.9	679.9	673.4	668.0	665.8	664.7	665.8
62.5°	666.9	658.2	651.6	639.6	626.6	616.7	610.2	604.8	602.6	601.5	602.6
65°	596.0	588.4	580.8	569.9	560.1	552.5	545.9	540.5	538.3	537.2	537.2
67.5°	520.9	514.3	508.9	499.1	488.2	480.5	474.0	469.6	467.5	466.4	467.5
70°	447.8	442.4	437.0	429.3	420.6	414.1	409.7	405.4	403.2	402.1	402.1
72.5°	378.1	373.8	368.3	361.8	355.2	348.7	344.3	341.1	338.9	337.8	337.8
75°	307.3	302.9	300.7	295.3	288.8	284.4	280.0	277.9	275.7	275.7	275.7
77.5°	240.8	238.6	236.5	231.0	226.6	222.3	219.0	217.9	215.8	215.8	215.8
80°	177.6	176.5	175.4	172.2	167.8	163.4	161.3	160.2	159.1	159.1	159.1
82.5°	119.9	119.9	118.8	115.5	112.2	111.1	109.0	107.9	107.9	107.9	107.9
85°	68.6	68.6	68.6	67.6	65.4	65.4	63.2	62.1	61.0	61.0	61.0
87.5°	27.2	28.3	29.4	28.3	26.2	26.2	26.2	26.2	26.2	26.2	26.2
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):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7
2.5°	1837.2	1839.3	1840.4	1845.9	1852.4	1856.8	1851.3	1845.9	1854.6	1864.4	1864.4
5°	1818.6	1820.8	1824.1	1830.6	1839.3	1844.8	1842.6	1838.2	1851.3	1862.2	1863.3
7.5°	1795.7	1797.9	1802.3	1808.8	1819.7	1827.3	1827.3	1828.4	1840.4	1853.5	1856.8
10°	1762.0	1767.4	1774.0	1783.8	1794.7	1804.5	1807.7	1808.8	1824.1	1838.2	1842.6
12.5°	1730.4	1735.8	1742.4	1753.3	1766.3	1777.2	1780.5	1784.9	1801.2	1817.5	1824.1
15°	1694.4	1699.9	1707.5	1718.4	1732.5	1744.5	1751.1	1757.6	1774.0	1791.4	1799.0
17.5°	1651.9	1657.4	1665.0	1678.1	1694.4	1708.6	1716.2	1723.8	1742.4	1760.9	1768.5
20°	1601.8	1609.4	1620.3	1633.4	1651.9	1668.3	1677.0	1685.7	1705.3	1723.8	1732.5
22.5°	1550.6	1559.3	1571.3	1586.5	1606.2	1623.6	1634.5	1645.4	1665.0	1683.5	1693.3
25°	1499.4	1509.2	1521.2	1537.5	1556.0	1573.5	1586.5	1599.6	1619.2	1638.8	1648.6
27.5°	1447.1	1455.8	1467.8	1484.1	1504.8	1523.3	1536.4	1550.6	1570.2	1590.9	1600.7
30°	1389.3	1399.1	1410.0	1426.4	1449.2	1469.9	1483.0	1498.3	1517.9	1538.6	1548.4
32.5°	1333.7	1342.5	1353.4	1369.7	1392.6	1414.4	1428.5	1443.8	1463.4	1484.1	1492.8
35°	1276.0	1284.7	1296.7	1313.0	1335.9	1356.6	1370.8	1386.0	1404.6	1424.2	1434.0
37.5°	1219.3	1228.0	1240.0	1256.4	1278.2	1298.9	1313.0	1328.3	1346.8	1365.3	1374.1
40°	1160.5	1169.2	1179.0	1195.4	1217.1	1237.8	1250.9	1266.2	1284.7	1304.3	1313.0
42.5°	1100.6	1109.3	1121.3	1137.6	1158.3	1176.8	1191.0	1205.2	1222.6	1240.0	1248.7
45°	1040.6	1048.2	1060.2	1075.5	1095.1	1112.5	1126.7	1140.9	1157.2	1173.6	1182.3
47.5°	978.5	987.2	997.0	1012.3	1031.9	1050.4	1064.6	1077.7	1092.9	1109.3	1116.9
50°	918.6	926.2	936.0	950.2	968.7	986.1	998.1	1011.2	1025.4	1040.6	1047.2
52.5°	856.5	864.1	873.9	888.1	903.3	919.7	930.6	942.6	956.7	970.9	977.4
55°	793.3	798.7	807.4	820.5	836.9	852.1	863.0	875.0	887.0	899.0	906.6
57.5°	731.2	737.7	746.4	758.4	772.6	786.7	796.5	806.3	818.3	830.3	835.8
60°	668.0	673.4	679.9	690.8	705.0	717.0	726.8	736.6	746.4	757.3	762.8
62.5°	603.7	609.1	615.7	626.6	638.5	649.4	658.2	666.9	675.6	685.4	690.8
65°	539.4	544.8	551.4	559.0	568.8	578.6	587.3	596.0	602.6	609.1	614.6
67.5°	469.6	475.1	481.6	488.2	496.9	506.7	513.2	520.9	527.4	535.0	538.3
70°	404.3	408.6	415.2	420.6	428.2	434.8	440.2	446.8	451.1	457.7	463.1
72.5°	340.0	344.3	349.8	355.2	359.6	365.0	371.6	377.0	382.5	389.0	391.2
75°	277.9	280.0	284.4	288.8	293.1	297.5	300.7	305.1	309.5	313.8	317.1
77.5°	216.8	219.0	223.4	226.6	229.9	233.2	235.4	237.5	241.9	245.2	248.4
80°	159.1	161.3	164.5	167.8	171.1	174.3	174.3	174.3	179.8	184.2	185.2
82.5°	107.9	109.0	111.1	113.3	115.5	117.7	117.7	116.6	119.9	123.1	125.3
85°	62.1	63.2	65.4	65.4	66.5	66.5	66.5	66.5	68.6	71.9	74.1
87.5°	25.1	25.1	26.2	26.2	27.2	27.2	26.2	25.1	27.2	30.5	31.6
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7	1855.7
2.5°	1860.0	1858.9	1862.2	1863.3	1865.5	1865.5	1866.6	1866.6	1864.4	1861.1	1862.2
5°	1861.1	1861.1	1864.4	1867.7	1872.0	1876.4	1873.1	1869.8	1867.7	1864.4	1863.3
7.5°	1855.7	1857.9	1861.1	1866.6	1872.0	1878.6	1874.2	1869.8	1864.4	1860.0	1857.9
10°	1842.6	1844.8	1850.2	1855.7	1861.1	1866.6	1862.2	1857.9	1853.5	1848.1	1845.9
12.5°	1826.3	1829.5	1836.1	1841.5	1847.0	1853.5	1848.1	1842.6	1837.2	1831.7	1828.4
15°	1802.3	1806.6	1814.3	1820.8	1828.4	1833.9	1829.5	1825.2	1818.6	1811.0	1805.6
17.5°	1771.8	1778.3	1785.9	1793.6	1800.1	1805.6	1802.3	1797.9	1790.3	1781.6	1775.0
20°	1738.0	1744.5	1751.1	1758.7	1766.3	1771.8	1767.4	1762.0	1754.3	1747.8	1741.3
22.5°	1698.8	1705.3	1712.9	1719.5	1726.0	1731.5	1726.0	1719.5	1712.9	1706.4	1699.9
25°	1654.1	1660.6	1669.3	1675.9	1680.2	1684.6	1680.2	1674.8	1668.3	1661.7	1655.2
27.5°	1607.2	1613.8	1622.5	1629.0	1633.4	1637.8	1633.4	1627.9	1621.4	1614.9	1608.3
30°	1554.9	1561.5	1570.2	1576.7	1580.0	1583.3	1578.9	1574.6	1569.1	1562.6	1556.0
32.5°	1499.4	1505.9	1512.4	1519.0	1524.4	1528.8	1524.4	1520.1	1513.5	1504.8	1498.3
35°	1440.5	1447.1	1454.7	1461.2	1467.8	1473.2	1466.7	1459.0	1453.6	1448.2	1442.7
37.5°	1378.4	1386.0	1394.8	1402.4	1404.6	1408.9	1404.6	1400.2	1394.8	1389.3	1382.8
40°	1317.4	1323.9	1331.6	1339.2	1342.5	1345.7	1341.4	1337.0	1330.5	1325.0	1318.5
42.5°	1254.2	1260.7	1267.3	1273.8	1278.2	1282.5	1278.2	1271.6	1267.3	1262.9	1257.5
45°	1188.8	1195.4	1200.8	1207.3	1210.6	1213.9	1209.5	1204.1	1199.7	1196.4	1191.0
47.5°	1122.3	1127.8	1133.2	1138.7	1140.9	1144.1	1139.8	1136.5	1133.2	1130.0	1125.6
50°	1052.6	1058.1	1064.6	1070.0	1071.1	1074.4	1070.0	1066.8	1063.5	1060.2	1057.0
52.5°	984.0	988.3	993.8	999.2	1001.4	1003.6	999.2	994.9	991.6	989.4	986.1
55°	912.0	916.4	921.8	926.2	929.5	931.7	927.3	922.9	919.7	918.6	915.3
57.5°	840.1	844.5	849.9	854.3	856.5	858.6	854.3	849.9	847.8	845.6	843.4
60°	767.1	771.5	775.8	779.1	781.3	782.4	778.0	774.7	773.7	772.6	770.4
62.5°	695.2	697.4	701.7	703.9	706.1	707.2	703.9	701.7	700.6	699.6	698.5
65°	620.0	625.5	628.7	630.9	630.9	632.0	628.7	627.6	626.6	625.5	623.3
67.5°	542.6	547.0	549.2	551.4	551.4	551.4	551.4	551.4	550.3	548.1	545.9
70°	468.6	471.8	474.0	475.1	475.1	475.1	472.9	471.8	472.9	472.9	471.8
72.5°	393.4	395.5	396.6	397.7	396.6	396.6	396.6	398.8	398.8	397.7	395.5
75°	320.4	322.5	323.6	324.7	323.6	323.6	323.6	325.8	324.7	324.7	323.6
77.5°	251.7	252.8	252.8	253.9	252.8	252.8	253.9	256.1	255.0	255.0	255.0
80°	186.3	186.3	186.3	187.4	186.3	186.3	187.4	189.6	188.5	188.5	188.5
82.5°	126.4	127.5	127.5	127.5	128.6	129.7	129.7	129.7	129.7	129.7	128.6
85°	75.2	76.3	75.2	75.2	75.2	75.2	76.3	77.4	77.4	77.4	77.4
87.5°	32.7	33.8	32.7	31.6	30.5	30.5	32.7	34.9	34.9	33.8	33.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P709166  
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**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1855.7	1855.7	1855.7	1855.7
2.5°	1866.6	1866.6	1856.8	1847.0
5°	1865.5	1863.3	1852.4	1840.4
7.5°	1858.9	1855.7	1841.5	1828.4
10°	1843.7	1839.3	1824.1	1807.7
12.5°	1825.2	1818.6	1801.2	1784.9
15°	1801.2	1793.6	1775.0	1756.5
17.5°	1769.6	1760.9	1742.4	1722.7
20°	1735.8	1726.0	1705.3	1684.6
22.5°	1694.4	1685.7	1663.9	1643.2
25°	1649.7	1639.9	1618.1	1596.3
27.5°	1601.8	1590.9	1569.1	1548.4
30°	1549.5	1538.6	1516.8	1496.1
32.5°	1493.9	1485.2	1463.4	1440.5
35°	1437.3	1426.4	1404.6	1382.8
37.5°	1377.3	1367.5	1346.8	1326.1
40°	1314.1	1304.3	1282.5	1261.8
42.5°	1252.0	1243.3	1222.6	1203.0
45°	1185.5	1176.8	1157.2	1139.8
47.5°	1119.1	1110.4	1091.8	1073.3
50°	1051.5	1042.8	1025.4	1009.0
52.5°	980.7	974.2	957.8	941.5
55°	909.9	902.2	885.9	871.7
57.5°	839.0	833.6	818.3	804.2
60°	766.0	759.5	747.5	735.5
62.5°	695.2	689.8	677.8	666.9
65°	620.0	615.7	605.8	596.0
67.5°	542.6	539.4	529.6	520.9
70°	468.6	463.1	455.5	447.8
72.5°	393.4	391.2	384.6	378.1
75°	321.4	319.3	312.7	307.3
77.5°	253.9	251.7	246.3	240.8
80°	187.4	186.3	182.0	177.6
82.5°	128.6	127.5	124.2	119.9
85°	77.4	75.2	71.9	68.6
87.5°	33.8	32.7	29.4	27.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)