

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: P709200

Luminaire Tested: **4APN-32-34L950-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709200  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-32-34L950-UNV  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

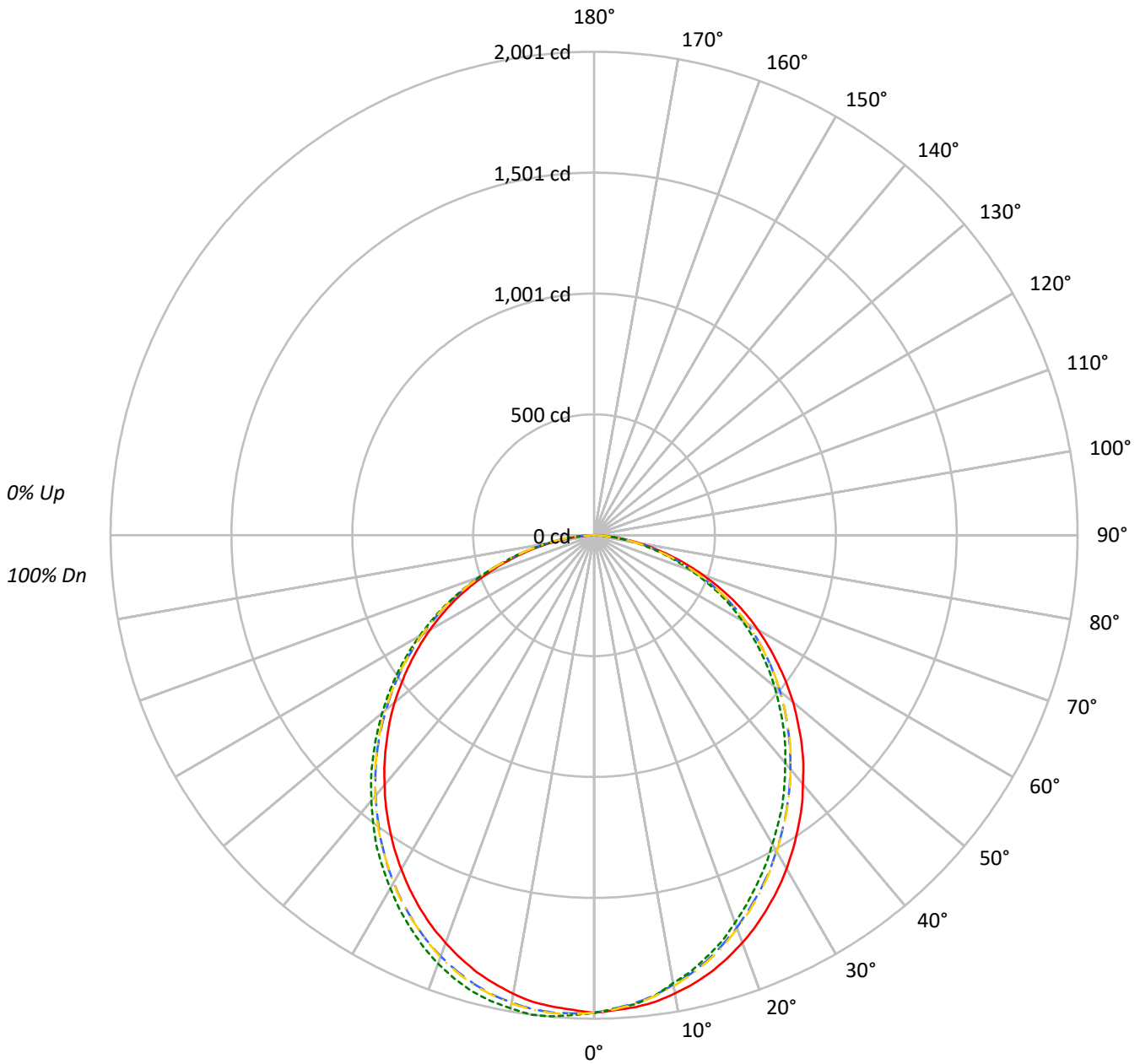
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5225.7 lumens  
Efficiency: N/A  
Efficacy: 71.6 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): 73  
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°	18239	18239	18239	18239
5°	18159	18040	18137	18514
10°	18042	17640	18053	18629
15°	17874	17253	17885	18661
20°	17621	16754	17632	18532
25°	17312	16225	17348	18270
30°	16980	15718	17005	17969
35°	16592	15310	16631	17677
40°	16191	14820	16246	17266
45°	15843	14419	15858	16873
50°	15428	13996	15463	16429
55°	14939	13537	14995	15965
60°	14459	13066	14480	15380
65°	13863	12494	13863	14699
70°	12870	11556	12838	13652
75°	11671	10470	11585	12291
80°	10052	9006	9867	10547
85°	7738	6881	7495	8479



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.7	3.6
10°-20°	528.6	10.1
20°-30°	782.6	15.0
30°-40°	918.2	17.6
40°-50°	930.5	17.8
50°-60°	825.9	15.8
60°-70°	620.0	11.9
70°-80°	344.3	6.6
80°-90°	88.9	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°	1497.9	28.7
0°-40°	2416.1	46.2
0°-60°	4172.5	79.8
0°-90°	5225.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5225.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1977	1977	1977	1977	1977	
5°	1961	1948	1958	1999	1961	186
15°	1871	1806	1872	1954	1871	527
25°	1701	1594	1704	1795	1701	784
35°	1473	1359	1477	1570	1473	922
45°	1214	1105	1215	1293	1214	936
55°	929	842	932	992	929	831
65°	635	572	635	673	635	626
75°	327	294	325	345	327	348
85°	73	65	71	80	73	88
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°	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9
2.5°	1967.6	1972.3	1978.1	1972.3	1963.0	1958.3	1958.3	1957.2	1960.7	1961.8	1960.7
5°	1960.7	1963.0	1964.1	1957.2	1946.7	1940.9	1938.6	1937.4	1942.1	1947.9	1942.1
7.5°	1947.9	1946.7	1945.6	1936.3	1924.7	1916.5	1913.1	1911.9	1916.5	1922.4	1917.7
10°	1925.8	1924.7	1921.2	1909.6	1894.5	1884.0	1880.6	1877.1	1880.6	1882.9	1880.6
12.5°	1901.5	1896.8	1892.2	1879.4	1863.1	1851.5	1845.7	1841.1	1845.7	1849.2	1846.9
15°	1871.3	1864.3	1856.2	1842.3	1826.0	1813.2	1806.3	1801.6	1805.1	1806.3	1806.3
17.5°	1835.3	1827.2	1819.0	1801.6	1781.9	1768.0	1759.8	1754.0	1758.7	1761.0	1761.0
20°	1794.7	1785.4	1774.9	1756.4	1735.5	1720.4	1711.1	1704.1	1705.3	1706.4	1706.4
22.5°	1750.5	1738.9	1726.2	1706.4	1684.4	1668.1	1658.8	1650.7	1650.7	1651.9	1651.9
25°	1700.6	1687.9	1675.1	1655.4	1632.1	1614.7	1603.1	1595.0	1595.0	1593.8	1596.2
27.5°	1649.6	1635.6	1622.9	1602.0	1577.6	1560.2	1548.6	1540.4	1539.3	1538.1	1540.4
30°	1593.8	1577.6	1563.7	1541.6	1518.4	1501.0	1489.4	1480.1	1477.8	1475.4	1477.8
32.5°	1534.6	1519.5	1504.4	1481.2	1458.0	1440.6	1429.0	1419.7	1418.5	1417.4	1419.7
35°	1473.1	1456.9	1442.9	1420.9	1397.7	1380.2	1367.5	1359.3	1359.3	1359.3	1359.3
37.5°	1412.7	1396.5	1381.4	1359.3	1336.1	1318.7	1305.9	1297.8	1295.5	1294.3	1295.5
40°	1344.3	1330.3	1316.4	1295.5	1272.3	1254.9	1244.4	1235.1	1232.8	1230.5	1234.0
42.5°	1281.6	1267.6	1252.5	1232.8	1209.6	1192.2	1180.6	1172.4	1171.3	1170.1	1171.3
45°	1214.2	1198.0	1182.9	1164.3	1143.4	1127.2	1115.6	1107.4	1106.3	1105.1	1106.3
47.5°	1143.4	1130.7	1117.9	1099.3	1078.4	1062.2	1051.7	1042.4	1040.1	1037.8	1040.1
50°	1074.9	1061.0	1048.2	1030.8	1011.1	996.0	986.7	978.6	976.3	975.1	976.3
52.5°	1003.0	990.2	978.6	961.2	944.9	929.8	919.4	912.4	911.3	910.1	911.3
55°	928.7	917.1	906.6	892.7	876.4	862.5	853.2	845.1	843.9	841.6	843.9
57.5°	856.7	847.4	837.0	821.9	806.8	794.0	785.9	778.9	777.8	776.6	777.8
60°	783.6	774.3	765.0	752.2	737.1	724.4	717.4	711.6	709.3	708.1	709.3
62.5°	710.4	701.1	694.2	681.4	667.5	657.0	650.1	644.3	641.9	640.8	641.9
65°	635.0	626.9	618.7	607.1	596.7	588.5	581.6	575.8	573.5	572.3	572.3
67.5°	554.9	547.9	542.1	531.7	520.1	511.9	505.0	500.3	498.0	496.8	498.0
70°	477.1	471.3	465.5	457.4	448.1	441.1	436.5	431.8	429.5	428.4	428.4
72.5°	402.8	398.2	392.4	385.4	378.4	371.5	366.8	363.3	361.0	359.9	359.9
75°	327.4	322.7	320.4	314.6	307.6	303.0	298.3	296.0	293.7	293.7	293.7
77.5°	256.5	254.2	251.9	246.1	241.5	236.8	233.3	232.2	229.8	229.8	229.8
80°	189.2	188.1	186.9	183.4	178.8	174.1	171.8	170.6	169.5	169.5	169.5
82.5°	127.7	127.7	126.5	123.0	119.6	118.4	116.1	114.9	114.9	114.9	114.9
85°	73.1	73.1	73.1	72.0	69.7	69.7	67.3	66.2	65.0	65.0	65.0
87.5°	29.0	30.2	31.3	30.2	27.9	27.9	27.9	27.9	27.9	27.9	27.9
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°	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9
2.5°	1957.2	1959.5	1960.7	1966.5	1973.4	1978.1	1972.3	1966.5	1975.8	1986.2	1986.2
5°	1937.4	1939.8	1943.2	1950.2	1959.5	1965.3	1963.0	1958.3	1972.3	1983.9	1985.0
7.5°	1913.1	1915.4	1920.0	1927.0	1938.6	1946.7	1946.7	1947.9	1960.7	1974.6	1978.1
10°	1877.1	1882.9	1889.8	1900.3	1911.9	1922.4	1925.8	1927.0	1943.2	1958.3	1963.0
12.5°	1843.4	1849.2	1856.2	1867.8	1881.7	1893.3	1896.8	1901.5	1918.9	1936.3	1943.2
15°	1805.1	1810.9	1819.0	1830.6	1845.7	1858.5	1865.5	1872.4	1889.8	1908.4	1916.5
17.5°	1759.8	1765.6	1773.8	1787.7	1805.1	1820.2	1828.3	1836.5	1856.2	1875.9	1884.0
20°	1706.4	1714.6	1726.2	1740.1	1759.8	1777.2	1786.5	1795.8	1816.7	1836.5	1845.7
22.5°	1651.9	1661.2	1673.9	1690.2	1711.1	1729.7	1741.3	1752.9	1773.8	1793.5	1803.9
25°	1597.3	1607.8	1620.5	1637.9	1657.7	1676.3	1690.2	1704.1	1725.0	1745.9	1756.4
27.5°	1541.6	1550.9	1563.7	1581.1	1603.1	1622.9	1636.8	1651.9	1672.8	1694.8	1705.3
30°	1480.1	1490.5	1502.1	1519.5	1543.9	1566.0	1579.9	1596.2	1617.1	1639.1	1649.6
32.5°	1420.9	1430.2	1441.8	1459.2	1483.6	1506.8	1521.9	1538.1	1559.0	1581.1	1590.4
35°	1359.3	1368.6	1381.4	1398.8	1423.2	1445.2	1460.3	1476.6	1496.3	1517.2	1527.7
37.5°	1299.0	1308.3	1321.0	1338.4	1361.7	1383.7	1398.8	1415.1	1434.8	1454.5	1463.8
40°	1236.3	1245.6	1256.0	1273.4	1296.7	1318.7	1332.6	1348.9	1368.6	1389.5	1398.8
42.5°	1172.4	1181.7	1194.5	1211.9	1234.0	1253.7	1268.8	1283.9	1302.5	1321.0	1330.3
45°	1108.6	1116.7	1129.5	1145.8	1166.6	1185.2	1200.3	1215.4	1232.8	1250.2	1259.5
47.5°	1042.4	1051.7	1062.2	1078.4	1099.3	1119.1	1134.1	1148.1	1164.3	1181.7	1189.9
50°	978.6	986.7	997.2	1012.3	1032.0	1050.6	1063.3	1077.3	1092.4	1108.6	1115.6
52.5°	912.4	920.5	931.0	946.1	962.3	979.7	991.4	1004.1	1019.2	1034.3	1041.3
55°	845.1	850.9	860.2	874.1	891.5	907.8	919.4	932.2	944.9	957.7	965.8
57.5°	778.9	785.9	795.2	807.9	823.0	838.1	848.6	859.0	871.8	884.6	890.4
60°	711.6	717.4	724.4	736.0	751.1	763.8	774.3	784.7	795.2	806.8	812.6
62.5°	643.1	648.9	655.9	667.5	680.3	691.9	701.1	710.4	719.7	730.2	736.0
65°	574.6	580.4	587.4	595.5	606.0	616.4	625.7	635.0	641.9	648.9	654.7
67.5°	500.3	506.1	513.1	520.1	529.3	539.8	546.8	554.9	561.8	570.0	573.5
70°	430.7	435.3	442.3	448.1	456.2	463.2	469.0	475.9	480.6	487.6	493.4
72.5°	362.2	366.8	372.6	378.4	383.1	388.9	395.8	401.7	407.5	414.4	416.7
75°	296.0	298.3	303.0	307.6	312.3	316.9	320.4	325.0	329.7	334.3	337.8
77.5°	231.0	233.3	238.0	241.5	244.9	248.4	250.7	253.1	257.7	261.2	264.7
80°	169.5	171.8	175.3	178.8	182.3	185.7	185.7	185.7	191.5	196.2	197.3
82.5°	114.9	116.1	118.4	120.7	123.0	125.4	125.4	124.2	127.7	131.2	133.5
85°	66.2	67.3	69.7	69.7	70.8	70.8	70.8	70.8	73.1	76.6	78.9
87.5°	26.7	26.7	27.9	27.9	29.0	29.0	27.9	26.7	29.0	32.5	33.7
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°	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9	1976.9
2.5°	1981.6	1980.4	1983.9	1985.0	1987.4	1987.4	1988.5	1988.5	1986.2	1982.7	1983.9
5°	1982.7	1982.7	1986.2	1989.7	1994.3	1999.0	1995.5	1992.0	1989.7	1986.2	1985.0
7.5°	1976.9	1979.2	1982.7	1988.5	1994.3	2001.3	1996.6	1992.0	1986.2	1981.6	1979.2
10°	1963.0	1965.3	1971.1	1976.9	1982.7	1988.5	1983.9	1979.2	1974.6	1968.8	1966.5
12.5°	1945.6	1949.1	1956.0	1961.8	1967.6	1974.6	1968.8	1963.0	1957.2	1951.4	1947.9
15°	1920.0	1924.7	1932.8	1939.8	1947.9	1953.7	1949.1	1944.4	1937.4	1929.3	1923.5
17.5°	1887.5	1894.5	1902.6	1910.7	1917.7	1923.5	1920.0	1915.4	1907.3	1898.0	1891.0
20°	1851.5	1858.5	1865.5	1873.6	1881.7	1887.5	1882.9	1877.1	1869.0	1862.0	1855.0
22.5°	1809.8	1816.7	1824.8	1831.8	1838.8	1844.6	1838.8	1831.8	1824.8	1817.9	1810.9
25°	1762.2	1769.1	1778.4	1785.4	1790.0	1794.7	1790.0	1784.2	1777.2	1770.3	1763.3
27.5°	1712.2	1719.2	1728.5	1735.5	1740.1	1744.7	1740.1	1734.3	1727.3	1720.4	1713.4
30°	1656.5	1663.5	1672.8	1679.7	1683.2	1686.7	1682.1	1677.4	1671.6	1664.6	1657.7
32.5°	1597.3	1604.3	1611.2	1618.2	1624.0	1628.7	1624.0	1619.4	1612.4	1603.1	1596.2
35°	1534.6	1541.6	1549.7	1556.7	1563.7	1569.5	1562.5	1554.4	1548.6	1542.8	1537.0
37.5°	1468.5	1476.6	1485.9	1494.0	1496.3	1501.0	1496.3	1491.7	1485.9	1480.1	1473.1
40°	1403.5	1410.4	1418.5	1426.7	1430.2	1433.6	1429.0	1424.4	1417.4	1411.6	1404.6
42.5°	1336.1	1343.1	1350.1	1357.0	1361.7	1366.3	1361.7	1354.7	1350.1	1345.4	1339.6
45°	1266.5	1273.4	1279.2	1286.2	1289.7	1293.2	1288.5	1282.7	1278.1	1274.6	1268.8
47.5°	1195.7	1201.5	1207.3	1213.1	1215.4	1218.9	1214.2	1210.8	1207.3	1203.8	1199.1
50°	1121.4	1127.2	1134.1	1139.9	1141.1	1144.6	1139.9	1136.5	1133.0	1129.5	1126.0
52.5°	1048.2	1052.9	1058.7	1064.5	1066.8	1069.1	1064.5	1059.8	1056.4	1054.0	1050.6
55°	971.6	976.3	982.1	986.7	990.2	992.5	987.9	983.2	979.7	978.6	975.1
57.5°	895.0	899.7	905.5	910.1	912.4	914.7	910.1	905.5	903.1	900.8	898.5
60°	817.2	821.9	826.5	830.0	832.3	833.5	828.8	825.4	824.2	823.0	820.7
62.5°	740.6	742.9	747.6	749.9	752.2	753.4	749.9	747.6	746.4	745.3	744.1
65°	660.5	666.3	669.8	672.1	672.1	673.3	669.8	668.6	667.5	666.3	664.0
67.5°	578.1	582.7	585.1	587.4	587.4	587.4	587.4	587.4	586.2	583.9	581.6
70°	499.2	502.6	505.0	506.1	506.1	506.1	503.8	502.6	503.8	503.8	502.6
72.5°	419.1	421.4	422.5	423.7	422.5	422.5	422.5	424.9	424.9	423.7	421.4
75°	341.3	343.6	344.8	345.9	344.8	344.8	344.8	347.1	345.9	345.9	344.8
77.5°	268.2	269.3	269.3	270.5	269.3	269.3	270.5	272.8	271.6	271.6	271.6
80°	198.5	198.5	198.5	199.7	198.5	198.5	199.7	202.0	200.8	200.8	200.8
82.5°	134.7	135.8	135.8	135.8	137.0	138.1	138.1	138.1	138.1	138.1	137.0
85°	80.1	81.3	80.1	80.1	80.1	80.1	81.3	82.4	82.4	82.4	82.4
87.5°	34.8	36.0	34.8	33.7	32.5	32.5	34.8	37.1	37.1	36.0	36.0
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: P709200  
 CATALOG NUMBER: 4APN-32-34L950-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	1976.9	1976.9	1976.9	1976.9
2.5°	1988.5	1988.5	1978.1	1967.6
5°	1987.4	1985.0	1973.4	1960.7
7.5°	1980.4	1976.9	1961.8	1947.9
10°	1964.1	1959.5	1943.2	1925.8
12.5°	1944.4	1937.4	1918.9	1901.5
15°	1918.9	1910.7	1891.0	1871.3
17.5°	1885.2	1875.9	1856.2	1835.3
20°	1849.2	1838.8	1816.7	1794.7
22.5°	1805.1	1795.8	1772.6	1750.5
25°	1757.5	1747.1	1723.8	1700.6
27.5°	1706.4	1694.8	1671.6	1649.6
30°	1650.7	1639.1	1615.9	1593.8
32.5°	1591.5	1582.2	1559.0	1534.6
35°	1531.1	1519.5	1496.3	1473.1
37.5°	1467.3	1456.9	1434.8	1412.7
40°	1400.0	1389.5	1366.3	1344.3
42.5°	1333.8	1324.5	1302.5	1281.6
45°	1263.0	1253.7	1232.8	1214.2
47.5°	1192.2	1182.9	1163.2	1143.4
50°	1120.2	1110.9	1092.4	1074.9
52.5°	1044.8	1037.8	1020.4	1003.0
55°	969.3	961.2	943.8	928.7
57.5°	893.8	888.0	871.8	856.7
60°	816.1	809.1	796.3	783.6
62.5°	740.6	734.8	722.0	710.4
65°	660.5	655.9	645.4	635.0
67.5°	578.1	574.6	564.2	554.9
70°	499.2	493.4	485.2	477.1
72.5°	419.1	416.7	409.8	402.8
75°	342.4	340.1	333.2	327.4
77.5°	270.5	268.2	262.4	256.5
80°	199.7	198.5	193.9	189.2
82.5°	137.0	135.8	132.3	127.7
85°	82.4	80.1	76.6	73.1
87.5°	36.0	34.8	31.3	29.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)