

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: P

Luminaire Tested: **4APN-32-34L835-UNV-NP**

Issue Date: 06/06/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 06/06/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-32-34L835-UNV-NP  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ Nature Pattern Lens  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

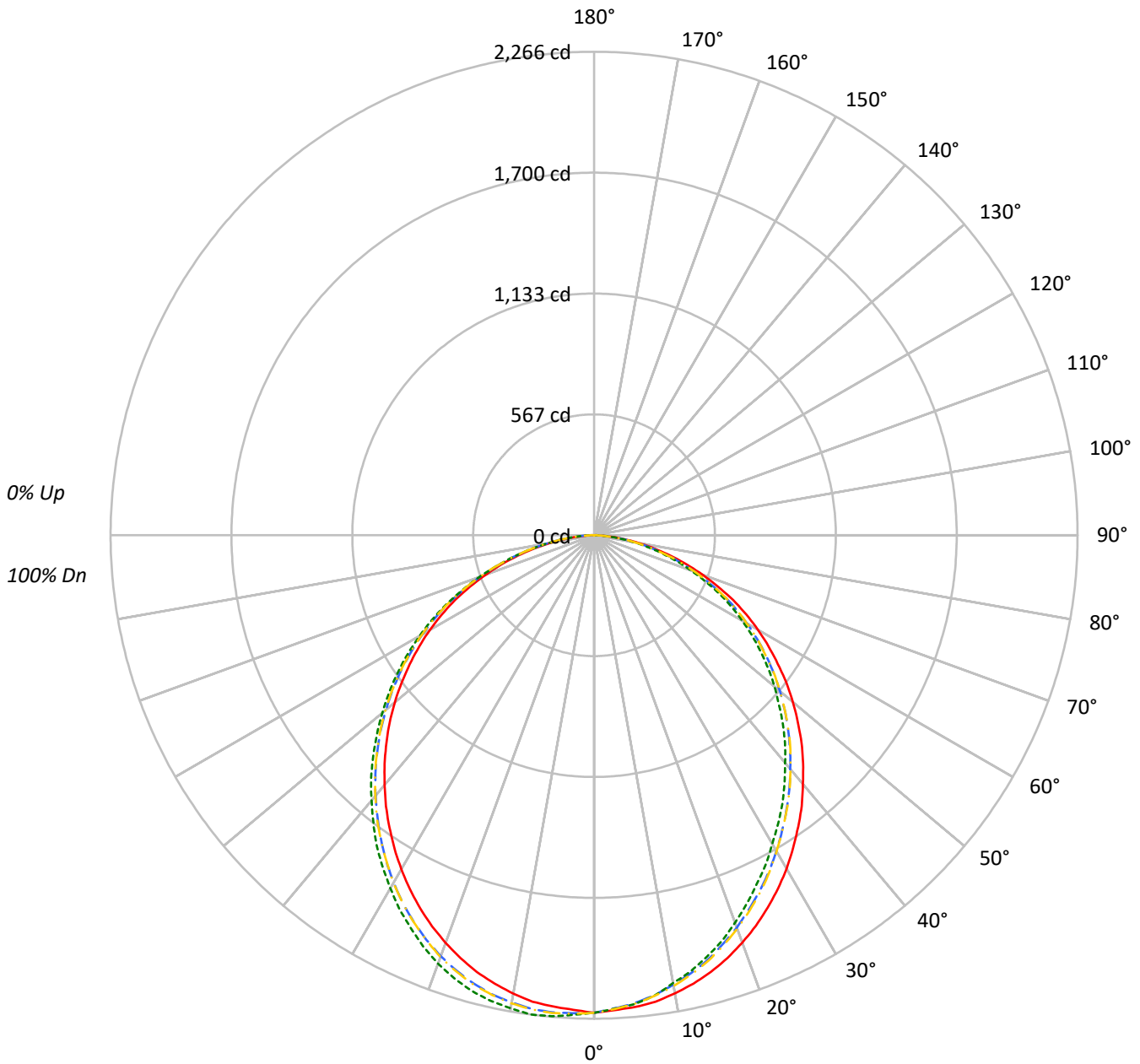
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5915.7 lumens  
Efficiency: N/A  
Efficacy: 81.0 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 (A<sub>in</sub>): 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°	20648	20648	20648	20648
5°	20556	20422	20532	20959
10°	20425	19969	20437	21090
15°	20234	19531	20247	21125
20°	19947	18967	19960	20979
25°	19599	18368	19638	20682
30°	19222	17795	19250	20343
35°	18782	17332	18827	20011
40°	18328	16777	18391	19546
45°	17936	16324	17952	19102
50°	17467	15845	17504	18598
55°	16911	15325	16973	18072
60°	16369	14791	16391	17412
65°	15692	14144	15692	16640
70°	14570	13080	14534	15454
75°	13211	11853	13118	13913
80°	11381	10196	11168	11939
85°	8765	7791	8479	9591



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.4	3.6
10°-20°	598.4	10.1
20°-30°	885.9	15.0
30°-40°	1039.4	17.6
40°-50°	1053.4	17.8
50°-60°	934.9	15.8
60°-70°	701.9	11.9
70°-80°	389.8	6.6
80°-90°	100.6	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°	1695.7	28.7
0°-40°	2735.1	46.2
0°-60°	4723.4	79.8
0°-90°	5915.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5915.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2238	2238	2238	2238	2238	
5°	2220	2205	2217	2263	2220	211
15°	2118	2045	2120	2212	2118	597
25°	1925	1804	1929	2032	1925	887
35°	1668	1539	1672	1777	1668	1044
45°	1375	1251	1376	1464	1375	1060
55°	1051	953	1055	1124	1051	941
65°	719	648	719	762	719	709
75°	371	332	368	390	371	394
85°	83	74	80	91	83	100
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°	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0
2.5°	2227.5	2232.7	2239.3	2232.7	2222.2	2216.9	2216.9	2215.7	2219.5	2220.9	2219.5
5°	2219.5	2222.2	2223.5	2215.7	2203.8	2197.2	2194.6	2193.3	2198.5	2205.1	2198.5
7.5°	2205.1	2203.8	2202.5	2192.0	2178.8	2169.7	2165.7	2164.4	2169.7	2176.2	2170.9
10°	2180.2	2178.8	2174.9	2161.7	2144.7	2132.9	2128.9	2124.9	2128.9	2131.5	2128.9
12.5°	2152.5	2147.2	2142.0	2127.6	2109.2	2096.1	2089.4	2084.2	2089.4	2093.4	2090.8
15°	2118.4	2110.5	2101.3	2085.6	2067.1	2052.6	2044.8	2039.6	2043.4	2044.8	2044.8
17.5°	2077.6	2068.4	2059.2	2039.6	2017.2	2001.4	1992.3	1985.6	1990.9	1993.5	1993.5
20°	2031.6	2021.1	2009.3	1988.3	1964.6	1947.5	1937.0	1929.1	1930.5	1931.8	1931.8
22.5°	1981.7	1968.6	1954.1	1931.8	1906.8	1888.4	1877.9	1868.7	1868.7	1870.0	1870.0
25°	1925.2	1910.8	1896.3	1874.0	1847.7	1828.0	1814.8	1805.6	1805.6	1804.3	1806.9
27.5°	1867.4	1851.6	1837.2	1813.5	1785.9	1766.2	1753.1	1743.9	1742.5	1741.2	1743.9
30°	1804.3	1785.9	1770.1	1745.2	1718.9	1699.2	1686.1	1675.6	1672.9	1670.3	1672.9
32.5°	1737.2	1720.2	1703.1	1676.8	1650.6	1630.8	1617.6	1607.1	1605.8	1604.6	1607.1
35°	1667.6	1649.3	1633.4	1608.5	1582.2	1562.5	1548.0	1538.8	1538.8	1538.8	1538.8
37.5°	1599.3	1580.9	1563.8	1538.8	1512.5	1492.8	1478.4	1469.2	1466.5	1465.2	1466.5
40°	1521.8	1506.0	1490.2	1466.5	1440.3	1420.6	1408.7	1398.2	1395.6	1393.0	1396.9
42.5°	1450.8	1435.0	1417.9	1395.6	1369.4	1349.6	1336.4	1327.3	1325.9	1324.6	1325.9
45°	1374.6	1356.2	1339.1	1318.1	1294.4	1276.0	1262.9	1253.6	1252.4	1251.1	1252.4
47.5°	1294.4	1279.9	1265.5	1244.5	1220.8	1202.5	1190.6	1180.1	1177.5	1174.8	1177.5
50°	1216.9	1201.1	1186.6	1167.0	1144.6	1127.5	1117.0	1107.8	1105.2	1103.9	1105.2
52.5°	1135.4	1121.0	1107.8	1088.1	1069.7	1052.6	1040.8	1032.9	1031.6	1030.2	1031.6
55°	1051.3	1038.2	1026.4	1010.6	992.2	976.4	965.9	956.7	955.4	952.7	955.4
57.5°	969.9	959.3	947.4	930.4	913.3	898.9	889.6	881.8	880.5	879.1	880.5
60°	887.1	876.5	866.0	851.6	834.5	820.0	812.1	805.6	803.0	801.6	803.0
62.5°	804.3	793.7	785.8	771.4	755.6	743.8	735.9	729.3	726.7	725.4	726.7
65°	718.8	709.7	700.4	687.3	675.5	666.2	658.4	651.8	649.2	647.9	647.9
67.5°	628.2	620.2	613.7	601.9	588.7	579.6	571.6	566.4	563.8	562.4	563.8
70°	540.1	533.6	526.9	517.8	507.3	499.4	494.1	488.8	486.3	484.9	484.9
72.5°	456.0	450.8	444.2	436.3	428.4	420.5	415.3	411.3	408.7	407.3	407.3
75°	370.6	365.3	362.7	356.2	348.2	343.0	337.7	335.1	332.5	332.5	332.5
77.5°	290.4	287.8	285.2	278.6	273.4	268.1	264.2	262.9	260.2	260.2	260.2
80°	214.2	212.9	211.6	207.6	202.4	197.1	194.4	193.2	191.9	191.9	191.9
82.5°	144.6	144.6	143.3	139.3	135.3	134.1	131.4	130.1	130.1	130.1	130.1
85°	82.8	82.8	82.8	81.5	78.8	78.8	76.2	74.9	73.6	73.6	73.6
87.5°	32.8	34.2	35.5	34.2	31.5	31.5	31.5	31.5	31.5	31.5	31.5
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):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0
2.5°	2215.7	2218.2	2219.5	2226.2	2234.0	2239.3	2232.7	2226.2	2236.7	2248.5	2248.5
5°	2193.3	2195.9	2199.9	2207.7	2218.2	2224.8	2222.2	2216.9	2232.7	2245.8	2247.2
7.5°	2165.7	2168.3	2173.5	2181.5	2194.6	2203.8	2203.8	2205.1	2219.5	2235.3	2239.3
10°	2124.9	2131.5	2139.4	2151.2	2164.4	2176.2	2180.2	2181.5	2199.9	2216.9	2222.2
12.5°	2086.9	2093.4	2101.3	2114.4	2130.2	2143.4	2147.2	2152.5	2172.2	2192.0	2199.9
15°	2043.4	2050.1	2059.2	2072.4	2089.4	2103.9	2111.8	2119.7	2139.4	2160.4	2169.7
17.5°	1992.3	1998.8	2008.0	2023.8	2043.4	2060.6	2069.7	2078.9	2101.3	2123.6	2132.9
20°	1931.8	1941.0	1954.1	1969.9	1992.3	2011.9	2022.4	2032.9	2056.6	2078.9	2089.4
22.5°	1870.0	1880.5	1895.0	1913.3	1937.0	1958.1	1971.2	1984.3	2008.0	2030.3	2042.1
25°	1808.2	1820.0	1834.5	1854.2	1876.5	1897.6	1913.3	1929.1	1952.8	1976.5	1988.3
27.5°	1745.2	1755.7	1770.1	1789.9	1814.8	1837.2	1852.9	1870.0	1893.7	1918.6	1930.5
30°	1675.6	1687.4	1700.4	1720.2	1747.8	1772.7	1788.5	1806.9	1830.5	1855.5	1867.4
32.5°	1608.5	1619.0	1632.1	1651.9	1679.4	1705.7	1722.8	1741.2	1764.9	1789.9	1800.4
35°	1538.8	1549.3	1563.8	1583.5	1611.1	1636.1	1653.1	1671.6	1693.9	1717.6	1729.4
37.5°	1470.5	1481.0	1495.5	1515.2	1541.5	1566.5	1583.5	1601.9	1624.3	1646.6	1657.1
40°	1399.5	1410.0	1421.9	1441.6	1467.9	1492.8	1508.6	1527.0	1549.3	1573.0	1583.5
42.5°	1327.3	1337.8	1352.2	1371.9	1396.9	1419.2	1436.4	1453.4	1474.5	1495.5	1506.0
45°	1255.0	1264.2	1278.6	1297.1	1320.7	1341.7	1358.8	1375.9	1395.6	1415.3	1425.9
47.5°	1180.1	1190.6	1202.5	1220.8	1244.5	1266.8	1283.9	1299.7	1318.1	1337.8	1346.9
50°	1107.8	1117.0	1128.8	1146.0	1168.3	1189.3	1203.8	1219.5	1236.6	1255.0	1262.9
52.5°	1032.9	1042.1	1053.9	1071.0	1089.4	1109.2	1122.3	1136.7	1153.8	1170.8	1178.8
55°	956.7	963.2	973.7	989.6	1009.2	1027.7	1040.8	1055.2	1069.7	1084.2	1093.4
57.5°	881.8	889.6	900.1	914.6	931.7	948.8	960.6	972.4	986.9	1001.4	1007.9
60°	805.6	812.1	820.0	833.1	850.3	864.7	876.5	888.3	900.1	913.3	919.9
62.5°	728.0	734.6	742.5	755.6	770.1	783.2	793.7	804.3	814.8	826.6	833.1
65°	650.5	657.1	664.9	674.2	686.0	697.8	708.3	718.8	726.7	734.6	741.2
67.5°	566.4	572.9	580.9	588.7	599.2	611.1	618.9	628.2	636.0	645.2	649.2
70°	487.6	492.8	500.6	507.3	516.4	524.3	530.9	538.8	544.1	551.9	558.5
72.5°	410.0	415.3	421.8	428.4	433.6	440.3	448.1	454.7	461.3	469.1	471.8
75°	335.1	337.7	343.0	348.2	353.5	358.8	362.7	368.0	373.2	378.5	382.4
77.5°	261.5	264.2	269.4	273.4	277.2	281.2	283.9	286.5	291.7	295.7	299.7
80°	191.9	194.4	198.4	202.4	206.3	210.2	210.2	210.2	216.9	222.1	223.4
82.5°	130.1	131.4	134.1	136.6	139.3	141.9	141.9	140.6	144.6	148.5	151.1
85°	74.9	76.2	78.8	78.8	80.1	80.1	80.1	80.1	82.8	86.8	89.3
87.5°	30.2	30.2	31.5	31.5	32.8	32.8	31.5	30.2	32.8	36.8	38.1
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):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0	2238.0
2.5°	2243.2	2241.9	2245.8	2247.2	2249.8	2249.8	2251.1	2251.1	2248.5	2244.5	2245.8
5°	2244.5	2244.5	2248.5	2252.4	2257.7	2263.0	2259.0	2255.0	2252.4	2248.5	2247.2
7.5°	2238.0	2240.6	2244.5	2251.1	2257.7	2265.5	2260.3	2255.0	2248.5	2243.2	2240.6
10°	2222.2	2224.8	2231.4	2238.0	2244.5	2251.1	2245.8	2240.6	2235.3	2228.8	2226.2
12.5°	2202.5	2206.4	2214.3	2220.9	2227.5	2235.3	2228.8	2222.2	2215.7	2209.0	2205.1
15°	2173.5	2178.8	2188.0	2195.9	2205.1	2211.7	2206.4	2201.2	2193.3	2184.1	2177.5
17.5°	2136.7	2144.7	2153.9	2163.0	2170.9	2177.5	2173.5	2168.3	2159.1	2148.6	2140.7
20°	2096.1	2103.9	2111.8	2121.0	2130.2	2136.7	2131.5	2124.9	2115.7	2107.9	2099.9
22.5°	2048.7	2056.6	2065.8	2073.7	2081.6	2088.1	2081.6	2073.7	2065.8	2057.9	2050.1
25°	1994.8	2002.8	2013.3	2021.1	2026.4	2031.6	2026.4	2019.8	2011.9	2004.1	1996.1
27.5°	1938.3	1946.2	1956.8	1964.6	1969.9	1975.1	1969.9	1963.3	1955.4	1947.5	1939.6
30°	1875.3	1883.2	1893.7	1901.5	1905.5	1909.5	1904.2	1899.0	1892.3	1884.5	1876.5
32.5°	1808.2	1816.2	1824.0	1831.9	1838.5	1843.7	1838.5	1833.2	1825.3	1814.8	1806.9
35°	1737.2	1745.2	1754.4	1762.2	1770.1	1776.7	1768.9	1759.6	1753.1	1746.5	1739.9
37.5°	1662.4	1671.6	1682.1	1691.3	1693.9	1699.2	1693.9	1688.6	1682.1	1675.6	1667.6
40°	1588.8	1596.6	1605.8	1615.1	1619.0	1622.9	1617.6	1612.4	1604.6	1598.0	1590.1
42.5°	1512.5	1520.5	1528.3	1536.2	1541.5	1546.7	1541.5	1533.6	1528.3	1523.1	1516.5
45°	1433.7	1441.6	1448.2	1456.0	1460.0	1464.0	1458.7	1452.2	1446.9	1442.9	1436.4
47.5°	1353.6	1360.1	1366.7	1373.2	1375.9	1379.9	1374.6	1370.6	1366.7	1362.7	1357.5
50°	1269.4	1276.0	1283.9	1290.4	1291.8	1295.7	1290.4	1286.6	1282.6	1278.6	1274.7
52.5°	1186.6	1191.9	1198.5	1205.1	1207.7	1210.3	1205.1	1199.8	1195.8	1193.3	1189.3
55°	1099.9	1105.2	1111.7	1117.0	1121.0	1123.5	1118.3	1113.0	1109.2	1107.8	1103.9
57.5°	1013.2	1018.4	1025.0	1030.2	1032.9	1035.5	1030.2	1025.0	1022.4	1019.7	1017.2
60°	925.1	930.4	935.6	939.6	942.2	943.6	938.3	934.4	933.1	931.7	929.1
62.5°	838.4	841.0	846.3	848.9	851.6	852.9	848.9	846.3	845.0	843.6	842.3
65°	747.7	754.3	758.3	760.8	760.8	762.2	758.3	757.0	755.6	754.3	751.7
67.5°	654.4	659.7	662.4	664.9	664.9	664.9	664.9	664.9	663.7	661.0	658.4
70°	565.1	569.1	571.6	572.9	572.9	572.9	570.3	569.1	570.3	570.3	569.1
72.5°	474.4	477.0	478.3	479.6	478.3	478.3	478.3	481.0	481.0	479.6	477.0
75°	386.3	389.0	390.3	391.6	390.3	390.3	390.3	393.0	391.6	391.6	390.3
77.5°	303.5	304.9	304.9	306.2	304.9	304.9	306.2	308.8	307.5	307.5	307.5
80°	224.7	224.7	224.7	226.1	224.7	224.7	226.1	228.7	227.4	227.4	227.4
82.5°	152.4	153.8	153.8	153.8	155.1	156.4	156.4	156.4	156.4	156.4	155.1
85°	90.6	92.0	90.6	90.6	90.6	90.6	92.0	93.3	93.3	93.3	93.3
87.5°	39.5	40.8	39.5	38.1	36.8	36.8	39.5	42.0	42.0	40.8	40.8
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: P  
 CATALOG NUMBER: 4APN-32-34L835-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	2238.0	2238.0	2238.0	2238.0
2.5°	2251.1	2251.1	2239.3	2227.5
5°	2249.8	2247.2	2234.0	2219.5
7.5°	2241.9	2238.0	2220.9	2205.1
10°	2223.5	2218.2	2199.9	2180.2
12.5°	2201.2	2193.3	2172.2	2152.5
15°	2172.2	2163.0	2140.7	2118.4
17.5°	2134.2	2123.6	2101.3	2077.6
20°	2093.4	2081.6	2056.6	2031.6
22.5°	2043.4	2032.9	2006.6	1981.7
25°	1989.6	1977.8	1951.5	1925.2
27.5°	1931.8	1918.6	1892.3	1867.4
30°	1868.7	1855.5	1829.2	1804.3
32.5°	1801.7	1791.2	1764.9	1737.2
35°	1733.4	1720.2	1693.9	1667.6
37.5°	1661.1	1649.3	1624.3	1599.3
40°	1584.8	1573.0	1546.7	1521.8
42.5°	1510.0	1499.4	1474.5	1450.8
45°	1429.7	1419.2	1395.6	1374.6
47.5°	1349.6	1339.1	1316.8	1294.4
50°	1268.1	1257.6	1236.6	1216.9
52.5°	1182.7	1174.8	1155.1	1135.4
55°	1097.3	1088.1	1068.4	1051.3
57.5°	1011.9	1005.3	986.9	969.9
60°	923.8	915.9	901.5	887.1
62.5°	838.4	831.8	817.4	804.3
65°	747.7	742.5	730.7	718.8
67.5°	654.4	650.5	638.7	628.2
70°	565.1	558.5	549.3	540.1
72.5°	474.4	471.8	463.9	456.0
75°	387.7	385.0	377.2	370.6
77.5°	306.2	303.5	297.0	290.4
80°	226.1	224.7	219.4	214.2
82.5°	155.1	153.8	149.8	144.6
85°	93.3	90.6	86.8	82.8
87.5°	40.8	39.5	35.5	32.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)