

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-32-34L850-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-32-34L850-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

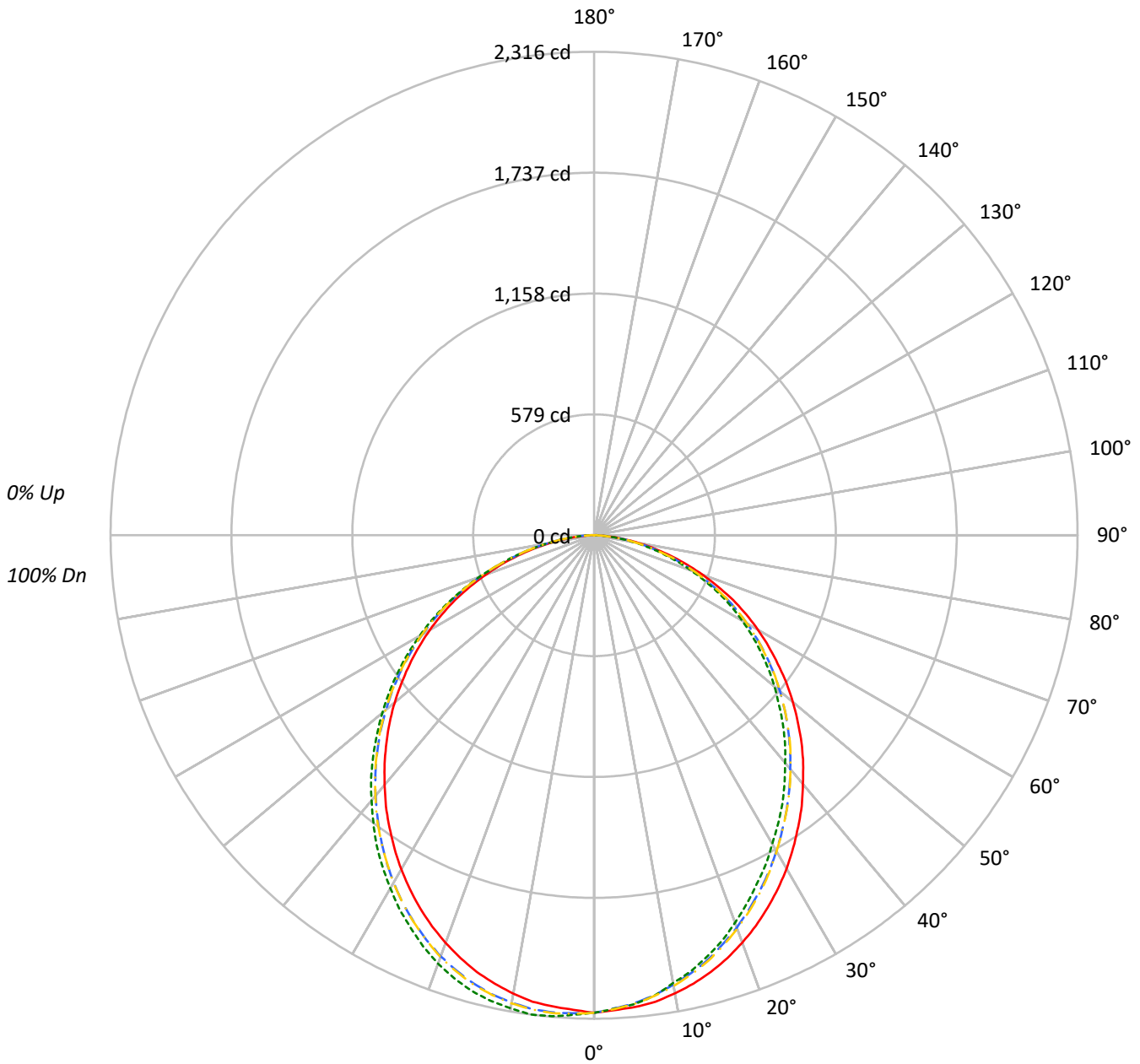
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6046.4 lumens
Efficiency: N/A
Efficacy: 82.8 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_{in}): 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

TEST NUMBER: P
CATALOG NUMBER: 4APN-32-34L850-UNV-NP

Luminous Intensity Polar Plot



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



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 CATALOG NUMBER: 4APN-32-34L850-UNV-NP

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°	21104	21104	21104	21104
5°	21011	20873	20986	21421
10°	20876	20410	20889	21556
15°	20680	19963	20694	21592
20°	20388	19386	20401	21442
25°	20031	18774	20073	21139
30°	19647	18188	19676	20791
35°	19198	17715	19243	20454
40°	18733	17148	18798	19979
45°	18331	16684	18349	19523
50°	17853	16195	17892	19010
55°	17284	15664	17350	18472
60°	16729	15118	16755	17795
65°	16039	14457	16039	17006
70°	14891	13372	14855	15800
75°	13503	12113	13407	14220
80°	11636	10419	11418	12204
85°	8956	7961	8680	9813



TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L850-UNV-NP

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.0	3.6
10°-20°	611.6	10.1
20°-30°	905.5	15.0
30°-40°	1062.4	17.6
40°-50°	1076.7	17.8
50°-60°	955.6	15.8
60°-70°	717.4	11.9
70°-80°	398.4	6.6
80°-90°	102.9	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°	1733.1	28.7
0°-40°	2795.5	46.2
0°-60°	4827.8	79.8
0°-90°	6046.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6046.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2287	2287	2287	2287	2287	
5°	2269	2254	2266	2313	2269	215
15°	2165	2090	2166	2261	2165	610
25°	1968	1844	1972	2076	1968	907
35°	1704	1573	1708	1816	1704	1067
45°	1405	1279	1406	1496	1405	1083
55°	1074	974	1079	1148	1074	962
65°	735	662	735	779	735	724
75°	379	340	376	399	379	403
85°	85	75	82	93	85	102
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-32-34L850-UNV-NP

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4
2.5°	2276.6	2282.0	2288.8	2282.0	2271.3	2265.9	2265.9	2264.5	2268.6	2270.0	2268.6
5°	2268.6	2271.3	2272.6	2264.5	2252.4	2245.7	2243.0	2241.8	2247.1	2253.8	2247.1
7.5°	2253.8	2252.4	2251.2	2240.4	2226.9	2217.5	2213.5	2212.2	2217.5	2224.2	2218.9
10°	2228.3	2226.9	2222.9	2209.5	2192.1	2180.0	2175.9	2171.9	2175.9	2178.6	2175.9
12.5°	2200.1	2194.7	2189.4	2174.5	2155.7	2142.4	2135.6	2130.3	2135.6	2139.7	2136.9
15°	2165.1	2157.1	2147.7	2131.6	2112.8	2098.0	2090.0	2084.5	2088.6	2090.0	2090.0
17.5°	2123.6	2114.1	2104.7	2084.5	2061.8	2045.6	2036.2	2029.5	2034.9	2037.5	2037.5
20°	2076.5	2065.7	2053.7	2032.2	2008.0	1990.6	1979.8	1971.8	1973.1	1974.5	1974.5
22.5°	2025.4	2012.1	1997.2	1974.5	1948.9	1930.1	1919.3	1909.9	1909.9	1911.3	1911.3
25°	1967.7	1953.0	1938.1	1915.4	1888.4	1868.3	1854.9	1845.5	1845.5	1844.2	1846.9
27.5°	1908.6	1892.5	1877.7	1853.6	1825.4	1805.2	1791.7	1782.3	1781.0	1779.6	1782.3
30°	1844.2	1825.4	1809.2	1783.7	1756.9	1736.7	1723.3	1712.5	1709.8	1707.2	1709.8
32.5°	1775.7	1758.2	1740.7	1713.9	1687.0	1666.9	1653.4	1642.6	1641.3	1640.0	1642.6
35°	1704.5	1685.7	1669.6	1644.0	1617.2	1597.0	1582.2	1572.8	1572.8	1572.8	1572.8
37.5°	1634.6	1615.8	1598.4	1572.8	1546.0	1525.8	1511.1	1501.7	1499.0	1497.6	1499.0
40°	1555.4	1539.3	1523.1	1499.0	1472.1	1452.0	1439.9	1429.1	1426.4	1423.8	1427.8
42.5°	1482.9	1466.7	1449.3	1426.4	1399.6	1379.4	1365.9	1356.5	1355.2	1353.9	1355.2
45°	1404.9	1386.1	1368.7	1347.2	1323.0	1304.2	1290.8	1281.4	1280.0	1278.7	1280.0
47.5°	1323.0	1308.2	1293.5	1272.0	1247.7	1229.0	1216.9	1206.2	1203.5	1200.8	1203.5
50°	1243.8	1227.6	1212.9	1192.7	1169.9	1152.4	1141.7	1132.3	1129.6	1128.3	1129.6
52.5°	1160.5	1145.7	1132.3	1112.1	1093.3	1075.9	1063.8	1055.7	1054.4	1053.0	1054.4
55°	1074.5	1061.1	1049.0	1032.9	1014.1	998.0	987.2	977.8	976.5	973.8	976.5
57.5°	991.2	980.5	968.4	951.0	933.5	918.7	909.3	901.3	899.9	898.6	899.9
60°	906.6	895.9	885.1	870.4	852.9	838.1	830.1	823.3	820.7	819.3	820.7
62.5°	822.1	811.3	803.2	788.4	772.3	760.2	752.2	745.4	742.8	741.4	742.8
65°	734.7	725.3	715.9	702.5	690.4	681.0	672.9	666.2	663.6	662.2	662.2
67.5°	642.0	634.0	627.2	615.2	601.7	592.3	584.3	578.9	576.2	574.9	576.2
70°	552.0	545.4	538.6	529.2	518.4	510.4	505.0	499.6	497.0	495.7	495.7
72.5°	466.1	460.7	454.0	446.0	437.9	429.8	424.4	420.4	417.8	416.4	416.4
75°	378.8	373.4	370.7	364.0	355.9	350.5	345.2	342.5	339.8	339.8	339.8
77.5°	296.8	294.1	291.4	284.7	279.4	274.0	270.0	268.7	265.9	265.9	265.9
80°	219.0	217.6	216.2	212.2	206.8	201.5	198.8	197.4	196.1	196.1	196.1
82.5°	147.7	147.7	146.4	142.4	138.3	137.0	134.3	133.0	133.0	133.0	133.0
85°	84.6	84.6	84.6	83.3	80.6	80.6	77.9	76.5	75.2	75.2	75.2
87.5°	33.6	34.9	36.2	34.9	32.3	32.3	32.3	32.3	32.3	32.3	32.3
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-32-34L850-UNV-NP

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4
2.5°	2264.5	2267.2	2268.6	2275.3	2283.3	2288.8	2282.0	2275.3	2286.0	2298.2	2298.2
5°	2241.8	2244.4	2248.5	2256.5	2267.2	2273.9	2271.3	2265.9	2282.0	2295.4	2296.8
7.5°	2213.5	2216.2	2221.6	2229.7	2243.0	2252.4	2252.4	2253.8	2268.6	2284.7	2288.8
10°	2171.9	2178.6	2186.6	2198.8	2212.2	2224.2	2228.3	2229.7	2248.5	2265.9	2271.3
12.5°	2133.0	2139.7	2147.7	2161.2	2177.2	2190.7	2194.7	2200.1	2220.3	2240.4	2248.5
15°	2088.6	2095.3	2104.7	2118.1	2135.6	2150.4	2158.4	2166.5	2186.6	2208.1	2217.5
17.5°	2036.2	2043.0	2052.4	2068.4	2088.6	2106.0	2115.4	2124.8	2147.7	2170.6	2180.0
20°	1974.5	1983.9	1997.2	2013.4	2036.2	2056.3	2067.1	2077.8	2102.1	2124.8	2135.6
22.5°	1911.3	1922.1	1936.8	1955.7	1979.8	2001.3	2014.8	2028.1	2052.4	2075.1	2087.2
25°	1848.1	1860.2	1875.1	1895.2	1918.0	1939.5	1955.7	1971.8	1995.9	2020.1	2032.2
27.5°	1783.7	1794.5	1809.2	1829.3	1854.9	1877.7	1893.9	1911.3	1935.5	1961.0	1973.1
30°	1712.5	1724.6	1738.1	1758.2	1786.4	1811.9	1828.0	1846.9	1871.0	1896.6	1908.6
32.5°	1644.0	1654.8	1668.2	1688.4	1716.6	1743.4	1760.8	1779.6	1803.9	1829.3	1840.1
35°	1572.8	1583.5	1598.4	1618.5	1646.7	1672.2	1689.7	1708.5	1731.3	1755.5	1767.6
37.5°	1503.0	1513.7	1528.5	1548.7	1575.5	1601.1	1618.5	1637.3	1660.2	1682.9	1693.7
40°	1430.5	1441.2	1453.3	1473.4	1500.3	1525.8	1542.0	1560.8	1583.5	1607.8	1618.5
42.5°	1356.5	1367.3	1382.1	1402.3	1427.8	1450.6	1468.1	1485.5	1507.0	1528.5	1539.3
45°	1282.7	1292.1	1306.8	1325.7	1349.9	1371.4	1388.8	1406.3	1426.4	1446.6	1457.3
47.5°	1206.2	1216.9	1229.0	1247.7	1272.0	1294.8	1312.3	1328.4	1347.2	1367.3	1376.7
50°	1132.3	1141.7	1153.8	1171.2	1194.1	1215.6	1230.3	1246.5	1263.9	1282.7	1290.8
52.5°	1055.7	1065.1	1077.2	1094.7	1113.5	1133.6	1147.1	1161.8	1179.3	1196.8	1204.8
55°	977.8	984.5	995.3	1011.4	1031.5	1050.3	1063.8	1078.6	1093.3	1108.1	1117.5
57.5°	901.3	909.3	920.1	934.8	952.3	969.8	981.8	993.9	1008.7	1023.5	1030.2
60°	823.3	830.1	838.1	851.6	869.0	883.8	895.9	908.0	920.1	933.5	940.2
62.5°	744.1	750.8	758.9	772.3	787.1	800.5	811.3	822.1	832.8	844.8	851.6
65°	664.9	671.6	679.6	689.0	701.1	713.3	724.0	734.7	742.8	750.8	757.5
67.5°	578.9	585.7	593.7	601.7	612.5	624.6	632.6	642.0	650.1	659.5	663.6
70°	498.3	503.7	511.7	518.4	527.8	536.0	542.6	550.7	556.1	564.1	570.8
72.5°	419.0	424.4	431.1	437.9	443.2	449.9	458.0	464.7	471.4	479.5	482.2
75°	342.5	345.2	350.5	355.9	361.3	366.7	370.7	376.1	381.4	386.9	390.8
77.5°	267.3	270.0	275.3	279.4	283.4	287.5	290.2	292.8	298.2	302.2	306.2
80°	196.1	198.8	202.8	206.8	210.9	214.9	214.9	214.9	221.6	227.0	228.4
82.5°	133.0	134.3	137.0	139.7	142.4	145.0	145.0	143.7	147.7	151.8	154.4
85°	76.5	77.9	80.6	80.6	82.0	82.0	82.0	82.0	84.6	88.6	91.4
87.5°	30.9	30.9	32.3	32.3	33.6	33.6	32.3	30.9	33.6	37.6	38.9
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-32-34L850-UNV-NP

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4	2287.4
2.5°	2292.7	2291.4	2295.4	2296.8	2299.5	2299.5	2300.9	2300.9	2298.2	2294.1	2295.4
5°	2294.1	2294.1	2298.2	2302.1	2307.6	2312.9	2308.9	2304.8	2302.1	2298.2	2296.8
7.5°	2287.4	2290.1	2294.1	2300.9	2307.6	2315.6	2310.3	2304.8	2298.2	2292.7	2290.1
10°	2271.3	2273.9	2280.7	2287.4	2294.1	2300.9	2295.4	2290.1	2284.7	2278.0	2275.3
12.5°	2251.2	2255.1	2263.2	2270.0	2276.6	2284.7	2278.0	2271.3	2264.5	2257.8	2253.8
15°	2221.6	2226.9	2236.3	2244.4	2253.8	2260.6	2255.1	2249.8	2241.8	2232.3	2225.6
17.5°	2183.9	2192.1	2201.5	2210.9	2218.9	2225.6	2221.6	2216.2	2206.8	2196.0	2188.0
20°	2142.4	2150.4	2158.4	2167.8	2177.2	2183.9	2178.6	2171.9	2162.5	2154.4	2146.3
22.5°	2094.0	2102.1	2111.5	2119.5	2127.5	2134.2	2127.5	2119.5	2111.5	2103.4	2095.3
25°	2038.9	2046.9	2057.7	2065.7	2071.2	2076.5	2071.2	2064.5	2056.3	2048.3	2040.3
27.5°	1981.2	1989.2	1999.9	2008.0	2013.4	2018.7	2013.4	2006.6	1998.6	1990.6	1982.5
30°	1916.7	1924.8	1935.5	1943.6	1947.5	1951.6	1946.2	1940.8	1934.2	1926.1	1918.0
32.5°	1848.1	1856.3	1864.3	1872.4	1879.0	1884.5	1879.0	1873.7	1865.7	1854.9	1846.9
35°	1775.7	1783.7	1793.1	1801.1	1809.2	1816.0	1807.9	1798.5	1791.7	1785.1	1778.4
37.5°	1699.1	1708.5	1719.3	1728.7	1731.3	1736.7	1731.3	1726.0	1719.3	1712.5	1704.5
40°	1623.8	1631.9	1641.3	1650.7	1654.8	1658.8	1653.4	1648.1	1640.0	1633.2	1625.2
42.5°	1546.0	1554.0	1562.1	1570.2	1575.5	1580.9	1575.5	1567.5	1562.1	1556.7	1550.0
45°	1465.3	1473.4	1480.2	1488.2	1492.3	1496.3	1490.9	1484.1	1478.8	1474.7	1468.1
47.5°	1383.5	1390.2	1396.9	1403.6	1406.3	1410.3	1404.9	1400.9	1396.9	1392.9	1387.5
50°	1297.5	1304.2	1312.3	1319.0	1320.3	1324.4	1319.0	1315.0	1310.9	1306.8	1302.9
52.5°	1212.9	1218.2	1225.0	1231.7	1234.4	1237.0	1231.7	1226.3	1222.3	1219.6	1215.6
55°	1124.2	1129.6	1136.3	1141.7	1145.7	1148.4	1143.0	1137.7	1133.6	1132.3	1128.3
57.5°	1035.6	1040.9	1047.7	1053.0	1055.7	1058.4	1053.0	1047.7	1045.0	1042.3	1039.6
60°	945.6	951.0	956.3	960.4	963.0	964.4	959.0	955.0	953.6	952.3	949.6
62.5°	856.9	859.6	865.0	867.7	870.4	871.8	867.7	865.0	863.6	862.3	861.0
65°	764.2	771.0	775.0	777.7	777.7	779.0	775.0	773.7	772.3	771.0	768.3
67.5°	668.9	674.3	676.9	679.6	679.6	679.6	679.6	679.6	678.3	675.6	672.9
70°	577.5	581.6	584.3	585.7	585.7	585.7	582.9	581.6	582.9	582.9	581.6
72.5°	484.9	487.6	488.9	490.2	488.9	488.9	488.9	491.6	491.6	490.2	487.6
75°	394.9	397.6	398.9	400.2	398.9	398.9	398.9	401.6	400.2	400.2	398.9
77.5°	310.3	311.6	311.6	312.9	311.6	311.6	312.9	315.6	314.3	314.3	314.3
80°	229.7	229.7	229.7	231.1	229.7	229.7	231.1	233.7	232.3	232.3	232.3
82.5°	155.8	157.1	157.1	157.1	158.5	159.9	159.9	159.9	159.9	159.9	158.5
85°	92.7	94.0	92.7	92.7	92.7	92.7	94.0	95.3	95.3	95.3	95.3
87.5°	40.3	41.7	40.3	38.9	37.6	37.6	40.3	43.0	43.0	41.7	41.7
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-32-34L850-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2287.4	2287.4	2287.4	2287.4
2.5°	2300.9	2300.9	2288.8	2276.6
5°	2299.5	2296.8	2283.3	2268.6
7.5°	2291.4	2287.4	2270.0	2253.8
10°	2272.6	2267.2	2248.5	2228.3
12.5°	2249.8	2241.8	2220.3	2200.1
15°	2220.3	2210.9	2188.0	2165.1
17.5°	2181.3	2170.6	2147.7	2123.6
20°	2139.7	2127.5	2102.1	2076.5
22.5°	2088.6	2077.8	2051.0	2025.4
25°	2033.6	2021.5	1994.6	1967.7
27.5°	1974.5	1961.0	1934.2	1908.6
30°	1909.9	1896.6	1869.6	1844.2
32.5°	1841.4	1830.7	1803.9	1775.7
35°	1771.6	1758.2	1731.3	1704.5
37.5°	1697.8	1685.7	1660.2	1634.6
40°	1619.9	1607.8	1580.9	1555.4
42.5°	1543.2	1532.5	1507.0	1482.9
45°	1461.4	1450.6	1426.4	1404.9
47.5°	1379.4	1368.7	1345.8	1323.0
50°	1296.1	1285.4	1263.9	1243.8
52.5°	1208.8	1200.8	1180.6	1160.5
55°	1121.5	1112.1	1092.0	1074.5
57.5°	1034.2	1027.5	1008.7	991.2
60°	944.2	936.2	921.4	906.6
62.5°	856.9	850.2	835.4	822.1
65°	764.2	758.9	746.8	734.7
67.5°	668.9	664.9	652.8	642.0
70°	577.5	570.8	561.4	552.0
72.5°	484.9	482.2	474.1	466.1
75°	396.3	393.5	385.5	378.8
77.5°	312.9	310.3	303.5	296.8
80°	231.1	229.7	224.3	219.0
82.5°	158.5	157.1	153.1	147.7
85°	95.3	92.7	88.6	84.6
87.5°	41.7	40.3	36.2	33.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)