

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-32-34L840-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-32-34L840-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

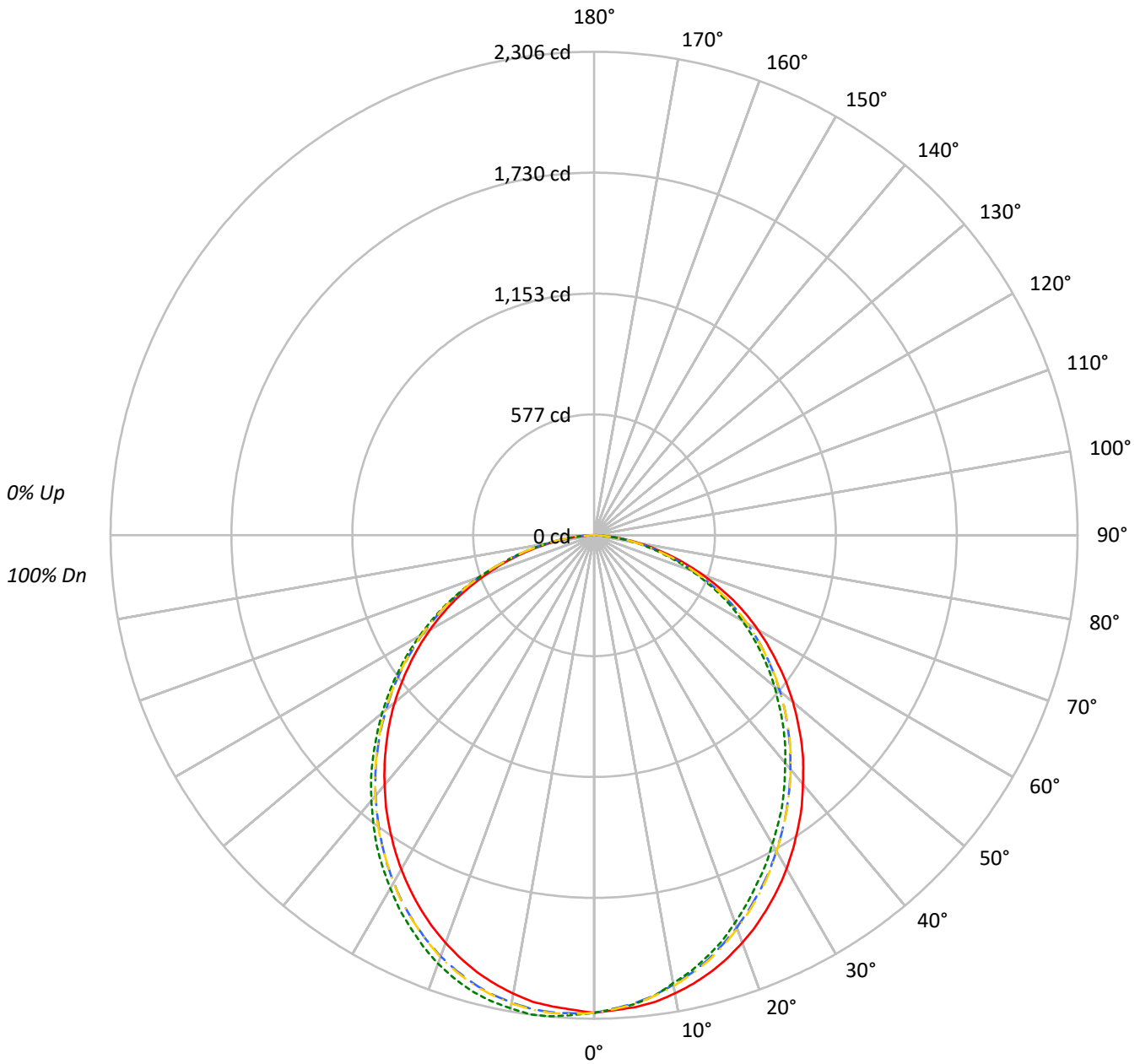
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6021.1 lumens
Efficiency: N/A
Efficacy: 82.5 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-32-34L840-UNV-NP

Luminous Intensity Polar Plot



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



TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L840-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°	21015	21015	21015	21015
5°	20923	20786	20898	21331
10°	20789	20325	20801	21465
15°	20594	19879	20608	21502
20°	20303	19305	20316	21353
25°	19948	18695	19988	21051
30°	19564	18111	19593	20705
35°	19117	17641	19163	20367
40°	18655	17076	18719	19895
45°	18254	16615	18272	19441
50°	17777	16126	17815	18929
55°	17213	15598	17276	18395
60°	16659	15055	16685	17722
65°	15972	14395	15972	16937
70°	14828	13312	14793	15732
75°	13446	12063	13350	14163
80°	11588	10377	11370	12151
85°	8924	7929	8638	9771



TEST NUMBER: P
 CATALOG NUMBER: 4APN-32-34L840-UNV-NP

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.1	3.6
10°-20°	609.0	10.1
20°-30°	901.7	15.0
30°-40°	1057.9	17.6
40°-50°	1072.2	17.8
50°-60°	951.6	15.8
60°-70°	714.4	11.9
70°-80°	396.7	6.6
80°-90°	102.4	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°	1725.9	28.7
0°-40°	2783.8	46.2
0°-60°	4807.6	79.8
0°-90°	6021.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6021.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2278	2278	2278	2278	2278	
5°	2259	2244	2256	2303	2259	214
15°	2156	2081	2158	2251	2156	608
25°	1960	1836	1964	2068	1960	903
35°	1697	1566	1701	1808	1697	1062
45°	1399	1273	1400	1490	1399	1078
55°	1070	970	1074	1144	1070	958
65°	732	659	732	776	732	721
75°	377	338	374	397	377	401
85°	84	75	82	92	84	102
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-32-34L840-UNV-NP

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8
2.5°	2267.1	2272.5	2279.2	2272.5	2261.8	2256.4	2256.4	2255.1	2259.1	2260.5	2259.1
5°	2259.1	2261.8	2263.1	2255.1	2243.0	2236.4	2233.6	2232.3	2237.7	2244.4	2237.7
7.5°	2244.4	2243.0	2241.8	2231.0	2217.6	2208.3	2204.2	2202.9	2208.3	2214.9	2209.6
10°	2219.0	2217.6	2213.6	2200.3	2182.8	2170.8	2166.8	2162.8	2166.8	2169.5	2166.8
12.5°	2190.9	2185.5	2180.2	2165.5	2146.8	2133.3	2126.7	2121.3	2126.7	2130.6	2128.0
15°	2156.1	2148.1	2138.8	2122.6	2103.9	2089.3	2081.2	2075.9	2079.8	2081.2	2081.2
17.5°	2114.6	2105.3	2095.9	2075.9	2053.1	2037.1	2027.7	2021.0	2026.4	2029.0	2029.0
20°	2067.9	2057.2	2045.1	2023.7	1999.6	1982.2	1971.5	1963.5	1964.9	1966.2	1966.2
22.5°	2017.0	2003.6	1988.9	1966.2	1940.7	1922.0	1911.3	1902.0	1902.0	1903.3	1903.3
25°	1959.5	1944.8	1930.0	1907.3	1880.6	1860.5	1847.1	1837.7	1837.7	1836.4	1839.1
27.5°	1900.6	1884.6	1869.9	1845.8	1817.7	1797.6	1784.3	1774.9	1773.6	1772.3	1774.9
30°	1836.4	1817.7	1801.7	1776.2	1749.5	1729.4	1716.0	1705.3	1702.7	1700.0	1702.7
32.5°	1768.2	1750.9	1733.5	1706.7	1680.0	1659.9	1646.5	1635.8	1634.4	1633.1	1635.8
35°	1697.3	1678.6	1662.6	1637.1	1610.4	1590.4	1575.6	1566.3	1566.3	1566.3	1566.3
37.5°	1627.8	1609.1	1591.6	1566.3	1539.5	1519.5	1504.7	1495.4	1492.7	1491.3	1492.7
40°	1548.9	1532.8	1516.8	1492.7	1466.0	1445.9	1433.8	1423.1	1420.4	1417.8	1421.8
42.5°	1476.7	1460.6	1443.2	1420.4	1393.7	1373.7	1360.3	1350.9	1349.5	1348.2	1349.5
45°	1399.0	1380.3	1363.0	1341.5	1317.4	1298.7	1285.4	1276.0	1274.7	1273.4	1274.7
47.5°	1317.4	1302.8	1288.0	1266.6	1242.6	1223.9	1211.8	1201.1	1198.4	1195.7	1198.4
50°	1238.5	1222.5	1207.8	1187.7	1164.9	1147.6	1136.9	1127.5	1124.8	1123.5	1124.8
52.5°	1155.6	1140.9	1127.5	1107.5	1088.8	1071.4	1059.3	1051.3	1050.0	1048.6	1050.0
55°	1070.1	1056.6	1044.6	1028.6	1009.9	993.8	983.1	973.7	972.4	969.7	972.4
57.5°	987.1	976.4	964.3	947.0	929.6	914.9	905.5	897.5	896.2	894.8	896.2
60°	902.8	892.1	881.4	866.7	849.3	834.6	826.6	819.9	817.3	815.9	817.3
62.5°	818.6	807.9	799.8	785.2	769.0	757.1	749.0	742.3	739.6	738.3	739.6
65°	731.6	722.3	712.9	699.5	687.5	678.1	670.1	663.4	660.7	659.4	659.4
67.5°	639.3	631.3	624.7	612.6	599.2	589.9	581.8	576.4	573.8	572.5	573.8
70°	549.7	543.1	536.3	527.0	516.3	508.3	503.0	497.6	494.9	493.5	493.5
72.5°	464.1	458.8	452.1	444.0	436.0	428.0	422.6	418.7	416.0	414.6	414.6
75°	377.2	371.8	369.2	362.4	354.4	349.1	343.7	341.0	338.4	338.4	338.4
77.5°	295.6	292.9	290.2	283.5	278.2	272.8	268.9	267.5	264.8	264.8	264.8
80°	218.1	216.7	215.4	211.3	206.0	200.6	198.0	196.7	195.3	195.3	195.3
82.5°	147.2	147.2	145.8	141.8	137.7	136.5	133.8	132.4	132.4	132.4	132.4
85°	84.3	84.3	84.3	82.9	80.2	80.2	77.5	76.2	74.9	74.9	74.9
87.5°	33.5	34.8	36.1	34.8	32.1	32.1	32.1	32.1	32.1	32.1	32.1
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-32-34L840-UNV-NP

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8
2.5°	2255.1	2257.8	2259.1	2265.8	2273.8	2279.2	2272.5	2265.8	2276.5	2288.5	2288.5
5°	2232.3	2235.0	2239.1	2247.1	2257.8	2264.4	2261.8	2256.4	2272.5	2285.8	2287.2
7.5°	2204.2	2206.9	2212.2	2220.3	2233.6	2243.0	2243.0	2244.4	2259.1	2275.1	2279.2
10°	2162.8	2169.5	2177.5	2189.6	2202.9	2214.9	2219.0	2220.3	2239.1	2256.4	2261.8
12.5°	2124.0	2130.6	2138.8	2152.1	2168.2	2181.5	2185.5	2190.9	2211.0	2231.0	2239.1
15°	2079.8	2086.6	2095.9	2109.3	2126.7	2141.4	2149.5	2157.5	2177.5	2198.9	2208.3
17.5°	2027.7	2034.4	2043.8	2059.8	2079.8	2097.3	2106.6	2116.0	2138.8	2161.4	2170.8
20°	1966.2	1975.6	1988.9	2005.0	2027.7	2047.8	2058.5	2069.2	2093.2	2116.0	2126.7
22.5°	1903.3	1914.0	1928.7	1947.4	1971.5	1992.9	2006.3	2019.6	2043.8	2066.5	2078.6
25°	1840.4	1852.5	1867.2	1887.2	1910.0	1931.4	1947.4	1963.5	1987.6	2011.6	2023.7
27.5°	1776.2	1786.9	1801.7	1821.7	1847.1	1869.9	1886.0	1903.3	1927.3	1952.8	1964.9
30°	1705.3	1717.4	1730.8	1750.9	1778.9	1804.4	1820.4	1839.1	1863.2	1888.6	1900.6
32.5°	1637.1	1647.8	1661.3	1681.3	1709.4	1736.1	1753.6	1772.3	1796.3	1821.7	1832.4
35°	1566.3	1577.0	1591.6	1611.7	1639.8	1665.2	1682.7	1701.4	1724.0	1748.1	1760.2
37.5°	1496.7	1507.4	1522.1	1542.1	1569.0	1594.3	1611.7	1630.5	1653.2	1675.9	1686.6
40°	1424.5	1435.2	1447.2	1467.3	1494.0	1519.5	1535.5	1554.2	1577.0	1601.1	1611.7
42.5°	1350.9	1361.6	1376.4	1396.4	1421.8	1444.5	1461.9	1479.3	1500.7	1522.1	1532.8
45°	1277.3	1286.7	1301.4	1320.1	1344.2	1365.7	1383.0	1400.4	1420.4	1440.5	1451.2
47.5°	1201.1	1211.8	1223.9	1242.6	1266.6	1289.4	1306.8	1322.8	1341.5	1361.6	1371.0
50°	1127.5	1136.9	1148.9	1166.3	1189.1	1210.5	1225.2	1241.2	1258.6	1277.3	1285.4
52.5°	1051.3	1060.7	1072.7	1090.1	1108.8	1128.9	1142.3	1156.9	1174.4	1191.8	1199.8
55°	973.7	980.5	991.2	1007.2	1027.2	1045.9	1059.3	1074.0	1088.8	1103.4	1112.9
57.5°	897.5	905.5	916.2	930.9	948.3	965.7	977.8	989.8	1004.5	1019.2	1025.9
60°	819.9	826.6	834.6	848.0	865.4	880.1	892.1	904.2	916.2	929.6	936.3
62.5°	741.0	747.6	755.7	769.0	783.8	797.2	807.9	818.6	829.2	841.3	848.0
65°	662.1	668.7	676.7	686.2	698.2	710.2	720.9	731.6	739.6	747.6	754.4
67.5°	576.4	583.2	591.2	599.2	609.9	622.0	630.0	639.3	647.3	656.7	660.7
70°	496.2	501.6	509.6	516.3	525.6	533.7	540.4	548.4	553.8	561.8	568.4
72.5°	417.3	422.6	429.4	436.0	441.4	448.1	456.1	462.8	469.5	477.5	480.2
75°	341.0	343.7	349.1	354.4	359.8	365.1	369.2	374.5	379.9	385.2	389.3
77.5°	266.2	268.9	274.2	278.2	282.2	286.2	288.9	291.6	297.0	300.9	305.0
80°	195.3	198.0	202.0	206.0	210.0	214.0	214.0	214.0	220.7	226.1	227.4
82.5°	132.4	133.8	136.5	139.1	141.8	144.5	144.5	143.1	147.2	151.1	153.8
85°	76.2	77.5	80.2	80.2	81.6	81.6	81.6	81.6	84.3	88.2	90.9
87.5°	30.8	30.8	32.1	32.1	33.5	33.5	32.1	30.8	33.5	37.4	38.8
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-32-34L840-UNV-NP

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8	2277.8
2.5°	2283.1	2281.9	2285.8	2287.2	2289.9	2289.9	2291.2	2291.2	2288.5	2284.5	2285.8
5°	2284.5	2284.5	2288.5	2292.6	2297.9	2303.2	2299.2	2295.2	2292.6	2288.5	2287.2
7.5°	2277.8	2280.5	2284.5	2291.2	2297.9	2305.9	2300.6	2295.2	2288.5	2283.1	2280.5
10°	2261.8	2264.4	2271.2	2277.8	2284.5	2291.2	2285.8	2280.5	2275.1	2268.5	2265.8
12.5°	2241.8	2245.7	2253.7	2260.5	2267.1	2275.1	2268.5	2261.8	2255.1	2248.4	2244.4
15°	2212.2	2217.6	2227.0	2235.0	2244.4	2251.1	2245.7	2240.4	2232.3	2222.9	2216.3
17.5°	2174.8	2182.8	2192.2	2201.6	2209.6	2216.3	2212.2	2206.9	2197.6	2186.9	2178.9
20°	2133.3	2141.4	2149.5	2158.8	2168.2	2174.8	2169.5	2162.8	2153.4	2145.4	2137.4
22.5°	2085.2	2093.2	2102.6	2110.6	2118.7	2125.3	2118.7	2110.6	2102.6	2094.6	2086.6
25°	2030.3	2038.4	2049.1	2057.2	2062.5	2067.9	2062.5	2055.8	2047.8	2039.7	2031.7
27.5°	1972.9	1980.9	1991.6	1999.6	2005.0	2010.3	2005.0	1998.3	1990.2	1982.2	1974.2
30°	1908.6	1916.7	1927.3	1935.4	1939.4	1943.5	1938.0	1932.7	1926.1	1918.0	1910.0
32.5°	1840.4	1848.5	1856.5	1864.6	1871.2	1876.5	1871.2	1865.9	1857.8	1847.1	1839.1
35°	1768.2	1776.2	1785.6	1793.7	1801.7	1808.3	1800.3	1791.0	1784.3	1777.6	1770.9
37.5°	1692.0	1701.4	1712.1	1721.4	1724.0	1729.4	1724.0	1718.7	1712.1	1705.3	1697.3
40°	1617.1	1625.1	1634.4	1643.8	1647.8	1651.9	1646.5	1641.2	1633.1	1626.4	1618.4
42.5°	1539.5	1547.5	1555.6	1563.6	1569.0	1574.3	1569.0	1560.9	1555.6	1550.2	1543.5
45°	1459.2	1467.3	1474.0	1482.0	1486.0	1490.0	1484.7	1478.0	1472.6	1468.7	1461.9
47.5°	1377.7	1384.4	1391.0	1397.8	1400.4	1404.4	1399.0	1395.1	1391.0	1387.1	1381.7
50°	1292.1	1298.7	1306.8	1313.5	1314.8	1318.8	1313.5	1309.4	1305.5	1301.4	1297.4
52.5°	1207.8	1213.2	1219.8	1226.5	1229.2	1231.9	1226.5	1221.2	1217.1	1214.5	1210.5
55°	1119.5	1124.8	1131.6	1136.9	1140.9	1143.6	1138.2	1132.9	1128.9	1127.5	1123.5
57.5°	1031.3	1036.6	1043.2	1048.6	1051.3	1053.9	1048.6	1043.2	1040.6	1037.9	1035.2
60°	941.6	947.0	952.3	956.3	959.0	960.4	955.0	951.0	949.7	948.3	945.6
62.5°	853.3	856.0	861.3	864.0	866.7	868.1	864.0	861.3	860.0	858.7	857.4
65°	761.0	767.7	771.7	774.4	774.4	775.8	771.7	770.4	769.0	767.7	765.1
67.5°	666.1	671.4	674.1	676.7	676.7	676.7	676.7	676.7	675.5	672.8	670.1
70°	575.1	579.1	581.8	583.2	583.2	583.2	580.5	579.1	580.5	580.5	579.1
72.5°	482.9	485.5	486.9	488.2	486.9	486.9	486.9	489.6	489.6	488.2	485.5
75°	393.2	395.9	397.3	398.6	397.3	397.3	397.3	400.0	398.6	398.6	397.3
77.5°	309.0	310.3	310.3	311.6	310.3	310.3	311.6	314.3	313.0	313.0	313.0
80°	228.7	228.7	228.7	230.0	228.7	228.7	230.0	232.7	231.4	231.4	231.4
82.5°	155.2	156.5	156.5	156.5	157.8	159.1	159.1	159.1	159.1	159.1	157.8
85°	92.3	93.6	92.3	92.3	92.3	92.3	93.6	95.0	95.0	95.0	95.0
87.5°	40.1	41.5	40.1	38.8	37.4	37.4	40.1	42.8	42.8	41.5	41.5
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-32-34L840-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2277.8	2277.8	2277.8	2277.8
2.5°	2291.2	2291.2	2279.2	2267.1
5°	2289.9	2287.2	2273.8	2259.1
7.5°	2281.9	2277.8	2260.5	2244.4
10°	2263.1	2257.8	2239.1	2219.0
12.5°	2240.4	2232.3	2211.0	2190.9
15°	2211.0	2201.6	2178.9	2156.1
17.5°	2172.1	2161.4	2138.8	2114.6
20°	2130.6	2118.7	2093.2	2067.9
22.5°	2079.8	2069.2	2042.4	2017.0
25°	2025.0	2013.0	1986.3	1959.5
27.5°	1966.2	1952.8	1926.1	1900.6
30°	1902.0	1888.6	1861.9	1836.4
32.5°	1833.8	1823.1	1796.3	1768.2
35°	1764.2	1750.9	1724.0	1697.3
37.5°	1690.7	1678.6	1653.2	1627.8
40°	1613.0	1601.1	1574.3	1548.9
42.5°	1536.8	1526.1	1500.7	1476.7
45°	1455.2	1444.5	1420.4	1399.0
47.5°	1373.7	1363.0	1340.2	1317.4
50°	1290.7	1280.0	1258.6	1238.5
52.5°	1203.8	1195.7	1175.7	1155.6
55°	1116.8	1107.5	1087.4	1070.1
57.5°	1029.9	1023.2	1004.5	987.1
60°	940.3	932.2	917.6	902.8
62.5°	853.3	846.7	831.9	818.6
65°	761.0	755.7	743.7	731.6
67.5°	666.1	662.1	650.0	639.3
70°	575.1	568.4	559.1	549.7
72.5°	482.9	480.2	472.2	464.1
75°	394.6	391.9	383.8	377.2
77.5°	311.6	309.0	302.3	295.6
80°	230.0	228.7	223.4	218.1
82.5°	157.8	156.5	152.5	147.2
85°	95.0	92.3	88.2	84.3
87.5°	41.5	40.1	36.1	33.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)