

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: P709192

Luminaire Tested: **4APN-39-42L940-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709192
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-39-42L940-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

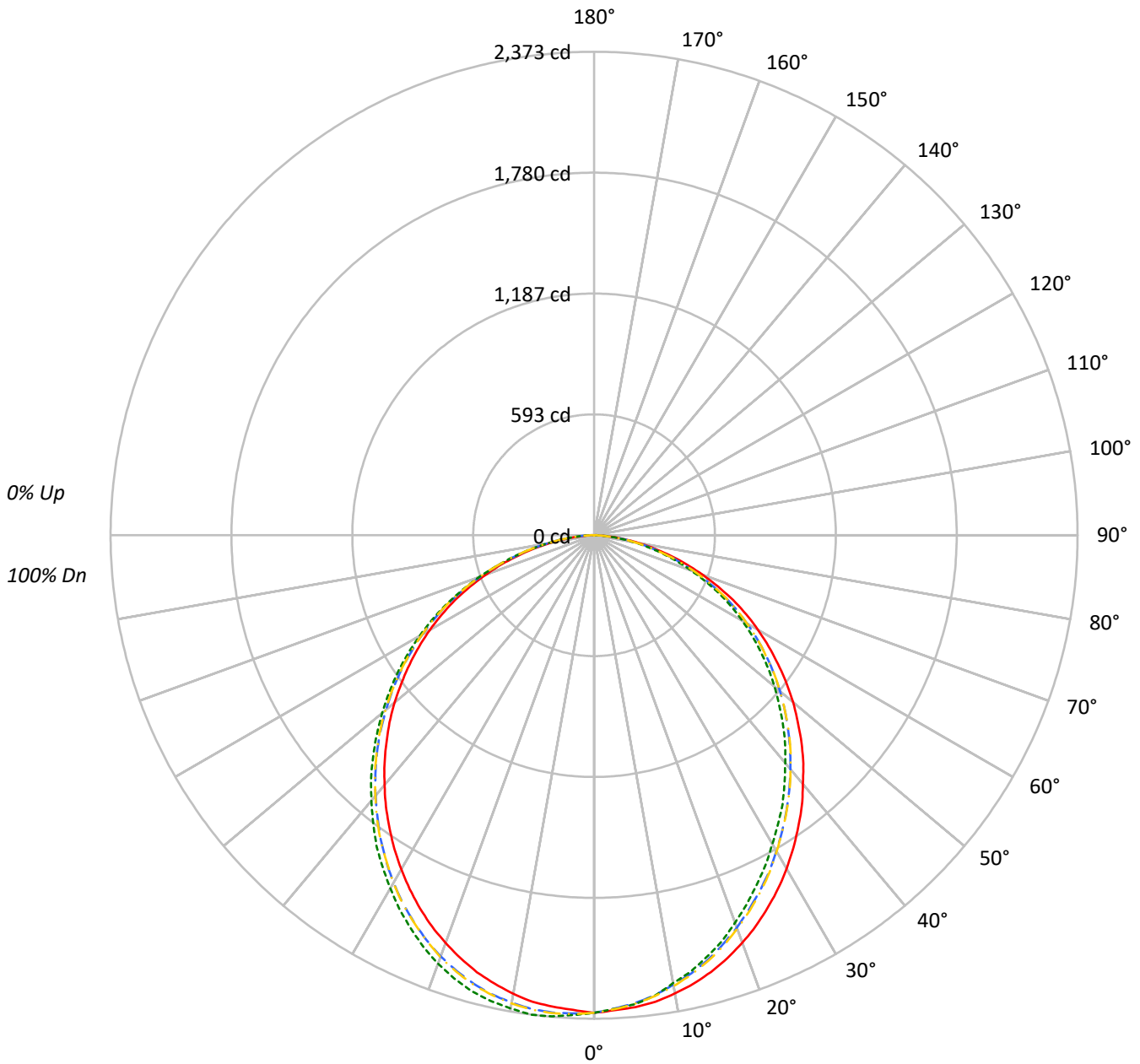
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6197.1 lumens
Efficiency: N/A
Efficacy: 67.4 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): 92
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°	21630	21630	21630	21630
5°	21534	21394	21509	21954
10°	21396	20919	21409	22093
15°	21196	20460	21209	22130
20°	20896	19868	20909	21977
25°	20531	19241	20573	21666
30°	20136	18640	20166	21309
35°	19676	18156	19723	20963
40°	19199	17575	19266	20476
45°	18788	17099	18806	20010
50°	18298	16598	18336	19482
55°	17715	16055	17781	18933
60°	17146	15494	17172	18238
65°	16439	14817	16439	17430
70°	15263	13704	15225	16191
75°	13838	12416	13742	14576
80°	11923	10679	11705	12507
85°	9178	8162	8892	10057



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.4	3.6
10°-20°	626.8	10.1
20°-30°	928.1	15.0
30°-40°	1088.9	17.6
40°-50°	1103.5	17.8
50°-60°	979.4	15.8
60°-70°	735.3	11.9
70°-80°	408.3	6.6
80°-90°	105.4	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°	1776.3	28.7
0°-40°	2865.2	46.2
0°-60°	4948.0	79.8
0°-90°	6197.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6197.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2344	2344	2344	2344	2344	
5°	2325	2310	2322	2370	2325	221
15°	2219	2142	2220	2317	2219	625
25°	2017	1890	2021	2128	2017	929
35°	1747	1612	1751	1861	1747	1093
45°	1440	1310	1441	1534	1440	1110
55°	1101	998	1105	1177	1101	986
65°	753	679	753	798	753	742
75°	388	348	386	409	388	413
85°	87	77	84	95	87	105
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°	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4
2.5°	2333.4	2338.9	2345.8	2338.9	2327.9	2322.4	2322.4	2321.0	2325.1	2326.5	2325.1
5°	2325.1	2327.9	2329.2	2321.0	2308.6	2301.7	2299.0	2297.6	2303.1	2310.0	2303.1
7.5°	2310.0	2308.6	2307.2	2296.2	2282.4	2272.8	2268.7	2267.3	2272.8	2279.7	2274.2
10°	2283.8	2282.4	2278.3	2264.5	2246.6	2234.3	2230.1	2226.0	2230.1	2232.9	2230.1
12.5°	2254.9	2249.4	2243.9	2228.8	2209.5	2195.7	2188.8	2183.3	2188.8	2193.0	2190.2
15°	2219.1	2210.9	2201.2	2184.7	2165.4	2150.3	2142.0	2136.5	2140.6	2142.0	2142.0
17.5°	2176.4	2166.8	2157.2	2136.5	2113.1	2096.6	2087.0	2080.1	2085.6	2088.3	2088.3
20°	2128.3	2117.2	2104.9	2082.8	2058.0	2040.2	2029.1	2020.9	2022.3	2023.6	2023.6
22.5°	2075.9	2062.2	2047.0	2023.6	1997.5	1978.2	1967.2	1957.6	1957.6	1958.9	1958.9
25°	2016.8	2001.6	1986.5	1963.1	1935.5	1914.9	1901.1	1891.5	1891.5	1890.1	1892.9
27.5°	1956.2	1939.7	1924.5	1899.7	1870.8	1850.2	1836.4	1826.8	1825.4	1824.0	1826.8
30°	1890.1	1870.8	1854.3	1828.2	1800.6	1780.0	1766.2	1755.2	1752.4	1749.7	1752.4
32.5°	1819.9	1802.0	1784.1	1756.6	1729.0	1708.4	1694.6	1683.6	1682.2	1680.9	1683.6
35°	1746.9	1727.7	1711.1	1685.0	1657.5	1636.8	1621.7	1612.0	1612.0	1612.0	1612.0
37.5°	1675.3	1656.1	1638.2	1612.0	1584.5	1563.8	1548.7	1539.1	1536.3	1534.9	1536.3
40°	1594.1	1577.6	1561.1	1536.3	1508.8	1488.1	1475.7	1464.7	1462.0	1459.2	1463.3
42.5°	1519.8	1503.3	1485.4	1462.0	1434.4	1413.8	1400.0	1390.4	1389.0	1387.6	1389.0
45°	1439.9	1420.7	1402.8	1380.8	1356.0	1336.7	1322.9	1313.3	1311.9	1310.5	1311.9
47.5°	1356.0	1340.8	1325.7	1303.7	1278.9	1259.6	1247.2	1236.2	1233.5	1230.7	1233.5
50°	1274.8	1258.2	1243.1	1222.4	1199.0	1181.1	1170.1	1160.5	1157.7	1156.4	1157.7
52.5°	1189.4	1174.3	1160.5	1139.8	1120.6	1102.7	1090.3	1082.0	1080.6	1079.3	1080.6
55°	1101.3	1087.5	1075.1	1058.6	1039.3	1022.8	1011.8	1002.2	1000.8	998.1	1000.8
57.5°	1015.9	1004.9	992.5	974.6	956.8	941.6	932.0	923.7	922.3	921.0	922.3
60°	929.2	918.2	907.2	892.1	874.2	859.0	850.8	843.9	841.1	839.7	841.1
62.5°	842.5	831.5	823.2	808.1	791.6	779.2	770.9	764.0	761.3	759.9	761.3
65°	753.0	743.4	733.7	720.0	707.6	697.9	689.7	682.8	680.1	678.7	678.7
67.5°	658.0	649.8	642.9	630.5	616.7	607.1	598.8	593.3	590.6	589.2	590.6
70°	565.8	558.9	552.0	542.4	531.4	523.1	517.6	512.1	509.3	508.0	508.0
72.5°	477.7	472.2	465.3	457.0	448.8	440.5	435.0	430.9	428.1	426.8	426.8
75°	388.2	382.7	379.9	373.1	364.8	359.3	353.8	351.0	348.3	348.3	348.3
77.5°	304.2	301.5	298.7	291.8	286.3	280.8	276.7	275.3	272.6	272.6	272.6
80°	224.4	223.0	221.6	217.5	212.0	206.5	203.7	202.4	201.0	201.0	201.0
82.5°	151.4	151.4	150.1	145.9	141.8	140.4	137.7	136.3	136.3	136.3	136.3
85°	86.7	86.7	86.7	85.4	82.6	82.6	79.8	78.5	77.1	77.1	77.1
87.5°	34.4	35.8	37.2	35.8	33.0	33.0	33.0	33.0	33.0	33.0	33.0
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°	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4
2.5°	2321.0	2323.7	2325.1	2332.0	2340.3	2345.8	2338.9	2332.0	2343.0	2355.4	2355.4
5°	2297.6	2300.3	2304.5	2312.7	2323.7	2330.6	2327.9	2322.4	2338.9	2352.6	2354.0
7.5°	2268.7	2271.4	2276.9	2285.2	2299.0	2308.6	2308.6	2310.0	2325.1	2341.6	2345.8
10°	2226.0	2232.9	2241.1	2253.5	2267.3	2279.7	2283.8	2285.2	2304.5	2322.4	2327.9
12.5°	2186.1	2193.0	2201.2	2215.0	2231.5	2245.3	2249.4	2254.9	2275.6	2296.2	2304.5
15°	2140.6	2147.5	2157.2	2170.9	2188.8	2204.0	2212.2	2220.5	2241.1	2263.2	2272.8
17.5°	2087.0	2093.8	2103.5	2120.0	2140.6	2158.5	2168.2	2177.8	2201.2	2224.6	2234.3
20°	2023.6	2033.3	2047.0	2063.6	2087.0	2107.6	2118.6	2129.6	2154.4	2177.8	2188.8
22.5°	1958.9	1969.9	1985.1	2004.4	2029.1	2051.2	2064.9	2078.7	2103.5	2126.9	2139.3
25°	1894.2	1906.6	1921.8	1942.4	1965.8	1987.8	2004.4	2020.9	2045.7	2070.4	2082.8
27.5°	1828.2	1839.2	1854.3	1875.0	1901.1	1924.5	1941.0	1958.9	1983.7	2009.9	2022.3
30°	1755.2	1767.6	1781.3	1802.0	1830.9	1857.1	1873.6	1892.9	1917.6	1943.8	1956.2
32.5°	1685.0	1696.0	1709.8	1730.4	1759.3	1786.9	1804.8	1824.0	1848.8	1875.0	1886.0
35°	1612.0	1623.0	1638.2	1658.8	1687.7	1713.9	1731.8	1751.1	1774.5	1799.2	1811.6
37.5°	1540.4	1551.5	1566.6	1587.2	1614.8	1640.9	1658.8	1678.1	1701.5	1724.9	1735.9
40°	1466.1	1477.1	1489.5	1510.2	1537.7	1563.8	1580.4	1599.6	1623.0	1647.8	1658.8
42.5°	1390.4	1401.4	1416.5	1437.2	1463.3	1486.8	1504.6	1522.5	1544.6	1566.6	1577.6
45°	1314.7	1324.3	1339.5	1358.7	1383.5	1405.5	1423.4	1441.3	1462.0	1482.6	1493.6
47.5°	1236.2	1247.2	1259.6	1278.9	1303.7	1327.1	1345.0	1361.5	1380.8	1401.4	1411.0
50°	1160.5	1170.1	1182.5	1200.4	1223.8	1245.8	1261.0	1277.5	1295.4	1314.7	1322.9
52.5°	1082.0	1091.7	1104.1	1121.9	1141.2	1161.9	1175.6	1190.8	1208.7	1226.6	1234.8
55°	1002.2	1009.1	1020.1	1036.6	1057.2	1076.5	1090.3	1105.4	1120.6	1135.7	1145.3
57.5°	923.7	932.0	943.0	958.1	976.0	993.9	1006.3	1018.7	1033.8	1049.0	1055.9
60°	843.9	850.8	859.0	872.8	890.7	905.8	918.2	930.6	943.0	956.8	963.6
62.5°	762.6	769.5	777.8	791.6	806.7	820.5	831.5	842.5	853.5	865.9	872.8
65°	681.4	688.3	696.6	706.2	718.6	731.0	742.0	753.0	761.3	769.5	776.4
67.5°	593.3	600.2	608.5	616.7	627.7	640.1	648.4	658.0	666.3	675.9	680.1
70°	510.7	516.2	524.5	531.4	541.0	549.3	556.2	564.4	569.9	578.2	585.1
72.5°	429.5	435.0	441.9	448.8	454.3	461.2	469.4	476.3	483.2	491.5	494.2
75°	351.0	353.8	359.3	364.8	370.3	375.8	379.9	385.5	391.0	396.5	400.6
77.5°	273.9	276.7	282.2	286.3	290.5	294.6	297.4	300.1	305.6	309.7	313.9
80°	201.0	203.7	207.9	212.0	216.1	220.3	220.3	220.3	227.1	232.6	234.0
82.5°	136.3	137.7	140.4	143.2	145.9	148.7	148.7	147.3	151.4	155.6	158.3
85°	78.5	79.8	82.6	82.6	84.0	84.0	84.0	84.0	86.7	90.9	93.6
87.5°	31.7	31.7	33.0	33.0	34.4	34.4	33.0	31.7	34.4	38.5	39.9
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4	2344.4
2.5°	2349.9	2348.5	2352.6	2354.0	2356.8	2356.8	2358.2	2358.2	2355.4	2351.3	2352.6
5°	2351.3	2351.3	2355.4	2359.5	2365.0	2370.5	2366.4	2362.3	2359.5	2355.4	2354.0
7.5°	2344.4	2347.1	2351.3	2358.2	2365.0	2373.3	2367.8	2362.3	2355.4	2349.9	2347.1
10°	2327.9	2330.6	2337.5	2344.4	2351.3	2358.2	2352.6	2347.1	2341.6	2334.7	2332.0
12.5°	2307.2	2311.3	2319.6	2326.5	2333.4	2341.6	2334.7	2327.9	2321.0	2314.1	2310.0
15°	2276.9	2282.4	2292.1	2300.3	2310.0	2316.9	2311.3	2305.8	2297.6	2287.9	2281.1
17.5°	2238.4	2246.6	2256.3	2265.9	2274.2	2281.1	2276.9	2271.4	2261.8	2250.8	2242.5
20°	2195.7	2204.0	2212.2	2221.9	2231.5	2238.4	2232.9	2226.0	2216.4	2208.1	2199.8
22.5°	2146.2	2154.4	2164.0	2172.3	2180.6	2187.5	2180.6	2172.3	2164.0	2155.8	2147.5
25°	2089.7	2098.0	2109.0	2117.2	2122.8	2128.3	2122.8	2115.9	2107.6	2099.3	2091.1
27.5°	2030.5	2038.8	2049.8	2058.0	2063.6	2069.1	2063.6	2056.7	2048.4	2040.2	2031.9
30°	1964.4	1972.7	1983.7	1992.0	1996.1	2000.2	1994.7	1989.2	1982.3	1974.1	1965.8
32.5°	1894.2	1902.5	1910.8	1919.0	1925.9	1931.4	1925.9	1920.4	1912.1	1901.1	1892.9
35°	1819.9	1828.2	1837.8	1846.0	1854.3	1861.2	1852.9	1843.3	1836.4	1829.5	1822.6
37.5°	1741.4	1751.1	1762.1	1771.7	1774.5	1780.0	1774.5	1769.0	1762.1	1755.2	1746.9
40°	1664.3	1672.6	1682.2	1691.9	1696.0	1700.1	1694.6	1689.1	1680.9	1674.0	1665.7
42.5°	1584.5	1592.8	1601.0	1609.3	1614.8	1620.3	1614.8	1606.5	1601.0	1595.5	1588.6
45°	1501.9	1510.2	1517.0	1525.3	1529.4	1533.6	1528.0	1521.2	1515.7	1511.5	1504.6
47.5°	1417.9	1424.8	1431.7	1438.6	1441.3	1445.5	1439.9	1435.8	1431.7	1427.6	1422.0
50°	1329.8	1336.7	1345.0	1351.8	1353.2	1357.3	1351.8	1347.7	1343.6	1339.5	1335.3
52.5°	1243.1	1248.6	1255.5	1262.4	1265.1	1267.9	1262.4	1256.9	1252.7	1250.0	1245.8
55°	1152.2	1157.7	1164.6	1170.1	1174.3	1177.0	1171.5	1166.0	1161.9	1160.5	1156.4
57.5°	1061.4	1066.9	1073.8	1079.3	1082.0	1084.8	1079.3	1073.8	1071.0	1068.3	1065.5
60°	969.1	974.6	980.2	984.3	987.0	988.4	982.9	978.8	977.4	976.0	973.3
62.5°	878.3	881.0	886.5	889.3	892.1	893.4	889.3	886.5	885.2	883.8	882.4
65°	783.3	790.2	794.3	797.1	797.1	798.4	794.3	792.9	791.6	790.2	787.4
67.5°	685.6	691.1	693.8	696.6	696.6	696.6	696.6	696.6	695.2	692.4	689.7
70°	591.9	596.1	598.8	600.2	600.2	600.2	597.5	596.1	597.5	597.5	596.1
72.5°	497.0	499.7	501.1	502.5	501.1	501.1	501.1	503.8	503.8	502.5	499.7
75°	404.7	407.5	408.9	410.2	408.9	408.9	408.9	411.6	410.2	410.2	408.9
77.5°	318.0	319.4	319.4	320.8	319.4	319.4	320.8	323.5	322.1	322.1	322.1
80°	235.4	235.4	235.4	236.8	235.4	235.4	236.8	239.5	238.2	238.2	238.2
82.5°	159.7	161.1	161.1	161.1	162.4	163.8	163.8	163.8	163.8	163.8	162.4
85°	95.0	96.4	95.0	95.0	95.0	95.0	96.4	97.7	97.7	97.7	97.7
87.5°	41.3	42.7	41.3	39.9	38.5	38.5	41.3	44.1	44.1	42.7	42.7
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: P709192

CATALOG NUMBER: 4APN-39-42L940-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2344.4	2344.4	2344.4	2344.4
2.5°	2358.2	2358.2	2345.8	2333.4
5°	2356.8	2354.0	2340.3	2325.1
7.5°	2348.5	2344.4	2326.5	2310.0
10°	2329.2	2323.7	2304.5	2283.8
12.5°	2305.8	2297.6	2275.6	2254.9
15°	2275.6	2265.9	2242.5	2219.1
17.5°	2235.6	2224.6	2201.2	2176.4
20°	2193.0	2180.6	2154.4	2128.3
22.5°	2140.6	2129.6	2102.1	2075.9
25°	2084.2	2071.8	2044.3	2016.8
27.5°	2023.6	2009.9	1982.3	1956.2
30°	1957.6	1943.8	1916.3	1890.1
32.5°	1887.3	1876.3	1848.8	1819.9
35°	1815.8	1802.0	1774.5	1746.9
37.5°	1740.0	1727.7	1701.5	1675.3
40°	1660.2	1647.8	1620.3	1594.1
42.5°	1581.7	1570.7	1544.6	1519.8
45°	1497.8	1486.8	1462.0	1439.9
47.5°	1413.8	1402.8	1379.4	1356.0
50°	1328.4	1317.4	1295.4	1274.8
52.5°	1239.0	1230.7	1210.1	1189.4
55°	1149.5	1139.8	1119.2	1101.3
57.5°	1060.0	1053.1	1033.8	1015.9
60°	967.8	959.5	944.4	929.2
62.5°	878.3	871.4	856.3	842.5
65°	783.3	777.8	765.4	753.0
67.5°	685.6	681.4	669.0	658.0
70°	591.9	585.1	575.4	565.8
72.5°	497.0	494.2	485.9	477.7
75°	406.1	403.4	395.1	388.2
77.5°	320.8	318.0	311.1	304.2
80°	236.8	235.4	229.9	224.4
82.5°	162.4	161.1	156.9	151.4
85°	97.7	95.0	90.9	86.7
87.5°	42.7	41.3	37.2	34.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)