

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: P709180

Luminaire Tested: **4APN-39-42L930-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709180
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-39-42L930-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

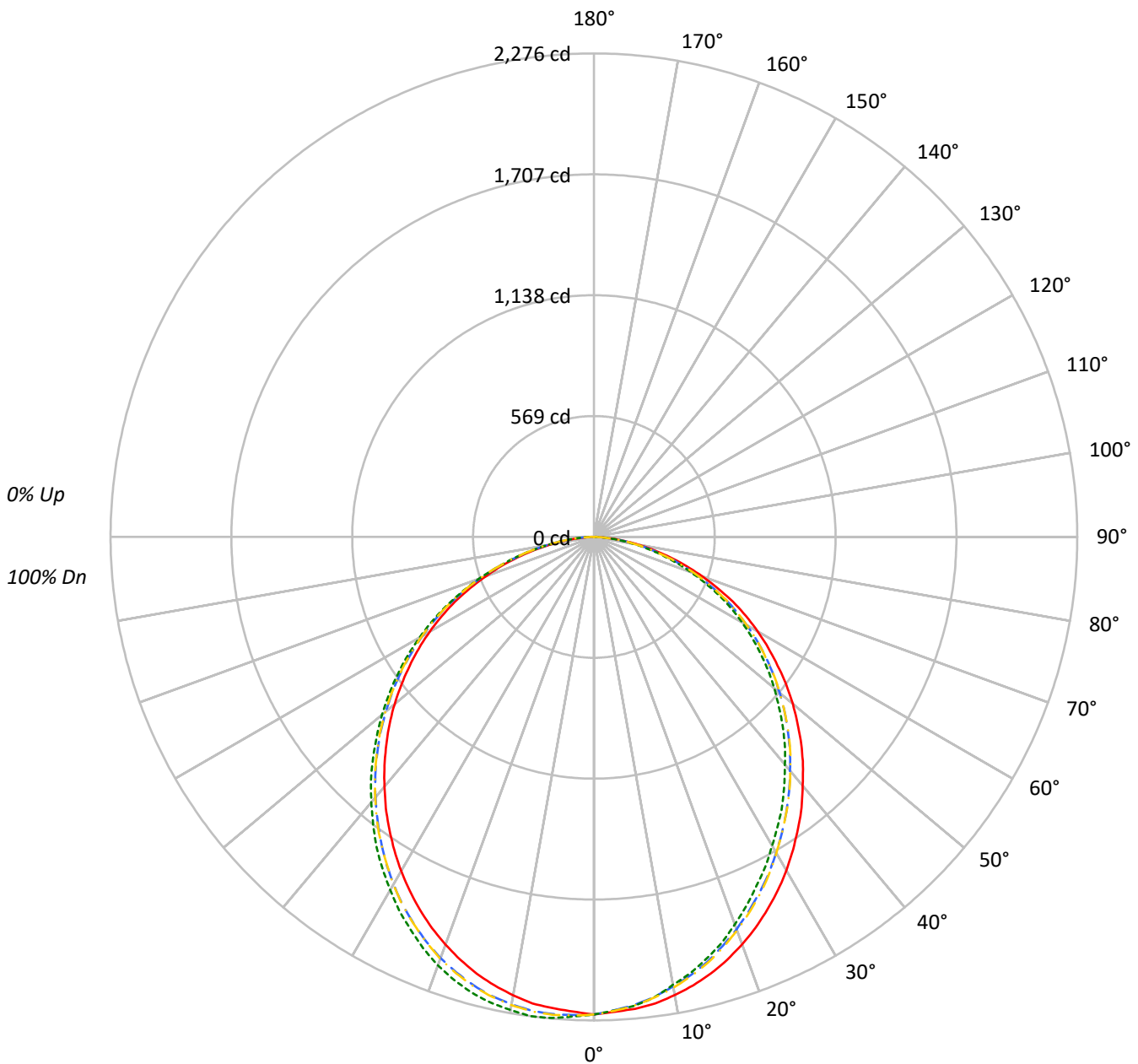
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5942.6 lumens
Efficiency: N/A
Efficacy: 64.6 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): 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

TEST NUMBER: P709180
CATALOG NUMBER: 4APN-39-42L930-UNV

Luminous Intensity Polar Plot



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



TEST NUMBER: P709180
 CATALOG NUMBER: 4APN-39-42L930-UNV

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	20741	20741	20741	20741
5°	20650	20515	20625	21053
10°	20518	20060	20530	21185
15°	20326	19620	20338	21221
20°	20038	19053	20051	21075
25°	19688	18451	19728	20776
30°	19309	17876	19337	20434
35°	18868	17411	18913	20102
40°	18412	16853	18475	19635
45°	18016	16397	18033	19188
50°	17546	15917	17584	18682
55°	16988	15395	17051	18156
60°	16443	14860	16467	17489
65°	15764	14208	15764	16716
70°	14637	13140	14599	15527
75°	13271	11906	13175	13977
80°	11434	10238	11221	11992
85°	8807	7823	8522	9644



TEST NUMBER: P709180
 CATALOG NUMBER: 4APN-39-42L930-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.3	3.6
10°-20°	601.1	10.1
20°-30°	890.0	15.0
30°-40°	1044.2	17.6
40°-50°	1058.2	17.8
50°-60°	939.2	15.8
60°-70°	705.1	11.9
70°-80°	391.5	6.6
80°-90°	101.1	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°	1703.4	28.7
0°-40°	2747.5	46.2
0°-60°	4744.9	79.8
0°-90°	5942.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5942.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2248	2248	2248	2248	2248	
5°	2230	2215	2227	2273	2230	212
15°	2128	2054	2129	2222	2128	600
25°	1934	1812	1938	2041	1934	891
35°	1675	1546	1679	1785	1675	1048
45°	1381	1257	1382	1471	1381	1064
55°	1056	957	1060	1129	1056	945
65°	722	651	722	766	722	712
75°	372	334	370	392	372	396
85°	83	74	80	91	83	100
90°	0	0	0	0	0	



TEST NUMBER: P709180

CATALOG NUMBER: 4APN-39-42L930-UNV

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1
2.5°	2237.6	2242.9	2249.5	2242.9	2232.3	2227.0	2227.0	2225.7	2229.7	2231.0	2229.7
5°	2229.7	2232.3	2233.6	2225.7	2213.8	2207.2	2204.6	2203.3	2208.5	2215.1	2208.5
7.5°	2215.1	2213.8	2212.5	2201.9	2188.7	2179.5	2175.5	2174.2	2179.5	2186.1	2180.8
10°	2190.1	2188.7	2184.8	2171.6	2154.4	2142.5	2138.6	2134.6	2138.6	2141.2	2138.6
12.5°	2162.3	2157.1	2151.8	2137.2	2118.8	2105.6	2099.0	2093.7	2099.0	2102.9	2100.3
15°	2128.0	2120.1	2110.8	2095.0	2076.5	2062.0	2054.1	2048.8	2052.8	2054.1	2054.1
17.5°	2087.1	2077.8	2068.6	2048.8	2026.4	2010.5	2001.3	1994.7	2000.0	2002.6	2002.6
20°	2040.9	2030.3	2018.4	1997.3	1973.6	1956.4	1945.8	1937.9	1939.2	1940.6	1940.6
22.5°	1990.7	1977.5	1963.0	1940.6	1915.5	1897.0	1886.4	1877.2	1877.2	1878.5	1878.5
25°	1934.0	1919.4	1904.9	1882.5	1856.1	1836.3	1823.1	1813.8	1813.8	1812.5	1815.1
27.5°	1875.9	1860.0	1845.5	1821.7	1794.0	1774.2	1761.0	1751.8	1750.5	1749.1	1751.8
30°	1812.5	1794.0	1778.2	1753.1	1726.7	1706.9	1693.7	1683.1	1680.5	1677.9	1680.5
32.5°	1745.2	1728.0	1710.9	1684.5	1658.1	1638.3	1625.0	1614.5	1613.2	1611.8	1614.5
35°	1675.2	1656.7	1640.9	1615.8	1589.4	1569.6	1555.1	1545.8	1545.8	1545.8	1545.8
37.5°	1606.6	1588.1	1570.9	1545.8	1519.4	1499.6	1485.1	1475.9	1473.2	1471.9	1473.2
40°	1528.7	1512.8	1497.0	1473.2	1446.8	1427.0	1415.2	1404.6	1402.0	1399.3	1403.3
42.5°	1457.4	1441.6	1424.4	1402.0	1375.5	1355.7	1342.5	1333.3	1332.0	1330.7	1332.0
45°	1380.8	1362.3	1345.2	1324.1	1300.3	1281.8	1268.6	1259.4	1258.1	1256.7	1258.1
47.5°	1300.3	1285.8	1271.3	1250.1	1226.4	1207.9	1196.0	1185.5	1182.8	1180.2	1182.8
50°	1222.4	1206.6	1192.1	1172.3	1149.8	1132.6	1122.1	1112.8	1110.2	1108.9	1110.2
52.5°	1140.6	1126.0	1112.8	1093.0	1074.6	1057.4	1045.5	1037.6	1036.3	1035.0	1036.3
55°	1056.1	1042.9	1031.0	1015.2	996.7	980.8	970.3	961.0	959.7	957.1	959.7
57.5°	974.2	963.7	951.8	934.6	917.5	903.0	893.7	885.8	884.5	883.2	884.5
60°	891.1	880.5	869.9	855.4	838.3	823.7	815.8	809.2	806.6	805.3	806.6
62.5°	807.9	797.3	789.4	774.9	759.1	747.2	739.3	732.7	730.0	728.7	730.0
65°	722.1	712.9	703.6	690.4	678.5	669.3	661.4	654.8	652.1	650.8	650.8
67.5°	631.0	623.1	616.5	604.6	591.4	582.2	574.2	569.0	566.3	565.0	566.3
70°	542.6	536.0	529.4	520.1	509.6	501.6	496.4	491.1	488.4	487.1	487.1
72.5°	458.1	452.8	446.2	438.3	430.4	422.4	417.2	413.2	410.6	409.2	409.2
75°	372.3	367.0	364.3	357.7	349.8	344.5	339.3	336.6	334.0	334.0	334.0
77.5°	291.7	289.1	286.5	279.9	274.6	269.3	265.3	264.0	261.4	261.4	261.4
80°	215.2	213.9	212.5	208.6	203.3	198.0	195.4	194.1	192.7	192.7	192.7
82.5°	145.2	145.2	143.9	139.9	136.0	134.7	132.0	130.7	130.7	130.7	130.7
85°	83.2	83.2	83.2	81.8	79.2	79.2	76.6	75.2	73.9	73.9	73.9
87.5°	33.0	34.3	35.6	34.3	31.7	31.7	31.7	31.7	31.7	31.7	31.7
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: P709180

CATALOG NUMBER: 4APN-39-42L930-UNV

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1
2.5°	2225.7	2228.3	2229.7	2236.3	2244.2	2249.5	2242.9	2236.3	2246.8	2258.7	2258.7
5°	2203.3	2205.9	2209.9	2217.8	2228.3	2234.9	2232.3	2227.0	2242.9	2256.1	2257.4
7.5°	2175.5	2178.2	2183.5	2191.4	2204.6	2213.8	2213.8	2215.1	2229.7	2245.5	2249.5
10°	2134.6	2141.2	2149.1	2161.0	2174.2	2186.1	2190.1	2191.4	2209.9	2227.0	2232.3
12.5°	2096.3	2102.9	2110.8	2124.0	2139.9	2153.1	2157.1	2162.3	2182.1	2201.9	2209.9
15°	2052.8	2059.4	2068.6	2081.8	2099.0	2113.5	2121.4	2129.3	2149.1	2170.3	2179.5
17.5°	2001.3	2007.9	2017.1	2033.0	2052.8	2069.9	2079.2	2088.4	2110.8	2133.3	2142.5
20°	1940.6	1949.8	1963.0	1978.8	2001.3	2021.1	2031.6	2042.2	2066.0	2088.4	2099.0
22.5°	1878.5	1889.1	1903.6	1922.1	1945.8	1967.0	1980.2	1993.4	2017.1	2039.6	2051.4
25°	1816.5	1828.3	1842.9	1862.7	1885.1	1906.2	1922.1	1937.9	1961.7	1985.4	1997.3
27.5°	1753.1	1763.7	1778.2	1798.0	1823.1	1845.5	1861.3	1878.5	1902.3	1927.4	1939.2
30°	1683.1	1695.0	1708.2	1728.0	1755.7	1780.8	1796.7	1815.1	1838.9	1864.0	1875.9
32.5°	1615.8	1626.4	1639.6	1659.4	1687.1	1713.5	1730.7	1749.1	1772.9	1798.0	1808.5
35°	1545.8	1556.4	1570.9	1590.7	1618.4	1643.5	1660.7	1679.2	1701.6	1725.4	1737.3
37.5°	1477.2	1487.8	1502.3	1522.1	1548.5	1573.6	1590.7	1609.2	1631.6	1654.1	1664.7
40°	1405.9	1416.5	1428.4	1448.2	1474.6	1499.6	1515.5	1534.0	1556.4	1580.2	1590.7
42.5°	1333.3	1343.9	1358.4	1378.2	1403.3	1425.7	1442.9	1460.0	1481.2	1502.3	1512.8
45°	1260.7	1269.9	1284.5	1302.9	1326.7	1347.8	1365.0	1382.1	1402.0	1421.8	1432.3
47.5°	1185.5	1196.0	1207.9	1226.4	1250.1	1272.6	1289.7	1305.6	1324.1	1343.9	1353.1
50°	1112.8	1122.1	1134.0	1151.1	1173.6	1194.7	1209.2	1225.1	1242.2	1260.7	1268.6
52.5°	1037.6	1046.8	1058.7	1075.9	1094.4	1114.2	1127.4	1141.9	1159.1	1176.2	1184.1
55°	961.0	967.6	978.2	994.0	1013.8	1032.3	1045.5	1060.0	1074.6	1089.1	1098.3
57.5°	885.8	893.7	904.3	918.8	936.0	953.1	965.0	976.9	991.4	1005.9	1012.5
60°	809.2	815.8	823.7	836.9	854.1	868.6	880.5	892.4	904.3	917.5	924.1
62.5°	731.3	737.9	745.9	759.1	773.6	786.8	797.3	807.9	818.5	830.3	836.9
65°	653.5	660.1	668.0	677.2	689.1	701.0	711.5	722.1	730.0	737.9	744.5
67.5°	569.0	575.6	583.5	591.4	602.0	613.8	621.8	631.0	638.9	648.2	652.1
70°	489.8	495.0	503.0	509.6	518.8	526.7	533.3	541.2	546.5	554.4	561.0
72.5°	411.9	417.2	423.8	430.4	435.6	442.2	450.2	456.8	463.4	471.3	473.9
75°	336.6	339.3	344.5	349.8	355.1	360.4	364.3	369.6	374.9	380.2	384.2
77.5°	262.7	265.3	270.6	274.6	278.5	282.5	285.1	287.8	293.1	297.0	301.0
80°	192.7	195.4	199.3	203.3	207.3	211.2	211.2	211.2	217.8	223.1	224.4
82.5°	130.7	132.0	134.7	137.3	139.9	142.6	142.6	141.3	145.2	149.2	151.8
85°	75.2	76.6	79.2	79.2	80.5	80.5	80.5	80.5	83.2	87.1	89.8
87.5°	30.4	30.4	31.7	31.7	33.0	33.0	31.7	30.4	33.0	37.0	38.3
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: P709180

CATALOG NUMBER: 4APN-39-42L930-UNV

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1	2248.1
2.5°	2253.4	2252.1	2256.1	2257.4	2260.0	2260.0	2261.3	2261.3	2258.7	2254.7	2256.1
5°	2254.7	2254.7	2258.7	2262.7	2267.9	2273.2	2269.3	2265.3	2262.7	2258.7	2257.4
7.5°	2248.1	2250.8	2254.7	2261.3	2267.9	2275.9	2270.6	2265.3	2258.7	2253.4	2250.8
10°	2232.3	2234.9	2241.5	2248.1	2254.7	2261.3	2256.1	2250.8	2245.5	2238.9	2236.3
12.5°	2212.5	2216.5	2224.4	2231.0	2237.6	2245.5	2238.9	2232.3	2225.7	2219.1	2215.1
15°	2183.5	2188.7	2198.0	2205.9	2215.1	2221.7	2216.5	2211.2	2203.3	2194.0	2187.4
17.5°	2146.5	2154.4	2163.7	2172.9	2180.8	2187.4	2183.5	2178.2	2168.9	2158.4	2150.5
20°	2105.6	2113.5	2121.4	2130.6	2139.9	2146.5	2141.2	2134.6	2125.4	2117.4	2109.5
22.5°	2058.0	2066.0	2075.2	2083.1	2091.0	2097.6	2091.0	2083.1	2075.2	2067.3	2059.4
25°	2003.9	2011.8	2022.4	2030.3	2035.6	2040.9	2035.6	2029.0	2021.1	2013.2	2005.2
27.5°	1947.2	1955.1	1965.6	1973.6	1978.8	1984.1	1978.8	1972.2	1964.3	1956.4	1948.5
30°	1883.8	1891.7	1902.3	1910.2	1914.2	1918.1	1912.8	1907.6	1901.0	1893.0	1885.1
32.5°	1816.5	1824.4	1832.3	1840.2	1846.8	1852.1	1846.8	1841.5	1833.6	1823.1	1815.1
35°	1745.2	1753.1	1762.3	1770.3	1778.2	1784.8	1776.9	1767.6	1761.0	1754.4	1747.8
37.5°	1669.9	1679.2	1689.7	1699.0	1701.6	1706.9	1701.6	1696.3	1689.7	1683.1	1675.2
40°	1596.0	1603.9	1613.2	1622.4	1626.4	1630.3	1625.0	1619.8	1611.8	1605.2	1597.3
42.5°	1519.4	1527.4	1535.3	1543.2	1548.5	1553.8	1548.5	1540.6	1535.3	1530.0	1523.4
45°	1440.2	1448.2	1454.8	1462.7	1466.6	1470.6	1465.3	1458.7	1453.4	1449.5	1442.9
47.5°	1359.7	1366.3	1372.9	1379.5	1382.1	1386.1	1380.8	1376.9	1372.9	1368.9	1363.7
50°	1275.2	1281.8	1289.7	1296.3	1297.7	1301.6	1296.3	1292.4	1288.4	1284.5	1280.5
52.5°	1192.1	1197.3	1203.9	1210.5	1213.2	1215.8	1210.5	1205.3	1201.3	1198.7	1194.7
55°	1104.9	1110.2	1116.8	1122.1	1126.0	1128.7	1123.4	1118.1	1114.2	1112.8	1108.9
57.5°	1017.8	1023.1	1029.7	1035.0	1037.6	1040.2	1035.0	1029.7	1027.0	1024.4	1021.8
60°	929.4	934.6	939.9	943.9	946.5	947.8	942.6	938.6	937.3	936.0	933.3
62.5°	842.2	844.9	850.1	852.8	855.4	856.7	852.8	850.1	848.8	847.5	846.2
65°	751.1	757.7	761.7	764.3	764.3	765.7	761.7	760.4	759.1	757.7	755.1
67.5°	657.4	662.7	665.3	668.0	668.0	668.0	668.0	668.0	666.7	664.0	661.4
70°	567.6	571.6	574.2	575.6	575.6	575.6	572.9	571.6	572.9	572.9	571.6
72.5°	476.6	479.2	480.5	481.8	480.5	480.5	480.5	483.2	483.2	481.8	479.2
75°	388.1	390.8	392.1	393.4	392.1	392.1	392.1	394.7	393.4	393.4	392.1
77.5°	304.9	306.3	306.3	307.6	306.3	306.3	307.6	310.2	308.9	308.9	308.9
80°	225.7	225.7	225.7	227.1	225.7	225.7	227.1	229.7	228.4	228.4	228.4
82.5°	153.1	154.5	154.5	154.5	155.8	157.1	157.1	157.1	157.1	157.1	155.8
85°	91.1	92.4	91.1	91.1	91.1	91.1	92.4	93.7	93.7	93.7	93.7
87.5°	39.6	40.9	39.6	38.3	37.0	37.0	39.6	42.2	42.2	40.9	40.9
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: P709180

CATALOG NUMBER: 4APN-39-42L930-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2248.1	2248.1	2248.1	2248.1
2.5°	2261.3	2261.3	2249.5	2237.6
5°	2260.0	2257.4	2244.2	2229.7
7.5°	2252.1	2248.1	2231.0	2215.1
10°	2233.6	2228.3	2209.9	2190.1
12.5°	2211.2	2203.3	2182.1	2162.3
15°	2182.1	2172.9	2150.5	2128.0
17.5°	2143.9	2133.3	2110.8	2087.1
20°	2102.9	2091.0	2066.0	2040.9
22.5°	2052.8	2042.2	2015.8	1990.7
25°	1998.6	1986.8	1960.4	1934.0
27.5°	1940.6	1927.4	1901.0	1875.9
30°	1877.2	1864.0	1837.6	1812.5
32.5°	1809.9	1799.3	1772.9	1745.2
35°	1741.2	1728.0	1701.6	1675.2
37.5°	1668.6	1656.7	1631.6	1606.6
40°	1592.0	1580.2	1553.8	1528.7
42.5°	1516.8	1506.2	1481.2	1457.4
45°	1436.3	1425.7	1402.0	1380.8
47.5°	1355.7	1345.2	1322.7	1300.3
50°	1273.9	1263.3	1242.2	1222.4
52.5°	1188.1	1180.2	1160.4	1140.6
55°	1102.3	1093.0	1073.2	1056.1
57.5°	1016.5	1009.9	991.4	974.2
60°	928.0	920.1	905.6	891.1
62.5°	842.2	835.6	821.1	807.9
65°	751.1	745.9	734.0	722.1
67.5°	657.4	653.5	641.6	631.0
70°	567.6	561.0	551.8	542.6
72.5°	476.6	473.9	466.0	458.1
75°	389.4	386.8	378.9	372.3
77.5°	307.6	304.9	298.3	291.7
80°	227.1	225.7	220.5	215.2
82.5°	155.8	154.5	150.5	145.2
85°	93.7	91.1	87.1	83.2
87.5°	40.9	39.6	35.6	33.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)