

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: P709193

Luminaire Tested: **4APN-35-37L940-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709193
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35-37L940-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

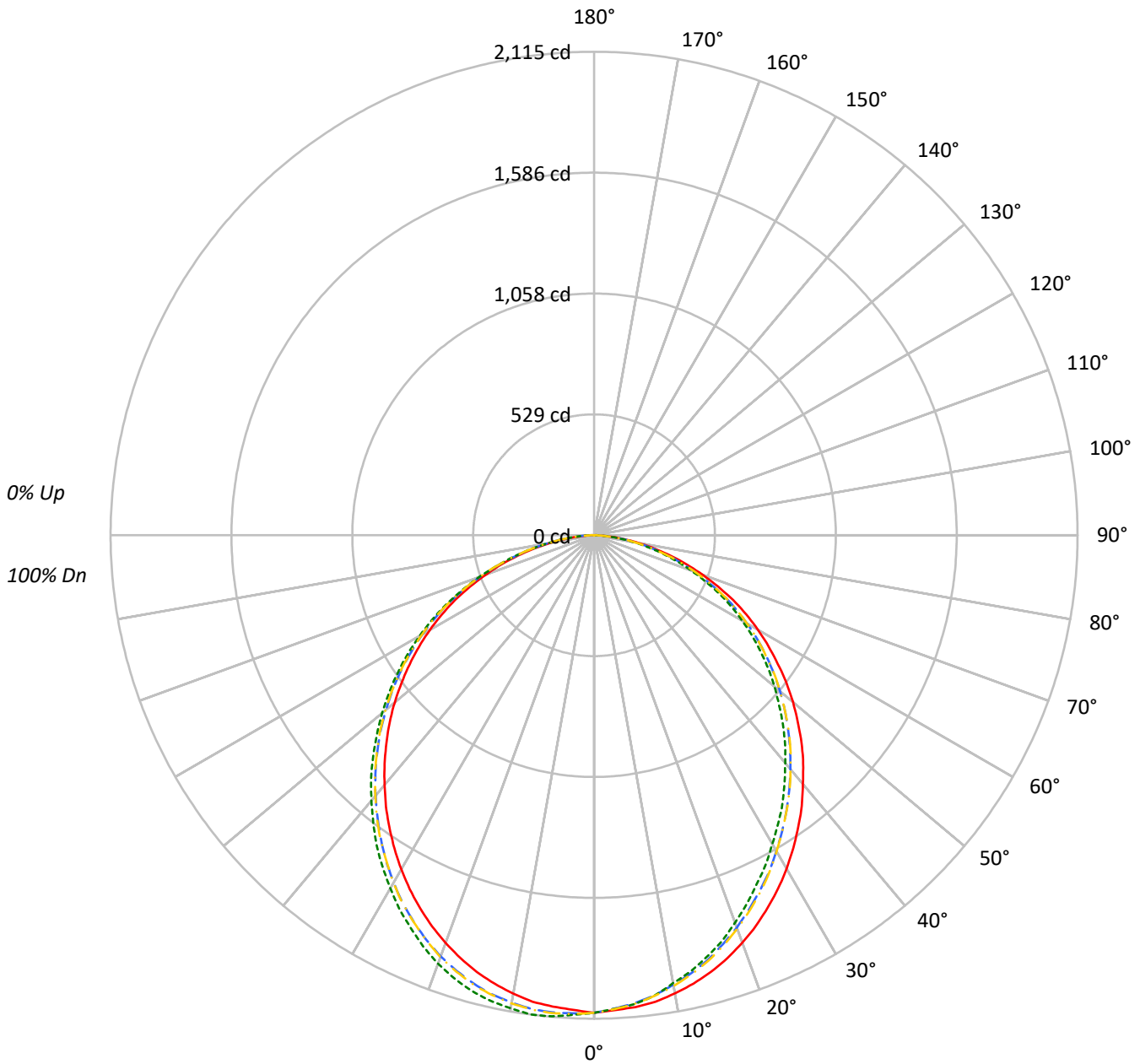
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5522.4 lumens
Efficiency: N/A
Efficacy: 68.2 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): 81
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				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°	19275	19275	19275	19275
5°	19190	19065	19167	19565
10°	19067	18642	19078	19687
15°	18888	18232	18900	19720
20°	18621	17705	18633	19585
25°	18295	17146	18333	19307
30°	17944	16611	17970	18990
35°	17533	16179	17575	18681
40°	17110	15662	17169	18247
45°	16743	15239	16759	17831
50°	16305	14791	16340	17362
55°	15786	14306	15846	16872
60°	15280	13808	15303	16253
65°	14649	13203	14649	15533
70°	13601	12212	13569	14429
75°	12330	11065	12245	12986
80°	10626	9516	10430	11147
85°	8183	7272	7918	8956



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.3	3.6
10°-20°	558.6	10.1
20°-30°	827.0	15.0
30°-40°	970.3	17.6
40°-50°	983.4	17.8
50°-60°	872.8	15.8
60°-70°	655.2	11.9
70°-80°	363.8	6.6
80°-90°	93.9	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°	1582.9	28.7
0°-40°	2553.2	46.2
0°-60°	4409.4	79.8
0°-90°	5522.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5522.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2089	2089	2089	2089	2089	
5°	2072	2058	2070	2112	2072	197
15°	1978	1909	1979	2065	1978	557
25°	1797	1684	1801	1897	1797	828
35°	1557	1436	1560	1659	1557	974
45°	1283	1168	1284	1367	1283	989
55°	981	889	985	1049	981	879
65°	671	605	671	712	671	662
75°	346	310	344	364	346	368
85°	77	69	75	85	77	93
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°	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2
2.5°	2079.3	2084.2	2090.4	2084.2	2074.4	2069.5	2069.5	2068.3	2072.0	2073.2	2072.0
5°	2072.0	2074.4	2075.7	2068.3	2057.3	2051.1	2048.7	2047.4	2052.4	2058.5	2052.4
7.5°	2058.5	2057.3	2056.0	2046.2	2034.0	2025.4	2021.7	2020.5	2025.4	2031.5	2026.6
10°	2035.2	2034.0	2030.3	2018.0	2002.1	1991.0	1987.3	1983.7	1987.3	1989.8	1987.3
12.5°	2009.4	2004.5	1999.6	1986.1	1968.9	1956.7	1950.5	1945.6	1950.5	1954.2	1951.8
15°	1977.5	1970.2	1961.6	1946.9	1929.7	1916.2	1908.8	1903.9	1907.6	1908.8	1908.8
17.5°	1939.5	1930.9	1922.3	1903.9	1883.1	1868.3	1859.8	1853.6	1858.5	1861.0	1861.0
20°	1896.6	1886.7	1875.7	1856.1	1834.0	1818.0	1808.2	1800.9	1802.1	1803.3	1803.3
22.5°	1849.9	1837.7	1824.2	1803.3	1780.0	1762.8	1753.0	1744.4	1744.4	1745.7	1745.7
25°	1797.2	1783.7	1770.2	1749.3	1724.8	1706.4	1694.1	1685.6	1685.6	1684.3	1686.8
27.5°	1743.2	1728.5	1715.0	1692.9	1667.2	1648.8	1636.5	1627.9	1626.7	1625.4	1627.9
30°	1684.3	1667.2	1652.4	1629.1	1604.6	1586.2	1573.9	1564.1	1561.7	1559.2	1561.7
32.5°	1621.8	1605.8	1589.9	1565.3	1540.8	1522.4	1510.1	1500.3	1499.1	1497.9	1500.3
35°	1556.7	1539.6	1524.8	1501.5	1477.0	1458.6	1445.1	1436.5	1436.5	1436.5	1436.5
37.5°	1493.0	1475.8	1459.8	1436.5	1412.0	1393.6	1380.1	1371.5	1369.1	1367.8	1369.1
40°	1420.6	1405.9	1391.1	1369.1	1344.5	1326.1	1315.1	1305.3	1302.8	1300.4	1304.0
42.5°	1354.3	1339.6	1323.7	1302.8	1278.3	1259.9	1247.6	1239.0	1237.8	1236.6	1237.8
45°	1283.2	1266.0	1250.1	1230.4	1208.3	1191.2	1178.9	1170.3	1169.1	1167.9	1169.1
47.5°	1208.3	1194.9	1181.4	1161.7	1139.7	1122.5	1111.4	1101.6	1099.2	1096.7	1099.2
50°	1136.0	1121.2	1107.8	1089.4	1068.5	1052.6	1042.7	1034.1	1031.7	1030.5	1031.7
52.5°	1059.9	1046.4	1034.1	1015.7	998.6	982.6	971.6	964.2	963.0	961.8	963.0
55°	981.4	969.1	958.1	943.4	926.2	911.5	901.7	893.1	891.8	889.4	891.8
57.5°	905.3	895.5	884.5	868.5	852.6	839.1	830.5	823.1	821.9	820.7	821.9
60°	828.1	818.2	808.4	794.9	779.0	765.5	758.1	752.0	749.5	748.3	749.5
62.5°	750.8	741.0	733.6	720.1	705.4	694.3	687.0	680.8	678.4	677.2	678.4
65°	671.0	662.4	653.9	641.6	630.5	622.0	614.6	608.5	606.0	604.8	604.8
67.5°	586.4	579.0	572.9	561.9	549.6	541.0	533.6	528.7	526.3	525.0	526.3
70°	504.2	498.1	491.9	483.3	473.5	466.2	461.3	456.4	453.9	452.7	452.7
72.5°	425.7	420.8	414.6	407.3	399.9	392.6	387.7	384.0	381.5	380.3	380.3
75°	345.9	341.0	338.6	332.4	325.1	320.2	315.3	312.8	310.4	310.4	310.4
77.5°	271.1	268.7	266.2	260.1	255.2	250.3	246.6	245.3	242.9	242.9	242.9
80°	200.0	198.7	197.5	193.8	188.9	184.0	181.6	180.3	179.1	179.1	179.1
82.5°	134.9	134.9	133.7	130.0	126.4	125.1	122.7	121.4	121.4	121.4	121.4
85°	77.3	77.3	77.3	76.1	73.6	73.6	71.2	69.9	68.7	68.7	68.7
87.5°	30.7	31.9	33.1	31.9	29.4	29.4	29.4	29.4	29.4	29.4	29.4
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°	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2
2.5°	2068.3	2070.8	2072.0	2078.1	2085.5	2090.4	2084.2	2078.1	2087.9	2099.0	2099.0
5°	2047.4	2049.9	2053.6	2060.9	2070.8	2076.9	2074.4	2069.5	2084.2	2096.5	2097.7
7.5°	2021.7	2024.1	2029.0	2036.4	2048.7	2057.3	2057.3	2058.5	2072.0	2086.7	2090.4
10°	1983.7	1989.8	1997.1	2008.2	2020.5	2031.5	2035.2	2036.4	2053.6	2069.5	2074.4
12.5°	1948.1	1954.2	1961.6	1973.8	1988.6	2000.8	2004.5	2009.4	2027.8	2046.2	2053.6
15°	1907.6	1913.7	1922.3	1934.6	1950.5	1964.0	1971.4	1978.7	1997.1	2016.8	2025.4
17.5°	1859.8	1865.9	1874.5	1889.2	1907.6	1923.5	1932.1	1940.7	1961.6	1982.4	1991.0
20°	1803.3	1811.9	1824.2	1838.9	1859.8	1878.2	1888.0	1897.8	1919.9	1940.7	1950.5
22.5°	1745.7	1755.5	1769.0	1786.1	1808.2	1827.9	1840.1	1852.4	1874.5	1895.3	1906.4
25°	1688.0	1699.0	1712.5	1730.9	1751.8	1771.4	1786.1	1800.9	1822.9	1845.0	1856.1
27.5°	1629.1	1638.9	1652.4	1670.8	1694.1	1715.0	1729.7	1745.7	1767.7	1791.1	1802.1
30°	1564.1	1575.1	1587.4	1605.8	1631.6	1654.9	1669.6	1686.8	1708.9	1732.2	1743.2
32.5°	1501.5	1511.4	1523.6	1542.0	1567.8	1592.3	1608.3	1625.4	1647.5	1670.8	1680.6
35°	1436.5	1446.3	1459.8	1478.2	1504.0	1527.3	1543.3	1560.4	1581.3	1603.4	1614.4
37.5°	1372.7	1382.5	1396.0	1414.4	1439.0	1462.3	1478.2	1495.4	1516.3	1537.1	1546.9
40°	1306.5	1316.3	1327.3	1345.7	1370.3	1393.6	1408.3	1425.5	1446.3	1468.4	1478.2
42.5°	1239.0	1248.8	1262.3	1280.7	1304.0	1324.9	1340.8	1356.8	1376.4	1396.0	1405.9
45°	1171.5	1180.1	1193.6	1210.8	1232.9	1252.5	1268.5	1284.4	1302.8	1321.2	1331.0
47.5°	1101.6	1111.4	1122.5	1139.7	1161.7	1182.6	1198.5	1213.3	1230.4	1248.8	1257.4
50°	1034.1	1042.7	1053.8	1069.7	1090.6	1110.2	1123.7	1138.4	1154.4	1171.5	1178.9
52.5°	964.2	972.8	983.9	999.8	1017.0	1035.4	1047.6	1061.1	1077.1	1093.0	1100.4
55°	893.1	899.2	909.0	923.7	942.1	959.3	971.6	985.1	998.6	1012.1	1020.7
57.5°	823.1	830.5	840.3	853.8	869.8	885.7	896.8	907.8	921.3	934.8	940.9
60°	752.0	758.1	765.5	777.8	793.7	807.2	818.2	829.3	840.3	852.6	858.7
62.5°	679.6	685.8	693.1	705.4	718.9	731.1	741.0	750.8	760.6	771.6	777.8
65°	607.2	613.4	620.7	629.3	640.4	651.4	661.2	671.0	678.4	685.8	691.9
67.5°	528.7	534.9	542.2	549.6	559.4	570.4	577.8	586.4	593.7	602.3	606.0
70°	455.1	460.0	467.4	473.5	482.1	489.5	495.6	503.0	507.9	515.2	521.4
72.5°	382.7	387.7	393.8	399.9	404.8	411.0	418.3	424.5	430.6	437.9	440.4
75°	312.8	315.3	320.2	325.1	330.0	334.9	338.6	343.5	348.4	353.3	357.0
77.5°	244.1	246.6	251.5	255.2	258.8	262.5	265.0	267.4	272.3	276.0	279.7
80°	179.1	181.6	185.2	188.9	192.6	196.3	196.3	196.3	202.4	207.3	208.5
82.5°	121.4	122.7	125.1	127.6	130.0	132.5	132.5	131.3	134.9	138.6	141.1
85°	69.9	71.2	73.6	73.6	74.8	74.8	74.8	74.8	77.3	81.0	83.4
87.5°	28.2	28.2	29.4	29.4	30.7	30.7	29.4	28.2	30.7	34.3	35.6
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°	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2	2089.2
2.5°	2094.1	2092.8	2096.5	2097.7	2100.2	2100.2	2101.4	2101.4	2099.0	2095.3	2096.5
5°	2095.3	2095.3	2099.0	2102.6	2107.6	2112.5	2108.8	2105.1	2102.6	2099.0	2097.7
7.5°	2089.2	2091.6	2095.3	2101.4	2107.6	2114.9	2110.0	2105.1	2099.0	2094.1	2091.6
10°	2074.4	2076.9	2083.0	2089.2	2095.3	2101.4	2096.5	2091.6	2086.7	2080.6	2078.1
12.5°	2056.0	2059.7	2067.1	2073.2	2079.3	2086.7	2080.6	2074.4	2068.3	2062.2	2058.5
15°	2029.0	2034.0	2042.5	2049.9	2058.5	2064.6	2059.7	2054.8	2047.4	2038.9	2032.7
17.5°	1994.7	2002.1	2010.6	2019.2	2026.6	2032.7	2029.0	2024.1	2015.5	2005.7	1998.4
20°	1956.7	1964.0	1971.4	1980.0	1988.6	1994.7	1989.8	1983.7	1975.1	1967.7	1960.3
22.5°	1912.5	1919.9	1928.4	1935.8	1943.2	1949.3	1943.2	1935.8	1928.4	1921.1	1913.7
25°	1862.2	1869.6	1879.4	1886.7	1891.6	1896.6	1891.6	1885.5	1878.2	1870.8	1863.4
27.5°	1809.5	1816.8	1826.6	1834.0	1838.9	1843.8	1838.9	1832.8	1825.4	1818.0	1810.7
30°	1750.6	1757.9	1767.7	1775.1	1778.8	1782.5	1777.6	1772.7	1766.5	1759.2	1751.8
32.5°	1688.0	1695.4	1702.7	1710.1	1716.2	1721.1	1716.2	1711.3	1704.0	1694.1	1686.8
35°	1621.8	1629.1	1637.7	1645.1	1652.4	1658.6	1651.2	1642.6	1636.5	1630.3	1624.2
37.5°	1551.8	1560.4	1570.2	1578.8	1581.3	1586.2	1581.3	1576.4	1570.2	1564.1	1556.7
40°	1483.1	1490.5	1499.1	1507.7	1511.4	1515.0	1510.1	1505.2	1497.9	1491.7	1484.4
42.5°	1412.0	1419.3	1426.7	1434.1	1439.0	1443.9	1439.0	1431.6	1426.7	1421.8	1415.7
45°	1338.4	1345.7	1351.9	1359.2	1362.9	1366.6	1361.7	1355.6	1350.7	1347.0	1340.8
47.5°	1263.6	1269.7	1275.8	1282.0	1284.4	1288.1	1283.2	1279.5	1275.8	1272.1	1267.2
50°	1185.0	1191.2	1198.5	1204.7	1205.9	1209.6	1204.7	1201.0	1197.3	1193.6	1189.9
52.5°	1107.8	1112.7	1118.8	1124.9	1127.4	1129.8	1124.9	1120.0	1116.3	1113.9	1110.2
55°	1026.8	1031.7	1037.8	1042.7	1046.4	1048.9	1044.0	1039.1	1035.4	1034.1	1030.5
57.5°	945.8	950.7	956.9	961.8	964.2	966.7	961.8	956.9	954.4	952.0	949.5
60°	863.6	868.5	873.4	877.1	879.6	880.8	875.9	872.2	871.0	869.8	867.3
62.5°	782.7	785.1	790.0	792.5	794.9	796.2	792.5	790.0	788.8	787.6	786.3
65°	698.0	704.2	707.8	710.3	710.3	711.5	707.8	706.6	705.4	704.2	701.7
67.5°	610.9	615.8	618.3	620.7	620.7	620.7	620.7	620.7	619.5	617.1	614.6
70°	527.5	531.2	533.6	534.9	534.9	534.9	532.4	531.2	532.4	532.4	531.2
72.5°	442.9	445.3	446.5	447.8	446.5	446.5	446.5	449.0	449.0	447.8	445.3
75°	360.7	363.1	364.3	365.6	364.3	364.3	364.3	366.8	365.6	365.6	364.3
77.5°	283.4	284.6	284.6	285.8	284.6	284.6	285.8	288.3	287.1	287.1	287.1
80°	209.8	209.8	209.8	211.0	209.8	209.8	211.0	213.5	212.2	212.2	212.2
82.5°	142.3	143.5	143.5	143.5	144.8	146.0	146.0	146.0	146.0	146.0	144.8
85°	84.6	85.9	84.6	84.6	84.6	84.6	85.9	87.1	87.1	87.1	87.1
87.5°	36.8	38.0	36.8	35.6	34.3	34.3	36.8	39.3	39.3	38.0	38.0
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: P709193

CATALOG NUMBER: 4APN-35-37L940-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2089.2	2089.2	2089.2	2089.2
2.5°	2101.4	2101.4	2090.4	2079.3
5°	2100.2	2097.7	2085.5	2072.0
7.5°	2092.8	2089.2	2073.2	2058.5
10°	2075.7	2070.8	2053.6	2035.2
12.5°	2054.8	2047.4	2027.8	2009.4
15°	2027.8	2019.2	1998.4	1977.5
17.5°	1992.2	1982.4	1961.6	1939.5
20°	1954.2	1943.2	1919.9	1896.6
22.5°	1907.6	1897.8	1873.2	1849.9
25°	1857.3	1846.3	1821.7	1797.2
27.5°	1803.3	1791.1	1766.5	1743.2
30°	1744.4	1732.2	1707.6	1684.3
32.5°	1681.9	1672.1	1647.5	1621.8
35°	1618.1	1605.8	1581.3	1556.7
37.5°	1550.6	1539.6	1516.3	1493.0
40°	1479.5	1468.4	1443.9	1420.6
42.5°	1409.5	1399.7	1376.4	1354.3
45°	1334.7	1324.9	1302.8	1283.2
47.5°	1259.9	1250.1	1229.2	1208.3
50°	1183.8	1174.0	1154.4	1136.0
52.5°	1104.1	1096.7	1078.3	1059.9
55°	1024.3	1015.7	997.3	981.4
57.5°	944.6	938.5	921.3	905.3
60°	862.4	855.0	841.6	828.1
62.5°	782.7	776.5	763.0	750.8
65°	698.0	693.1	682.1	671.0
67.5°	610.9	607.2	596.2	586.4
70°	527.5	521.4	512.8	504.2
72.5°	442.9	440.4	433.0	425.7
75°	361.9	359.4	352.1	345.9
77.5°	285.8	283.4	277.2	271.1
80°	211.0	209.8	204.9	200.0
82.5°	144.8	143.5	139.8	134.9
85°	87.1	84.6	81.0	77.3
87.5°	38.0	36.8	33.1	30.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)