

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-35-37L935-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-35-37L935-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

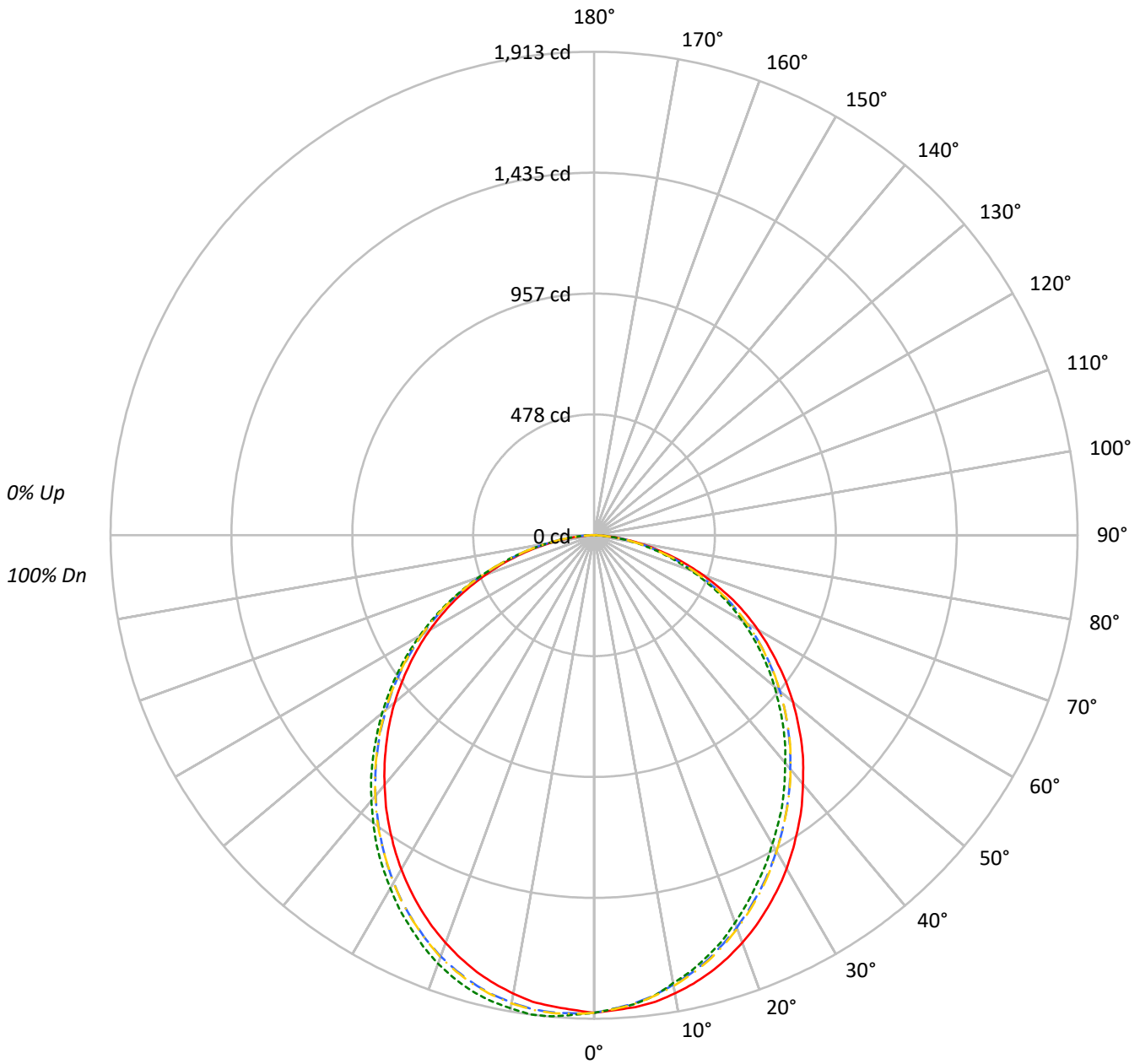
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4994.8 lumens
Efficiency: N/A
Efficacy: 61.7 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 (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

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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°	17433	17433	17433	17433
5°	17357	17243	17336	17696
10°	17246	16861	17256	17807
15°	17084	16490	17095	17837
20°	16842	16014	16853	17714
25°	16548	15508	16581	17463
30°	16230	15024	16253	17176
35°	15858	14634	15896	16896
40°	15475	14165	15528	16504
45°	15143	13782	15158	16127
50°	14748	13377	14780	15703
55°	14277	12939	14330	15259
60°	13819	12489	13839	14701
65°	13251	11942	13251	14050
70°	12301	11047	12271	13051
75°	11154	10006	11076	11746
80°	9612	8607	9431	10079
85°	7400	6574	7167	8098



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.4	3.6
10°-20°	505.2	10.1
20°-30°	748.0	15.0
30°-40°	877.6	17.6
40°-50°	889.4	17.8
50°-60°	789.4	15.8
60°-70°	592.6	11.9
70°-80°	329.1	6.6
80°-90°	85.0	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°	1431.7	28.7
0°-40°	2309.3	46.2
0°-60°	3988.1	79.8
0°-90°	4994.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4994.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1890	1890	1890	1890	1890	
5°	1874	1862	1872	1911	1874	178
15°	1789	1726	1790	1867	1789	504
25°	1626	1523	1629	1715	1626	749
35°	1408	1299	1411	1500	1408	881
45°	1161	1056	1162	1236	1161	895
55°	888	804	891	949	888	795
65°	607	547	607	644	607	598
75°	313	281	311	330	313	333
85°	70	62	68	76	70	84
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°	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5
2.5°	1880.7	1885.1	1890.7	1885.1	1876.3	1871.8	1871.8	1870.7	1874.1	1875.2	1874.1
5°	1874.1	1876.3	1877.4	1870.7	1860.7	1855.2	1852.9	1851.8	1856.3	1861.8	1856.3
7.5°	1861.8	1860.7	1859.6	1850.7	1839.7	1831.8	1828.5	1827.4	1831.8	1837.5	1832.9
10°	1840.8	1839.7	1836.3	1825.2	1810.8	1800.8	1797.4	1794.1	1797.4	1799.7	1797.4
12.5°	1817.4	1813.0	1808.6	1796.3	1780.8	1769.8	1764.2	1759.7	1764.2	1767.5	1765.3
15°	1788.6	1781.9	1774.2	1760.8	1745.3	1733.1	1726.4	1722.0	1725.3	1726.4	1726.4
17.5°	1754.2	1746.5	1738.7	1722.0	1703.1	1689.8	1682.1	1676.6	1681.0	1683.2	1683.2
20°	1715.4	1706.5	1696.5	1678.8	1658.8	1644.4	1635.4	1628.8	1629.9	1631.0	1631.0
22.5°	1673.2	1662.1	1649.9	1631.0	1610.0	1594.4	1585.6	1577.8	1577.8	1578.9	1578.9
25°	1625.5	1613.3	1601.1	1582.2	1560.0	1543.4	1532.3	1524.5	1524.5	1523.4	1525.6
27.5°	1576.7	1563.3	1551.2	1531.2	1507.8	1491.2	1480.2	1472.3	1471.2	1470.1	1472.3
30°	1523.4	1507.8	1494.6	1473.4	1451.3	1434.6	1423.6	1414.7	1412.5	1410.2	1412.5
32.5°	1466.8	1452.4	1438.0	1415.8	1393.6	1376.9	1365.9	1357.0	1355.9	1354.8	1357.0
35°	1408.0	1392.5	1379.1	1358.1	1335.9	1319.3	1307.0	1299.3	1299.3	1299.3	1299.3
37.5°	1350.4	1334.8	1320.4	1299.3	1277.1	1260.5	1248.2	1240.5	1238.2	1237.1	1238.2
40°	1284.9	1271.5	1258.3	1238.2	1216.0	1199.4	1189.5	1180.5	1178.3	1176.1	1179.4
42.5°	1225.0	1211.6	1197.2	1178.3	1156.2	1139.5	1128.4	1120.7	1119.5	1118.4	1119.5
45°	1160.6	1145.0	1130.6	1112.9	1092.9	1077.4	1066.3	1058.5	1057.4	1056.3	1057.4
47.5°	1092.9	1080.7	1068.5	1050.7	1030.8	1015.2	1005.3	996.4	994.2	992.0	994.2
50°	1027.5	1014.1	1001.9	985.2	966.4	952.0	943.1	935.4	933.2	932.0	933.2
52.5°	958.7	946.4	935.4	918.7	903.2	888.7	878.8	872.1	871.0	869.9	871.0
55°	887.6	876.5	866.6	853.2	837.7	824.4	815.5	807.8	806.7	804.4	806.7
57.5°	818.8	810.0	800.0	785.5	771.2	758.9	751.2	744.5	743.4	742.3	743.4
60°	748.9	740.1	731.2	719.0	704.6	692.3	685.7	680.2	677.9	676.8	677.9
62.5°	679.1	670.2	663.5	651.3	638.0	628.0	621.3	615.8	613.6	612.5	613.6
65°	607.0	599.1	591.4	580.3	570.3	562.5	555.9	550.3	548.1	547.0	547.0
67.5°	530.3	523.7	518.2	508.2	497.1	489.3	482.7	478.2	476.0	474.9	476.0
70°	456.0	450.5	445.0	437.1	428.3	421.6	417.2	412.8	410.6	409.5	409.5
72.5°	385.0	380.6	375.1	368.3	361.7	355.1	350.6	347.3	345.1	344.0	344.0
75°	312.9	308.5	306.2	300.7	294.0	289.6	285.2	283.0	280.7	280.7	280.7
77.5°	245.3	242.9	240.7	235.2	230.8	226.4	223.0	221.9	219.7	219.7	219.7
80°	180.9	179.8	178.7	175.3	170.8	166.4	164.2	163.1	162.0	162.0	162.0
82.5°	122.1	122.1	121.0	117.6	114.3	113.1	110.9	109.8	109.8	109.8	109.8
85°	69.9	69.9	69.9	68.8	66.6	66.6	64.4	63.2	62.1	62.1	62.1
87.5°	27.8	28.9	30.0	28.9	26.6	26.6	26.6	26.6	26.6	26.6	26.6
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5
2.5°	1870.7	1873.0	1874.1	1879.6	1886.2	1890.7	1885.1	1879.6	1888.4	1898.4	1898.4
5°	1851.8	1854.0	1857.4	1864.0	1873.0	1878.5	1876.3	1871.8	1885.1	1896.2	1897.3
7.5°	1828.5	1830.7	1835.2	1841.9	1852.9	1860.7	1860.7	1861.8	1874.1	1887.3	1890.7
10°	1794.1	1799.7	1806.4	1816.3	1827.4	1837.5	1840.8	1841.9	1857.4	1871.8	1876.3
12.5°	1761.9	1767.5	1774.2	1785.3	1798.5	1809.7	1813.0	1817.4	1834.0	1850.7	1857.4
15°	1725.3	1730.9	1738.7	1749.8	1764.2	1776.4	1783.1	1789.7	1806.4	1824.1	1831.8
17.5°	1682.1	1687.6	1695.4	1708.7	1725.3	1739.8	1747.6	1755.3	1774.2	1793.0	1800.8
20°	1631.0	1638.8	1649.9	1663.2	1682.1	1698.7	1707.6	1716.5	1736.4	1755.3	1764.2
22.5°	1578.9	1587.8	1599.9	1615.5	1635.4	1653.2	1664.3	1675.5	1695.4	1714.3	1724.2
25°	1526.7	1536.7	1549.0	1565.6	1584.5	1602.2	1615.5	1628.8	1648.8	1668.7	1678.8
27.5°	1473.4	1482.4	1494.6	1511.3	1532.3	1551.2	1564.4	1578.9	1598.8	1620.0	1629.9
30°	1414.7	1424.7	1435.7	1452.4	1475.7	1496.8	1510.1	1525.6	1545.6	1566.7	1576.7
32.5°	1358.1	1367.0	1378.0	1394.7	1418.0	1440.2	1454.6	1470.1	1490.1	1511.3	1520.1
35°	1299.3	1308.1	1320.4	1337.0	1360.3	1381.4	1395.8	1411.3	1430.2	1450.2	1460.2
37.5°	1241.6	1250.5	1262.7	1279.3	1301.5	1322.6	1337.0	1352.6	1371.4	1390.3	1399.1
40°	1181.6	1190.6	1200.5	1217.1	1239.4	1260.5	1273.7	1289.3	1308.1	1328.1	1337.0
42.5°	1120.7	1129.5	1141.7	1158.4	1179.4	1198.3	1212.7	1227.2	1244.9	1262.7	1271.5
45°	1059.7	1067.4	1079.6	1095.2	1115.1	1132.9	1147.2	1161.7	1178.3	1195.0	1203.9
47.5°	996.4	1005.3	1015.2	1030.8	1050.7	1069.6	1084.0	1097.4	1112.9	1129.5	1137.3
50°	935.4	943.1	953.1	967.5	986.4	1004.2	1016.3	1029.7	1044.1	1059.7	1066.3
52.5°	872.1	879.9	889.8	904.3	919.8	936.5	947.5	959.8	974.2	988.6	995.3
55°	807.8	813.3	822.1	835.5	852.1	867.7	878.8	890.9	903.2	915.4	923.1
57.5°	744.5	751.2	760.0	772.3	786.7	801.1	811.1	821.0	833.3	845.5	851.0
60°	680.2	685.7	692.3	703.5	717.9	730.0	740.1	750.0	760.0	771.2	776.7
62.5°	614.7	620.2	626.9	638.0	650.2	661.3	670.2	679.1	687.9	697.9	703.5
65°	549.2	554.8	561.4	569.2	579.2	589.2	598.0	607.0	613.6	620.2	625.8
67.5°	478.2	483.8	490.4	497.1	506.0	516.0	522.6	530.3	537.1	544.8	548.1
70°	411.7	416.1	422.7	428.3	436.0	442.7	448.3	454.9	459.3	466.0	471.6
72.5°	346.2	350.6	356.2	361.7	366.1	371.7	378.4	383.9	389.5	396.1	398.3
75°	283.0	285.2	289.6	294.0	298.5	302.9	306.2	310.7	315.1	319.6	322.9
77.5°	220.8	223.0	227.5	230.8	234.1	237.4	239.6	241.8	246.4	249.7	253.0
80°	162.0	164.2	167.5	170.8	174.2	177.5	177.5	177.5	183.1	187.5	188.6
82.5°	109.8	110.9	113.1	115.4	117.6	119.9	119.9	118.8	122.1	125.4	127.6
85°	63.2	64.4	66.6	66.6	67.7	67.7	67.7	67.7	69.9	73.2	75.4
87.5°	25.5	25.5	26.6	26.6	27.8	27.8	26.6	25.5	27.8	31.1	32.2
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°	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5	1889.5
2.5°	1894.0	1892.9	1896.2	1897.3	1899.6	1899.6	1900.7	1900.7	1898.4	1895.1	1896.2
5°	1895.1	1895.1	1898.4	1901.8	1906.2	1910.7	1907.3	1904.0	1901.8	1898.4	1897.3
7.5°	1889.5	1891.8	1895.1	1900.7	1906.2	1912.9	1908.4	1904.0	1898.4	1894.0	1891.8
10°	1876.3	1878.5	1884.0	1889.5	1895.1	1900.7	1896.2	1891.8	1887.3	1881.8	1879.6
12.5°	1859.6	1862.9	1869.6	1875.2	1880.7	1887.3	1881.8	1876.3	1870.7	1865.1	1861.8
15°	1835.2	1839.7	1847.4	1854.0	1861.8	1867.4	1862.9	1858.5	1851.8	1844.1	1838.6
17.5°	1804.2	1810.8	1818.6	1826.3	1832.9	1838.6	1835.2	1830.7	1823.0	1814.1	1807.5
20°	1769.8	1776.4	1783.1	1790.8	1798.5	1804.2	1799.7	1794.1	1786.4	1779.7	1773.1
22.5°	1729.8	1736.4	1744.2	1750.9	1757.5	1763.0	1757.5	1750.9	1744.2	1737.6	1730.9
25°	1684.3	1690.9	1699.8	1706.5	1711.0	1715.4	1711.0	1705.4	1698.7	1692.1	1685.4
27.5°	1636.6	1643.3	1652.1	1658.8	1663.2	1667.6	1663.2	1657.7	1651.0	1644.4	1637.7
30°	1583.4	1590.0	1598.8	1605.5	1608.9	1612.2	1607.8	1603.3	1597.7	1591.1	1584.5
32.5°	1526.7	1533.4	1540.0	1546.7	1552.3	1556.7	1552.3	1547.9	1541.1	1532.3	1525.6
35°	1466.8	1473.4	1481.3	1487.9	1494.6	1500.1	1493.5	1485.7	1480.2	1474.6	1469.0
37.5°	1403.6	1411.3	1420.2	1428.0	1430.2	1434.6	1430.2	1425.8	1420.2	1414.7	1408.0
40°	1341.4	1348.1	1355.9	1363.6	1367.0	1370.3	1365.9	1361.4	1354.8	1349.3	1342.5
42.5°	1277.1	1283.8	1290.4	1297.1	1301.5	1305.9	1301.5	1294.9	1290.4	1286.0	1280.4
45°	1210.5	1217.1	1222.8	1229.4	1232.7	1236.0	1231.6	1226.1	1221.7	1218.3	1212.7
47.5°	1142.8	1148.4	1154.0	1159.5	1161.7	1165.0	1160.6	1157.3	1154.0	1150.6	1146.1
50°	1071.8	1077.4	1084.0	1089.6	1090.7	1094.0	1089.6	1086.2	1082.9	1079.6	1076.3
52.5°	1001.9	1006.4	1011.9	1017.4	1019.6	1021.9	1017.4	1013.0	1009.7	1007.5	1004.2
55°	928.7	933.2	938.7	943.1	946.4	948.6	944.2	939.8	936.5	935.4	932.0
57.5°	855.4	859.9	865.5	869.9	872.1	874.3	869.9	865.5	863.3	861.1	858.8
60°	781.1	785.5	790.0	793.3	795.6	796.7	792.2	788.9	787.8	786.7	784.4
62.5°	707.9	710.1	714.6	716.8	719.0	720.1	716.8	714.6	713.4	712.3	711.2
65°	631.3	636.9	640.2	642.4	642.4	643.6	640.2	639.1	638.0	636.9	634.7
67.5°	552.6	557.0	559.2	561.4	561.4	561.4	561.4	561.4	560.3	558.1	555.9
70°	477.1	480.5	482.7	483.8	483.8	483.8	481.6	480.5	481.6	481.6	480.5
72.5°	400.5	402.7	403.8	404.9	403.8	403.8	403.8	406.1	406.1	404.9	402.7
75°	326.2	328.4	329.5	330.6	329.5	329.5	329.5	331.7	330.6	330.6	329.5
77.5°	256.3	257.4	257.4	258.5	257.4	257.4	258.5	260.7	259.6	259.6	259.6
80°	189.7	189.7	189.7	190.9	189.7	189.7	190.9	193.1	192.0	192.0	192.0
82.5°	128.7	129.8	129.8	129.8	130.9	132.0	132.0	132.0	132.0	132.0	130.9
85°	76.5	77.6	76.5	76.5	76.5	76.5	77.6	78.7	78.7	78.7	78.7
87.5°	33.3	34.4	33.3	32.2	31.1	31.1	33.3	35.5	35.5	34.4	34.4
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-35-37L935-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1889.5	1889.5	1889.5	1889.5
2.5°	1900.7	1900.7	1890.7	1880.7
5°	1899.6	1897.3	1886.2	1874.1
7.5°	1892.9	1889.5	1875.2	1861.8
10°	1877.4	1873.0	1857.4	1840.8
12.5°	1858.5	1851.8	1834.0	1817.4
15°	1834.0	1826.3	1807.5	1788.6
17.5°	1802.0	1793.0	1774.2	1754.2
20°	1767.5	1757.5	1736.4	1715.4
22.5°	1725.3	1716.5	1694.3	1673.2
25°	1679.9	1669.8	1647.7	1625.5
27.5°	1631.0	1620.0	1597.7	1576.7
30°	1577.8	1566.7	1544.5	1523.4
32.5°	1521.2	1512.4	1490.1	1466.8
35°	1463.5	1452.4	1430.2	1408.0
37.5°	1402.5	1392.5	1371.4	1350.4
40°	1338.1	1328.1	1305.9	1284.9
42.5°	1274.8	1266.0	1244.9	1225.0
45°	1207.2	1198.3	1178.3	1160.6
47.5°	1139.5	1130.6	1111.7	1092.9
50°	1070.7	1061.9	1044.1	1027.5
52.5°	998.6	992.0	975.3	958.7
55°	926.5	918.7	902.1	887.6
57.5°	854.3	848.8	833.3	818.8
60°	780.0	773.4	761.1	748.9
62.5°	707.9	702.4	690.1	679.1
65°	631.3	626.9	616.9	607.0
67.5°	552.6	549.2	539.3	530.3
70°	477.1	471.6	463.8	456.0
72.5°	400.5	398.3	391.7	385.0
75°	327.3	325.1	318.5	312.9
77.5°	258.5	256.3	250.8	245.3
80°	190.9	189.7	185.3	180.9
82.5°	130.9	129.8	126.5	122.1
85°	78.7	76.5	73.2	69.9
87.5°	34.4	33.3	30.0	27.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)