

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: P709181

Luminaire Tested: **4APN-35-37L930-UNV**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P709181  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN-35-37L930-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

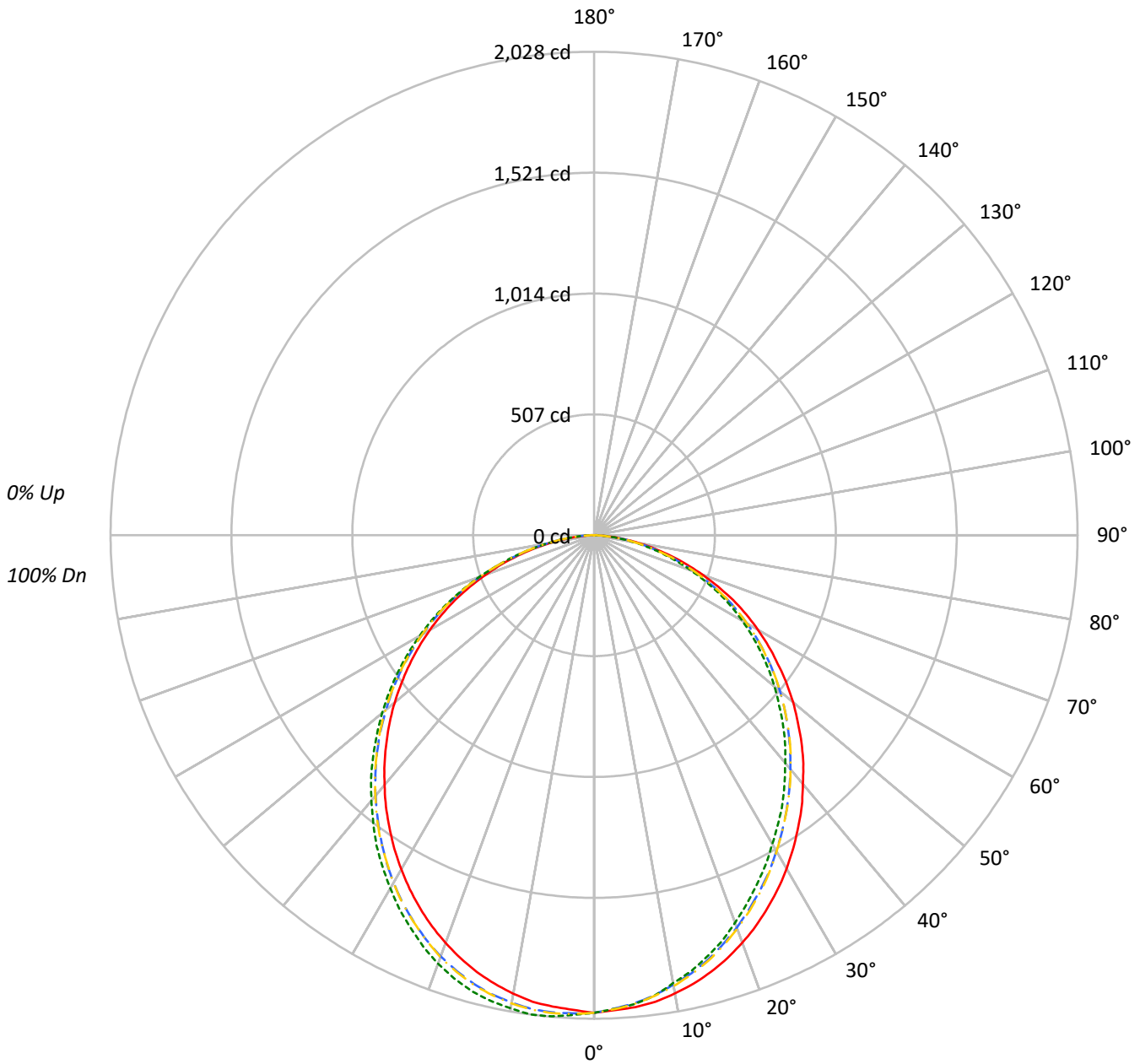
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5295.7 lumens  
Efficiency: N/A  
Efficacy: 65.4 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): 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

TEST NUMBER: P709181  
CATALOG NUMBER: 4APN-35-37L930-UNV

### Luminous Intensity Polar Plot



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



TEST NUMBER: P709181  
 CATALOG NUMBER: 4APN-35-37L930-UNV

**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°	18484	18484	18484	18484
5°	18402	18282	18380	18761
10°	18284	17876	18295	18879
15°	18113	17484	18124	18911
20°	17857	16979	17868	18780
25°	17544	16443	17580	18514
30°	17208	15929	17232	18210
35°	16814	15515	16854	17914
40°	16407	15019	16464	17497
45°	16055	14612	16071	17099
50°	15635	14184	15670	16649
55°	15138	13719	15194	16179
60°	14653	13241	14673	15585
65°	14048	12662	14048	14895
70°	13043	11710	13010	13836
75°	11824	10609	11742	12455
80°	10191	9128	9999	10690
85°	7844	6976	7601	8596



TEST NUMBER: P709181  
 CATALOG NUMBER: 4APN-35-37L930-UNV

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.2	3.6
10°-20°	535.7	10.1
20°-30°	793.1	15.0
30°-40°	930.5	17.6
40°-50°	943.0	17.8
50°-60°	836.9	15.8
60°-70°	628.3	11.9
70°-80°	348.9	6.6
80°-90°	90.1	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°	1517.9	28.7
0°-40°	2448.4	46.2
0°-60°	4228.3	79.8
0°-90°	5295.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5295.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2003	2003	2003	2003	2003	
5°	1987	1974	1985	2026	1987	189
15°	1896	1830	1898	1980	1896	534
25°	1723	1615	1727	1819	1723	794
35°	1493	1378	1496	1590	1493	934
45°	1230	1120	1232	1310	1230	948
55°	941	853	945	1006	941	842
65°	644	580	644	682	644	634
75°	332	298	329	349	332	353
85°	74	66	72	81	74	89
90°	0	0	0	0	0	



TEST NUMBER: P709181

CATALOG NUMBER: 4APN-35-37L930-UNV

**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4
2.5°	1994.0	1998.7	2004.6	1998.7	1989.3	1984.6	1984.6	1983.4	1986.9	1988.1	1986.9
5°	1986.9	1989.3	1990.4	1983.4	1972.8	1966.9	1964.6	1963.4	1968.1	1974.0	1968.1
7.5°	1974.0	1972.8	1971.6	1962.2	1950.4	1942.2	1938.7	1937.5	1942.2	1948.1	1943.4
10°	1951.6	1950.4	1946.9	1935.2	1919.9	1909.3	1905.7	1902.2	1905.7	1908.1	1905.7
12.5°	1926.9	1922.2	1917.5	1904.6	1888.1	1876.3	1870.5	1865.7	1870.5	1874.0	1871.6
15°	1896.3	1889.3	1881.0	1866.9	1850.5	1837.5	1830.5	1825.8	1829.3	1830.5	1830.5
17.5°	1859.9	1851.6	1843.4	1825.8	1805.8	1791.6	1783.4	1777.5	1782.2	1784.6	1784.6
20°	1818.7	1809.3	1798.7	1779.9	1758.7	1743.4	1734.0	1726.9	1728.1	1729.3	1729.3
22.5°	1774.0	1762.2	1749.3	1729.3	1706.9	1690.5	1681.1	1672.8	1672.8	1674.0	1674.0
25°	1723.4	1710.5	1697.5	1677.5	1654.0	1636.4	1624.6	1616.4	1616.4	1615.2	1617.5
27.5°	1671.6	1657.5	1644.6	1623.4	1598.7	1581.1	1569.3	1561.1	1559.9	1558.7	1561.1
30°	1615.2	1598.7	1584.6	1562.2	1538.7	1521.1	1509.3	1499.9	1497.5	1495.2	1497.5
32.5°	1555.2	1539.9	1524.6	1501.1	1477.5	1459.9	1448.1	1438.7	1437.5	1436.4	1438.7
35°	1492.8	1476.4	1462.2	1439.9	1416.4	1398.7	1385.8	1377.5	1377.5	1377.5	1377.5
37.5°	1431.7	1415.2	1399.9	1377.5	1354.0	1336.4	1323.4	1315.2	1312.8	1311.7	1312.8
40°	1362.3	1348.1	1334.0	1312.8	1289.3	1271.7	1261.1	1251.7	1249.3	1247.0	1250.5
42.5°	1298.7	1284.6	1269.3	1249.3	1225.8	1208.1	1196.4	1188.1	1187.0	1185.8	1187.0
45°	1230.5	1214.0	1198.7	1179.9	1158.7	1142.3	1130.5	1122.3	1121.1	1119.9	1121.1
47.5°	1158.7	1145.8	1132.9	1114.0	1092.9	1076.4	1065.8	1056.4	1054.0	1051.7	1054.0
50°	1089.3	1075.2	1062.3	1044.6	1024.6	1009.3	999.9	991.7	989.3	988.2	989.3
52.5°	1016.4	1003.5	991.7	974.0	957.6	942.3	931.7	924.6	923.5	922.3	923.5
55°	941.1	929.3	918.8	904.6	888.2	874.1	864.6	856.4	855.2	852.9	855.2
57.5°	868.2	858.8	848.2	832.9	817.6	804.6	796.4	789.4	788.2	787.0	788.2
60°	794.1	784.6	775.2	762.3	747.0	734.1	727.0	721.1	718.8	717.6	718.8
62.5°	719.9	710.5	703.5	690.5	676.4	665.8	658.8	652.9	650.5	649.4	650.5
65°	643.5	635.2	627.0	615.2	604.7	596.4	589.4	583.5	581.1	580.0	580.0
67.5°	562.3	555.3	549.4	538.8	527.0	518.8	511.7	507.0	504.7	503.5	504.7
70°	483.5	477.6	471.7	463.5	454.1	447.0	442.3	437.6	435.3	434.1	434.1
72.5°	408.2	403.5	397.6	390.6	383.5	376.4	371.7	368.2	365.9	364.7	364.7
75°	331.7	327.0	324.7	318.8	311.7	307.0	302.3	300.0	297.6	297.6	297.6
77.5°	260.0	257.6	255.3	249.4	244.7	240.0	236.5	235.3	232.9	232.9	232.9
80°	191.8	190.6	189.4	185.9	181.2	176.5	174.1	172.9	171.8	171.8	171.8
82.5°	129.4	129.4	128.2	124.7	121.2	120.0	117.6	116.5	116.5	116.5	116.5
85°	74.1	74.1	74.1	72.9	70.6	70.6	68.2	67.1	65.9	65.9	65.9
87.5°	29.4	30.6	31.8	30.6	28.2	28.2	28.2	28.2	28.2	28.2	28.2
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: P709181

CATALOG NUMBER: 4APN-35-37L930-UNV

**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4
2.5°	1983.4	1985.7	1986.9	1992.8	1999.9	2004.6	1998.7	1992.8	2002.2	2012.8	2012.8
5°	1963.4	1965.7	1969.3	1976.3	1985.7	1991.6	1989.3	1984.6	1998.7	2010.4	2011.6
7.5°	1938.7	1941.0	1945.7	1952.8	1964.6	1972.8	1972.8	1974.0	1986.9	2001.0	2004.6
10°	1902.2	1908.1	1915.2	1925.7	1937.5	1948.1	1951.6	1952.8	1969.3	1984.6	1989.3
12.5°	1868.1	1874.0	1881.0	1892.8	1906.9	1918.7	1922.2	1926.9	1944.6	1962.2	1969.3
15°	1829.3	1835.2	1843.4	1855.2	1870.5	1883.4	1890.5	1897.5	1915.2	1934.0	1942.2
17.5°	1783.4	1789.3	1797.5	1811.6	1829.3	1844.6	1852.8	1861.0	1881.0	1901.0	1909.3
20°	1729.3	1737.5	1749.3	1763.4	1783.4	1801.0	1810.5	1819.9	1841.0	1861.0	1870.5
22.5°	1674.0	1683.4	1696.3	1712.8	1734.0	1752.8	1764.6	1776.3	1797.5	1817.5	1828.1
25°	1618.7	1629.3	1642.2	1659.9	1679.9	1698.7	1712.8	1726.9	1748.1	1769.3	1779.9
27.5°	1562.2	1571.7	1584.6	1602.2	1624.6	1644.6	1658.7	1674.0	1695.2	1717.5	1728.1
30°	1499.9	1510.5	1522.2	1539.9	1564.6	1586.9	1601.1	1617.5	1638.7	1661.1	1671.6
32.5°	1439.9	1449.3	1461.1	1478.7	1503.4	1526.9	1542.2	1558.7	1579.9	1602.2	1611.6
35°	1377.5	1387.0	1399.9	1417.5	1442.2	1464.6	1479.9	1496.4	1516.4	1537.5	1548.1
37.5°	1316.4	1325.8	1338.7	1356.4	1379.9	1402.3	1417.5	1434.0	1454.0	1474.0	1483.4
40°	1252.9	1262.3	1272.8	1290.5	1314.0	1336.4	1350.5	1367.0	1387.0	1408.1	1417.5
42.5°	1188.1	1197.6	1210.5	1228.1	1250.5	1270.5	1285.8	1301.1	1319.9	1338.7	1348.1
45°	1123.4	1131.7	1144.6	1161.1	1182.3	1201.1	1216.4	1231.7	1249.3	1267.0	1276.4
47.5°	1056.4	1065.8	1076.4	1092.9	1114.0	1134.0	1149.3	1163.4	1179.9	1197.6	1205.8
50°	991.7	999.9	1010.5	1025.8	1045.8	1064.6	1077.6	1091.7	1107.0	1123.4	1130.5
52.5°	924.6	932.9	943.5	958.8	975.2	992.9	1004.6	1017.6	1032.9	1048.2	1055.2
55°	856.4	862.3	871.7	885.8	903.5	919.9	931.7	944.6	957.6	970.5	978.8
57.5°	789.4	796.4	805.8	818.8	834.1	849.4	859.9	870.5	883.5	896.4	902.3
60°	721.1	727.0	734.1	745.8	761.1	774.1	784.6	795.2	805.8	817.6	823.5
62.5°	651.7	657.6	664.7	676.4	689.4	701.1	710.5	719.9	729.4	739.9	745.8
65°	582.3	588.2	595.3	603.5	614.1	624.7	634.1	643.5	650.5	657.6	663.5
67.5°	507.0	512.9	520.0	527.0	536.4	547.0	554.1	562.3	569.4	577.6	581.1
70°	436.4	441.1	448.2	454.1	462.3	469.4	475.3	482.3	487.0	494.1	500.0
72.5°	367.0	371.7	377.6	383.5	388.2	394.1	401.1	407.0	412.9	420.0	422.3
75°	300.0	302.3	307.0	311.7	316.4	321.2	324.7	329.4	334.1	338.8	342.3
77.5°	234.1	236.5	241.2	244.7	248.2	251.7	254.1	256.5	261.2	264.7	268.2
80°	171.8	174.1	177.6	181.2	184.7	188.2	188.2	188.2	194.1	198.8	200.0
82.5°	116.5	117.6	120.0	122.3	124.7	127.0	127.0	125.9	129.4	132.9	135.3
85°	67.1	68.2	70.6	70.6	71.8	71.8	71.8	71.8	74.1	77.6	80.0
87.5°	27.1	27.1	28.2	28.2	29.4	29.4	28.2	27.1	29.4	32.9	34.1
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: P709181

CATALOG NUMBER: 4APN-35-37L930-UNV

**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4	2003.4
2.5°	2008.1	2006.9	2010.4	2011.6	2014.0	2014.0	2015.1	2015.1	2012.8	2009.3	2010.4
5°	2009.3	2009.3	2012.8	2016.3	2021.0	2025.7	2022.2	2018.7	2016.3	2012.8	2011.6
7.5°	2003.4	2005.7	2009.3	2015.1	2021.0	2028.1	2023.4	2018.7	2012.8	2008.1	2005.7
10°	1989.3	1991.6	1997.5	2003.4	2009.3	2015.1	2010.4	2005.7	2001.0	1995.2	1992.8
12.5°	1971.6	1975.2	1982.2	1988.1	1994.0	2001.0	1995.2	1989.3	1983.4	1977.5	1974.0
15°	1945.7	1950.4	1958.7	1965.7	1974.0	1979.9	1975.2	1970.4	1963.4	1955.2	1949.3
17.5°	1912.8	1919.9	1928.1	1936.3	1943.4	1949.3	1945.7	1941.0	1932.8	1923.4	1916.3
20°	1876.3	1883.4	1890.5	1898.7	1906.9	1912.8	1908.1	1902.2	1894.0	1886.9	1879.9
22.5°	1834.0	1841.0	1849.3	1856.3	1863.4	1869.3	1863.4	1856.3	1849.3	1842.2	1835.2
25°	1785.8	1792.8	1802.2	1809.3	1814.0	1818.7	1814.0	1808.1	1801.0	1794.0	1786.9
27.5°	1735.2	1742.2	1751.6	1758.7	1763.4	1768.1	1763.4	1757.5	1750.5	1743.4	1736.3
30°	1678.7	1685.8	1695.2	1702.2	1705.8	1709.3	1704.6	1699.9	1694.0	1686.9	1679.9
32.5°	1618.7	1625.8	1632.8	1639.9	1645.8	1650.5	1645.8	1641.1	1634.0	1624.6	1617.5
35°	1555.2	1562.2	1570.5	1577.5	1584.6	1590.5	1583.4	1575.2	1569.3	1563.4	1557.5
37.5°	1488.1	1496.4	1505.8	1514.0	1516.4	1521.1	1516.4	1511.7	1505.8	1499.9	1492.8
40°	1422.3	1429.3	1437.5	1445.8	1449.3	1452.8	1448.1	1443.4	1436.4	1430.5	1423.4
42.5°	1354.0	1361.1	1368.1	1375.2	1379.9	1384.6	1379.9	1372.8	1368.1	1363.4	1357.5
45°	1283.4	1290.5	1296.4	1303.4	1307.0	1310.5	1305.8	1299.9	1295.2	1291.7	1285.8
47.5°	1211.7	1217.6	1223.4	1229.3	1231.7	1235.2	1230.5	1227.0	1223.4	1219.9	1215.2
50°	1136.4	1142.3	1149.3	1155.2	1156.4	1159.9	1155.2	1151.7	1148.2	1144.6	1141.1
52.5°	1062.3	1067.0	1072.9	1078.7	1081.1	1083.5	1078.7	1074.0	1070.5	1068.2	1064.6
55°	984.6	989.3	995.2	999.9	1003.5	1005.8	1001.1	996.4	992.9	991.7	988.2
57.5°	907.0	911.7	917.6	922.3	924.6	927.0	922.3	917.6	915.2	912.9	910.5
60°	828.2	832.9	837.6	841.1	843.5	844.6	839.9	836.4	835.2	834.1	831.7
62.5°	750.5	752.9	757.6	759.9	762.3	763.5	759.9	757.6	756.4	755.2	754.1
65°	669.4	675.2	678.8	681.1	681.1	682.3	678.8	677.6	676.4	675.2	672.9
67.5°	585.8	590.5	592.9	595.3	595.3	595.3	595.3	595.3	594.1	591.7	589.4
70°	505.8	509.4	511.7	512.9	512.9	512.9	510.6	509.4	510.6	510.6	509.4
72.5°	424.7	427.0	428.2	429.4	428.2	428.2	428.2	430.6	430.6	429.4	427.0
75°	345.9	348.2	349.4	350.6	349.4	349.4	349.4	351.7	350.6	350.6	349.4
77.5°	271.7	272.9	272.9	274.1	272.9	272.9	274.1	276.5	275.3	275.3	275.3
80°	201.2	201.2	201.2	202.3	201.2	201.2	202.3	204.7	203.5	203.5	203.5
82.5°	136.5	137.6	137.6	137.6	138.8	140.0	140.0	140.0	140.0	140.0	138.8
85°	81.2	82.3	81.2	81.2	81.2	81.2	82.3	83.5	83.5	83.5	83.5
87.5°	35.3	36.5	35.3	34.1	32.9	32.9	35.3	37.6	37.6	36.5	36.5
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: P709181  
 CATALOG NUMBER: 4APN-35-37L930-UNV

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	2003.4	2003.4	2003.4	2003.4
2.5°	2015.1	2015.1	2004.6	1994.0
5°	2014.0	2011.6	1999.9	1986.9
7.5°	2006.9	2003.4	1988.1	1974.0
10°	1990.4	1985.7	1969.3	1951.6
12.5°	1970.4	1963.4	1944.6	1926.9
15°	1944.6	1936.3	1916.3	1896.3
17.5°	1910.5	1901.0	1881.0	1859.9
20°	1874.0	1863.4	1841.0	1818.7
22.5°	1829.3	1819.9	1796.3	1774.0
25°	1781.0	1770.5	1746.9	1723.4
27.5°	1729.3	1717.5	1694.0	1671.6
30°	1672.8	1661.1	1637.5	1615.2
32.5°	1612.8	1603.4	1579.9	1555.2
35°	1551.7	1539.9	1516.4	1492.8
37.5°	1487.0	1476.4	1454.0	1431.7
40°	1418.7	1408.1	1384.6	1362.3
42.5°	1351.7	1342.3	1319.9	1298.7
45°	1279.9	1270.5	1249.3	1230.5
47.5°	1208.1	1198.7	1178.7	1158.7
50°	1135.2	1125.8	1107.0	1089.3
52.5°	1058.7	1051.7	1034.0	1016.4
55°	982.3	974.0	956.4	941.1
57.5°	905.8	899.9	883.5	868.2
60°	827.0	819.9	807.0	794.1
62.5°	750.5	744.7	731.7	719.9
65°	669.4	664.7	654.1	643.5
67.5°	585.8	582.3	571.7	562.3
70°	505.8	500.0	491.7	483.5
72.5°	424.7	422.3	415.3	408.2
75°	347.0	344.7	337.6	331.7
77.5°	274.1	271.7	265.9	260.0
80°	202.3	201.2	196.5	191.8
82.5°	138.8	137.6	134.1	129.4
85°	83.5	81.2	77.6	74.1
87.5°	36.5	35.3	31.8	29.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)