

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-35-37L830-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-35-37L830-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

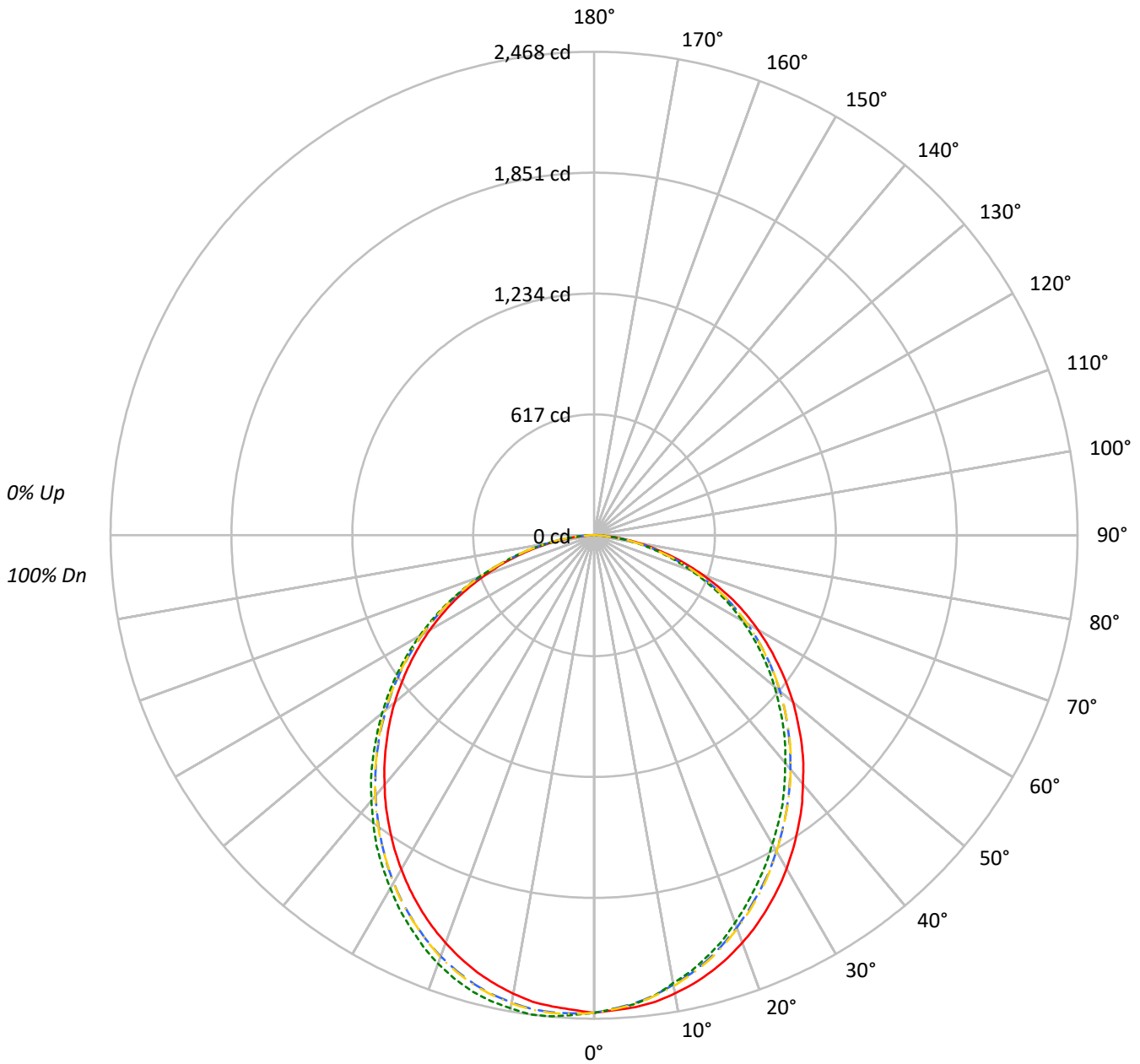
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6444.7 lumens
Efficiency: N/A
Efficacy: 79.6 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): 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				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°	22493	22493	22493	22493
5°	22394	22249	22368	22831
10°	22251	21755	22264	22975
15°	22043	21277	22057	23015
20°	21731	20663	21745	22856
25°	21352	20010	21394	22531
30°	20941	19385	20971	22160
35°	20462	18883	20510	21801
40°	19966	18277	20036	21294
45°	19539	17783	19557	20810
50°	19028	17261	19069	20261
55°	18423	16695	18492	19689
60°	17831	16114	17858	18967
65°	17096	15408	17096	18129
70°	15872	14251	15832	16838
75°	14391	12911	14291	15157
80°	12401	11105	12167	13007
85°	9548	8490	9241	10448



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.2	3.6
10°-20°	651.9	10.1
20°-30°	965.2	15.0
30°-40°	1132.4	17.6
40°-50°	1147.6	17.8
50°-60°	1018.5	15.8
60°-70°	764.7	11.9
70°-80°	424.6	6.6
80°-90°	109.6	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°	1847.3	28.7
0°-40°	2979.7	46.2
0°-60°	5145.8	79.8
0°-90°	6444.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6444.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2438	2438	2438	2438	2438	
5°	2418	2402	2415	2465	2418	230
15°	2308	2228	2309	2410	2308	650
25°	2097	1966	2102	2213	2097	966
35°	1817	1676	1821	1936	1817	1137
45°	1498	1363	1499	1595	1498	1154
55°	1145	1038	1150	1224	1145	1025
65°	783	706	783	830	783	772
75°	404	362	401	425	404	429
85°	90	80	87	99	90	109
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°	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0
2.5°	2426.6	2432.3	2439.5	2432.3	2420.9	2415.2	2415.2	2413.7	2418.0	2419.4	2418.0
5°	2418.0	2420.9	2422.3	2413.7	2400.9	2393.7	2390.8	2389.4	2395.1	2402.3	2395.1
7.5°	2402.3	2400.9	2399.4	2388.0	2373.7	2363.6	2359.3	2357.9	2363.6	2370.7	2365.0
10°	2375.1	2373.7	2369.4	2355.1	2336.4	2323.5	2319.2	2315.0	2319.2	2322.1	2319.2
12.5°	2345.0	2339.3	2333.6	2317.8	2297.8	2283.4	2276.3	2270.6	2276.3	2280.6	2277.7
15°	2307.8	2299.2	2289.1	2272.0	2252.0	2236.2	2227.6	2221.9	2226.2	2227.6	2227.6
17.5°	2263.4	2253.4	2243.4	2221.9	2197.6	2180.3	2170.4	2163.2	2168.9	2171.8	2171.8
20°	2213.3	2201.8	2188.9	2166.1	2140.3	2121.7	2110.2	2101.6	2103.1	2104.5	2104.5
22.5°	2158.9	2144.6	2128.8	2104.5	2077.3	2057.3	2045.8	2035.8	2035.8	2037.3	2037.3
25°	2097.4	2081.6	2065.8	2041.5	2012.9	1991.4	1977.0	1967.1	1967.1	1965.6	1968.5
27.5°	2034.4	2017.2	2001.4	1975.7	1945.6	1924.1	1909.8	1899.8	1898.3	1896.9	1899.8
30°	1965.6	1945.6	1928.4	1901.2	1872.6	1851.1	1836.8	1825.4	1822.4	1819.6	1822.4
32.5°	1892.6	1874.0	1855.4	1826.8	1798.1	1776.7	1762.3	1750.9	1749.5	1748.0	1750.9
35°	1816.7	1796.7	1779.6	1752.4	1723.7	1702.2	1686.4	1676.5	1676.5	1676.5	1676.5
37.5°	1742.3	1722.3	1703.7	1676.5	1647.8	1626.3	1610.5	1600.6	1597.7	1596.3	1597.7
40°	1657.8	1640.6	1623.5	1597.7	1569.1	1547.6	1534.7	1523.2	1520.4	1517.5	1521.9
42.5°	1580.5	1563.3	1544.7	1520.4	1491.8	1470.3	1455.9	1446.0	1444.5	1443.1	1444.5
45°	1497.5	1477.4	1458.8	1435.9	1410.2	1390.1	1375.8	1365.8	1364.4	1362.9	1364.4
47.5°	1410.2	1394.4	1378.7	1355.7	1330.0	1310.0	1297.1	1285.6	1282.8	1279.9	1282.8
50°	1325.7	1308.5	1292.7	1271.3	1246.9	1228.4	1216.9	1206.9	1204.0	1202.6	1204.0
52.5°	1237.0	1221.2	1206.9	1185.4	1165.3	1146.7	1133.9	1125.3	1123.8	1122.4	1123.8
55°	1145.3	1131.0	1118.1	1101.0	1080.9	1063.7	1052.3	1042.2	1040.8	1037.9	1040.8
57.5°	1056.5	1045.1	1032.2	1013.6	995.0	979.3	969.2	960.6	959.2	957.8	959.2
60°	966.3	954.9	943.5	927.7	909.1	893.3	884.8	877.6	874.7	873.3	874.7
62.5°	876.2	864.7	856.1	840.4	823.2	810.3	801.7	794.6	791.7	790.2	791.7
65°	783.1	773.1	763.0	748.8	735.8	725.8	717.2	710.1	707.3	705.8	705.8
67.5°	684.3	675.7	668.5	655.7	641.3	631.4	622.7	617.0	614.1	612.8	614.1
70°	588.4	581.2	574.1	564.1	552.6	544.0	538.3	532.5	529.7	528.3	528.3
72.5°	496.8	491.1	483.9	475.3	466.7	458.1	452.4	448.1	445.2	443.9	443.9
75°	403.7	398.0	395.2	388.0	379.4	373.7	368.0	365.1	362.2	362.2	362.2
77.5°	316.4	313.6	310.6	303.5	297.8	292.1	287.8	286.3	283.4	283.4	283.4
80°	233.4	231.9	230.5	226.2	220.5	214.7	211.9	210.5	209.0	209.0	209.0
82.5°	157.5	157.5	156.0	151.8	147.4	146.0	143.2	141.7	141.7	141.7	141.7
85°	90.2	90.2	90.2	88.8	85.9	85.9	83.1	81.6	80.2	80.2	80.2
87.5°	35.8	37.2	38.6	37.2	34.4	34.4	34.4	34.4	34.4	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



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CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0
2.5°	2413.7	2416.6	2418.0	2425.2	2433.8	2439.5	2432.3	2425.2	2436.7	2449.5	2449.5
5°	2389.4	2392.2	2396.6	2405.1	2416.6	2423.8	2420.9	2415.2	2432.3	2446.6	2448.1
7.5°	2359.3	2362.2	2367.9	2376.5	2390.8	2400.9	2400.9	2402.3	2418.0	2435.2	2439.5
10°	2315.0	2322.1	2330.7	2343.5	2357.9	2370.7	2375.1	2376.5	2396.6	2415.2	2420.9
12.5°	2273.5	2280.6	2289.1	2303.5	2320.7	2335.0	2339.3	2345.0	2366.5	2388.0	2396.6
15°	2226.2	2233.4	2243.4	2257.7	2276.3	2292.0	2300.7	2309.2	2330.7	2353.6	2363.6
17.5°	2170.4	2177.5	2187.5	2204.7	2226.2	2244.8	2254.8	2264.8	2289.1	2313.5	2323.5
20°	2104.5	2114.5	2128.8	2146.0	2170.4	2191.9	2203.3	2214.7	2240.5	2264.8	2276.3
22.5°	2037.3	2048.7	2064.5	2084.5	2110.2	2133.1	2147.4	2161.7	2187.5	2211.9	2224.8
25°	1969.9	1982.9	1998.5	2020.0	2044.4	2067.3	2084.5	2101.6	2127.4	2153.1	2166.1
27.5°	1901.2	1912.7	1928.4	1949.8	1977.0	2001.4	2018.6	2037.3	2063.0	2090.2	2103.1
30°	1825.4	1838.2	1852.6	1874.0	1904.1	1931.3	1948.5	1968.5	1994.3	2021.5	2034.4
32.5°	1752.4	1763.8	1778.1	1799.6	1829.6	1858.3	1876.8	1896.9	1922.6	1949.8	1961.4
35°	1676.5	1687.9	1703.7	1725.2	1755.2	1782.4	1801.0	1821.0	1845.4	1871.1	1884.0
37.5°	1602.0	1613.4	1629.2	1650.7	1679.3	1706.5	1725.2	1745.2	1769.5	1793.8	1805.3
40°	1524.7	1536.1	1549.1	1570.5	1599.1	1626.3	1643.6	1663.6	1687.9	1713.6	1725.2
42.5°	1446.0	1457.4	1473.2	1494.7	1521.9	1546.2	1564.8	1583.4	1606.3	1629.2	1640.6
45°	1367.2	1377.2	1393.0	1413.1	1438.8	1461.7	1480.3	1498.9	1520.4	1541.9	1553.3
47.5°	1285.6	1297.1	1310.0	1330.0	1355.7	1380.0	1398.7	1415.9	1435.9	1457.4	1467.5
50°	1206.9	1216.9	1229.8	1248.4	1272.7	1295.6	1311.4	1328.5	1347.1	1367.2	1375.8
52.5°	1125.3	1135.3	1148.2	1166.8	1186.8	1208.3	1222.6	1238.3	1257.0	1275.6	1284.2
55°	1042.2	1049.4	1060.9	1078.0	1099.5	1119.5	1133.9	1149.6	1165.3	1181.1	1191.1
57.5°	960.6	969.2	980.6	996.4	1015.0	1033.7	1046.6	1059.4	1075.1	1090.9	1098.1
60°	877.6	884.8	893.3	907.6	926.2	942.0	954.9	967.8	980.6	995.0	1002.1
62.5°	793.1	800.3	808.9	823.2	838.9	853.2	864.7	876.2	887.6	900.5	907.6
65°	708.6	715.8	724.4	734.5	747.3	760.2	771.6	783.1	791.7	800.3	807.4
67.5°	617.0	624.2	632.8	641.3	652.9	665.7	674.3	684.3	692.9	702.9	707.3
70°	531.2	536.9	545.5	552.6	562.6	571.2	578.4	586.9	592.7	601.3	608.4
72.5°	446.7	452.4	459.5	466.7	472.4	479.6	488.2	495.3	502.5	511.1	513.9
75°	365.1	368.0	373.7	379.4	385.1	390.8	395.2	400.9	406.6	412.3	416.6
77.5°	284.9	287.8	293.5	297.8	302.0	306.4	309.2	312.1	317.8	322.1	326.4
80°	209.0	211.9	216.2	220.5	224.8	229.0	229.0	229.0	236.2	241.9	243.4
82.5°	141.7	143.2	146.0	148.9	151.8	154.6	154.6	153.1	157.5	161.8	164.7
85°	81.6	83.1	85.9	85.9	87.3	87.3	87.3	87.3	90.2	94.5	97.4
87.5°	32.9	32.9	34.4	34.4	35.8	35.8	34.4	32.9	35.8	40.1	41.5
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°	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0	2438.0
2.5°	2443.8	2442.4	2446.6	2448.1	2451.0	2451.0	2452.4	2452.4	2449.5	2445.2	2446.6
5°	2445.2	2445.2	2449.5	2453.8	2459.5	2465.2	2461.0	2456.7	2453.8	2449.5	2448.1
7.5°	2438.0	2440.9	2445.2	2452.4	2459.5	2468.1	2462.4	2456.7	2449.5	2443.8	2440.9
10°	2420.9	2423.8	2430.9	2438.0	2445.2	2452.4	2446.6	2440.9	2435.2	2428.1	2425.2
12.5°	2399.4	2403.7	2412.3	2419.4	2426.6	2435.2	2428.1	2420.9	2413.7	2406.6	2402.3
15°	2367.9	2373.7	2383.6	2392.2	2402.3	2409.5	2403.7	2397.9	2389.4	2379.4	2372.2
17.5°	2327.9	2336.4	2346.4	2356.4	2365.0	2372.2	2367.9	2362.2	2352.2	2340.7	2332.1
20°	2283.4	2292.0	2300.7	2310.6	2320.7	2327.9	2322.1	2315.0	2304.9	2296.3	2287.8
22.5°	2231.9	2240.5	2250.5	2259.1	2267.7	2274.9	2267.7	2259.1	2250.5	2241.9	2233.4
25°	2173.2	2181.8	2193.3	2201.8	2207.5	2213.3	2207.5	2200.4	2191.9	2183.2	2174.6
27.5°	2111.7	2120.2	2131.7	2140.3	2146.0	2151.8	2146.0	2138.9	2130.3	2121.7	2113.1
30°	2043.0	2051.5	2063.0	2071.5	2075.9	2080.1	2074.4	2068.7	2061.6	2052.9	2044.4
32.5°	1969.9	1978.5	1987.1	1995.7	2002.9	2008.6	2002.9	1997.1	1988.6	1977.0	1968.5
35°	1892.6	1901.2	1911.2	1919.8	1928.4	1935.6	1927.0	1916.9	1909.8	1902.6	1895.4
37.5°	1811.0	1821.0	1832.5	1842.5	1845.4	1851.1	1845.4	1839.7	1832.5	1825.4	1816.7
40°	1730.9	1739.4	1749.5	1759.5	1763.8	1768.0	1762.3	1756.6	1748.0	1740.8	1732.3
42.5°	1647.8	1656.4	1664.9	1673.6	1679.3	1685.0	1679.3	1670.8	1664.9	1659.2	1652.1
45°	1561.9	1570.5	1577.6	1586.2	1590.5	1594.9	1589.1	1582.0	1576.3	1571.9	1564.8
47.5°	1474.6	1481.7	1488.9	1496.0	1498.9	1503.2	1497.5	1493.2	1488.9	1484.6	1478.9
50°	1383.0	1390.1	1398.7	1405.9	1407.2	1411.6	1405.9	1401.5	1397.3	1393.0	1388.7
52.5°	1292.7	1298.5	1305.6	1312.8	1315.7	1318.6	1312.8	1307.1	1302.8	1299.9	1295.6
55°	1198.2	1204.0	1211.1	1216.9	1221.2	1224.0	1218.3	1212.6	1208.3	1206.9	1202.6
57.5°	1103.8	1109.5	1116.6	1122.4	1125.3	1128.2	1122.4	1116.6	1113.8	1110.9	1108.1
60°	1007.8	1013.6	1019.4	1023.6	1026.5	1027.9	1022.2	1017.9	1016.4	1015.0	1012.2
62.5°	913.4	916.3	922.0	924.9	927.7	929.1	924.9	922.0	920.5	919.1	917.7
65°	814.6	821.8	826.0	828.9	828.9	830.4	826.0	824.6	823.2	821.8	818.9
67.5°	713.0	718.7	721.6	724.4	724.4	724.4	724.4	724.4	722.9	720.1	717.2
70°	615.6	619.9	622.7	624.2	624.2	624.2	621.3	619.9	621.3	621.3	619.9
72.5°	516.8	519.6	521.1	522.6	521.1	521.1	521.1	524.0	524.0	522.6	519.6
75°	420.9	423.8	425.2	426.6	425.2	425.2	425.2	428.1	426.6	426.6	425.2
77.5°	330.7	332.1	332.1	333.6	332.1	332.1	333.6	336.4	335.0	335.0	335.0
80°	244.8	244.8	244.8	246.3	244.8	244.8	246.3	249.1	247.6	247.6	247.6
82.5°	166.1	167.5	167.5	167.5	168.9	170.4	170.4	170.4	170.4	170.4	168.9
85°	98.7	100.2	98.7	98.7	98.7	98.7	100.2	101.6	101.6	101.6	101.6
87.5°	43.0	44.3	43.0	41.5	40.1	40.1	43.0	45.8	45.8	44.3	44.3
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: P
 CATALOG NUMBER: 4APN-35-37L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2438.0	2438.0	2438.0	2438.0
2.5°	2452.4	2452.4	2439.5	2426.6
5°	2451.0	2448.1	2433.8	2418.0
7.5°	2442.4	2438.0	2419.4	2402.3
10°	2422.3	2416.6	2396.6	2375.1
12.5°	2397.9	2389.4	2366.5	2345.0
15°	2366.5	2356.4	2332.1	2307.8
17.5°	2325.0	2313.5	2289.1	2263.4
20°	2280.6	2267.7	2240.5	2213.3
22.5°	2226.2	2214.7	2186.1	2158.9
25°	2167.5	2154.6	2125.9	2097.4
27.5°	2104.5	2090.2	2061.6	2034.4
30°	2035.8	2021.5	1992.8	1965.6
32.5°	1962.8	1951.3	1922.6	1892.6
35°	1888.3	1874.0	1845.4	1816.7
37.5°	1809.6	1796.7	1769.5	1742.3
40°	1726.5	1713.6	1685.0	1657.8
42.5°	1644.9	1633.5	1606.3	1580.5
45°	1557.6	1546.2	1520.4	1497.5
47.5°	1470.3	1458.8	1434.5	1410.2
50°	1381.5	1370.1	1347.1	1325.7
52.5°	1288.5	1279.9	1258.4	1237.0
55°	1195.4	1185.4	1163.9	1145.3
57.5°	1102.3	1095.2	1075.1	1056.5
60°	1006.5	997.9	982.1	966.3
62.5°	913.4	906.2	890.5	876.2
65°	814.6	808.9	796.0	783.1
67.5°	713.0	708.6	695.7	684.3
70°	615.6	608.4	598.4	588.4
72.5°	516.8	513.9	505.3	496.8
75°	422.4	419.5	410.8	403.7
77.5°	333.6	330.7	323.5	316.4
80°	246.3	244.8	239.1	233.4
82.5°	168.9	167.5	163.2	157.5
85°	101.6	98.7	94.5	90.2
87.5°	44.3	43.0	38.6	35.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)