

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-39-42L840-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-39-42L840-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

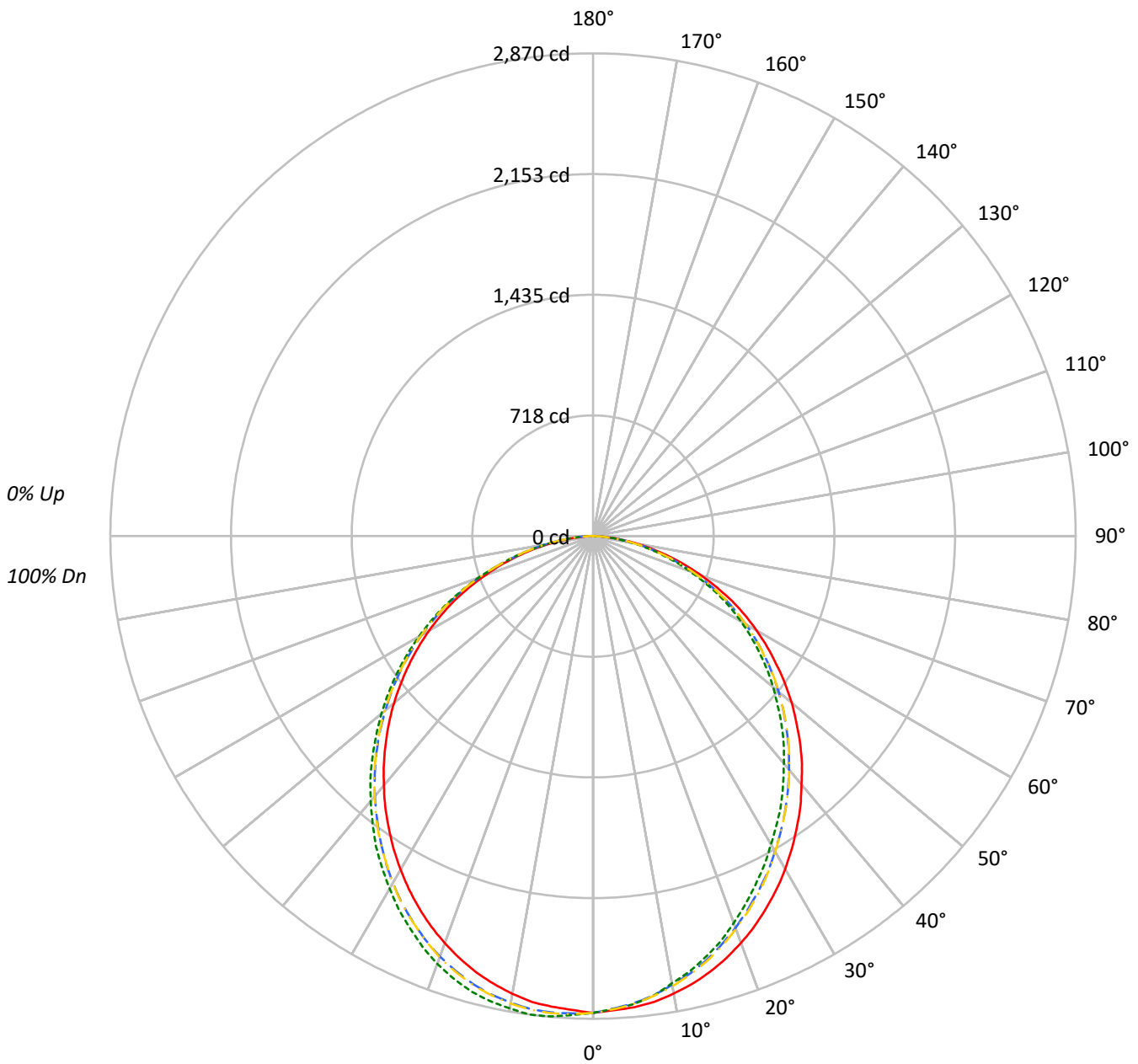
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7494.3 lumens
Efficiency: N/A
Efficacy: 81.5 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 (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°	26158	26158	26158	26158
5°	26041	25873	26011	26551
10°	25875	25299	25891	26717
15°	25634	24744	25649	26763
20°	25270	24028	25286	26578
25°	24829	23268	24879	26201
30°	24351	22543	24387	25771
35°	23796	21957	23851	25351
40°	23218	21254	23299	24764
45°	22721	20679	22742	24198
50°	22127	20072	22175	23561
55°	21423	19415	21503	22896
60°	20735	18738	20766	22058
65°	19882	17919	19882	21080
70°	18457	16571	18414	19582
75°	16736	15015	16619	17628
80°	14415	12911	14154	15127
85°	11105	9866	10745	12163



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.7	3.6
10°-20°	758.1	10.1
20°-30°	1122.3	15.0
30°-40°	1316.8	17.6
40°-50°	1334.5	17.8
50°-60°	1184.4	15.8
60°-70°	889.2	11.9
70°-80°	493.7	6.6
80°-90°	127.5	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°	2148.1	28.7
0°-40°	3464.9	46.2
0°-60°	5983.9	79.8
0°-90°	7494.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7494.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2835	2835	2835	2835	2835	
5°	2812	2794	2808	2867	2812	267
15°	2684	2590	2685	2802	2684	756
25°	2439	2286	2444	2574	2439	1124
35°	2113	1950	2118	2251	2113	1322
45°	1741	1585	1743	1855	1741	1342
55°	1332	1207	1337	1423	1332	1192
65°	911	821	911	966	911	898
75°	470	421	466	494	470	499
85°	105	93	102	115	105	127
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°	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2
2.5°	2821.9	2828.5	2836.8	2828.5	2815.1	2808.5	2808.5	2806.8	2811.8	2813.5	2811.8
5°	2811.8	2815.1	2816.8	2806.8	2791.9	2783.5	2780.2	2778.5	2785.2	2793.6	2785.2
7.5°	2793.6	2791.9	2790.2	2776.9	2760.3	2748.6	2743.6	2741.9	2748.6	2756.9	2750.2
10°	2761.9	2760.3	2755.2	2738.6	2716.9	2702.0	2696.9	2692.0	2696.9	2700.4	2696.9
12.5°	2726.9	2720.3	2713.6	2695.3	2672.0	2655.4	2647.1	2640.3	2647.1	2652.0	2648.7
15°	2683.7	2673.7	2662.0	2642.1	2618.8	2600.4	2590.5	2583.8	2588.8	2590.5	2590.5
17.5°	2632.0	2620.4	2608.7	2583.8	2555.5	2535.5	2523.9	2515.5	2522.1	2525.5	2525.5
20°	2573.8	2560.5	2545.5	2518.8	2488.8	2467.3	2453.9	2443.9	2445.6	2447.3	2447.3
22.5°	2510.5	2493.9	2475.6	2447.3	2415.6	2392.3	2379.0	2367.3	2367.3	2369.0	2369.0
25°	2439.0	2420.6	2402.3	2374.0	2340.7	2315.7	2299.1	2287.5	2287.5	2285.7	2289.1
27.5°	2365.7	2345.7	2327.4	2297.4	2262.5	2237.5	2220.8	2209.2	2207.5	2205.9	2209.2
30°	2285.7	2262.5	2242.5	2210.9	2177.6	2152.6	2135.9	2122.6	2119.3	2116.0	2119.3
32.5°	2200.9	2179.2	2157.6	2124.3	2091.0	2066.0	2049.3	2036.1	2034.4	2032.7	2036.1
35°	2112.7	2089.3	2069.3	2037.7	2004.4	1979.4	1961.1	1949.5	1949.5	1949.5	1949.5
37.5°	2026.1	2002.8	1981.1	1949.5	1916.2	1891.2	1872.9	1861.2	1857.9	1856.3	1857.9
40°	1927.8	1907.9	1887.9	1857.9	1824.6	1799.7	1784.6	1771.3	1768.0	1764.7	1769.7
42.5°	1837.9	1818.0	1796.3	1768.0	1734.7	1709.8	1693.1	1681.5	1679.8	1678.1	1679.8
45°	1741.4	1718.1	1696.4	1669.8	1639.9	1616.5	1599.9	1588.2	1586.6	1584.9	1586.6
47.5°	1639.9	1621.5	1603.2	1576.5	1546.6	1523.3	1508.3	1495.0	1491.7	1488.3	1491.7
50°	1541.6	1521.7	1503.3	1478.3	1450.0	1428.4	1415.1	1403.5	1400.1	1398.4	1400.1
52.5°	1438.4	1420.1	1403.5	1378.5	1355.2	1333.5	1318.6	1308.5	1306.8	1305.2	1306.8
55°	1331.8	1315.2	1300.2	1280.2	1257.0	1237.0	1223.6	1212.0	1210.3	1207.0	1210.3
57.5°	1228.7	1215.3	1200.4	1178.7	1157.0	1138.8	1127.1	1117.1	1115.4	1113.8	1115.4
60°	1123.7	1110.5	1097.1	1078.8	1057.2	1038.8	1028.9	1020.6	1017.2	1015.5	1017.2
62.5°	1018.9	1005.5	995.6	977.2	957.2	942.3	932.3	923.9	920.6	919.0	920.6
65°	910.7	899.0	887.3	870.7	855.7	844.1	834.0	825.7	822.4	820.8	820.8
67.5°	795.8	785.8	777.4	762.5	745.8	734.2	724.2	717.5	714.2	712.5	714.2
70°	684.2	675.9	667.6	655.9	642.6	632.6	625.9	619.3	616.0	614.3	614.3
72.5°	577.7	571.0	562.7	552.7	542.7	532.7	526.1	521.1	517.8	516.0	516.0
75°	469.5	462.8	459.5	451.1	441.2	434.5	427.8	424.5	421.2	421.2	421.2
77.5°	367.9	364.6	361.2	352.9	346.3	339.7	334.6	332.9	329.6	329.6	329.6
80°	271.3	269.7	268.0	263.0	256.4	249.7	246.4	244.7	243.0	243.0	243.0
82.5°	183.1	183.1	181.4	176.5	171.5	169.8	166.5	164.9	164.9	164.9	164.9
85°	104.9	104.9	104.9	103.2	99.9	99.9	96.5	94.9	93.2	93.2	93.2
87.5°	41.6	43.2	45.0	43.2	39.9	39.9	39.9	39.9	39.9	39.9	39.9
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°	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2
2.5°	2806.8	2810.2	2811.8	2820.2	2830.2	2836.8	2828.5	2820.2	2833.5	2848.5	2848.5
5°	2778.5	2781.9	2786.8	2796.9	2810.2	2818.6	2815.1	2808.5	2828.5	2845.1	2846.8
7.5°	2743.6	2746.9	2753.6	2763.6	2780.2	2791.9	2791.9	2793.6	2811.8	2831.8	2836.8
10°	2692.0	2700.4	2710.3	2725.2	2741.9	2756.9	2761.9	2763.6	2786.8	2808.5	2815.1
12.5°	2643.7	2652.0	2662.0	2678.7	2698.6	2715.3	2720.3	2726.9	2751.9	2776.9	2786.8
15°	2588.8	2597.1	2608.7	2625.4	2647.1	2665.3	2675.4	2685.3	2710.3	2737.0	2748.6
17.5°	2523.9	2532.2	2543.8	2563.8	2588.8	2610.4	2622.1	2633.7	2662.0	2690.3	2702.0
20°	2447.3	2458.9	2475.6	2495.6	2523.9	2548.8	2562.1	2575.4	2605.4	2633.7	2647.1
22.5°	2369.0	2382.4	2400.6	2423.9	2453.9	2480.5	2497.2	2513.8	2543.8	2572.1	2587.1
25°	2290.8	2305.7	2324.1	2349.1	2377.4	2403.9	2423.9	2443.9	2473.9	2503.9	2518.8
27.5°	2210.9	2224.1	2242.5	2267.5	2299.1	2327.4	2347.4	2369.0	2399.0	2430.6	2445.6
30°	2122.6	2137.6	2154.3	2179.2	2214.2	2245.8	2265.8	2289.1	2319.1	2350.7	2365.7
32.5°	2037.7	2051.1	2067.7	2092.7	2127.6	2160.9	2182.6	2205.9	2235.8	2267.5	2280.8
35°	1949.5	1962.8	1981.1	2006.1	2041.0	2072.7	2094.3	2117.6	2146.0	2175.9	2190.9
37.5°	1862.9	1876.3	1894.5	1919.5	1952.8	1984.4	2006.1	2029.4	2057.7	2086.0	2099.3
40°	1773.0	1786.4	1801.3	1826.3	1859.6	1891.2	1911.2	1934.5	1962.8	1992.8	2006.1
42.5°	1681.5	1694.7	1713.1	1738.1	1769.7	1798.0	1819.7	1841.2	1867.9	1894.5	1907.9
45°	1589.9	1601.5	1619.9	1643.2	1673.2	1699.8	1721.4	1743.0	1768.0	1793.0	1806.3
47.5°	1495.0	1508.3	1523.3	1546.6	1576.5	1604.8	1626.5	1646.5	1669.8	1694.7	1706.4
50°	1403.5	1415.1	1430.0	1451.7	1480.0	1506.6	1525.0	1544.9	1566.6	1589.9	1599.9
52.5°	1308.5	1320.2	1335.1	1356.8	1380.1	1405.1	1421.7	1440.1	1461.7	1483.3	1493.4
55°	1212.0	1220.3	1233.6	1253.6	1278.5	1301.9	1318.6	1336.8	1355.2	1373.5	1385.1
57.5°	1117.1	1127.1	1140.4	1158.7	1180.3	1202.0	1216.9	1232.0	1250.2	1268.6	1276.9
60°	1020.6	1028.9	1038.8	1055.5	1077.2	1095.4	1110.5	1125.4	1140.4	1157.0	1165.3
62.5°	922.3	930.7	940.6	957.2	975.6	992.3	1005.5	1018.9	1032.2	1047.1	1055.5
65°	824.1	832.4	842.4	854.0	869.0	884.0	897.3	910.7	920.6	930.7	939.0
67.5°	717.5	725.9	735.8	745.8	759.2	774.1	784.2	795.8	805.7	817.4	822.4
70°	617.6	624.3	634.2	642.6	654.3	664.3	672.6	682.6	689.2	699.2	707.5
72.5°	519.5	526.1	534.4	542.7	549.4	557.7	567.7	576.1	584.4	594.3	597.6
75°	424.5	427.8	434.5	441.2	447.8	454.5	459.5	466.2	472.8	479.4	484.4
77.5°	331.3	334.6	341.3	346.3	351.3	356.3	359.6	362.9	369.6	374.6	379.6
80°	243.0	246.4	251.4	256.4	261.4	266.4	266.4	266.4	274.7	281.4	283.1
82.5°	164.9	166.5	169.8	173.2	176.5	179.8	179.8	178.1	183.1	188.1	191.4
85°	94.9	96.5	99.9	99.9	101.5	101.5	101.5	101.5	104.9	109.9	113.2
87.5°	38.3	38.3	39.9	39.9	41.6	41.6	39.9	38.3	41.6	46.7	48.3
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°	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2
2.5°	2841.8	2840.1	2845.1	2846.8	2850.2	2850.2	2851.8	2851.8	2848.5	2843.4	2845.1
5°	2843.4	2843.4	2848.5	2853.5	2860.1	2866.8	2861.8	2856.8	2853.5	2848.5	2846.8
7.5°	2835.2	2838.5	2843.4	2851.8	2860.1	2870.1	2863.5	2856.8	2848.5	2841.8	2838.5
10°	2815.1	2818.6	2826.9	2835.2	2843.4	2851.8	2845.1	2838.5	2831.8	2823.5	2820.2
12.5°	2790.2	2795.2	2805.2	2813.5	2821.9	2831.8	2823.5	2815.1	2806.8	2798.5	2793.6
15°	2753.6	2760.3	2771.9	2781.9	2793.6	2801.9	2795.2	2788.6	2778.5	2766.9	2758.5
17.5°	2707.0	2716.9	2728.6	2740.3	2750.2	2758.5	2753.6	2746.9	2735.3	2721.9	2712.0
20°	2655.4	2665.3	2675.4	2687.0	2698.6	2707.0	2700.4	2692.0	2680.3	2670.3	2660.3
22.5°	2595.4	2605.4	2617.1	2627.1	2637.0	2645.4	2637.0	2627.1	2617.1	2607.0	2597.1
25°	2527.2	2537.2	2550.4	2560.5	2567.1	2573.8	2567.1	2558.8	2548.8	2538.8	2528.9
27.5°	2455.6	2465.6	2478.9	2488.8	2495.6	2502.2	2495.6	2487.2	2477.2	2467.3	2457.2
30°	2375.7	2385.7	2399.0	2409.0	2414.0	2419.0	2412.3	2405.7	2397.3	2387.3	2377.4
32.5°	2290.8	2300.8	2310.7	2320.8	2329.1	2335.7	2329.1	2322.4	2312.4	2299.1	2289.1
35°	2200.9	2210.9	2222.5	2232.5	2242.5	2250.8	2240.8	2229.2	2220.8	2212.5	2204.2
37.5°	2105.9	2117.6	2130.9	2142.6	2146.0	2152.6	2146.0	2139.2	2130.9	2122.6	2112.7
40°	2012.7	2022.8	2034.4	2046.0	2051.1	2056.1	2049.3	2042.7	2032.7	2024.4	2014.4
42.5°	1916.2	1926.2	1936.2	1946.2	1952.8	1959.4	1952.8	1942.8	1936.2	1929.5	1921.2
45°	1816.3	1826.3	1834.6	1844.6	1849.6	1854.6	1848.0	1839.6	1832.9	1828.0	1819.7
47.5°	1714.7	1723.0	1731.4	1739.7	1743.0	1748.0	1741.4	1736.4	1731.4	1726.4	1719.7
50°	1608.2	1616.5	1626.5	1634.8	1636.5	1641.5	1634.8	1629.8	1624.8	1619.9	1614.9
52.5°	1503.3	1510.0	1518.3	1526.6	1530.0	1533.3	1526.6	1520.0	1514.9	1511.6	1506.6
55°	1393.4	1400.1	1408.4	1415.1	1420.1	1423.4	1416.7	1410.1	1405.1	1403.5	1398.4
57.5°	1283.5	1290.2	1298.5	1305.2	1308.5	1311.8	1305.2	1298.5	1295.2	1291.9	1288.6
60°	1172.0	1178.7	1185.3	1190.3	1193.6	1195.4	1188.6	1183.7	1182.0	1180.3	1177.0
62.5°	1062.1	1065.5	1072.1	1075.4	1078.8	1080.5	1075.4	1072.1	1070.4	1068.8	1067.1
65°	947.3	955.6	960.6	964.0	964.0	965.6	960.6	958.9	957.2	955.6	952.2
67.5°	829.1	835.7	839.0	842.4	842.4	842.4	842.4	842.4	840.7	837.4	834.0
70°	715.8	720.8	724.2	725.9	725.9	725.9	722.5	720.8	722.5	722.5	720.8
72.5°	601.0	604.3	606.0	607.7	606.0	606.0	606.0	609.3	609.3	607.7	604.3
75°	489.5	492.8	494.5	496.1	494.5	494.5	494.5	497.8	496.1	496.1	494.5
77.5°	384.6	386.2	386.2	387.9	386.2	386.2	387.9	391.2	389.5	389.5	389.5
80°	284.7	284.7	284.7	286.4	284.7	284.7	286.4	289.7	288.0	288.0	288.0
82.5°	193.2	194.8	194.8	194.8	196.5	198.1	198.1	198.1	198.1	198.1	196.5
85°	114.9	116.5	114.9	114.9	114.9	114.9	116.5	118.2	118.2	118.2	118.2
87.5°	50.0	51.6	50.0	48.3	46.7	46.7	50.0	53.3	53.3	51.6	51.6
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-39-42L840-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2835.2	2835.2	2835.2	2835.2
2.5°	2851.8	2851.8	2836.8	2821.9
5°	2850.2	2846.8	2830.2	2811.8
7.5°	2840.1	2835.2	2813.5	2793.6
10°	2816.8	2810.2	2786.8	2761.9
12.5°	2788.6	2778.5	2751.9	2726.9
15°	2751.9	2740.3	2712.0	2683.7
17.5°	2703.7	2690.3	2662.0	2632.0
20°	2652.0	2637.0	2605.4	2573.8
22.5°	2588.8	2575.4	2542.1	2510.5
25°	2520.5	2505.5	2472.3	2439.0
27.5°	2447.3	2430.6	2397.3	2365.7
30°	2367.3	2350.7	2317.4	2285.7
32.5°	2282.4	2269.1	2235.8	2200.9
35°	2195.8	2179.2	2146.0	2112.7
37.5°	2104.3	2089.3	2057.7	2026.1
40°	2007.7	1992.8	1959.4	1927.8
42.5°	1912.9	1899.5	1867.9	1837.9
45°	1811.3	1798.0	1768.0	1741.4
47.5°	1709.8	1696.4	1668.2	1639.9
50°	1606.5	1593.2	1566.6	1541.6
52.5°	1498.3	1488.3	1463.4	1438.4
55°	1390.1	1378.5	1353.5	1331.8
57.5°	1281.9	1273.6	1250.2	1228.7
60°	1170.4	1160.3	1142.1	1123.7
62.5°	1062.1	1053.8	1035.5	1018.9
65°	947.3	940.6	925.6	910.7
67.5°	829.1	824.1	809.1	795.8
70°	715.8	707.5	695.9	684.2
72.5°	601.0	597.6	587.7	577.7
75°	491.1	487.8	477.8	469.5
77.5°	387.9	384.6	376.3	367.9
80°	286.4	284.7	278.0	271.3
82.5°	196.5	194.8	189.7	183.1
85°	118.2	114.9	109.9	104.9
87.5°	51.6	50.0	45.0	41.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)