

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-39-42L850-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-39-42L850-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ Nature Pattern Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

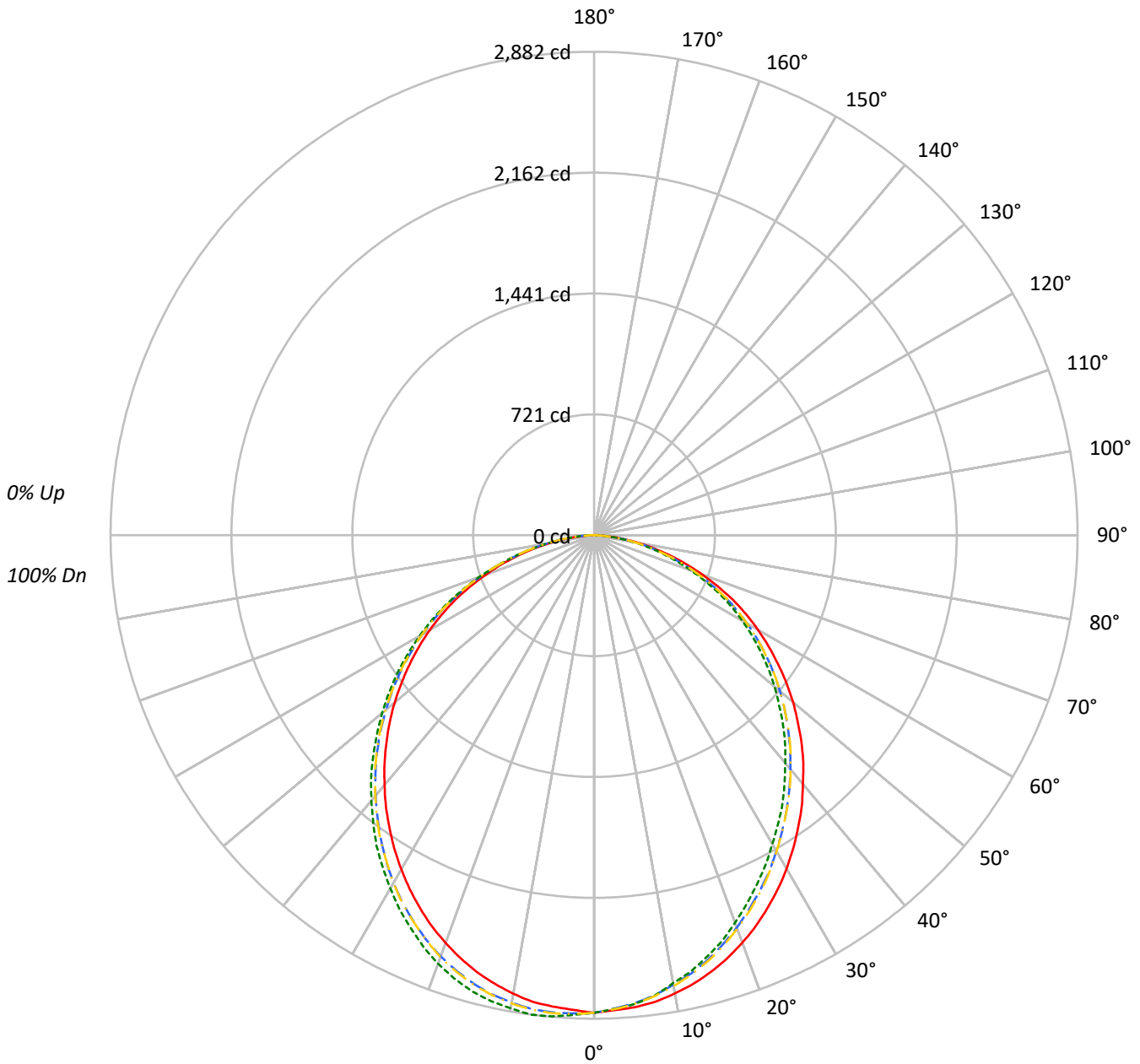
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7525.8 lumens
Efficiency: N/A
Efficacy: 81.8 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°	26267	26267	26267	26267
5°	26151	25981	26120	26663
10°	25984	25405	26000	26830
15°	25741	24847	25757	26876
20°	25376	24129	25393	26689
25°	24933	23367	24984	26311
30°	24454	22637	24489	25878
35°	23895	22050	23951	25458
40°	23316	21343	23398	24866
45°	22817	20767	22838	24299
50°	22219	20157	22268	23660
55°	21514	19497	21593	22992
60°	20822	18818	20853	22150
65°	19962	17993	19962	21170
70°	18535	16641	18489	19663
75°	16804	15075	16687	17699
80°	14478	12969	14213	15190
85°	11147	9908	10798	12206



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.9	3.6
10°-20°	761.2	10.1
20°-30°	1127.1	15.0
30°-40°	1322.3	17.6
40°-50°	1340.1	17.8
50°-60°	1189.4	15.8
60°-70°	892.9	11.9
70°-80°	495.8	6.6
80°-90°	128.0	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°	2157.2	28.7
0°-40°	3479.5	46.2
0°-60°	6009.0	79.8
0°-90°	7525.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7525.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2847	2847	2847	2847	2847	
5°	2824	2805	2820	2879	2824	268
15°	2695	2601	2697	2814	2695	759
25°	2449	2295	2454	2585	2449	1128
35°	2122	1958	2126	2260	2122	1328
45°	1749	1592	1750	1862	1749	1348
55°	1338	1212	1342	1429	1338	1197
65°	914	824	914	970	914	902
75°	471	423	468	496	471	501
85°	105	94	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°	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0
2.5°	2833.7	2840.4	2848.7	2840.4	2827.0	2820.3	2820.3	2818.6	2823.6	2825.4	2823.6
5°	2823.6	2827.0	2828.7	2818.6	2803.6	2795.2	2791.9	2790.2	2796.9	2805.3	2796.9
7.5°	2805.3	2803.6	2802.0	2788.6	2771.8	2760.1	2755.1	2753.5	2760.1	2768.5	2761.8
10°	2773.5	2771.8	2766.8	2750.1	2728.4	2713.4	2708.3	2703.3	2708.3	2711.7	2708.3
12.5°	2738.4	2731.7	2725.1	2706.6	2683.2	2666.5	2658.1	2651.5	2658.1	2663.2	2659.8
15°	2694.9	2684.9	2673.2	2653.1	2629.7	2611.4	2601.3	2594.6	2599.7	2601.3	2601.3
17.5°	2643.1	2631.4	2619.7	2594.6	2566.2	2546.1	2534.5	2526.1	2532.7	2536.1	2536.1
20°	2584.6	2571.2	2556.2	2529.4	2499.4	2477.6	2464.2	2454.2	2455.8	2457.5	2457.5
22.5°	2521.0	2504.3	2486.0	2457.5	2425.8	2402.4	2389.0	2377.3	2377.3	2378.9	2378.9
25°	2449.2	2430.8	2412.4	2384.0	2350.5	2325.5	2308.8	2297.1	2297.1	2295.4	2298.7
27.5°	2375.6	2355.5	2337.2	2307.1	2272.0	2246.9	2230.1	2218.5	2216.8	2215.1	2218.5
30°	2295.4	2272.0	2251.9	2220.2	2186.7	2161.6	2144.9	2131.6	2128.2	2124.8	2128.2
32.5°	2210.1	2188.4	2166.6	2133.2	2099.8	2074.7	2058.0	2044.6	2043.0	2041.2	2044.6
35°	2121.5	2098.1	2078.0	2046.3	2012.8	1987.7	1969.4	1957.7	1957.7	1957.7	1957.7
37.5°	2034.6	2011.2	1989.4	1957.7	1924.2	1899.1	1880.8	1869.1	1865.8	1864.0	1865.8
40°	1935.9	1915.9	1895.8	1865.8	1832.3	1807.2	1792.2	1778.8	1775.4	1772.1	1777.2
42.5°	1845.7	1825.6	1803.9	1775.4	1742.0	1716.9	1700.3	1688.6	1686.8	1685.1	1686.8
45°	1748.7	1725.2	1703.6	1676.8	1646.7	1623.3	1606.6	1594.9	1593.2	1591.6	1593.2
47.5°	1646.7	1628.3	1609.9	1583.2	1553.1	1529.7	1514.7	1501.3	1498.0	1494.6	1498.0
50°	1548.0	1528.0	1509.6	1484.5	1456.1	1434.4	1421.0	1409.3	1406.0	1404.3	1406.0
52.5°	1444.4	1426.1	1409.3	1384.3	1360.9	1339.1	1324.1	1314.0	1312.4	1310.7	1312.4
55°	1337.5	1320.7	1305.6	1285.6	1262.2	1242.1	1228.7	1217.0	1215.4	1212.1	1215.4
57.5°	1233.8	1220.5	1205.3	1183.7	1161.9	1143.5	1131.8	1121.8	1120.1	1118.4	1120.1
60°	1128.4	1115.1	1101.7	1083.4	1061.6	1043.2	1033.2	1024.8	1021.5	1019.8	1021.5
62.5°	1023.1	1009.8	999.7	981.4	961.3	946.2	936.2	927.8	924.5	922.8	924.5
65°	914.4	902.7	891.0	874.3	859.3	847.6	837.5	829.2	825.8	824.2	824.2
67.5°	799.1	789.0	780.7	765.7	748.9	737.2	727.3	720.5	717.2	715.6	717.2
70°	687.1	678.8	670.4	658.7	645.3	635.3	628.6	621.9	618.6	616.9	616.9
72.5°	580.1	573.4	565.1	555.0	545.0	534.9	528.3	523.2	519.9	518.3	518.3
75°	471.4	464.8	461.5	453.1	443.0	436.4	429.7	426.3	422.9	422.9	422.9
77.5°	369.4	366.1	362.8	354.4	347.8	341.0	336.1	334.3	331.0	331.0	331.0
80°	272.5	270.8	269.1	264.2	257.4	250.8	247.5	245.7	244.1	244.1	244.1
82.5°	183.9	183.9	182.2	177.2	172.2	170.5	167.2	165.5	165.5	165.5	165.5
85°	105.3	105.3	105.3	103.6	100.3	100.3	97.0	95.3	93.6	93.6	93.6
87.5°	41.8	43.4	45.2	43.4	40.1	40.1	40.1	40.1	40.1	40.1	40.1
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°	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0
2.5°	2818.6	2822.0	2823.6	2832.0	2842.1	2848.7	2840.4	2832.0	2845.4	2860.4	2860.4
5°	2790.2	2793.6	2798.5	2808.6	2822.0	2830.4	2827.0	2820.3	2840.4	2857.1	2858.8
7.5°	2755.1	2758.4	2765.2	2775.2	2791.9	2803.6	2803.6	2805.3	2823.6	2843.7	2848.7
10°	2703.3	2711.7	2721.7	2736.8	2753.5	2768.5	2773.5	2775.2	2798.5	2820.3	2827.0
12.5°	2654.8	2663.2	2673.2	2689.9	2709.9	2726.7	2731.7	2738.4	2763.5	2788.6	2798.5
15°	2599.7	2608.0	2619.7	2636.5	2658.1	2676.6	2686.6	2696.6	2721.7	2748.4	2760.1
17.5°	2534.5	2542.8	2554.5	2574.6	2599.7	2621.3	2633.0	2644.8	2673.2	2701.6	2713.4
20°	2457.5	2469.2	2486.0	2506.0	2534.5	2559.5	2572.9	2586.3	2616.4	2644.8	2658.1
22.5°	2378.9	2392.3	2410.8	2434.2	2464.2	2491.0	2507.7	2524.4	2554.5	2582.9	2598.0
25°	2300.4	2315.4	2333.9	2358.9	2387.3	2414.1	2434.2	2454.2	2484.3	2514.4	2529.4
27.5°	2220.2	2233.5	2251.9	2277.0	2308.8	2337.2	2357.2	2378.9	2409.1	2440.8	2455.8
30°	2131.6	2146.6	2163.3	2188.4	2223.5	2255.2	2275.3	2298.7	2328.8	2360.6	2375.6
32.5°	2046.3	2059.7	2076.3	2101.4	2136.6	2170.0	2191.7	2215.1	2245.3	2277.0	2290.3
35°	1957.7	1971.1	1989.4	2014.5	2049.6	2081.4	2103.1	2126.5	2154.9	2185.0	2200.1
37.5°	1870.7	1884.1	1902.5	1927.5	1961.0	1992.8	2014.5	2037.9	2066.3	2094.8	2108.2
40°	1780.5	1793.8	1808.9	1834.0	1867.4	1899.1	1919.2	1942.7	1971.1	2001.1	2014.5
42.5°	1688.6	1701.9	1720.3	1745.3	1777.2	1805.6	1827.3	1849.0	1875.7	1902.5	1915.9
45°	1596.5	1608.2	1626.7	1650.1	1680.2	1706.9	1728.7	1750.3	1775.4	1800.5	1813.9
47.5°	1501.3	1514.7	1529.7	1553.1	1583.2	1611.6	1633.3	1653.4	1676.8	1701.9	1713.6
50°	1409.3	1421.0	1436.1	1457.8	1486.3	1513.0	1531.3	1551.4	1573.1	1596.5	1606.6
52.5°	1314.0	1325.7	1340.8	1362.5	1386.0	1411.0	1427.7	1446.1	1467.8	1489.6	1499.6
55°	1217.0	1225.4	1238.8	1258.9	1284.0	1307.3	1324.1	1342.4	1360.9	1379.2	1390.9
57.5°	1121.8	1131.8	1145.2	1163.6	1185.3	1207.0	1222.1	1237.1	1255.5	1273.9	1282.2
60°	1024.8	1033.2	1043.2	1059.9	1081.7	1100.0	1115.1	1130.1	1145.2	1161.9	1170.3
62.5°	926.1	934.5	944.6	961.3	979.7	996.4	1009.8	1023.1	1036.5	1051.5	1059.9
65°	827.5	835.9	845.9	857.6	872.7	887.7	901.1	914.4	924.5	934.5	942.9
67.5°	720.5	728.9	738.9	748.9	762.3	777.3	787.4	799.1	809.1	820.9	825.8
70°	620.2	627.0	636.9	645.3	657.0	667.1	675.4	685.4	692.1	702.2	710.5
72.5°	521.6	528.3	536.6	545.0	551.7	560.0	570.1	578.5	586.8	596.8	600.1
75°	426.3	429.7	436.4	443.0	449.8	456.4	461.5	468.1	474.8	481.5	486.4
77.5°	332.7	336.1	342.7	347.8	352.8	357.7	361.1	364.5	371.1	376.2	381.2
80°	244.1	247.5	252.4	257.4	262.5	267.5	267.5	267.5	275.9	282.5	284.2
82.5°	165.5	167.2	170.5	173.9	177.2	180.5	180.5	178.9	183.9	188.9	192.2
85°	95.3	97.0	100.3	100.3	102.0	102.0	102.0	102.0	105.3	110.4	113.7
87.5°	38.4	38.4	40.1	40.1	41.8	41.8	40.1	38.4	41.8	46.8	48.5
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°	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0	2847.0
2.5°	2853.8	2852.1	2857.1	2858.8	2862.1	2862.1	2863.8	2863.8	2860.4	2855.4	2857.1
5°	2855.4	2855.4	2860.4	2865.5	2872.1	2878.9	2873.8	2868.8	2865.5	2860.4	2858.8
7.5°	2847.0	2850.4	2855.4	2863.8	2872.1	2882.2	2875.4	2868.8	2860.4	2853.8	2850.4
10°	2827.0	2830.4	2838.7	2847.0	2855.4	2863.8	2857.1	2850.4	2843.7	2835.3	2832.0
12.5°	2802.0	2806.9	2817.0	2825.4	2833.7	2843.7	2835.3	2827.0	2818.6	2810.3	2805.3
15°	2765.2	2771.8	2783.5	2793.6	2805.3	2813.7	2806.9	2800.3	2790.2	2778.5	2770.1
17.5°	2718.3	2728.4	2740.1	2751.8	2761.8	2770.1	2765.2	2758.4	2746.7	2733.4	2723.3
20°	2666.5	2676.6	2686.6	2698.2	2709.9	2718.3	2711.7	2703.3	2691.6	2681.5	2671.5
22.5°	2606.3	2616.4	2628.1	2638.1	2648.1	2656.5	2648.1	2638.1	2628.1	2618.0	2608.0
25°	2537.8	2547.9	2561.2	2571.2	2577.9	2584.6	2577.9	2569.5	2559.5	2549.5	2539.5
27.5°	2465.9	2475.9	2489.3	2499.4	2506.0	2512.7	2506.0	2497.7	2487.6	2477.6	2467.5
30°	2385.7	2395.7	2409.1	2419.1	2424.1	2429.1	2422.5	2415.7	2407.3	2397.4	2387.3
32.5°	2300.4	2310.4	2320.5	2330.4	2338.8	2345.6	2338.8	2332.1	2322.1	2308.8	2298.7
35°	2210.1	2220.2	2231.9	2241.8	2251.9	2260.3	2250.2	2238.5	2230.1	2221.8	2213.4
37.5°	2114.8	2126.5	2139.9	2151.6	2154.9	2161.6	2154.9	2148.3	2139.9	2131.6	2121.5
40°	2021.2	2031.3	2043.0	2054.7	2059.7	2064.6	2058.0	2051.3	2041.2	2032.9	2022.9
42.5°	1924.2	1934.3	1944.3	1954.4	1961.0	1967.7	1961.0	1951.0	1944.3	1937.6	1929.3
45°	1823.9	1834.0	1842.3	1852.4	1857.4	1862.3	1855.7	1847.3	1840.7	1835.6	1827.3
47.5°	1721.9	1730.3	1738.7	1747.0	1750.3	1755.4	1748.7	1743.7	1738.7	1733.6	1727.0
50°	1615.0	1623.3	1633.3	1641.7	1643.4	1648.4	1641.7	1636.6	1631.7	1626.7	1621.6
52.5°	1509.6	1516.3	1524.7	1533.0	1536.4	1539.7	1533.0	1526.4	1521.3	1518.0	1513.0
55°	1399.3	1406.0	1414.3	1421.0	1426.1	1429.4	1422.7	1416.0	1411.0	1409.3	1404.3
57.5°	1289.0	1295.6	1304.0	1310.7	1314.0	1317.4	1310.7	1304.0	1300.7	1297.3	1293.9
60°	1176.9	1183.7	1190.3	1195.4	1198.7	1200.4	1193.6	1188.6	1187.0	1185.3	1182.0
62.5°	1066.6	1070.0	1076.6	1079.9	1083.4	1085.0	1079.9	1076.6	1075.0	1073.3	1071.6
65°	951.2	959.6	964.6	968.0	968.0	969.7	964.6	962.9	961.3	959.6	956.3
67.5°	832.6	839.2	842.6	845.9	845.9	845.9	845.9	845.9	844.3	841.0	837.5
70°	718.9	723.9	727.3	728.9	728.9	728.9	725.5	723.9	725.5	725.5	723.9
72.5°	603.5	606.9	608.5	610.2	608.5	608.5	608.5	611.8	611.8	610.2	606.9
75°	491.5	494.8	496.5	498.2	496.5	496.5	496.5	499.9	498.2	498.2	496.5
77.5°	386.2	387.9	387.9	389.5	387.9	387.9	389.5	392.9	391.2	391.2	391.2
80°	285.9	285.9	285.9	287.6	285.9	285.9	287.6	290.9	289.2	289.2	289.2
82.5°	193.9	195.6	195.6	195.6	197.3	199.0	199.0	199.0	199.0	199.0	197.3
85°	115.3	117.0	115.3	115.3	115.3	115.3	117.0	118.7	118.7	118.7	118.7
87.5°	50.2	51.8	50.2	48.5	46.8	46.8	50.2	53.5	53.5	51.8	51.8
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-39-42L850-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2847.0	2847.0	2847.0	2847.0
2.5°	2863.8	2863.8	2848.7	2833.7
5°	2862.1	2858.8	2842.1	2823.6
7.5°	2852.1	2847.0	2825.4	2805.3
10°	2828.7	2822.0	2798.5	2773.5
12.5°	2800.3	2790.2	2763.5	2738.4
15°	2763.5	2751.8	2723.3	2694.9
17.5°	2715.0	2701.6	2673.2	2643.1
20°	2663.2	2648.1	2616.4	2584.6
22.5°	2599.7	2586.3	2552.8	2521.0
25°	2531.1	2516.0	2482.6	2449.2
27.5°	2457.5	2440.8	2407.3	2375.6
30°	2377.3	2360.6	2327.1	2295.4
32.5°	2292.0	2278.6	2245.3	2210.1
35°	2205.1	2188.4	2154.9	2121.5
37.5°	2113.1	2098.1	2066.3	2034.6
40°	2016.2	2001.1	1967.7	1935.9
42.5°	1920.9	1907.5	1875.7	1845.7
45°	1818.9	1805.6	1775.4	1748.7
47.5°	1716.9	1703.6	1675.2	1646.7
50°	1613.3	1599.9	1573.1	1548.0
52.5°	1504.6	1494.6	1469.5	1444.4
55°	1395.9	1384.3	1359.2	1337.5
57.5°	1287.3	1278.9	1255.5	1233.8
60°	1175.3	1165.2	1146.9	1128.4
62.5°	1066.6	1058.3	1039.8	1023.1
65°	951.2	944.6	929.6	914.4
67.5°	832.6	827.5	812.5	799.1
70°	718.9	710.5	698.8	687.1
72.5°	603.5	600.1	590.2	580.1
75°	493.2	489.9	479.8	471.4
77.5°	389.5	386.2	377.8	369.4
80°	287.6	285.9	279.2	272.5
82.5°	197.3	195.6	190.6	183.9
85°	118.7	115.3	110.4	105.3
87.5°	51.8	50.2	45.2	41.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)