

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: P709162

Luminaire Tested: **4APN-39-42L835-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709162
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-39-42L835-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

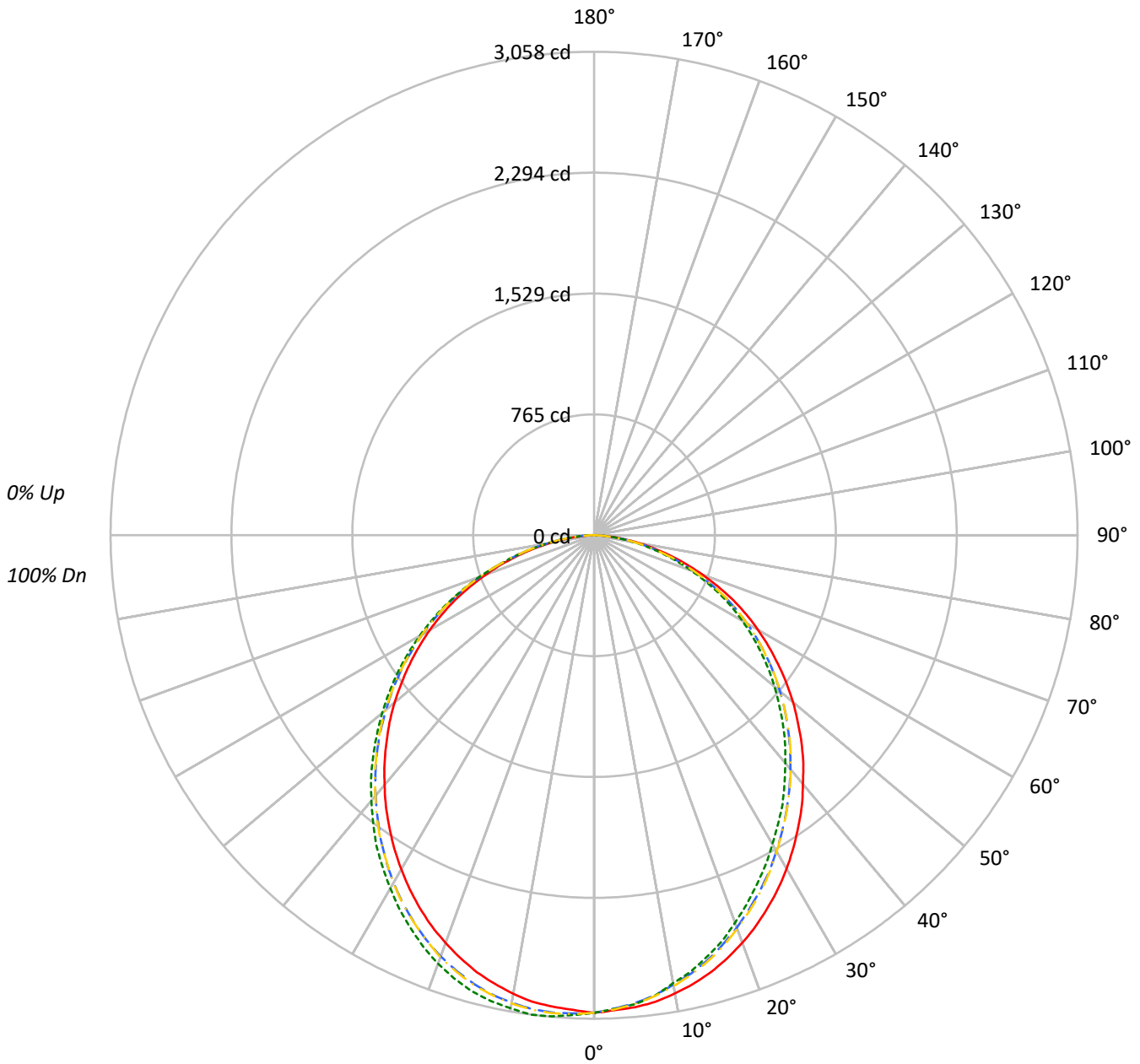
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7986.1 lumens
Efficiency: N/A
Efficacy: 86.8 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 (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

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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°	27874	27874	27874	27874
5°	27751	27569	27718	28293
10°	27573	26958	27589	28470
15°	27316	26366	27332	28518
20°	26929	25604	26945	28322
25°	26458	24796	26512	27921
30°	25950	24022	25987	27462
35°	25357	23398	25416	27015
40°	24742	22649	24827	26387
45°	24212	22036	24235	25786
50°	23580	21389	23630	25107
55°	22828	20689	22915	24398
60°	22097	19969	22130	23505
65°	21185	19093	21185	22462
70°	19668	17658	19622	20866
75°	17834	15999	17706	18783
80°	15366	13761	15079	16120
85°	11835	10512	11454	12957



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.3	3.6
10°-20°	807.8	10.1
20°-30°	1196.0	15.0
30°-40°	1403.2	17.6
40°-50°	1422.1	17.8
50°-60°	1262.1	15.8
60°-70°	947.6	11.9
70°-80°	526.2	6.6
80°-90°	135.9	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°	2289.1	28.7
0°-40°	3692.3	46.2
0°-60°	6376.5	79.8
0°-90°	7986.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7986.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3021	3021	3021	3021	3021	
5°	2996	2977	2993	3055	2996	284
15°	2860	2760	2862	2986	2860	806
25°	2599	2436	2604	2743	2599	1197
35°	2251	2077	2257	2398	2251	1409
45°	1856	1689	1857	1976	1856	1430
55°	1419	1286	1425	1517	1419	1270
65°	970	875	970	1029	970	957
75°	500	449	497	527	500	532
85°	112	99	108	122	112	135
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°	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2
2.5°	3007.0	3014.1	3023.0	3014.1	2999.9	2992.8	2992.8	2991.0	2996.4	2998.1	2996.4
5°	2996.4	2999.9	3001.7	2991.0	2975.1	2966.2	2962.7	2960.9	2968.0	2976.8	2968.0
7.5°	2976.8	2975.1	2973.3	2959.1	2941.4	2928.9	2923.6	2921.8	2928.9	2937.8	2930.7
10°	2943.1	2941.4	2936.0	2918.3	2895.2	2879.3	2873.9	2868.6	2873.9	2877.5	2873.9
12.5°	2905.9	2898.8	2891.7	2872.2	2847.3	2829.6	2820.7	2813.6	2820.7	2826.1	2822.5
15°	2859.8	2849.1	2836.7	2815.4	2790.6	2771.1	2760.4	2753.3	2758.6	2760.4	2760.4
17.5°	2804.8	2792.3	2779.9	2753.3	2723.2	2701.9	2689.4	2680.6	2687.7	2691.2	2691.2
20°	2742.7	2728.5	2712.5	2684.1	2652.2	2629.1	2614.9	2604.3	2606.1	2607.8	2607.8
22.5°	2675.3	2657.5	2638.0	2607.8	2574.1	2549.3	2535.1	2522.7	2522.7	2524.5	2524.5
25°	2599.0	2579.5	2559.9	2529.8	2494.3	2467.7	2450.0	2437.5	2437.5	2435.8	2439.3
27.5°	2520.9	2499.6	2480.1	2448.2	2410.9	2384.3	2366.6	2354.2	2352.4	2350.6	2354.2
30°	2435.8	2410.9	2389.6	2355.9	2320.4	2293.8	2276.1	2261.9	2258.4	2254.8	2258.4
32.5°	2345.3	2322.2	2299.2	2263.7	2228.2	2201.6	2183.8	2169.7	2167.9	2166.1	2169.7
35°	2251.3	2226.4	2205.1	2171.4	2135.9	2109.3	2089.8	2077.4	2077.4	2077.4	2077.4
37.5°	2159.0	2134.2	2111.1	2077.4	2041.9	2015.3	1995.8	1983.4	1979.8	1978.1	1979.8
40°	2054.3	2033.1	2011.8	1979.8	1944.4	1917.7	1901.8	1887.6	1884.0	1880.5	1885.8
42.5°	1958.5	1937.3	1914.2	1884.0	1848.6	1821.9	1804.2	1791.8	1790.0	1788.2	1790.0
45°	1855.6	1830.8	1807.8	1779.4	1747.4	1722.6	1704.9	1692.4	1690.7	1688.9	1690.7
47.5°	1747.4	1727.9	1708.4	1680.0	1648.1	1623.2	1607.3	1593.1	1589.5	1586.0	1589.5
50°	1642.8	1621.5	1602.0	1575.4	1545.2	1522.1	1507.9	1495.5	1492.0	1490.2	1492.0
52.5°	1532.8	1513.3	1495.5	1468.9	1444.1	1421.0	1405.0	1394.4	1392.6	1390.8	1392.6
55°	1419.2	1401.5	1385.5	1364.2	1339.4	1318.1	1303.9	1291.5	1289.7	1286.2	1289.7
57.5°	1309.2	1295.1	1279.1	1256.0	1233.0	1213.4	1201.0	1190.4	1188.6	1186.8	1188.6
60°	1197.5	1183.3	1169.1	1149.6	1126.5	1107.0	1096.4	1087.5	1083.9	1082.2	1083.9
62.5°	1085.7	1071.5	1060.9	1041.4	1020.1	1004.1	993.5	984.6	981.0	979.3	981.0
65°	970.4	958.0	945.6	927.8	911.9	899.4	888.8	879.9	876.4	874.6	874.6
67.5°	848.0	837.3	828.5	812.5	794.8	782.4	771.7	764.6	761.1	759.3	761.1
70°	729.1	720.3	711.4	699.0	684.8	674.1	667.0	659.9	656.4	654.6	654.6
72.5°	615.6	608.5	599.6	589.0	578.3	567.7	560.6	555.3	551.7	550.0	550.0
75°	500.3	493.2	489.6	480.8	470.1	463.0	455.9	452.4	448.8	448.8	448.8
77.5°	392.1	388.5	385.0	376.1	369.0	361.9	356.6	354.8	351.3	351.3	351.3
80°	289.2	287.4	285.6	280.3	273.2	266.1	262.6	260.8	259.0	259.0	259.0
82.5°	195.1	195.1	193.4	188.0	182.7	181.0	177.4	175.6	175.6	175.6	175.6
85°	111.8	111.8	111.8	110.0	106.4	106.4	102.9	101.1	99.3	99.3	99.3
87.5°	44.4	46.1	47.9	46.1	42.6	42.6	42.6	42.6	42.6	42.6	42.6
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°	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2
2.5°	2991.0	2994.6	2996.4	3005.2	3015.9	3023.0	3014.1	3005.2	3019.4	3035.4	3035.4
5°	2960.9	2964.4	2969.7	2980.4	2994.6	3003.5	2999.9	2992.8	3014.1	3031.8	3033.6
7.5°	2923.6	2927.2	2934.3	2944.9	2962.7	2975.1	2975.1	2976.8	2996.4	3017.6	3023.0
10°	2868.6	2877.5	2888.1	2904.1	2921.8	2937.8	2943.1	2944.9	2969.7	2992.8	2999.9
12.5°	2817.2	2826.1	2836.7	2854.4	2875.7	2893.5	2898.8	2905.9	2932.5	2959.1	2969.7
15°	2758.6	2767.5	2779.9	2797.7	2820.7	2840.2	2850.9	2861.5	2888.1	2916.5	2928.9
17.5°	2689.4	2698.3	2710.7	2732.0	2758.6	2781.7	2794.1	2806.5	2836.7	2866.9	2879.3
20°	2607.8	2620.3	2638.0	2659.3	2689.4	2716.1	2730.3	2744.4	2776.4	2806.5	2820.7
22.5°	2524.5	2538.7	2558.2	2583.0	2614.9	2643.3	2661.1	2678.8	2710.7	2740.9	2756.9
25°	2441.1	2457.0	2476.6	2503.2	2533.3	2561.7	2583.0	2604.3	2636.2	2668.2	2684.1
27.5°	2355.9	2370.1	2389.6	2416.2	2450.0	2480.1	2501.4	2524.5	2556.4	2590.1	2606.1
30°	2261.9	2277.9	2295.6	2322.2	2359.5	2393.2	2414.5	2439.3	2471.2	2504.9	2520.9
32.5°	2171.4	2185.6	2203.4	2230.0	2267.2	2302.7	2325.8	2350.6	2382.5	2416.2	2430.4
35°	2077.4	2091.6	2111.1	2137.7	2175.0	2208.7	2231.7	2256.6	2286.7	2318.7	2334.6
37.5°	1985.2	1999.3	2018.9	2045.5	2081.0	2114.7	2137.7	2162.6	2192.7	2222.9	2237.1
40°	1889.4	1903.5	1919.5	1946.1	1981.6	2015.3	2036.6	2061.4	2091.6	2123.5	2137.7
42.5°	1791.8	1806.0	1825.5	1852.1	1885.8	1916.0	1939.0	1962.1	1990.5	2018.9	2033.1
45°	1694.2	1706.6	1726.1	1751.0	1782.9	1811.3	1834.4	1857.4	1884.0	1910.6	1924.8
47.5°	1593.1	1607.3	1623.2	1648.1	1680.0	1710.2	1733.2	1754.5	1779.4	1806.0	1818.4
50°	1495.5	1507.9	1523.9	1547.0	1577.1	1605.5	1625.0	1646.3	1669.4	1694.2	1704.9
52.5°	1394.4	1406.8	1422.8	1445.8	1470.7	1497.3	1515.0	1534.5	1557.6	1580.7	1591.3
55°	1291.5	1300.4	1314.6	1335.9	1362.5	1387.3	1405.0	1424.6	1444.1	1463.6	1476.0
57.5°	1190.4	1201.0	1215.2	1234.7	1257.8	1280.9	1296.8	1312.8	1332.3	1351.8	1360.7
60°	1087.5	1096.4	1107.0	1124.7	1147.8	1167.3	1183.3	1199.3	1215.2	1233.0	1241.8
62.5°	982.8	991.7	1002.3	1020.1	1039.6	1057.3	1071.5	1085.7	1099.9	1115.9	1124.7
65°	878.2	887.0	897.7	910.1	926.1	942.0	956.2	970.4	981.0	991.7	1000.6
67.5°	764.6	773.5	784.1	794.8	809.0	824.9	835.6	848.0	858.6	871.1	876.4
70°	658.2	665.3	675.9	684.8	697.2	707.8	716.7	727.4	734.5	745.1	754.0
72.5°	553.5	560.6	569.5	578.3	585.4	594.3	604.9	613.8	622.7	633.3	636.9
75°	452.4	455.9	463.0	470.1	477.2	484.3	489.6	496.7	503.8	510.9	516.2
77.5°	353.0	356.6	363.7	369.0	374.3	379.6	383.2	386.7	393.8	399.2	404.5
80°	259.0	262.6	267.9	273.2	278.5	283.8	283.8	283.8	292.7	299.8	301.6
82.5°	175.6	177.4	181.0	184.5	188.0	191.6	191.6	189.8	195.1	200.5	204.0
85°	101.1	102.9	106.4	106.4	108.2	108.2	108.2	108.2	111.8	117.1	120.6
87.5°	40.8	40.8	42.6	42.6	44.4	44.4	42.6	40.8	44.4	49.7	51.4
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2	3021.2
2.5°	3028.3	3026.5	3031.8	3033.6	3037.2	3037.2	3038.9	3038.9	3035.4	3030.1	3031.8
5°	3030.1	3030.1	3035.4	3040.7	3047.8	3054.9	3049.6	3044.3	3040.7	3035.4	3033.6
7.5°	3021.2	3024.7	3030.1	3038.9	3047.8	3058.5	3051.4	3044.3	3035.4	3028.3	3024.7
10°	2999.9	3003.5	3012.3	3021.2	3030.1	3038.9	3031.8	3024.7	3017.6	3008.8	3005.2
12.5°	2973.3	2978.6	2989.3	2998.1	3007.0	3017.6	3008.8	2999.9	2991.0	2982.2	2976.8
15°	2934.3	2941.4	2953.8	2964.4	2976.8	2985.7	2978.6	2971.5	2960.9	2948.5	2939.6
17.5°	2884.6	2895.2	2907.7	2920.1	2930.7	2939.6	2934.3	2927.2	2914.8	2900.6	2889.9
20°	2829.6	2840.2	2850.9	2863.3	2875.7	2884.6	2877.5	2868.6	2856.2	2845.6	2834.9
22.5°	2765.7	2776.4	2788.8	2799.4	2810.1	2819.0	2810.1	2799.4	2788.8	2778.2	2767.5
25°	2693.0	2703.6	2717.8	2728.5	2735.6	2742.7	2735.6	2726.7	2716.1	2705.4	2694.8
27.5°	2616.7	2627.4	2641.6	2652.2	2659.3	2666.4	2659.3	2650.4	2639.8	2629.1	2618.5
30°	2531.6	2542.2	2556.4	2567.0	2572.4	2577.7	2570.6	2563.5	2554.6	2544.0	2533.3
32.5°	2441.1	2451.7	2462.4	2473.0	2481.9	2489.0	2481.9	2474.8	2464.1	2450.0	2439.3
35°	2345.3	2355.9	2368.3	2379.0	2389.6	2398.5	2387.9	2375.4	2366.6	2357.7	2348.8
37.5°	2244.2	2256.6	2270.8	2283.2	2286.7	2293.8	2286.7	2279.6	2270.8	2261.9	2251.3
40°	2144.8	2155.5	2167.9	2180.3	2185.6	2190.9	2183.8	2176.8	2166.1	2157.2	2146.6
42.5°	2041.9	2052.6	2063.2	2073.9	2081.0	2088.0	2081.0	2070.3	2063.2	2056.1	2047.2
45°	1935.5	1946.1	1955.0	1965.6	1971.0	1976.3	1969.2	1960.3	1953.2	1947.9	1939.0
47.5°	1827.3	1836.1	1845.0	1853.9	1857.4	1862.7	1855.6	1850.3	1845.0	1839.7	1832.6
50°	1713.7	1722.6	1733.2	1742.1	1743.9	1749.2	1742.1	1736.8	1731.5	1726.1	1720.8
52.5°	1602.0	1609.1	1617.9	1626.8	1630.3	1633.9	1626.8	1619.7	1614.4	1610.8	1605.5
55°	1484.9	1492.0	1500.8	1507.9	1513.3	1516.8	1509.7	1502.6	1497.3	1495.5	1490.2
57.5°	1367.8	1374.9	1383.8	1390.8	1394.4	1397.9	1390.8	1383.8	1380.2	1376.7	1373.1
60°	1248.9	1256.0	1263.1	1268.4	1272.0	1273.8	1266.7	1261.3	1259.6	1257.8	1254.2
62.5°	1131.8	1135.4	1142.5	1146.0	1149.6	1151.4	1146.0	1142.5	1140.7	1138.9	1137.2
65°	1009.4	1018.3	1023.6	1027.2	1027.2	1028.9	1023.6	1021.8	1020.1	1018.3	1014.8
67.5°	883.5	890.6	894.1	897.7	897.7	897.7	897.7	897.7	895.9	892.3	888.8
70°	762.8	768.2	771.7	773.5	773.5	773.5	769.9	768.2	769.9	769.9	768.2
72.5°	640.4	644.0	645.8	647.5	645.8	645.8	645.8	649.3	649.3	647.5	644.0
75°	521.6	525.1	526.9	528.7	526.9	526.9	526.9	530.4	528.7	528.7	526.9
77.5°	409.8	411.6	411.6	413.4	411.6	411.6	413.4	416.9	415.1	415.1	415.1
80°	303.4	303.4	303.4	305.1	303.4	303.4	305.1	308.7	306.9	306.9	306.9
82.5°	205.8	207.6	207.6	207.6	209.3	211.1	211.1	211.1	211.1	211.1	209.3
85°	122.4	124.2	122.4	122.4	122.4	122.4	124.2	126.0	126.0	126.0	126.0
87.5°	53.2	55.0	53.2	51.4	49.7	49.7	53.2	56.8	56.8	55.0	55.0
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: P709162

CATALOG NUMBER: 4APN-39-42L835-UNV

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	3021.2	3021.2	3021.2	3021.2
2.5°	3038.9	3038.9	3023.0	3007.0
5°	3037.2	3033.6	3015.9	2996.4
7.5°	3026.5	3021.2	2998.1	2976.8
10°	3001.7	2994.6	2969.7	2943.1
12.5°	2971.5	2960.9	2932.5	2905.9
15°	2932.5	2920.1	2889.9	2859.8
17.5°	2881.0	2866.9	2836.7	2804.8
20°	2826.1	2810.1	2776.4	2742.7
22.5°	2758.6	2744.4	2709.0	2675.3
25°	2685.9	2669.9	2634.5	2599.0
27.5°	2607.8	2590.1	2554.6	2520.9
30°	2522.7	2504.9	2469.5	2435.8
32.5°	2432.2	2418.0	2382.5	2345.3
35°	2340.0	2322.2	2286.7	2251.3
37.5°	2242.4	2226.4	2192.7	2159.0
40°	2139.5	2123.5	2088.0	2054.3
42.5°	2038.4	2024.2	1990.5	1958.5
45°	1930.2	1916.0	1884.0	1855.6
47.5°	1821.9	1807.8	1777.6	1747.4
50°	1712.0	1697.8	1669.4	1642.8
52.5°	1596.6	1586.0	1559.4	1532.8
55°	1481.3	1468.9	1442.3	1419.2
57.5°	1366.0	1357.1	1332.3	1309.2
60°	1247.2	1236.5	1217.0	1197.5
62.5°	1131.8	1123.0	1103.5	1085.7
65°	1009.4	1002.3	986.4	970.4
67.5°	883.5	878.2	862.2	848.0
70°	762.8	754.0	741.6	729.1
72.5°	640.4	636.9	626.2	615.6
75°	523.3	519.8	509.2	500.3
77.5°	413.4	409.8	400.9	392.1
80°	305.1	303.4	296.3	289.2
82.5°	209.3	207.6	202.2	195.1
85°	126.0	122.4	117.1	111.8
87.5°	55.0	53.2	47.9	44.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)