

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-39-42L830-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-39-42L830-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

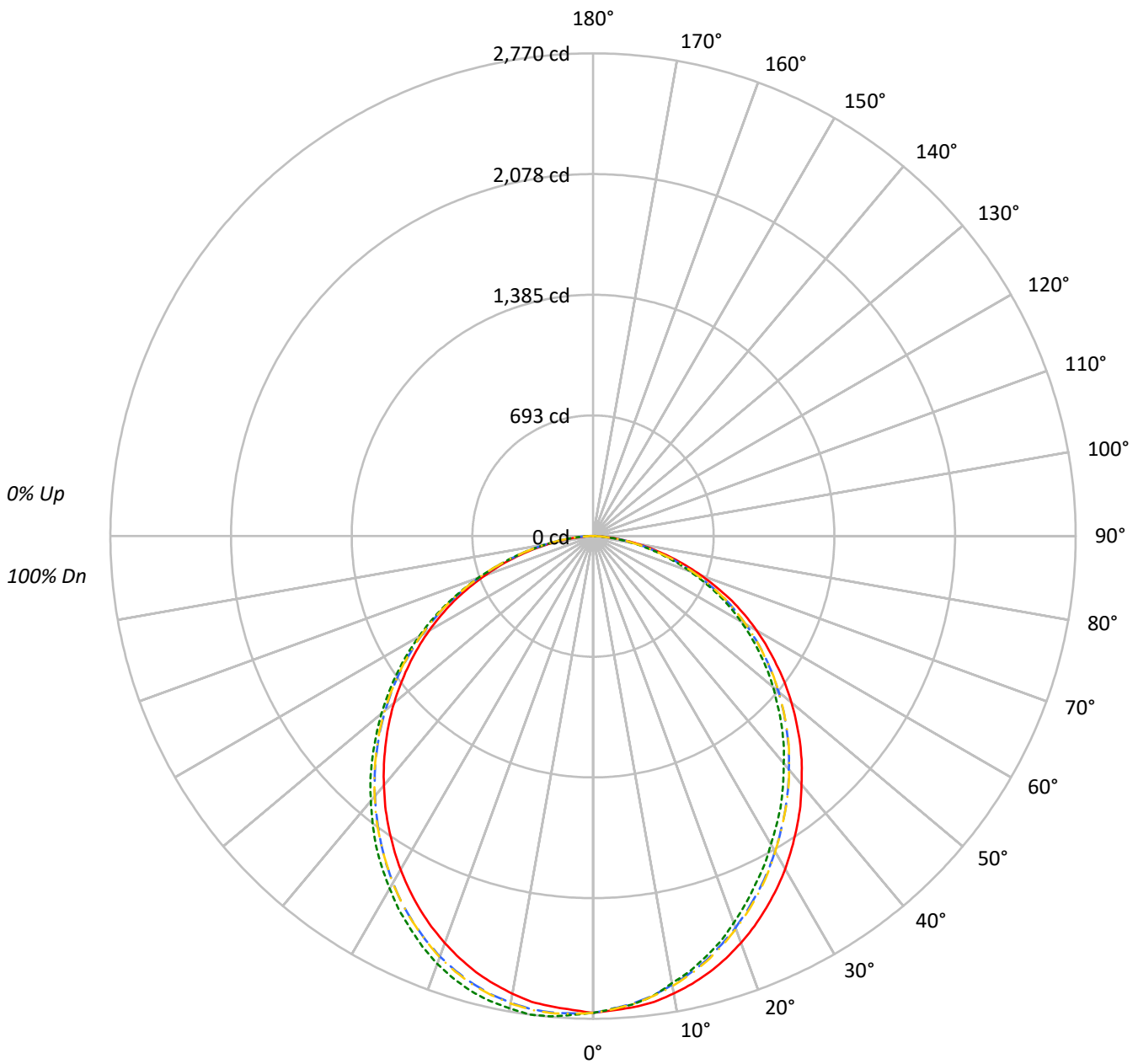
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7232.0 lumens
Efficiency: N/A
Efficacy: 78.6 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): 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			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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	25242	25242	25242	25242
5°	25130	24966	25100	25622
10°	24969	24413	24985	25782
15°	24736	23876	24752	25826
20°	24386	23187	24401	25647
25°	23960	22455	24008	25284
30°	23499	21753	23534	24868
35°	22962	21188	23016	24463
40°	22407	20510	22484	23896
45°	21926	19955	21946	23352
50°	21352	19370	21400	22737
55°	20675	18736	20752	22095
60°	20012	18083	20039	21285
65°	19185	17290	19185	20342
70°	17809	15991	17769	18894
75°	16152	14487	16034	17007
80°	13910	12465	13660	14601
85°	10713	9527	10374	11729



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.4	3.6
10°-20°	731.5	10.1
20°-30°	1083.1	15.0
30°-40°	1270.7	17.6
40°-50°	1287.8	17.8
50°-60°	1143.0	15.8
60°-70°	858.1	11.9
70°-80°	476.5	6.6
80°-90°	123.0	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°	2073.0	28.7
0°-40°	3343.7	46.2
0°-60°	5774.4	79.8
0°-90°	7232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7232.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2736	2736	2736	2736	2736	
5°	2713	2696	2710	2766	2713	258
15°	2590	2500	2591	2704	2590	730
25°	2354	2206	2358	2484	2354	1084
35°	2039	1881	2044	2172	2039	1276
45°	1680	1529	1682	1790	1680	1295
55°	1285	1165	1290	1374	1285	1151
65°	879	792	879	932	879	866
75°	453	406	450	477	453	482
85°	101	90	98	111	101	122
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°	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9
2.5°	2723.0	2729.5	2737.5	2729.5	2716.7	2710.2	2710.2	2708.7	2713.4	2715.0	2713.4
5°	2713.4	2716.7	2718.2	2708.7	2694.2	2686.2	2682.9	2681.3	2687.7	2695.7	2687.7
7.5°	2695.7	2694.2	2692.5	2679.7	2663.7	2652.4	2647.5	2646.0	2652.4	2660.4	2654.0
10°	2665.2	2663.7	2658.8	2642.7	2621.9	2607.4	2602.6	2597.7	2602.6	2605.8	2602.6
12.5°	2631.5	2625.1	2618.7	2601.0	2578.5	2562.4	2554.4	2547.9	2554.4	2559.2	2556.0
15°	2589.7	2580.1	2568.9	2549.6	2527.1	2509.4	2499.7	2493.4	2498.2	2499.7	2499.7
17.5°	2539.9	2528.7	2517.4	2493.4	2466.1	2446.7	2435.5	2427.4	2433.9	2437.1	2437.1
20°	2483.7	2470.9	2456.4	2430.7	2401.8	2380.9	2368.1	2358.4	2360.0	2361.6	2361.6
22.5°	2422.6	2406.6	2388.9	2361.6	2331.1	2308.6	2295.8	2284.5	2284.5	2286.1	2286.1
25°	2353.6	2335.9	2318.2	2290.9	2258.8	2234.7	2218.6	2207.4	2207.4	2205.8	2209.0
27.5°	2282.9	2263.6	2245.9	2217.0	2183.3	2159.1	2143.1	2131.8	2130.3	2128.6	2131.8
30°	2205.8	2183.3	2164.0	2133.5	2101.3	2077.3	2061.2	2048.3	2045.1	2041.9	2045.1
32.5°	2123.8	2103.0	2082.1	2050.0	2017.8	1993.7	1977.6	1964.8	1963.2	1961.6	1964.8
35°	2038.7	2016.2	1997.0	1966.4	1934.3	1910.2	1892.5	1881.2	1881.2	1881.2	1881.2
37.5°	1955.2	1932.7	1911.8	1881.2	1849.2	1825.0	1807.4	1796.1	1792.9	1791.3	1792.9
40°	1860.4	1841.0	1821.8	1792.9	1760.7	1736.7	1722.2	1709.4	1706.2	1702.9	1707.7
42.5°	1773.7	1754.3	1733.5	1706.2	1674.0	1649.9	1633.9	1622.6	1621.0	1619.4	1621.0
45°	1680.4	1657.9	1637.1	1611.4	1582.4	1559.9	1543.9	1532.6	1531.0	1529.4	1531.0
47.5°	1582.4	1564.7	1547.1	1521.4	1492.4	1469.9	1455.6	1442.7	1439.4	1436.2	1439.4
50°	1487.6	1468.4	1450.7	1426.6	1399.3	1378.4	1365.6	1354.3	1351.1	1349.5	1351.1
52.5°	1388.1	1370.4	1354.3	1330.2	1307.7	1286.8	1272.4	1262.8	1261.1	1259.5	1261.1
55°	1285.3	1269.1	1254.7	1235.4	1212.9	1193.6	1180.8	1169.6	1168.0	1164.8	1168.0
57.5°	1185.6	1172.8	1158.3	1137.5	1116.5	1098.8	1087.6	1078.0	1076.3	1074.8	1076.3
60°	1084.5	1071.5	1058.7	1041.0	1020.2	1002.5	992.8	984.8	981.6	980.0	981.6
62.5°	983.2	970.3	960.7	943.0	923.8	909.3	899.7	891.7	888.4	886.8	888.4
65°	878.8	867.5	856.3	840.2	825.7	814.5	804.9	796.9	793.7	792.0	792.0
67.5°	767.9	758.3	750.2	735.8	719.7	708.5	698.9	692.4	689.2	687.6	689.2
70°	660.2	652.2	644.2	633.0	620.1	610.5	604.1	597.6	594.4	592.8	592.8
72.5°	557.4	551.1	543.0	533.4	523.7	514.1	507.7	502.9	499.6	498.1	498.1
75°	453.1	446.6	443.4	435.4	425.7	419.3	412.9	409.6	406.4	406.4	406.4
77.5°	355.1	351.8	348.6	340.6	334.1	327.8	322.9	321.3	318.1	318.1	318.1
80°	261.8	260.3	258.6	253.8	247.4	241.0	237.8	236.1	234.6	234.6	234.6
82.5°	176.7	176.7	175.1	170.3	165.5	163.8	160.6	159.0	159.0	159.0	159.0
85°	101.2	101.2	101.2	99.6	96.3	96.3	93.2	91.6	90.0	90.0	90.0
87.5°	40.2	41.8	43.3	41.8	38.5	38.5	38.5	38.5	38.5	38.5	38.5
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9
2.5°	2708.7	2711.8	2713.4	2721.5	2731.1	2737.5	2729.5	2721.5	2734.3	2748.8	2748.8
5°	2681.3	2684.5	2689.4	2699.0	2711.8	2719.9	2716.7	2710.2	2729.5	2745.5	2747.2
7.5°	2647.5	2650.8	2657.2	2666.9	2682.9	2694.2	2694.2	2695.7	2713.4	2732.7	2737.5
10°	2597.7	2605.8	2615.4	2629.9	2646.0	2660.4	2665.2	2666.9	2689.4	2710.2	2716.7
12.5°	2551.2	2559.2	2568.9	2584.9	2604.2	2620.2	2625.1	2631.5	2655.6	2679.7	2689.4
15°	2498.2	2506.2	2517.4	2533.5	2554.4	2572.1	2581.7	2591.4	2615.4	2641.2	2652.4
17.5°	2435.5	2443.6	2454.8	2474.1	2498.2	2519.1	2530.3	2541.5	2568.9	2596.2	2607.4
20°	2361.6	2372.9	2388.9	2408.2	2435.5	2459.6	2472.4	2485.3	2514.2	2541.5	2554.4
22.5°	2286.1	2298.9	2316.6	2339.1	2368.1	2393.7	2409.8	2425.9	2454.8	2482.1	2496.6
25°	2210.6	2225.1	2242.8	2266.8	2294.1	2319.8	2339.1	2358.4	2387.3	2416.2	2430.7
27.5°	2133.5	2146.3	2164.0	2188.1	2218.6	2245.9	2265.2	2286.1	2315.0	2345.6	2360.0
30°	2048.3	2062.8	2078.8	2103.0	2136.7	2167.3	2186.5	2209.0	2237.9	2268.4	2282.9
32.5°	1966.4	1979.3	1995.3	2019.5	2053.1	2085.3	2106.1	2128.6	2157.6	2188.1	2200.9
35°	1881.2	1894.1	1911.8	1935.8	1969.6	2000.1	2021.0	2043.5	2070.8	2099.8	2114.2
37.5°	1797.7	1810.5	1828.2	1852.3	1884.5	1915.0	1935.8	1958.3	1985.7	2013.0	2025.8
40°	1711.0	1723.8	1738.2	1762.4	1794.5	1825.0	1844.3	1866.8	1894.1	1923.0	1935.8
42.5°	1622.6	1635.4	1653.1	1677.2	1707.7	1735.0	1755.9	1776.8	1802.5	1828.2	1841.0
45°	1534.2	1545.5	1563.2	1585.7	1614.6	1640.2	1661.2	1682.0	1706.2	1730.2	1743.1
47.5°	1442.7	1455.6	1469.9	1492.4	1521.4	1548.7	1569.6	1588.9	1611.4	1635.4	1646.7
50°	1354.3	1365.6	1380.0	1400.9	1428.2	1453.9	1471.6	1490.9	1511.7	1534.2	1543.9
52.5°	1262.8	1274.0	1288.4	1309.3	1331.8	1355.9	1371.9	1389.6	1410.6	1431.4	1441.1
55°	1169.6	1177.6	1190.5	1209.8	1233.8	1256.3	1272.4	1290.1	1307.7	1325.4	1336.6
57.5°	1078.0	1087.6	1100.5	1118.1	1139.0	1159.9	1174.4	1188.8	1206.5	1224.1	1232.3
60°	984.8	992.8	1002.5	1018.5	1039.5	1057.1	1071.5	1086.0	1100.5	1116.5	1124.6
62.5°	890.0	898.0	907.7	923.8	941.5	957.5	970.3	983.2	996.0	1010.5	1018.5
65°	795.2	803.2	812.9	824.2	838.7	853.0	865.9	878.8	888.4	898.0	906.0
67.5°	692.4	700.4	710.1	719.7	732.6	747.0	756.7	767.9	777.5	788.8	793.7
70°	596.0	602.4	612.1	620.1	631.4	641.0	649.0	658.7	665.1	674.7	682.7
72.5°	501.2	507.7	515.7	523.7	530.1	538.2	547.9	555.9	563.9	573.6	576.7
75°	409.6	412.9	419.3	425.7	432.1	438.6	443.4	449.8	456.3	462.7	467.5
77.5°	319.7	322.9	329.3	334.1	339.0	343.8	347.0	350.3	356.6	361.5	366.3
80°	234.6	237.8	242.6	247.4	252.3	257.1	257.1	257.1	265.1	271.5	273.1
82.5°	159.0	160.6	163.8	167.1	170.3	173.5	173.5	171.9	176.7	181.5	184.8
85°	91.6	93.2	96.3	96.3	98.0	98.0	98.0	98.0	101.2	106.0	109.3
87.5°	37.0	37.0	38.5	38.5	40.2	40.2	38.5	37.0	40.2	45.0	46.6
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9	2735.9
2.5°	2742.4	2740.7	2745.5	2747.2	2750.4	2750.4	2752.0	2752.0	2748.8	2744.0	2745.5
5°	2744.0	2744.0	2748.8	2753.6	2760.0	2766.5	2761.7	2756.8	2753.6	2748.8	2747.2
7.5°	2735.9	2739.2	2744.0	2752.0	2760.0	2769.7	2763.2	2756.8	2748.8	2742.4	2739.2
10°	2716.7	2719.9	2727.9	2735.9	2744.0	2752.0	2745.5	2739.2	2732.7	2724.7	2721.5
12.5°	2692.5	2697.4	2707.0	2715.0	2723.0	2732.7	2724.7	2716.7	2708.7	2700.5	2695.7
15°	2657.2	2663.7	2674.9	2684.5	2695.7	2703.8	2697.4	2690.9	2681.3	2670.0	2662.0
17.5°	2612.2	2621.9	2633.1	2644.4	2654.0	2662.0	2657.2	2650.8	2639.5	2626.7	2617.0
20°	2562.4	2572.1	2581.7	2592.9	2604.2	2612.2	2605.8	2597.7	2586.5	2576.9	2567.2
22.5°	2504.6	2514.2	2525.5	2535.1	2544.7	2552.7	2544.7	2535.1	2525.5	2515.9	2506.2
25°	2438.7	2448.4	2461.2	2470.9	2477.2	2483.7	2477.2	2469.2	2459.6	2449.9	2440.3
27.5°	2369.6	2379.3	2392.1	2401.8	2408.2	2414.6	2408.2	2400.2	2390.6	2380.9	2371.2
30°	2292.6	2302.1	2315.0	2324.6	2329.4	2334.3	2327.9	2321.4	2313.4	2303.8	2294.1
32.5°	2210.6	2220.3	2229.9	2239.5	2247.6	2253.9	2247.6	2241.1	2231.5	2218.6	2209.0
35°	2123.8	2133.5	2144.8	2154.3	2164.0	2172.0	2162.4	2151.1	2143.1	2135.1	2127.1
37.5°	2032.3	2043.5	2056.3	2067.6	2070.8	2077.3	2070.8	2064.4	2056.3	2048.3	2038.7
40°	1942.3	1952.0	1963.2	1974.5	1979.3	1984.1	1977.6	1971.2	1961.6	1953.5	1943.9
42.5°	1849.2	1858.8	1868.4	1878.0	1884.5	1890.9	1884.5	1874.8	1868.4	1862.0	1854.0
45°	1752.7	1762.4	1770.4	1780.0	1784.9	1789.7	1783.2	1775.2	1768.8	1764.0	1755.9
47.5°	1654.7	1662.7	1670.8	1678.9	1682.0	1686.9	1680.4	1675.6	1670.8	1666.0	1659.5
50°	1551.9	1559.9	1569.6	1577.6	1579.2	1584.1	1577.6	1572.8	1568.0	1563.2	1558.4
52.5°	1450.7	1457.1	1465.2	1473.2	1476.4	1479.6	1473.2	1466.8	1461.9	1458.7	1453.9
55°	1344.6	1351.1	1359.1	1365.6	1370.4	1373.6	1367.1	1360.8	1355.9	1354.3	1349.5
57.5°	1238.6	1245.1	1253.1	1259.5	1262.8	1265.9	1259.5	1253.1	1249.9	1246.6	1243.5
60°	1131.0	1137.5	1143.8	1148.6	1151.9	1153.5	1147.1	1142.3	1140.6	1139.0	1135.8
62.5°	1025.0	1028.2	1034.6	1037.8	1041.0	1042.6	1037.8	1034.6	1033.0	1031.3	1029.8
65°	914.2	922.2	927.0	930.2	930.2	931.8	927.0	925.3	923.8	922.2	919.0
67.5°	800.0	806.5	809.7	812.9	812.9	812.9	812.9	812.9	811.3	808.0	804.9
70°	690.9	695.6	698.9	700.4	700.4	700.4	697.2	695.6	697.2	697.2	695.6
72.5°	579.9	583.2	584.7	586.4	584.7	584.7	584.7	588.0	588.0	586.4	583.2
75°	472.3	475.6	477.1	478.7	477.1	477.1	477.1	480.4	478.7	478.7	477.1
77.5°	371.1	372.7	372.7	374.3	372.7	372.7	374.3	377.6	375.9	375.9	375.9
80°	274.8	274.8	274.8	276.3	274.8	274.8	276.3	279.6	277.9	277.9	277.9
82.5°	186.3	188.0	188.0	188.0	189.6	191.2	191.2	191.2	191.2	191.2	189.6
85°	110.8	112.5	110.8	110.8	110.8	110.8	112.5	114.1	114.1	114.1	114.1
87.5°	48.2	49.8	48.2	46.6	45.0	45.0	48.2	51.4	51.4	49.8	49.8
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-39-42L830-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2735.9	2735.9	2735.9	2735.9
2.5°	2752.0	2752.0	2737.5	2723.0
5°	2750.4	2747.2	2731.1	2713.4
7.5°	2740.7	2735.9	2715.0	2695.7
10°	2718.2	2711.8	2689.4	2665.2
12.5°	2690.9	2681.3	2655.6	2631.5
15°	2655.6	2644.4	2617.0	2589.7
17.5°	2609.0	2596.2	2568.9	2539.9
20°	2559.2	2544.7	2514.2	2483.7
22.5°	2498.2	2485.3	2453.2	2422.6
25°	2432.3	2417.9	2385.7	2353.6
27.5°	2361.6	2345.6	2313.4	2282.9
30°	2284.5	2268.4	2236.3	2205.8
32.5°	2202.6	2189.8	2157.6	2123.8
35°	2119.0	2103.0	2070.8	2038.7
37.5°	2030.6	2016.2	1985.7	1955.2
40°	1937.5	1923.0	1890.9	1860.4
42.5°	1845.9	1833.0	1802.5	1773.7
45°	1747.9	1735.0	1706.2	1680.4
47.5°	1649.9	1637.1	1609.7	1582.4
50°	1550.3	1537.4	1511.7	1487.6
52.5°	1445.9	1436.2	1412.1	1388.1
55°	1341.4	1330.2	1306.1	1285.3
57.5°	1237.0	1229.0	1206.5	1185.6
60°	1129.4	1119.8	1102.1	1084.5
62.5°	1025.0	1017.0	999.3	983.2
65°	914.2	907.7	893.2	878.8
67.5°	800.0	795.2	780.7	767.9
70°	690.9	682.7	671.5	660.2
72.5°	579.9	576.7	567.1	557.4
75°	473.9	470.7	461.1	453.1
77.5°	374.3	371.1	363.1	355.1
80°	276.3	274.8	268.3	261.8
82.5°	189.6	188.0	183.1	176.7
85°	114.1	110.8	106.0	101.2
87.5°	49.8	48.2	43.3	40.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)