

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-39-42L835-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-39-42L835-UNV-NP  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ Nature Pattern Lens  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

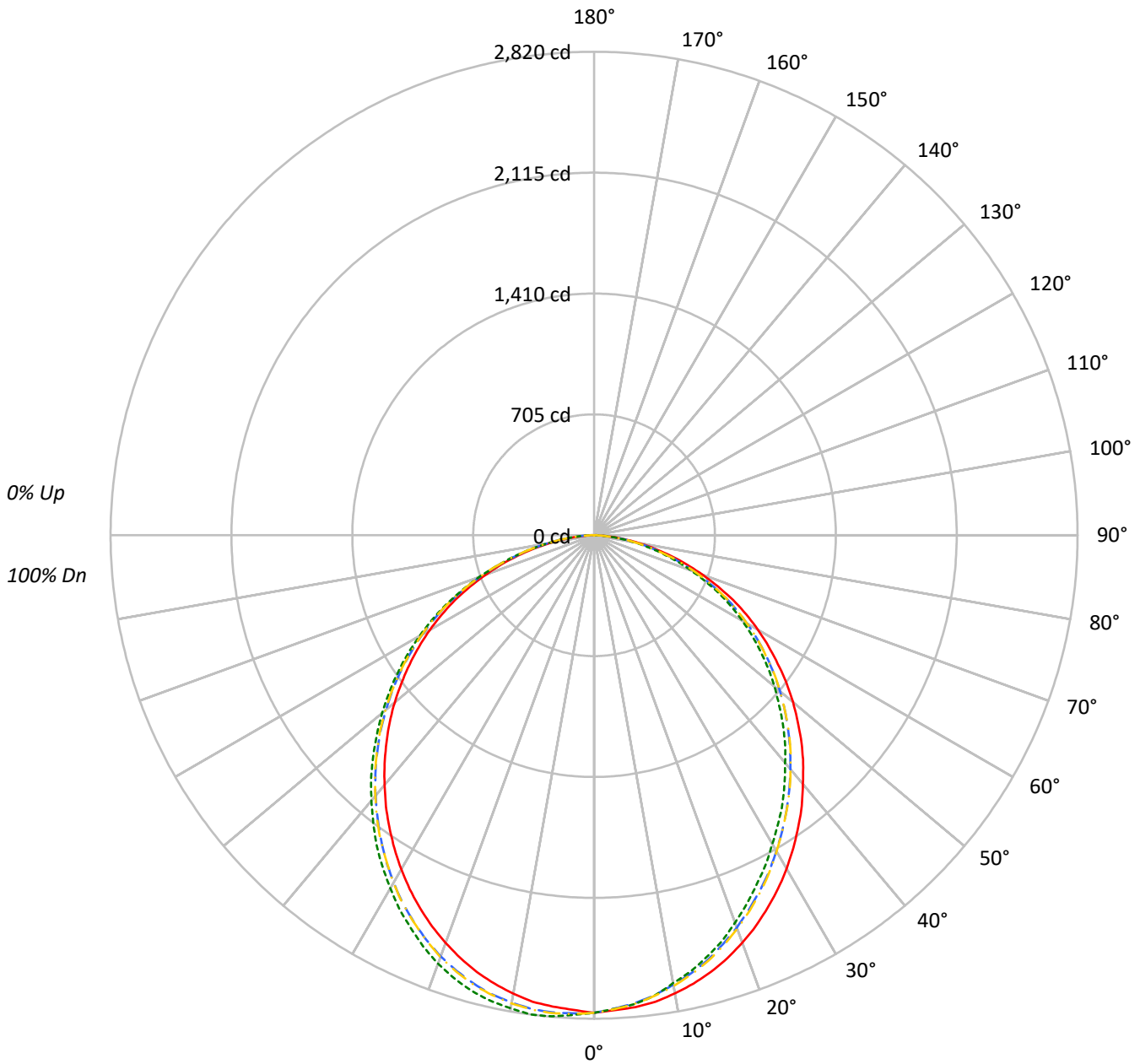
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7363.2 lumens  
Efficiency: N/A  
Efficacy: 80.0 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<sub>in</sub>): 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°	25700	25700	25700	25700
5°	25587	25419	25556	26086
10°	25422	24856	25437	26250
15°	25185	24310	25200	26294
20°	24829	23607	24843	26113
25°	24394	22862	24444	25743
30°	23926	22148	23960	25319
35°	23379	21573	23434	24907
40°	22812	20882	22891	24329
45°	22324	20318	22344	23774
50°	21741	19722	21787	23149
55°	21048	19076	21128	22495
60°	20373	18412	20405	21671
65°	19532	17605	19532	20709
70°	18133	16280	18093	19239
75°	16444	14751	16326	17317
80°	14165	12688	13905	14861
85°	10914	9697	10565	11951



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	263.1	3.6
10°-20°	744.8	10.1
20°-30°	1102.7	15.0
30°-40°	1293.8	17.6
40°-50°	1311.2	17.8
50°-60°	1163.7	15.8
60°-70°	873.7	11.9
70°-80°	485.1	6.6
80°-90°	125.3	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°	2110.6	28.7
0°-40°	3404.3	46.2
0°-60°	5879.1	79.8
0°-90°	7363.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7363.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2786	2786	2786	2786	2786	
5°	2763	2745	2759	2817	2763	262
15°	2637	2545	2638	2753	2637	743
25°	2396	2246	2401	2529	2396	1104
35°	2076	1915	2081	2211	2076	1299
45°	1711	1557	1712	1822	1711	1319
55°	1308	1186	1314	1398	1308	1171
65°	895	806	895	949	895	882
75°	461	414	458	486	461	490
85°	103	92	100	113	103	124
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°	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5
2.5°	2772.5	2779.0	2787.2	2779.0	2765.9	2759.4	2759.4	2757.7	2762.7	2764.2	2762.7
5°	2762.7	2765.9	2767.6	2757.7	2743.0	2734.8	2731.6	2729.9	2736.5	2744.6	2736.5
7.5°	2744.6	2743.0	2741.4	2728.3	2712.0	2700.4	2695.6	2693.9	2700.4	2708.7	2702.1
10°	2713.5	2712.0	2707.0	2690.7	2669.4	2654.7	2649.7	2644.8	2649.7	2653.1	2649.7
12.5°	2679.2	2672.7	2666.1	2648.2	2625.2	2608.9	2600.7	2594.1	2600.7	2605.7	2602.3
15°	2636.7	2626.9	2615.4	2595.8	2572.9	2555.0	2545.1	2538.5	2543.4	2545.1	2545.1
17.5°	2586.0	2574.5	2563.1	2538.5	2510.8	2491.2	2479.6	2471.5	2478.1	2481.3	2481.3
20°	2528.8	2515.7	2500.9	2474.7	2445.3	2424.0	2410.9	2401.2	2402.8	2404.4	2404.4
22.5°	2466.6	2450.2	2432.2	2404.4	2373.3	2350.5	2337.4	2325.9	2325.9	2327.6	2327.6
25°	2396.3	2378.3	2360.2	2332.5	2299.7	2275.2	2258.9	2247.4	2247.4	2245.8	2249.0
27.5°	2324.3	2304.6	2286.7	2257.2	2222.8	2198.3	2182.0	2170.6	2168.9	2167.3	2170.6
30°	2245.8	2222.8	2203.2	2172.1	2139.4	2114.9	2098.6	2085.5	2082.2	2078.9	2082.2
32.5°	2162.4	2141.1	2119.9	2087.1	2054.4	2029.9	2013.5	2000.5	1998.8	1997.1	2000.5
35°	2075.7	2052.7	2033.1	2002.0	1969.3	1944.8	1926.8	1915.4	1915.4	1915.4	1915.4
37.5°	1990.6	1967.7	1946.4	1915.4	1882.6	1858.1	1840.1	1828.7	1825.4	1823.8	1825.4
40°	1894.1	1874.5	1854.9	1825.4	1792.7	1768.1	1753.5	1740.4	1737.0	1733.8	1738.7
42.5°	1805.7	1786.2	1764.9	1737.0	1704.4	1679.8	1663.5	1652.0	1650.4	1648.7	1650.4
45°	1710.9	1688.0	1666.8	1640.6	1611.1	1588.2	1571.9	1560.4	1558.8	1557.2	1558.8
47.5°	1611.1	1593.1	1575.1	1549.0	1519.5	1496.6	1481.9	1468.8	1465.5	1462.3	1465.5
50°	1514.7	1495.0	1477.0	1452.5	1424.7	1403.4	1390.3	1378.9	1375.6	1374.0	1375.6
52.5°	1413.2	1395.3	1378.9	1354.3	1331.5	1310.2	1295.4	1285.6	1284.0	1282.3	1284.0
55°	1308.5	1292.2	1277.4	1257.8	1234.9	1215.3	1202.2	1190.8	1189.1	1185.9	1189.1
57.5°	1207.1	1194.1	1179.3	1158.0	1136.8	1118.8	1107.3	1097.5	1095.9	1094.2	1095.9
60°	1104.1	1091.0	1077.9	1059.9	1038.6	1020.7	1010.9	1002.7	999.4	997.8	999.4
62.5°	1001.0	987.9	978.1	960.2	940.5	925.8	916.0	907.8	904.5	902.9	904.5
65°	894.7	883.3	871.8	855.4	840.8	829.2	819.5	811.3	808.0	806.4	806.4
67.5°	781.9	772.0	763.9	749.1	732.8	721.4	711.5	705.0	701.7	700.1	701.7
70°	672.2	664.1	655.9	644.5	631.4	621.5	615.0	608.4	605.2	603.5	603.5
72.5°	567.6	561.0	552.8	543.1	533.2	523.4	516.9	512.0	508.7	507.1	507.1
75°	461.3	454.7	451.4	443.3	433.4	426.9	420.3	417.1	413.8	413.8	413.8
77.5°	361.5	358.2	355.0	346.8	340.2	333.7	328.8	327.1	323.9	323.9	323.9
80°	266.6	265.0	263.3	258.4	251.9	245.3	242.1	240.5	238.8	238.8	238.8
82.5°	179.9	179.9	178.3	173.3	168.4	166.9	163.6	161.9	161.9	161.9	161.9
85°	103.1	103.1	103.1	101.4	98.1	98.1	94.9	93.2	91.6	91.6	91.6
87.5°	40.9	42.5	44.2	42.5	39.3	39.3	39.3	39.3	39.3	39.3	39.3
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):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5
2.5°	2757.7	2761.0	2762.7	2770.8	2780.7	2787.2	2779.0	2770.8	2783.9	2798.6	2798.6
5°	2729.9	2733.2	2738.1	2747.9	2761.0	2769.2	2765.9	2759.4	2779.0	2795.3	2797.0
7.5°	2695.6	2698.9	2705.4	2715.2	2731.6	2743.0	2743.0	2744.6	2762.7	2782.2	2787.2
10°	2644.8	2653.1	2662.8	2677.6	2693.9	2708.7	2713.5	2715.2	2738.1	2759.4	2765.9
12.5°	2597.5	2605.7	2615.4	2631.8	2651.4	2667.8	2672.7	2679.2	2703.8	2728.3	2738.1
15°	2543.4	2551.6	2563.1	2579.5	2600.7	2618.7	2628.5	2638.3	2662.8	2689.0	2700.4
17.5°	2479.6	2487.8	2499.3	2518.9	2543.4	2564.7	2576.2	2587.6	2615.4	2643.3	2654.7
20°	2404.4	2415.9	2432.2	2451.9	2479.6	2504.2	2517.3	2530.3	2559.8	2587.6	2600.7
22.5°	2327.6	2340.7	2358.7	2381.5	2410.9	2437.1	2453.5	2469.9	2499.3	2527.1	2541.9
25°	2250.7	2265.4	2283.4	2308.0	2335.7	2361.9	2381.5	2401.2	2430.6	2460.1	2474.7
27.5°	2172.1	2185.2	2203.2	2227.7	2258.9	2286.7	2306.3	2327.6	2357.0	2388.1	2402.8
30°	2085.5	2100.2	2116.5	2141.1	2175.5	2206.5	2226.2	2249.0	2278.4	2309.5	2324.3
32.5°	2002.0	2015.1	2031.5	2056.1	2090.4	2123.1	2144.4	2167.3	2196.7	2227.7	2240.8
35°	1915.4	1928.5	1946.4	1971.0	2005.4	2036.4	2057.6	2080.6	2108.3	2137.8	2152.5
37.5°	1830.4	1843.4	1861.4	1886.0	1918.7	1949.8	1971.0	1993.9	2021.7	2049.5	2062.6
40°	1742.0	1755.0	1769.8	1794.3	1827.0	1858.1	1877.7	1900.6	1928.5	1957.9	1971.0
42.5°	1652.0	1665.1	1683.1	1707.6	1738.7	1766.6	1787.8	1809.1	1835.2	1861.4	1874.5
45°	1562.1	1573.5	1591.5	1614.4	1643.8	1670.0	1691.3	1712.5	1737.0	1761.6	1774.7
47.5°	1468.8	1481.9	1496.6	1519.5	1549.0	1576.8	1598.0	1617.6	1640.6	1665.1	1676.6
50°	1378.9	1390.3	1405.0	1426.3	1454.1	1480.3	1498.2	1517.9	1539.2	1562.1	1571.9
52.5°	1285.6	1297.1	1311.8	1333.0	1356.0	1380.5	1396.8	1414.8	1436.1	1457.4	1467.2
55°	1190.8	1199.0	1212.1	1231.7	1256.2	1279.1	1295.4	1313.5	1331.5	1349.4	1360.9
57.5°	1097.5	1107.3	1120.4	1138.4	1159.7	1181.0	1195.6	1210.4	1228.4	1246.4	1254.6
60°	1002.7	1010.9	1020.7	1037.0	1058.3	1076.3	1091.0	1105.8	1120.4	1136.8	1144.9
62.5°	906.1	914.3	924.1	940.5	958.5	974.8	987.9	1001.0	1014.1	1028.9	1037.0
65°	809.7	817.8	827.7	839.1	853.9	868.5	881.6	894.7	904.5	914.3	922.6
67.5°	705.0	713.2	722.9	732.8	745.9	760.6	770.4	781.9	791.6	803.2	808.0
70°	606.9	613.4	623.2	631.4	642.8	652.6	660.8	670.7	677.2	687.0	695.2
72.5°	510.3	516.9	525.1	533.2	539.7	547.9	557.7	565.9	574.1	583.9	587.2
75°	417.1	420.3	426.9	433.4	440.0	446.5	451.4	458.0	464.5	471.0	475.9
77.5°	325.5	328.8	335.3	340.2	345.1	350.0	353.3	356.5	363.1	368.1	372.9
80°	238.8	242.1	247.0	251.9	256.8	261.7	261.7	261.7	269.9	276.4	278.1
82.5°	161.9	163.6	166.9	170.1	173.3	176.7	176.7	175.0	179.9	184.9	188.1
85°	93.2	94.9	98.1	98.1	99.8	99.8	99.8	99.8	103.1	108.0	111.2
87.5°	37.6	37.6	39.3	39.3	40.9	40.9	39.3	37.6	40.9	45.8	47.4
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°	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5	2785.5
2.5°	2792.1	2790.4	2795.3	2797.0	2800.3	2800.3	2801.9	2801.9	2798.6	2793.8	2795.3
5°	2793.8	2793.8	2798.6	2803.5	2810.1	2816.6	2811.7	2806.8	2803.5	2798.6	2797.0
7.5°	2785.5	2788.8	2793.8	2801.9	2810.1	2819.9	2813.4	2806.8	2798.6	2792.1	2788.8
10°	2765.9	2769.2	2777.3	2785.5	2793.8	2801.9	2795.3	2788.8	2782.2	2774.1	2770.8
12.5°	2741.4	2746.3	2756.1	2764.2	2772.5	2782.2	2774.1	2765.9	2757.7	2749.6	2744.6
15°	2705.4	2712.0	2723.4	2733.2	2744.6	2752.8	2746.3	2739.7	2729.9	2718.5	2710.3
17.5°	2659.6	2669.4	2680.9	2692.3	2702.1	2710.3	2705.4	2698.9	2687.4	2674.4	2664.5
20°	2608.9	2618.7	2628.5	2640.0	2651.4	2659.6	2653.1	2644.8	2633.4	2623.6	2613.8
22.5°	2550.0	2559.8	2571.3	2581.0	2590.9	2599.1	2590.9	2581.0	2571.3	2561.5	2551.6
25°	2482.9	2492.7	2505.8	2515.7	2522.2	2528.8	2522.2	2514.0	2504.2	2494.4	2484.6
27.5°	2412.6	2422.5	2435.6	2445.3	2451.9	2458.4	2451.9	2443.7	2433.9	2424.0	2414.3
30°	2334.1	2343.9	2357.0	2366.8	2371.8	2376.6	2370.1	2363.5	2355.3	2345.6	2335.7
32.5°	2250.7	2260.5	2270.3	2280.1	2288.3	2294.9	2288.3	2281.8	2271.9	2258.9	2249.0
35°	2162.4	2172.1	2183.6	2193.4	2203.2	2211.4	2201.6	2190.1	2182.0	2173.8	2165.6
37.5°	2069.2	2080.6	2093.7	2105.1	2108.3	2114.9	2108.3	2101.8	2093.7	2085.5	2075.7
40°	1977.5	1987.4	1998.8	2010.2	2015.1	2020.0	2013.5	2007.0	1997.1	1988.9	1979.2
42.5°	1882.6	1892.5	1902.3	1912.1	1918.7	1925.1	1918.7	1908.8	1902.3	1895.7	1887.5
45°	1784.5	1794.3	1802.5	1812.3	1817.3	1822.1	1815.6	1807.4	1800.9	1796.0	1787.8
47.5°	1684.8	1692.9	1701.1	1709.3	1712.5	1717.4	1710.9	1706.0	1701.1	1696.2	1689.7
50°	1580.0	1588.2	1598.0	1606.2	1607.9	1612.8	1606.2	1601.3	1596.4	1591.5	1586.6
52.5°	1477.0	1483.6	1491.7	1499.9	1503.1	1506.5	1499.9	1493.4	1488.5	1485.2	1480.3
55°	1369.1	1375.6	1383.7	1390.3	1395.3	1398.5	1391.9	1385.4	1380.5	1378.9	1374.0
57.5°	1261.1	1267.7	1275.9	1282.3	1285.6	1288.9	1282.3	1275.9	1272.5	1269.3	1266.0
60°	1151.5	1158.0	1164.6	1169.5	1172.8	1174.4	1167.9	1162.9	1161.4	1159.7	1156.4
62.5°	1043.5	1046.8	1053.4	1056.6	1059.9	1061.6	1056.6	1053.4	1051.7	1050.1	1048.5
65°	930.7	938.9	943.8	947.1	947.1	948.6	943.8	942.1	940.5	938.9	935.6
67.5°	814.6	821.1	824.4	827.7	827.7	827.7	827.7	827.7	826.0	822.7	819.5
70°	703.3	708.3	711.5	713.2	713.2	713.2	709.8	708.3	709.8	709.8	708.3
72.5°	590.4	593.8	595.4	597.0	595.4	595.4	595.4	598.7	598.7	597.0	593.8
75°	480.9	484.1	485.8	487.5	485.8	485.8	485.8	489.0	487.5	487.5	485.8
77.5°	377.8	379.5	379.5	381.2	379.5	379.5	381.2	384.4	382.7	382.7	382.7
80°	279.7	279.7	279.7	281.3	279.7	279.7	281.3	284.6	283.0	283.0	283.0
82.5°	189.7	191.4	191.4	191.4	193.0	194.6	194.6	194.6	194.6	194.6	193.0
85°	112.9	114.5	112.9	112.9	112.9	112.9	114.5	116.2	116.2	116.2	116.2
87.5°	49.1	50.7	49.1	47.4	45.8	45.8	49.1	52.4	52.4	50.7	50.7
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-39-42L835-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	2785.5	2785.5	2785.5	2785.5
2.5°	2801.9	2801.9	2787.2	2772.5
5°	2800.3	2797.0	2780.7	2762.7
7.5°	2790.4	2785.5	2764.2	2744.6
10°	2767.6	2761.0	2738.1	2713.5
12.5°	2739.7	2729.9	2703.8	2679.2
15°	2703.8	2692.3	2664.5	2636.7
17.5°	2656.3	2643.3	2615.4	2586.0
20°	2605.7	2590.9	2559.8	2528.8
22.5°	2543.4	2530.3	2497.7	2466.6
25°	2476.4	2461.6	2429.0	2396.3
27.5°	2404.4	2388.1	2355.3	2324.3
30°	2325.9	2309.5	2276.9	2245.8
32.5°	2242.5	2229.4	2196.7	2162.4
35°	2157.5	2141.1	2108.3	2075.7
37.5°	2067.5	2052.7	2021.7	1990.6
40°	1972.6	1957.9	1925.1	1894.1
42.5°	1879.4	1866.3	1835.2	1805.7
45°	1779.6	1766.6	1737.0	1710.9
47.5°	1679.8	1666.8	1638.9	1611.1
50°	1578.5	1565.4	1539.2	1514.7
52.5°	1472.1	1462.3	1437.8	1413.2
55°	1365.8	1354.3	1329.8	1308.5
57.5°	1259.5	1251.2	1228.4	1207.1
60°	1149.9	1140.1	1122.1	1104.1
62.5°	1043.5	1035.4	1017.4	1001.0
65°	930.7	924.1	909.5	894.7
67.5°	814.6	809.7	794.9	781.9
70°	703.3	695.2	683.8	672.2
72.5°	590.4	587.2	577.4	567.6
75°	482.5	479.3	469.5	461.3
77.5°	381.2	377.8	369.6	361.5
80°	281.3	279.7	273.2	266.6
82.5°	193.0	191.4	186.4	179.9
85°	116.2	112.9	108.0	103.1
87.5°	50.7	49.1	44.2	40.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)