

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-35-37L830-UNV-ASY**

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-35-37L830-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ ASYMMETRIC Lens  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

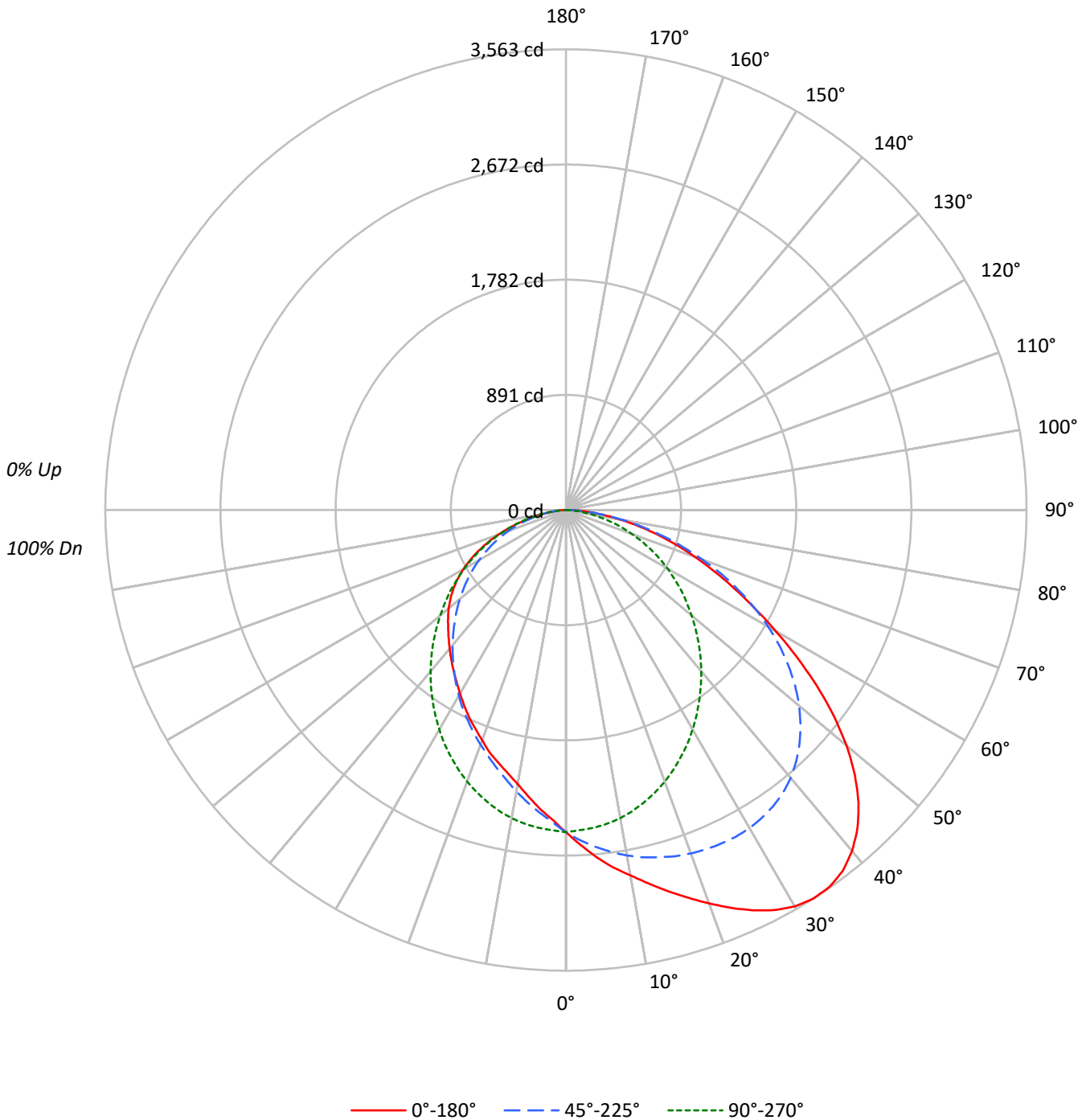
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7717.5 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.53 / 1.18 / 1.46  
Luminous Opening: Rectangular (W 0.29' x L: 3.83' x H: 0')  
CIE Type: Direct

Input Watts (W): 81  
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





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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	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	94	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	23987	23987	23987
5°	26028	23841	22406
10°	28042	23657	21024
15°	30417	23313	20159
20°	33165	22904	19411
25°	36279	22366	18808
30°	39356	21779	18204
35°	41801	21135	17813
40°	43283	20464	17581
45°	43586	19757	17540
50°	42440	19003	17730
55°	39741	18324	17842
60°	36124	17491	17668
65°	32753	16541	16983
70°	29978	15335	15594
75°	27199	13789	13410
80°	23790	11526	10334
85°	20027	8373	7688



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.6	3.1
10°-20°	688.2	8.9
20°-30°	1078.2	14.0
30°-40°	1351.7	17.5
40°-50°	1439.0	18.6
50°-60°	1299.0	16.8
60°-70°	961.6	12.5
70°-80°	527.7	6.8
80°-90°	135.5	1.8
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°	2003.0	26.0
0°-40°	3354.7	43.5
0°-60°	6092.7	78.9
0°-90°	7717.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7717.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2492	2492	2492	2492	2492	
5°	2693	2614	2467	2348	2318	262
15°	3052	2780	2339	2066	2023	870
25°	3415	2846	2106	1795	1771	1581
35°	3557	2796	1798	1510	1516	2218
45°	3201	2555	1451	1216	1288	2454
55°	2368	2102	1092	925	1063	2111
65°	1438	1481	726	626	746	1435
75°	731	775	371	320	360	777
85°	181	178	76	71	70	214
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6
2.5°	2592.0	2586.8	2580.7	2578.6	2569.4	2557.1	2545.9	2545.9	2532.6	2500.8	2478.3
5°	2693.3	2685.2	2669.8	2657.5	2638.0	2614.5	2590.9	2576.6	2544.9	2496.7	2467.0
7.5°	2786.5	2776.3	2756.8	2733.3	2701.5	2666.7	2627.8	2597.1	2549.0	2484.4	2446.5
10°	2868.5	2859.2	2835.7	2807.0	2762.0	2712.8	2655.5	2609.4	2543.8	2464.0	2419.9
12.5°	2958.6	2949.4	2916.6	2877.7	2816.2	2750.7	2674.9	2611.4	2530.5	2434.3	2384.1
15°	3051.8	3039.5	3002.6	2950.4	2868.5	2780.4	2687.2	2605.3	2509.0	2398.4	2339.0
17.5°	3143.9	3131.7	3085.6	3019.0	2916.6	2807.0	2692.3	2590.9	2478.3	2354.4	2289.9
20°	3237.1	3224.8	3166.5	3082.5	2958.6	2826.5	2691.3	2569.4	2441.4	2304.2	2235.6
22.5°	3330.3	3316.0	3245.3	3142.9	2993.4	2839.8	2680.0	2539.7	2395.3	2246.8	2173.1
25°	3415.3	3401.0	3323.2	3202.3	3030.3	2845.9	2660.6	2498.8	2344.1	2183.4	2105.5
27.5°	3489.1	3471.7	3390.7	3257.6	3062.0	2848.0	2635.0	2452.7	2284.7	2114.7	2035.9
30°	3540.3	3524.9	3438.9	3296.5	3080.5	2840.8	2602.2	2398.4	2216.1	2041.0	1959.1
32.5°	3562.8	3549.5	3464.5	3315.0	3083.5	2822.4	2562.3	2338.0	2144.4	1963.2	1880.2
35°	3556.7	3543.3	3462.4	3311.9	3074.3	2795.8	2512.1	2269.4	2067.6	1882.3	1798.3
37.5°	3517.7	3502.4	3428.6	3284.2	3047.7	2756.8	2454.7	2194.6	1984.7	1799.3	1714.3
40°	3444.0	3428.6	3365.1	3232.0	3002.6	2704.6	2389.2	2114.7	1899.7	1712.3	1628.3
42.5°	3338.5	3322.1	3272.0	3150.1	2938.1	2636.0	2314.4	2029.7	1809.6	1628.3	1540.2
45°	3201.3	3184.9	3151.1	3047.7	2854.1	2555.1	2229.4	1937.6	1715.3	1533.1	1451.1
47.5°	3031.3	3017.0	3000.6	2920.7	2750.7	2461.9	2134.2	1839.3	1617.0	1444.0	1360.0
50°	2833.6	2819.3	2824.4	2770.2	2630.9	2354.4	2029.7	1735.8	1515.6	1344.6	1268.8
52.5°	2609.4	2598.1	2622.7	2599.1	2491.6	2234.6	1918.1	1629.3	1412.2	1250.4	1177.7
55°	2367.7	2355.4	2402.5	2409.7	2335.9	2102.4	1791.1	1518.7	1307.8	1158.2	1091.7
57.5°	2118.8	2108.6	2169.0	2202.8	2165.9	1960.1	1663.1	1405.0	1200.2	1062.0	995.4
60°	1876.1	1867.9	1931.4	1986.7	1982.6	1809.6	1530.0	1282.2	1092.7	964.7	908.4
62.5°	1647.8	1638.5	1702.0	1767.6	1791.1	1648.8	1397.9	1161.3	985.2	867.4	817.2
65°	1437.8	1428.6	1482.9	1550.5	1593.5	1480.8	1255.5	1036.4	876.6	769.1	726.1
67.5°	1245.3	1245.3	1279.1	1341.6	1393.8	1308.8	1110.1	917.6	765.0	677.9	634.9
70°	1065.0	1064.0	1088.6	1132.6	1193.1	1124.4	962.6	792.6	659.5	582.7	544.8
72.5°	894.0	901.2	910.4	944.2	1007.7	948.3	816.2	669.8	556.1	488.5	456.7
75°	731.2	730.2	743.5	773.2	819.3	775.2	669.8	549.9	453.7	398.4	370.7
77.5°	575.5	574.5	585.8	603.2	642.1	607.3	528.4	439.3	353.3	307.2	287.8
80°	429.1	429.1	439.3	448.5	477.2	449.6	394.3	328.7	259.1	223.3	207.9
82.5°	298.0	304.2	300.1	312.3	328.7	305.2	270.4	225.3	172.0	147.5	137.2
85°	181.3	186.4	181.3	191.5	198.7	178.2	160.8	134.2	99.3	83.0	75.8
87.5°	93.2	92.2	91.1	96.3	98.3	86.0	75.8	64.5	44.0	33.8	28.7
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6	2491.6
2.5°	2465.0	2471.1	2461.9	2428.1	2414.8	2400.5	2394.3	2388.2	2399.4	2396.4
5°	2444.5	2437.3	2413.8	2370.8	2348.2	2324.7	2313.4	2306.2	2321.6	2318.5
7.5°	2416.8	2396.4	2361.5	2309.3	2280.6	2248.9	2233.5	2224.3	2234.6	2232.5
10°	2382.0	2348.2	2305.2	2242.7	2209.0	2174.1	2156.7	2143.4	2151.6	2150.6
12.5°	2338.0	2294.0	2241.7	2171.1	2136.2	2100.4	2085.0	2075.8	2086.1	2083.0
15°	2288.8	2235.6	2175.2	2103.5	2065.6	2032.8	2021.5	2014.4	2022.6	2022.6
17.5°	2234.6	2172.1	2105.5	2032.8	1997.0	1971.4	1960.1	1955.0	1959.1	1965.2
20°	2174.1	2104.5	2032.8	1962.1	1931.4	1904.8	1894.6	1889.4	1898.7	1894.6
22.5°	2107.6	2033.8	1959.1	1892.5	1864.9	1838.2	1828.0	1824.9	1835.2	1831.1
25°	2036.9	1957.0	1883.3	1822.9	1795.2	1772.7	1763.5	1760.4	1765.5	1770.6
27.5°	1970.3	1880.2	1807.5	1753.2	1728.7	1707.2	1699.0	1693.8	1697.9	1704.1
30°	1889.4	1802.4	1730.7	1680.5	1657.0	1636.5	1630.3	1626.2	1632.4	1637.5
32.5°	1813.7	1725.6	1653.9	1604.7	1584.3	1564.8	1563.8	1561.7	1568.9	1575.0
35°	1731.7	1645.7	1576.1	1530.0	1510.5	1494.1	1497.2	1500.3	1508.5	1515.6
37.5°	1648.8	1564.8	1498.2	1456.3	1437.8	1424.5	1433.7	1437.8	1449.1	1456.3
40°	1564.8	1480.8	1419.4	1381.5	1363.1	1356.9	1370.2	1379.4	1392.8	1398.9
42.5°	1478.8	1400.9	1339.5	1304.7	1289.3	1289.3	1306.7	1321.1	1336.4	1342.6
45°	1392.8	1317.0	1258.6	1226.9	1215.6	1223.8	1244.3	1262.7	1282.2	1288.3
47.5°	1305.7	1232.0	1178.7	1150.0	1143.9	1156.2	1181.8	1206.4	1228.9	1237.1
50°	1218.7	1152.1	1098.8	1072.2	1072.2	1087.6	1120.4	1151.1	1175.7	1183.8
52.5°	1131.6	1068.1	1013.8	994.4	998.5	1020.0	1057.9	1089.6	1117.3	1125.5
55°	1043.5	981.1	934.0	917.6	924.7	951.4	990.3	1027.2	1053.8	1063.0
57.5°	956.5	897.1	854.1	840.8	851.0	880.7	925.8	957.5	985.2	993.4
60°	868.4	808.0	774.2	764.0	777.3	808.0	854.1	883.8	909.4	917.6
62.5°	781.4	725.1	695.4	686.1	701.5	734.3	779.3	806.0	825.4	833.6
65°	693.3	643.1	615.5	609.3	625.7	657.5	700.5	723.0	737.3	745.5
67.5°	606.3	563.2	537.6	532.5	549.9	578.6	618.5	630.8	644.2	652.3
70°	520.2	481.3	459.8	456.7	472.1	499.8	533.5	539.7	546.9	554.0
72.5°	435.2	404.5	383.0	382.0	396.3	418.9	446.5	447.5	449.6	456.7
75°	353.3	325.7	309.3	312.3	320.5	339.0	360.5	354.3	355.4	360.5
77.5°	274.5	251.9	240.7	242.7	248.9	262.2	276.5	269.3	265.2	270.4
80°	197.6	178.2	174.1	175.1	179.2	188.4	196.6	190.5	182.3	186.4
82.5°	130.1	117.8	115.7	116.7	119.8	124.9	127.0	117.8	115.7	118.8
85°	71.7	66.6	66.6	69.6	70.7	71.7	71.7	66.6	67.6	69.6
87.5°	28.7	28.7	31.7	34.8	32.8	28.7	24.6	16.4	16.4	19.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)