

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-35-37L840-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-35-37L840-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

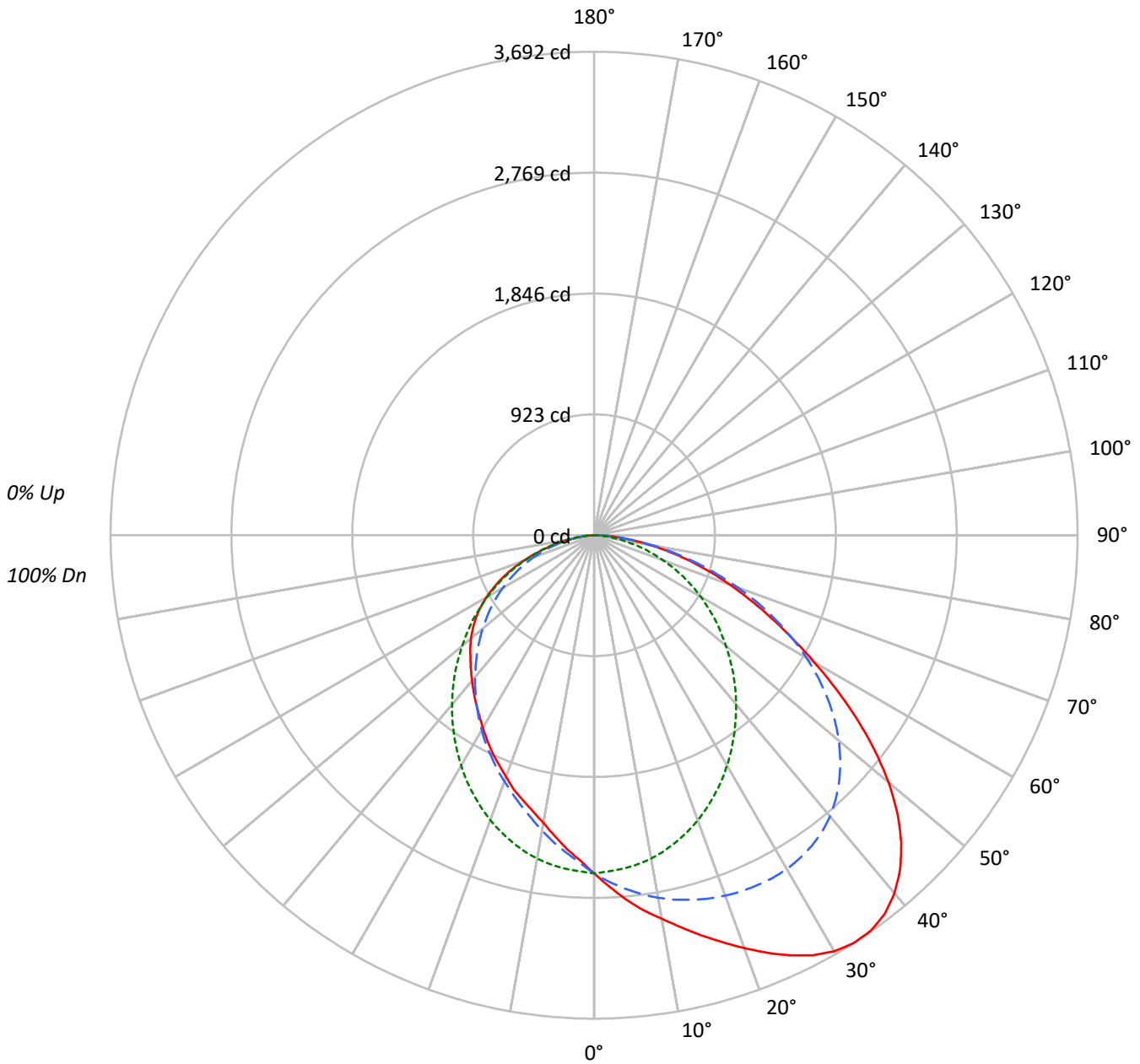
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7997.4 lumens
Efficiency: N/A
Efficacy: 98.7 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 (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°



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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	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°	24858	24858	24858
5°	26973	24706	23219
10°	29059	24515	21786
15°	31520	24158	20890
20°	34368	23734	20114
25°	37595	23177	19491
30°	40783	22568	18864
35°	43316	21901	18459
40°	44853	21205	18218
45°	45167	20474	18176
50°	43980	19694	18374
55°	41181	18989	18488
60°	37435	18124	18309
65°	33943	17140	17600
70°	31067	15893	16160
75°	28184	14291	13897
80°	24655	11942	10706
85°	20745	8671	7975



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.2	3.1
10°-20°	713.2	8.9
20°-30°	1117.3	14.0
30°-40°	1400.7	17.5
40°-50°	1491.2	18.6
50°-60°	1346.2	16.8
60°-70°	996.5	12.5
70°-80°	546.8	6.8
80°-90°	140.4	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°	2075.7	26.0
0°-40°	3476.4	43.5
0°-60°	6313.7	78.9
0°-90°	7997.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7997.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2582	2582	2582	2582	2582	
5°	2791	2709	2556	2433	2403	272
15°	3162	2881	2424	2140	2096	902
25°	3539	2949	2182	1860	1835	1638
35°	3686	2897	1864	1565	1571	2298
45°	3317	2648	1504	1260	1335	2543
55°	2454	2179	1131	958	1102	2188
65°	1490	1534	752	648	773	1487
75°	758	803	384	332	374	805
85°	188	185	78	73	72	222
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°	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0
2.5°	2686.0	2680.6	2674.3	2672.2	2662.6	2649.9	2638.2	2638.2	2624.4	2591.5	2568.2
5°	2791.0	2782.5	2766.6	2753.9	2733.7	2709.3	2684.9	2670.0	2637.1	2587.3	2556.5
7.5°	2887.6	2877.0	2856.8	2832.4	2799.5	2763.4	2723.1	2691.3	2641.4	2574.5	2535.3
10°	2972.5	2962.9	2938.5	2908.8	2862.1	2811.2	2751.8	2704.0	2636.1	2553.3	2507.7
12.5°	3065.9	3056.3	3022.4	2982.0	2918.4	2850.4	2771.9	2706.1	2622.3	2522.5	2470.5
15°	3162.4	3149.7	3111.5	3057.4	2972.5	2881.2	2784.6	2699.8	2600.0	2485.4	2423.8
17.5°	3258.0	3245.2	3197.5	3128.5	3022.4	2908.8	2790.0	2684.9	2568.2	2439.8	2372.9
20°	3354.5	3341.8	3281.3	3194.3	3065.9	2929.0	2788.9	2662.6	2530.0	2387.8	2316.6
22.5°	3451.1	3436.2	3363.0	3256.9	3102.0	2942.8	2777.2	2631.8	2482.2	2328.3	2251.9
25°	3539.2	3524.3	3443.7	3318.4	3140.2	2949.1	2757.1	2589.4	2429.1	2262.5	2181.9
27.5°	3615.6	3597.5	3513.7	3375.8	3173.1	2951.3	2730.5	2541.6	2367.6	2191.4	2109.7
30°	3668.6	3652.7	3563.6	3416.1	3192.2	2943.8	2696.6	2485.4	2296.5	2115.0	2030.1
32.5°	3692.0	3678.2	3590.1	3435.2	3195.3	2924.7	2655.2	2422.8	2222.2	2034.4	1948.4
35°	3685.6	3671.8	3588.0	3432.0	3185.8	2897.1	2603.2	2351.7	2142.6	1950.5	1863.5
37.5°	3645.3	3629.4	3553.0	3403.3	3158.2	2856.8	2543.8	2274.2	2056.7	1864.6	1776.5
40°	3568.9	3553.0	3487.2	3349.2	3111.5	2802.7	2475.8	2191.4	1968.6	1774.4	1687.3
42.5°	3459.6	3442.6	3390.6	3264.3	3044.6	2731.6	2398.4	2103.3	1875.2	1687.3	1596.1
45°	3317.4	3300.4	3265.4	3158.2	2957.6	2647.8	2310.3	2007.8	1777.5	1588.7	1503.8
47.5°	3141.2	3126.4	3109.4	3026.6	2850.4	2551.2	2211.6	1906.0	1675.7	1496.3	1409.3
50°	2936.4	2921.5	2926.9	2870.6	2726.3	2439.8	2103.3	1798.8	1570.6	1393.4	1314.9
52.5°	2704.0	2692.3	2717.8	2693.4	2582.0	2315.6	1987.7	1688.4	1463.4	1295.8	1220.4
55°	2453.5	2440.8	2489.6	2497.1	2420.6	2178.7	1856.1	1573.8	1355.2	1200.2	1131.3
57.5°	2195.7	2185.1	2247.7	2282.7	2244.5	2031.2	1723.4	1456.0	1243.8	1100.5	1031.5
60°	1944.2	1935.7	2001.5	2058.8	2054.5	1875.2	1585.5	1328.7	1132.3	999.7	941.3
62.5°	1707.5	1698.0	1763.8	1831.7	1856.1	1708.6	1448.6	1203.4	1020.9	898.9	846.9
65°	1490.0	1480.4	1536.7	1606.7	1651.3	1534.5	1301.1	1074.0	908.4	797.0	752.4
67.5°	1290.4	1290.4	1325.5	1390.2	1444.3	1356.2	1150.4	950.9	792.7	702.5	658.0
70°	1103.7	1102.6	1128.1	1173.7	1236.3	1165.2	997.5	821.4	683.4	603.8	564.6
72.5°	926.4	933.9	943.4	978.4	1044.2	982.7	845.8	694.0	576.2	506.2	473.3
75°	757.7	756.7	770.4	801.2	849.0	803.3	694.0	569.9	470.1	412.8	384.2
77.5°	596.4	595.3	607.0	625.1	665.4	629.3	547.6	455.3	366.1	318.4	298.2
80°	444.7	444.7	455.3	464.8	494.5	465.9	408.6	340.7	268.5	231.3	215.4
82.5°	308.8	315.2	310.9	323.7	340.7	316.2	280.2	233.5	178.3	152.8	142.2
85°	187.8	193.1	187.8	198.4	205.9	184.7	166.6	139.0	102.9	86.0	78.5
87.5°	96.6	95.5	94.4	99.8	101.9	89.1	78.5	66.9	45.6	35.0	29.7
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°	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0	2582.0
2.5°	2554.4	2560.7	2551.2	2516.2	2502.4	2487.5	2481.1	2474.8	2486.4	2483.3
5°	2533.1	2525.7	2501.3	2456.7	2433.4	2409.0	2397.3	2389.9	2405.8	2402.6
7.5°	2504.5	2483.3	2447.2	2393.1	2363.3	2330.4	2314.5	2305.0	2315.6	2313.5
10°	2468.4	2433.4	2388.8	2324.1	2289.1	2253.0	2234.9	2221.1	2229.6	2228.6
12.5°	2422.8	2377.1	2323.0	2249.8	2213.7	2176.6	2160.6	2151.1	2161.7	2158.5
15°	2371.8	2316.6	2254.0	2179.8	2140.5	2106.5	2094.9	2087.4	2095.9	2095.9
17.5°	2315.6	2250.9	2181.9	2106.5	2069.4	2042.9	2031.2	2025.9	2030.1	2036.5
20°	2253.0	2180.8	2106.5	2033.3	2001.5	1973.9	1963.3	1958.0	1967.5	1963.3
22.5°	2184.0	2107.6	2030.1	1961.1	1932.5	1904.9	1894.3	1891.1	1901.7	1897.5
25°	2110.8	2028.0	1951.6	1889.0	1860.3	1837.0	1827.4	1824.2	1829.5	1834.9
27.5°	2041.8	1948.4	1873.1	1816.8	1791.3	1769.1	1760.6	1755.3	1759.5	1765.9
30°	1958.0	1867.8	1793.5	1741.5	1717.1	1695.8	1689.5	1685.2	1691.6	1696.9
32.5°	1879.4	1788.2	1713.9	1662.9	1641.7	1621.5	1620.5	1618.4	1625.8	1632.2
35°	1794.5	1705.4	1633.2	1585.5	1565.3	1548.3	1551.5	1554.7	1563.2	1570.6
37.5°	1708.6	1621.5	1552.6	1509.1	1490.0	1476.2	1485.7	1490.0	1501.6	1509.1
40°	1621.5	1534.5	1470.9	1431.6	1412.5	1406.1	1419.9	1429.5	1443.3	1449.6
42.5°	1532.4	1451.8	1388.1	1352.0	1336.1	1336.1	1354.1	1369.0	1384.9	1391.3
45°	1443.3	1364.7	1304.2	1271.3	1259.7	1268.2	1289.4	1308.5	1328.7	1335.0
47.5°	1353.1	1276.7	1221.5	1191.8	1185.4	1198.1	1224.7	1250.1	1273.5	1282.0
50°	1262.9	1193.9	1138.7	1111.1	1111.1	1127.0	1161.0	1192.8	1218.3	1226.8
52.5°	1172.7	1106.9	1050.6	1030.4	1034.7	1057.0	1096.2	1129.1	1157.8	1166.3
55°	1081.4	1016.7	967.8	950.9	958.3	985.9	1026.2	1064.4	1092.0	1101.5
57.5°	991.2	929.6	885.1	871.3	881.9	912.7	959.3	992.2	1020.9	1029.4
60°	899.9	837.3	802.3	791.7	805.5	837.3	885.1	915.8	942.4	950.9
62.5°	809.7	751.3	720.6	711.0	726.9	760.9	807.6	835.2	855.3	863.8
65°	718.4	666.4	637.8	631.4	648.4	681.3	725.9	749.2	764.1	772.6
67.5°	628.2	583.7	557.1	551.8	569.9	599.6	641.0	653.7	667.5	676.0
70°	539.1	498.8	476.5	473.3	489.2	517.9	552.9	559.3	566.7	574.1
72.5°	451.0	419.2	396.9	395.8	410.7	434.0	462.7	463.8	465.9	473.3
75°	366.1	337.5	320.5	323.7	332.2	351.3	373.6	367.2	368.2	373.6
77.5°	284.4	261.1	249.4	251.5	257.9	271.7	286.5	279.1	274.9	280.2
80°	204.8	184.7	180.4	181.5	185.7	195.3	203.8	197.4	188.9	193.1
82.5°	134.8	122.0	119.9	121.0	124.2	129.5	131.6	122.0	119.9	123.1
85°	74.3	69.0	69.0	72.2	73.2	74.3	74.3	69.0	70.0	72.2
87.5°	29.7	29.7	32.9	36.1	34.0	29.7	25.5	17.0	17.0	20.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)