

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-39-42L840-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-39-42L840-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

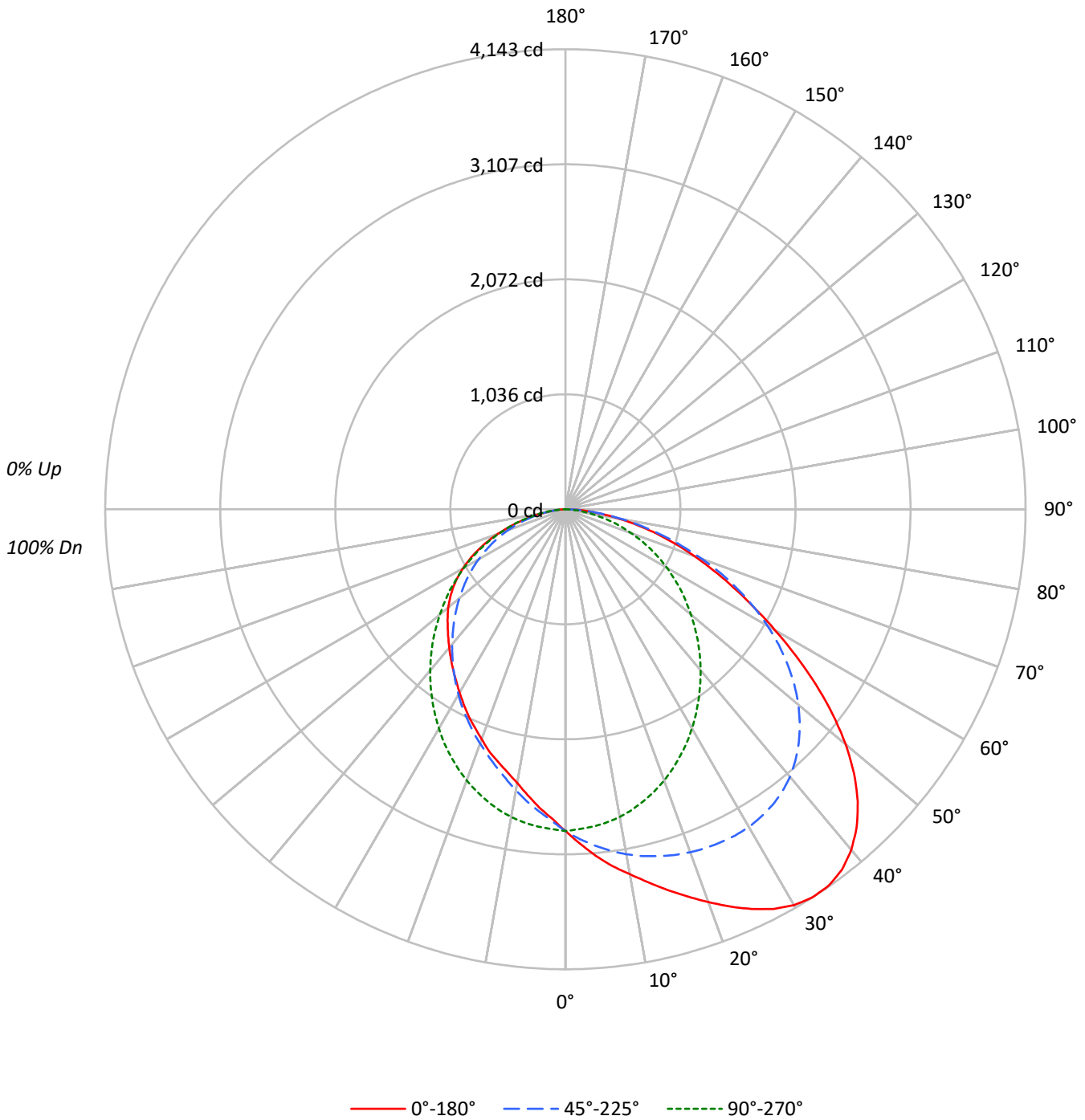
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8974.4 lumens  
Efficiency: N/A  
Efficacy: 97.5 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): 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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CATALOG NUMBER: 4APN-39-42L840-UNV-ASY

### Luminous Intensity Polar Plot





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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°	27894	27894	27894
5°	30268	27724	26055
10°	32608	27509	24447
15°	35371	27110	23442
20°	38566	26634	22571
25°	42189	26008	21872
30°	45765	25325	21168
35°	48608	24577	20714
40°	50332	23797	20444
45°	50685	22976	20397
50°	49352	22099	20618
55°	46213	21308	20748
60°	42008	20339	20545
65°	38089	19233	19750
70°	34862	17832	18136
75°	31629	16036	15593
80°	27665	13400	12014
85°	23285	9732	8947



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.2	3.1
10°-20°	800.3	8.9
20°-30°	1253.8	14.0
30°-40°	1571.8	17.5
40°-50°	1673.3	18.6
50°-60°	1510.6	16.8
60°-70°	1118.3	12.5
70°-80°	613.6	6.8
80°-90°	157.5	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°	2329.3	26.0
0°-40°	3901.1	43.5
0°-60°	7085.0	78.9
0°-90°	8974.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8974.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2897	2897	2897	2897	2897	
5°	3132	3040	2869	2731	2696	305
15°	3549	3233	2720	2402	2352	1012
25°	3972	3309	2448	2088	2059	1838
35°	4136	3251	2091	1756	1762	2579
45°	3723	2971	1688	1414	1498	2854
55°	2753	2445	1270	1075	1236	2455
65°	1672	1722	844	728	867	1668
75°	850	902	431	373	419	904
85°	211	207	88	82	81	249
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°	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4
2.5°	3014.1	3008.1	3001.0	2998.6	2987.9	2973.6	2960.5	2960.5	2945.0	2908.1	2881.9
5°	3132.0	3122.5	3104.6	3090.3	3067.7	3040.3	3012.9	2996.2	2959.3	2903.3	2868.8
7.5°	3240.4	3228.5	3205.8	3178.4	3141.5	3101.0	3055.8	3020.1	2964.1	2889.1	2845.0
10°	3335.6	3324.9	3297.5	3264.2	3211.8	3154.6	3087.9	3034.3	2958.1	2865.2	2814.0
12.5°	3440.4	3429.7	3391.6	3346.4	3274.9	3198.7	3110.6	3036.7	2942.6	2830.7	2772.4
15°	3548.8	3534.5	3491.6	3430.9	3335.6	3233.2	3124.8	3029.6	2917.6	2789.0	2720.0
17.5°	3656.0	3641.7	3588.1	3510.7	3391.6	3264.2	3130.8	3012.9	2881.9	2737.8	2662.8
20°	3764.3	3750.1	3682.2	3584.5	3440.4	3286.8	3129.6	2987.9	2839.0	2679.5	2599.7
22.5°	3872.7	3856.0	3773.9	3654.8	3480.9	3302.3	3116.5	2953.4	2785.5	2612.8	2527.0
25°	3971.6	3954.9	3864.4	3723.9	3523.8	3309.4	3093.9	2905.7	2725.9	2538.9	2448.4
27.5°	4057.3	4037.1	3943.0	3788.2	3560.7	3311.8	3064.1	2852.1	2656.8	2459.2	2367.5
30°	4116.8	4099.0	3999.0	3833.4	3582.1	3303.5	3026.0	2789.0	2577.0	2373.4	2278.1
32.5°	4143.0	4127.6	4028.7	3854.9	3585.7	3282.0	2979.6	2718.8	2493.7	2282.9	2186.4
35°	4135.9	4120.4	4026.3	3851.3	3575.0	3251.1	2921.2	2639.0	2404.4	2188.8	2091.2
37.5°	4090.6	4072.8	3987.0	3819.1	3544.0	3205.8	2854.5	2552.0	2307.9	2092.4	1993.5
40°	4004.9	3987.0	3913.2	3758.4	3491.6	3145.1	2778.3	2459.2	2209.1	1991.1	1893.5
42.5°	3882.2	3863.2	3804.8	3663.1	3416.6	3065.3	2691.4	2360.3	2104.3	1893.5	1791.1
45°	3722.7	3703.6	3664.3	3544.0	3319.0	2971.2	2592.5	2253.1	1994.7	1782.7	1687.5
47.5°	3525.0	3508.3	3489.3	3396.4	3198.7	2862.9	2481.8	2138.8	1880.4	1679.1	1581.5
50°	3295.1	3278.5	3284.4	3221.3	3059.4	2737.8	2360.3	2018.5	1762.5	1563.6	1475.5
52.5°	3034.3	3021.2	3049.8	3022.4	2897.4	2598.5	2230.5	1894.7	1642.2	1454.1	1369.5
55°	2753.3	2739.0	2793.8	2802.1	2716.4	2444.9	2082.8	1766.1	1520.7	1346.9	1269.5
57.5°	2463.9	2452.0	2522.3	2561.6	2518.7	2279.3	1934.0	1633.9	1395.7	1234.9	1157.5
60°	2181.7	2172.2	2246.0	2310.3	2305.5	2104.3	1779.2	1491.0	1270.7	1121.8	1056.3
62.5°	1916.1	1905.4	1979.2	2055.4	2082.8	1917.3	1625.5	1350.4	1145.6	1008.7	950.3
65°	1672.0	1661.3	1724.4	1803.0	1853.0	1722.0	1460.0	1205.2	1019.4	894.3	844.3
67.5°	1448.1	1448.1	1487.4	1560.0	1620.8	1521.9	1290.9	1067.0	889.6	788.4	738.3
70°	1238.5	1237.3	1265.9	1317.1	1387.4	1307.6	1119.4	921.7	766.9	677.6	633.5
72.5°	1039.6	1048.0	1058.7	1098.0	1171.8	1102.7	949.1	778.8	646.6	568.0	531.1
75°	850.3	849.1	864.6	899.1	952.7	901.5	778.8	639.5	527.6	463.2	431.1
77.5°	669.3	668.1	681.2	701.4	746.7	706.2	614.5	510.9	410.9	357.3	334.6
80°	499.0	499.0	510.9	521.6	554.9	522.8	458.5	382.3	301.3	259.6	241.7
82.5°	346.5	353.7	348.9	363.2	382.3	354.9	314.4	262.0	200.1	171.5	159.6
85°	210.8	216.7	210.8	222.7	231.0	207.2	187.0	156.0	115.5	96.5	88.1
87.5°	108.4	107.2	106.0	111.9	114.3	100.0	88.1	75.0	51.2	39.3	33.3
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4	2897.4
2.5°	2866.4	2873.6	2862.9	2823.6	2808.1	2791.4	2784.3	2777.1	2790.2	2786.6
5°	2842.6	2834.3	2806.9	2756.9	2730.7	2703.3	2690.2	2681.8	2699.7	2696.1
7.5°	2810.5	2786.6	2746.2	2685.4	2652.1	2615.2	2597.3	2586.6	2598.5	2596.1
10°	2770.0	2730.7	2680.7	2608.0	2568.7	2528.2	2508.0	2492.5	2502.0	2500.8
12.5°	2718.8	2667.6	2606.8	2524.6	2484.2	2442.5	2424.6	2413.9	2425.8	2422.2
15°	2661.6	2599.7	2529.4	2446.1	2402.0	2363.9	2350.8	2342.4	2352.0	2352.0
17.5°	2598.5	2525.8	2448.4	2363.9	2322.2	2292.4	2279.3	2273.4	2278.1	2285.3
20°	2528.2	2447.2	2363.9	2281.7	2246.0	2215.0	2203.1	2197.2	2207.9	2203.1
22.5°	2450.8	2365.1	2278.1	2200.7	2168.6	2137.6	2125.7	2122.1	2134.0	2129.3
25°	2368.6	2275.8	2190.0	2119.8	2087.6	2061.4	2050.7	2047.1	2053.1	2059.0
27.5°	2291.2	2186.4	2101.9	2038.8	2010.2	1985.2	1975.7	1969.7	1974.5	1981.6
30°	2197.2	2095.9	2012.6	1954.2	1926.8	1903.0	1895.9	1891.1	1898.3	1904.2
32.5°	2109.0	2006.6	1923.3	1866.1	1842.3	1819.7	1818.5	1816.1	1824.4	1831.6
35°	2013.8	1913.7	1832.8	1779.2	1756.5	1737.5	1741.1	1744.6	1754.2	1762.5
37.5°	1917.3	1819.7	1742.2	1693.4	1672.0	1656.5	1667.2	1672.0	1685.1	1693.4
40°	1819.7	1722.0	1650.5	1606.5	1585.1	1577.9	1593.4	1604.1	1619.6	1626.7
42.5°	1719.6	1629.1	1557.7	1517.2	1499.3	1499.3	1519.6	1536.2	1554.1	1561.2
45°	1619.6	1531.5	1463.6	1426.7	1413.6	1423.1	1446.9	1468.3	1491.0	1498.1
47.5°	1518.4	1432.6	1370.7	1337.3	1330.2	1344.5	1374.3	1402.8	1429.0	1438.6
50°	1417.1	1339.7	1277.8	1246.8	1246.8	1264.7	1302.8	1338.5	1367.1	1376.6
52.5°	1315.9	1242.1	1179.0	1156.3	1161.1	1186.1	1230.2	1267.1	1299.2	1308.8
55°	1213.5	1140.9	1086.1	1067.0	1075.4	1106.3	1151.6	1194.4	1225.4	1236.1
57.5°	1112.3	1043.2	993.2	977.7	989.6	1024.2	1076.5	1113.5	1145.6	1155.1
60°	1009.9	939.6	900.3	888.4	903.9	939.6	993.2	1027.7	1057.5	1067.0
62.5°	908.6	843.1	808.6	797.9	815.7	853.9	906.3	937.2	959.8	969.4
65°	806.2	747.9	715.7	708.6	727.6	764.5	814.6	840.8	857.4	867.0
67.5°	705.0	655.0	625.2	619.3	639.5	672.8	719.3	733.6	749.1	758.6
70°	605.0	559.7	534.7	531.1	549.0	581.1	620.4	627.6	635.9	644.3
72.5°	506.1	470.4	445.4	444.2	460.9	487.1	519.2	520.4	522.8	531.1
75°	410.9	378.7	359.6	363.2	372.7	394.2	419.2	412.0	413.2	419.2
77.5°	319.2	293.0	279.9	282.2	289.4	304.9	321.5	313.2	308.4	314.4
80°	229.8	207.2	202.4	203.6	208.4	219.1	228.6	221.5	212.0	216.7
82.5°	151.2	137.0	134.6	135.8	139.3	145.3	147.7	137.0	134.6	138.1
85°	83.4	77.4	77.4	81.0	82.2	83.4	83.4	77.4	78.6	81.0
87.5°	33.3	33.3	36.9	40.5	38.1	33.3	28.6	19.1	19.1	22.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)