

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-39-42L850-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-39-42L850-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

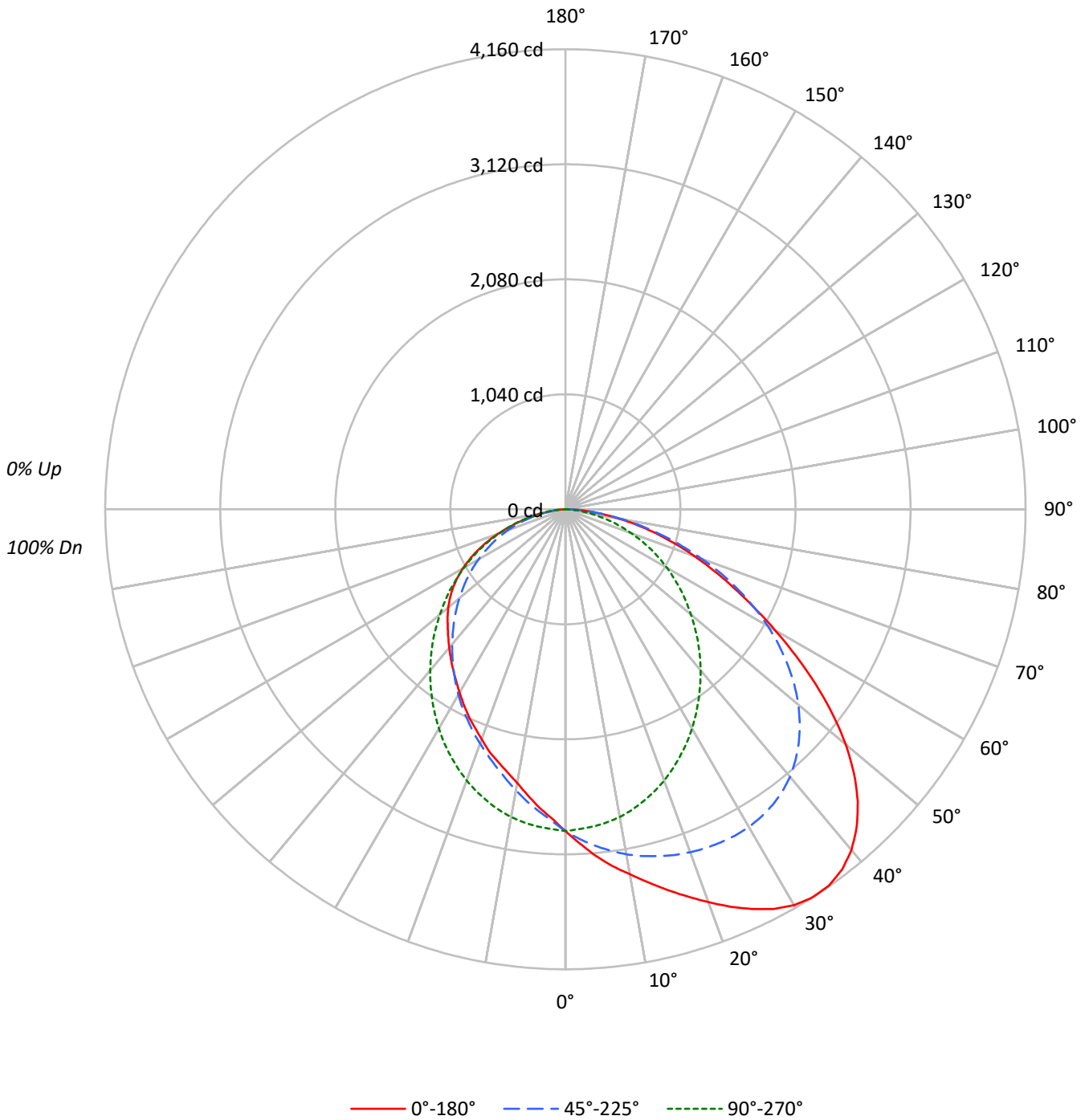
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9012.1 lumens
Efficiency: N/A
Efficacy: 98.0 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 (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				
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°	28011	28011	28011
5°	30395	27840	26165
10°	32745	27625	24550
15°	35519	27224	23540
20°	38728	26746	22666
25°	42365	26118	21964
30°	45958	25432	21257
35°	48813	24680	20801
40°	50543	23896	20530
45°	50897	23071	20483
50°	49561	22192	20705
55°	46407	21397	20835
60°	42183	20423	20631
65°	38248	19315	19832
70°	35008	17908	18212
75°	31759	16103	15656
80°	27782	13461	12064
85°	23385	9776	8981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.3	3.1
10°-20°	803.7	8.9
20°-30°	1259.0	14.0
30°-40°	1578.4	17.5
40°-50°	1680.4	18.6
50°-60°	1516.9	16.8
60°-70°	1123.0	12.5
70°-80°	616.2	6.8
80°-90°	158.2	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°	2339.0	26.0
0°-40°	3917.5	43.5
0°-60°	7114.8	78.9
0°-90°	9012.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9012.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2910	2910	2910	2910	2910	
5°	3145	3053	2881	2742	2707	306
15°	3564	3247	2731	2412	2362	1016
25°	3988	3323	2459	2096	2068	1846
35°	4153	3265	2100	1764	1770	2590
45°	3738	2984	1694	1420	1504	2866
55°	2765	2455	1275	1080	1241	2466
65°	1679	1729	848	731	871	1675
75°	854	905	433	374	421	908
85°	212	208	88	82	81	250
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°	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5
2.5°	3026.7	3020.8	3013.6	3011.2	3000.4	2986.1	2972.9	2972.9	2957.4	2920.3	2894.0
5°	3145.1	3135.6	3117.6	3103.3	3080.6	3053.1	3025.5	3008.8	2971.7	2915.5	2880.8
7.5°	3254.0	3242.0	3219.3	3191.8	3154.7	3114.0	3068.6	3032.7	2976.5	2901.2	2856.9
10°	3349.6	3338.9	3311.4	3277.9	3225.3	3167.9	3100.9	3047.1	2970.5	2877.3	2825.8
12.5°	3454.9	3444.1	3405.8	3360.4	3288.6	3212.1	3123.6	3049.5	2955.0	2842.6	2784.0
15°	3563.7	3549.3	3506.3	3445.3	3349.6	3246.8	3138.0	3042.3	2929.9	2800.7	2731.4
17.5°	3671.3	3657.0	3603.2	3525.4	3405.8	3277.9	3143.9	3025.5	2894.0	2749.3	2674.0
20°	3780.1	3765.8	3697.6	3599.6	3454.9	3300.6	3142.7	3000.4	2850.9	2690.7	2610.6
22.5°	3889.0	3872.2	3789.7	3670.1	3495.5	3316.1	3129.6	2965.8	2797.1	2623.7	2537.6
25°	3988.2	3971.5	3880.6	3739.5	3538.6	3323.3	3106.9	2917.9	2737.3	2549.6	2458.7
27.5°	4074.3	4054.0	3959.5	3804.1	3575.6	3325.7	3077.0	2864.1	2668.0	2469.5	2377.4
30°	4134.1	4116.2	4015.7	3849.5	3597.2	3317.3	3038.7	2800.7	2587.9	2383.4	2287.7
32.5°	4160.4	4144.9	4045.6	3871.0	3600.8	3295.8	2992.1	2730.2	2504.1	2292.5	2195.6
35°	4153.3	4137.7	4043.2	3867.4	3590.0	3264.7	2933.5	2650.0	2414.5	2198.0	2099.9
37.5°	4107.8	4089.9	4003.8	3835.1	3558.9	3219.3	2866.5	2562.7	2317.6	2101.1	2001.9
40°	4021.7	4003.8	3929.6	3774.2	3506.3	3158.3	2790.0	2469.5	2218.3	1999.5	1901.4
42.5°	3898.5	3879.4	3820.8	3678.5	3430.9	3078.2	2702.7	2370.2	2113.1	1901.4	1798.6
45°	3738.3	3719.1	3679.7	3558.9	3332.9	2983.7	2603.4	2262.6	2003.1	1790.2	1694.5
47.5°	3539.8	3523.0	3503.9	3410.6	3212.1	2874.9	2492.2	2147.8	1888.3	1686.2	1588.1
50°	3309.0	3292.2	3298.2	3234.8	3072.2	2749.3	2370.2	2027.0	1769.9	1570.2	1481.7
52.5°	3047.1	3033.9	3062.6	3035.1	2909.5	2609.4	2239.9	1902.6	1649.1	1460.2	1375.2
55°	2764.8	2750.5	2805.5	2813.9	2727.8	2455.1	2091.6	1773.5	1527.1	1352.5	1274.8
57.5°	2474.3	2462.3	2532.8	2572.3	2529.3	2288.9	1942.1	1640.7	1401.6	1240.1	1162.4
60°	2190.8	2181.3	2255.4	2320.0	2315.2	2113.1	1786.6	1497.2	1276.0	1126.5	1060.7
62.5°	1924.2	1913.4	1987.5	2064.1	2091.6	1925.3	1632.4	1356.1	1150.4	1012.9	954.3
65°	1679.0	1668.2	1731.6	1810.5	1860.8	1729.2	1466.1	1210.2	1023.7	898.1	847.9
67.5°	1454.2	1454.2	1493.6	1566.6	1627.6	1528.3	1296.3	1071.5	893.3	791.7	741.4
70°	1243.7	1242.5	1271.2	1322.6	1393.2	1313.1	1124.1	925.6	770.1	680.4	636.2
72.5°	1044.0	1052.4	1063.1	1102.6	1176.7	1107.4	953.1	782.1	649.4	570.4	533.4
75°	853.8	852.7	868.2	902.9	956.7	905.3	782.1	642.2	529.8	465.2	432.9
77.5°	672.1	670.9	684.0	704.4	749.8	709.1	617.1	513.0	412.6	358.8	336.0
80°	501.1	501.1	513.0	523.8	557.3	525.0	460.4	383.9	302.6	260.7	242.8
82.5°	348.0	355.2	350.4	364.7	383.9	356.4	315.7	263.1	200.9	172.2	160.2
85°	211.7	217.6	211.7	223.6	232.0	208.1	187.8	156.7	116.0	96.9	88.5
87.5°	108.8	107.6	106.4	112.4	114.8	100.5	88.5	75.3	51.4	39.5	33.5
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5	2909.5
2.5°	2878.5	2885.6	2874.9	2835.4	2819.9	2803.1	2795.9	2788.8	2801.9	2798.3
5°	2854.5	2846.2	2818.7	2768.4	2742.1	2714.6	2701.5	2693.1	2711.0	2707.4
7.5°	2822.2	2798.3	2757.7	2696.7	2663.2	2626.1	2608.2	2597.4	2609.4	2607.0
10°	2781.6	2742.1	2691.9	2619.0	2579.5	2538.8	2518.5	2503.0	2512.5	2511.3
12.5°	2730.2	2678.7	2617.8	2535.2	2494.6	2452.7	2434.8	2424.0	2436.0	2432.4
15°	2672.8	2610.6	2540.0	2456.3	2412.1	2373.8	2360.6	2352.3	2361.8	2361.8
17.5°	2609.4	2536.4	2458.7	2373.8	2331.9	2302.0	2288.9	2282.9	2287.7	2294.9
20°	2538.8	2457.5	2373.8	2291.3	2255.4	2224.3	2212.4	2206.4	2217.1	2212.4
22.5°	2461.1	2375.0	2287.7	2210.0	2177.7	2146.6	2134.6	2131.0	2143.0	2138.2
25°	2378.6	2285.3	2199.2	2128.6	2096.4	2070.0	2059.3	2055.7	2061.7	2067.7
27.5°	2300.9	2195.6	2110.7	2047.3	2018.6	1993.5	1983.9	1978.0	1982.7	1989.9
30°	2206.4	2104.7	2021.0	1962.4	1934.9	1911.0	1903.8	1899.0	1906.2	1912.2
32.5°	2117.9	2015.0	1931.3	1873.9	1850.0	1827.3	1826.1	1823.7	1832.1	1839.2
35°	2022.2	1921.8	1840.4	1786.6	1763.9	1744.8	1748.4	1751.9	1761.5	1769.9
37.5°	1925.3	1827.3	1749.6	1700.5	1679.0	1663.5	1674.2	1679.0	1692.2	1700.5
40°	1827.3	1729.2	1657.5	1613.2	1591.7	1584.5	1600.1	1610.8	1626.4	1633.6
42.5°	1726.8	1635.9	1564.2	1523.5	1505.6	1505.6	1525.9	1542.7	1560.6	1567.8
45°	1626.4	1537.9	1469.7	1432.7	1419.5	1429.1	1453.0	1474.5	1497.2	1504.4
47.5°	1524.7	1438.6	1376.4	1343.0	1335.8	1350.1	1380.0	1408.7	1435.0	1444.6
50°	1423.1	1345.4	1283.2	1252.1	1252.1	1270.0	1308.3	1344.2	1372.9	1382.4
52.5°	1321.4	1247.3	1183.9	1161.2	1166.0	1191.1	1235.3	1272.4	1304.7	1314.3
55°	1218.6	1145.6	1090.6	1071.5	1079.9	1111.0	1156.4	1199.5	1230.5	1241.3
57.5°	1116.9	1047.6	997.4	981.8	993.8	1028.4	1081.1	1118.1	1150.4	1160.0
60°	1014.1	943.5	904.1	892.1	907.7	943.5	997.4	1032.0	1061.9	1071.5
62.5°	912.4	846.7	812.0	801.2	819.2	857.4	910.1	941.1	963.9	973.4
65°	809.6	751.0	718.7	711.5	730.7	767.7	818.0	844.3	861.0	870.6
67.5°	708.0	657.7	627.8	621.9	642.2	675.7	722.3	736.7	752.2	761.8
70°	607.5	562.1	536.9	533.4	551.3	583.6	623.0	630.2	638.6	647.0
72.5°	508.2	472.4	447.3	446.1	462.8	489.1	521.4	522.6	525.0	533.4
75°	412.6	380.3	361.2	364.7	374.3	395.8	420.9	413.8	415.0	420.9
77.5°	320.5	294.2	281.0	283.4	290.6	306.1	322.9	314.5	309.7	315.7
80°	230.8	208.1	203.3	204.5	209.3	220.0	229.6	222.4	212.9	217.6
82.5°	151.9	137.5	135.1	136.3	139.9	145.9	148.3	137.5	135.1	138.7
85°	83.7	77.7	77.7	81.3	82.5	83.7	83.7	77.7	78.9	81.3
87.5°	33.5	33.5	37.1	40.7	38.3	33.5	28.7	19.1	19.1	22.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)