

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

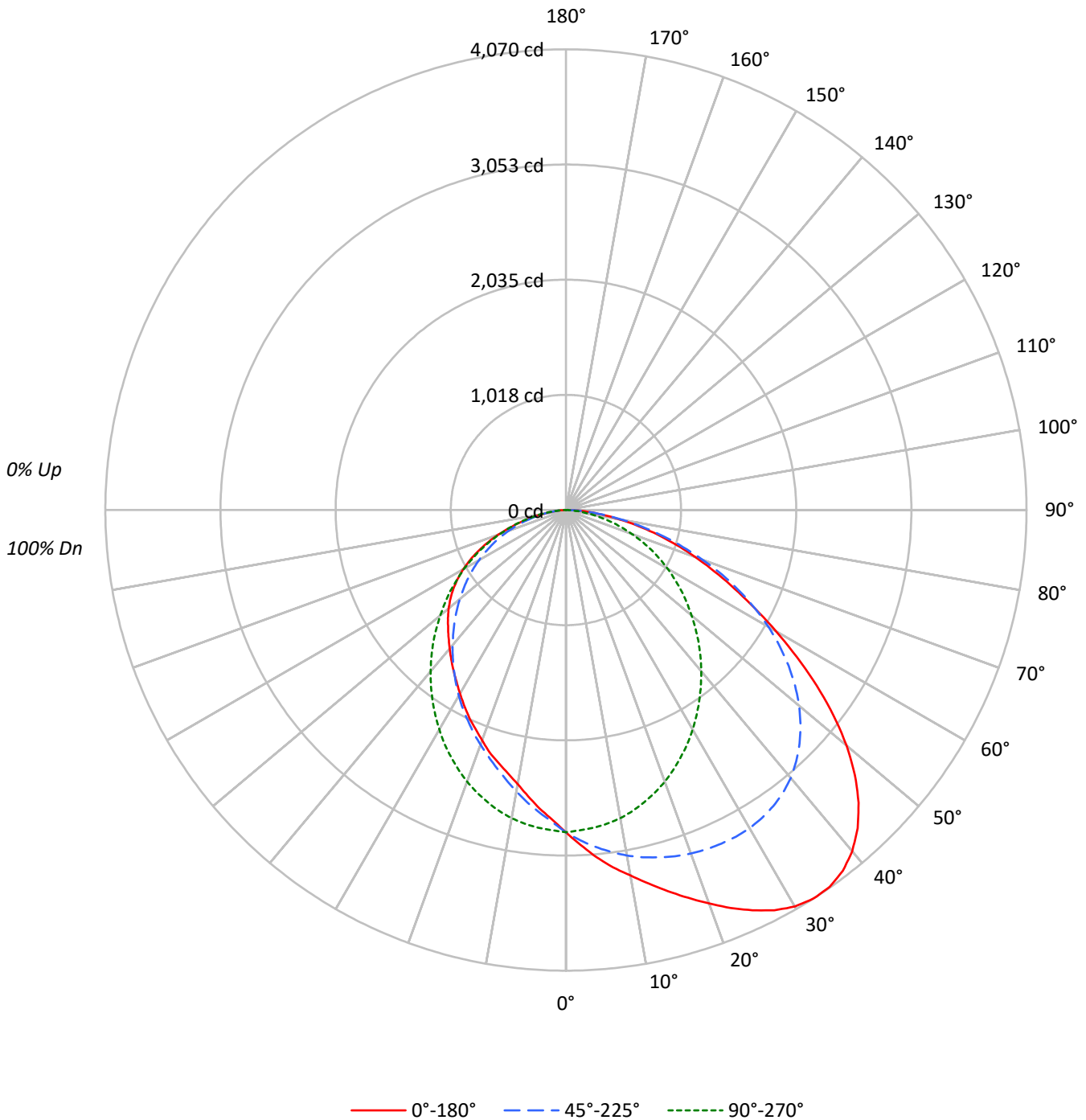
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8817.3 lumens
Efficiency: N/A
Efficacy: 95.8 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_{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





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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°	27406	27406	27406
5°	29738	27239	25599
10°	32037	27028	24020
15°	34752	26635	23032
20°	37892	26168	22176
25°	41449	25554	21490
30°	44965	24883	20798
35°	47758	24147	20351
40°	49451	23380	20087
45°	49797	22573	20040
50°	48490	21713	20259
55°	45404	20934	20385
60°	41272	19983	20185
65°	37421	18896	19404
70°	34251	17522	17818
75°	31075	15753	15318
80°	27177	13167	11804
85°	22877	9566	8793



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.4	3.1
10°-20°	786.3	8.9
20°-30°	1231.8	14.0
30°-40°	1544.3	17.5
40°-50°	1644.0	18.6
50°-60°	1484.2	16.8
60°-70°	1098.7	12.5
70°-80°	602.8	6.8
80°-90°	154.8	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°	2288.5	26.0
0°-40°	3832.8	43.5
0°-60°	6961.0	78.9
0°-90°	8817.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8817.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2847	2847	2847	2847	2847	
5°	3077	2987	2819	2683	2649	300
15°	3487	3177	2672	2360	2311	994
25°	3902	3252	2406	2051	2023	1806
35°	4064	3194	2055	1726	1732	2534
45°	3658	2919	1658	1389	1472	2804
55°	2705	2402	1247	1056	1214	2412
65°	1643	1692	830	715	852	1639
75°	835	886	424	366	412	888
85°	207	204	87	81	80	245
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°	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7
2.5°	2961.3	2955.5	2948.5	2946.1	2935.6	2921.6	2908.7	2908.7	2893.5	2857.2	2831.5
5°	3077.2	3067.8	3050.3	3036.2	3014.0	2987.1	2960.2	2943.8	2907.5	2852.5	2818.6
7.5°	3183.6	3171.9	3149.7	3122.8	3086.5	3046.7	3002.3	2967.2	2912.2	2838.5	2795.2
10°	3277.2	3266.7	3239.8	3207.0	3155.6	3099.4	3033.9	2981.2	2906.3	2815.1	2764.8
12.5°	3380.2	3369.7	3332.2	3287.8	3217.6	3142.7	3056.1	2983.6	2891.1	2781.2	2723.8
15°	3486.7	3472.6	3430.5	3370.8	3277.2	3176.6	3070.1	2976.5	2866.6	2740.2	2672.3
17.5°	3592.0	3577.9	3525.3	3449.2	3332.2	3207.0	3076.0	2960.2	2831.5	2689.9	2616.2
20°	3698.5	3684.4	3617.7	3521.8	3380.2	3229.3	3074.8	2935.6	2789.3	2632.6	2554.2
22.5°	3804.9	3788.5	3707.8	3590.8	3420.0	3244.5	3062.0	2901.7	2736.7	2567.0	2482.8
25°	3902.0	3885.7	3796.7	3658.7	3462.1	3251.5	3039.7	2854.9	2678.2	2494.5	2405.6
27.5°	3986.3	3966.4	3874.0	3721.9	3498.4	3253.8	3010.5	2802.2	2610.3	2416.1	2326.0
30°	4044.8	4027.2	3928.9	3766.3	3519.4	3245.7	2973.0	2740.2	2531.9	2331.9	2238.3
32.5°	4070.5	4055.3	3958.2	3787.4	3522.9	3224.6	2927.4	2671.2	2450.0	2242.9	2148.2
35°	4063.5	4048.3	3955.9	3783.9	3512.4	3194.2	2870.1	2592.8	2362.3	2150.5	2054.6
37.5°	4019.0	4001.5	3917.2	3752.3	3482.0	3149.7	2804.6	2507.4	2267.5	2055.7	1958.6
40°	3934.8	3917.2	3844.7	3692.6	3430.5	3090.0	2729.7	2416.1	2170.4	1956.3	1860.3
42.5°	3814.3	3795.6	3738.2	3599.0	3356.8	3011.6	2644.3	2319.0	2067.4	1860.3	1759.7
45°	3657.5	3638.8	3600.2	3482.0	3260.9	2919.2	2547.1	2213.7	1959.8	1751.5	1657.9
47.5°	3463.3	3446.9	3428.2	3336.9	3142.7	2812.7	2438.3	2101.4	1847.5	1649.7	1553.8
50°	3237.5	3221.1	3226.9	3164.9	3005.8	2689.9	2319.0	1983.2	1731.6	1536.2	1449.7
52.5°	2981.2	2968.4	2996.4	2969.5	2846.7	2553.0	2191.5	1861.5	1613.5	1428.6	1345.5
55°	2705.1	2691.1	2744.9	2753.1	2668.8	2402.1	2046.4	1735.1	1494.1	1323.3	1247.2
57.5°	2420.8	2409.1	2478.1	2516.7	2474.6	2239.4	1900.1	1605.3	1371.3	1213.3	1137.3
60°	2143.5	2134.1	2206.7	2269.9	2265.2	2067.4	1748.0	1464.9	1248.4	1102.2	1037.8
62.5°	1882.6	1872.0	1944.6	2019.5	2046.4	1883.7	1597.1	1326.8	1125.6	991.0	933.7
65°	1642.7	1632.2	1694.2	1771.4	1820.6	1691.9	1434.5	1184.1	1001.5	878.7	829.5
67.5°	1422.8	1422.8	1461.4	1532.7	1592.4	1495.3	1268.3	1048.3	874.0	774.6	725.4
70°	1216.8	1215.7	1243.7	1294.0	1363.1	1284.7	1099.8	905.6	753.5	665.7	622.5
72.5°	1021.4	1029.6	1040.2	1078.8	1151.3	1083.4	932.5	765.2	635.3	558.1	521.8
75°	835.4	834.2	849.4	883.4	936.0	885.7	765.2	628.3	518.3	455.1	423.5
77.5°	657.6	656.4	669.3	689.1	733.6	693.8	603.7	501.9	403.7	351.0	328.8
80°	490.2	490.2	501.9	512.5	545.2	513.6	450.5	375.6	296.0	255.1	237.5
82.5°	340.5	347.5	342.8	356.9	375.6	348.7	308.9	257.4	196.6	168.5	156.8
85°	207.1	212.9	207.1	218.8	227.0	203.6	183.7	153.3	113.5	94.8	86.6
87.5°	106.5	105.3	104.1	110.0	112.3	98.3	86.6	73.7	50.3	38.6	32.8
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°	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7	2846.7
2.5°	2816.3	2823.3	2812.7	2774.1	2758.9	2742.5	2735.5	2728.5	2741.4	2737.9
5°	2792.9	2784.7	2757.8	2708.6	2682.9	2656.0	2643.1	2634.9	2652.4	2648.9
7.5°	2761.3	2737.9	2698.1	2638.4	2605.6	2569.4	2551.8	2541.3	2553.0	2550.7
10°	2721.5	2682.9	2633.7	2562.4	2523.7	2484.0	2464.1	2448.9	2458.2	2457.1
12.5°	2671.2	2620.9	2561.2	2480.5	2440.7	2399.7	2382.2	2371.6	2383.3	2379.8
15°	2615.0	2554.2	2485.1	2403.2	2359.9	2322.5	2309.6	2301.4	2310.8	2310.8
17.5°	2553.0	2481.6	2405.6	2322.5	2281.6	2252.3	2239.4	2233.6	2238.3	2245.3
20°	2484.0	2404.4	2322.5	2241.8	2206.7	2176.2	2164.5	2158.7	2169.2	2164.5
22.5°	2407.9	2323.7	2238.3	2162.2	2130.6	2100.2	2088.5	2085.0	2096.7	2092.0
25°	2327.2	2235.9	2151.7	2082.6	2051.1	2025.3	2014.8	2011.3	2017.1	2023.0
27.5°	2251.1	2148.2	2065.1	2003.1	1975.0	1950.4	1941.1	1935.2	1939.9	1946.9
30°	2158.7	2059.2	1977.3	1920.0	1893.1	1869.7	1862.7	1858.0	1865.0	1870.9
32.5°	2072.1	1971.5	1889.6	1833.4	1810.0	1787.8	1786.6	1784.3	1792.5	1799.5
35°	1978.5	1880.2	1800.7	1748.0	1725.8	1707.1	1710.6	1714.1	1723.4	1731.6
37.5°	1883.7	1787.8	1711.7	1663.8	1642.7	1627.5	1638.0	1642.7	1655.6	1663.8
40°	1787.8	1691.9	1621.7	1578.4	1557.3	1550.3	1565.5	1576.0	1591.2	1598.3
42.5°	1689.5	1600.6	1530.4	1490.6	1473.1	1473.1	1493.0	1509.3	1526.9	1533.9
45°	1591.2	1504.7	1438.0	1401.7	1388.8	1398.2	1421.6	1442.6	1464.9	1471.9
47.5°	1491.8	1407.5	1346.7	1313.9	1306.9	1321.0	1350.2	1378.3	1404.0	1413.4
50°	1392.3	1316.3	1255.4	1225.0	1225.0	1242.6	1280.0	1315.1	1343.2	1352.6
52.5°	1292.9	1220.3	1158.3	1136.1	1140.8	1165.3	1208.6	1244.9	1276.5	1285.9
55°	1192.3	1120.9	1067.1	1048.3	1056.5	1087.0	1131.4	1173.5	1204.0	1214.5
57.5°	1092.8	1024.9	975.8	960.6	972.3	1006.2	1057.7	1094.0	1125.6	1134.9
60°	992.2	923.2	884.5	872.8	888.0	923.2	975.8	1009.7	1039.0	1048.3
62.5°	892.7	828.4	794.4	783.9	801.5	838.9	890.4	920.8	943.0	952.4
65°	792.1	734.8	703.2	696.2	714.9	751.2	800.3	826.0	842.4	851.8
67.5°	692.7	643.5	614.3	608.4	628.3	661.1	706.7	720.7	735.9	745.3
70°	594.4	549.9	525.3	521.8	539.4	571.0	609.6	616.6	624.8	633.0
72.5°	497.3	462.2	437.6	436.4	452.8	478.5	510.1	511.3	513.6	521.8
75°	403.7	372.1	353.3	356.9	366.2	387.3	411.8	404.8	406.0	411.8
77.5°	313.6	287.8	275.0	277.3	284.3	299.5	315.9	307.7	303.0	308.9
80°	225.8	203.6	198.9	200.1	204.8	215.3	224.6	217.6	208.3	212.9
82.5°	148.6	134.6	132.2	133.4	136.9	142.7	145.1	134.6	132.2	135.7
85°	81.9	76.1	76.1	79.6	80.7	81.9	81.9	76.1	77.2	79.6
87.5°	32.8	32.8	36.3	39.8	37.4	32.8	28.1	18.7	18.7	22.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)