

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-39-42L830-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-39-42L830-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

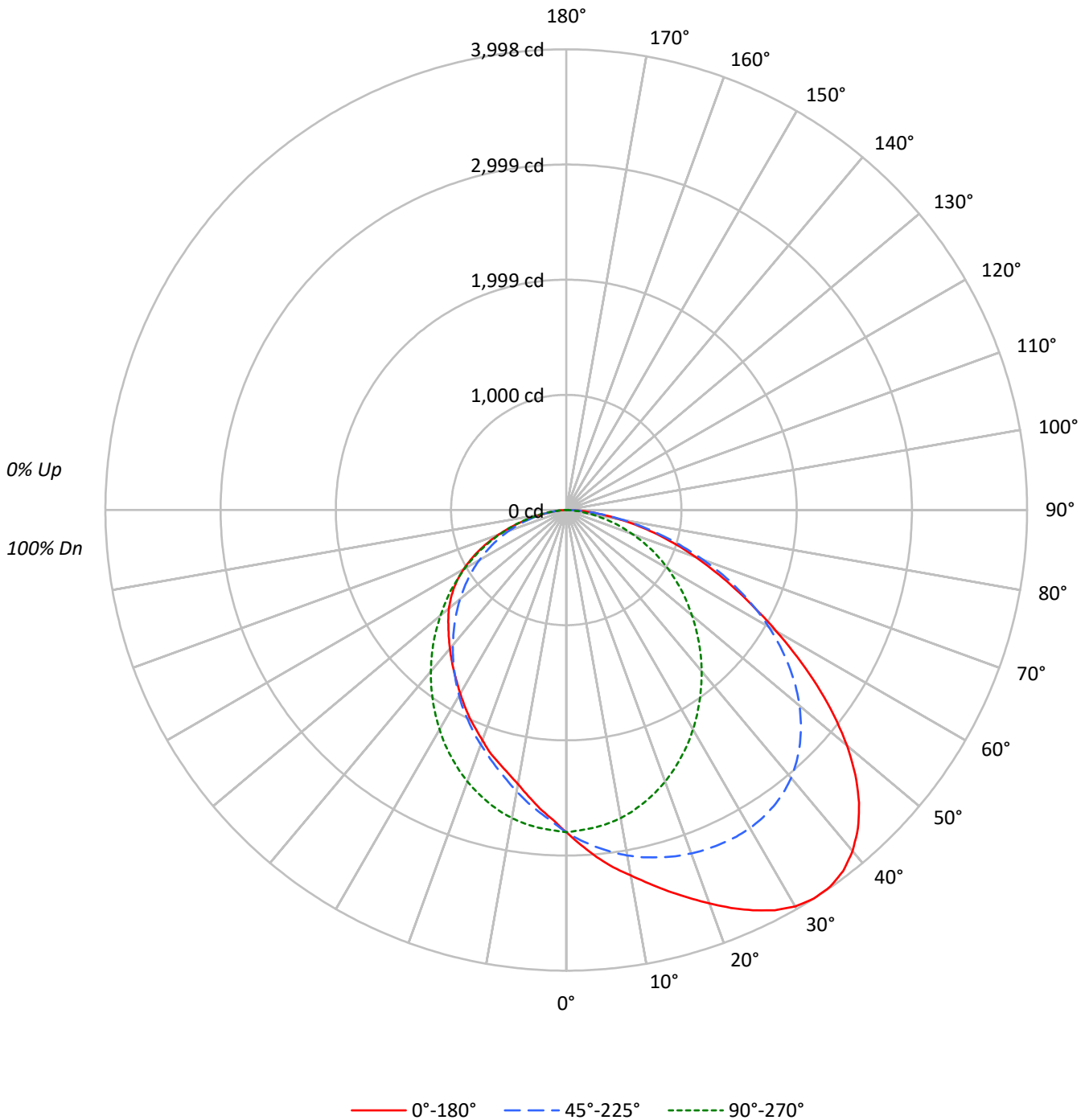
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8660.3 lumens
Efficiency: N/A
Efficacy: 94.1 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°	26918	26918	26918
5°	29209	26754	25144
10°	31468	26546	23592
15°	34133	26161	22622
20°	37217	25702	21781
25°	40712	25098	21107
30°	44164	24439	20428
35°	46908	23717	19989
40°	48570	22964	19729
45°	48911	22171	19683
50°	47625	21326	19898
55°	44595	20561	20023
60°	40537	19626	19827
65°	36756	18561	19058
70°	33643	17210	17500
75°	30520	15474	15046
80°	26695	12935	11598
85°	22468	9389	8627



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.5	3.1
10°-20°	772.3	8.9
20°-30°	1209.9	14.0
30°-40°	1516.8	17.5
40°-50°	1614.8	18.6
50°-60°	1457.7	16.8
60°-70°	1079.1	12.5
70°-80°	592.1	6.8
80°-90°	152.0	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°	2247.7	26.0
0°-40°	3764.6	43.5
0°-60°	6837.1	78.9
0°-90°	8660.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8660.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2796	2796	2796	2796	2796	
5°	3022	2934	2768	2635	2602	294
15°	3425	3120	2625	2318	2270	977
25°	3833	3194	2363	2014	1987	1774
35°	3991	3137	2018	1695	1701	2489
45°	3592	2867	1628	1364	1446	2754
55°	2657	2359	1225	1038	1193	2369
65°	1614	1662	815	702	837	1610
75°	820	870	416	360	404	872
85°	203	200	85	79	78	240
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°	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0
2.5°	2908.6	2902.9	2896.0	2893.7	2883.3	2869.5	2856.9	2856.9	2842.0	2806.3	2781.1
5°	3022.4	3013.2	2995.9	2982.2	2960.3	2933.9	2907.5	2891.4	2855.7	2801.7	2768.4
7.5°	3127.0	3115.5	3093.6	3067.2	3031.6	2992.5	2948.8	2914.4	2860.3	2787.9	2745.4
10°	3218.9	3208.6	3182.1	3149.9	3099.4	3044.2	2979.9	2928.1	2854.6	2765.0	2715.5
12.5°	3320.0	3309.7	3272.9	3229.2	3160.3	3086.7	3001.7	2930.4	2839.7	2731.6	2675.3
15°	3424.6	3410.8	3369.4	3310.8	3218.9	3120.1	3015.5	2923.6	2815.5	2691.4	2624.8
17.5°	3528.0	3514.2	3462.5	3387.8	3272.9	3149.9	3021.2	2907.5	2781.1	2642.0	2569.6
20°	3632.6	3618.8	3553.3	3459.1	3320.0	3171.8	3020.1	2883.3	2739.7	2585.7	2508.7
22.5°	3737.2	3721.1	3641.8	3526.9	3359.1	3186.7	3007.4	2850.0	2688.0	2521.3	2438.6
25°	3832.6	3816.5	3729.1	3593.5	3400.5	3193.6	2985.6	2804.0	2630.5	2450.1	2362.7
27.5°	3915.3	3895.8	3805.0	3655.6	3436.1	3195.9	2956.9	2752.3	2563.9	2373.1	2284.6
30°	3972.8	3955.5	3859.0	3699.3	3456.8	3187.9	2920.1	2691.4	2486.9	2290.3	2198.4
32.5°	3998.0	3983.1	3887.7	3719.9	3460.2	3167.2	2875.3	2623.6	2406.4	2203.0	2109.9
35°	3991.2	3976.2	3885.4	3716.5	3449.9	3137.3	2819.0	2546.6	2320.2	2112.2	2018.0
37.5°	3947.5	3930.2	3847.5	3685.5	3420.0	3093.6	2754.6	2462.7	2227.1	2019.1	1923.8
40°	3864.7	3847.5	3776.3	3626.9	3369.4	3035.0	2681.1	2373.1	2131.8	1921.5	1827.2
42.5°	3746.4	3728.0	3671.7	3534.9	3297.0	2958.0	2597.2	2277.7	2030.6	1827.2	1728.4
45°	3592.4	3574.0	3536.1	3420.0	3202.8	2867.2	2501.8	2174.3	1924.9	1720.3	1628.4
47.5°	3401.6	3385.5	3367.1	3277.5	3086.7	2762.7	2394.9	2064.0	1814.6	1620.4	1526.1
50°	3179.8	3163.7	3169.5	3108.6	2952.3	2642.0	2277.7	1947.9	1700.8	1508.9	1423.9
52.5°	2928.1	2915.5	2943.1	2916.7	2796.0	2507.5	2152.4	1828.4	1584.7	1403.2	1321.6
55°	2656.9	2643.1	2696.0	2704.1	2621.3	2359.3	2009.9	1704.3	1467.5	1299.7	1225.0
57.5°	2377.7	2366.2	2434.0	2471.9	2430.5	2199.6	1866.3	1576.7	1346.9	1191.7	1117.0
60°	2105.3	2096.1	2167.4	2229.4	2224.8	2030.6	1716.9	1438.8	1226.2	1082.5	1019.3
62.5°	1849.1	1838.7	1910.0	1983.5	2009.9	1850.2	1568.7	1303.2	1105.5	973.4	917.1
65°	1613.5	1603.1	1664.0	1739.9	1788.1	1661.7	1408.9	1163.0	983.7	863.0	814.8
67.5°	1397.4	1397.4	1435.3	1505.4	1564.1	1468.7	1245.7	1029.7	858.4	760.8	712.5
70°	1195.2	1194.0	1221.6	1271.0	1338.8	1261.8	1080.2	889.5	740.1	653.9	611.4
72.5°	1003.2	1011.3	1021.6	1059.6	1130.8	1064.2	915.9	751.6	624.0	548.2	512.5
75°	820.5	819.4	834.3	867.6	919.4	869.9	751.6	617.1	509.1	447.0	416.0
77.5°	645.8	644.7	657.3	676.9	720.5	681.5	593.0	493.0	396.5	344.8	322.9
80°	481.5	481.5	493.0	503.3	535.5	504.5	442.4	368.9	290.7	250.5	233.3
82.5°	334.4	341.3	336.7	350.5	368.9	342.5	303.4	252.8	193.1	165.5	154.0
85°	203.4	209.2	203.4	214.9	222.9	200.0	180.4	150.5	111.5	93.1	85.0
87.5°	104.6	103.4	102.3	108.0	110.3	96.5	85.0	72.4	49.4	37.9	32.2
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°	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0	2796.0
2.5°	2766.1	2773.0	2762.7	2724.7	2709.8	2693.7	2686.8	2679.9	2692.6	2689.1
5°	2743.1	2735.1	2708.7	2660.4	2635.1	2608.7	2596.0	2588.0	2605.2	2601.8
7.5°	2712.1	2689.1	2650.0	2591.4	2559.3	2523.6	2506.4	2496.0	2507.5	2505.2
10°	2673.0	2635.1	2586.8	2516.7	2478.8	2439.7	2420.2	2405.3	2414.5	2413.3
12.5°	2623.6	2574.2	2515.6	2436.3	2397.2	2357.0	2339.8	2329.4	2340.9	2337.5
15°	2568.4	2508.7	2440.9	2360.4	2317.9	2281.2	2268.5	2260.5	2269.7	2269.7
17.5°	2507.5	2437.4	2362.7	2281.2	2240.9	2212.2	2199.6	2193.8	2198.4	2205.3
20°	2439.7	2361.6	2281.2	2201.9	2167.4	2137.5	2126.0	2120.3	2130.6	2126.0
22.5°	2365.0	2282.3	2198.4	2123.7	2092.7	2062.8	2051.3	2047.9	2059.4	2054.8
25°	2285.7	2196.1	2113.4	2045.6	2014.5	1989.3	1978.9	1975.5	1981.2	1987.0
27.5°	2211.0	2109.9	2028.3	1967.4	1939.8	1915.7	1906.5	1900.8	1905.4	1912.3
30°	2120.3	2022.6	1942.1	1885.8	1859.4	1836.4	1829.5	1824.9	1831.8	1837.6
32.5°	2035.2	1936.4	1855.9	1800.8	1777.8	1756.0	1754.8	1752.5	1760.6	1767.5
35°	1943.3	1846.8	1768.6	1716.9	1695.1	1676.7	1680.1	1683.6	1692.8	1700.8
37.5°	1850.2	1756.0	1681.3	1634.2	1613.5	1598.5	1608.9	1613.5	1626.1	1634.2
40°	1756.0	1661.7	1592.8	1550.3	1529.6	1522.7	1537.6	1548.0	1562.9	1569.8
42.5°	1659.4	1572.1	1503.1	1464.1	1446.8	1446.8	1466.4	1482.5	1499.7	1506.6
45°	1562.9	1477.9	1412.4	1376.7	1364.1	1373.3	1396.3	1417.0	1438.8	1445.7
47.5°	1465.2	1382.5	1322.7	1290.5	1283.6	1297.4	1326.2	1353.8	1379.0	1388.2
50°	1367.5	1292.8	1233.1	1203.2	1203.2	1220.4	1257.2	1291.7	1319.3	1328.5
52.5°	1269.9	1198.6	1137.7	1115.9	1120.5	1144.6	1187.1	1222.7	1253.8	1263.0
55°	1171.0	1100.9	1048.1	1029.7	1037.7	1067.6	1111.3	1152.6	1182.5	1192.9
57.5°	1073.3	1006.7	958.4	943.5	955.0	988.3	1038.9	1074.5	1105.5	1114.7
60°	974.5	906.7	868.8	857.3	872.2	906.7	958.4	991.8	1020.5	1029.7
62.5°	876.8	813.6	780.3	770.0	787.2	824.0	874.5	904.4	926.3	935.4
65°	778.0	721.7	690.7	683.8	702.2	737.8	786.0	811.3	827.4	836.6
67.5°	680.3	632.1	603.3	597.6	617.1	649.3	694.1	707.9	722.8	732.0
70°	583.8	540.1	516.0	512.5	529.8	560.8	598.7	605.6	613.7	621.7
72.5°	488.4	453.9	429.8	428.6	444.7	470.0	501.0	502.2	504.5	512.5
75°	396.5	365.4	347.1	350.5	359.7	380.4	404.5	397.6	398.8	404.5
77.5°	308.0	282.7	270.1	272.4	279.3	294.2	310.3	302.2	297.6	303.4
80°	221.8	200.0	195.4	196.5	201.1	211.5	220.6	213.8	204.6	209.2
82.5°	145.9	132.2	129.9	131.0	134.5	140.2	142.5	132.2	129.9	133.3
85°	80.4	74.7	74.7	78.1	79.3	80.4	80.4	74.7	75.8	78.1
87.5°	32.2	32.2	35.6	39.1	36.8	32.2	27.6	18.4	18.4	21.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)