

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-39-42L950-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-39-42L950-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

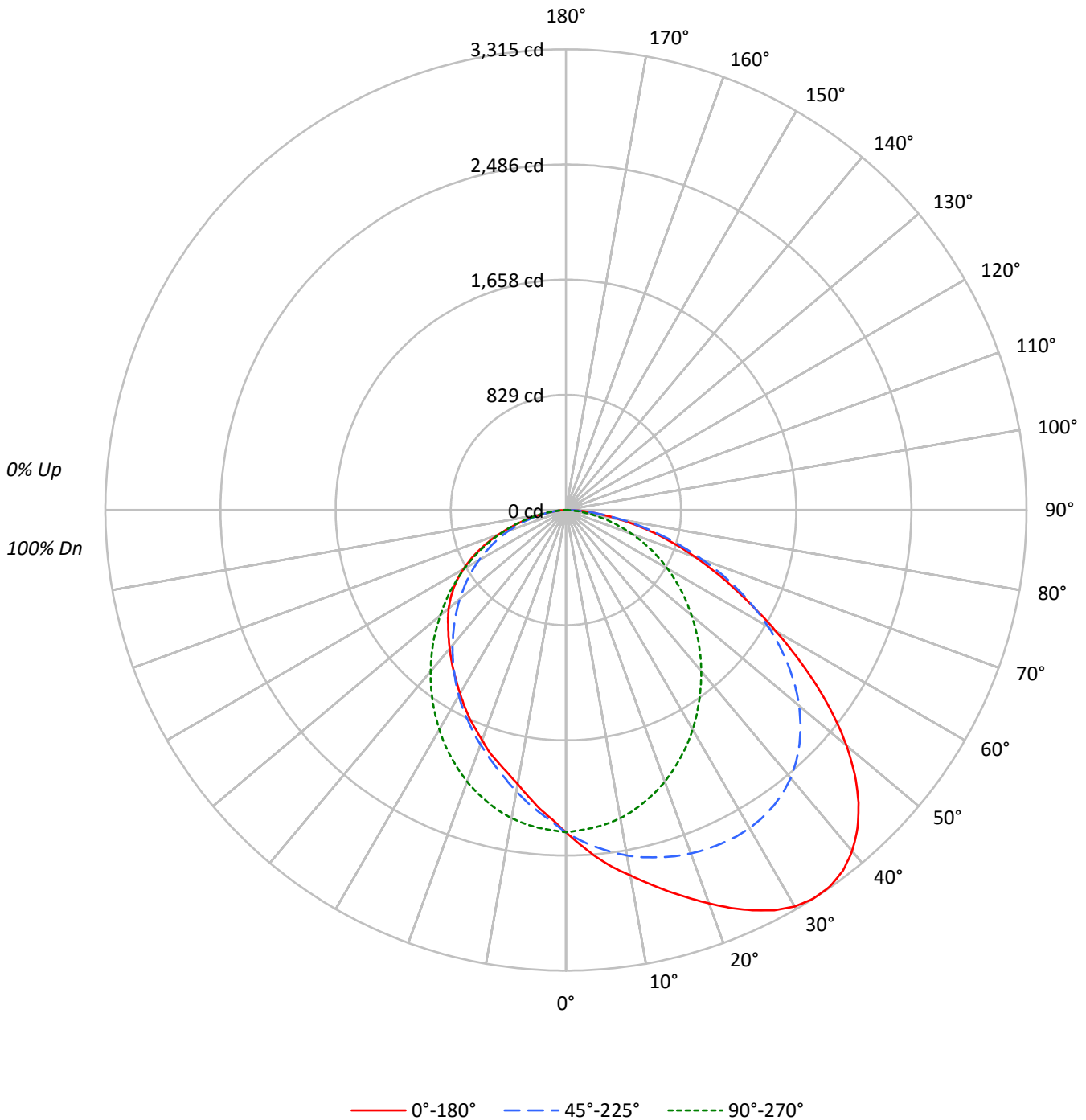
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7181.3 lumens
Efficiency: N/A
Efficacy: 78.1 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 (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°	22321	22321	22321
5°	24220	22185	20849
10°	26094	22013	19563
15°	28303	21693	18758
20°	30861	21313	18061
25°	33759	20812	17502
30°	36622	20266	16939
35°	38896	19666	16575
40°	40275	19042	16359
45°	40558	18384	16322
50°	39493	17684	16499
55°	36980	17050	16602
60°	33615	16276	16440
65°	30478	15390	15803
70°	27895	14271	14511
75°	25309	12833	12476
80°	22138	10722	9614
85°	18635	7788	7158



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.2	3.1
10°-20°	640.4	8.9
20°-30°	1003.3	14.0
30°-40°	1257.8	17.5
40°-50°	1339.0	18.6
50°-60°	1208.8	16.8
60°-70°	894.8	12.5
70°-80°	491.0	6.8
80°-90°	126.0	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°	1863.9	26.0
0°-40°	3121.6	43.5
0°-60°	5669.4	78.9
0°-90°	7181.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7181.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2318	2318	2318	2318	2318	
5°	2506	2433	2296	2185	2157	244
15°	2840	2587	2176	1922	1882	810
25°	3178	2648	1959	1670	1648	1471
35°	3310	2602	1673	1406	1410	2064
45°	2979	2378	1350	1131	1199	2284
55°	2203	1956	1016	860	989	1965
65°	1338	1378	676	582	694	1335
75°	680	721	345	298	335	723
85°	169	166	70	66	65	199
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°	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5
2.5°	2411.9	2407.1	2401.4	2399.5	2390.9	2379.5	2369.0	2369.0	2356.6	2327.1	2306.1
5°	2506.2	2498.6	2484.3	2472.9	2454.8	2432.8	2410.9	2397.6	2368.0	2323.2	2295.6
7.5°	2592.9	2583.4	2565.3	2543.4	2513.8	2481.4	2445.2	2416.6	2371.8	2311.8	2276.6
10°	2669.2	2660.6	2638.7	2612.0	2570.1	2524.3	2471.0	2428.1	2367.1	2292.8	2251.8
12.5°	2753.0	2744.4	2714.0	2677.7	2620.6	2559.6	2489.1	2430.0	2354.7	2265.1	2218.4
15°	2839.7	2828.3	2794.0	2745.4	2669.2	2587.2	2500.5	2424.3	2334.7	2231.8	2176.5
17.5°	2925.5	2914.1	2871.2	2809.2	2714.0	2612.0	2505.3	2410.9	2306.1	2190.8	2130.8
20°	3012.2	3000.8	2946.5	2868.3	2753.0	2630.1	2504.3	2390.9	2271.8	2144.1	2080.3
22.5°	3098.9	3085.6	3019.8	2924.5	2785.4	2642.5	2493.8	2363.3	2228.9	2090.7	2022.1
25°	3178.0	3164.7	3092.3	2979.8	2819.7	2648.2	2475.7	2325.2	2181.3	2031.7	1959.2
27.5°	3246.6	3230.4	3155.2	3031.3	2849.3	2650.1	2451.9	2282.3	2126.0	1967.8	1894.4
30°	3294.3	3280.0	3199.9	3067.5	2866.4	2643.4	2421.4	2231.8	2062.1	1899.2	1823.0
32.5°	3315.3	3302.9	3223.8	3084.6	2869.3	2626.3	2384.2	2175.5	1995.4	1826.8	1749.6
35°	3309.5	3297.1	3221.9	3081.8	2860.7	2601.5	2337.5	2111.7	1924.0	1751.5	1673.3
37.5°	3273.3	3259.0	3190.4	3056.1	2835.9	2565.3	2284.2	2042.1	1846.8	1674.3	1595.2
40°	3204.7	3190.4	3131.3	3007.5	2794.0	2516.7	2223.2	1967.8	1767.7	1593.3	1515.2
42.5°	3106.6	3091.3	3044.6	2931.2	2734.0	2452.8	2153.6	1888.7	1683.8	1515.2	1433.2
45°	2978.9	2963.6	2932.2	2835.9	2655.8	2377.6	2074.5	1802.9	1596.2	1426.5	1350.3
47.5°	2820.7	2807.3	2792.1	2717.8	2559.6	2290.8	1985.9	1711.5	1504.7	1343.6	1265.5
50°	2636.8	2623.4	2628.2	2577.7	2448.1	2190.8	1888.7	1615.2	1410.3	1251.2	1180.7
52.5°	2428.1	2417.6	2440.5	2418.5	2318.5	2079.3	1784.8	1516.1	1314.1	1163.5	1095.9
55°	2203.2	2191.7	2235.6	2242.3	2173.6	1956.4	1666.7	1413.2	1216.9	1077.8	1015.8
57.5°	1971.6	1962.1	2018.3	2049.8	2015.5	1823.9	1547.6	1307.4	1116.8	988.2	926.3
60°	1745.8	1738.1	1797.2	1848.7	1844.9	1683.8	1423.7	1193.1	1016.8	897.7	845.3
62.5°	1533.3	1524.7	1583.8	1644.8	1666.7	1534.2	1300.8	1080.6	916.7	807.1	760.4
65°	1337.9	1329.3	1379.8	1442.7	1482.8	1377.9	1168.3	964.4	815.7	715.7	675.6
67.5°	1158.8	1158.8	1190.2	1248.3	1296.9	1217.8	1033.0	853.8	711.8	630.8	590.8
70°	991.0	990.1	1013.0	1053.9	1110.2	1046.3	895.8	737.6	613.7	542.2	507.0
72.5°	831.9	838.6	847.2	878.6	937.7	882.4	759.5	623.2	517.4	454.5	425.0
75°	680.4	679.4	691.8	719.5	762.3	721.4	623.2	511.7	422.1	370.7	345.0
77.5°	535.5	534.6	545.1	561.3	597.5	565.1	491.7	408.8	328.8	285.9	267.8
80°	399.3	399.3	408.8	417.4	444.1	418.3	366.9	305.9	241.1	207.7	193.4
82.5°	277.3	283.0	279.2	290.6	305.9	284.0	251.6	209.6	160.1	137.2	127.7
85°	168.7	173.4	168.7	178.2	184.9	165.8	149.6	124.8	92.4	77.2	70.5
87.5°	86.7	85.8	84.8	89.6	91.5	80.0	70.5	60.0	41.0	31.4	26.7
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°	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5	2318.5
2.5°	2293.7	2299.4	2290.8	2259.4	2247.0	2233.7	2228.0	2222.2	2232.7	2229.9
5°	2274.6	2268.0	2246.1	2206.0	2185.1	2163.2	2152.7	2146.0	2160.3	2157.4
7.5°	2248.9	2229.9	2197.5	2148.9	2122.2	2092.6	2078.3	2069.8	2079.3	2077.4
10°	2216.5	2185.1	2145.1	2086.9	2055.5	2023.1	2006.9	1994.5	2002.1	2001.2
12.5°	2175.5	2134.6	2086.0	2020.2	1987.8	1954.5	1940.2	1931.6	1941.1	1938.3
15°	2129.8	2080.3	2024.0	1957.3	1922.1	1891.6	1881.1	1874.4	1882.0	1882.0
17.5°	2079.3	2021.2	1959.2	1891.6	1858.2	1834.4	1823.9	1819.1	1823.0	1828.7
20°	2023.1	1958.3	1891.6	1825.8	1797.2	1772.5	1762.9	1758.2	1766.7	1762.9
22.5°	1961.1	1892.5	1823.0	1761.0	1735.3	1710.5	1701.0	1698.1	1707.7	1703.8
25°	1895.4	1821.1	1752.4	1696.2	1670.5	1649.5	1640.9	1638.1	1642.9	1647.6
27.5°	1833.4	1749.6	1681.9	1631.4	1608.6	1588.5	1580.9	1576.2	1580.0	1585.7
30°	1758.2	1677.2	1610.5	1563.8	1541.8	1522.8	1517.1	1513.3	1519.0	1523.7
32.5°	1687.6	1605.7	1539.0	1493.2	1474.2	1456.1	1455.1	1453.2	1459.9	1465.6
35°	1611.4	1531.4	1466.6	1423.7	1405.6	1390.3	1393.2	1396.0	1403.7	1410.3
37.5°	1534.2	1456.1	1394.1	1355.1	1337.9	1325.5	1334.1	1337.9	1348.4	1355.1
40°	1456.1	1377.9	1320.8	1285.5	1268.4	1262.6	1275.0	1283.6	1296.0	1301.7
42.5°	1376.0	1303.6	1246.4	1214.0	1199.7	1199.7	1215.9	1229.3	1243.6	1249.3
45°	1296.0	1225.5	1171.2	1141.6	1131.1	1138.8	1157.8	1175.0	1193.1	1198.8
47.5°	1215.0	1146.4	1096.8	1070.1	1064.4	1075.9	1099.7	1122.6	1143.5	1151.1
50°	1134.0	1072.0	1022.5	997.7	997.7	1012.0	1042.5	1071.1	1094.0	1101.6
52.5°	1053.0	993.9	943.4	925.3	929.1	949.1	984.4	1013.9	1039.6	1047.3
55°	971.0	912.9	869.1	853.8	860.5	885.3	921.5	955.8	980.6	989.1
57.5°	890.0	834.8	794.7	782.4	791.9	819.5	861.5	891.0	916.7	924.3
60°	808.1	751.9	720.4	710.9	723.3	751.9	794.7	822.4	846.2	853.8
62.5°	727.1	674.7	647.0	638.5	652.8	683.3	725.2	750.0	768.1	775.7
65°	645.1	598.4	572.7	567.0	582.2	611.8	651.8	672.8	686.1	693.7
67.5°	564.1	524.1	500.3	495.5	511.7	538.4	575.6	587.0	599.4	607.0
70°	484.1	447.9	427.9	425.0	439.3	465.0	496.5	502.2	508.9	515.5
72.5°	405.0	376.4	356.4	355.4	368.8	389.7	415.5	416.4	418.3	425.0
75°	328.8	303.0	287.8	290.6	298.3	315.4	335.4	329.7	330.7	335.4
77.5°	255.4	234.4	223.9	225.8	231.6	244.0	257.3	250.6	246.8	251.6
80°	183.9	165.8	162.0	163.0	166.8	175.3	183.0	177.2	169.6	173.4
82.5°	121.0	109.6	107.7	108.6	111.5	116.3	118.2	109.6	107.7	110.5
85°	66.7	61.9	61.9	64.8	65.8	66.7	66.7	61.9	62.9	64.8
87.5°	26.7	26.7	29.5	32.4	30.5	26.7	22.9	15.2	15.2	18.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)