

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-39-42L930-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-39-42L930-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

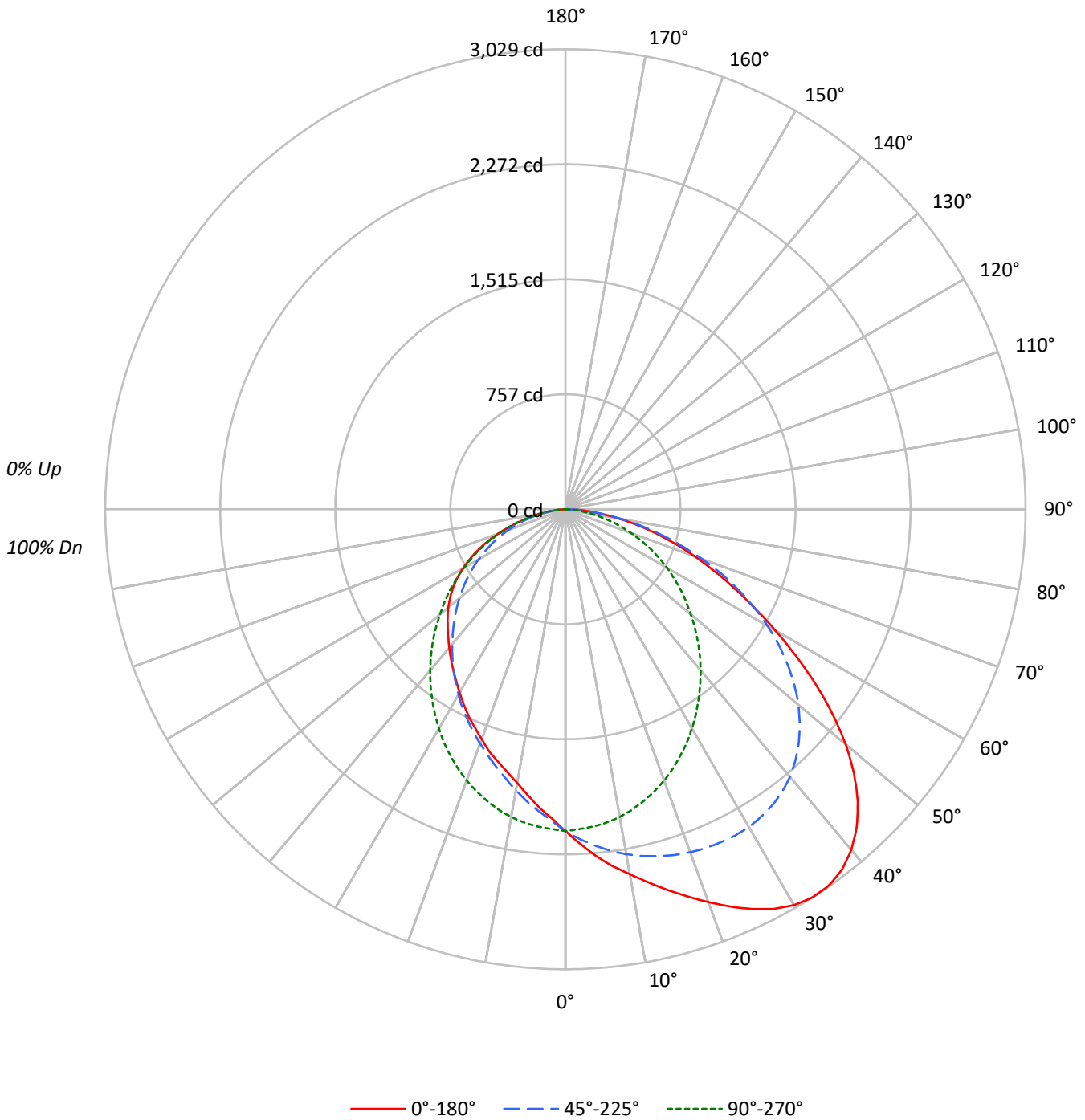
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6561.2 lumens
Efficiency: N/A
Efficacy: 71.3 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°	20394	20394	20394
5°	22129	20270	19049
10°	23840	20112	17874
15°	25859	19820	17138
20°	28196	19472	16502
25°	30844	19014	15990
30°	33459	18515	15477
35°	35538	17969	15145
40°	36798	17397	14947
45°	37055	16797	14913
50°	36082	16156	15075
55°	33786	15578	15168
60°	30711	14870	15021
65°	27847	14062	14438
70°	25488	13038	13258
75°	23122	11725	11401
80°	20225	9797	8788
85°	17022	7114	6539



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.2	3.1
10°-20°	585.1	8.9
20°-30°	916.6	14.0
30°-40°	1149.2	17.5
40°-50°	1223.4	18.6
50°-60°	1104.4	16.8
60°-70°	817.6	12.5
70°-80°	448.6	6.8
80°-90°	115.2	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°	1702.9	26.0
0°-40°	2852.1	43.5
0°-60°	5179.9	78.9
0°-90°	6561.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6561.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2118	2118	2118	2118	2118	
5°	2290	2223	2097	1996	1971	223
15°	2594	2364	1989	1756	1720	740
25°	2904	2420	1790	1526	1505	1344
35°	3024	2377	1529	1284	1289	1886
45°	2722	2172	1234	1034	1095	2087
55°	2013	1787	928	786	904	1795
65°	1222	1259	617	532	634	1220
75°	622	659	315	272	306	661
85°	154	152	64	60	59	182
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°	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3
2.5°	2203.6	2199.2	2194.0	2192.3	2184.4	2174.0	2164.4	2164.4	2153.1	2126.1	2107.0
5°	2289.8	2282.8	2269.8	2259.3	2242.8	2222.8	2202.7	2190.5	2163.6	2122.6	2097.4
7.5°	2369.0	2360.3	2343.8	2323.8	2296.8	2267.2	2234.1	2208.0	2167.0	2112.2	2080.0
10°	2438.7	2430.8	2410.8	2386.4	2348.1	2306.3	2257.6	2218.4	2162.7	2094.8	2057.3
12.5°	2515.3	2507.5	2479.6	2446.5	2394.3	2338.6	2274.1	2220.1	2151.4	2069.5	2026.9
15°	2594.5	2584.1	2552.7	2508.3	2438.7	2363.8	2284.6	2214.9	2133.1	2039.1	1988.6
17.5°	2672.9	2662.4	2623.3	2566.7	2479.6	2386.4	2288.9	2202.7	2107.0	2001.6	1946.8
20°	2752.1	2741.7	2692.0	2620.6	2515.3	2403.0	2288.1	2184.4	2075.6	1959.0	1900.6
22.5°	2831.3	2819.1	2759.1	2672.0	2544.9	2414.3	2278.5	2159.2	2036.4	1910.2	1847.5
25°	2903.6	2891.4	2825.2	2722.5	2576.2	2419.5	2261.9	2124.4	1992.9	1856.2	1790.0
27.5°	2966.3	2951.5	2882.7	2769.5	2603.2	2421.3	2240.2	2085.2	1942.4	1797.9	1730.8
30°	3009.8	2996.8	2923.6	2802.6	2618.9	2415.2	2212.3	2039.1	1884.1	1735.2	1665.5
32.5°	3029.0	3017.7	2945.4	2818.3	2621.5	2399.5	2178.4	1987.7	1823.1	1669.0	1598.5
35°	3023.8	3012.4	2943.7	2815.7	2613.7	2376.9	2135.7	1929.3	1757.8	1600.2	1528.9
37.5°	2990.7	2977.6	2914.9	2792.2	2591.0	2343.8	2086.9	1865.8	1687.3	1529.7	1457.5
40°	2928.0	2914.9	2860.9	2747.8	2552.7	2299.4	2031.2	1797.9	1615.0	1455.7	1384.3
42.5°	2838.3	2824.4	2781.7	2678.1	2497.9	2241.0	1967.7	1725.6	1538.4	1384.3	1309.5
45°	2721.6	2707.7	2679.0	2591.0	2426.5	2172.3	1895.4	1647.3	1458.3	1303.4	1233.7
47.5°	2577.1	2564.9	2551.0	2483.1	2338.6	2093.0	1814.4	1563.7	1374.7	1227.6	1156.2
50°	2409.1	2396.9	2401.2	2355.1	2236.7	2001.6	1725.6	1475.7	1288.6	1143.2	1078.7
52.5°	2218.4	2208.8	2229.7	2209.7	2118.3	1899.7	1630.7	1385.2	1200.6	1063.1	1001.2
55°	2012.9	2002.5	2042.5	2048.6	1985.9	1787.4	1522.8	1291.2	1111.8	984.7	928.1
57.5°	1801.4	1792.7	1844.0	1872.8	1841.4	1666.4	1413.9	1194.5	1020.4	902.9	846.3
60°	1595.0	1588.1	1642.0	1689.1	1685.6	1538.4	1300.7	1090.0	929.0	820.1	772.3
62.5°	1400.9	1393.0	1447.0	1502.7	1522.8	1401.7	1188.4	987.3	837.6	737.4	694.8
65°	1222.4	1214.6	1260.7	1318.2	1354.7	1259.0	1067.4	881.1	745.3	653.9	617.3
67.5°	1058.7	1058.7	1087.4	1140.5	1184.9	1112.7	943.8	780.1	650.4	576.4	539.8
70°	905.5	904.6	925.5	962.9	1014.3	956.0	818.4	673.9	560.7	495.4	463.2
72.5°	760.1	766.2	774.0	802.7	856.7	806.2	693.9	569.4	472.8	415.3	388.3
75°	621.6	620.8	632.1	657.3	696.5	659.1	569.4	467.5	385.7	338.7	315.2
77.5°	489.3	488.4	498.0	512.8	545.9	516.3	449.3	373.5	300.4	261.2	244.7
80°	364.8	364.8	373.5	381.3	405.7	382.2	335.2	279.5	220.3	189.8	176.7
82.5°	253.4	258.6	255.1	265.5	279.5	259.5	229.9	191.5	146.3	125.4	116.7
85°	154.1	158.5	154.1	162.8	168.9	151.5	136.7	114.1	84.5	70.5	64.4
87.5°	79.2	78.4	77.5	81.8	83.6	73.1	64.4	54.9	37.4	28.7	24.4
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°	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3
2.5°	2095.6	2100.9	2093.0	2064.3	2053.0	2040.8	2035.6	2030.3	2039.9	2037.3
5°	2078.2	2072.1	2052.1	2015.5	1996.4	1976.4	1966.8	1960.7	1973.8	1971.1
7.5°	2054.7	2037.3	2007.7	1963.3	1938.9	1911.9	1898.9	1891.0	1899.7	1898.0
10°	2025.1	1996.4	1959.8	1906.7	1878.0	1848.4	1833.6	1822.3	1829.2	1828.4
12.5°	1987.7	1950.2	1905.8	1845.8	1816.2	1785.7	1772.6	1764.8	1773.5	1770.9
15°	1945.9	1900.6	1849.3	1788.3	1756.1	1728.2	1718.7	1712.6	1719.5	1719.5
17.5°	1899.7	1846.6	1790.0	1728.2	1697.8	1676.0	1666.4	1662.1	1665.5	1670.8
20°	1848.4	1789.2	1728.2	1668.2	1642.0	1619.4	1610.7	1606.3	1614.2	1610.7
22.5°	1791.8	1729.1	1665.5	1609.0	1585.4	1562.8	1554.1	1551.5	1560.2	1556.7
25°	1731.7	1663.8	1601.1	1549.7	1526.2	1507.1	1499.3	1496.6	1501.0	1505.3
27.5°	1675.1	1598.5	1536.7	1490.5	1469.6	1451.4	1444.4	1440.0	1443.5	1448.8
30°	1606.3	1532.3	1471.4	1428.7	1408.7	1391.3	1386.1	1382.6	1387.8	1392.2
32.5°	1541.9	1467.0	1406.1	1364.3	1346.9	1330.3	1329.5	1327.7	1333.8	1339.1
35°	1472.3	1399.1	1339.9	1300.7	1284.2	1270.3	1272.9	1275.5	1282.5	1288.6
37.5°	1401.7	1330.3	1273.8	1238.1	1222.4	1211.1	1218.9	1222.4	1232.0	1238.1
40°	1330.3	1259.0	1206.7	1174.5	1158.8	1153.6	1164.9	1172.8	1184.1	1189.3
42.5°	1257.2	1191.0	1138.8	1109.2	1096.1	1096.1	1110.9	1123.1	1136.2	1141.4
45°	1184.1	1119.6	1070.0	1043.0	1033.5	1040.4	1057.8	1073.5	1090.0	1095.3
47.5°	1110.1	1047.4	1002.1	977.7	972.5	983.0	1004.7	1025.6	1044.8	1051.7
50°	1036.1	979.5	934.2	911.6	911.6	924.6	952.5	978.6	999.5	1006.5
52.5°	962.1	908.1	861.9	845.4	848.9	867.2	899.4	926.4	949.9	956.8
55°	887.2	834.1	794.0	780.1	786.2	808.8	841.9	873.3	895.9	903.7
57.5°	813.2	762.7	726.1	714.8	723.5	748.8	787.1	814.1	837.6	844.5
60°	738.3	686.9	658.2	649.5	660.8	686.9	726.1	751.4	773.1	780.1
62.5°	664.3	616.4	591.2	583.3	596.4	624.3	662.6	685.2	701.7	708.7
65°	589.4	546.8	523.3	518.0	532.0	559.0	595.5	614.7	626.9	633.8
67.5°	515.4	478.9	457.1	452.7	467.5	491.9	525.9	536.3	547.6	554.6
70°	442.3	409.2	390.9	388.3	401.4	424.9	453.6	458.8	464.9	471.0
72.5°	370.0	343.9	325.6	324.8	336.9	356.1	379.6	380.5	382.2	388.3
75°	300.4	276.9	262.9	265.5	272.5	288.2	306.5	301.2	302.1	306.5
77.5°	233.3	214.2	204.6	206.3	211.6	222.9	235.1	229.0	225.5	229.9
80°	168.0	151.5	148.0	148.9	152.4	160.2	167.2	161.9	155.0	158.5
82.5°	110.6	100.1	98.4	99.3	101.9	106.2	108.0	100.1	98.4	101.0
85°	60.9	56.6	56.6	59.2	60.1	60.9	60.9	56.6	57.5	59.2
87.5°	24.4	24.4	27.0	29.6	27.9	24.4	20.9	13.9	13.9	16.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)