

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-39-42L940-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-39-42L940-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

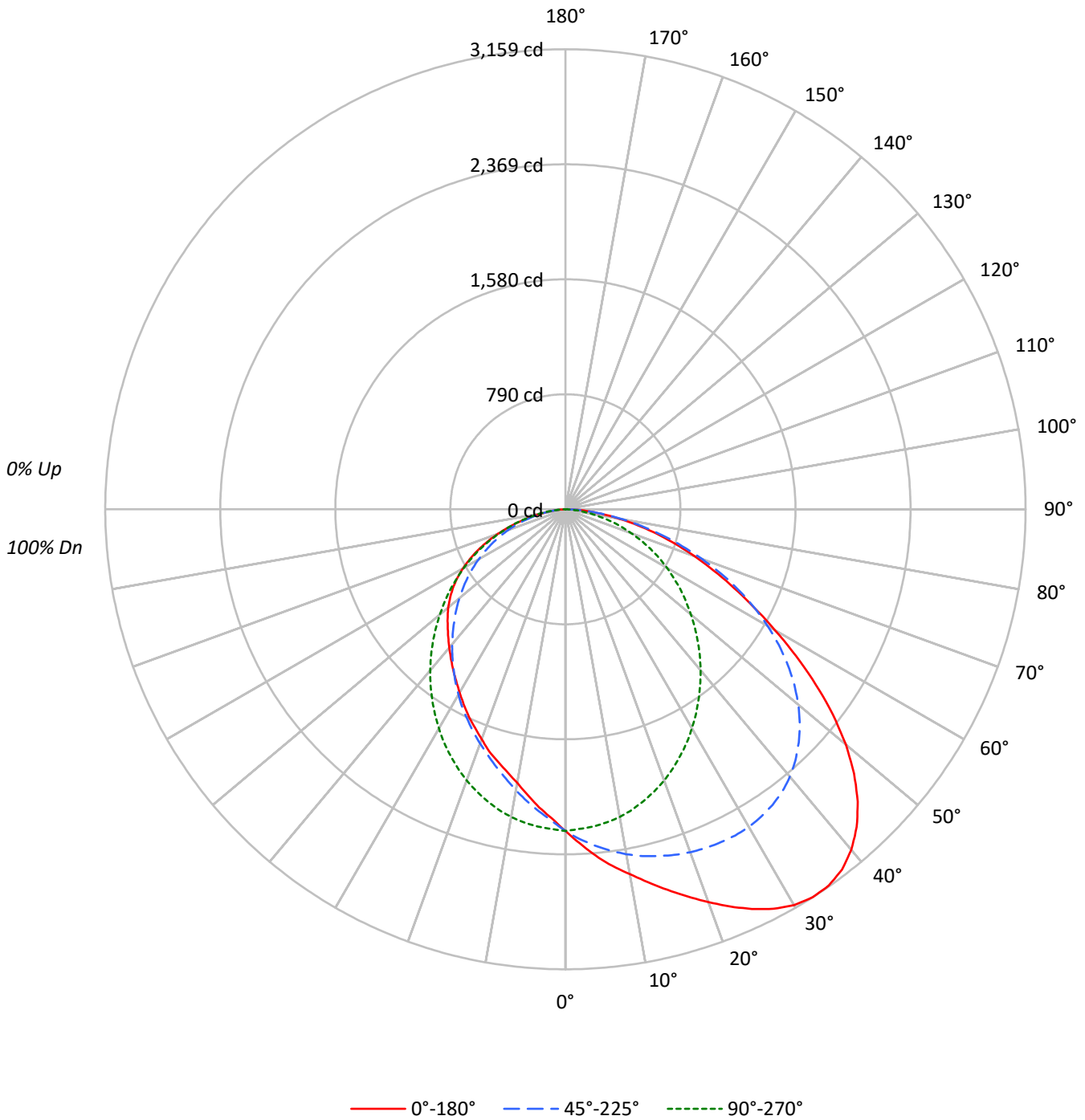
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6842.0 lumens
Efficiency: N/A
Efficacy: 74.4 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°	21267	21267	21267
5°	23076	21137	19865
10°	24861	20973	18639
15°	26967	20668	17872
20°	29403	20306	17208
25°	32164	19829	16675
30°	34892	19307	16139
35°	37059	18738	15792
40°	38373	18143	15586
45°	38641	17516	15551
50°	37626	16848	15719
55°	35233	16244	15818
60°	32026	15506	15664
65°	29038	14664	15058
70°	26578	13596	13827
75°	24115	12227	11888
80°	21090	10218	9159
85°	17751	7423	6815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.8	3.1
10°-20°	610.2	8.9
20°-30°	955.9	14.0
30°-40°	1198.4	17.5
40°-50°	1275.7	18.6
50°-60°	1151.7	16.8
60°-70°	852.6	12.5
70°-80°	467.8	6.8
80°-90°	120.1	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°	1775.8	26.0
0°-40°	2974.2	43.5
0°-60°	5401.6	78.9
0°-90°	6842.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6842.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2209	2209	2209	2209	2209	
5°	2388	2318	2187	2082	2056	233
15°	2706	2465	2074	1831	1793	772
25°	3028	2523	1867	1592	1570	1401
35°	3153	2479	1594	1339	1344	1966
45°	2838	2265	1286	1078	1142	2176
55°	2099	1864	968	820	942	1872
65°	1275	1313	644	555	661	1272
75°	648	687	329	284	320	689
85°	161	158	67	63	62	190
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°	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0
2.5°	2297.9	2293.4	2287.9	2286.1	2278.0	2267.1	2257.1	2257.1	2245.3	2217.1	2197.2
5°	2387.8	2380.6	2366.9	2356.0	2338.8	2317.9	2297.0	2284.3	2256.2	2213.5	2187.2
7.5°	2470.4	2461.4	2444.1	2423.2	2395.1	2364.2	2329.7	2302.5	2259.8	2202.6	2169.0
10°	2543.1	2534.9	2514.0	2488.6	2448.6	2405.1	2354.2	2313.4	2255.3	2184.4	2145.4
12.5°	2623.0	2614.8	2585.7	2551.2	2496.8	2438.7	2371.5	2315.2	2243.5	2158.1	2113.6
15°	2705.6	2694.7	2662.0	2615.7	2543.1	2465.0	2382.4	2309.7	2224.4	2126.3	2073.7
17.5°	2787.3	2776.4	2735.5	2676.5	2585.7	2488.6	2386.9	2297.0	2197.2	2087.3	2030.1
20°	2869.9	2859.0	2807.3	2732.8	2623.0	2505.8	2386.0	2278.0	2164.5	2042.8	1982.0
22.5°	2952.5	2939.8	2877.2	2786.4	2653.8	2517.6	2376.0	2251.6	2123.6	1992.0	1926.6
25°	3027.9	3015.2	2946.2	2839.0	2686.5	2523.1	2358.8	2215.3	2078.2	1935.7	1866.7
27.5°	3093.3	3077.8	3006.1	2888.1	2714.7	2524.9	2336.1	2174.5	2025.6	1874.8	1804.9
30°	3138.7	3125.0	3048.8	2922.6	2731.0	2518.6	2307.0	2126.3	1964.7	1809.5	1736.8
32.5°	3158.6	3146.8	3071.5	2938.9	2733.7	2502.2	2271.6	2072.8	1901.2	1740.5	1666.9
35°	3153.2	3141.4	3069.7	2936.2	2725.6	2478.6	2227.1	2011.9	1833.1	1668.7	1594.3
37.5°	3118.7	3105.1	3039.7	2911.7	2702.0	2444.1	2176.3	1945.7	1759.5	1595.2	1519.8
40°	3053.3	3039.7	2983.4	2865.4	2662.0	2397.8	2118.2	1874.8	1684.2	1518.0	1443.6
42.5°	2959.8	2945.3	2900.8	2792.7	2604.8	2337.0	2051.9	1799.5	1604.3	1443.6	1365.5
45°	2838.1	2823.6	2793.7	2702.0	2530.4	2265.2	1976.5	1717.8	1520.8	1359.1	1286.5
47.5°	2687.4	2674.7	2660.2	2589.4	2438.7	2182.6	1892.1	1630.6	1433.6	1280.2	1205.7
50°	2512.2	2499.5	2504.0	2455.9	2332.4	2087.3	1799.5	1538.9	1343.7	1192.1	1124.9
52.5°	2313.4	2303.4	2325.2	2304.3	2209.0	1981.1	1700.5	1444.5	1252.0	1108.6	1044.1
55°	2099.1	2088.2	2130.0	2136.3	2071.0	1863.9	1587.9	1346.4	1159.4	1026.9	967.8
57.5°	1878.5	1869.4	1923.0	1952.9	1920.2	1737.7	1474.5	1245.7	1064.1	941.5	882.5
60°	1663.3	1656.0	1712.3	1761.4	1757.7	1604.3	1356.4	1136.7	968.7	855.3	805.3
62.5°	1460.8	1452.7	1509.0	1567.1	1587.9	1461.7	1239.3	1029.6	873.4	769.0	724.5
65°	1274.7	1266.5	1314.7	1374.6	1412.7	1312.8	1113.1	918.8	777.2	681.8	643.7
67.5°	1104.0	1104.0	1134.0	1189.4	1235.7	1160.3	984.2	813.5	678.2	601.0	562.9
70°	944.2	943.3	965.1	1004.2	1057.7	996.9	853.4	702.7	584.7	516.6	483.0
72.5°	792.6	799.0	807.1	837.1	893.4	840.7	723.6	593.8	493.0	433.1	404.9
75°	648.3	647.3	659.1	685.5	726.3	687.3	593.8	487.5	402.2	353.2	328.7
77.5°	510.2	509.3	519.3	534.8	569.3	538.4	468.5	389.5	313.2	272.4	255.1
80°	380.4	380.4	389.5	397.7	423.1	398.6	349.5	291.4	229.7	197.9	184.3
82.5°	264.2	269.7	266.0	276.9	291.4	270.6	239.7	199.7	152.5	130.7	121.7
85°	160.7	165.2	160.7	169.8	176.1	158.0	142.5	118.9	88.1	73.5	67.2
87.5°	82.6	81.7	80.8	85.3	87.2	76.3	67.2	57.2	39.0	30.0	25.4
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°	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0	2209.0
2.5°	2185.3	2190.8	2182.6	2152.7	2140.9	2128.2	2122.7	2117.3	2127.2	2124.5
5°	2167.2	2160.8	2140.0	2101.8	2081.8	2061.0	2051.0	2044.6	2058.2	2055.5
7.5°	2142.7	2124.5	2093.6	2047.3	2021.9	1993.8	1980.2	1972.0	1981.1	1979.3
10°	2111.8	2081.8	2043.7	1988.3	1958.4	1927.5	1912.1	1900.3	1907.5	1906.6
12.5°	2072.8	2033.7	1987.4	1924.8	1893.9	1862.1	1848.5	1840.3	1849.4	1846.7
15°	2029.2	1982.0	1928.4	1864.9	1831.3	1802.2	1792.2	1785.9	1793.1	1793.1
17.5°	1981.1	1925.7	1866.7	1802.2	1770.4	1747.7	1737.7	1733.2	1736.8	1742.3
20°	1927.5	1865.8	1802.2	1739.6	1712.3	1688.7	1679.6	1675.1	1683.3	1679.6
22.5°	1868.5	1803.1	1736.8	1677.8	1653.3	1629.7	1620.6	1617.9	1627.0	1623.4
25°	1805.8	1735.0	1669.7	1616.1	1591.6	1571.6	1563.4	1560.7	1565.2	1569.8
27.5°	1746.8	1666.9	1602.5	1554.3	1532.6	1513.5	1506.2	1501.7	1505.3	1510.8
30°	1675.1	1597.9	1534.4	1489.9	1469.0	1450.8	1445.4	1441.8	1447.2	1451.8
32.5°	1607.9	1529.8	1466.3	1422.7	1404.5	1387.3	1386.4	1384.6	1390.9	1396.4
35°	1535.3	1459.0	1397.3	1356.4	1339.2	1324.6	1327.4	1330.1	1337.4	1343.7
37.5°	1461.7	1387.3	1328.3	1291.1	1274.7	1262.9	1271.1	1274.7	1284.7	1291.1
40°	1387.3	1312.8	1258.4	1224.8	1208.4	1203.0	1214.8	1223.0	1234.8	1240.2
42.5°	1311.0	1242.0	1187.6	1156.7	1143.1	1143.1	1158.5	1171.2	1184.8	1190.3
45°	1234.8	1167.6	1115.8	1087.7	1077.7	1085.0	1103.1	1119.5	1136.7	1142.2
47.5°	1157.6	1092.2	1045.0	1019.6	1014.1	1025.0	1047.7	1069.5	1089.5	1096.8
50°	1080.4	1021.4	974.2	950.6	950.6	964.2	993.3	1020.5	1042.3	1049.5
52.5°	1003.2	947.0	898.8	881.6	885.2	904.3	937.9	966.0	990.5	997.8
55°	925.2	869.8	828.0	813.5	819.8	843.5	878.0	910.6	934.2	942.4
57.5°	848.0	795.3	757.2	745.4	754.5	780.8	820.8	848.9	873.4	880.7
60°	769.9	716.3	686.4	677.3	689.1	716.3	757.2	783.5	806.2	813.5
62.5°	692.7	642.8	616.5	608.3	621.9	651.0	690.9	714.5	731.8	739.0
65°	614.7	570.2	545.7	540.2	554.7	582.9	621.0	641.0	653.7	661.0
67.5°	537.5	499.4	476.7	472.1	487.5	513.0	548.4	559.3	571.1	578.3
70°	461.2	426.7	407.7	404.9	418.5	443.1	473.0	478.5	484.8	491.2
72.5°	385.9	358.6	339.6	338.7	351.4	371.3	395.9	396.8	398.6	404.9
75°	313.2	288.7	274.2	276.9	284.2	300.5	319.6	314.1	315.0	319.6
77.5°	243.3	223.3	213.4	215.2	220.6	232.4	245.1	238.8	235.1	239.7
80°	175.2	158.0	154.3	155.3	158.9	167.1	174.3	168.9	161.6	165.2
82.5°	115.3	104.4	102.6	103.5	106.2	110.8	112.6	104.4	102.6	105.3
85°	63.6	59.0	59.0	61.7	62.6	63.6	63.6	59.0	59.9	61.7
87.5°	25.4	25.4	28.1	30.9	29.1	25.4	21.8	14.5	14.5	17.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)