

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-35-37L950-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-35-37L950-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

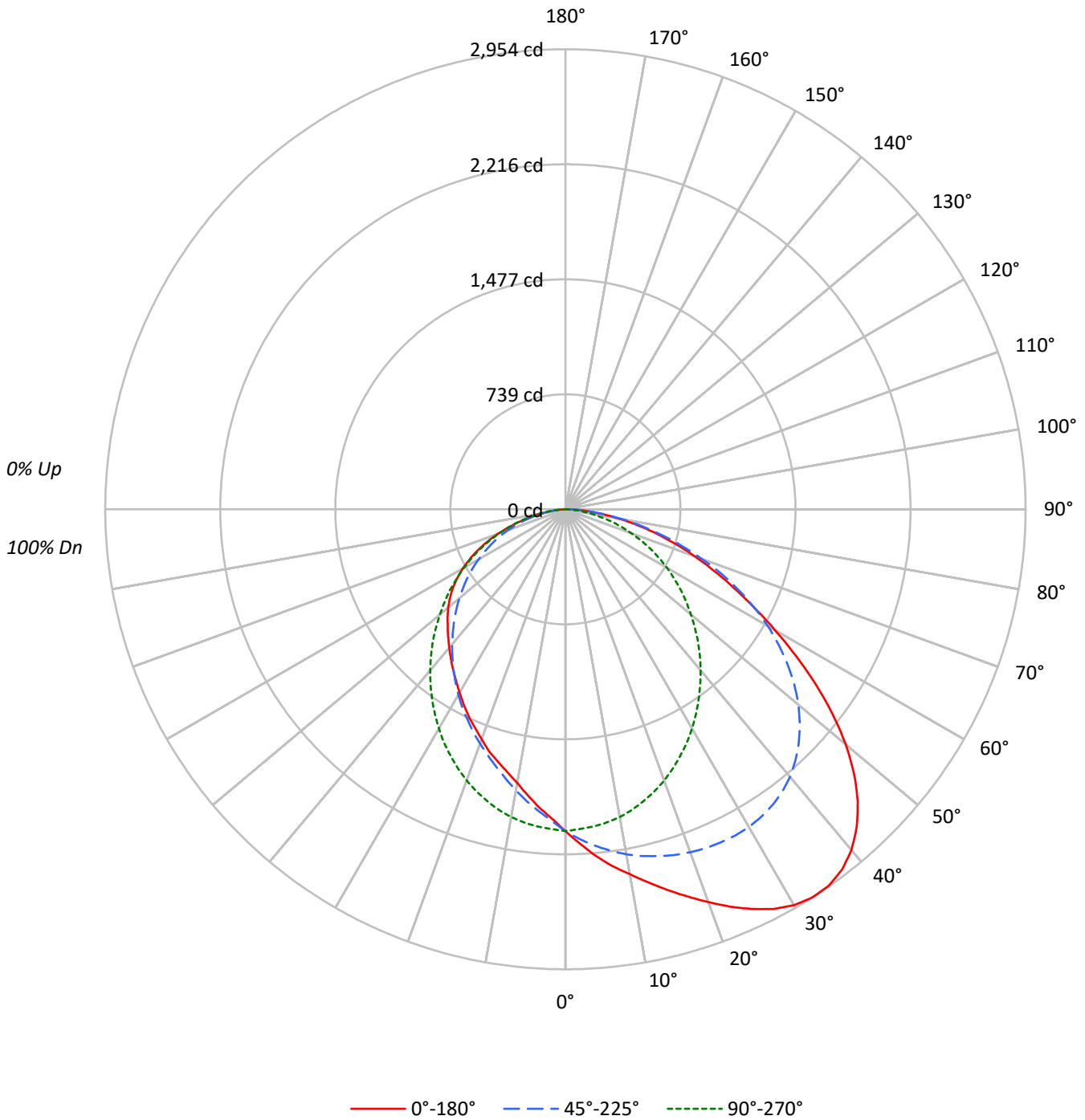
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6399.4 lumens
Efficiency: N/A
Efficacy: 79.0 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): 81
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°	19891	19891	19891
5°	21584	19770	18580
10°	23253	19616	17433
15°	25222	19331	16716
20°	27501	18993	16095
25°	30083	18546	15596
30°	32634	18059	15094
35°	34661	17526	14771
40°	35891	16969	14578
45°	36141	16383	14545
50°	35193	15758	14703
55°	32954	15194	14796
60°	29955	14503	14651
65°	27161	13716	14083
70°	24861	12717	12931
75°	22553	11434	11118
80°	19726	9558	8571
85°	16602	6937	6374



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.2	3.1
10°-20°	570.7	8.9
20°-30°	894.0	14.0
30°-40°	1120.8	17.5
40°-50°	1193.2	18.6
50°-60°	1077.2	16.8
60°-70°	797.4	12.5
70°-80°	437.5	6.8
80°-90°	112.3	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°	1660.9	26.0
0°-40°	2781.8	43.5
0°-60°	5052.2	78.9
0°-90°	6399.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6399.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2066	2066	2066	2066	2066	
5°	2233	2168	2046	1947	1923	217
15°	2531	2306	1940	1713	1677	722
25°	2832	2360	1746	1489	1468	1311
35°	2949	2318	1491	1252	1257	1839
45°	2654	2119	1203	1008	1068	2035
55°	1963	1743	905	767	882	1751
65°	1192	1228	602	519	618	1190
75°	606	643	307	266	299	644
85°	150	148	63	59	58	178
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°	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1
2.5°	2149.3	2145.0	2139.9	2138.2	2130.6	2120.4	2111.1	2111.1	2100.0	2073.7	2055.0
5°	2233.4	2226.6	2213.8	2203.6	2187.5	2168.0	2148.4	2136.5	2110.2	2070.3	2045.7
7.5°	2310.6	2302.1	2286.0	2266.5	2240.1	2211.3	2179.0	2153.5	2113.6	2060.1	2028.7
10°	2378.6	2370.9	2351.4	2327.6	2290.2	2249.5	2201.9	2163.7	2109.4	2043.1	2006.6
12.5°	2453.3	2445.6	2418.5	2386.2	2335.3	2280.9	2218.1	2165.4	2098.3	2018.5	1976.9
15°	2530.6	2520.4	2489.8	2446.5	2378.6	2305.5	2228.3	2160.3	2080.5	1988.8	1939.5
17.5°	2607.0	2596.8	2558.6	2503.4	2418.5	2327.6	2232.5	2148.4	2055.0	1952.3	1898.8
20°	2684.3	2674.1	2625.7	2556.0	2453.3	2343.7	2231.7	2130.6	2024.5	1910.7	1853.8
22.5°	2761.5	2749.7	2691.1	2606.1	2482.2	2354.8	2222.3	2106.0	1986.2	1863.1	1802.0
25°	2832.0	2820.1	2755.6	2655.4	2512.7	2359.9	2206.2	2072.0	1943.8	1810.5	1745.9
27.5°	2893.2	2878.7	2811.6	2701.3	2539.1	2361.6	2184.9	2033.8	1894.5	1753.6	1688.2
30°	2935.6	2922.9	2851.6	2733.5	2554.3	2355.6	2157.8	1988.8	1837.6	1692.4	1624.5
32.5°	2954.3	2943.3	2872.8	2748.8	2556.9	2340.3	2124.7	1938.7	1778.2	1627.9	1559.1
35°	2949.2	2938.2	2871.1	2746.3	2549.2	2318.3	2083.0	1881.8	1714.5	1560.8	1491.2
37.5°	2916.9	2904.2	2843.1	2723.3	2527.2	2286.0	2035.5	1819.8	1645.7	1492.0	1421.5
40°	2855.8	2843.1	2790.4	2680.0	2489.8	2242.7	1981.1	1753.6	1575.2	1419.8	1350.2
42.5°	2768.3	2754.8	2713.1	2612.1	2436.3	2185.8	1919.2	1683.1	1500.5	1350.2	1277.2
45°	2654.5	2641.0	2612.9	2527.2	2366.7	2118.7	1848.7	1606.7	1422.4	1271.2	1203.3
47.5°	2513.6	2501.7	2488.1	2421.9	2280.9	2041.4	1769.7	1525.1	1340.9	1197.3	1127.7
50°	2349.7	2337.8	2342.0	2297.0	2181.6	1952.3	1683.1	1439.4	1256.8	1115.0	1052.1
52.5°	2163.7	2154.4	2174.8	2155.2	2066.1	1852.9	1590.5	1351.1	1171.0	1036.9	976.6
55°	1963.3	1953.1	1992.2	1998.1	1937.0	1743.4	1485.2	1259.3	1084.4	960.4	905.2
57.5°	1757.0	1748.5	1798.6	1826.6	1796.0	1625.3	1379.1	1165.1	995.2	880.6	825.4
60°	1555.7	1548.9	1601.6	1647.4	1644.0	1500.5	1268.7	1063.2	906.1	799.9	753.2
62.5°	1366.3	1358.7	1411.3	1465.7	1485.2	1367.2	1159.1	963.0	816.9	719.3	677.6
65°	1192.3	1184.6	1229.6	1285.7	1321.3	1227.9	1041.1	859.4	726.9	637.7	602.1
67.5°	1032.6	1032.6	1060.6	1112.4	1155.7	1085.3	920.5	760.9	634.3	562.2	526.5
70°	883.2	882.3	902.7	939.2	989.3	932.4	798.2	657.3	546.9	483.2	451.8
72.5°	741.3	747.3	754.9	782.9	835.6	786.3	676.8	555.4	461.1	405.1	378.7
75°	606.3	605.5	616.5	641.1	679.3	642.8	555.4	456.0	376.2	330.3	307.4
77.5°	477.2	476.4	485.7	500.2	532.4	503.6	438.2	364.3	293.0	254.8	238.6
80°	355.8	355.8	364.3	371.9	395.7	372.8	326.9	272.6	214.8	185.1	172.4
82.5°	247.1	252.2	248.8	259.0	272.6	253.1	224.2	186.8	142.7	122.3	113.8
85°	150.3	154.6	150.3	158.8	164.7	147.8	133.3	111.2	82.4	68.8	62.8
87.5°	77.3	76.4	75.6	79.8	81.5	71.3	62.8	53.5	36.5	28.0	23.8
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°	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1	2066.1
2.5°	2044.0	2049.1	2041.4	2013.4	2002.4	1990.5	1985.4	1980.3	1989.6	1987.1
5°	2027.0	2021.1	2001.5	1965.9	1947.2	1927.6	1918.3	1912.4	1925.1	1922.6
7.5°	2004.1	1987.1	1958.2	1914.9	1891.1	1864.8	1852.1	1844.4	1852.9	1851.2
10°	1975.2	1947.2	1911.5	1859.7	1831.7	1802.8	1788.4	1777.3	1784.1	1783.3
12.5°	1938.7	1902.2	1858.9	1800.3	1771.4	1741.7	1728.9	1721.3	1729.8	1727.2
15°	1897.9	1853.8	1803.7	1744.2	1712.8	1685.6	1676.3	1670.3	1677.1	1677.1
17.5°	1852.9	1801.1	1745.9	1685.6	1655.9	1634.7	1625.3	1621.1	1624.5	1629.6
20°	1802.8	1745.1	1685.6	1627.0	1601.6	1579.5	1571.0	1566.7	1574.4	1571.0
22.5°	1747.6	1686.5	1624.5	1569.3	1546.4	1524.3	1515.8	1513.2	1521.7	1518.3
25°	1689.0	1622.8	1561.6	1511.5	1488.6	1469.9	1462.3	1459.7	1464.0	1468.2
27.5°	1633.8	1559.1	1498.8	1453.8	1433.4	1415.6	1408.8	1404.5	1407.9	1413.0
30°	1566.7	1494.6	1435.1	1393.5	1374.0	1357.0	1351.9	1348.5	1353.6	1357.8
32.5°	1503.9	1430.9	1371.4	1330.7	1313.7	1297.6	1296.7	1295.0	1300.9	1306.0
35°	1436.0	1364.6	1306.9	1268.7	1252.5	1239.0	1241.5	1244.1	1250.8	1256.8
37.5°	1367.2	1297.6	1242.4	1207.5	1192.3	1181.2	1188.9	1192.3	1201.6	1207.5
40°	1297.6	1227.9	1177.0	1145.5	1130.3	1125.2	1136.2	1143.9	1154.9	1160.0
42.5°	1226.2	1161.7	1110.7	1081.9	1069.1	1069.1	1083.6	1095.4	1108.2	1113.3
45°	1154.9	1092.0	1043.6	1017.3	1008.0	1014.8	1031.8	1047.0	1063.2	1068.3
47.5°	1082.7	1021.6	977.4	953.6	948.5	958.7	980.0	1000.3	1019.0	1025.8
50°	1010.5	955.3	911.2	889.1	889.1	901.8	929.0	954.5	974.9	981.7
52.5°	938.3	885.7	840.7	824.6	828.0	845.8	877.2	903.5	926.5	933.3
55°	865.3	813.5	774.5	760.9	766.8	788.9	821.2	851.7	873.8	881.5
57.5°	793.1	743.9	708.2	697.2	705.7	730.3	767.7	794.0	816.9	823.7
60°	720.1	670.0	642.0	633.5	644.5	670.0	708.2	732.8	754.1	760.9
62.5°	647.9	601.2	576.6	569.0	581.7	608.9	646.2	668.3	684.4	691.2
65°	574.9	533.3	510.4	505.3	518.9	545.2	580.8	599.5	611.4	618.2
67.5°	502.7	467.1	445.8	441.6	456.0	479.8	512.9	523.1	534.1	540.9
70°	431.4	399.1	381.3	378.7	391.5	414.4	442.4	447.5	453.5	459.4
72.5°	360.9	335.4	317.6	316.7	328.6	347.3	370.2	371.1	372.8	378.7
75°	293.0	270.0	256.5	259.0	265.8	281.1	298.9	293.8	294.7	298.9
77.5°	227.6	208.9	199.6	201.3	206.4	217.4	229.3	223.3	219.9	224.2
80°	163.9	147.8	144.4	145.2	148.6	156.2	163.0	157.9	151.2	154.6
82.5°	107.8	97.7	96.0	96.8	99.4	103.6	105.3	97.7	96.0	98.5
85°	59.4	55.2	55.2	57.7	58.6	59.4	59.4	55.2	56.0	57.7
87.5°	23.8	23.8	26.3	28.9	27.2	23.8	20.4	13.6	13.6	16.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)