

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-35-37L930-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-35-37L930-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

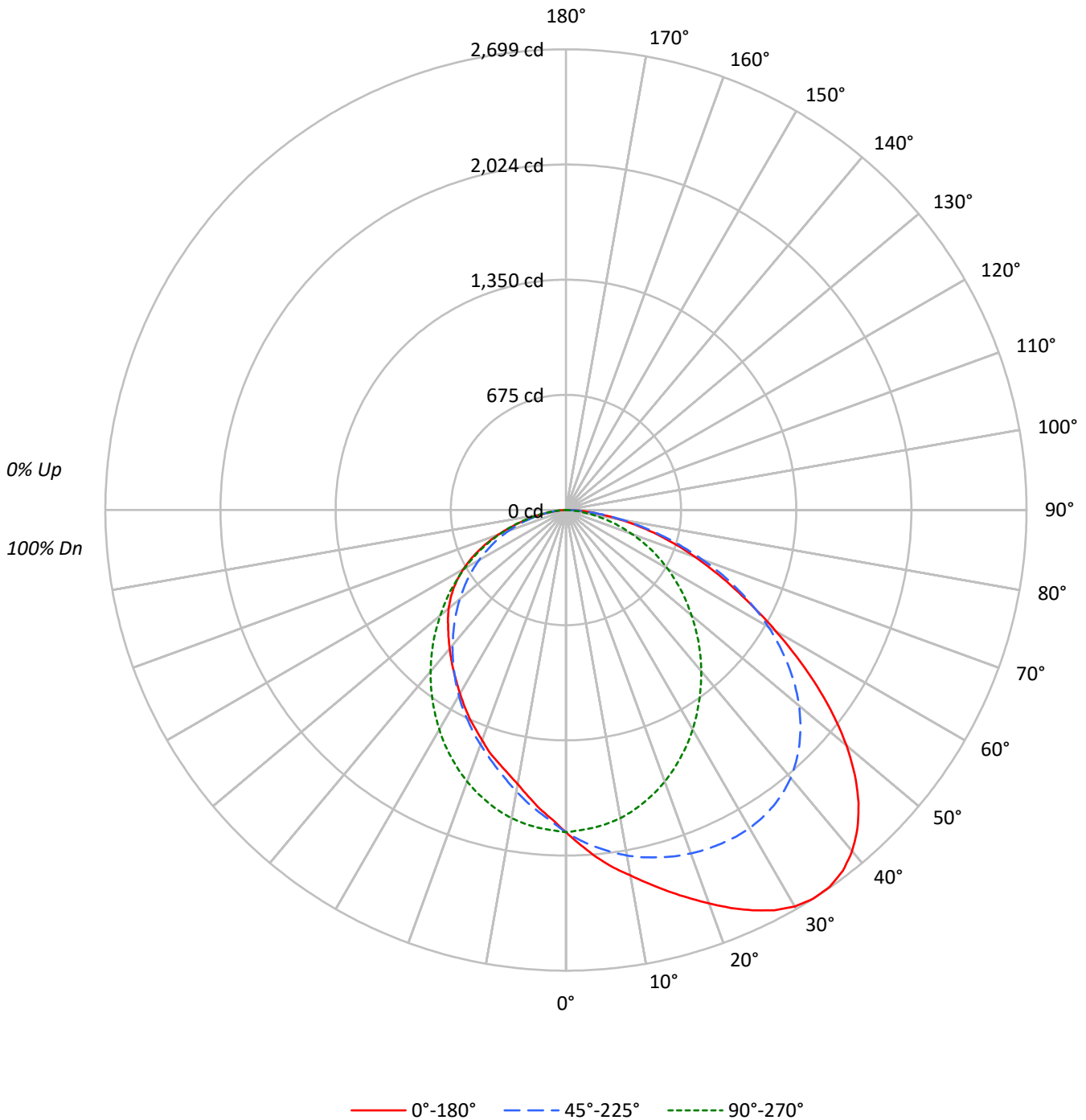
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5846.9 lumens
Efficiency: N/A
Efficacy: 72.2 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°	18174	18174	18174
5°	19720	18063	16976
10°	21245	17923	15928
15°	23045	17662	15272
20°	25126	17352	14705
25°	27486	16945	14250
30°	29817	16499	13791
35°	31669	16012	13496
40°	32791	15503	13319
45°	33021	14968	13288
50°	32154	14398	13433
55°	30109	13883	13517
60°	27369	13251	13386
65°	24815	12531	12866
70°	22713	11620	11814
75°	20607	10449	10159
80°	18024	8732	7828
85°	15166	6340	5832



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.3	3.1
10°-20°	521.4	8.9
20°-30°	816.8	14.0
30°-40°	1024.1	17.5
40°-50°	1090.2	18.6
50°-60°	984.2	16.8
60°-70°	728.6	12.5
70°-80°	399.8	6.8
80°-90°	102.6	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°	1517.5	26.0
0°-40°	2541.6	43.5
0°-60°	4616.0	78.9
0°-90°	5846.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5846.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1888	1888	1888	1888	1888	
5°	2040	1981	1869	1779	1757	199
15°	2312	2106	1772	1565	1532	659
25°	2588	2156	1595	1360	1342	1198
35°	2695	2118	1362	1144	1148	1680
45°	2425	1936	1099	921	976	1859
55°	1794	1593	827	701	805	1600
65°	1089	1122	550	474	565	1087
75°	554	587	281	243	273	589
85°	137	135	57	54	53	162
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°	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7
2.5°	1963.7	1959.8	1955.2	1953.6	1946.6	1937.3	1928.8	1928.8	1918.7	1894.7	1877.6
5°	2040.5	2034.3	2022.7	2013.4	1998.6	1980.8	1962.9	1952.1	1928.0	1891.6	1869.1
7.5°	2111.1	2103.4	2088.6	2070.8	2046.7	2020.3	1990.9	1967.6	1931.1	1882.2	1853.5
10°	2173.2	2166.2	2148.4	2126.6	2092.5	2055.3	2011.8	1976.9	1927.2	1866.7	1833.4
12.5°	2241.5	2234.5	2209.7	2180.2	2133.6	2084.0	2026.6	1978.4	1917.2	1844.2	1806.2
15°	2312.1	2302.8	2274.8	2235.3	2173.2	2106.5	2035.9	1973.8	1900.9	1817.1	1772.1
17.5°	2381.9	2372.6	2337.7	2287.2	2209.7	2126.6	2039.7	1962.9	1877.6	1783.7	1734.8
20°	2452.5	2443.2	2399.0	2335.3	2241.5	2141.4	2039.0	1946.6	1849.7	1745.7	1693.7
22.5°	2523.1	2512.2	2458.7	2381.1	2267.8	2151.5	2030.4	1924.1	1814.7	1702.2	1646.4
25°	2587.5	2576.6	2517.7	2426.1	2295.8	2156.1	2015.7	1893.1	1775.9	1654.1	1595.2
27.5°	2643.4	2630.2	2568.9	2468.0	2319.8	2157.7	1996.3	1858.2	1730.9	1602.2	1542.4
30°	2682.2	2670.5	2605.3	2497.5	2333.8	2152.2	1971.5	1817.1	1679.0	1546.3	1484.2
32.5°	2699.2	2689.1	2624.7	2511.5	2336.1	2138.3	1941.2	1771.3	1624.7	1487.3	1424.5
35°	2694.6	2684.5	2623.2	2509.1	2329.1	2118.1	1903.2	1719.3	1566.5	1426.0	1362.4
37.5°	2665.1	2653.4	2597.6	2488.2	2309.0	2088.6	1859.7	1662.7	1503.6	1363.2	1298.8
40°	2609.2	2597.6	2549.5	2448.6	2274.8	2049.1	1810.1	1602.2	1439.2	1297.2	1233.6
42.5°	2529.3	2516.9	2478.9	2386.6	2225.9	1997.1	1753.4	1537.8	1370.9	1233.6	1166.9
45°	2425.3	2412.9	2387.3	2309.0	2162.3	1935.8	1689.1	1467.9	1299.6	1161.5	1099.4
47.5°	2296.6	2285.7	2273.3	2212.8	2084.0	1865.2	1616.9	1393.4	1225.1	1094.0	1030.3
50°	2146.8	2135.9	2139.8	2098.7	1993.2	1783.7	1537.8	1315.1	1148.3	1018.7	961.3
52.5°	1976.9	1968.4	1987.0	1969.1	1887.7	1692.9	1453.2	1234.4	1069.9	947.3	892.2
55°	1793.8	1784.5	1820.2	1825.6	1769.7	1592.8	1357.0	1150.6	990.8	877.5	827.1
57.5°	1605.3	1597.5	1643.3	1668.9	1640.9	1485.0	1260.0	1064.5	909.3	804.6	754.1
60°	1421.4	1415.2	1463.3	1505.2	1502.1	1370.9	1159.1	971.4	827.8	730.9	688.2
62.5°	1248.4	1241.4	1289.5	1339.1	1357.0	1249.1	1059.1	879.8	746.4	657.2	619.1
65°	1089.3	1082.3	1123.4	1174.7	1207.2	1121.9	951.2	785.2	664.1	582.7	550.1
67.5°	943.4	943.4	969.1	1016.4	1055.9	991.6	841.0	695.2	579.6	513.6	481.0
70°	806.9	806.1	824.7	858.1	903.9	851.9	729.3	600.5	499.7	441.5	412.8
72.5°	677.3	682.8	689.7	715.3	763.4	718.4	618.4	507.4	421.3	370.1	346.0
75°	554.0	553.2	563.3	585.8	620.7	587.3	507.4	416.6	343.7	301.8	280.9
77.5°	436.0	435.3	443.8	457.0	486.5	460.1	400.3	332.8	267.7	232.8	218.0
80°	325.1	325.1	332.8	339.8	361.6	340.6	298.7	249.1	196.3	169.1	157.5
82.5°	225.8	230.4	227.3	236.6	249.1	231.2	204.8	170.7	130.3	111.7	104.0
85°	137.3	141.2	137.3	145.1	150.5	135.0	121.8	101.6	75.3	62.8	57.4
87.5°	70.6	69.8	69.1	72.9	74.5	65.2	57.4	48.9	33.4	25.6	21.7
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°	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7	1887.7
2.5°	1867.5	1872.2	1865.2	1839.6	1829.5	1818.6	1814.0	1809.3	1817.8	1815.5
5°	1852.0	1846.6	1828.7	1796.1	1779.1	1761.2	1752.7	1747.2	1758.9	1756.6
7.5°	1831.0	1815.5	1789.1	1749.6	1727.8	1703.8	1692.2	1685.2	1692.9	1691.4
10°	1804.7	1779.1	1746.5	1699.1	1673.5	1647.2	1634.0	1623.9	1630.1	1629.3
12.5°	1771.3	1737.9	1698.4	1644.8	1618.4	1591.3	1579.7	1572.7	1580.4	1578.1
15°	1734.1	1693.7	1647.9	1593.6	1564.9	1540.1	1531.6	1526.1	1532.3	1532.3
17.5°	1692.9	1645.6	1595.2	1540.1	1512.9	1493.5	1485.0	1481.1	1484.2	1488.9
20°	1647.2	1594.4	1540.1	1486.6	1463.3	1443.1	1435.3	1431.5	1438.4	1435.3
22.5°	1596.7	1540.9	1484.2	1433.8	1412.8	1392.7	1384.9	1382.6	1390.3	1387.2
25°	1543.2	1482.7	1426.8	1381.0	1360.1	1343.0	1336.0	1333.7	1337.6	1341.5
27.5°	1492.8	1424.5	1369.4	1328.3	1309.7	1293.4	1287.2	1283.3	1286.4	1291.0
30°	1431.5	1365.5	1311.2	1273.2	1255.3	1239.8	1235.2	1232.1	1236.7	1240.6
32.5°	1374.1	1307.3	1253.0	1215.8	1200.3	1185.5	1184.7	1183.2	1188.6	1193.3
35°	1312.0	1246.8	1194.1	1159.1	1144.4	1132.0	1134.3	1136.6	1142.8	1148.3
37.5°	1249.1	1185.5	1135.1	1103.3	1089.3	1079.2	1086.2	1089.3	1097.8	1103.3
40°	1185.5	1121.9	1075.3	1046.6	1032.7	1028.0	1038.1	1045.1	1055.2	1059.8
42.5°	1120.3	1061.4	1014.8	988.4	976.8	976.8	990.0	1000.9	1012.5	1017.2
45°	1055.2	997.8	953.5	929.5	920.9	927.2	942.7	956.6	971.4	976.0
47.5°	989.2	933.4	893.0	871.3	866.6	875.9	895.3	914.0	931.0	937.2
50°	923.3	872.8	832.5	812.3	812.3	824.0	848.8	872.1	890.7	896.9
52.5°	857.3	809.2	768.1	753.4	756.5	772.8	801.5	825.5	846.5	852.7
55°	790.6	743.3	707.6	695.2	700.6	720.8	750.3	778.2	798.4	805.3
57.5°	724.7	679.7	647.1	637.0	644.7	667.2	701.4	725.4	746.4	752.6
60°	657.9	612.2	586.6	578.8	588.9	612.2	647.1	669.6	689.0	695.2
62.5°	592.0	549.3	526.8	519.8	531.5	556.3	590.4	610.6	625.3	631.6
65°	525.3	487.2	466.3	461.6	474.1	498.1	530.7	547.8	558.6	564.8
67.5°	459.3	426.7	407.3	403.4	416.6	438.4	468.6	477.9	488.0	494.2
70°	394.1	364.7	348.4	346.0	357.7	378.6	404.2	408.9	414.3	419.7
72.5°	329.7	306.5	290.2	289.4	300.3	317.3	338.3	339.1	340.6	346.0
75°	267.7	246.7	234.3	236.6	242.8	256.8	273.1	268.4	269.2	273.1
77.5°	207.9	190.9	182.3	183.9	188.5	198.6	209.5	204.1	200.9	204.8
80°	149.7	135.0	131.9	132.7	135.8	142.8	149.0	144.3	138.1	141.2
82.5°	98.5	89.2	87.7	88.4	90.8	94.7	96.2	89.2	87.7	90.0
85°	54.3	50.4	50.4	52.8	53.5	54.3	54.3	50.4	51.2	52.8
87.5°	21.7	21.7	24.1	26.4	24.8	21.7	18.6	12.4	12.4	14.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)