

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-35-37L940-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-35-37L940-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

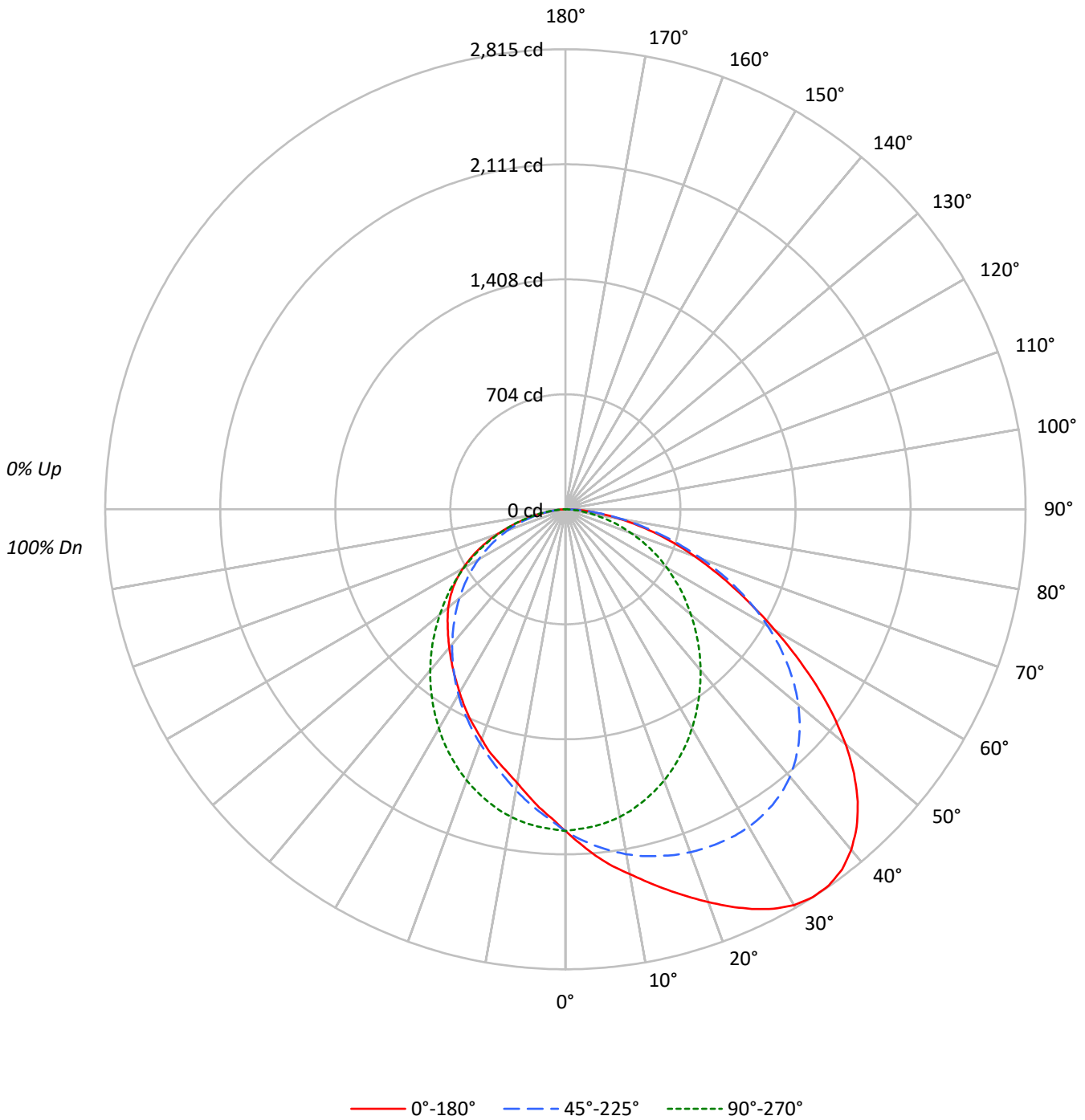
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6097.2 lumens
Efficiency: N/A
Efficacy: 75.3 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): 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

TEST NUMBER: P
CATALOG NUMBER: 4APN-35-37L940-UNV-ASY

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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°	18951	18951	18951
5°	20564	18836	17702
10°	22154	18689	16610
15°	24030	18418	15926
20°	26202	18095	15335
25°	28663	17671	14860
30°	31093	17206	14382
35°	33024	16697	14073
40°	34195	16167	13890
45°	34435	15610	13857
50°	33530	15013	14008
55°	31398	14477	14096
60°	28539	13817	13958
65°	25876	13067	13418
70°	23684	12115	12321
75°	21489	10895	10594
80°	18795	9104	8167
85°	15818	6617	6075



TEST NUMBER: P
 CATALOG NUMBER: 4APN-35-37L940-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	3.1
10°-20°	543.7	8.9
20°-30°	851.8	14.0
30°-40°	1067.9	17.5
40°-50°	1136.9	18.6
50°-60°	1026.3	16.8
60°-70°	759.7	12.5
70°-80°	416.9	6.8
80°-90°	107.0	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°	1582.5	26.0
0°-40°	2650.4	43.5
0°-60°	4813.5	78.9
0°-90°	6097.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6097.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1968	1968	1968	1968	1968	
5°	2128	2066	1949	1855	1832	207
15°	2411	2197	1848	1632	1598	688
25°	2698	2248	1664	1418	1399	1249
35°	2810	2209	1421	1193	1197	1752
45°	2529	2019	1146	960	1018	1939
55°	1871	1661	862	731	840	1668
65°	1136	1170	574	494	589	1133
75°	578	612	293	253	285	614
85°	143	141	60	56	55	169
90°	0	0	0	0	0	



TEST NUMBER: P

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5
2.5°	2047.8	2043.7	2038.9	2037.2	2030.0	2020.3	2011.4	2011.4	2000.8	1975.8	1958.0
5°	2127.9	2121.4	2109.3	2099.5	2084.2	2065.6	2047.0	2035.6	2010.5	1972.5	1949.1
7.5°	2201.5	2193.4	2178.0	2159.4	2134.3	2106.8	2076.1	2051.8	2013.8	1962.8	1932.9
10°	2266.2	2258.9	2240.3	2217.7	2182.1	2143.2	2097.9	2061.5	2009.7	1946.6	1911.8
12.5°	2337.4	2330.1	2304.2	2273.5	2224.9	2173.2	2113.3	2063.1	1999.2	1923.2	1883.5
15°	2411.0	2401.3	2372.2	2330.9	2266.2	2196.6	2123.0	2058.3	1982.2	1894.8	1847.9
17.5°	2483.9	2474.1	2437.7	2385.1	2304.2	2217.7	2127.1	2047.0	1958.0	1860.1	1809.1
20°	2557.5	2547.8	2501.7	2435.3	2337.4	2233.0	2126.2	2030.0	1928.8	1820.4	1766.2
22.5°	2631.1	2619.8	2564.0	2483.0	2364.9	2243.6	2117.3	2006.5	1892.4	1775.1	1716.9
25°	2698.3	2686.9	2625.4	2530.0	2394.0	2248.4	2102.0	1974.1	1852.0	1724.9	1663.5
27.5°	2756.5	2742.8	2678.8	2573.7	2419.1	2250.0	2081.7	1937.7	1805.0	1670.7	1608.4
30°	2797.0	2784.8	2716.9	2604.4	2433.7	2244.4	2055.9	1894.8	1750.8	1612.5	1547.8
32.5°	2814.8	2804.2	2737.1	2619.0	2436.1	2229.8	2024.3	1847.1	1694.2	1551.0	1485.5
35°	2809.9	2799.4	2735.5	2616.5	2428.8	2208.8	1984.7	1792.9	1633.5	1487.1	1420.7
37.5°	2779.2	2767.0	2708.8	2594.7	2407.8	2178.0	1939.3	1733.8	1568.0	1421.5	1354.4
40°	2720.9	2708.8	2658.6	2553.4	2372.2	2136.8	1887.6	1670.7	1500.8	1352.8	1286.4
42.5°	2637.6	2624.6	2585.0	2488.7	2321.2	2082.6	1828.5	1603.6	1429.6	1286.4	1216.8
45°	2529.2	2516.2	2489.5	2407.8	2254.9	2018.6	1761.4	1530.8	1355.2	1211.2	1146.5
47.5°	2394.9	2383.5	2370.6	2307.5	2173.2	1945.0	1686.1	1453.1	1277.5	1140.8	1074.4
50°	2238.7	2227.4	2231.4	2188.5	2078.5	1860.1	1603.6	1371.4	1197.4	1062.3	1002.4
52.5°	2061.5	2052.6	2072.0	2053.4	1968.5	1765.4	1515.4	1287.2	1115.7	987.9	930.4
55°	1870.6	1860.9	1898.1	1903.7	1845.5	1661.0	1415.1	1199.9	1033.2	915.1	862.5
57.5°	1674.0	1665.9	1713.6	1740.3	1711.2	1548.6	1313.9	1110.0	948.2	839.0	786.4
60°	1482.2	1475.7	1525.9	1569.6	1566.4	1429.6	1208.8	1013.0	863.3	762.1	717.6
62.5°	1301.8	1294.5	1344.7	1396.5	1415.1	1302.6	1104.4	917.5	778.3	685.3	645.6
65°	1135.9	1128.7	1171.5	1224.9	1258.9	1169.9	991.9	818.8	692.6	607.6	573.6
67.5°	983.8	983.8	1010.5	1059.9	1101.1	1034.0	877.0	724.9	604.4	535.6	501.6
70°	841.4	840.6	860.0	894.8	942.6	888.4	760.5	626.2	521.0	460.4	430.4
72.5°	706.3	712.0	719.3	746.0	796.1	749.2	644.8	529.1	439.3	385.9	360.8
75°	577.7	576.9	587.4	610.8	647.3	612.5	529.1	434.5	358.4	314.7	292.9
77.5°	454.7	453.9	462.8	476.5	507.3	479.8	417.5	347.1	279.1	242.7	227.3
80°	339.0	339.0	347.1	354.4	377.0	355.2	311.5	259.7	204.7	176.4	164.2
82.5°	235.4	240.3	237.1	246.8	259.7	241.1	213.6	178.0	135.9	116.5	108.4
85°	143.2	147.3	143.2	151.3	157.0	140.8	127.0	106.0	78.5	65.5	59.9
87.5°	73.6	72.8	72.0	76.1	77.7	68.0	59.9	51.0	34.8	26.7	22.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P

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CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5	1968.5
2.5°	1947.4	1952.3	1945.0	1918.3	1907.8	1896.5	1891.6	1886.8	1895.7	1893.2
5°	1931.3	1925.6	1907.0	1873.0	1855.2	1836.6	1827.7	1822.0	1834.2	1831.7
7.5°	1909.4	1893.2	1865.7	1824.5	1801.8	1776.7	1764.6	1757.3	1765.4	1763.8
10°	1881.9	1855.2	1821.2	1771.9	1745.2	1717.7	1703.9	1693.4	1699.9	1699.1
12.5°	1847.1	1812.3	1771.1	1715.2	1687.7	1659.4	1647.3	1640.0	1648.1	1645.7
15°	1808.3	1766.2	1718.5	1661.8	1631.9	1606.0	1597.1	1591.4	1597.9	1597.9
17.5°	1765.4	1716.0	1663.5	1606.0	1577.7	1557.5	1548.6	1544.5	1547.8	1552.6
20°	1717.7	1662.6	1606.0	1550.2	1525.9	1504.9	1496.8	1492.7	1500.0	1496.8
22.5°	1665.1	1606.8	1547.8	1495.2	1473.3	1452.3	1444.2	1441.8	1449.9	1446.6
25°	1609.2	1546.1	1487.9	1440.1	1418.3	1400.5	1393.2	1390.8	1394.8	1398.9
27.5°	1556.7	1485.5	1428.0	1385.1	1365.7	1348.7	1342.3	1338.2	1341.4	1346.3
30°	1492.7	1424.0	1367.3	1327.7	1309.1	1292.9	1288.0	1284.8	1289.7	1293.7
32.5°	1432.9	1363.3	1306.7	1267.8	1251.6	1236.3	1235.5	1233.8	1239.5	1244.4
35°	1368.1	1300.2	1245.2	1208.8	1193.4	1180.4	1182.9	1185.3	1191.8	1197.4
37.5°	1302.6	1236.3	1183.7	1150.5	1135.9	1125.4	1132.7	1135.9	1144.8	1150.5
40°	1236.3	1169.9	1121.4	1091.4	1076.9	1072.0	1082.5	1089.8	1100.3	1105.2
42.5°	1168.3	1106.8	1058.3	1030.8	1018.6	1018.6	1032.4	1043.7	1055.8	1060.7
45°	1100.3	1040.5	994.4	969.3	960.4	966.8	983.0	997.6	1013.0	1017.8
47.5°	1031.6	973.3	931.2	908.6	903.7	913.4	933.7	953.1	970.9	977.4
50°	962.8	910.2	868.1	847.1	847.1	859.2	885.1	909.4	928.8	935.3
52.5°	894.0	843.9	801.0	785.6	788.8	805.8	835.8	860.9	882.7	889.2
55°	824.4	775.1	737.9	724.9	730.6	751.6	782.4	811.5	832.5	839.8
57.5°	755.7	708.7	674.8	664.2	672.3	695.8	731.4	756.5	778.3	784.8
60°	686.1	638.4	611.7	603.6	614.1	638.4	674.8	698.2	718.5	724.9
62.5°	617.3	572.8	549.4	542.1	554.2	580.1	615.7	636.7	652.1	658.6
65°	547.7	508.1	486.3	481.4	494.3	519.4	553.4	571.2	582.5	589.0
67.5°	479.0	445.0	424.8	420.7	434.5	457.1	488.7	498.4	508.9	515.4
70°	411.0	380.3	363.3	360.8	373.0	394.8	421.5	426.4	432.0	437.7
72.5°	343.9	319.6	302.6	301.8	313.1	330.9	352.8	353.6	355.2	360.8
75°	279.1	257.3	244.3	246.8	253.2	267.8	284.8	279.9	280.7	284.8
77.5°	216.8	199.0	190.1	191.8	196.6	207.1	218.4	212.8	209.5	213.6
80°	156.2	140.8	137.5	138.4	141.6	148.9	155.3	150.5	144.0	147.3
82.5°	102.8	93.0	91.4	92.2	94.7	98.7	100.3	93.0	91.4	93.9
85°	56.6	52.6	52.6	55.0	55.8	56.6	56.6	52.6	53.4	55.0
87.5°	22.7	22.7	25.1	27.5	25.9	22.7	19.4	12.9	12.9	15.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)