

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-35-37L935-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-35-37L935-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
w/ ASYMMETRIC Lens
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

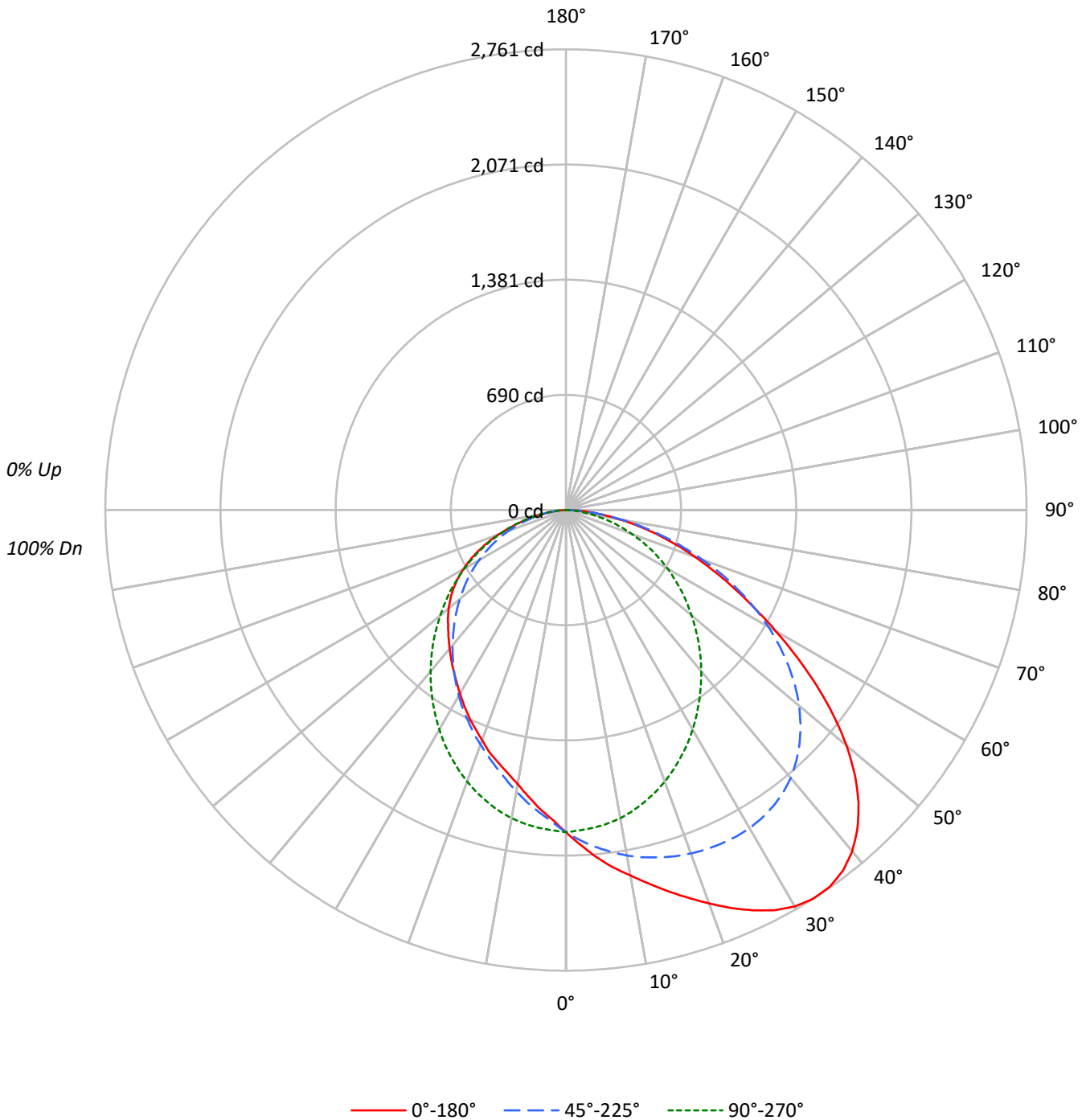
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5981.2 lumens
Efficiency: N/A
Efficacy: 73.8 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 (Ain): 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-35-37L935-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°	18590	18590	18590
5°	20173	18478	17365
10°	21733	18335	16293
15°	23574	18068	15623
20°	25704	17751	15043
25°	28118	17334	14577
30°	30502	16878	14108
35°	32397	16380	13806
40°	33545	15860	13626
45°	33780	15313	13595
50°	32892	14729	13742
55°	30800	14202	13829
60°	27996	13555	13692
65°	25384	12818	13162
70°	23234	11884	12087
75°	21080	10687	10393
80°	18440	8932	8011
85°	15520	6484	5965



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 CATALOG NUMBER: 4APN-35-37L935-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.4	3.1
10°-20°	533.4	8.9
20°-30°	835.6	14.0
30°-40°	1047.6	17.5
40°-50°	1115.2	18.6
50°-60°	1006.8	16.8
60°-70°	745.3	12.5
70°-80°	408.9	6.8
80°-90°	105.0	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°	1552.4	26.0
0°-40°	2600.0	43.5
0°-60°	4722.0	78.9
0°-90°	5981.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5981.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1931	1931	1931	1931	1931	
5°	2087	2026	1912	1820	1797	203
15°	2365	2155	1813	1601	1568	675
25°	2647	2206	1632	1391	1372	1225
35°	2756	2167	1394	1171	1175	1719
45°	2481	1980	1125	942	998	1902
55°	1835	1629	846	717	824	1636
65°	1114	1148	563	485	578	1112
75°	567	601	287	248	279	602
85°	140	138	59	55	54	166
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°	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0
2.5°	2008.8	2004.9	2000.1	1998.5	1991.4	1981.8	1973.1	1973.1	1962.8	1938.2	1920.7
5°	2087.4	2081.1	2069.2	2059.6	2044.5	2026.3	2008.0	1996.9	1972.3	1935.0	1912.0
7.5°	2159.6	2151.7	2136.6	2118.4	2093.8	2066.8	2036.6	2012.8	1975.5	1925.5	1896.1
10°	2223.1	2216.0	2197.7	2175.5	2140.6	2102.5	2058.0	2022.3	1971.5	1909.6	1875.5
12.5°	2293.0	2285.8	2260.4	2230.3	2182.6	2131.9	2073.1	2023.9	1961.2	1886.6	1847.7
15°	2365.2	2355.7	2327.1	2286.6	2223.1	2154.9	2082.6	2019.1	1944.5	1858.8	1812.8
17.5°	2436.6	2427.1	2391.4	2339.8	2260.4	2175.5	2086.6	2008.0	1920.7	1824.7	1774.7
20°	2508.9	2499.3	2454.1	2389.0	2293.0	2190.6	2085.8	1991.4	1892.2	1785.8	1732.6
22.5°	2581.1	2570.0	2515.2	2435.8	2320.0	2200.9	2077.1	1968.4	1856.4	1741.4	1684.2
25°	2647.0	2635.8	2575.5	2481.9	2348.5	2205.7	2062.0	1936.6	1816.8	1692.1	1631.8
27.5°	2704.1	2690.6	2627.9	2524.7	2373.1	2207.3	2042.2	1900.9	1770.7	1639.0	1577.9
30°	2743.8	2731.9	2665.2	2554.9	2387.4	2201.7	2016.8	1858.8	1717.5	1581.8	1518.3
32.5°	2761.2	2750.9	2685.1	2569.2	2389.8	2187.4	1985.8	1812.0	1662.0	1521.5	1457.2
35°	2756.5	2746.2	2683.5	2566.8	2382.7	2166.8	1946.9	1758.8	1602.5	1458.8	1393.7
37.5°	2726.3	2714.4	2657.3	2545.4	2362.0	2136.6	1902.5	1700.9	1538.2	1394.5	1328.6
40°	2669.2	2657.3	2608.1	2504.9	2327.1	2096.1	1851.7	1639.0	1472.3	1327.1	1262.0
42.5°	2587.4	2574.7	2535.8	2441.4	2277.1	2043.0	1793.7	1573.1	1402.5	1262.0	1193.7
45°	2481.1	2468.4	2442.2	2362.0	2212.0	1980.3	1727.9	1501.7	1329.4	1188.2	1124.7
47.5°	2349.3	2338.2	2325.5	2263.6	2131.9	1908.0	1654.1	1425.5	1253.2	1119.1	1054.0
50°	2196.1	2185.0	2189.0	2146.9	2039.0	1824.7	1573.1	1345.3	1174.7	1042.1	983.4
52.5°	2022.3	2013.6	2032.6	2014.4	1931.0	1731.8	1486.6	1262.8	1094.5	969.1	912.7
55°	1835.0	1825.5	1862.0	1867.6	1810.4	1629.4	1388.2	1177.0	1013.5	897.7	846.1
57.5°	1642.1	1634.2	1681.0	1707.2	1678.7	1519.1	1289.0	1088.9	930.2	823.1	771.5
60°	1454.0	1447.7	1496.9	1539.8	1536.6	1402.5	1185.8	993.7	846.9	747.7	704.0
62.5°	1277.0	1269.9	1319.1	1369.9	1388.2	1277.8	1083.4	900.0	763.5	672.3	633.4
65°	1114.3	1107.2	1149.3	1201.6	1235.0	1147.7	973.1	803.2	679.4	596.1	562.7
67.5°	965.1	965.1	991.3	1039.7	1080.2	1014.3	860.4	711.1	592.9	525.4	492.1
70°	825.4	824.6	843.7	877.8	924.6	871.5	746.1	614.3	511.1	451.6	422.2
72.5°	692.9	698.4	705.6	731.8	781.0	735.0	632.6	519.1	431.0	378.6	354.0
75°	566.7	565.9	576.2	599.2	635.0	600.8	519.1	426.2	351.6	308.7	287.3
77.5°	446.1	445.3	454.0	467.5	497.6	470.7	409.5	340.5	273.8	238.1	223.0
80°	332.6	332.6	340.5	347.6	369.9	348.4	305.6	254.8	200.8	173.0	161.1
82.5°	231.0	235.7	232.6	242.1	254.8	236.5	209.5	174.6	133.3	114.3	106.4
85°	140.5	144.5	140.5	148.4	154.0	138.1	124.6	104.0	77.0	64.3	58.7
87.5°	72.2	71.4	70.6	74.6	76.2	66.7	58.7	50.0	34.1	26.2	22.2
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°	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0	1931.0
2.5°	1910.4	1915.2	1908.0	1881.8	1871.5	1860.4	1855.6	1850.9	1859.6	1857.2
5°	1894.5	1889.0	1870.7	1837.4	1819.9	1801.7	1792.9	1787.4	1799.3	1796.9
7.5°	1873.1	1857.2	1830.3	1789.8	1767.5	1742.9	1731.0	1723.9	1731.8	1730.2
10°	1846.1	1819.9	1786.6	1738.2	1712.0	1685.0	1671.5	1661.2	1667.5	1666.7
12.5°	1812.0	1777.9	1737.4	1682.6	1655.6	1627.9	1616.0	1608.8	1616.7	1614.4
15°	1773.9	1732.6	1685.8	1630.2	1600.9	1575.5	1566.7	1561.2	1567.5	1567.5
17.5°	1731.8	1683.4	1631.8	1575.5	1547.7	1527.9	1519.1	1515.2	1518.3	1523.1
20°	1685.0	1631.0	1575.5	1520.7	1496.9	1476.3	1468.3	1464.4	1471.5	1468.3
22.5°	1633.4	1576.3	1518.3	1466.7	1445.3	1424.7	1416.7	1414.4	1422.3	1419.1
25°	1578.7	1516.7	1459.6	1412.8	1391.3	1373.9	1366.7	1364.4	1368.3	1372.3
27.5°	1527.1	1457.2	1400.9	1358.8	1339.7	1323.1	1316.7	1312.8	1315.9	1320.7
30°	1464.4	1396.9	1341.3	1302.4	1284.2	1268.3	1263.6	1260.4	1265.1	1269.1
32.5°	1405.6	1337.4	1281.8	1243.7	1227.8	1212.8	1212.0	1210.4	1215.9	1220.7
35°	1342.1	1275.5	1221.5	1185.8	1170.7	1158.0	1160.4	1162.8	1169.1	1174.7
37.5°	1277.8	1212.8	1161.2	1128.6	1114.3	1104.0	1111.2	1114.3	1123.1	1128.6
40°	1212.8	1147.7	1100.1	1070.7	1056.4	1051.6	1062.0	1069.1	1079.4	1084.2
42.5°	1146.1	1085.8	1038.1	1011.2	999.3	999.3	1012.7	1023.9	1035.8	1040.5
45°	1079.4	1020.7	975.4	950.8	942.1	948.5	964.3	978.6	993.7	998.5
47.5°	1012.0	954.8	913.5	891.3	886.6	896.1	915.9	935.0	952.4	958.8
50°	944.5	892.9	851.6	831.0	831.0	842.9	868.3	892.1	911.2	917.5
52.5°	877.0	827.8	785.8	770.7	773.8	790.5	819.9	844.5	865.9	872.3
55°	808.8	760.4	723.8	711.1	716.7	737.3	767.5	796.1	816.7	823.9
57.5°	741.3	695.3	661.9	651.6	659.6	682.6	717.5	742.1	763.5	769.9
60°	673.0	626.2	600.0	592.1	602.4	626.2	661.9	685.0	704.8	711.1
62.5°	605.6	561.9	538.9	531.8	543.7	569.1	604.0	624.6	639.7	646.1
65°	537.3	498.4	477.0	472.2	484.9	509.5	542.9	560.3	571.5	577.8
67.5°	469.9	436.5	416.7	412.7	426.2	448.4	479.4	488.9	499.2	505.6
70°	403.2	373.0	356.4	354.0	365.9	387.3	413.5	418.3	423.8	429.4
72.5°	337.3	313.5	296.8	296.0	307.2	324.6	346.0	346.8	348.4	354.0
75°	273.8	252.4	239.7	242.1	248.4	262.7	279.4	274.6	275.4	279.4
77.5°	212.7	195.2	186.5	188.1	192.9	203.2	214.3	208.7	205.6	209.5
80°	153.2	138.1	134.9	135.7	138.9	146.0	152.4	147.6	141.3	144.5
82.5°	100.8	91.3	89.7	90.5	92.9	96.8	98.4	91.3	89.7	92.1
85°	55.6	51.6	51.6	54.0	54.8	55.6	55.6	51.6	52.4	54.0
87.5°	22.2	22.2	24.6	27.0	25.4	22.2	19.0	12.7	12.7	15.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)