

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-X-42L830-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-X-42L830-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

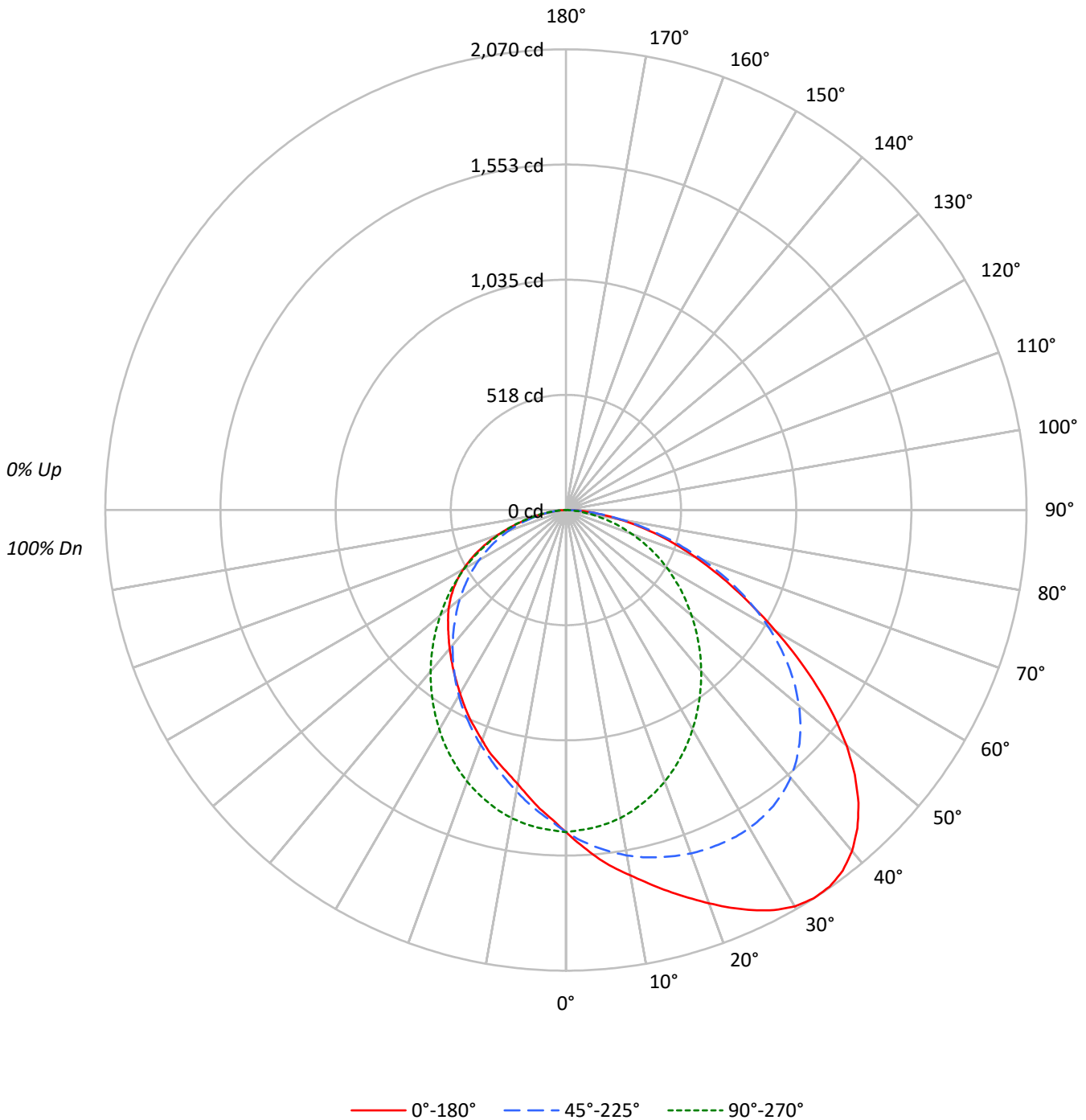
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4483.0 lumens
Efficiency: N/A
Efficacy: 97.0 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): 46.2
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°	13934	13934	13934
5°	15120	13850	13016
10°	16290	13742	12212
15°	17668	13542	11710
20°	19265	13304	11275
25°	21074	12992	10925
30°	22861	12651	10574
35°	24281	12277	10347
40°	25143	11888	10212
45°	25319	11476	10190
50°	24653	11040	10300
55°	23086	10643	10365
60°	20984	10161	10263
65°	19026	9609	9866
70°	17415	8909	9058
75°	15798	8009	7789
80°	13822	6697	6004
85°	11632	4860	4474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.5	3.1
10°-20°	399.8	8.9
20°-30°	626.3	14.0
30°-40°	785.2	17.5
40°-50°	835.9	18.6
50°-60°	754.6	16.8
60°-70°	558.6	12.5
70°-80°	306.5	6.8
80°-90°	78.7	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°	1163.5	26.0
0°-40°	1948.7	43.5
0°-60°	3539.2	78.9
0°-90°	4483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4483.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1447	1447	1447	1447	1447	
5°	1564	1519	1433	1364	1347	152
15°	1773	1615	1359	1200	1175	506
25°	1984	1653	1223	1043	1028	918
35°	2066	1624	1045	877	880	1288
45°	1860	1484	843	706	748	1426
55°	1375	1221	634	537	618	1227
65°	835	860	422	364	433	833
75°	425	450	215	186	209	451
85°	105	104	44	41	40	124
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°	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3
2.5°	1505.6	1502.7	1499.1	1497.9	1492.6	1485.4	1478.9	1478.9	1471.1	1452.7	1439.6
5°	1564.5	1559.8	1550.9	1543.7	1532.4	1518.7	1505.0	1496.7	1478.3	1450.3	1433.1
7.5°	1618.7	1612.7	1601.4	1587.7	1569.3	1549.1	1526.5	1508.6	1480.7	1443.2	1421.2
10°	1666.3	1660.9	1647.2	1630.6	1604.4	1575.8	1542.5	1515.8	1477.7	1431.3	1405.7
12.5°	1718.6	1713.3	1694.2	1671.6	1635.9	1597.8	1553.8	1516.9	1469.9	1414.0	1384.9
15°	1772.7	1765.6	1744.2	1713.8	1666.3	1615.1	1561.0	1513.4	1457.5	1393.2	1358.7
17.5°	1826.3	1819.1	1792.4	1753.7	1694.2	1630.6	1563.9	1505.0	1439.6	1367.6	1330.2
20°	1880.4	1873.3	1839.4	1790.6	1718.6	1641.9	1563.3	1492.6	1418.2	1338.5	1298.6
22.5°	1934.5	1926.2	1885.2	1825.7	1738.8	1649.6	1556.8	1475.3	1391.4	1305.2	1262.3
25°	1983.9	1975.6	1930.4	1860.2	1760.2	1653.2	1545.5	1451.5	1361.7	1268.3	1223.1
27.5°	2026.8	2016.6	1969.6	1892.3	1778.7	1654.4	1530.6	1424.7	1327.2	1228.4	1182.6
30°	2056.5	2047.6	1997.6	1914.9	1789.4	1650.2	1511.6	1393.2	1287.3	1185.6	1138.0
32.5°	2069.6	2061.9	2012.5	1925.6	1791.2	1639.5	1488.4	1358.1	1245.7	1140.4	1092.2
35°	2066.0	2058.3	2011.3	1923.8	1785.8	1624.0	1459.2	1318.3	1201.1	1093.4	1044.6
37.5°	2043.4	2034.5	1991.7	1907.8	1770.4	1601.4	1425.9	1274.8	1152.9	1045.2	995.8
40°	2000.6	1991.7	1954.8	1877.4	1744.2	1571.1	1387.9	1228.4	1103.5	994.6	945.9
42.5°	1939.3	1929.8	1900.6	1829.8	1706.7	1531.2	1344.4	1179.1	1051.2	945.9	894.7
45°	1859.6	1850.1	1830.4	1770.4	1657.9	1484.2	1295.1	1125.5	996.4	890.5	842.9
47.5°	1760.8	1752.5	1743.0	1696.6	1597.8	1430.1	1239.7	1068.4	939.3	838.8	790.0
50°	1646.0	1637.7	1640.7	1609.1	1528.2	1367.6	1179.1	1008.3	880.4	781.1	737.1
52.5°	1515.8	1509.2	1523.5	1509.8	1447.3	1298.0	1114.2	946.5	820.3	726.3	684.1
55°	1375.4	1368.2	1395.6	1399.8	1356.9	1221.3	1040.4	882.2	759.7	672.8	634.1
57.5°	1230.8	1224.9	1260.0	1279.6	1258.2	1138.6	966.1	816.2	697.2	616.9	578.2
60°	1089.8	1085.1	1121.9	1154.1	1151.7	1051.2	888.8	744.8	634.7	560.4	527.7
62.5°	957.2	951.8	988.7	1026.8	1040.4	957.8	812.0	674.6	572.3	503.9	474.7
65°	835.2	829.9	861.4	900.6	925.6	860.2	729.3	602.0	509.2	446.8	421.8
67.5°	723.4	723.4	743.0	779.3	809.6	760.3	644.8	533.0	444.4	393.8	368.8
70°	618.7	618.1	632.4	657.9	693.0	653.2	559.2	460.4	383.1	338.5	316.5
72.5°	519.3	523.5	528.8	548.5	585.4	550.9	474.1	389.1	323.0	283.8	265.3
75°	424.7	424.1	431.9	449.1	475.9	450.3	389.1	319.5	263.5	231.4	215.3
77.5°	334.3	333.7	340.3	350.4	373.0	352.8	307.0	255.2	205.2	178.5	167.2
80°	249.3	249.3	255.2	260.6	277.2	261.2	229.0	191.0	150.5	129.7	120.8
82.5°	173.1	176.7	174.3	181.4	191.0	177.3	157.0	130.9	99.9	85.7	79.7
85°	105.3	108.3	105.3	111.2	115.4	103.5	93.4	77.9	57.7	48.2	44.0
87.5°	54.1	53.5	52.9	55.9	57.1	50.0	44.0	37.5	25.6	19.6	16.7
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°	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3	1447.3
2.5°	1431.9	1435.4	1430.1	1410.5	1402.7	1394.4	1390.8	1387.3	1393.8	1392.0
5°	1420.0	1415.8	1402.1	1377.1	1364.1	1350.4	1343.8	1339.7	1348.6	1346.8
7.5°	1403.9	1392.0	1371.8	1341.5	1324.8	1306.4	1297.4	1292.1	1298.0	1296.8
10°	1383.7	1364.1	1339.1	1302.8	1283.2	1262.9	1252.8	1245.1	1249.8	1249.2
12.5°	1358.1	1332.5	1302.2	1261.1	1240.9	1220.1	1211.2	1205.8	1211.8	1210.0
15°	1329.6	1298.6	1263.5	1221.9	1199.9	1180.8	1174.3	1170.1	1174.9	1174.9
17.5°	1298.0	1261.7	1223.1	1180.8	1160.0	1145.1	1138.6	1135.6	1138.0	1141.6
20°	1262.9	1222.5	1180.8	1139.8	1121.9	1106.5	1100.5	1097.6	1102.9	1100.5
22.5°	1224.3	1181.4	1138.0	1099.3	1083.3	1067.8	1061.9	1060.1	1066.0	1063.6
25°	1183.2	1136.8	1094.0	1058.9	1042.8	1029.7	1024.4	1022.6	1025.6	1028.5
27.5°	1144.5	1092.2	1050.0	1018.4	1004.2	991.7	986.9	983.9	986.3	989.9
30°	1097.6	1047.0	1005.3	976.2	962.5	950.6	947.0	944.7	948.2	951.2
32.5°	1053.5	1002.4	960.7	932.2	920.3	909.0	908.4	907.2	911.4	914.9
35°	1005.9	956.0	915.5	888.8	877.4	867.9	869.7	871.5	876.3	880.4
37.5°	957.8	909.0	870.3	845.9	835.2	827.5	832.8	835.2	841.8	845.9
40°	909.0	860.2	824.5	802.5	791.8	788.2	795.9	801.3	809.0	812.6
42.5°	859.0	813.8	778.1	757.9	749.0	749.0	759.1	767.4	776.3	779.9
45°	809.0	765.0	731.1	712.7	706.1	710.9	722.8	733.5	744.8	748.4
47.5°	758.5	715.6	684.7	668.0	664.5	671.6	686.5	700.8	713.9	718.6
50°	707.9	669.2	638.3	622.8	622.8	631.8	650.8	668.6	682.9	687.7
52.5°	657.3	620.5	588.9	577.6	580.0	592.5	614.5	633.0	649.0	653.8
55°	606.2	569.9	542.5	533.0	537.2	552.6	575.2	596.7	612.1	617.5
57.5°	555.6	521.1	496.1	488.4	494.3	511.6	537.8	556.2	572.3	577.0
60°	504.5	469.4	449.7	443.8	451.5	469.4	496.1	513.4	528.3	533.0
62.5°	453.9	421.2	403.9	398.6	407.5	426.5	452.7	468.2	479.5	484.2
65°	402.7	373.6	357.5	354.0	363.5	381.9	406.9	420.0	428.3	433.1
67.5°	352.2	327.2	312.3	309.3	319.5	336.1	359.3	366.4	374.2	378.9
70°	302.2	279.6	267.1	265.3	274.2	290.3	309.9	313.5	317.7	321.8
72.5°	252.8	235.0	222.5	221.9	230.2	243.3	259.4	260.0	261.2	265.3
75°	205.2	189.2	179.7	181.4	186.2	196.9	209.4	205.8	206.4	209.4
77.5°	159.4	146.3	139.8	141.0	144.6	152.3	160.6	156.5	154.1	157.0
80°	114.8	103.5	101.1	101.7	104.1	109.5	114.2	110.6	105.9	108.3
82.5°	75.5	68.4	67.2	67.8	69.6	72.6	73.8	68.4	67.2	69.0
85°	41.6	38.7	38.7	40.5	41.0	41.6	41.6	38.7	39.3	40.5
87.5°	16.7	16.7	18.4	20.2	19.0	16.7	14.3	9.5	9.5	11.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)