

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-34L835-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-34L835-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

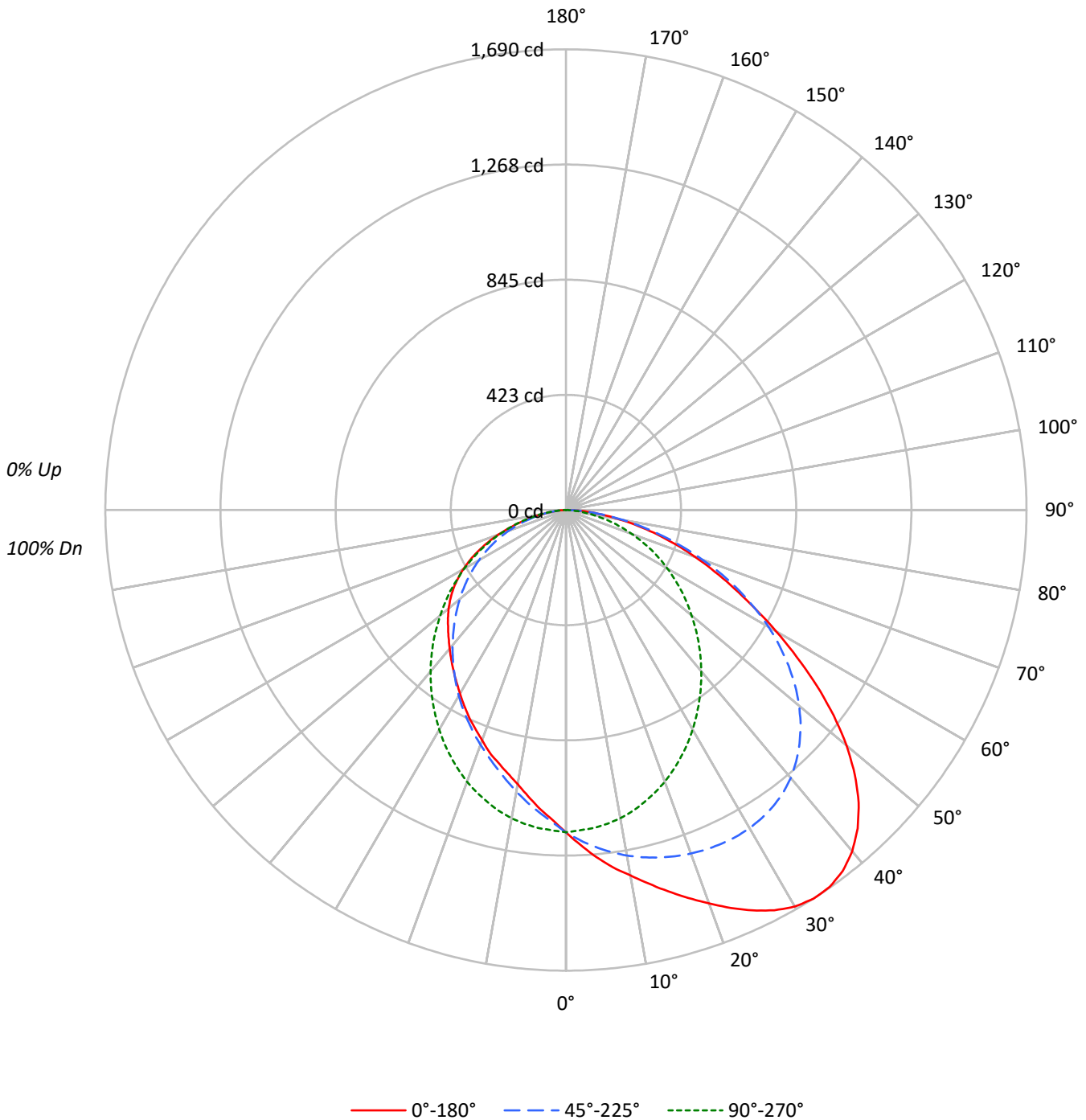
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3661.9 lumens
Efficiency: N/A
Efficacy: 99.5 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): 36.8
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°	11381	11381	11381
5°	12351	11313	10631
10°	13305	11225	9975
15°	14432	11061	9565
20°	15737	10868	9209
25°	17214	10612	8924
30°	18674	10334	8638
35°	19834	10029	8453
40°	20537	9710	8342
45°	20681	9374	8323
50°	20137	9016	8413
55°	18856	8695	8466
60°	17141	8299	8383
65°	15541	7848	8057
70°	14226	7276	7400
75°	12904	6543	6361
80°	11288	5467	4901
85°	9500	3977	3645



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.3	3.1
10°-20°	326.6	8.9
20°-30°	511.6	14.0
30°-40°	641.4	17.5
40°-50°	682.8	18.6
50°-60°	616.4	16.8
60°-70°	456.3	12.5
70°-80°	250.4	6.8
80°-90°	64.3	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°	950.4	26.0
0°-40°	1591.8	43.5
0°-60°	2890.9	78.9
0°-90°	3661.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3661.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1182	1182	1182	1182	1182	
5°	1278	1240	1171	1114	1100	124
15°	1448	1319	1110	980	960	413
25°	1620	1350	999	852	840	750
35°	1688	1326	853	717	719	1052
45°	1519	1212	688	577	611	1165
55°	1123	998	518	439	504	1002
65°	682	703	344	297	354	681
75°	347	368	176	152	171	369
85°	86	84	36	34	33	102
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°	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2
2.5°	1229.9	1227.4	1224.5	1223.5	1219.2	1213.3	1208.0	1208.0	1201.7	1186.6	1175.9
5°	1278.0	1274.1	1266.8	1261.0	1251.7	1240.5	1229.4	1222.6	1207.5	1184.7	1170.6
7.5°	1322.2	1317.3	1308.1	1296.9	1281.8	1265.3	1246.9	1232.3	1209.4	1178.8	1160.9
10°	1361.0	1356.7	1345.5	1331.9	1310.5	1287.2	1260.0	1238.1	1207.0	1169.1	1148.2
12.5°	1403.8	1399.4	1383.9	1365.4	1336.3	1305.2	1269.2	1239.1	1200.7	1155.0	1131.2
15°	1448.0	1442.2	1424.7	1399.9	1361.0	1319.3	1275.0	1236.2	1190.5	1138.0	1109.8
17.5°	1491.8	1485.9	1464.1	1432.5	1383.9	1331.9	1277.5	1229.4	1175.9	1117.1	1086.5
20°	1536.0	1530.1	1502.5	1462.6	1403.8	1341.1	1277.0	1219.2	1158.4	1093.3	1060.8
22.5°	1580.2	1573.4	1539.9	1491.3	1420.3	1347.4	1271.6	1205.1	1136.6	1066.1	1031.1
25°	1620.5	1613.7	1576.8	1519.5	1437.8	1350.4	1262.4	1185.6	1112.3	1036.0	999.0
27.5°	1655.5	1647.3	1608.9	1545.7	1452.9	1351.3	1250.3	1163.8	1084.1	1003.4	966.0
30°	1679.8	1672.5	1631.7	1564.2	1461.6	1347.9	1234.7	1138.0	1051.5	968.4	929.6
32.5°	1690.5	1684.2	1643.9	1572.9	1463.1	1339.2	1215.8	1109.3	1017.5	931.5	892.1
35°	1687.6	1681.3	1642.9	1571.5	1458.7	1326.5	1192.0	1076.8	981.1	893.1	853.3
37.5°	1669.1	1661.8	1626.8	1558.3	1446.1	1308.1	1164.7	1041.3	941.7	853.8	813.4
40°	1634.1	1626.8	1596.7	1533.5	1424.7	1283.3	1133.6	1003.4	901.4	812.5	772.6
42.5°	1584.1	1576.3	1552.5	1494.7	1394.1	1250.7	1098.2	963.1	858.6	772.6	730.8
45°	1519.0	1511.2	1495.2	1446.1	1354.2	1212.4	1057.8	919.4	813.9	727.4	688.5
47.5°	1438.3	1431.5	1423.7	1385.8	1305.2	1168.1	1012.6	872.7	767.3	685.1	645.3
50°	1344.5	1337.7	1340.2	1314.4	1248.3	1117.1	963.1	823.6	719.2	638.0	602.0
52.5°	1238.1	1232.8	1244.4	1233.3	1182.2	1060.3	910.1	773.1	670.1	593.3	558.8
55°	1123.4	1117.6	1140.0	1143.4	1108.4	997.6	849.9	720.6	620.5	549.6	518.0
57.5°	1005.4	1000.5	1029.2	1045.2	1027.7	930.0	789.1	666.7	569.5	503.9	472.3
60°	890.2	886.3	916.4	942.7	940.7	858.6	726.0	608.4	518.5	457.7	431.0
62.5°	781.8	777.5	807.6	838.7	849.9	782.3	663.3	551.0	467.5	411.6	387.8
65°	682.2	677.9	703.6	735.7	756.1	702.6	595.7	491.7	415.9	364.9	344.5
67.5°	590.9	590.9	606.9	636.5	661.3	621.0	526.7	435.4	363.0	321.7	301.3
70°	505.4	504.9	516.5	537.4	566.1	533.5	456.8	376.1	312.9	276.5	258.5
72.5°	424.2	427.6	432.0	448.0	478.1	450.0	387.3	317.8	263.9	231.8	216.7
75°	346.9	346.5	352.8	366.9	388.7	367.8	317.8	260.9	215.3	189.0	175.9
77.5°	273.1	272.6	277.9	286.2	304.7	288.1	250.7	208.5	167.6	145.8	136.5
80°	203.6	203.6	208.5	212.8	226.4	213.3	187.1	156.0	122.9	105.9	98.6
82.5°	141.4	144.3	142.4	148.2	156.0	144.8	128.3	106.9	81.6	70.0	65.1
85°	86.0	88.4	86.0	90.9	94.3	84.5	76.3	63.7	47.1	39.4	36.0
87.5°	44.2	43.7	43.2	45.7	46.6	40.8	36.0	30.6	20.9	16.0	13.6
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°	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2	1182.2
2.5°	1169.6	1172.5	1168.1	1152.1	1145.8	1139.0	1136.1	1133.2	1138.5	1137.0
5°	1159.9	1156.5	1145.3	1124.9	1114.2	1103.0	1097.7	1094.3	1101.6	1100.1
7.5°	1146.8	1137.0	1120.5	1095.7	1082.1	1067.1	1059.8	1055.4	1060.3	1059.3
10°	1130.2	1114.2	1093.8	1064.2	1048.1	1031.6	1023.3	1017.0	1020.9	1020.4
12.5°	1109.3	1088.5	1063.7	1030.1	1013.6	996.6	989.3	985.0	989.8	988.4
15°	1086.0	1060.8	1032.1	998.1	980.1	964.5	959.2	955.8	959.7	959.7
17.5°	1060.3	1030.6	999.0	964.5	947.5	935.4	930.0	927.6	929.6	932.5
20°	1031.6	998.6	964.5	931.0	916.4	903.8	898.9	896.5	900.9	898.9
22.5°	1000.0	965.0	929.6	898.0	884.9	872.2	867.4	865.9	870.8	868.8
25°	966.5	928.6	893.6	864.9	851.8	841.1	836.7	835.3	837.7	840.1
27.5°	934.9	892.1	857.6	831.9	820.2	810.0	806.1	803.7	805.6	808.6
30°	896.5	855.2	821.2	797.4	786.2	776.5	773.6	771.6	774.5	777.0
32.5°	860.6	818.8	784.8	761.4	751.7	742.5	742.0	741.0	744.4	747.3
35°	821.7	780.9	747.8	726.0	716.7	709.0	710.4	711.9	715.8	719.2
37.5°	782.3	742.5	710.9	691.0	682.2	675.9	680.3	682.2	687.6	691.0
40°	742.5	702.6	673.5	655.5	646.8	643.8	650.2	654.5	660.8	663.8
42.5°	701.7	664.7	635.6	619.1	611.8	611.8	620.0	626.8	634.1	637.0
45°	660.8	624.9	597.2	582.1	576.8	580.7	590.4	599.1	608.4	611.3
47.5°	619.5	584.6	559.3	545.7	542.8	548.6	560.7	572.4	583.1	587.0
50°	578.2	546.7	521.4	508.8	508.8	516.0	531.6	546.2	557.8	561.7
52.5°	536.9	506.8	481.1	471.8	473.8	484.0	502.0	517.0	530.1	534.0
55°	495.1	465.5	443.2	435.4	438.8	451.4	469.9	487.4	500.0	504.4
57.5°	453.8	425.7	405.3	398.9	403.8	417.9	439.3	454.3	467.5	471.3
60°	412.1	383.4	367.4	362.5	368.8	383.4	405.3	419.3	431.5	435.4
62.5°	370.8	344.0	329.9	325.6	332.9	348.4	369.8	382.4	391.6	395.5
65°	329.0	305.2	292.0	289.1	296.9	312.0	332.4	343.1	349.9	353.7
67.5°	287.7	267.3	255.1	252.7	260.9	274.5	293.5	299.3	305.6	309.5
70°	246.8	228.4	218.2	216.7	224.0	237.1	253.2	256.1	259.5	262.9
72.5°	206.5	191.9	181.7	181.2	188.0	198.7	211.9	212.3	213.3	216.7
75°	167.6	154.5	146.7	148.2	152.1	160.8	171.0	168.1	168.6	171.0
77.5°	130.2	119.5	114.2	115.2	118.1	124.4	131.2	127.8	125.9	128.3
80°	93.8	84.5	82.6	83.1	85.0	89.4	93.3	90.4	86.5	88.4
82.5°	61.7	55.9	54.9	55.4	56.9	59.3	60.3	55.9	54.9	56.4
85°	34.0	31.6	31.6	33.0	33.5	34.0	34.0	31.6	32.1	33.0
87.5°	13.6	13.6	15.1	16.5	15.5	13.6	11.7	7.8	7.8	9.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)