

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-34L830-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-34L830-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

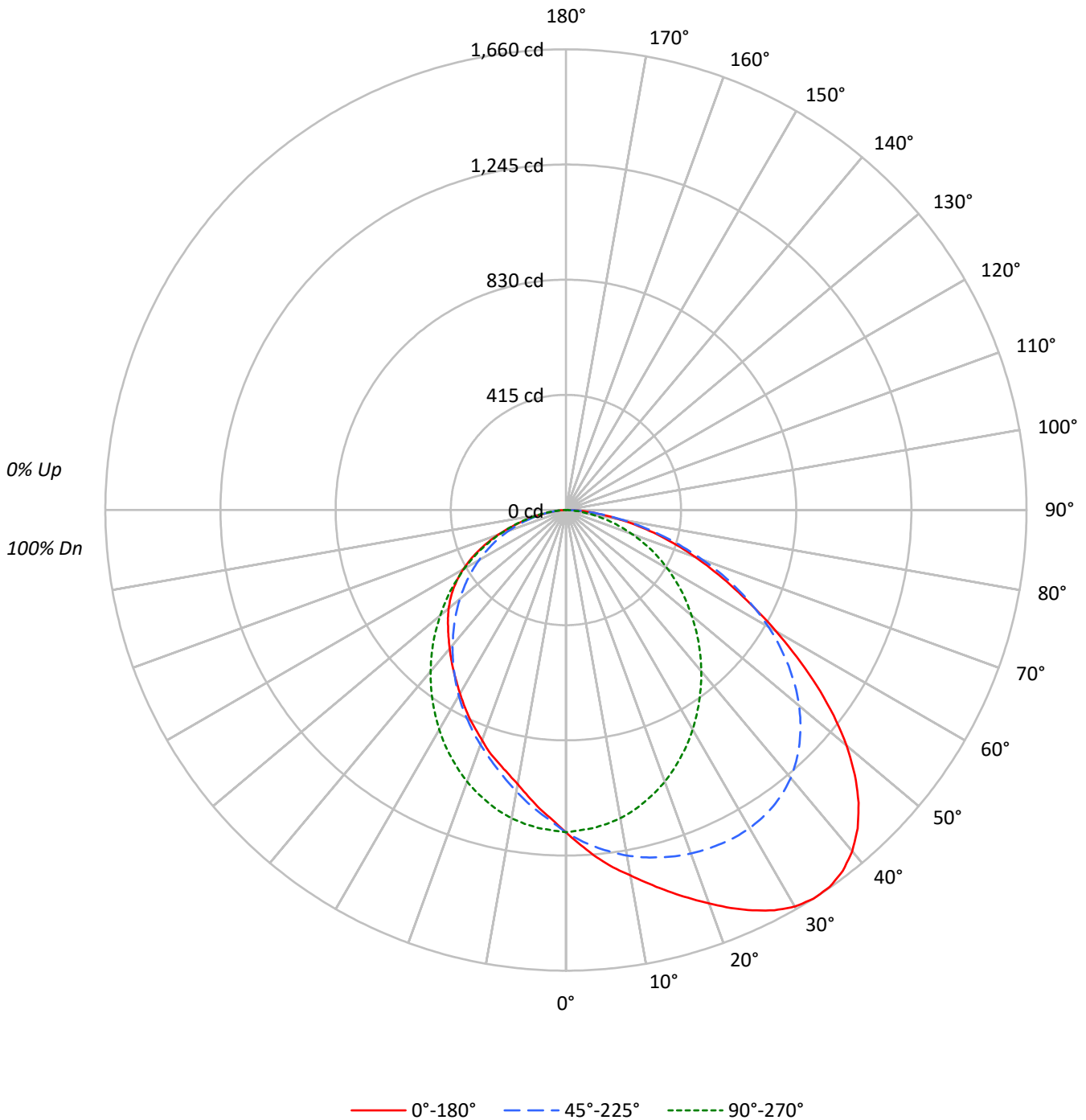
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3596.6 lumens
Efficiency: N/A
Efficacy: 97.7 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 (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

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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°	11179	11179	11179
5°	12130	11111	10442
10°	13068	11025	9797
15°	14175	10865	9395
20°	15456	10674	9045
25°	16908	10423	8766
30°	18341	10150	8483
35°	19480	9850	8301
40°	20171	9536	8193
45°	20312	9208	8175
50°	19779	8856	8263
55°	18520	8540	8315
60°	16834	8151	8233
65°	15265	7709	7914
70°	13970	7147	7268
75°	12677	6428	6249
80°	11088	5372	4818
85°	9334	3899	3590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.3	3.1
10°-20°	320.7	8.9
20°-30°	502.5	14.0
30°-40°	629.9	17.5
40°-50°	670.6	18.6
50°-60°	605.4	16.8
60°-70°	448.2	12.5
70°-80°	245.9	6.8
80°-90°	63.1	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°	933.5	26.0
0°-40°	1563.4	43.5
0°-60°	2839.4	78.9
0°-90°	3596.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3596.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1161	1161	1161	1161	1161	
5°	1255	1218	1150	1094	1080	122
15°	1422	1296	1090	963	943	406
25°	1592	1326	981	837	825	737
35°	1658	1303	838	704	706	1034
45°	1492	1191	676	566	600	1144
55°	1103	980	509	431	495	984
65°	670	690	338	292	347	669
75°	341	361	173	149	168	362
85°	84	83	35	33	32	100
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°	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2
2.5°	1207.9	1205.6	1202.7	1201.7	1197.4	1191.7	1186.5	1186.5	1180.3	1165.5	1155.0
5°	1255.2	1251.4	1244.2	1238.5	1229.4	1218.4	1207.5	1200.8	1186.0	1163.6	1149.7
7.5°	1298.6	1293.8	1284.8	1273.8	1259.0	1242.8	1224.6	1210.3	1187.9	1157.8	1140.2
10°	1336.8	1332.5	1321.5	1308.2	1287.2	1264.3	1237.5	1216.1	1185.5	1148.3	1127.8
12.5°	1378.8	1374.5	1359.2	1341.1	1312.5	1281.9	1246.6	1217.0	1179.3	1134.4	1111.1
15°	1422.2	1416.5	1399.3	1375.0	1336.8	1295.8	1252.3	1214.1	1169.3	1117.7	1090.1
17.5°	1465.2	1459.5	1438.0	1407.0	1359.2	1308.2	1254.7	1207.5	1155.0	1097.2	1067.1
20°	1508.6	1502.9	1475.7	1436.5	1378.8	1317.2	1254.2	1197.4	1137.8	1073.8	1041.9
22.5°	1552.0	1545.4	1512.4	1464.7	1395.0	1323.4	1249.0	1183.6	1116.3	1047.1	1012.7
25°	1591.7	1585.0	1548.7	1492.4	1412.2	1326.3	1239.9	1164.5	1092.4	1017.5	981.2
27.5°	1626.0	1617.9	1580.2	1518.2	1427.0	1327.3	1228.0	1143.0	1064.8	985.5	948.8
30°	1649.9	1642.7	1602.6	1536.3	1435.6	1323.9	1212.7	1117.7	1032.8	951.2	913.0
32.5°	1660.4	1654.2	1614.6	1544.9	1437.0	1315.3	1194.1	1089.6	999.4	914.9	876.2
35°	1657.5	1651.3	1613.6	1543.5	1432.7	1302.9	1170.7	1057.6	963.6	877.2	838.1
37.5°	1639.4	1632.2	1597.9	1530.6	1420.3	1284.8	1144.0	1022.8	924.9	838.5	798.9
40°	1605.0	1597.9	1568.3	1506.2	1399.3	1260.4	1113.4	985.5	885.3	798.0	758.8
42.5°	1555.9	1548.2	1524.8	1468.0	1369.3	1228.5	1078.6	945.9	843.3	758.8	717.8
45°	1491.9	1484.3	1468.5	1420.3	1330.1	1190.8	1039.0	903.0	799.4	714.5	676.3
47.5°	1412.7	1406.0	1398.4	1361.1	1281.9	1147.3	994.6	857.2	753.6	672.9	633.8
50°	1320.6	1313.9	1316.3	1291.0	1226.1	1097.2	945.9	809.0	706.3	626.6	591.3
52.5°	1216.1	1210.8	1222.3	1211.3	1161.2	1041.4	893.9	759.3	658.1	582.7	548.8
55°	1103.4	1097.7	1119.6	1123.0	1088.6	979.8	834.7	707.8	609.5	539.8	508.8
57.5°	987.4	982.7	1010.8	1026.6	1009.4	913.5	775.1	654.8	559.3	494.9	463.9
60°	874.3	870.5	900.1	925.9	924.0	843.3	713.0	597.5	509.2	449.6	423.3
62.5°	767.9	763.6	793.2	823.7	834.7	768.4	651.5	541.2	459.1	404.2	380.9
65°	670.1	665.8	691.1	722.6	742.6	690.1	585.1	483.0	408.5	358.4	338.4
67.5°	580.3	580.3	596.1	625.2	649.5	609.9	517.3	427.6	356.5	315.9	295.9
70°	496.3	495.9	507.3	527.8	556.0	524.0	448.6	369.4	307.4	271.6	253.9
72.5°	416.6	420.0	424.3	440.0	469.6	441.9	380.4	312.1	259.2	227.7	212.9
75°	340.8	340.3	346.5	360.3	381.8	361.3	312.1	256.3	211.4	185.7	172.8
77.5°	268.2	267.7	273.0	281.1	299.2	283.0	246.3	204.7	164.7	143.2	134.1
80°	200.0	200.0	204.7	209.0	222.4	209.5	183.7	153.2	120.7	104.0	96.9
82.5°	138.9	141.7	139.8	145.6	153.2	142.2	126.0	105.0	80.2	68.7	64.0
85°	84.5	86.9	84.5	89.2	92.6	83.0	74.9	62.5	46.3	38.7	35.3
87.5°	43.4	43.0	42.5	44.9	45.8	40.1	35.3	30.1	20.5	15.7	13.4
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°	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2	1161.2
2.5°	1148.8	1151.6	1147.3	1131.6	1125.4	1118.7	1115.8	1113.0	1118.2	1116.8
5°	1139.2	1135.9	1124.9	1104.9	1094.4	1083.4	1078.1	1074.8	1081.9	1080.5
7.5°	1126.3	1116.8	1100.6	1076.2	1062.9	1048.1	1040.9	1036.6	1041.4	1040.4
10°	1110.1	1094.4	1074.3	1045.2	1029.4	1013.2	1005.1	998.9	1002.7	1002.2
12.5°	1089.6	1069.1	1044.7	1011.8	995.6	978.9	971.7	967.4	972.2	970.7
15°	1066.7	1041.9	1013.7	980.3	962.6	947.4	942.1	938.8	942.6	942.6
17.5°	1041.4	1012.3	981.2	947.4	930.7	918.7	913.5	911.1	913.0	915.9
20°	1013.2	980.8	947.4	914.4	900.1	887.7	882.9	880.5	884.8	882.9
22.5°	982.2	947.8	913.0	882.0	869.1	856.7	851.9	850.5	855.2	853.3
25°	949.3	912.0	877.7	849.5	836.6	826.1	821.8	820.4	822.8	825.2
27.5°	918.2	876.2	842.4	817.1	805.6	795.6	791.8	789.4	791.3	794.2
30°	880.5	840.0	806.6	783.2	772.2	762.7	759.8	757.9	760.7	763.1
32.5°	845.2	804.2	770.8	747.9	738.3	729.2	728.8	727.8	731.2	734.0
35°	807.0	767.0	734.5	713.0	704.0	696.3	697.8	699.2	703.0	706.3
37.5°	768.4	729.2	698.2	678.7	670.1	663.9	668.2	670.1	675.3	678.7
40°	729.2	690.1	661.5	643.8	635.2	632.4	638.6	642.9	649.1	651.9
42.5°	689.2	652.9	624.3	608.0	600.9	600.9	609.0	615.7	622.8	625.7
45°	649.1	613.8	586.5	571.8	566.5	570.3	579.9	588.5	597.5	600.4
47.5°	608.5	574.1	549.3	536.0	533.1	538.8	550.8	562.2	572.7	576.5
50°	567.9	536.9	512.1	499.7	499.7	506.8	522.1	536.4	547.9	551.7
52.5°	527.4	497.8	472.5	463.4	465.3	475.3	493.0	507.8	520.7	524.5
55°	486.3	457.2	435.3	427.6	431.0	443.4	461.5	478.7	491.1	495.4
57.5°	445.8	418.1	398.0	391.8	396.6	410.4	431.4	446.2	459.1	462.9
60°	404.7	376.6	360.8	356.0	362.2	376.6	398.0	411.9	423.8	427.6
62.5°	364.1	337.9	324.1	319.8	326.9	342.2	363.2	375.6	384.7	388.5
65°	323.1	299.7	286.8	284.0	291.6	306.4	326.4	336.9	343.6	347.4
67.5°	282.5	262.5	250.6	248.2	256.3	269.7	288.3	294.0	300.2	304.0
70°	242.4	224.3	214.3	212.9	220.0	232.9	248.7	251.5	254.9	258.2
72.5°	202.8	188.5	178.5	178.0	184.7	195.2	208.1	208.6	209.5	212.9
75°	164.7	151.8	144.1	145.6	149.4	158.0	168.0	165.1	165.6	168.0
77.5°	127.9	117.4	112.2	113.1	116.0	122.2	128.9	125.5	123.6	126.0
80°	92.1	83.0	81.1	81.6	83.5	87.8	91.6	88.8	85.0	86.9
82.5°	60.6	54.9	53.9	54.4	55.8	58.2	59.2	54.9	53.9	55.4
85°	33.4	31.0	31.0	32.5	32.9	33.4	33.4	31.0	31.5	32.5
87.5°	13.4	13.4	14.8	16.2	15.3	13.4	11.5	7.6	7.6	9.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)