

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-30L830-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-30L830-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

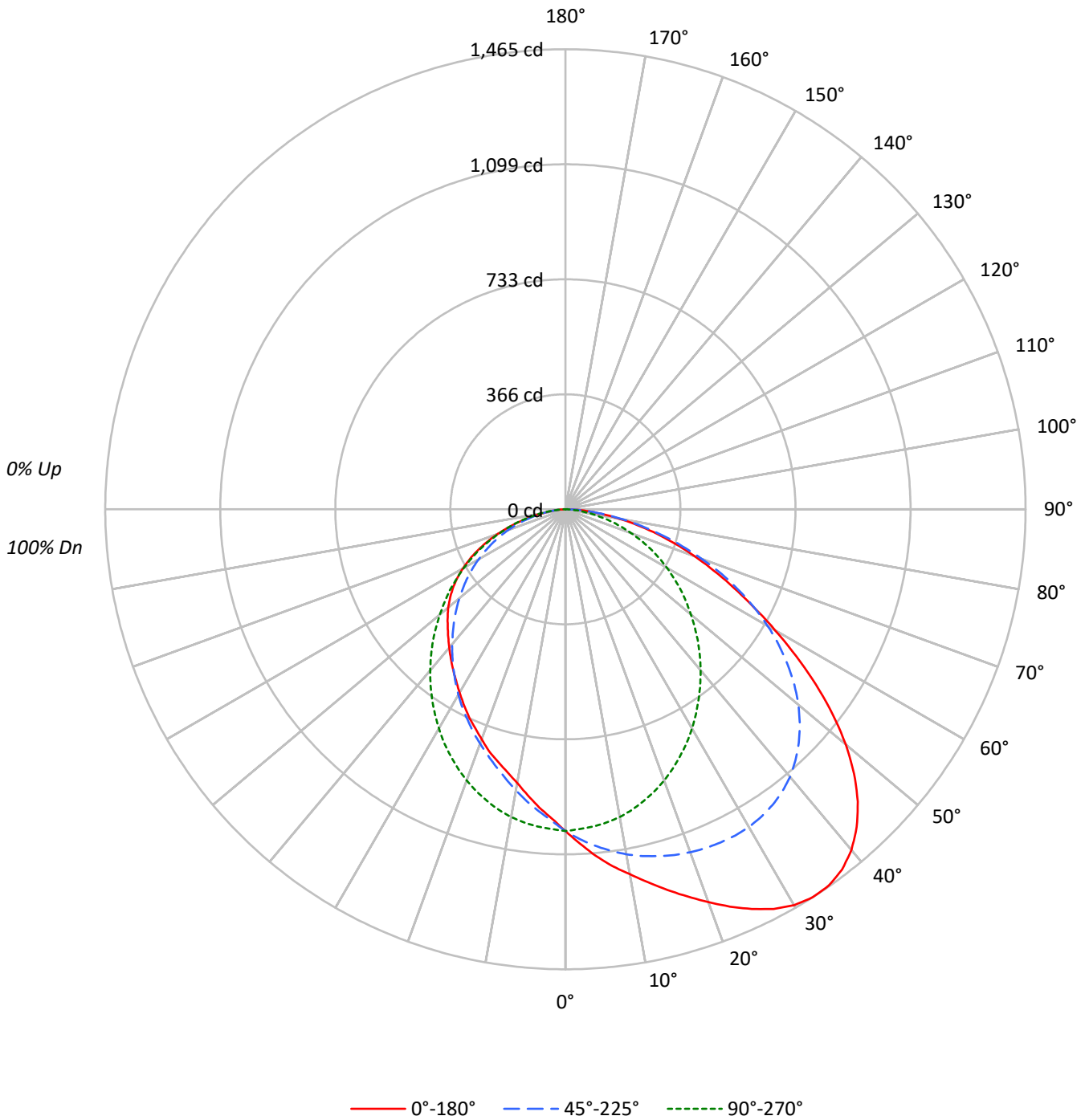
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3173.7 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): 32.5
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				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	100	100	100	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84	84	84	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69	69	69	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58	58	58	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49	49	49	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43	43	43	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37	37	37	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33	33	33	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29	29	29	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26	26	26	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23	23	23	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9864	9864	9864
5°	10704	9804	9214
10°	11532	9728	8646
15°	12509	9587	8290
20°	13638	9418	7982
25°	14919	9198	7734
30°	16185	8956	7486
35°	17190	8691	7326
40°	17799	8415	7230
45°	17924	8124	7213
50°	17453	7815	7291
55°	16343	7535	7337
60°	14855	7192	7265
65°	13470	6802	6984
70°	12329	6305	6412
75°	11185	5673	5513
80°	9785	4740	4247
85°	8229	3446	3159



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.3	3.1
10°-20°	283.0	8.9
20°-30°	443.4	14.0
30°-40°	555.9	17.5
40°-50°	591.8	18.6
50°-60°	534.2	16.8
60°-70°	395.5	12.5
70°-80°	217.0	6.8
80°-90°	55.7	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°	823.7	26.0
0°-40°	1379.6	43.5
0°-60°	2505.5	78.9
0°-90°	3173.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3173.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1025	1025	1025	1025	1025	
5°	1108	1075	1014	966	953	108
15°	1255	1143	962	849	832	358
25°	1404	1170	866	738	728	650
35°	1463	1150	740	621	623	912
45°	1316	1051	597	500	530	1009
55°	974	865	449	380	437	868
65°	591	609	299	257	307	590
75°	301	319	152	132	148	320
85°	74	73	31	29	29	88
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°	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6
2.5°	1065.9	1063.8	1061.3	1060.4	1056.6	1051.6	1046.9	1046.9	1041.5	1028.4	1019.1
5°	1107.6	1104.2	1097.9	1092.8	1084.8	1075.2	1065.5	1059.6	1046.5	1026.7	1014.5
7.5°	1145.9	1141.7	1133.7	1124.0	1111.0	1096.6	1080.6	1068.0	1048.2	1021.7	1006.1
10°	1179.6	1175.8	1166.1	1154.3	1135.8	1115.6	1092.0	1073.1	1046.1	1013.2	995.1
12.5°	1216.7	1212.9	1199.4	1183.4	1158.1	1131.2	1100.0	1073.9	1040.6	1001.0	980.4
15°	1255.0	1249.9	1234.8	1213.3	1179.6	1143.4	1105.1	1071.4	1031.8	986.3	961.9
17.5°	1292.9	1287.8	1268.9	1241.5	1199.4	1154.3	1107.2	1065.5	1019.1	968.2	941.7
20°	1331.2	1326.2	1302.1	1267.6	1216.7	1162.3	1106.7	1056.6	1004.0	947.6	919.3
22.5°	1369.5	1363.6	1334.6	1292.5	1231.0	1167.8	1102.1	1044.4	985.0	924.0	893.6
25°	1404.5	1398.6	1366.6	1316.9	1246.1	1170.3	1094.1	1027.6	964.0	897.9	865.9
27.5°	1434.8	1427.6	1394.4	1339.6	1259.2	1171.2	1083.6	1008.6	939.6	869.6	837.2
30°	1455.9	1449.5	1414.2	1355.6	1266.8	1168.2	1070.1	986.3	911.3	839.3	805.6
32.5°	1465.1	1459.7	1424.7	1363.2	1268.0	1160.6	1053.7	961.4	881.9	807.3	773.2
35°	1462.6	1457.1	1423.9	1361.9	1264.2	1149.7	1033.0	933.2	850.3	774.0	739.5
37.5°	1446.6	1440.3	1410.0	1350.6	1253.3	1133.7	1009.5	902.5	816.2	739.9	705.0
40°	1416.3	1410.0	1383.8	1329.1	1234.8	1112.2	982.5	869.6	781.2	704.1	669.6
42.5°	1372.9	1366.2	1345.5	1295.4	1208.2	1084.0	951.8	834.7	744.1	669.6	633.4
45°	1316.5	1309.7	1295.8	1253.3	1173.7	1050.7	916.8	796.8	705.4	630.4	596.7
47.5°	1246.6	1240.7	1233.9	1201.1	1131.2	1012.4	877.6	756.4	665.0	593.8	559.3
50°	1165.3	1159.4	1161.5	1139.2	1081.9	968.2	834.7	713.8	623.3	552.9	521.8
52.5°	1073.1	1068.4	1078.5	1068.8	1024.6	918.9	788.8	670.0	580.7	514.2	484.3
55°	973.7	968.6	988.0	990.9	960.6	864.6	736.6	624.5	537.8	476.3	448.9
57.5°	871.3	867.1	892.0	905.9	890.7	806.1	683.9	577.8	493.6	436.7	409.3
60°	771.5	768.1	794.3	817.0	815.3	744.1	629.2	527.3	449.4	396.7	373.5
62.5°	677.6	673.8	699.9	726.9	736.6	678.0	574.8	477.6	405.1	356.7	336.1
65°	591.3	587.5	609.8	637.6	655.3	609.0	516.3	426.2	360.5	316.3	298.6
67.5°	512.1	512.1	526.0	551.7	573.2	538.2	456.5	377.3	314.6	278.8	261.1
70°	438.0	437.6	447.7	465.8	490.6	462.4	395.9	326.0	271.2	239.6	224.0
72.5°	367.7	370.6	374.4	388.3	414.4	390.0	335.6	275.4	228.7	200.9	187.8
75°	300.7	300.3	305.7	318.0	336.9	318.8	275.4	226.1	186.6	163.8	152.5
77.5°	236.7	236.3	240.9	248.0	264.1	249.7	217.3	180.7	145.3	126.3	118.3
80°	176.5	176.5	180.7	184.5	196.2	184.9	162.1	135.2	106.5	91.8	85.5
82.5°	122.6	125.1	123.4	128.4	135.2	125.5	111.2	92.6	70.8	60.6	56.4
85°	74.5	76.6	74.5	78.8	81.7	73.3	66.1	55.2	40.9	34.1	31.2
87.5°	38.3	37.9	37.5	39.6	40.4	35.4	31.2	26.5	18.1	13.9	11.8
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°	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6	1024.6
2.5°	1013.7	1016.2	1012.4	998.5	993.0	987.1	984.6	982.1	986.7	985.5
5°	1005.2	1002.3	992.6	974.9	965.7	956.0	951.3	948.4	954.7	953.4
7.5°	993.9	985.5	971.1	949.7	937.9	924.8	918.5	914.7	918.9	918.1
10°	979.6	965.7	948.0	922.3	908.4	894.1	886.9	881.4	884.8	884.4
12.5°	961.4	943.3	921.9	892.8	878.5	863.7	857.4	853.6	857.9	856.6
15°	941.2	919.3	894.5	865.0	849.4	836.0	831.3	828.4	831.7	831.7
17.5°	918.9	893.2	865.9	836.0	821.2	810.7	806.1	803.9	805.6	808.2
20°	894.1	865.4	836.0	806.9	794.3	783.3	779.1	777.0	780.8	779.1
22.5°	866.7	836.4	805.6	778.3	766.9	755.9	751.7	750.5	754.7	753.0
25°	837.6	804.8	774.5	749.6	738.2	729.0	725.2	723.9	726.0	728.1
27.5°	810.3	773.2	743.3	721.0	710.9	702.0	698.7	696.6	698.2	700.8
30°	777.0	741.2	711.7	691.1	681.4	673.0	670.4	668.8	671.3	673.4
32.5°	745.8	709.6	680.1	659.9	651.5	643.5	643.1	642.2	645.2	647.7
35°	712.1	676.8	648.1	629.2	621.2	614.4	615.7	617.0	620.3	623.3
37.5°	678.0	643.5	616.1	598.9	591.3	585.8	589.6	591.3	595.9	598.9
40°	643.5	609.0	583.7	568.1	560.5	558.0	563.5	567.3	572.7	575.3
42.5°	608.1	576.1	550.8	536.5	530.2	530.2	537.4	543.3	549.6	552.1
45°	572.7	541.6	517.6	504.5	499.9	503.3	511.7	519.3	527.3	529.8
47.5°	536.9	506.6	484.7	472.9	470.4	475.5	486.0	496.1	505.4	508.7
50°	501.1	473.8	451.9	440.9	440.9	447.2	460.7	473.4	483.5	486.8
52.5°	465.4	439.2	416.9	408.9	410.6	419.4	435.0	448.1	459.5	462.8
55°	429.1	403.4	384.1	377.3	380.3	391.2	407.2	422.4	433.3	437.1
57.5°	393.3	368.9	351.2	345.8	350.0	362.2	380.7	393.8	405.1	408.5
60°	357.1	332.3	318.4	314.2	319.6	332.3	351.2	363.4	374.0	377.3
62.5°	321.3	298.2	286.0	282.2	288.5	302.0	320.5	331.4	339.4	342.8
65°	285.1	264.5	253.1	250.6	257.3	270.4	288.1	297.3	303.2	306.6
67.5°	249.3	231.6	221.1	219.0	226.1	237.9	254.4	259.4	264.9	268.3
70°	213.9	197.9	189.1	187.8	194.1	205.5	219.4	221.9	224.9	227.8
72.5°	179.0	166.3	157.5	157.1	163.0	172.2	183.6	184.0	184.9	187.8
75°	145.3	133.9	127.2	128.4	131.8	139.4	148.2	145.7	146.1	148.2
77.5°	112.9	103.6	99.0	99.8	102.3	107.8	113.7	110.8	109.1	111.2
80°	81.3	73.3	71.6	72.0	73.7	77.5	80.9	78.3	75.0	76.6
82.5°	53.5	48.4	47.6	48.0	49.3	51.4	52.2	48.4	47.6	48.9
85°	29.5	27.4	27.4	28.6	29.1	29.5	29.5	27.4	27.8	28.6
87.5°	11.8	11.8	13.1	14.3	13.5	11.8	10.1	6.7	6.7	8.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)