

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-30L835-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-30L835-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

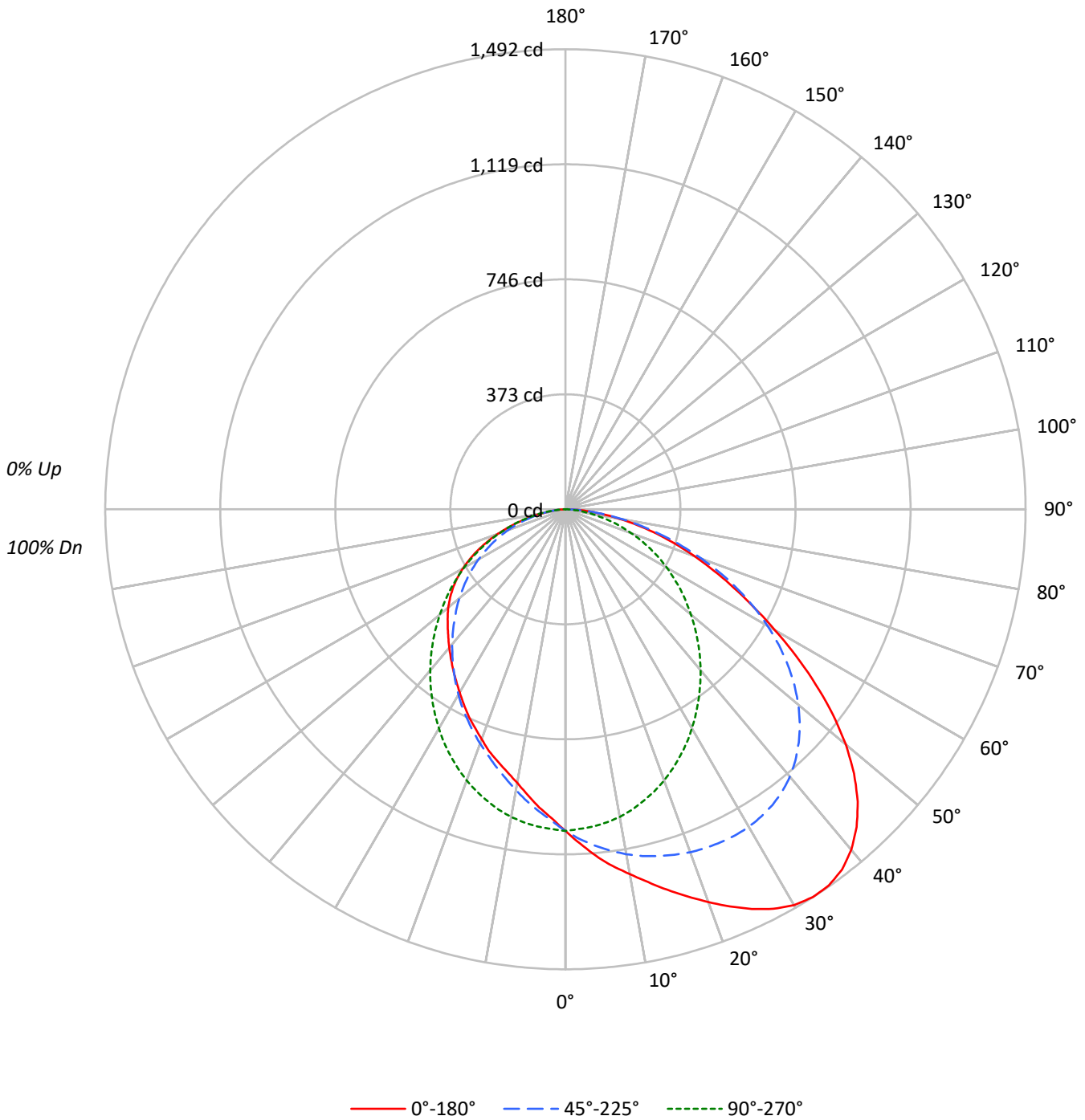
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3231.3 lumens
Efficiency: N/A
Efficacy: 99.4 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				
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°	10043	10043	10043
5°	10898	9982	9382
10°	11741	9905	8802
15°	12736	9761	8440
20°	13886	9590	8126
25°	15190	9365	7876
30°	16478	9119	7622
35°	17502	8849	7458
40°	18122	8569	7361
45°	18250	8273	7344
50°	17769	7958	7424
55°	16639	7672	7471
60°	15125	7323	7398
65°	13714	6925	7112
70°	12551	6421	6530
75°	11390	5773	5613
80°	9963	4823	4324
85°	8384	3502	3225



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.1	3.1
10°-20°	288.2	8.9
20°-30°	451.4	14.0
30°-40°	566.0	17.5
40°-50°	602.5	18.6
50°-60°	543.9	16.8
60°-70°	402.6	12.5
70°-80°	220.9	6.8
80°-90°	56.7	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°	838.7	26.0
0°-40°	1404.6	43.5
0°-60°	2551.0	78.9
0°-90°	3231.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3231.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1043	1043	1043	1043	1043	
5°	1128	1095	1033	983	971	110
15°	1278	1164	979	865	847	364
25°	1430	1192	882	752	741	662
35°	1489	1171	753	632	635	929
45°	1340	1070	608	509	539	1028
55°	991	880	457	387	445	884
65°	602	620	304	262	312	601
75°	306	325	155	134	151	325
85°	76	75	32	30	29	90
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°	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2
2.5°	1085.2	1083.1	1080.5	1079.7	1075.8	1070.7	1066.0	1066.0	1060.4	1047.1	1037.7
5°	1127.7	1124.3	1117.8	1112.7	1104.5	1094.7	1084.8	1078.8	1065.5	1045.4	1032.9
7.5°	1166.7	1162.4	1154.3	1144.4	1131.1	1116.5	1100.3	1087.4	1067.2	1040.2	1024.4
10°	1201.0	1197.2	1187.3	1175.3	1156.4	1135.8	1111.8	1092.5	1065.1	1031.6	1013.2
12.5°	1238.7	1234.9	1221.2	1204.9	1179.1	1151.7	1120.0	1093.4	1059.5	1019.2	998.2
15°	1277.8	1272.6	1257.2	1235.3	1201.0	1164.1	1125.1	1090.8	1050.5	1004.2	979.3
17.5°	1316.4	1311.2	1291.9	1264.0	1221.2	1175.3	1127.3	1084.8	1037.7	985.8	958.8
20°	1355.4	1350.2	1325.8	1290.6	1238.7	1183.4	1126.8	1075.8	1022.2	964.8	936.0
22.5°	1394.4	1388.4	1358.8	1315.9	1253.3	1189.0	1122.1	1063.4	1002.9	940.7	909.9
25°	1430.0	1424.0	1391.4	1340.8	1268.8	1191.6	1114.0	1046.2	981.5	914.2	881.6
27.5°	1460.9	1453.6	1419.7	1364.0	1282.1	1192.4	1103.3	1026.9	956.6	885.4	852.4
30°	1482.3	1475.9	1439.8	1380.2	1289.8	1189.4	1089.5	1004.2	927.9	854.6	820.3
32.5°	1491.7	1486.2	1450.6	1388.0	1291.1	1181.7	1072.8	978.9	897.9	822.0	787.2
35°	1489.2	1483.6	1449.7	1386.7	1287.2	1170.6	1051.8	950.2	865.7	788.1	752.9
37.5°	1472.9	1466.4	1435.6	1375.1	1276.1	1154.3	1027.8	918.9	831.0	753.4	717.8
40°	1442.0	1435.6	1409.0	1353.2	1257.2	1132.4	1000.3	885.4	795.4	716.9	681.8
42.5°	1397.8	1391.0	1370.0	1318.9	1230.2	1103.7	969.0	849.8	757.7	681.8	644.9
45°	1340.4	1333.5	1319.4	1276.1	1195.0	1069.8	933.5	811.3	718.2	641.9	607.6
47.5°	1269.2	1263.2	1256.3	1222.9	1151.7	1030.8	893.6	770.1	677.0	604.6	569.4
50°	1186.4	1180.4	1182.6	1159.9	1101.5	985.8	849.8	726.8	634.6	563.0	531.3
52.5°	1092.5	1087.8	1098.1	1088.2	1043.2	935.6	803.1	682.2	591.3	523.5	493.1
55°	991.3	986.2	1005.9	1008.9	978.1	880.3	749.9	635.9	547.6	485.0	457.1
57.5°	887.1	882.9	908.2	922.3	906.9	820.7	696.3	588.3	502.5	444.6	416.8
60°	785.5	782.1	808.7	831.8	830.1	757.7	640.6	536.8	457.5	403.9	380.3
62.5°	689.9	686.1	712.6	740.1	749.9	690.3	585.3	486.2	412.5	363.2	342.2
65°	602.0	598.2	620.9	649.2	667.2	620.0	525.7	433.9	367.0	322.0	304.0
67.5°	521.4	521.4	535.5	561.7	583.6	548.0	464.8	384.2	320.3	283.9	265.8
70°	445.9	445.5	455.8	474.2	499.5	470.8	403.1	331.9	276.1	244.0	228.1
72.5°	374.3	377.3	381.2	395.3	421.9	397.1	341.7	280.4	232.8	204.5	191.2
75°	306.2	305.7	311.3	323.7	343.0	324.6	280.4	230.3	190.0	166.8	155.2
77.5°	241.0	240.5	245.3	252.6	268.8	254.3	221.3	183.9	147.9	128.6	120.5
80°	179.7	179.7	183.9	187.8	199.8	188.2	165.1	137.6	108.5	93.5	87.0
82.5°	124.8	127.3	125.6	130.8	137.6	127.8	113.2	94.3	72.0	61.7	57.5
85°	75.9	78.0	75.9	80.2	83.2	74.6	67.3	56.2	41.6	34.7	31.7
87.5°	39.0	38.6	38.2	40.3	41.2	36.0	31.7	27.0	18.4	14.1	12.0
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°	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2	1043.2
2.5°	1032.1	1034.6	1030.8	1016.6	1011.1	1005.1	1002.5	999.9	1004.6	1003.3
5°	1023.5	1020.5	1010.6	992.6	983.2	973.3	968.6	965.6	972.0	970.8
7.5°	1011.9	1003.3	988.8	966.9	954.9	941.6	935.2	931.3	935.6	934.7
10°	997.3	983.2	965.2	939.0	924.9	910.3	903.0	897.4	900.9	900.4
12.5°	978.9	960.5	938.6	909.0	894.4	879.4	873.0	869.1	873.4	872.1
15°	958.3	936.0	910.7	880.7	864.9	851.1	846.4	843.4	846.8	846.8
17.5°	935.6	909.4	881.6	851.1	836.1	825.4	820.7	818.5	820.3	822.8
20°	910.3	881.1	851.1	821.5	808.7	797.5	793.2	791.1	795.0	793.2
22.5°	882.4	851.6	820.3	792.4	780.8	769.7	765.4	764.1	768.4	766.7
25°	852.8	819.4	788.5	763.2	751.7	742.2	738.4	737.1	739.2	741.4
27.5°	825.0	787.2	756.8	734.1	723.8	714.8	711.3	709.2	710.9	713.5
30°	791.1	754.7	724.6	703.6	693.8	685.2	682.6	680.9	683.5	685.6
32.5°	759.4	722.5	692.5	671.9	663.3	655.2	654.7	653.9	656.9	659.5
35°	725.1	689.1	659.9	640.6	632.5	625.6	626.9	628.2	631.6	634.6
37.5°	690.3	655.2	627.3	609.7	602.0	596.4	600.3	602.0	606.7	609.7
40°	655.2	620.0	594.3	578.4	570.7	568.1	573.7	577.6	583.1	585.7
42.5°	619.2	586.6	560.8	546.3	539.8	539.8	547.1	553.1	559.6	562.1
45°	583.1	551.4	527.0	513.7	509.0	512.4	521.0	528.7	536.8	539.4
47.5°	546.7	515.8	493.5	481.5	478.9	484.1	494.8	505.1	514.5	518.0
50°	510.3	482.4	460.1	448.9	448.9	455.4	469.1	482.0	492.2	495.7
52.5°	473.8	447.2	424.5	416.3	418.1	427.1	442.9	456.2	467.8	471.2
55°	436.9	410.8	391.0	384.2	387.2	398.3	414.6	430.1	441.2	445.1
57.5°	400.5	375.6	357.6	352.0	356.3	368.8	387.6	400.9	412.5	415.9
60°	363.6	338.3	324.2	319.9	325.4	338.3	357.6	370.0	380.8	384.2
62.5°	327.2	303.6	291.1	287.3	293.7	307.4	326.3	337.5	345.6	349.0
65°	290.3	269.3	257.7	255.1	262.0	275.3	293.3	302.7	308.7	312.2
67.5°	253.8	235.8	225.1	223.0	230.3	242.3	259.0	264.1	269.7	273.1
70°	217.8	201.5	192.5	191.2	197.7	209.2	223.4	226.0	229.0	232.0
72.5°	182.2	169.4	160.4	159.9	165.9	175.4	186.9	187.4	188.2	191.2
75°	147.9	136.4	129.5	130.8	134.2	141.9	150.9	148.4	148.8	150.9
77.5°	114.9	105.5	100.8	101.6	104.2	109.8	115.8	112.8	111.1	113.2
80°	82.8	74.6	72.9	73.3	75.0	78.9	82.3	79.8	76.3	78.0
82.5°	54.5	49.3	48.5	48.9	50.2	52.3	53.2	49.3	48.5	49.7
85°	30.0	27.9	27.9	29.2	29.6	30.0	30.0	27.9	28.3	29.2
87.5°	12.0	12.0	13.3	14.6	13.7	12.0	10.3	6.9	6.9	8.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)