

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-34L840-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-34L840-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/  
ASYMMETRIC Lens  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

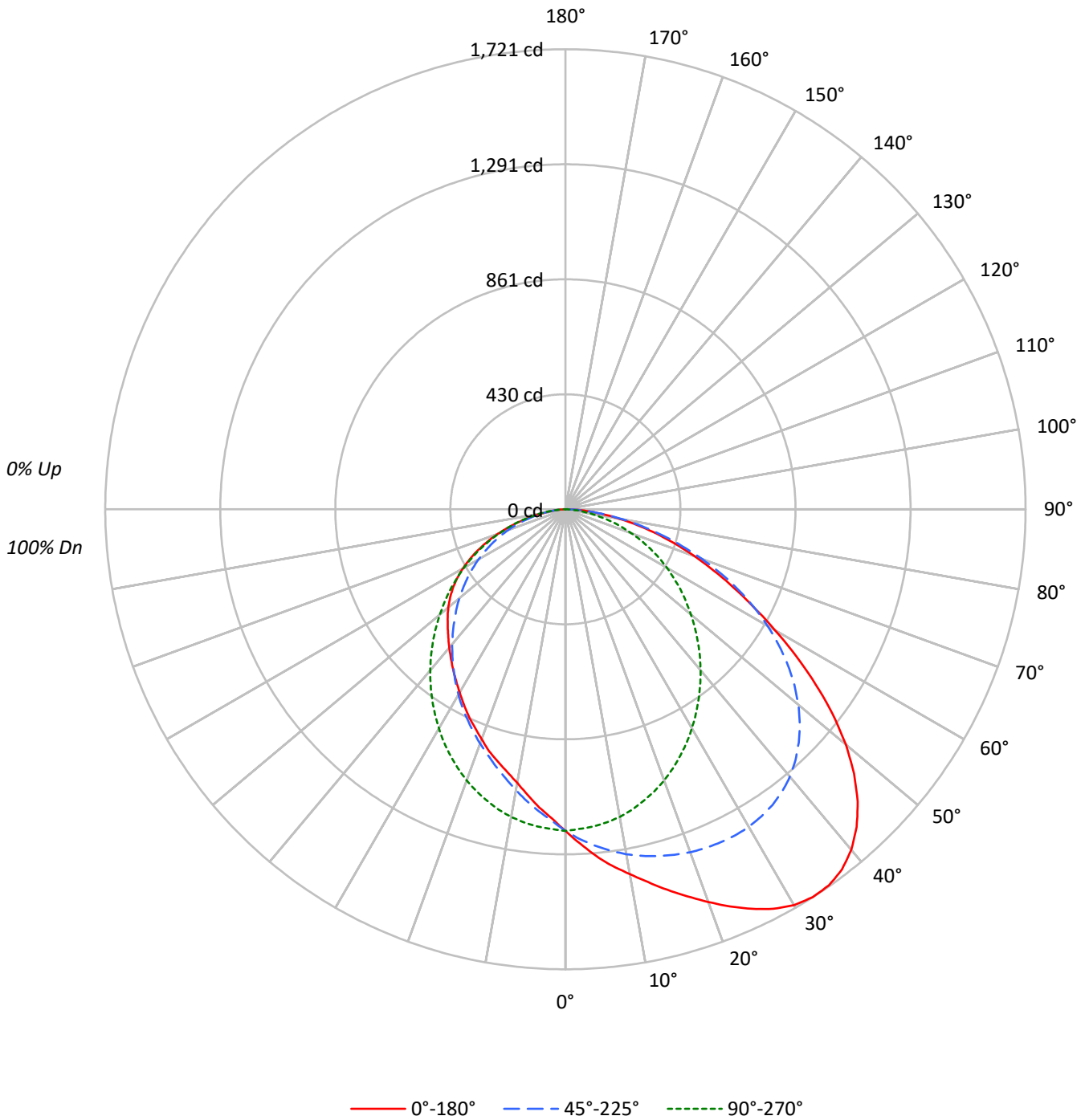
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3727.1 lumens  
Efficiency: N/A  
Efficacy: 101.3 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<sub>in</sub>): 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°	11585	11585	11585
5°	12570	11514	10821
10°	13542	11425	10153
15°	14689	11259	9736
20°	16016	11062	9374
25°	17521	10801	9083
30°	19006	10518	8791
35°	20188	10207	8603
40°	20902	9883	8491
45°	21049	9541	8471
50°	20497	9178	8563
55°	19193	8849	8617
60°	17447	8447	8532
65°	15819	7989	8201
70°	14480	7406	7533
75°	13134	6658	6476
80°	11488	5566	4990
85°	9665	4043	3712



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.3	3.1
10°-20°	332.4	8.9
20°-30°	520.7	14.0
30°-40°	652.8	17.5
40°-50°	694.9	18.6
50°-60°	627.4	16.8
60°-70°	464.4	12.5
70°-80°	254.8	6.8
80°-90°	65.4	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°	967.3	26.0
0°-40°	1620.1	43.5
0°-60°	2942.4	78.9
0°-90°	3727.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3727.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1203	1203	1203	1203	1203	
5°	1301	1263	1191	1134	1120	127
15°	1474	1343	1130	998	977	420
25°	1649	1374	1017	867	855	763
35°	1718	1350	868	730	732	1071
45°	1546	1234	701	587	622	1185
55°	1144	1015	527	447	513	1020
65°	694	715	351	302	360	693
75°	353	374	179	155	174	375
85°	88	86	37	34	34	103
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°	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3
2.5°	1251.8	1249.3	1246.3	1245.3	1240.9	1234.9	1229.5	1229.5	1223.1	1207.7	1196.9
5°	1300.7	1296.8	1289.4	1283.4	1274.0	1262.6	1251.3	1244.3	1229.0	1205.8	1191.4
7.5°	1345.7	1340.8	1331.4	1320.0	1304.7	1287.9	1269.1	1254.2	1231.0	1199.8	1181.5
10°	1385.3	1380.8	1369.5	1355.6	1333.9	1310.1	1282.4	1260.2	1228.5	1189.9	1168.7
12.5°	1428.8	1424.4	1408.5	1389.8	1360.1	1328.4	1291.8	1261.2	1222.1	1175.6	1151.4
15°	1473.8	1467.9	1450.1	1424.9	1385.3	1342.8	1297.8	1258.2	1211.7	1158.3	1129.6
17.5°	1518.3	1512.4	1490.1	1458.0	1408.5	1355.6	1300.2	1251.3	1196.9	1137.0	1105.9
20°	1563.3	1557.4	1529.2	1488.7	1428.8	1365.0	1299.7	1240.9	1179.1	1112.8	1079.7
22.5°	1608.4	1601.4	1567.3	1517.8	1445.6	1371.5	1294.3	1226.5	1156.8	1085.1	1049.5
25°	1649.4	1642.5	1604.9	1546.5	1463.4	1374.4	1284.9	1206.8	1132.1	1054.4	1016.8
27.5°	1685.0	1676.6	1637.5	1573.2	1478.8	1375.4	1272.5	1184.5	1103.4	1021.3	983.2
30°	1709.7	1702.3	1660.8	1592.0	1487.7	1371.9	1256.7	1158.3	1070.3	985.7	946.1
32.5°	1720.6	1714.2	1673.1	1600.9	1489.2	1363.0	1237.4	1129.1	1035.6	948.1	908.0
35°	1717.7	1711.2	1672.2	1599.4	1484.7	1350.2	1213.2	1096.0	998.5	909.0	868.5
37.5°	1698.9	1691.4	1655.8	1586.1	1471.8	1331.4	1185.5	1059.9	958.5	869.0	827.9
40°	1663.2	1655.8	1625.2	1560.9	1450.1	1306.2	1153.8	1021.3	917.4	826.9	786.4
42.5°	1612.3	1604.4	1580.2	1521.3	1418.9	1273.0	1117.7	980.2	873.9	786.4	743.8
45°	1546.0	1538.1	1521.8	1471.8	1378.4	1234.0	1076.7	935.7	828.4	740.4	700.8
47.5°	1463.9	1457.0	1449.1	1410.5	1328.4	1189.0	1030.7	888.3	780.9	697.3	656.8
50°	1368.5	1361.6	1364.0	1337.8	1270.6	1137.0	980.2	838.3	732.0	649.4	612.8
52.5°	1260.2	1254.7	1266.6	1255.2	1203.3	1079.2	926.3	786.9	682.0	603.9	568.8
55°	1143.5	1137.5	1160.3	1163.7	1128.1	1015.4	865.0	733.5	631.6	559.4	527.2
57.5°	1023.3	1018.3	1047.5	1063.8	1046.0	946.6	803.2	678.6	579.6	512.9	480.7
60°	906.1	902.1	932.8	959.5	957.5	873.9	738.9	619.2	527.7	465.9	438.7
62.5°	795.8	791.3	822.0	853.6	865.0	796.3	675.1	560.8	475.8	418.9	394.7
65°	694.4	689.9	716.1	748.8	769.6	715.2	606.3	500.5	423.4	371.4	350.7
67.5°	601.4	601.4	617.7	647.9	673.1	632.1	536.1	443.1	369.4	327.4	306.6
70°	514.4	513.9	525.7	547.0	576.2	543.0	464.9	382.8	318.5	281.4	263.1
72.5°	431.8	435.2	439.7	456.0	486.7	458.0	394.2	323.5	268.6	235.9	220.6
75°	353.1	352.6	359.1	373.4	395.7	374.4	323.5	265.6	219.1	192.4	179.0
77.5°	278.0	277.5	282.9	291.3	310.1	293.3	255.2	212.2	170.6	148.4	139.0
80°	207.2	207.2	212.2	216.6	230.5	217.1	190.4	158.8	125.1	107.8	100.4
82.5°	143.9	146.9	144.9	150.8	158.8	147.4	130.6	108.8	83.1	71.2	66.3
85°	87.5	90.0	87.5	92.5	95.9	86.1	77.6	64.8	48.0	40.1	36.6
87.5°	45.0	44.5	44.0	46.5	47.5	41.5	36.6	31.2	21.3	16.3	13.8
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°	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3	1203.3
2.5°	1190.4	1193.4	1189.0	1172.6	1166.2	1159.3	1156.3	1153.3	1158.8	1157.3
5°	1180.5	1177.1	1165.7	1144.9	1134.1	1122.7	1117.2	1113.8	1121.2	1119.7
7.5°	1167.2	1157.3	1140.5	1115.3	1101.4	1086.1	1078.7	1074.2	1079.2	1078.2
10°	1150.4	1134.1	1113.3	1083.1	1066.8	1050.0	1041.6	1035.1	1039.1	1038.6
12.5°	1129.1	1107.8	1082.6	1048.5	1031.7	1014.4	1007.0	1002.5	1007.4	1006.0
15°	1105.4	1079.7	1050.5	1015.9	997.6	981.7	976.3	972.8	976.8	976.8
17.5°	1079.2	1049.0	1016.8	981.7	964.4	952.1	946.6	944.1	946.1	949.1
20°	1050.0	1016.3	981.7	947.6	932.8	919.9	915.0	912.5	916.9	915.0
22.5°	1017.8	982.2	946.1	914.0	900.6	887.8	882.8	881.3	886.3	884.3
25°	983.7	945.1	909.5	880.3	867.0	856.1	851.7	850.2	852.6	855.1
27.5°	951.6	908.0	872.9	846.7	834.8	824.5	820.5	818.0	820.0	823.0
30°	912.5	870.4	835.8	811.6	800.2	790.3	787.4	785.4	788.3	790.8
32.5°	875.9	833.4	798.7	775.0	765.1	755.7	755.2	754.2	757.7	760.7
35°	836.3	794.8	761.1	738.9	729.5	721.6	723.1	724.5	728.5	732.0
37.5°	796.3	755.7	723.6	703.3	694.4	688.0	692.4	694.4	699.8	703.3
40°	755.7	715.2	685.5	667.2	658.3	655.3	661.7	666.2	672.6	675.6
42.5°	714.2	676.6	646.9	630.1	622.7	622.7	631.1	638.0	645.4	648.4
45°	672.6	636.0	607.8	592.5	587.1	591.0	600.9	609.8	619.2	622.2
47.5°	630.6	595.0	569.3	555.4	552.4	558.4	570.7	582.6	593.5	597.4
50°	588.5	556.4	530.7	517.8	517.8	525.2	541.1	555.9	567.8	571.7
52.5°	546.5	515.8	489.6	480.2	482.2	492.6	510.9	526.2	539.6	543.5
55°	504.0	473.8	451.1	443.1	446.6	459.5	478.3	496.1	508.9	513.4
57.5°	461.9	433.2	412.5	406.0	411.0	425.3	447.1	462.4	475.8	479.7
60°	419.4	390.2	373.9	369.0	375.4	390.2	412.5	426.8	439.2	443.1
62.5°	377.4	350.2	335.8	331.4	338.8	354.6	376.4	389.2	398.6	402.6
65°	334.8	310.6	297.2	294.3	302.2	317.5	338.3	349.2	356.1	360.0
67.5°	292.8	272.0	259.7	257.2	265.6	279.4	298.7	304.7	311.1	315.0
70°	251.2	232.4	222.1	220.6	228.0	241.4	257.7	260.6	264.1	267.6
72.5°	210.2	195.4	185.0	184.5	191.4	202.3	215.6	216.1	217.1	220.6
75°	170.6	157.3	149.4	150.8	154.8	163.7	174.1	171.1	171.6	174.1
77.5°	132.5	121.7	116.2	117.2	120.2	126.6	133.5	130.1	128.1	130.6
80°	95.5	86.1	84.1	84.6	86.6	91.0	95.0	92.0	88.0	90.0
82.5°	62.8	56.9	55.9	56.4	57.9	60.3	61.3	56.9	55.9	57.4
85°	34.6	32.1	32.1	33.6	34.1	34.6	34.6	32.1	32.6	33.6
87.5°	13.8	13.8	15.3	16.8	15.8	13.8	11.9	7.9	7.9	9.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)