

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-20-22L950-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-20-22L950-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ ASYMMETRIC Lens  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

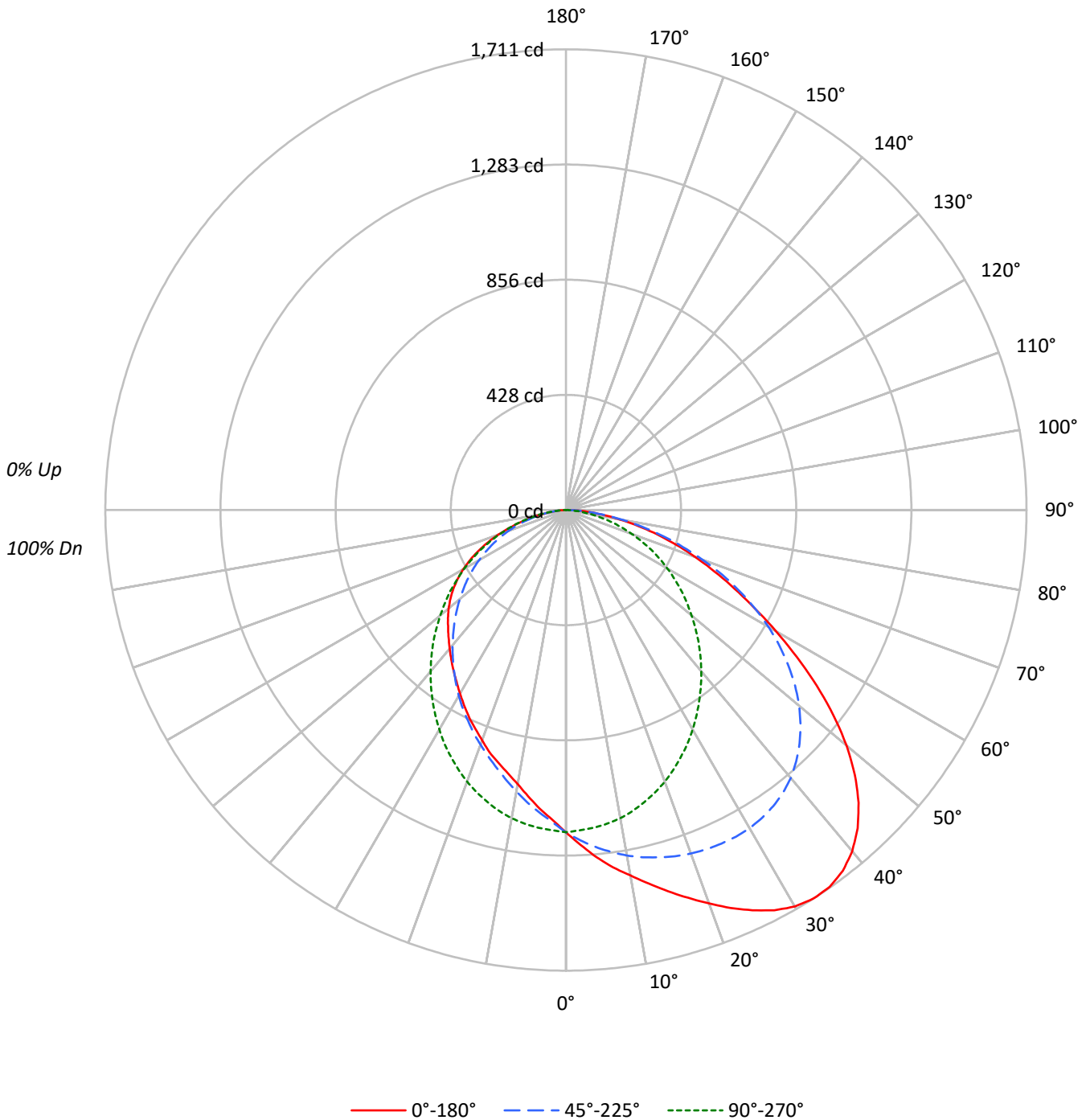
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3706.8 lumens  
Efficiency: N/A  
Efficacy: 77.2 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): 48  
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°	11521	11521	11521
5°	12502	11451	10762
10°	13468	11362	10097
15°	14610	11197	9683
20°	15929	11001	9323
25°	17425	10743	9035
30°	18903	10461	8743
35°	20077	10151	8556
40°	20789	9829	8444
45°	20935	9490	8425
50°	20384	9127	8516
55°	19088	8800	8570
60°	17350	8401	8486
65°	15732	7943	8158
70°	14401	7366	7490
75°	13064	6625	6439
80°	11427	5539	4962
85°	9621	4021	3689



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.7	3.1
10°-20°	330.6	8.9
20°-30°	517.9	14.0
30°-40°	649.2	17.5
40°-50°	691.2	18.6
50°-60°	623.9	16.8
60°-70°	461.9	12.5
70°-80°	253.4	6.8
80°-90°	65.1	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°	962.1	26.0
0°-40°	1611.3	43.5
0°-60°	2926.4	78.9
0°-90°	3706.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3706.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1197	1197	1197	1197	1197	
5°	1294	1256	1185	1128	1114	126
15°	1466	1335	1123	992	972	418
25°	1640	1367	1011	862	850	759
35°	1708	1343	864	726	728	1065
45°	1538	1227	697	584	619	1179
55°	1137	1010	524	444	511	1014
65°	691	711	349	300	358	689
75°	351	372	178	154	173	373
85°	87	86	36	34	33	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°	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7
2.5°	1244.9	1242.5	1239.5	1238.5	1234.1	1228.2	1222.8	1222.8	1216.4	1201.2	1190.3
5°	1293.6	1289.7	1282.3	1276.4	1267.1	1255.8	1244.5	1237.6	1222.3	1199.2	1184.9
7.5°	1338.4	1333.5	1324.1	1312.8	1297.6	1280.8	1262.2	1247.4	1224.3	1193.3	1175.1
10°	1377.7	1373.3	1362.0	1348.2	1326.6	1303.0	1275.4	1253.3	1221.8	1183.5	1162.3
12.5°	1421.0	1416.6	1400.9	1382.2	1352.7	1321.2	1284.8	1254.3	1215.4	1169.2	1145.1
15°	1465.8	1459.9	1442.2	1417.1	1377.7	1335.4	1290.7	1251.3	1205.1	1152.0	1123.4
17.5°	1510.1	1504.2	1482.0	1450.1	1400.9	1348.2	1293.1	1244.5	1190.3	1130.8	1099.8
20°	1554.8	1548.9	1520.9	1480.6	1421.0	1357.6	1292.7	1234.1	1172.6	1106.7	1073.8
22.5°	1599.6	1592.7	1558.8	1509.6	1437.8	1364.0	1287.2	1219.9	1150.5	1079.2	1043.8
25°	1640.4	1633.5	1596.1	1538.1	1455.5	1366.9	1277.9	1200.2	1125.9	1048.7	1011.3
27.5°	1675.8	1667.5	1628.6	1564.7	1470.7	1367.9	1265.6	1178.0	1097.4	1015.7	977.9
30°	1700.4	1693.0	1651.7	1583.4	1479.6	1364.5	1249.9	1152.0	1064.4	980.3	941.0
32.5°	1711.2	1704.8	1664.0	1592.2	1481.0	1355.6	1230.7	1123.0	1030.0	942.9	903.1
35°	1708.3	1701.9	1663.0	1590.7	1476.6	1342.8	1206.6	1090.0	993.1	904.1	863.7
37.5°	1689.6	1682.2	1646.8	1577.5	1463.8	1324.1	1179.0	1054.1	953.3	864.2	823.4
40°	1654.2	1646.8	1616.3	1552.4	1442.2	1299.0	1147.6	1015.7	912.4	822.4	782.1
42.5°	1603.5	1595.7	1571.5	1513.0	1411.2	1266.1	1111.6	974.9	869.1	782.1	739.8
45°	1537.6	1529.7	1513.5	1463.8	1370.9	1227.2	1070.8	930.6	823.9	736.3	697.0
47.5°	1456.0	1449.1	1441.2	1402.8	1321.2	1182.5	1025.1	883.4	776.7	693.5	653.2
50°	1361.0	1354.1	1356.6	1330.5	1263.6	1130.8	974.9	833.7	728.0	645.8	609.4
52.5°	1253.3	1247.9	1259.7	1248.4	1196.7	1073.3	921.3	782.6	678.3	600.6	565.7
55°	1137.2	1131.3	1153.9	1157.4	1122.0	1009.8	860.3	729.5	628.1	556.3	524.3
57.5°	1017.7	1012.8	1041.8	1058.0	1040.3	941.5	798.8	674.9	576.5	510.1	478.1
60°	901.1	897.2	927.7	954.2	952.3	869.1	734.9	615.8	524.8	463.3	436.3
62.5°	791.4	787.0	817.5	849.0	860.3	791.9	671.4	557.8	473.2	416.6	392.5
65°	690.6	686.2	712.2	744.7	765.4	711.3	603.0	497.8	421.0	369.4	348.7
67.5°	598.1	598.1	614.4	644.4	669.4	628.6	533.2	440.7	367.4	325.6	305.0
70°	511.6	511.1	522.9	544.0	573.0	540.1	462.4	380.7	316.8	279.9	261.7
72.5°	429.4	432.9	437.3	453.5	484.0	455.5	392.0	321.7	267.1	234.6	219.4
75°	351.2	350.7	357.1	371.4	393.5	372.4	321.7	264.1	217.9	191.3	178.1
77.5°	276.4	275.9	281.4	289.7	308.4	291.7	253.8	211.0	169.7	147.6	138.2
80°	206.1	206.1	211.0	215.4	229.2	215.9	189.4	157.9	124.4	107.2	99.9
82.5°	143.1	146.1	144.1	150.0	157.9	146.6	129.9	108.2	82.6	70.8	65.9
85°	87.1	89.5	87.1	92.0	95.4	85.6	77.2	64.4	47.7	39.8	36.4
87.5°	44.8	44.3	43.8	46.2	47.2	41.3	36.4	31.0	21.2	16.2	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°	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7	1196.7
2.5°	1183.9	1186.9	1182.5	1166.2	1159.8	1153.0	1150.0	1147.1	1152.5	1151.0
5°	1174.1	1170.7	1159.4	1138.7	1127.9	1116.6	1111.2	1107.7	1115.1	1113.6
7.5°	1160.8	1151.0	1134.3	1109.2	1095.4	1080.2	1072.8	1068.4	1073.3	1072.3
10°	1144.1	1127.9	1107.2	1077.2	1061.0	1044.3	1035.9	1029.5	1033.4	1032.9
12.5°	1123.0	1101.8	1076.7	1042.8	1026.1	1008.8	1001.5	997.0	1002.0	1000.5
15°	1099.3	1073.8	1044.7	1010.3	992.1	976.4	971.0	967.5	971.5	971.5
17.5°	1073.3	1043.3	1011.3	976.4	959.2	946.9	941.5	939.0	941.0	943.9
20°	1044.3	1010.8	976.4	942.4	927.7	914.9	910.0	907.5	911.9	910.0
22.5°	1012.3	976.9	941.0	909.0	895.7	882.9	878.0	876.5	881.4	879.5
25°	978.3	940.0	904.6	875.5	862.3	851.4	847.0	845.5	848.0	850.5
27.5°	946.4	903.1	868.2	842.1	830.3	820.0	816.0	813.6	815.5	818.5
30°	907.5	865.7	831.3	807.2	795.9	786.0	783.1	781.1	784.1	786.5
32.5°	871.1	828.8	794.4	770.8	760.9	751.6	751.1	750.1	753.6	756.5
35°	831.8	790.4	757.0	734.9	725.5	717.6	719.1	720.6	724.5	728.0
37.5°	791.9	751.6	719.6	699.5	690.6	684.2	688.6	690.6	696.0	699.5
40°	751.6	711.3	681.7	663.5	654.7	651.7	658.1	662.6	669.0	671.9
42.5°	710.3	672.9	643.4	626.7	619.3	619.3	627.6	634.5	641.9	644.9
45°	669.0	632.6	604.5	589.3	583.9	587.8	597.6	606.5	615.8	618.8
47.5°	627.1	591.7	566.2	552.4	549.4	555.3	567.6	579.4	590.3	594.2
50°	585.3	553.4	527.8	515.0	515.0	522.4	538.1	552.9	564.7	568.6
52.5°	543.5	513.0	487.0	477.6	479.6	489.9	508.1	523.4	536.6	540.6
55°	501.2	471.2	448.6	440.7	444.2	457.0	475.6	493.4	506.1	510.6
57.5°	459.4	430.9	410.2	403.8	408.8	423.0	444.7	459.9	473.2	477.1
60°	417.1	388.1	371.9	366.9	373.3	388.1	410.2	424.5	436.8	440.7
62.5°	375.3	348.2	334.0	329.6	336.9	352.7	374.3	387.1	396.5	400.4
65°	333.0	308.9	295.6	292.7	300.5	315.8	336.4	347.3	354.2	358.1
67.5°	291.2	270.5	258.2	255.8	264.1	277.9	297.1	303.0	309.4	313.3
70°	249.9	231.2	220.9	219.4	226.8	240.0	256.3	259.2	262.7	266.1
72.5°	209.0	194.3	184.0	183.5	190.4	201.2	214.5	215.0	215.9	219.4
75°	169.7	156.4	148.5	150.0	154.0	162.8	173.1	170.2	170.7	173.1
77.5°	131.8	121.0	115.6	116.6	119.5	125.9	132.8	129.4	127.4	129.9
80°	94.9	85.6	83.6	84.1	86.1	90.5	94.4	91.5	87.6	89.5
82.5°	62.5	56.6	55.6	56.1	57.5	60.0	61.0	56.6	55.6	57.1
85°	34.4	32.0	32.0	33.4	33.9	34.4	34.4	32.0	32.5	33.4
87.5°	13.8	13.8	15.2	16.7	15.7	13.8	11.8	7.9	7.9	9.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)