

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-20-22L940-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-20-22L940-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light  
w/ ASYMMETRIC Lens  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

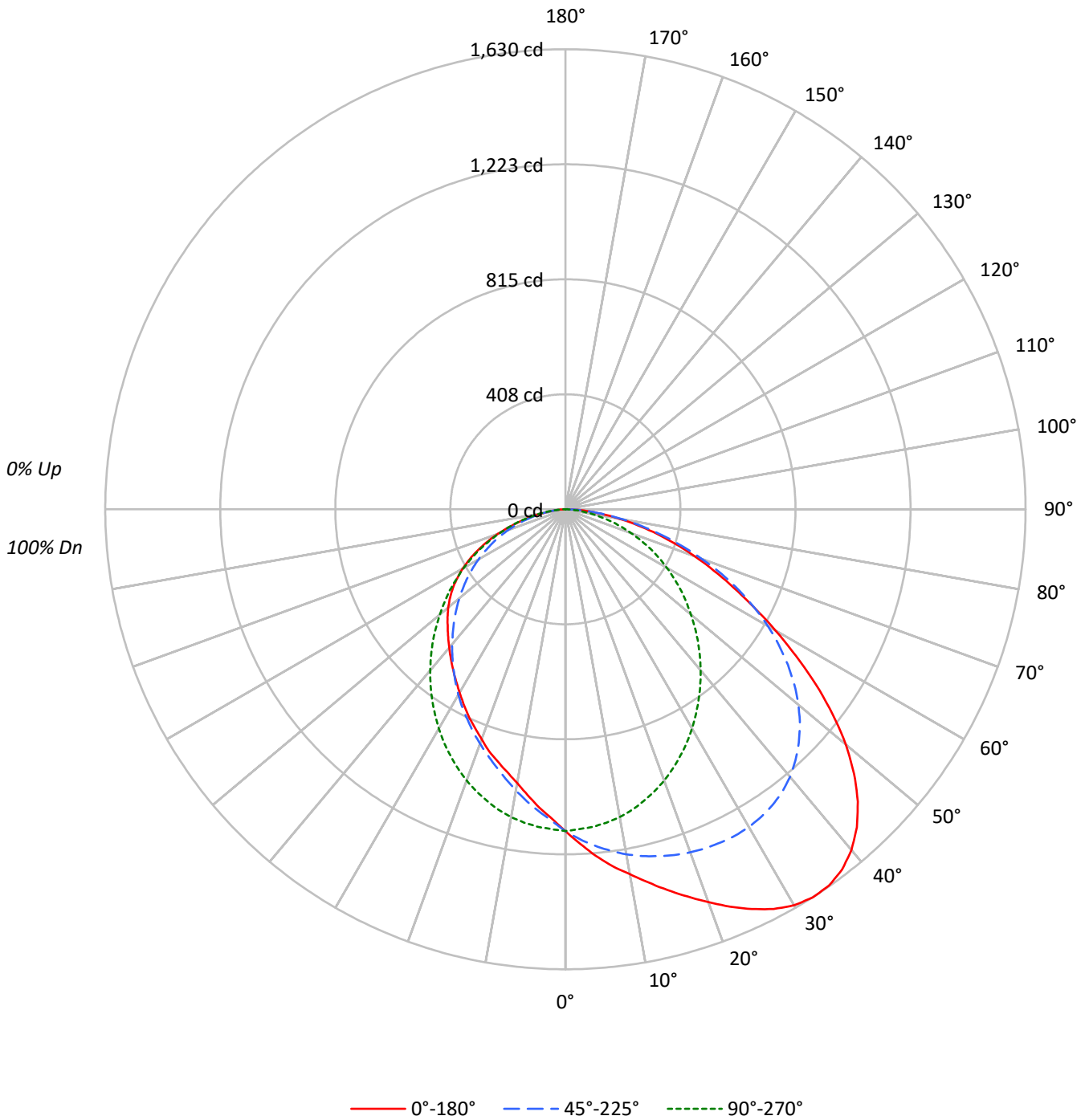
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3531.7 lumens  
Efficiency: N/A  
Efficacy: 73.6 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

TEST NUMBER: P  
CATALOG NUMBER: 4APN-20-22L940-UNV-ASY

### Luminous Intensity Polar Plot





TEST NUMBER: P  
 CATALOG NUMBER: 4APN-20-22L940-UNV-ASY

**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	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°	10977	10977	10977
5°	11911	10911	10254
10°	12833	10826	9621
15°	13920	10669	9225
20°	15177	10481	8883
25°	16602	10235	8607
30°	18010	9966	8331
35°	19129	9671	8152
40°	19807	9364	8046
45°	19946	9042	8027
50°	19421	8696	8115
55°	18186	8386	8166
60°	16532	8004	8085
65°	14989	7570	7773
70°	13720	7017	7136
75°	12446	6309	6138
80°	10889	5273	4729
85°	9157	3833	3524



TEST NUMBER: P  
 CATALOG NUMBER: 4APN-20-22L940-UNV-ASY

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.3	3.1
10°-20°	314.9	8.9
20°-30°	493.4	14.0
30°-40°	618.6	17.5
40°-50°	658.5	18.6
50°-60°	594.5	16.8
60°-70°	440.1	12.5
70°-80°	241.5	6.8
80°-90°	62.0	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°	916.6	26.0
0°-40°	1535.2	43.5
0°-60°	2788.2	78.9
0°-90°	3531.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3531.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1140	1140	1140	1140	1140	
5°	1232	1196	1129	1075	1061	120
15°	1397	1272	1070	945	926	398
25°	1563	1302	964	822	810	723
35°	1628	1279	823	691	694	1015
45°	1465	1169	664	556	590	1123
55°	1084	962	500	423	486	966
65°	658	678	332	286	341	656
75°	335	355	170	147	165	356
85°	83	82	35	32	32	98
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-20-22L940-UNV-ASY

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2
2.5°	1186.1	1183.8	1181.0	1180.0	1175.8	1170.2	1165.0	1165.0	1159.0	1144.4	1134.1
5°	1232.5	1228.8	1221.8	1216.1	1207.2	1196.4	1185.7	1179.1	1164.6	1142.6	1129.0
7.5°	1275.2	1270.5	1261.6	1250.8	1236.3	1220.3	1202.5	1188.5	1166.5	1136.9	1119.6
10°	1312.7	1308.5	1297.7	1284.6	1263.9	1241.4	1215.2	1194.1	1164.1	1127.6	1107.4
12.5°	1353.9	1349.7	1334.7	1316.9	1288.8	1258.8	1224.1	1195.0	1158.0	1114.0	1091.0
15°	1396.6	1390.9	1374.1	1350.2	1312.7	1272.4	1229.7	1192.2	1148.2	1097.6	1070.4
17.5°	1438.7	1433.1	1412.0	1381.6	1334.7	1284.6	1232.1	1185.7	1134.1	1077.4	1047.9
20°	1481.4	1475.8	1449.0	1410.6	1353.9	1293.5	1231.6	1175.8	1117.2	1054.4	1023.0
22.5°	1524.0	1517.5	1485.1	1438.3	1369.8	1299.5	1226.4	1162.2	1096.2	1028.2	994.5
25°	1562.9	1556.4	1520.7	1465.4	1386.7	1302.4	1217.5	1143.5	1072.7	999.1	963.5
27.5°	1596.7	1588.7	1551.7	1490.8	1401.2	1303.3	1205.8	1122.4	1045.5	967.7	931.7
30°	1620.1	1613.1	1573.7	1508.6	1409.7	1300.0	1190.8	1097.6	1014.1	934.0	896.5
32.5°	1630.4	1624.3	1585.4	1517.0	1411.1	1291.6	1172.5	1069.9	981.3	898.4	860.4
35°	1627.6	1621.5	1584.5	1515.6	1406.9	1279.4	1149.6	1038.5	946.2	861.4	822.9
37.5°	1609.8	1602.8	1569.0	1502.9	1394.7	1261.6	1123.3	1004.3	908.2	823.4	784.5
40°	1576.0	1569.0	1540.0	1479.0	1374.1	1237.7	1093.3	967.7	869.3	783.6	745.1
42.5°	1527.8	1520.3	1497.3	1441.5	1344.5	1206.3	1059.1	928.9	828.1	745.1	704.8
45°	1465.0	1457.5	1442.0	1394.7	1306.1	1169.3	1020.2	886.7	785.0	701.6	664.1
47.5°	1387.2	1380.6	1373.1	1336.6	1258.8	1126.6	976.7	841.7	740.0	660.8	622.4
50°	1296.7	1290.2	1292.5	1267.7	1203.9	1077.4	928.9	794.4	693.6	615.3	580.6
52.5°	1194.1	1188.9	1200.2	1189.4	1140.2	1022.6	877.8	745.6	646.3	572.2	538.9
55°	1083.5	1077.9	1099.4	1102.7	1069.0	962.1	819.7	695.0	598.5	530.0	499.6
57.5°	969.6	964.9	992.6	1008.1	991.2	897.0	761.1	643.0	549.2	486.0	455.5
60°	858.6	854.8	883.9	909.2	907.3	828.1	700.2	586.7	500.0	441.5	415.7
62.5°	754.0	749.8	778.9	808.9	819.7	754.5	639.7	531.4	450.8	396.9	374.0
65°	658.0	653.8	678.6	709.5	729.2	677.7	574.6	474.3	401.2	352.0	332.3
67.5°	569.9	569.9	585.3	613.9	637.8	598.9	508.0	419.9	350.1	310.2	290.6
70°	487.4	486.9	498.2	518.3	546.0	514.6	440.5	362.7	301.8	266.7	249.3
72.5°	409.1	412.4	416.6	432.1	461.1	434.0	373.5	306.5	254.5	223.5	209.0
75°	334.6	334.1	340.2	353.8	374.9	354.8	306.5	251.7	207.6	182.3	169.6
77.5°	263.4	262.9	268.1	276.0	293.8	277.9	241.8	201.0	161.7	140.6	131.7
80°	196.4	196.4	201.0	205.3	218.4	205.7	180.4	150.4	118.6	102.2	95.1
82.5°	136.4	139.2	137.3	142.9	150.4	139.7	123.7	103.1	78.7	67.5	62.8
85°	82.9	85.3	82.9	87.6	90.9	81.5	73.6	61.4	45.5	38.0	34.7
87.5°	42.6	42.2	41.7	44.1	45.0	39.4	34.7	29.5	20.2	15.5	13.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P  
 CATALOG NUMBER: 4APN-20-22L940-UNV-ASY

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2	1140.2
2.5°	1128.0	1130.8	1126.6	1111.2	1105.1	1098.5	1095.7	1092.9	1098.0	1096.6
5°	1118.7	1115.4	1104.6	1084.9	1074.6	1063.8	1058.7	1055.4	1062.4	1061.0
7.5°	1106.0	1096.6	1080.7	1056.8	1043.7	1029.1	1022.1	1017.9	1022.6	1021.6
10°	1090.1	1074.6	1054.9	1026.3	1010.9	994.9	987.0	980.9	984.6	984.2
12.5°	1069.9	1049.8	1025.9	993.5	977.6	961.2	954.2	949.9	954.6	953.2
15°	1047.4	1023.0	995.4	962.6	945.3	930.3	925.1	921.8	925.6	925.6
17.5°	1022.6	994.0	963.5	930.3	913.9	902.1	897.0	894.6	896.5	899.3
20°	994.9	963.1	930.3	897.9	883.9	871.7	867.0	864.6	868.9	867.0
22.5°	964.5	930.7	896.5	866.1	853.4	841.2	836.5	835.1	839.8	837.9
25°	932.1	895.6	861.8	834.2	821.5	811.2	807.0	805.6	807.9	810.3
27.5°	901.7	860.4	827.2	802.3	791.1	781.2	777.5	775.1	777.0	779.8
30°	864.6	824.8	792.0	769.0	758.3	748.9	746.1	744.2	747.0	749.4
32.5°	830.0	789.7	756.9	734.4	725.0	716.1	715.6	714.7	718.0	720.8
35°	792.5	753.1	721.2	700.2	691.2	683.8	685.2	686.6	690.3	693.6
37.5°	754.5	716.1	685.6	666.4	658.0	651.9	656.1	658.0	663.1	666.4
40°	716.1	677.7	649.5	632.2	623.8	621.0	627.0	631.3	637.4	640.2
42.5°	676.7	641.1	613.0	597.1	590.0	590.0	598.0	604.5	611.6	614.4
45°	637.4	602.7	576.0	561.4	556.3	560.0	569.4	577.8	586.7	589.6
47.5°	597.5	563.8	539.4	526.3	523.5	529.1	540.8	552.1	562.4	566.1
50°	557.7	527.2	502.9	490.7	490.7	497.7	512.7	526.8	538.0	541.8
52.5°	517.9	488.8	464.0	455.1	456.9	466.8	484.1	498.6	511.3	515.0
55°	477.5	449.0	427.4	419.9	423.2	435.4	453.2	470.0	482.2	486.5
57.5°	437.7	410.5	390.8	384.8	389.4	403.0	423.7	438.2	450.8	454.6
60°	397.4	369.8	354.3	349.6	355.7	369.8	390.8	404.4	416.2	419.9
62.5°	357.6	331.8	318.2	314.0	321.0	336.0	356.6	368.8	377.7	381.5
65°	317.3	294.3	281.7	278.8	286.3	300.9	320.6	330.9	337.4	341.2
67.5°	277.4	257.8	246.0	243.7	251.7	264.8	283.1	288.7	294.8	298.5
70°	238.1	220.3	210.4	209.0	216.0	228.7	244.2	247.0	250.3	253.5
72.5°	199.2	185.1	175.3	174.8	181.4	191.7	204.3	204.8	205.7	209.0
75°	161.7	149.0	141.5	142.9	146.7	155.1	165.0	162.2	162.6	165.0
77.5°	125.6	115.3	110.1	111.1	113.9	120.0	126.5	123.3	121.4	123.7
80°	90.4	81.5	79.7	80.1	82.0	86.2	90.0	87.2	83.4	85.3
82.5°	59.5	53.9	53.0	53.4	54.8	57.2	58.1	53.9	53.0	54.4
85°	32.8	30.5	30.5	31.9	32.3	32.8	32.8	30.5	30.9	31.9
87.5°	13.1	13.1	14.5	15.9	15.0	13.1	11.2	7.5	7.5	8.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)