

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: P708892

Luminaire Tested: **22APR-X-X-UNV-RL830**

Issue Date: 09/12/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P708892  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 09/12/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22APR-X-X-UNV-RL830  
Description: ArcMed Patient Recessed 2x2 Fixture READING Light  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

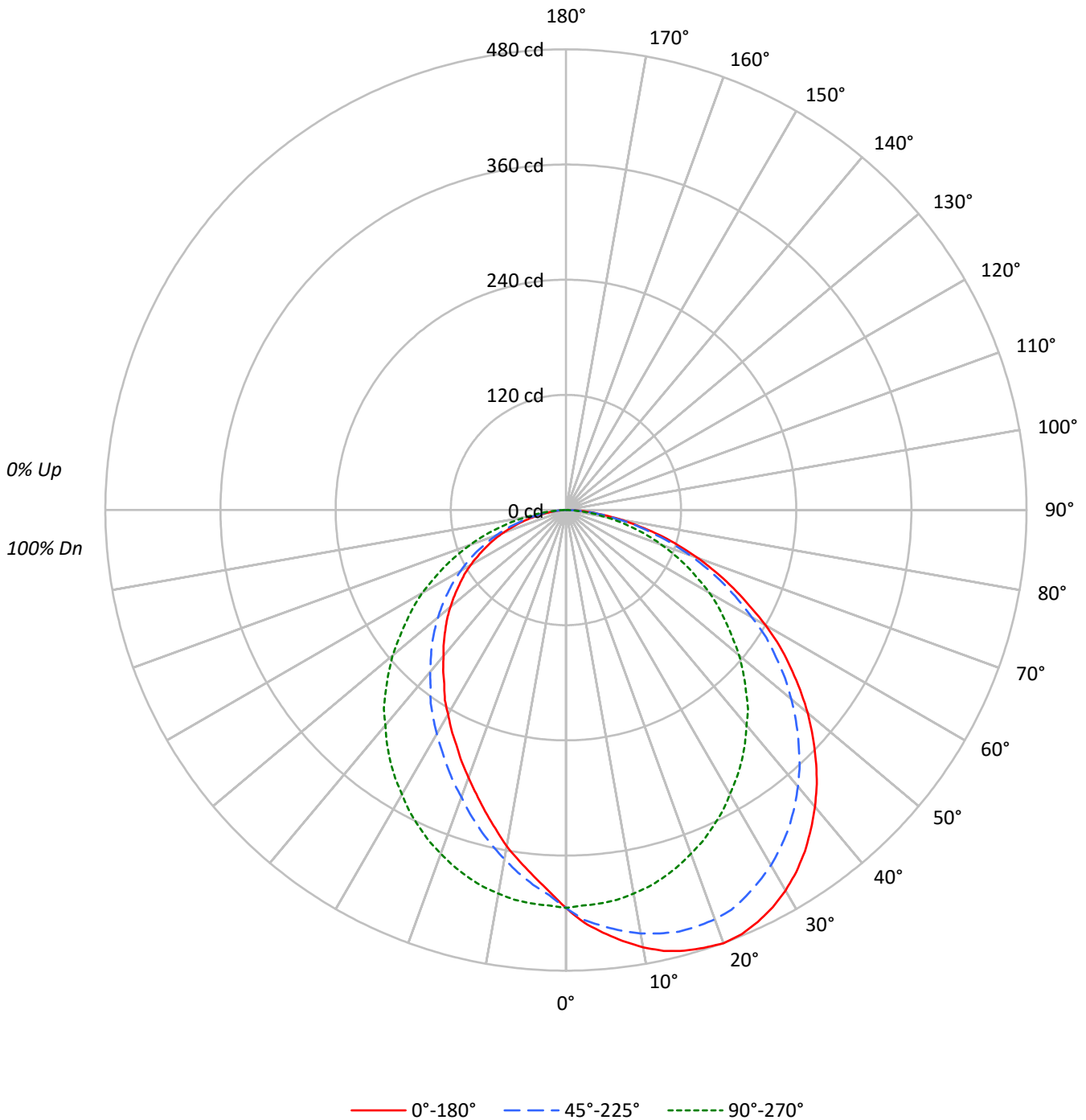
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1156.2 lumens  
Efficiency: N/A  
Efficacy: 82.6 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.23 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 14  
Input Voltage (V): 120  
Input Current (Ain): 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	98	94	91	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	75	82	78	74	79	75	72	72	72	72	70
3	90	80	72	65	88	78	71	64	75	69	63	72	67	62	70	65	61	61	61	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	53	53	53	53	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	46	46	46	44
6	70	57	48	41	68	56	47	41	54	47	41	52	46	41	51	45	40	40	40	40	38
7	65	52	43	37	63	51	42	36	49	42	36	48	41	36	46	40	36	36	36	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	32	32	32	30
9	57	43	35	29	55	43	35	29	41	34	29	40	34	29	39	33	29	29	29	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	31	26	26	26	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	1115	1115	1115
5°	1194	1112	1035
10°	1264	1109	972
15°	1324	1103	906
20°	1375	1091	849
25°	1406	1079	802
30°	1422	1062	763
35°	1426	1049	726
40°	1418	1028	697
45°	1402	1009	677
50°	1377	987	658
55°	1341	954	636
60°	1295	931	618
65°	1226	888	588
70°	1152	835	548
75°	1052	756	490
80°	913	654	395
85°	760	516	272



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.3	3.4
10°-20°	112.6	9.7
20°-30°	169.8	14.7
30°-40°	202.7	17.5
40°-50°	208.0	18.0
50°-60°	186.1	16.1
60°-70°	139.7	12.1
70°-80°	78.1	6.8
80°-90°	19.9	1.7
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°	321.7	27.8
0°-40°	524.4	45.4
0°-60°	918.4	79.4
0°-90°	1156.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1156.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	414	414	414	414	414	
5°	442	435	412	392	383	43
15°	475	455	396	345	325	135
25°	473	444	363	294	270	218
35°	434	405	319	246	221	271
45°	368	343	265	197	178	284
55°	286	267	203	150	136	255
65°	192	181	140	102	92	190
75°	101	94	73	52	47	107
85°	25	23	17	11	9	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5	414.5
2.5°	430.2	428.2	427.3	420.4	412.5	409.6	401.7	401.7	397.8
5°	442.0	440.0	435.1	424.3	411.5	402.7	391.9	388.0	383.1
7.5°	452.8	448.9	442.0	426.3	409.6	395.8	381.1	374.2	369.3
10°	462.6	458.7	447.9	428.2	405.7	388.0	369.3	360.5	355.6
12.5°	470.5	465.6	451.8	428.2	401.7	378.2	357.5	345.7	339.8
15°	475.4	470.5	454.8	427.3	395.8	369.3	344.8	332.0	325.1
17.5°	478.3	472.4	454.8	424.3	389.0	358.5	332.0	317.3	310.4
20°	480.3	473.4	453.8	419.4	381.1	347.7	318.2	304.5	296.6
22.5°	478.3	470.5	450.8	414.5	373.2	335.9	306.5	290.7	283.9
25°	473.4	466.6	444.0	406.6	363.4	325.1	293.7	277.0	270.1
27.5°	466.6	459.7	436.1	397.8	353.6	313.3	280.9	264.2	258.3
30°	457.7	449.9	427.3	388.0	341.8	300.6	269.1	252.4	245.6
32.5°	446.9	439.1	416.5	378.2	331.0	288.8	257.3	240.6	234.7
35°	434.1	427.3	404.7	364.4	319.2	277.0	245.6	226.9	221.0
37.5°	419.4	412.5	390.9	352.6	306.5	265.2	231.8	216.1	210.2
40°	403.7	396.8	376.2	337.9	292.7	252.4	220.0	204.3	198.4
42.5°	387.0	380.1	360.5	324.1	280.9	239.7	208.2	193.5	188.6
45°	368.3	362.4	342.8	308.4	265.2	224.9	197.4	182.7	177.8
47.5°	348.7	342.8	325.1	292.7	250.5	212.2	185.6	171.9	168.0
50°	329.0	323.1	306.5	275.0	235.7	198.4	173.9	161.1	157.2
52.5°	307.4	302.5	287.8	258.3	219.0	185.6	162.1	151.3	146.4
55°	285.8	280.9	267.2	240.6	203.3	172.9	150.3	139.5	135.5
57.5°	264.2	260.3	247.5	220.0	188.6	159.1	138.5	128.7	125.7
60°	240.6	236.7	223.9	201.4	172.9	145.4	126.7	117.9	114.9
62.5°	215.1	212.2	202.3	181.7	155.2	131.6	114.9	106.1	103.1
65°	192.5	189.6	180.7	163.0	139.5	117.9	102.2	95.3	92.3
67.5°	168.9	167.0	159.1	143.4	122.8	104.1	89.4	83.5	81.5
70°	146.4	144.4	137.5	123.8	106.1	89.4	77.6	71.7	69.7
72.5°	122.8	122.8	115.9	104.1	90.4	74.6	64.8	60.9	58.0
75°	101.2	99.2	94.3	85.5	72.7	60.9	52.1	48.1	47.1
77.5°	78.6	78.6	74.6	66.8	58.0	47.1	41.3	37.3	36.3
80°	58.9	58.9	55.0	49.1	42.2	34.4	29.5	27.5	25.5
82.5°	40.3	40.3	37.3	32.4	28.5	22.6	19.6	17.7	16.7
85°	24.6	23.6	22.6	19.6	16.7	12.8	10.8	9.8	8.8
87.5°	11.8	11.8	10.8	7.9	6.9	4.9	3.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)