

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-X-NL840-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-X-NL840-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture NIGHT Light w/  
ASYMMETRIC Lens  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

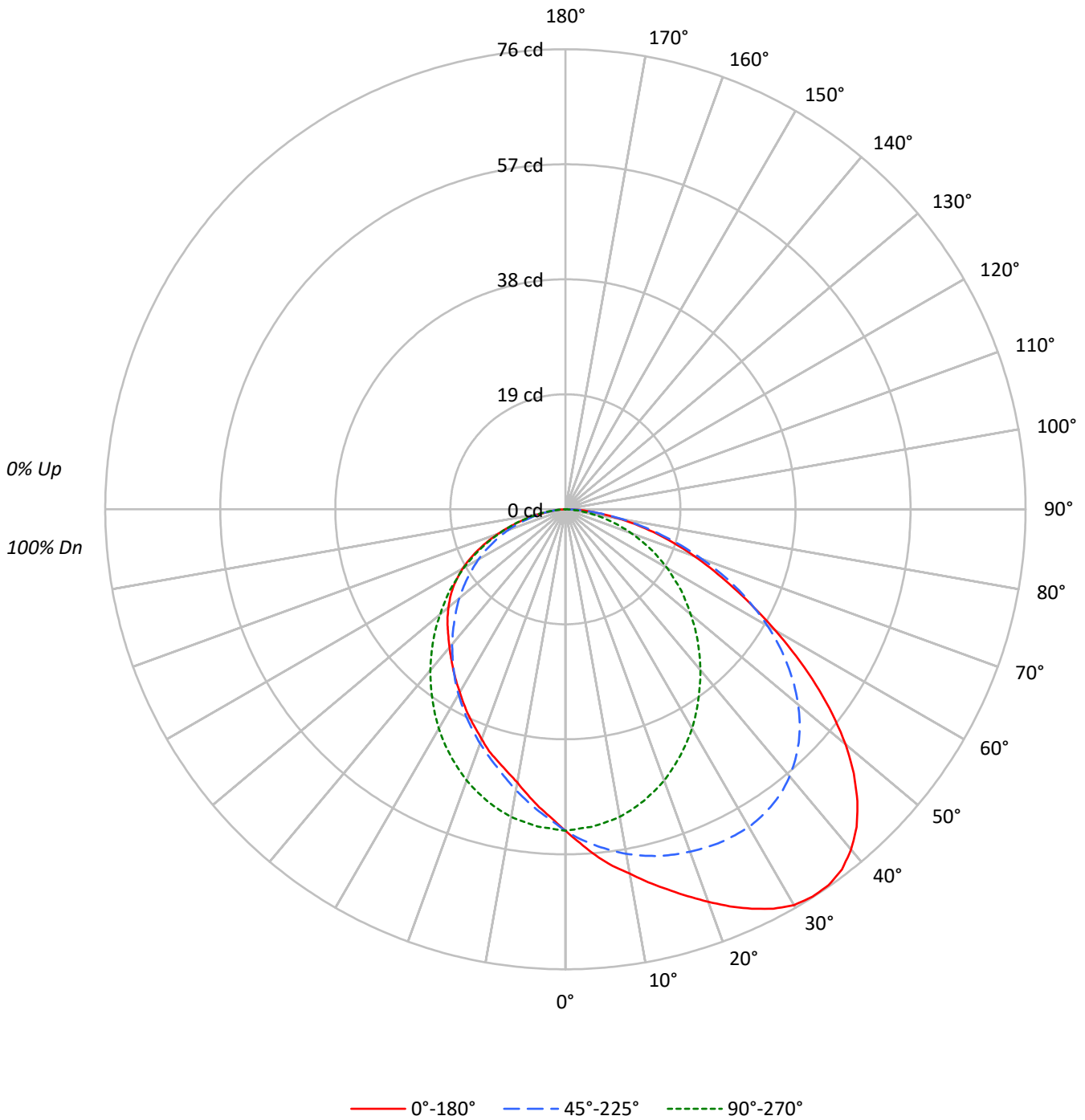
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 164.5 lumens  
Efficiency: N/A  
Efficacy: 47.0 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): 3.5  
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				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°	511	511	511
5°	555	508	477
10°	597	504	448
15°	648	497	430
20°	707	489	414
25°	773	477	400
30°	839	465	388
35°	891	450	380
40°	922	436	375
45°	929	421	374
50°	905	404	377
55°	848	391	381
60°	770	374	377
65°	697	353	362
70°	639	327	332
75°	580	294	286
80°	505	244	222
85°	431	177	166



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	5.0	3.1
10°-20°	14.7	8.9
20°-30°	23.0	14.0
30°-40°	28.8	17.5
40°-50°	30.7	18.6
50°-60°	27.7	16.8
60°-70°	20.5	12.5
70°-80°	11.2	6.8
80°-90°	2.9	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°	42.7	26.0
0°-40°	71.5	43.5
0°-60°	129.9	78.9
0°-90°	164.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	164.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	53	53	53	53	53	
5°	57	56	53	50	49	6
15°	65	59	50	44	43	19
25°	73	61	45	38	38	34
35°	76	60	38	32	32	47
45°	68	54	31	26	28	52
55°	50	45	23	20	23	45
65°	31	32	16	13	16	31
75°	16	16	8	7	8	17
85°	4	4	2	2	2	5
90°	0	0	0	0	0	



TEST NUMBER: P  
 CATALOG NUMBER: 4APN-X-X-NL840-UNV-ASY

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
2.5°	55.2	55.1	55.0	55.0	54.8	54.5	54.3	54.3	54.0	53.3	52.8
5°	57.4	57.2	56.9	56.6	56.2	55.7	55.2	54.9	54.2	53.2	52.6
7.5°	59.4	59.2	58.8	58.3	57.6	56.8	56.0	55.4	54.3	53.0	52.1
10°	61.1	60.9	60.4	59.8	58.9	57.8	56.6	55.6	54.2	52.5	51.6
12.5°	63.1	62.9	62.2	61.3	60.0	58.6	57.0	55.7	53.9	51.9	50.8
15°	65.0	64.8	64.0	62.9	61.1	59.3	57.3	55.5	53.5	51.1	49.9
17.5°	67.0	66.8	65.8	64.3	62.2	59.8	57.4	55.2	52.8	50.2	48.8
20°	69.0	68.7	67.5	65.7	63.1	60.2	57.4	54.8	52.0	49.1	47.7
22.5°	71.0	70.7	69.2	67.0	63.8	60.5	57.1	54.1	51.1	47.9	46.3
25°	72.8	72.5	70.8	68.3	64.6	60.7	56.7	53.3	50.0	46.5	44.9
27.5°	74.4	74.0	72.3	69.4	65.3	60.7	56.2	52.3	48.7	45.1	43.4
30°	75.5	75.1	73.3	70.3	65.7	60.6	55.5	51.1	47.2	43.5	41.8
32.5°	75.9	75.7	73.8	70.7	65.7	60.2	54.6	49.8	45.7	41.8	40.1
35°	75.8	75.5	73.8	70.6	65.5	59.6	53.5	48.4	44.1	40.1	38.3
37.5°	75.0	74.7	73.1	70.0	65.0	58.8	52.3	46.8	42.3	38.4	36.5
40°	73.4	73.1	71.7	68.9	64.0	57.6	50.9	45.1	40.5	36.5	34.7
42.5°	71.2	70.8	69.7	67.1	62.6	56.2	49.3	43.3	38.6	34.7	32.8
45°	68.2	67.9	67.2	65.0	60.8	54.5	47.5	41.3	36.6	32.7	30.9
47.5°	64.6	64.3	64.0	62.3	58.6	52.5	45.5	39.2	34.5	30.8	29.0
50°	60.4	60.1	60.2	59.0	56.1	50.2	43.3	37.0	32.3	28.7	27.0
52.5°	55.6	55.4	55.9	55.4	53.1	47.6	40.9	34.7	30.1	26.7	25.1
55°	50.5	50.2	51.2	51.4	49.8	44.8	38.2	32.4	27.9	24.7	23.3
57.5°	45.2	44.9	46.2	47.0	46.2	41.8	35.4	29.9	25.6	22.6	21.2
60°	40.0	39.8	41.2	42.3	42.3	38.6	32.6	27.3	23.3	20.6	19.4
62.5°	35.1	34.9	36.3	37.7	38.2	35.1	29.8	24.8	21.0	18.5	17.4
65°	30.6	30.5	31.6	33.0	34.0	31.6	26.8	22.1	18.7	16.4	15.5
67.5°	26.5	26.5	27.3	28.6	29.7	27.9	23.7	19.6	16.3	14.5	13.5
70°	22.7	22.7	23.2	24.1	25.4	24.0	20.5	16.9	14.1	12.4	11.6
72.5°	19.1	19.2	19.4	20.1	21.5	20.2	17.4	14.3	11.9	10.4	9.7
75°	15.6	15.6	15.8	16.5	17.5	16.5	14.3	11.7	9.7	8.5	7.9
77.5°	12.3	12.2	12.5	12.9	13.7	12.9	11.3	9.4	7.5	6.5	6.1
80°	9.1	9.1	9.4	9.6	10.2	9.6	8.4	7.0	5.5	4.8	4.4
82.5°	6.4	6.5	6.4	6.7	7.0	6.5	5.8	4.8	3.7	3.1	2.9
85°	3.9	4.0	3.9	4.1	4.2	3.8	3.4	2.9	2.1	1.8	1.6
87.5°	2.0	2.0	1.9	2.1	2.1	1.8	1.6	1.4	0.9	0.7	0.6
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  
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**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
2.5°	52.5	52.7	52.5	51.8	51.5	51.2	51.0	50.9	51.1	51.1
5°	52.1	52.0	51.4	50.5	50.1	49.5	49.3	49.2	49.5	49.4
7.5°	51.5	51.1	50.3	49.2	48.6	47.9	47.6	47.4	47.6	47.6
10°	50.8	50.1	49.1	47.8	47.1	46.3	46.0	45.7	45.9	45.8
12.5°	49.8	48.9	47.8	46.3	45.5	44.8	44.4	44.2	44.5	44.4
15°	48.8	47.7	46.4	44.8	44.0	43.3	43.1	42.9	43.1	43.1
17.5°	47.6	46.3	44.9	43.3	42.6	42.0	41.8	41.7	41.8	41.9
20°	46.3	44.9	43.3	41.8	41.2	40.6	40.4	40.3	40.5	40.4
22.5°	44.9	43.4	41.8	40.3	39.7	39.2	39.0	38.9	39.1	39.0
25°	43.4	41.7	40.1	38.9	38.3	37.8	37.6	37.5	37.6	37.7
27.5°	42.0	40.1	38.5	37.4	36.8	36.4	36.2	36.1	36.2	36.3
30°	40.3	38.4	36.9	35.8	35.3	34.9	34.8	34.7	34.8	34.9
32.5°	38.7	36.8	35.3	34.2	33.8	33.4	33.3	33.3	33.4	33.6
35°	36.9	35.1	33.6	32.6	32.2	31.8	31.9	32.0	32.2	32.3
37.5°	35.1	33.4	31.9	31.0	30.6	30.4	30.6	30.6	30.9	31.0
40°	33.4	31.6	30.3	29.4	29.1	28.9	29.2	29.4	29.7	29.8
42.5°	31.5	29.9	28.6	27.8	27.5	27.5	27.9	28.2	28.5	28.6
45°	29.7	28.1	26.8	26.1	25.9	26.1	26.5	26.9	27.3	27.5
47.5°	27.8	26.3	25.1	24.5	24.4	24.6	25.2	25.7	26.2	26.4
50°	26.0	24.6	23.4	22.9	22.9	23.2	23.9	24.5	25.1	25.2
52.5°	24.1	22.8	21.6	21.2	21.3	21.7	22.5	23.2	23.8	24.0
55°	22.2	20.9	19.9	19.6	19.7	20.3	21.1	21.9	22.5	22.7
57.5°	20.4	19.1	18.2	17.9	18.1	18.8	19.7	20.4	21.0	21.2
60°	18.5	17.2	16.5	16.3	16.6	17.2	18.2	18.8	19.4	19.6
62.5°	16.7	15.5	14.8	14.6	15.0	15.7	16.6	17.2	17.6	17.8
65°	14.8	13.7	13.1	13.0	13.3	14.0	14.9	15.4	15.7	15.9
67.5°	12.9	12.0	11.5	11.4	11.7	12.3	13.2	13.4	13.7	13.9
70°	11.1	10.3	9.8	9.7	10.1	10.7	11.4	11.5	11.7	11.8
72.5°	9.3	8.6	8.2	8.1	8.4	8.9	9.5	9.5	9.6	9.7
75°	7.5	6.9	6.6	6.7	6.8	7.2	7.7	7.6	7.6	7.7
77.5°	5.8	5.4	5.1	5.2	5.3	5.6	5.9	5.7	5.7	5.8
80°	4.2	3.8	3.7	3.7	3.8	4.0	4.2	4.1	3.9	4.0
82.5°	2.8	2.5	2.5	2.5	2.6	2.7	2.7	2.5	2.5	2.5
85°	1.5	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.4	1.5
87.5°	0.6	0.6	0.7	0.7	0.7	0.6	0.5	0.3	0.3	0.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)