

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-NL830-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-NL830-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture NIGHT Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

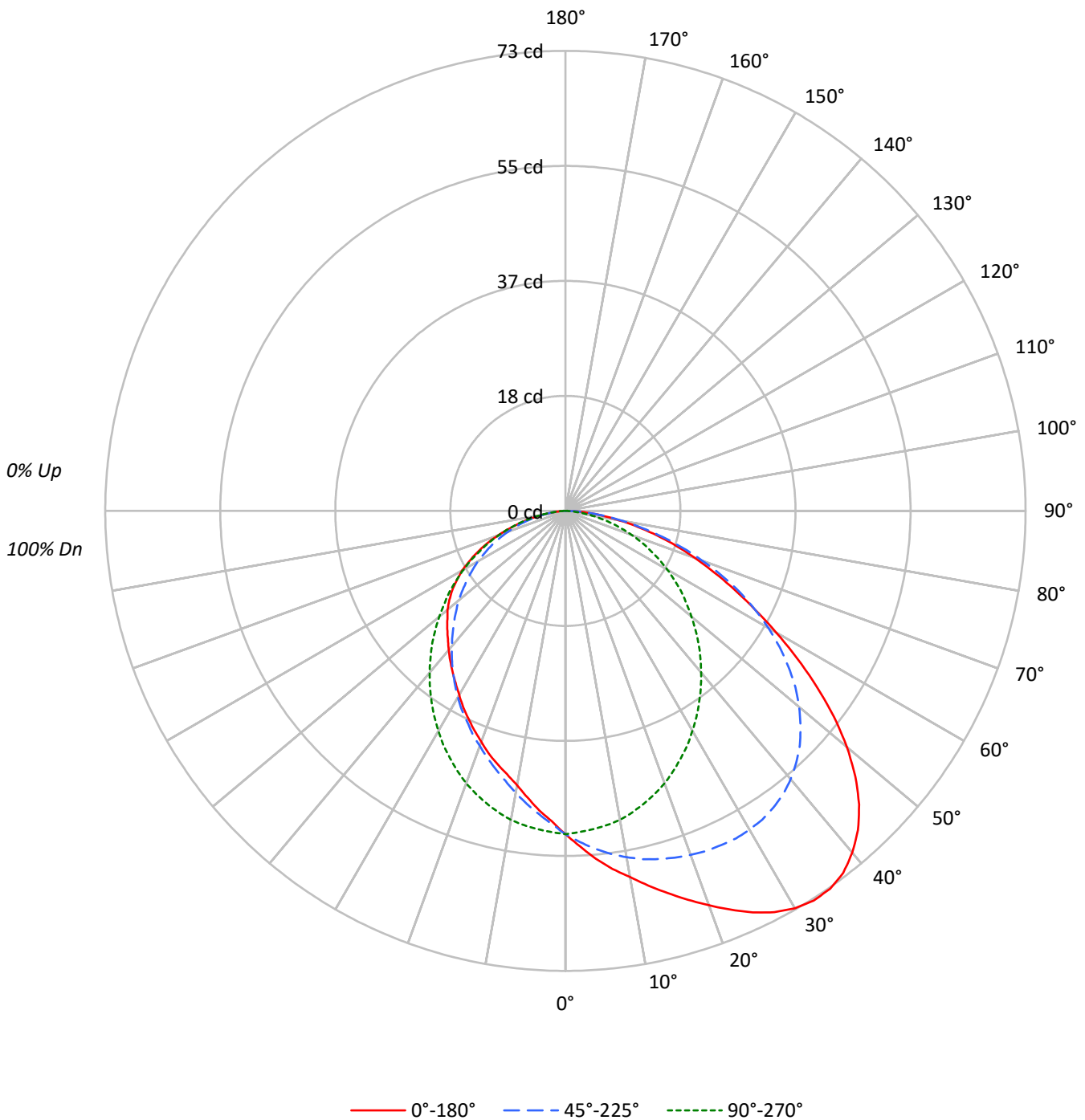
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 158.8 lumens
Efficiency: N/A
Efficacy: 45.4 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 (A_{in}): 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°	494	494	494
5°	535	490	461
10°	577	487	432
15°	626	479	415
20°	682	471	400
25°	747	460	387
30°	809	448	375
35°	860	435	367
40°	890	421	362
45°	897	407	361
50°	873	391	365
55°	817	378	368
60°	743	360	364
65°	674	339	349
70°	616	315	321
75°	558	283	275
80°	488	238	211
85°	409	177	155



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4.9	3.1
10°-20°	14.2	8.9
20°-30°	22.2	14.0
30°-40°	27.8	17.5
40°-50°	29.6	18.6
50°-60°	26.7	16.8
60°-70°	19.8	12.5
70°-80°	10.9	6.8
80°-90°	2.8	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°	41.2	26.0
0°-40°	69.0	43.5
0°-60°	125.3	78.9
0°-90°	158.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	158.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	51	51	51	51	51	
5°	55	54	51	48	48	5
15°	63	57	48	42	42	18
25°	70	58	43	37	36	33
35°	73	58	37	31	31	46
45°	66	53	30	25	26	51
55°	49	43	22	19	22	43
65°	30	30	15	13	15	30
75°	15	16	8	7	7	16
85°	4	4	2	2	1	4
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-X-X-NL830-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
2.5°	53.3	53.2	53.1	53.0	52.9	52.6	52.4	52.4	52.1	51.4	51.0
5°	55.4	55.2	54.9	54.7	54.3	53.8	53.3	53.0	52.3	51.4	50.7
7.5°	57.3	57.1	56.7	56.2	55.6	54.9	54.1	53.4	52.4	51.1	50.3
10°	59.0	58.8	58.3	57.7	56.8	55.8	54.6	53.7	52.3	50.7	49.8
12.5°	60.9	60.7	60.0	59.2	57.9	56.6	55.0	53.7	52.1	50.1	49.0
15°	62.8	62.5	61.8	60.7	59.0	57.2	55.3	53.6	51.6	49.3	48.1
17.5°	64.7	64.4	63.5	62.1	60.0	57.7	55.4	53.3	51.0	48.4	47.1
20°	66.6	66.3	65.1	63.4	60.9	58.1	55.4	52.9	50.2	47.4	46.0
22.5°	68.5	68.2	66.8	64.7	61.6	58.4	55.1	52.2	49.3	46.2	44.7
25°	70.3	70.0	68.4	65.9	62.3	58.5	54.7	51.4	48.2	44.9	43.3
27.5°	71.8	71.4	69.8	67.0	63.0	58.6	54.2	50.5	47.0	43.5	41.9
30°	72.8	72.5	70.7	67.8	63.4	58.4	53.5	49.3	45.6	42.0	40.3
32.5°	73.3	73.0	71.3	68.2	63.4	58.1	52.7	48.1	44.1	40.4	38.7
35°	73.2	72.9	71.2	68.1	63.2	57.5	51.7	46.7	42.5	38.7	37.0
37.5°	72.4	72.0	70.5	67.6	62.7	56.7	50.5	45.1	40.8	37.0	35.3
40°	70.8	70.5	69.2	66.5	61.8	55.6	49.1	43.5	39.1	35.2	33.5
42.5°	68.7	68.3	67.3	64.8	60.4	54.2	47.6	41.8	37.2	33.5	31.7
45°	65.9	65.5	64.8	62.7	58.7	52.6	45.9	39.9	35.3	31.5	29.9
47.5°	62.4	62.1	61.7	60.1	56.6	50.6	43.9	37.8	33.3	29.7	28.0
50°	58.3	58.0	58.1	57.0	54.1	48.4	41.8	35.7	31.2	27.7	26.1
52.5°	53.7	53.4	54.0	53.5	51.3	46.0	39.5	33.5	29.1	25.7	24.2
55°	48.7	48.5	49.4	49.6	48.1	43.2	36.8	31.2	26.9	23.8	22.5
57.5°	43.6	43.4	44.6	45.3	44.6	40.3	34.2	28.9	24.7	21.8	20.5
60°	38.6	38.4	39.7	40.9	40.8	37.2	31.5	26.4	22.5	19.8	18.7
62.5°	33.9	33.7	35.0	36.4	36.8	33.9	28.8	23.9	20.3	17.8	16.8
65°	29.6	29.4	30.5	31.9	32.8	30.5	25.8	21.3	18.0	15.8	14.9
67.5°	25.6	25.6	26.3	27.6	28.7	26.9	22.8	18.9	15.7	13.9	13.1
70°	21.9	21.9	22.4	23.3	24.5	23.1	19.8	16.3	13.6	12.0	11.2
72.5°	18.4	18.5	18.7	19.4	20.7	19.5	16.8	13.8	11.4	10.0	9.4
75°	15.0	15.0	15.3	15.9	16.9	15.9	13.8	11.3	9.3	8.2	7.6
77.5°	11.8	11.8	12.0	12.4	13.2	12.5	10.9	9.0	7.3	6.3	5.9
80°	8.8	8.8	9.0	9.2	9.8	9.2	8.1	6.8	5.3	4.6	4.3
82.5°	6.1	6.3	6.2	6.4	6.8	6.3	5.6	4.6	3.5	3.0	2.8
85°	3.7	3.8	3.7	3.9	4.1	3.7	3.3	2.8	2.0	1.7	1.6
87.5°	1.9	1.9	1.9	2.0	2.0	1.8	1.6	1.3	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°	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3	51.3
2.5°	50.7	50.8	50.6	49.9	49.7	49.4	49.3	49.1	49.4	49.3
5°	50.3	50.1	49.7	48.8	48.3	47.8	47.6	47.4	47.8	47.7
7.5°	49.7	49.3	48.6	47.5	46.9	46.3	45.9	45.8	46.0	45.9
10°	49.0	48.3	47.4	46.1	45.4	44.7	44.4	44.1	44.3	44.2
12.5°	48.1	47.2	46.1	44.7	43.9	43.2	42.9	42.7	42.9	42.8
15°	47.1	46.0	44.7	43.3	42.5	41.8	41.6	41.4	41.6	41.6
17.5°	46.0	44.7	43.3	41.8	41.1	40.6	40.3	40.2	40.3	40.4
20°	44.7	43.3	41.8	40.4	39.7	39.2	39.0	38.9	39.1	39.0
22.5°	43.4	41.8	40.3	38.9	38.4	37.8	37.6	37.5	37.8	37.7
25°	41.9	40.3	38.7	37.5	36.9	36.5	36.3	36.2	36.3	36.4
27.5°	40.5	38.7	37.2	36.1	35.6	35.1	34.9	34.8	34.9	35.1
30°	38.9	37.1	35.6	34.6	34.1	33.7	33.5	33.5	33.6	33.7
32.5°	37.3	35.5	34.0	33.0	32.6	32.2	32.2	32.1	32.3	32.4
35°	35.6	33.9	32.4	31.5	31.1	30.7	30.8	30.9	31.0	31.2
37.5°	33.9	32.2	30.8	30.0	29.6	29.3	29.5	29.6	29.8	30.0
40°	32.2	30.5	29.2	28.4	28.0	27.9	28.2	28.4	28.7	28.8
42.5°	30.4	28.8	27.6	26.8	26.5	26.5	26.9	27.2	27.5	27.6
45°	28.7	27.1	25.9	25.2	25.0	25.2	25.6	26.0	26.4	26.5
47.5°	26.9	25.3	24.2	23.7	23.5	23.8	24.3	24.8	25.3	25.4
50°	25.1	23.7	22.6	22.1	22.1	22.4	23.0	23.7	24.2	24.4
52.5°	23.3	22.0	20.9	20.5	20.5	21.0	21.8	22.4	23.0	23.2
55°	21.5	20.2	19.2	18.9	19.0	19.6	20.4	21.1	21.7	21.9
57.5°	19.7	18.5	17.6	17.3	17.5	18.1	19.0	19.7	20.3	20.4
60°	17.9	16.6	15.9	15.7	16.0	16.6	17.6	18.2	18.7	18.9
62.5°	16.1	14.9	14.3	14.1	14.4	15.1	16.0	16.6	17.0	17.1
65°	14.3	13.2	12.7	12.5	12.9	13.5	14.4	14.9	15.2	15.3
67.5°	12.5	11.6	11.1	11.0	11.3	11.9	12.7	13.0	13.3	13.4
70°	10.7	9.9	9.5	9.4	9.7	10.3	11.0	11.1	11.2	11.4
72.5°	9.0	8.3	7.9	7.9	8.2	8.6	9.2	9.2	9.2	9.4
75°	7.3	6.7	6.4	6.4	6.6	7.0	7.4	7.3	7.3	7.4
77.5°	5.6	5.2	5.0	5.0	5.1	5.4	5.7	5.5	5.5	5.6
80°	4.1	3.7	3.6	3.6	3.7	3.9	4.0	3.9	3.7	3.8
82.5°	2.7	2.4	2.4	2.4	2.5	2.6	2.6	2.4	2.4	2.4
85°	1.5	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4
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)