

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-RL830-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-RL830-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture READING Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

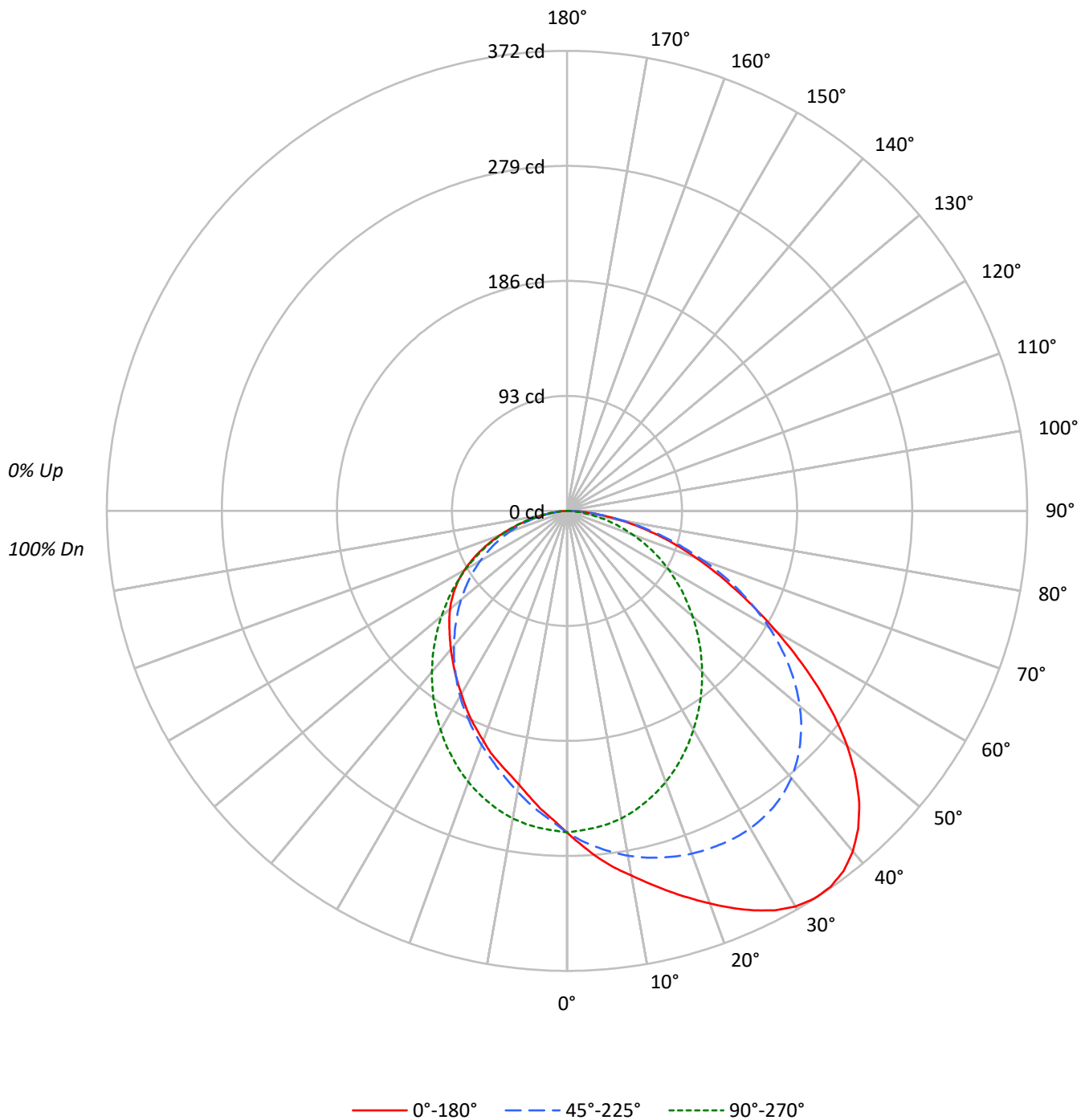
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 805.4 lumens
Efficiency: N/A
Efficacy: 53.3 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): 15.1
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		93	91	88		90
2	99	90	83	78	96	88	82	77	85	80	75		82	77	73		79
3	90	79	71	64	87	78	70	64	75	68	63		72	66	61		69
4	82	70	61	54	80	69	60	54	66	59	53		64	57	52		62
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		55
6	69	56	47	40	68	55	46	40	53	46	40		51	45	39		50
7	64	51	42	36	63	50	41	35	48	41	35		47	40	35		45
8	60	46	37	32	58	45	37	31	44	37	31		43	36	31		42
9	56	42	34	28	54	42	34	28	40	33	28		39	33	28		38
10	52	39	31	26	51	38	31	26	37	30	25		36	30	25		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2503	2503	2503
5°	2717	2488	2339
10°	2926	2468	2194
15°	3174	2433	2104
20°	3461	2390	2025
25°	3786	2334	1963
30°	4107	2272	1900
35°	4363	2206	1859
40°	4517	2135	1835
45°	4549	2061	1830
50°	4429	1983	1850
55°	4148	1912	1861
60°	3770	1825	1845
65°	3417	1727	1772
70°	3127	1602	1627
75°	2838	1440	1399
80°	2484	1203	1081
85°	2088	873	806



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.7	3.1
10°-20°	71.8	8.9
20°-30°	112.5	14.0
30°-40°	141.1	17.5
40°-50°	150.2	18.6
50°-60°	135.6	16.8
60°-70°	100.4	12.5
70°-80°	55.1	6.8
80°-90°	14.1	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°	209.0	26.0
0°-40°	350.1	43.5
0°-60°	635.8	78.9
0°-90°	805.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	805.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	260	260	260	260	260	
5°	281	273	257	245	242	27
15°	318	290	244	216	211	91
25°	356	297	220	187	185	165
35°	371	292	188	158	158	231
45°	334	267	151	127	134	256
55°	247	219	114	96	111	220
65°	150	154	76	65	78	150
75°	76	81	39	34	38	81
85°	19	19	8	7	7	22
90°	0	0	0	0	0	

TEST NUMBER: P

CATALOG NUMBER: 4APN-X-X-RL830-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0
2.5°	270.5	270.0	269.3	269.1	268.1	266.9	265.7	265.7	264.3	261.0	258.6
5°	281.1	280.2	278.6	277.3	275.3	272.8	270.4	268.9	265.6	260.5	257.4
7.5°	290.8	289.7	287.7	285.2	281.9	278.3	274.2	271.0	266.0	259.3	255.3
10°	299.3	298.4	295.9	292.9	288.2	283.1	277.1	272.3	265.5	257.1	252.5
12.5°	308.7	307.8	304.4	300.3	293.9	287.1	279.1	272.5	264.1	254.0	248.8
15°	318.5	317.2	313.3	307.9	299.3	290.2	280.4	271.9	261.8	250.3	244.1
17.5°	328.1	326.8	322.0	315.1	304.4	292.9	281.0	270.4	258.6	245.7	239.0
20°	337.8	336.5	330.4	321.7	308.7	295.0	280.9	268.1	254.8	240.5	233.3
22.5°	347.5	346.0	338.7	328.0	312.4	296.3	279.7	265.0	250.0	234.5	226.8
25°	356.4	354.9	346.8	334.2	316.2	297.0	277.6	260.8	244.6	227.8	219.7
27.5°	364.1	362.3	353.8	340.0	319.5	297.2	275.0	256.0	238.4	220.7	212.5
30°	369.4	367.8	358.9	344.0	321.5	296.5	271.6	250.3	231.3	213.0	204.4
32.5°	371.8	370.4	361.5	345.9	321.8	294.5	267.4	244.0	223.8	204.9	196.2
35°	371.2	369.8	361.3	345.6	320.8	291.8	262.2	236.8	215.8	196.4	187.7
37.5°	367.1	365.5	357.8	342.7	318.0	287.7	256.2	229.0	207.1	187.8	178.9
40°	359.4	357.8	351.2	337.3	313.3	282.2	249.3	220.7	198.2	178.7	169.9
42.5°	348.4	346.7	341.4	328.7	306.6	275.1	241.5	211.8	188.8	169.9	160.7
45°	334.1	332.4	328.8	318.0	297.8	266.6	232.7	202.2	179.0	160.0	151.4
47.5°	316.3	314.8	313.1	304.8	287.1	256.9	222.7	191.9	168.7	150.7	141.9
50°	295.7	294.2	294.7	289.1	274.5	245.7	211.8	181.1	158.2	140.3	132.4
52.5°	272.3	271.1	273.7	271.2	260.0	233.2	200.2	170.0	147.4	130.5	122.9
55°	247.1	245.8	250.7	251.5	243.8	219.4	186.9	158.5	136.5	120.9	113.9
57.5°	221.1	220.0	226.3	229.9	226.0	204.5	173.6	146.6	125.3	110.8	103.9
60°	195.8	194.9	201.6	207.3	206.9	188.8	159.7	133.8	114.0	100.7	94.8
62.5°	172.0	171.0	177.6	184.5	186.9	172.1	145.9	121.2	102.8	90.5	85.3
65°	150.0	149.1	154.7	161.8	166.3	154.5	131.0	108.2	91.5	80.3	75.8
67.5°	130.0	130.0	133.5	140.0	145.4	136.6	115.8	95.8	79.8	70.7	66.3
70°	111.1	111.0	113.6	118.2	124.5	117.3	100.5	82.7	68.8	60.8	56.9
72.5°	93.3	94.0	95.0	98.5	105.2	99.0	85.2	69.9	58.0	51.0	47.7
75°	76.3	76.2	77.6	80.7	85.5	80.9	69.9	57.4	47.3	41.6	38.7
77.5°	60.1	60.0	61.1	62.9	67.0	63.4	55.1	45.8	36.9	32.1	30.0
80°	44.8	44.8	45.8	46.8	49.8	46.9	41.1	34.3	27.0	23.3	21.7
82.5°	31.1	31.7	31.3	32.6	34.3	31.8	28.2	23.5	18.0	15.4	14.3
85°	18.9	19.5	18.9	20.0	20.7	18.6	16.8	14.0	10.4	8.7	7.9
87.5°	9.7	9.6	9.5	10.0	10.3	9.0	7.9	6.7	4.6	3.5	3.0
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°	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0	260.0
2.5°	257.2	257.9	256.9	253.4	252.0	250.5	249.9	249.2	250.4	250.1
5°	255.1	254.3	251.9	247.4	245.1	242.6	241.4	240.7	242.3	242.0
7.5°	252.2	250.1	246.4	241.0	238.0	234.7	233.1	232.1	233.2	233.0
10°	248.6	245.1	240.6	234.0	230.5	226.9	225.1	223.7	224.5	224.4
12.5°	244.0	239.4	233.9	226.6	222.9	219.2	217.6	216.6	217.7	217.4
15°	238.9	233.3	227.0	219.5	215.6	212.1	211.0	210.2	211.1	211.1
17.5°	233.2	226.7	219.7	212.1	208.4	205.7	204.5	204.0	204.4	205.1
20°	226.9	219.6	212.1	204.8	201.6	198.8	197.7	197.2	198.1	197.7
22.5°	219.9	212.2	204.4	197.5	194.6	191.8	190.8	190.4	191.5	191.1
25°	212.6	204.2	196.5	190.2	187.3	185.0	184.0	183.7	184.2	184.8
27.5°	205.6	196.2	188.6	183.0	180.4	178.2	177.3	176.8	177.2	177.8
30°	197.2	188.1	180.6	175.4	172.9	170.8	170.1	169.7	170.3	170.9
32.5°	189.3	180.1	172.6	167.5	165.3	163.3	163.2	163.0	163.7	164.4
35°	180.7	171.7	164.5	159.7	157.6	155.9	156.2	156.6	157.4	158.2
37.5°	172.1	163.3	156.3	152.0	150.0	148.7	149.6	150.0	151.2	152.0
40°	163.3	154.5	148.1	144.2	142.2	141.6	143.0	144.0	145.3	146.0
42.5°	154.3	146.2	139.8	136.2	134.5	134.5	136.4	137.9	139.5	140.1
45°	145.3	137.4	131.3	128.0	126.9	127.7	129.8	131.8	133.8	134.4
47.5°	136.3	128.6	123.0	120.0	119.4	120.7	123.3	125.9	128.2	129.1
50°	127.2	120.2	114.7	111.9	111.9	113.5	116.9	120.1	122.7	123.5
52.5°	118.1	111.5	105.8	103.8	104.2	106.4	110.4	113.7	116.6	117.4
55°	108.9	102.4	97.5	95.8	96.5	99.3	103.3	107.2	110.0	110.9
57.5°	99.8	93.6	89.1	87.7	88.8	91.9	96.6	99.9	102.8	103.7
60°	90.6	84.3	80.8	79.7	81.1	84.3	89.1	92.2	94.9	95.8
62.5°	81.5	75.7	72.6	71.6	73.2	76.6	81.3	84.1	86.1	87.0
65°	72.4	67.1	64.2	63.6	65.3	68.6	73.1	75.4	76.9	77.8
67.5°	63.3	58.8	56.1	55.6	57.4	60.4	64.5	65.8	67.2	68.1
70°	54.3	50.2	48.0	47.7	49.3	52.2	55.7	56.3	57.1	57.8
72.5°	45.4	42.2	40.0	39.9	41.4	43.7	46.6	46.7	46.9	47.7
75°	36.9	34.0	32.3	32.6	33.5	35.4	37.6	37.0	37.1	37.6
77.5°	28.6	26.3	25.1	25.3	26.0	27.4	28.9	28.1	27.7	28.2
80°	20.6	18.6	18.2	18.3	18.7	19.7	20.5	19.9	19.0	19.5
82.5°	13.6	12.3	12.1	12.2	12.5	13.0	13.3	12.3	12.1	12.4
85°	7.5	6.9	6.9	7.3	7.4	7.5	7.5	6.9	7.1	7.3
87.5°	3.0	3.0	3.3	3.6	3.4	3.0	2.6	1.7	1.7	2.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)