

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-RL835-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-RL835-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture READING Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

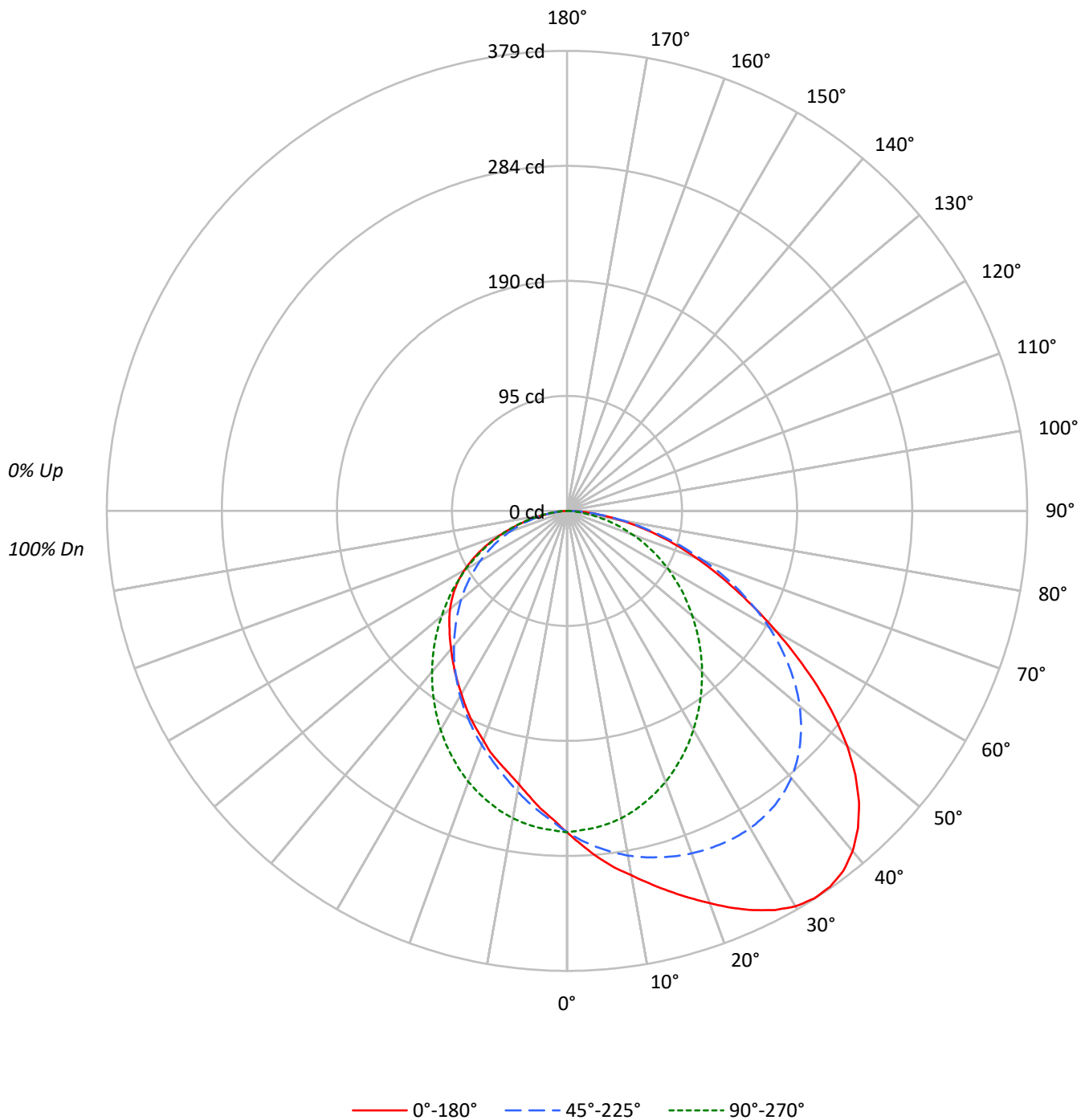
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 820.1 lumens
Efficiency: N/A
Efficacy: 54.3 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 (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
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84		
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69		
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58		
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49		
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43		
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37		
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33		
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29		
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26		
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2549	2549	2549
5°	2766	2533	2381
10°	2980	2513	2234
15°	3232	2477	2142
20°	3524	2433	2062
25°	3855	2376	1998
30°	4182	2314	1934
35°	4441	2246	1893
40°	4600	2174	1868
45°	4632	2099	1864
50°	4510	2019	1884
55°	4223	1947	1897
60°	3839	1858	1877
65°	3481	1759	1804
70°	3186	1630	1658
75°	2890	1466	1425
80°	2528	1225	1098
85°	2132	895	817



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.1	3.1
10°-20°	73.1	8.9
20°-30°	114.6	14.0
30°-40°	143.6	17.5
40°-50°	152.9	18.6
50°-60°	138.0	16.8
60°-70°	102.2	12.5
70°-80°	56.1	6.8
80°-90°	14.4	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°	212.8	26.0
0°-40°	356.5	43.5
0°-60°	647.4	78.9
0°-90°	820.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	820.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	265	265	265	265	265	
5°	286	278	262	250	246	28
15°	324	295	248	220	215	92
25°	363	302	224	191	188	168
35°	378	297	191	160	161	236
45°	340	272	154	129	137	261
55°	252	223	116	98	113	224
65°	153	157	77	66	79	152
75°	78	82	39	34	38	83
85°	19	19	8	8	7	23
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-X-X-RL835-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8
2.5°	275.4	274.9	274.2	274.0	273.0	271.7	270.5	270.5	269.1	265.7	263.3
5°	286.2	285.3	283.7	282.4	280.3	277.8	275.3	273.8	270.4	265.3	262.1
7.5°	296.1	295.0	292.9	290.4	287.1	283.4	279.2	276.0	270.8	264.0	260.0
10°	304.8	303.8	301.3	298.3	293.5	288.3	282.2	277.3	270.3	261.8	257.1
12.5°	314.4	313.4	309.9	305.8	299.2	292.3	284.2	277.5	268.9	258.7	253.3
15°	324.3	323.0	319.1	313.5	304.8	295.4	285.5	276.8	266.6	254.9	248.5
17.5°	334.1	332.8	327.9	320.8	309.9	298.3	286.1	275.3	263.3	250.2	243.3
20°	344.0	342.7	336.5	327.5	314.4	300.3	286.0	273.0	259.4	244.8	237.5
22.5°	353.9	352.4	344.8	334.0	318.1	301.8	284.8	269.9	254.5	238.7	230.9
25°	362.9	361.4	353.1	340.3	322.0	302.4	282.7	265.5	249.1	232.0	223.7
27.5°	370.7	368.9	360.3	346.1	325.4	302.6	280.0	260.6	242.8	224.7	216.3
30°	376.2	374.6	365.4	350.3	327.3	301.9	276.5	254.9	235.5	216.9	208.2
32.5°	378.6	377.2	368.1	352.2	327.7	299.9	272.3	248.4	227.9	208.6	199.8
35°	377.9	376.5	367.9	351.9	326.7	297.1	266.9	241.1	219.7	200.0	191.1
37.5°	373.8	372.2	364.3	349.0	323.8	292.9	260.8	233.2	210.9	191.2	182.2
40°	366.0	364.3	357.6	343.4	319.1	287.4	253.9	224.7	201.9	181.9	173.0
42.5°	354.7	353.0	347.7	334.7	312.2	280.1	245.9	215.7	192.3	173.0	163.7
45°	340.2	338.4	334.8	323.8	303.3	271.5	236.9	205.9	182.3	162.9	154.2
47.5°	322.1	320.6	318.8	310.3	292.3	261.6	226.8	195.4	171.8	153.4	144.5
50°	301.1	299.6	300.1	294.4	279.6	250.2	215.7	184.4	161.1	142.9	134.8
52.5°	277.3	276.1	278.7	276.2	264.8	237.4	203.8	173.1	150.1	132.9	125.1
55°	251.6	250.3	255.3	256.0	248.2	223.4	190.3	161.4	139.0	123.1	116.0
57.5°	225.1	224.1	230.5	234.1	230.1	208.3	176.7	149.3	127.5	112.8	105.8
60°	199.4	198.5	205.2	211.1	210.7	192.3	162.6	136.2	116.1	102.5	96.5
62.5°	175.1	174.1	180.9	187.8	190.3	175.2	148.5	123.4	104.7	92.2	86.8
65°	152.8	151.8	157.6	164.8	169.3	157.4	133.4	110.1	93.1	81.7	77.2
67.5°	132.3	132.3	135.9	142.6	148.1	139.1	118.0	97.5	81.3	72.0	67.5
70°	113.2	113.1	115.7	120.4	126.8	119.5	102.3	84.2	70.1	61.9	57.9
72.5°	95.0	95.8	96.7	100.3	107.1	100.8	86.7	71.2	59.1	51.9	48.5
75°	77.7	77.6	79.0	82.2	87.1	82.4	71.2	58.4	48.2	42.3	39.4
77.5°	61.2	61.0	62.2	64.1	68.2	64.5	56.2	46.7	37.5	32.6	30.6
80°	45.6	45.6	46.7	47.7	50.7	47.8	41.9	34.9	27.5	23.7	22.1
82.5°	31.7	32.3	31.9	33.2	34.9	32.4	28.7	23.9	18.3	15.7	14.6
85°	19.3	19.8	19.3	20.3	21.1	18.9	17.1	14.3	10.6	8.8	8.1
87.5°	9.9	9.8	9.7	10.2	10.4	9.1	8.1	6.9	4.7	3.6	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°	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8	264.8
2.5°	261.9	262.6	261.6	258.0	256.6	255.1	254.4	253.8	255.0	254.6
5°	259.7	259.0	256.5	251.9	249.5	247.0	245.8	245.1	246.7	246.4
7.5°	256.8	254.6	250.9	245.4	242.3	239.0	237.3	236.4	237.4	237.2
10°	253.1	249.5	244.9	238.3	234.7	231.0	229.2	227.8	228.6	228.5
12.5°	248.4	243.8	238.2	230.7	227.0	223.2	221.6	220.6	221.7	221.3
15°	243.2	237.5	231.1	223.5	219.5	216.0	214.8	214.0	214.9	214.9
17.5°	237.4	230.8	223.7	216.0	212.2	209.5	208.3	207.7	208.2	208.8
20°	231.0	223.6	216.0	208.5	205.2	202.4	201.3	200.8	201.7	201.3
22.5°	223.9	216.1	208.2	201.1	198.2	195.3	194.2	193.9	195.0	194.6
25°	216.4	208.0	200.1	193.7	190.8	188.4	187.4	187.1	187.6	188.1
27.5°	209.4	199.8	192.1	186.3	183.7	181.4	180.5	180.0	180.4	181.1
30°	200.8	191.5	183.9	178.6	176.1	173.9	173.2	172.8	173.5	174.0
32.5°	192.7	183.4	175.7	170.5	168.3	166.3	166.2	165.9	166.7	167.4
35°	184.0	174.9	167.5	162.6	160.5	158.8	159.1	159.4	160.3	161.1
37.5°	175.2	166.3	159.2	154.7	152.8	151.4	152.3	152.8	154.0	154.7
40°	166.3	157.4	150.8	146.8	144.8	144.2	145.6	146.6	148.0	148.6
42.5°	157.1	148.9	142.3	138.6	137.0	137.0	138.9	140.4	142.0	142.7
45°	148.0	139.9	133.7	130.4	129.2	130.0	132.2	134.2	136.2	136.9
47.5°	138.7	130.9	125.2	122.2	121.5	122.9	125.6	128.2	130.6	131.5
50°	129.5	122.4	116.8	113.9	113.9	115.6	119.0	122.3	124.9	125.8
52.5°	120.2	113.5	107.7	105.7	106.1	108.4	112.4	115.8	118.7	119.6
55°	110.9	104.2	99.2	97.5	98.3	101.1	105.2	109.1	112.0	113.0
57.5°	101.6	95.3	90.8	89.3	90.4	93.6	98.4	101.7	104.7	105.6
60°	92.3	85.9	82.3	81.2	82.6	85.9	90.8	93.9	96.6	97.5
62.5°	83.0	77.0	73.9	72.9	74.5	78.0	82.8	85.6	87.7	88.6
65°	73.7	68.3	65.4	64.7	66.5	69.9	74.4	76.8	78.3	79.2
67.5°	64.4	59.8	57.1	56.6	58.4	61.5	65.7	67.0	68.4	69.3
70°	55.3	51.1	48.9	48.5	50.2	53.1	56.7	57.3	58.1	58.9
72.5°	46.2	43.0	40.7	40.6	42.1	44.5	47.4	47.6	47.8	48.5
75°	37.5	34.6	32.9	33.2	34.1	36.0	38.3	37.7	37.8	38.3
77.5°	29.2	26.8	25.6	25.8	26.4	27.9	29.4	28.6	28.2	28.7
80°	21.0	18.9	18.5	18.6	19.0	20.0	20.9	20.2	19.4	19.8
82.5°	13.8	12.5	12.3	12.4	12.7	13.3	13.5	12.5	12.3	12.6
85°	7.6	7.1	7.1	7.4	7.5	7.6	7.6	7.1	7.2	7.4
87.5°	3.0	3.0	3.4	3.7	3.5	3.0	2.6	1.7	1.7	2.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)