

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-RL840-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-RL840-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture READING Light w/
ASYMMETRIC Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

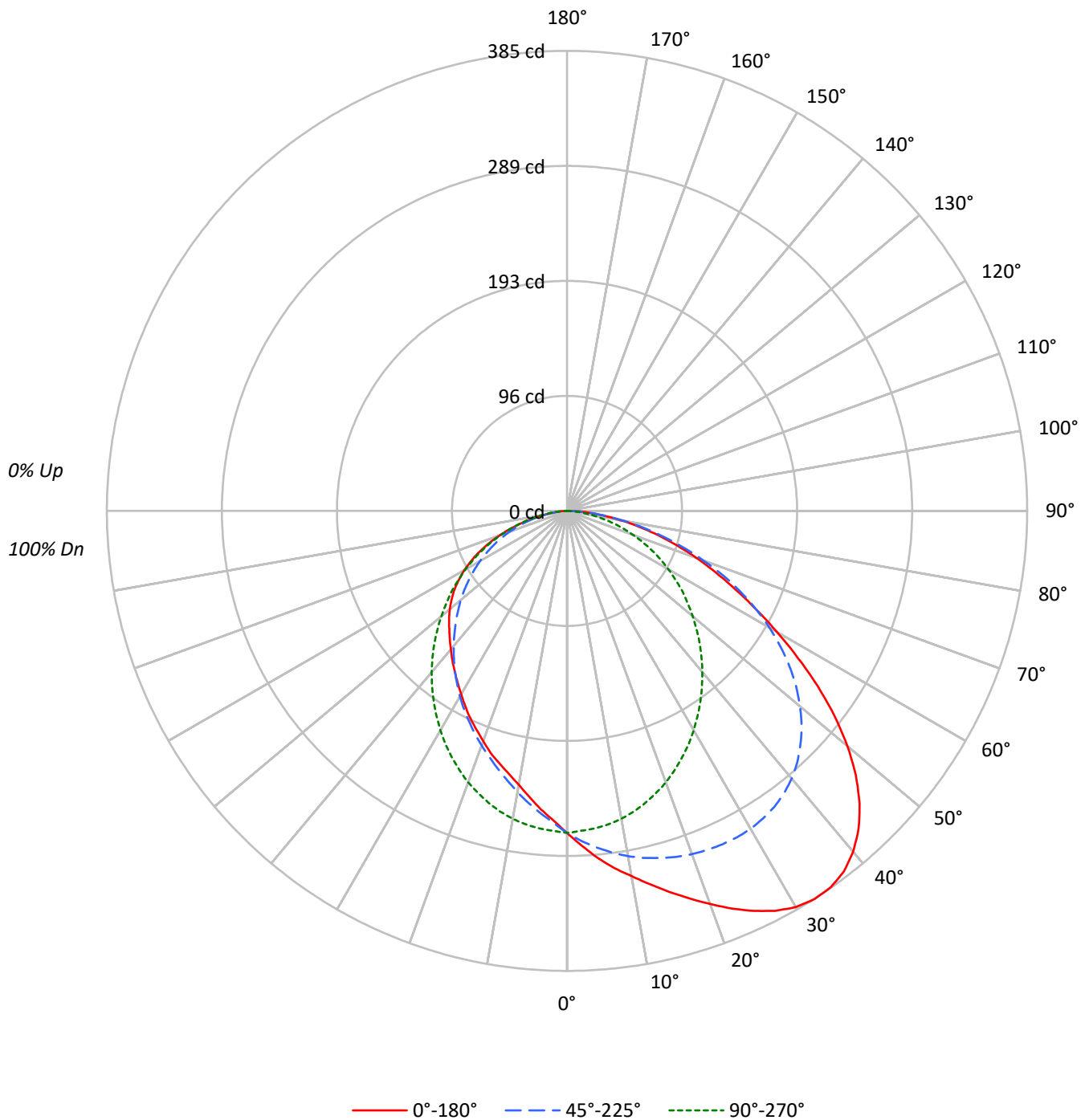
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 834.6 lumens
Efficiency: N/A
Efficacy: 55.3 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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	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	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2595	2595	2595
5°	2815	2578	2423
10°	3032	2558	2274
15°	3289	2522	2180
20°	3587	2477	2099
25°	3924	2419	2034
30°	4257	2356	1969
35°	4520	2286	1926
40°	4681	2213	1901
45°	4714	2136	1897
50°	4589	2055	1917
55°	4299	1982	1930
60°	3907	1891	1910
65°	3542	1788	1836
70°	3243	1658	1686
75°	2942	1492	1451
80°	2572	1247	1120
85°	2165	906	828



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.6	3.1
10°-20°	74.4	8.9
20°-30°	116.6	14.0
30°-40°	146.2	17.5
40°-50°	155.6	18.6
50°-60°	140.5	16.8
60°-70°	104.0	12.5
70°-80°	57.1	6.8
80°-90°	14.7	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°	216.6	26.0
0°-40°	362.8	43.5
0°-60°	658.9	78.9
0°-90°	834.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	834.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	270	270	270	270	270	
5°	291	283	267	254	251	28
15°	330	301	253	223	219	94
25°	369	308	228	194	192	171
35°	385	302	194	163	164	240
45°	346	276	157	132	139	265
55°	256	227	118	100	115	228
65°	156	160	78	68	81	155
75°	79	84	40	35	39	84
85°	20	19	8	8	8	23
90°	0	0	0	0	0	

TEST NUMBER: P

CATALOG NUMBER: 4APN-X-X-RL840-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5
2.5°	280.3	279.8	279.1	278.9	277.9	276.5	275.3	275.3	273.9	270.5	268.0
5°	291.3	290.4	288.7	287.4	285.3	282.7	280.2	278.7	275.2	270.0	266.8
7.5°	301.4	300.2	298.1	295.6	292.2	288.4	284.2	280.9	275.7	268.7	264.6
10°	310.2	309.2	306.7	303.6	298.7	293.4	287.2	282.2	275.1	266.5	261.7
12.5°	320.0	319.0	315.4	311.2	304.6	297.5	289.3	282.4	273.7	263.3	257.8
15°	330.0	328.7	324.7	319.1	310.2	300.7	290.6	281.8	271.3	259.4	253.0
17.5°	340.0	338.7	333.7	326.5	315.4	303.6	291.2	280.2	268.0	254.6	247.6
20°	350.1	348.8	342.4	333.4	320.0	305.7	291.1	277.9	264.0	249.2	241.8
22.5°	360.2	358.6	351.0	339.9	323.7	307.1	289.8	274.7	259.0	243.0	235.0
25°	369.4	367.8	359.4	346.3	327.7	307.8	287.7	270.2	253.5	236.1	227.7
27.5°	377.3	375.4	366.7	352.3	331.1	308.0	285.0	265.3	247.1	228.7	220.2
30°	382.9	381.2	371.9	356.5	333.1	307.2	281.4	259.4	239.7	220.7	211.9
32.5°	385.3	383.9	374.7	358.5	333.5	305.2	277.1	252.8	231.9	212.3	203.3
35°	384.6	383.2	374.5	358.2	332.5	302.4	271.7	245.4	223.6	203.6	194.5
37.5°	380.4	378.8	370.8	355.2	329.6	298.1	265.5	237.3	214.6	194.6	185.4
40°	372.5	370.8	363.9	349.5	324.7	292.5	258.4	228.7	205.4	185.2	176.1
42.5°	361.1	359.3	353.9	340.7	317.7	285.1	250.3	219.5	195.7	176.1	166.6
45°	346.2	344.4	340.8	329.6	308.7	276.3	241.1	209.5	185.5	165.8	156.9
47.5°	327.8	326.3	324.5	315.9	297.5	266.2	230.8	198.9	174.9	156.2	147.1
50°	306.4	304.9	305.5	299.6	284.5	254.6	219.5	187.7	163.9	145.4	137.2
52.5°	282.2	281.0	283.6	281.1	269.5	241.7	207.4	176.2	152.7	135.2	127.4
55°	256.1	254.7	259.8	260.6	252.6	227.4	193.7	164.2	141.4	125.3	118.1
57.5°	229.1	228.0	234.6	238.2	234.2	212.0	179.9	152.0	129.8	114.8	107.7
60°	202.9	202.0	208.9	214.9	214.4	195.7	165.5	138.7	118.2	104.3	98.2
62.5°	178.2	177.2	184.1	191.2	193.7	178.3	151.2	125.6	106.5	93.8	88.4
65°	155.5	154.5	160.4	167.7	172.3	160.1	135.8	112.1	94.8	83.2	78.5
67.5°	134.7	134.7	138.3	145.1	150.7	141.5	120.1	99.2	82.7	73.3	68.7
70°	115.2	115.1	117.7	122.5	129.0	121.6	104.1	85.7	71.3	63.0	58.9
72.5°	96.7	97.5	98.5	102.1	109.0	102.6	88.3	72.4	60.1	52.8	49.4
75°	79.1	79.0	80.4	83.6	88.6	83.8	72.4	59.5	49.1	43.1	40.1
77.5°	62.2	62.1	63.3	65.2	69.4	65.7	57.1	47.5	38.2	33.2	31.1
80°	46.4	46.4	47.5	48.5	51.6	48.6	42.6	35.6	28.0	24.1	22.5
82.5°	32.2	32.9	32.5	33.8	35.6	33.0	29.2	24.4	18.6	15.9	14.8
85°	19.6	20.2	19.6	20.7	21.5	19.3	17.4	14.5	10.7	9.0	8.2
87.5°	10.1	10.0	9.9	10.4	10.6	9.3	8.2	7.0	4.8	3.7	3.1
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°	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5	269.5
2.5°	266.6	267.2	266.2	262.6	261.2	259.6	258.9	258.3	259.5	259.2
5°	264.4	263.6	261.0	256.4	254.0	251.4	250.2	249.4	251.1	250.7
7.5°	261.4	259.2	255.4	249.7	246.6	243.2	241.5	240.6	241.7	241.4
10°	257.6	254.0	249.3	242.5	238.9	235.1	233.2	231.8	232.7	232.6
12.5°	252.8	248.1	242.4	234.8	231.0	227.2	225.5	224.5	225.6	225.3
15°	247.5	241.8	235.2	227.5	223.4	219.8	218.6	217.8	218.7	218.7
17.5°	241.7	234.9	227.7	219.8	216.0	213.2	212.0	211.4	211.9	212.5
20°	235.1	227.6	219.8	212.2	208.9	206.0	204.9	204.3	205.3	204.9
22.5°	227.9	220.0	211.9	204.7	201.7	198.8	197.7	197.4	198.5	198.0
25°	220.3	211.6	203.7	197.1	194.1	191.7	190.7	190.4	190.9	191.5
27.5°	213.1	203.3	195.5	189.6	186.9	184.6	183.7	183.2	183.6	184.3
30°	204.3	194.9	187.2	181.7	179.2	177.0	176.3	175.9	176.5	177.1
32.5°	196.1	186.6	178.9	173.5	171.3	169.2	169.1	168.9	169.7	170.3
35°	187.3	178.0	170.4	165.5	163.4	161.6	161.9	162.3	163.1	163.9
37.5°	178.3	169.2	162.0	157.5	155.5	154.1	155.1	155.5	156.7	157.5
40°	169.2	160.1	153.5	149.4	147.4	146.7	148.2	149.2	150.6	151.3
42.5°	159.9	151.5	144.9	141.1	139.4	139.4	141.3	142.9	144.5	145.2
45°	150.6	142.4	136.1	132.7	131.5	132.3	134.6	136.6	138.7	139.3
47.5°	141.2	133.2	127.5	124.4	123.7	125.0	127.8	130.5	132.9	133.8
50°	131.8	124.6	118.8	116.0	116.0	117.6	121.2	124.5	127.1	128.0
52.5°	122.4	115.5	109.6	107.5	108.0	110.3	114.4	117.8	120.8	121.7
55°	112.9	106.1	101.0	99.2	100.0	102.9	107.1	111.1	114.0	115.0
57.5°	103.4	97.0	92.4	90.9	92.0	95.2	100.1	103.6	106.5	107.4
60°	93.9	87.4	83.7	82.6	84.1	87.4	92.4	95.6	98.3	99.2
62.5°	84.5	78.4	75.2	74.2	75.9	79.4	84.3	87.2	89.3	90.2
65°	75.0	69.6	66.6	65.9	67.7	71.1	75.8	78.2	79.7	80.6
67.5°	65.6	60.9	58.1	57.6	59.5	62.6	66.9	68.2	69.7	70.5
70°	56.3	52.1	49.7	49.4	51.1	54.0	57.7	58.4	59.1	59.9
72.5°	47.1	43.7	41.4	41.3	42.9	45.3	48.3	48.4	48.6	49.4
75°	38.2	35.2	33.4	33.8	34.7	36.7	39.0	38.3	38.4	39.0
77.5°	29.7	27.2	26.0	26.2	26.9	28.4	29.9	29.1	28.7	29.2
80°	21.4	19.3	18.8	18.9	19.4	20.4	21.3	20.6	19.7	20.2
82.5°	14.1	12.7	12.5	12.6	13.0	13.5	13.7	12.7	12.5	12.8
85°	7.8	7.2	7.2	7.5	7.6	7.8	7.8	7.2	7.3	7.5
87.5°	3.1	3.1	3.4	3.8	3.5	3.1	2.7	1.8	1.8	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)