

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-RL940-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-RL940-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture READING Light w/
ASYMMETRIC Lens
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

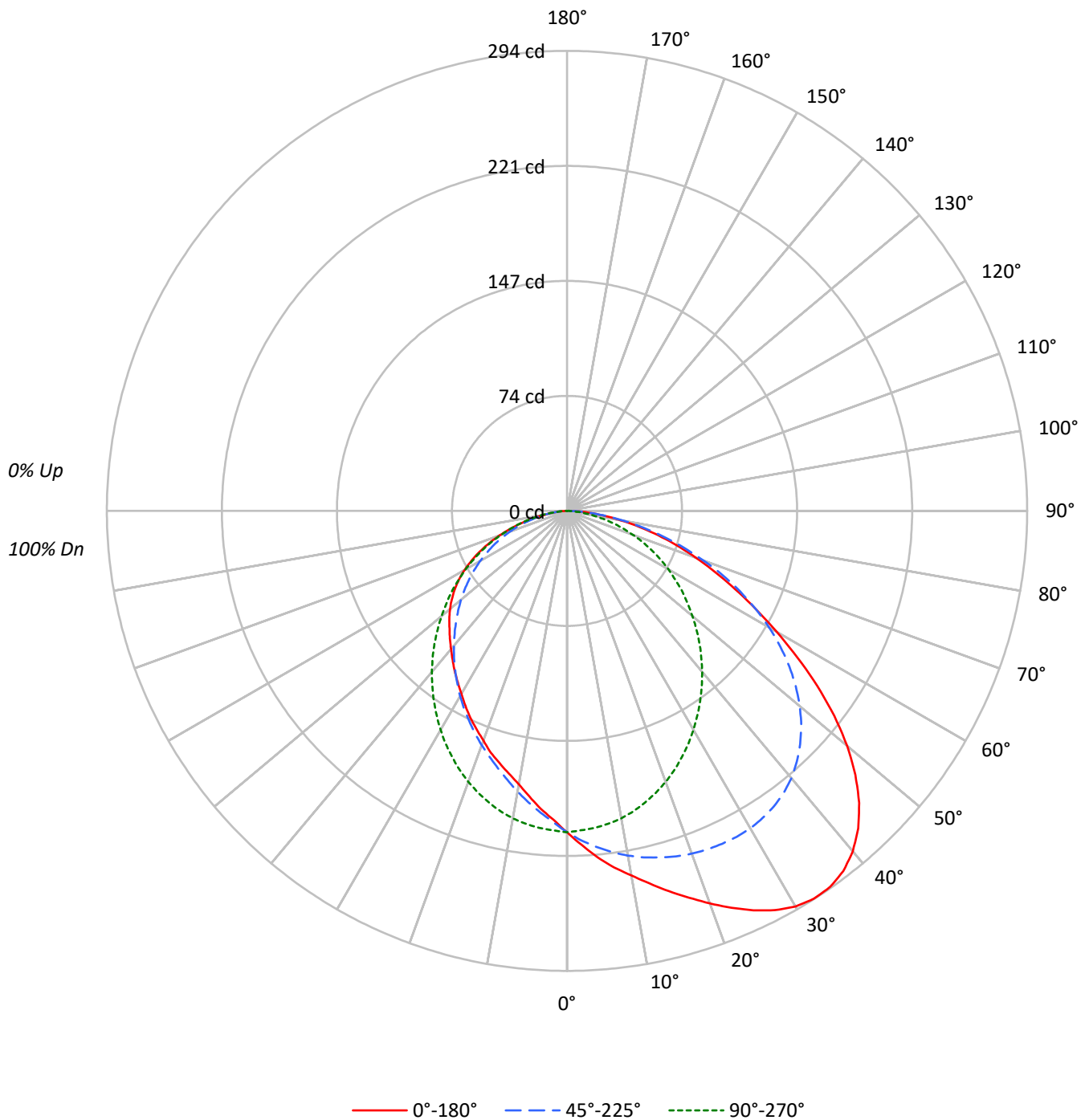
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 636.3 lumens
Efficiency: N/A
Efficacy: 42.1 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°	1977	1977	1977
5°	2146	1966	1848
10°	2312	1950	1733
15°	2508	1923	1662
20°	2734	1888	1600
25°	2991	1844	1551
30°	3245	1795	1501
35°	3447	1743	1469
40°	3569	1688	1449
45°	3594	1630	1446
50°	3499	1567	1462
55°	3276	1511	1470
60°	2979	1442	1458
65°	2702	1365	1401
70°	2471	1264	1286
75°	2243	1138	1105
80°	1963	948	854
85°	1646	685	630



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	19.5	3.1
10°-20°	56.7	8.9
20°-30°	88.9	14.0
30°-40°	111.5	17.5
40°-50°	118.6	18.6
50°-60°	107.1	16.8
60°-70°	79.3	12.5
70°-80°	43.5	6.8
80°-90°	11.2	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°	165.2	26.0
0°-40°	276.6	43.5
0°-60°	502.4	78.9
0°-90°	636.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	636.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	205	205	205	205	205	
5°	222	216	203	194	191	22
15°	252	229	193	170	167	72
25°	282	235	174	148	146	130
35°	293	230	148	125	125	183
45°	264	211	120	100	106	202
55°	195	173	90	76	88	174
65°	119	122	60	52	62	118
75°	60	64	31	26	30	64
85°	15	15	6	6	6	18
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-X-X-RL940-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4
2.5°	213.7	213.3	212.8	212.6	211.9	210.8	209.9	209.9	208.8	206.2	204.3
5°	222.1	221.4	220.1	219.1	217.5	215.6	213.6	212.5	209.8	205.9	203.4
7.5°	229.8	228.9	227.3	225.4	222.8	219.9	216.7	214.1	210.2	204.9	201.7
10°	236.5	235.8	233.8	231.5	227.7	223.7	219.0	215.2	209.8	203.2	199.5
12.5°	243.9	243.2	240.5	237.3	232.2	226.8	220.6	215.3	208.7	200.7	196.6
15°	251.6	250.6	247.6	243.3	236.5	229.3	221.6	214.8	206.9	197.8	192.9
17.5°	259.2	258.2	254.4	248.9	240.5	231.5	222.0	213.6	204.3	194.1	188.8
20°	266.9	265.9	261.1	254.2	243.9	233.1	221.9	211.9	201.3	190.0	184.3
22.5°	274.6	273.4	267.6	259.1	246.8	234.2	221.0	209.4	197.5	185.3	179.2
25°	281.6	280.4	274.0	264.0	249.9	234.7	219.4	206.0	193.3	180.0	173.6
27.5°	287.7	286.3	279.6	268.6	252.5	234.8	217.3	202.2	188.4	174.4	167.9
30°	291.9	290.6	283.6	271.8	254.0	234.2	214.6	197.8	182.7	168.3	161.5
32.5°	293.8	292.7	285.7	273.3	254.3	232.7	211.3	192.8	176.8	161.9	155.0
35°	293.3	292.2	285.5	273.1	253.5	230.5	207.1	187.1	170.5	155.2	148.3
37.5°	290.1	288.8	282.7	270.8	251.3	227.3	202.4	181.0	163.6	148.4	141.4
40°	284.0	282.7	277.5	266.5	247.6	223.0	197.0	174.4	156.6	141.2	134.3
42.5°	275.3	273.9	269.8	259.7	242.3	217.4	190.8	167.4	149.2	134.3	127.0
45°	264.0	262.6	259.8	251.3	235.3	210.7	183.8	159.8	141.4	126.4	119.7
47.5°	249.9	248.8	247.4	240.8	226.8	203.0	176.0	151.7	133.3	119.1	112.1
50°	233.6	232.5	232.9	228.4	216.9	194.1	167.4	143.1	125.0	110.9	104.6
52.5°	215.2	214.2	216.3	214.3	205.4	184.2	158.2	134.3	116.4	103.1	97.1
55°	195.2	194.2	198.1	198.7	192.6	173.4	147.7	125.2	107.8	95.5	90.0
57.5°	174.7	173.9	178.8	181.6	178.6	161.6	137.1	115.9	99.0	87.6	82.1
60°	154.7	154.0	159.3	163.8	163.5	149.2	126.2	105.7	90.1	79.5	74.9
62.5°	135.9	135.1	140.3	145.7	147.7	135.9	115.3	95.8	81.2	71.5	67.4
65°	118.6	117.8	122.3	127.8	131.4	122.1	103.5	85.5	72.3	63.4	59.9
67.5°	102.7	102.7	105.5	110.6	114.9	107.9	91.5	75.7	63.1	55.9	52.4
70°	87.8	87.7	89.8	93.4	98.4	92.7	79.4	65.4	54.4	48.0	44.9
72.5°	73.7	74.3	75.1	77.9	83.1	78.2	67.3	55.2	45.9	40.3	37.7
75°	60.3	60.2	61.3	63.8	67.6	63.9	55.2	45.3	37.4	32.8	30.6
77.5°	47.5	47.4	48.3	49.7	52.9	50.1	43.6	36.2	29.1	25.3	23.7
80°	35.4	35.4	36.2	37.0	39.3	37.1	32.5	27.1	21.4	18.4	17.1
82.5°	24.6	25.1	24.7	25.8	27.1	25.2	22.3	18.6	14.2	12.2	11.3
85°	14.9	15.4	14.9	15.8	16.4	14.7	13.3	11.1	8.2	6.8	6.2
87.5°	7.7	7.6	7.5	7.9	8.1	7.1	6.2	5.3	3.6	2.8	2.4
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°	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4	205.4
2.5°	203.2	203.8	203.0	200.2	199.1	197.9	197.4	196.9	197.8	197.6
5°	201.6	201.0	199.0	195.5	193.6	191.7	190.8	190.2	191.4	191.2
7.5°	199.3	197.6	194.7	190.4	188.0	185.4	184.2	183.4	184.2	184.1
10°	196.4	193.6	190.1	184.9	182.1	179.3	177.8	176.7	177.4	177.3
12.5°	192.8	189.1	184.8	179.0	176.1	173.2	171.9	171.2	172.0	171.8
15°	188.7	184.3	179.4	173.4	170.3	167.6	166.7	166.1	166.8	166.8
17.5°	184.2	179.1	173.6	167.6	164.7	162.5	161.6	161.2	161.5	162.0
20°	179.3	173.5	167.6	161.8	159.3	157.1	156.2	155.8	156.6	156.2
22.5°	173.8	167.7	161.5	156.0	153.8	151.6	150.7	150.5	151.3	151.0
25°	168.0	161.4	155.3	150.3	148.0	146.2	145.4	145.2	145.6	146.0
27.5°	162.5	155.0	149.0	144.6	142.5	140.8	140.1	139.7	140.0	140.5
30°	155.8	148.6	142.7	138.6	136.6	134.9	134.4	134.1	134.6	135.0
32.5°	149.5	142.3	136.4	132.3	130.6	129.0	128.9	128.8	129.4	129.9
35°	142.8	135.7	130.0	126.2	124.6	123.2	123.5	123.7	124.4	125.0
37.5°	135.9	129.0	123.5	120.1	118.6	117.5	118.2	118.6	119.5	120.1
40°	129.0	122.1	117.0	113.9	112.4	111.9	113.0	113.7	114.8	115.3
42.5°	121.9	115.5	110.4	107.6	106.3	106.3	107.7	108.9	110.2	110.7
45°	114.8	108.6	103.8	101.2	100.2	100.9	102.6	104.1	105.7	106.2
47.5°	107.7	101.6	97.2	94.8	94.3	95.3	97.4	99.5	101.3	102.0
50°	100.5	95.0	90.6	88.4	88.4	89.7	92.4	94.9	96.9	97.6
52.5°	93.3	88.1	83.6	82.0	82.3	84.1	87.2	89.8	92.1	92.8
55°	86.0	80.9	77.0	75.7	76.3	78.4	81.7	84.7	86.9	87.6
57.5°	78.9	74.0	70.4	69.3	70.2	72.6	76.3	79.0	81.2	81.9
60°	71.6	66.6	63.8	63.0	64.1	66.6	70.4	72.9	75.0	75.7
62.5°	64.4	59.8	57.3	56.6	57.8	60.5	64.3	66.5	68.1	68.7
65°	57.2	53.0	50.7	50.2	51.6	54.2	57.8	59.6	60.8	61.5
67.5°	50.0	46.4	44.3	43.9	45.3	47.7	51.0	52.0	53.1	53.8
70°	42.9	39.7	37.9	37.7	38.9	41.2	44.0	44.5	45.1	45.7
72.5°	35.9	33.4	31.6	31.5	32.7	34.5	36.8	36.9	37.1	37.7
75°	29.1	26.9	25.5	25.8	26.4	27.9	29.7	29.2	29.3	29.7
77.5°	22.6	20.8	19.8	20.0	20.5	21.6	22.8	22.2	21.9	22.3
80°	16.3	14.7	14.4	14.4	14.8	15.5	16.2	15.7	15.0	15.4
82.5°	10.7	9.7	9.5	9.6	9.9	10.3	10.5	9.7	9.5	9.8
85°	5.9	5.5	5.5	5.7	5.8	5.9	5.9	5.5	5.6	5.7
87.5°	2.4	2.4	2.6	2.9	2.7	2.4	2.0	1.4	1.4	1.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)