

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-24L935-X-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-24L935-X-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/  
ASYMMETRIC Lens  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

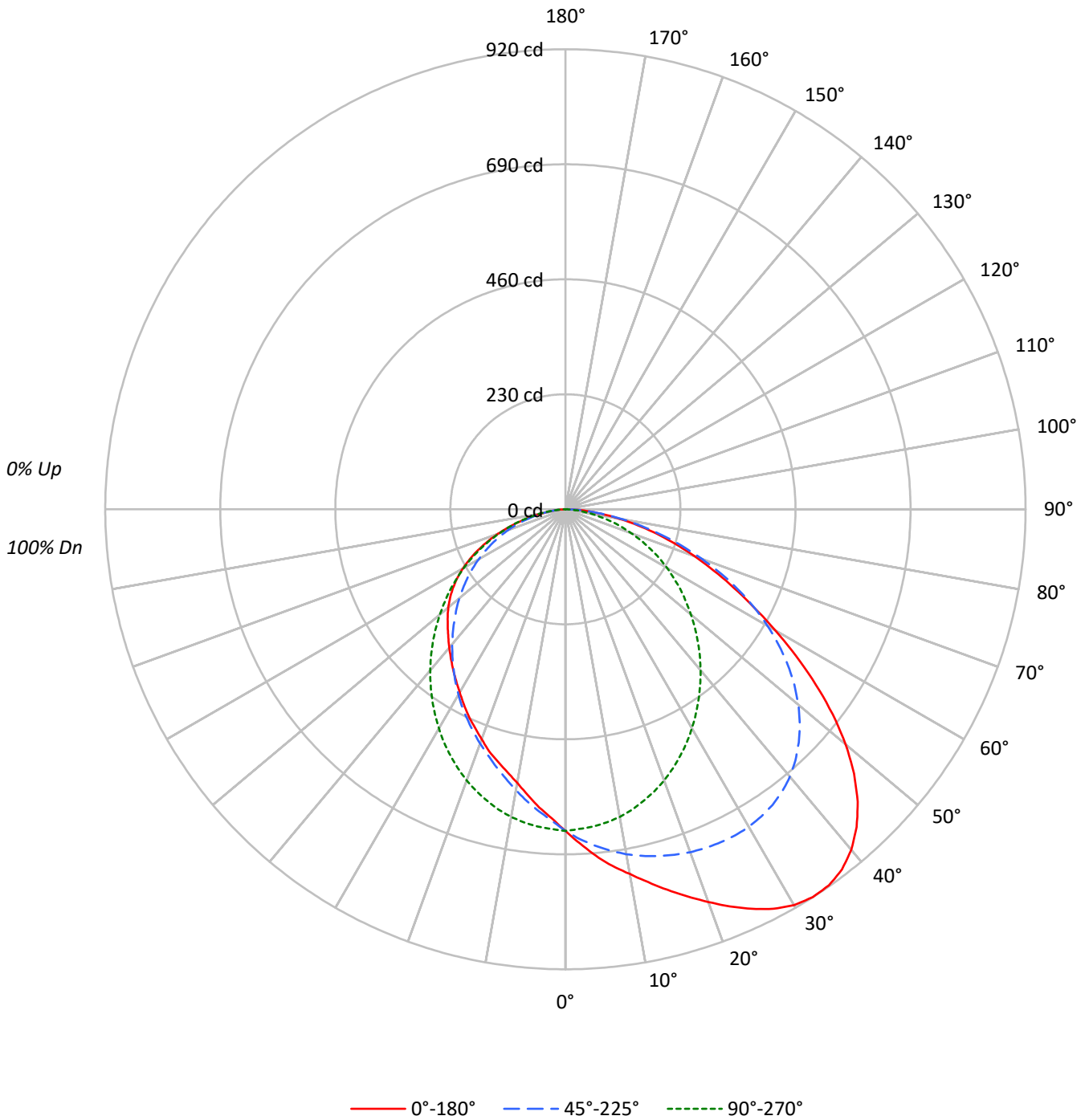
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1992.4 lumens  
Efficiency: N/A  
Efficacy: 71.4 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): 27.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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			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°	6192	6192	6192
5°	6719	6155	5785
10°	7239	6107	5428
15°	7853	6019	5205
20°	8562	5913	5011
25°	9366	5774	4856
30°	10161	5623	4699
35°	10791	5457	4599
40°	11174	5283	4538
45°	11253	5100	4528
50°	10956	4907	4577
55°	10261	4730	4606
60°	9325	4515	4561
65°	8456	4269	4385
70°	7741	3960	4025
75°	7023	3560	3463
80°	6143	2977	2667
85°	5170	2165	1988



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.1	3.1
10°-20°	177.7	8.9
20°-30°	278.3	14.0
30°-40°	349.0	17.5
40°-50°	371.5	18.6
50°-60°	335.4	16.8
60°-70°	248.3	12.5
70°-80°	136.2	6.8
80°-90°	35.0	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°	517.1	26.0
0°-40°	866.1	43.5
0°-60°	1572.9	78.9
0°-90°	1992.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1992.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	643	643	643	643	643	
5°	695	675	637	606	599	68
15°	788	718	604	533	522	225
25°	882	735	544	464	457	408
35°	918	722	464	390	391	573
45°	826	660	375	314	333	634
55°	611	543	282	239	274	545
65°	371	382	187	162	192	370
75°	189	200	96	83	93	201
85°	47	46	20	18	18	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2
2.5°	669.2	667.8	666.2	665.7	663.3	660.2	657.3	657.3	653.8	645.6	639.8
5°	695.3	693.2	689.2	686.1	681.1	675.0	668.9	665.2	657.0	644.6	636.9
7.5°	719.4	716.7	711.7	705.6	697.4	688.5	678.4	670.5	658.0	641.4	631.6
10°	740.5	738.2	732.1	724.7	713.0	700.4	685.5	673.6	656.7	636.1	624.7
12.5°	763.8	761.4	753.0	742.9	727.1	710.1	690.6	674.2	653.3	628.4	615.5
15°	787.9	784.7	775.2	761.7	740.5	717.8	693.7	672.6	647.7	619.2	603.9
17.5°	811.7	808.5	796.6	779.4	753.0	724.7	695.1	668.9	639.8	607.8	591.2
20°	835.7	832.5	817.5	795.8	763.8	729.7	694.8	663.3	630.3	594.9	577.1
22.5°	859.8	856.1	837.8	811.4	772.8	733.1	691.9	655.7	618.4	580.1	561.0
25°	881.7	878.0	857.9	826.7	782.3	734.7	686.9	645.1	605.2	563.7	543.6
27.5°	900.8	896.3	875.4	841.0	790.5	735.2	680.3	633.2	589.8	546.0	525.6
30°	914.0	910.0	887.8	851.0	795.3	733.4	671.8	619.2	572.1	526.9	505.8
32.5°	919.8	916.4	894.4	855.8	796.1	728.6	661.5	603.6	553.6	506.8	485.4
35°	918.2	914.8	893.9	855.0	793.7	721.8	648.5	585.9	533.8	485.9	464.3
37.5°	908.2	904.2	885.2	847.9	786.8	711.7	633.7	566.6	512.4	464.5	442.6
40°	889.1	885.2	868.8	834.4	775.2	698.2	616.8	546.0	490.4	442.0	420.4
42.5°	861.9	857.7	844.7	813.2	758.5	680.5	597.5	524.0	467.2	420.4	397.6
45°	826.5	822.2	813.5	786.8	736.8	659.6	575.6	500.2	442.8	395.8	374.6
47.5°	782.6	778.9	774.6	754.0	710.1	635.6	551.0	474.8	417.5	372.8	351.1
50°	731.5	727.8	729.2	715.2	679.2	607.8	524.0	448.1	391.3	347.1	327.6
52.5°	673.6	670.7	677.1	671.0	643.2	576.9	495.2	420.6	364.6	322.8	304.0
55°	611.3	608.1	620.2	622.1	603.1	542.8	462.4	392.1	337.6	299.0	281.8
57.5°	547.0	544.4	560.0	568.7	559.2	506.0	429.4	362.7	309.9	274.2	257.0
60°	484.3	482.2	498.6	512.9	511.8	467.2	395.0	331.0	282.1	249.0	234.5
62.5°	425.4	423.0	439.4	456.3	462.4	425.7	360.9	299.8	254.3	223.9	211.0
65°	371.2	368.8	382.8	400.3	411.4	382.3	324.1	267.6	226.3	198.6	187.4
67.5°	321.5	321.5	330.2	346.3	359.8	337.9	286.6	236.9	197.5	175.0	163.9
70°	275.0	274.7	281.0	292.4	308.0	290.3	248.5	204.6	170.3	150.4	140.7
72.5°	230.8	232.7	235.0	243.8	260.2	244.8	210.7	172.9	143.6	126.1	117.9
75°	188.8	188.5	191.9	199.6	211.5	200.1	172.9	142.0	117.1	102.8	95.7
77.5°	148.6	148.3	151.2	155.7	165.8	156.8	136.4	113.4	91.2	79.3	74.3
80°	110.8	110.8	113.4	115.8	123.2	116.1	101.8	84.9	66.9	57.6	53.7
82.5°	76.9	78.5	77.5	80.6	84.9	78.8	69.8	58.2	44.4	38.1	35.4
85°	46.8	48.1	46.8	49.4	51.3	46.0	41.5	34.6	25.6	21.4	19.6
87.5°	24.1	23.8	23.5	24.9	25.4	22.2	19.6	16.7	11.4	8.7	7.4
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°	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2	643.2
2.5°	636.4	638.0	635.6	626.9	623.4	619.7	618.1	616.5	619.4	618.7
5°	631.1	629.2	623.2	612.0	606.2	600.1	597.2	595.4	599.4	598.6
7.5°	623.9	618.7	609.7	596.2	588.8	580.6	576.6	574.2	576.9	576.4
10°	615.0	606.2	595.1	579.0	570.3	561.3	556.8	553.4	555.5	555.2
12.5°	603.6	592.2	578.7	560.5	551.5	542.2	538.3	535.9	538.5	537.8
15°	590.9	577.1	561.5	543.0	533.3	524.8	521.9	520.0	522.2	522.2
17.5°	576.9	560.8	543.6	524.8	515.5	508.9	506.0	504.7	505.8	507.4
20°	561.3	543.3	524.8	506.6	498.6	491.8	489.1	487.8	490.2	489.1
22.5°	544.1	525.1	505.8	488.6	481.4	474.6	471.9	471.1	473.8	472.7
25°	525.9	505.2	486.2	470.6	463.5	457.6	455.3	454.5	455.8	457.1
27.5°	508.7	485.4	466.6	452.6	446.3	440.7	438.6	437.3	438.3	439.9
30°	487.8	465.3	446.8	433.9	427.8	422.5	420.9	419.8	421.4	422.7
32.5°	468.2	445.5	427.0	414.3	409.0	404.0	403.7	403.2	405.0	406.6
35°	447.1	424.9	406.9	395.0	390.0	385.7	386.5	387.3	389.4	391.3
37.5°	425.7	404.0	386.8	376.0	371.2	367.8	370.1	371.2	374.1	376.0
40°	404.0	382.3	366.4	356.7	351.9	350.3	353.7	356.1	359.6	361.1
42.5°	381.8	361.7	345.8	336.8	332.9	332.9	337.4	341.1	345.0	346.6
45°	359.6	340.0	324.9	316.7	313.8	315.9	321.2	326.0	331.0	332.6
47.5°	337.1	318.1	304.3	296.9	295.3	298.5	305.1	311.4	317.3	319.4
50°	314.6	297.4	283.7	276.8	276.8	280.8	289.2	297.2	303.5	305.6
52.5°	292.1	275.8	261.7	256.7	257.8	263.3	273.1	281.3	288.4	290.6
55°	269.4	253.3	241.1	236.9	238.7	245.6	255.7	265.2	272.0	274.4
57.5°	246.9	231.6	220.5	217.1	219.7	227.4	239.0	247.2	254.3	256.5
60°	224.2	208.6	199.9	197.2	200.7	208.6	220.5	228.2	234.8	236.9
62.5°	201.7	187.2	179.5	177.1	181.1	189.6	201.2	208.1	213.1	215.2
65°	179.0	166.0	158.9	157.3	161.5	169.7	180.8	186.7	190.4	192.5
67.5°	156.5	145.4	138.8	137.5	142.0	149.4	159.7	162.9	166.3	168.4
70°	134.3	124.3	118.7	117.9	121.9	129.0	137.7	139.3	141.2	143.0
72.5°	112.4	104.4	98.9	98.6	102.3	108.1	115.3	115.5	116.1	117.9
75°	91.2	84.1	79.8	80.6	82.8	87.5	93.1	91.5	91.7	93.1
77.5°	70.9	65.0	62.1	62.7	64.2	67.7	71.4	69.5	68.5	69.8
80°	51.0	46.0	44.9	45.2	46.3	48.6	50.8	49.2	47.1	48.1
82.5°	33.6	30.4	29.9	30.1	30.9	32.3	32.8	30.4	29.9	30.7
85°	18.5	17.2	17.2	18.0	18.2	18.5	18.5	17.2	17.4	18.0
87.5°	7.4	7.4	8.2	9.0	8.5	7.4	6.3	4.2	4.2	5.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)