

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-20L940-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-20L940-X-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/  
ASYMMETRIC Lens  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

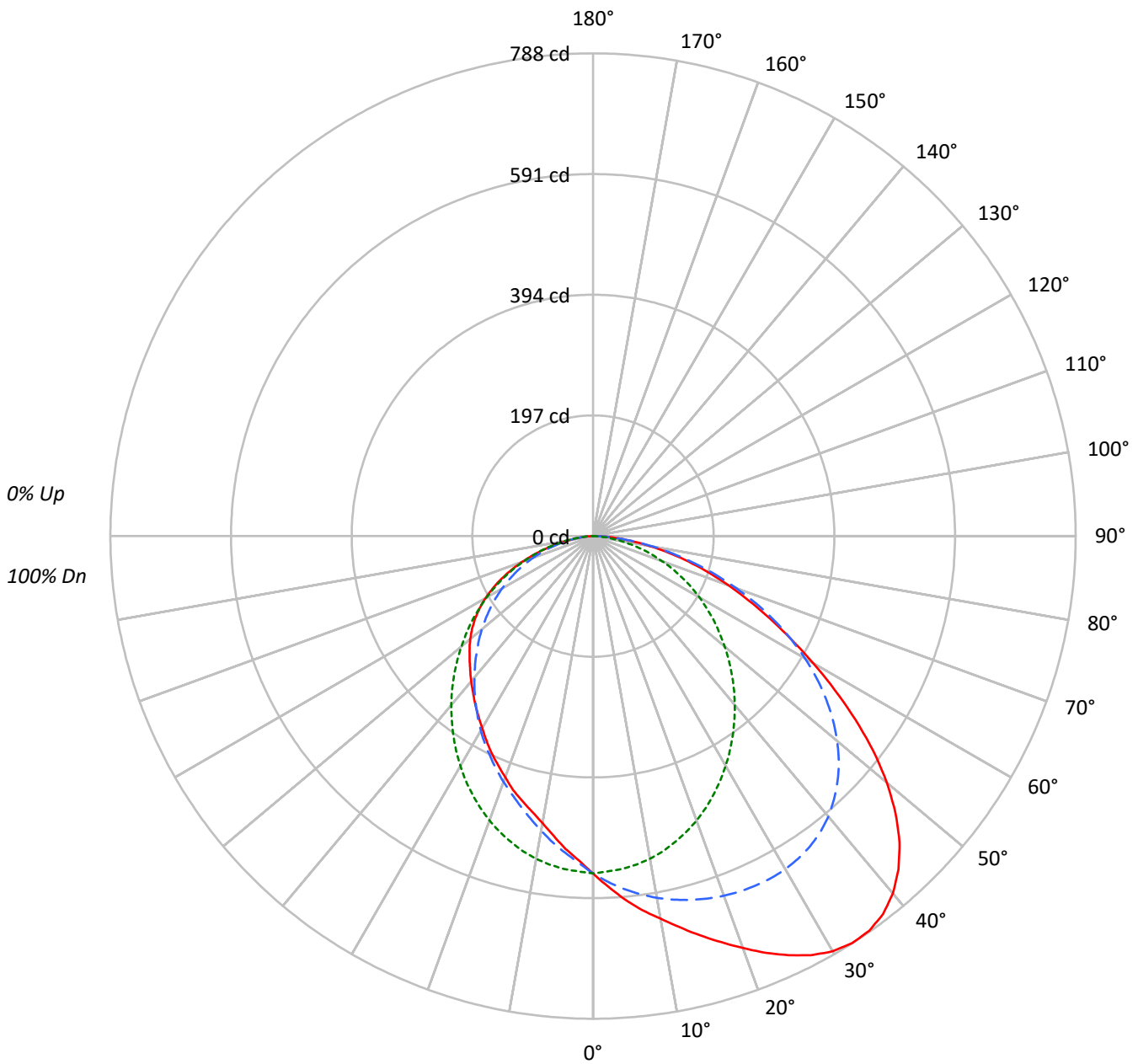
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1706.1 lumens  
Efficiency: N/A  
Efficacy: 71.7 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): 23.8  
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



— 0°-180°    - - 45°-225°    - - - 90°-270°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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°	5303	5303	5303
5°	5754	5271	4954
10°	6199	5230	4647
15°	6725	5154	4456
20°	7331	5063	4291
25°	8020	4945	4158
30°	8701	4815	4024
35°	9241	4673	3938
40°	9569	4524	3887
45°	9635	4368	3878
50°	9382	4201	3920
55°	8785	4050	3944
60°	7987	3866	3907
65°	7242	3656	3754
70°	6629	3389	3448
75°	6011	3050	2965
80°	5261	2550	2284
85°	4430	1856	1701



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.3	3.1
10°-20°	152.1	8.9
20°-30°	238.4	14.0
30°-40°	298.8	17.5
40°-50°	318.1	18.6
50°-60°	287.2	16.8
60°-70°	212.6	12.5
70°-80°	116.7	6.8
80°-90°	29.9	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°	442.8	26.0
0°-40°	741.6	43.5
0°-60°	1346.9	78.9
0°-90°	1706.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1706.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	551	551	551	551	551	
5°	595	578	545	519	513	58
15°	675	615	517	457	447	192
25°	755	629	466	397	391	349
35°	786	618	398	334	335	490
45°	708	565	321	269	285	543
55°	523	465	241	204	235	467
65°	318	327	160	138	165	317
75°	162	171	82	71	80	172
85°	40	39	17	16	15	47
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°	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8
2.5°	573.0	571.9	570.5	570.1	568.0	565.3	562.8	562.8	559.9	552.9	547.9
5°	595.4	593.6	590.2	587.5	583.2	578.0	572.8	569.6	562.6	552.0	545.4
7.5°	616.0	613.8	609.5	604.3	597.2	589.5	580.9	574.1	563.5	549.2	540.9
10°	634.1	632.1	626.9	620.6	610.6	599.7	587.0	576.9	562.4	544.7	535.0
12.5°	654.1	652.0	644.8	636.2	622.6	608.1	591.3	577.3	559.4	538.1	527.1
15°	674.7	671.9	663.8	652.2	634.1	614.7	594.1	576.0	554.7	530.2	517.1
17.5°	695.0	692.3	682.1	667.4	644.8	620.6	595.2	572.8	547.9	520.5	506.2
20°	715.6	712.9	700.0	681.5	654.1	624.9	595.0	568.0	539.7	509.4	494.2
22.5°	736.2	733.1	717.4	694.8	661.8	627.8	592.5	561.5	529.5	496.7	480.4
25°	755.0	751.9	734.7	707.9	669.9	629.2	588.2	552.4	518.2	482.7	465.5
27.5°	771.3	767.5	749.6	720.2	676.9	629.6	582.5	542.2	505.1	467.5	450.1
30°	782.7	779.3	760.2	728.8	681.0	628.0	575.3	530.2	489.9	451.2	433.1
32.5°	787.6	784.7	765.9	732.8	681.7	623.9	566.4	516.9	474.1	434.0	415.7
35°	786.3	783.3	765.4	732.2	679.6	618.1	555.3	501.7	457.1	416.1	397.6
37.5°	777.7	774.3	758.0	726.1	673.8	609.5	542.7	485.2	438.8	397.8	379.0
40°	761.4	758.0	743.9	714.5	663.8	597.9	528.2	467.5	420.0	378.5	360.0
42.5°	738.1	734.4	723.3	696.4	649.5	582.7	511.7	448.7	400.0	360.0	340.5
45°	707.7	704.1	696.6	673.8	631.0	564.9	492.9	428.3	379.2	338.9	320.8
47.5°	670.1	667.0	663.3	645.7	608.1	544.3	471.8	406.6	357.5	319.2	300.7
50°	626.4	623.3	624.4	612.4	581.6	520.5	448.7	383.7	335.1	297.3	280.5
52.5°	576.9	574.4	579.8	574.6	550.8	494.0	424.0	360.2	312.2	276.4	260.4
55°	523.4	520.7	531.1	532.7	516.4	464.8	396.0	335.7	289.1	256.1	241.3
57.5°	468.4	466.1	479.5	487.0	478.8	433.3	367.7	310.6	265.3	234.8	220.1
60°	414.8	412.9	427.0	439.2	438.3	400.0	338.2	283.4	241.6	213.3	200.8
62.5°	364.3	362.2	376.3	390.8	396.0	364.5	309.0	256.7	217.8	191.8	180.7
65°	317.9	315.8	327.8	342.8	352.3	327.4	277.6	229.1	193.8	170.0	160.5
67.5°	275.3	275.3	282.8	296.6	308.1	289.3	245.4	202.9	169.1	149.9	140.4
70°	235.5	235.2	240.7	250.4	263.8	248.6	212.8	175.2	145.8	128.8	120.4
72.5°	197.6	199.2	201.3	208.7	222.8	209.6	180.4	148.1	122.9	108.0	101.0
75°	161.6	161.4	164.4	170.9	181.1	171.4	148.1	121.6	100.3	88.1	82.0
77.5°	127.2	127.0	129.5	133.3	142.0	134.3	116.8	97.1	78.1	67.9	63.6
80°	94.9	94.9	97.1	99.2	105.5	99.4	87.2	72.7	57.3	49.4	46.0
82.5°	65.9	67.2	66.3	69.1	72.7	67.5	59.8	49.8	38.0	32.6	30.3
85°	40.1	41.2	40.1	42.3	43.9	39.4	35.5	29.7	22.0	18.3	16.8
87.5°	20.6	20.4	20.1	21.3	21.7	19.0	16.8	14.3	9.7	7.5	6.3
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°	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8	550.8
2.5°	544.9	546.3	544.3	536.8	533.8	530.7	529.3	528.0	530.4	529.8
5°	540.4	538.8	533.6	524.1	519.1	513.9	511.4	509.8	513.2	512.6
7.5°	534.3	529.8	522.1	510.5	504.2	497.2	493.8	491.7	494.0	493.5
10°	526.6	519.1	509.6	495.8	488.3	480.6	476.8	473.8	475.7	475.4
12.5°	516.9	507.1	495.6	480.0	472.3	464.3	460.9	458.9	461.2	460.5
15°	506.0	494.2	480.9	465.0	456.6	449.4	446.9	445.3	447.1	447.1
17.5°	494.0	480.2	465.5	449.4	441.5	435.8	433.3	432.2	433.1	434.5
20°	480.6	465.2	449.4	433.8	427.0	421.1	418.8	417.7	419.7	418.8
22.5°	465.9	449.6	433.1	418.4	412.3	406.4	404.1	403.4	405.7	404.8
25°	450.3	432.6	416.3	403.0	396.9	391.9	389.9	389.2	390.3	391.4
27.5°	435.6	415.7	399.6	387.6	382.2	377.4	375.6	374.5	375.4	376.7
30°	417.7	398.5	382.6	371.5	366.3	361.8	360.4	359.5	360.9	362.0
32.5°	400.9	381.5	365.6	354.8	350.2	345.9	345.7	345.3	346.8	348.2
35°	382.8	363.8	348.4	338.2	333.9	330.3	331.0	331.7	333.5	335.1
37.5°	364.5	345.9	331.2	321.9	317.9	314.9	317.0	317.9	320.4	321.9
40°	345.9	327.4	313.8	305.4	301.3	300.0	302.9	305.0	307.9	309.3
42.5°	326.9	309.7	296.1	288.4	285.0	285.0	288.9	292.1	295.4	296.8
45°	307.9	291.1	278.2	271.2	268.7	270.5	275.1	279.1	283.4	284.8
47.5°	288.7	272.4	260.6	254.2	252.9	255.6	261.3	266.7	271.7	273.5
50°	269.4	254.7	242.9	237.0	237.0	240.4	247.7	254.5	259.9	261.7
52.5°	250.2	236.1	224.1	219.8	220.7	225.5	233.9	240.9	247.0	248.8
55°	230.7	216.9	206.5	202.9	204.4	210.3	218.9	227.1	233.0	235.0
57.5°	211.5	198.3	188.8	185.9	188.1	194.7	204.7	211.7	217.8	219.6
60°	192.0	178.6	171.2	168.9	171.8	178.6	188.8	195.4	201.0	202.9
62.5°	172.7	160.3	153.7	151.7	155.1	162.3	172.3	178.2	182.5	184.3
65°	153.3	142.2	136.1	134.7	138.3	145.3	154.9	159.8	163.0	164.8
67.5°	134.0	124.5	118.9	117.7	121.6	127.9	136.7	139.5	142.4	144.2
70°	115.0	106.4	101.7	101.0	104.4	110.5	118.0	119.3	120.9	122.5
72.5°	96.2	89.4	84.7	84.4	87.6	92.6	98.7	98.9	99.4	101.0
75°	78.1	72.0	68.4	69.1	70.9	74.9	79.7	78.3	78.6	79.7
77.5°	60.7	55.7	53.2	53.7	55.0	58.0	61.1	59.5	58.6	59.8
80°	43.7	39.4	38.5	38.7	39.6	41.7	43.5	42.1	40.3	41.2
82.5°	28.8	26.0	25.6	25.8	26.5	27.6	28.1	26.0	25.6	26.3
85°	15.8	14.7	14.7	15.4	15.6	15.8	15.8	14.7	14.9	15.4
87.5°	6.3	6.3	7.0	7.7	7.2	6.3	5.4	3.6	3.6	4.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)