

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-24L840-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-24L840-X-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/  
ASYMMETRIC Lens  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

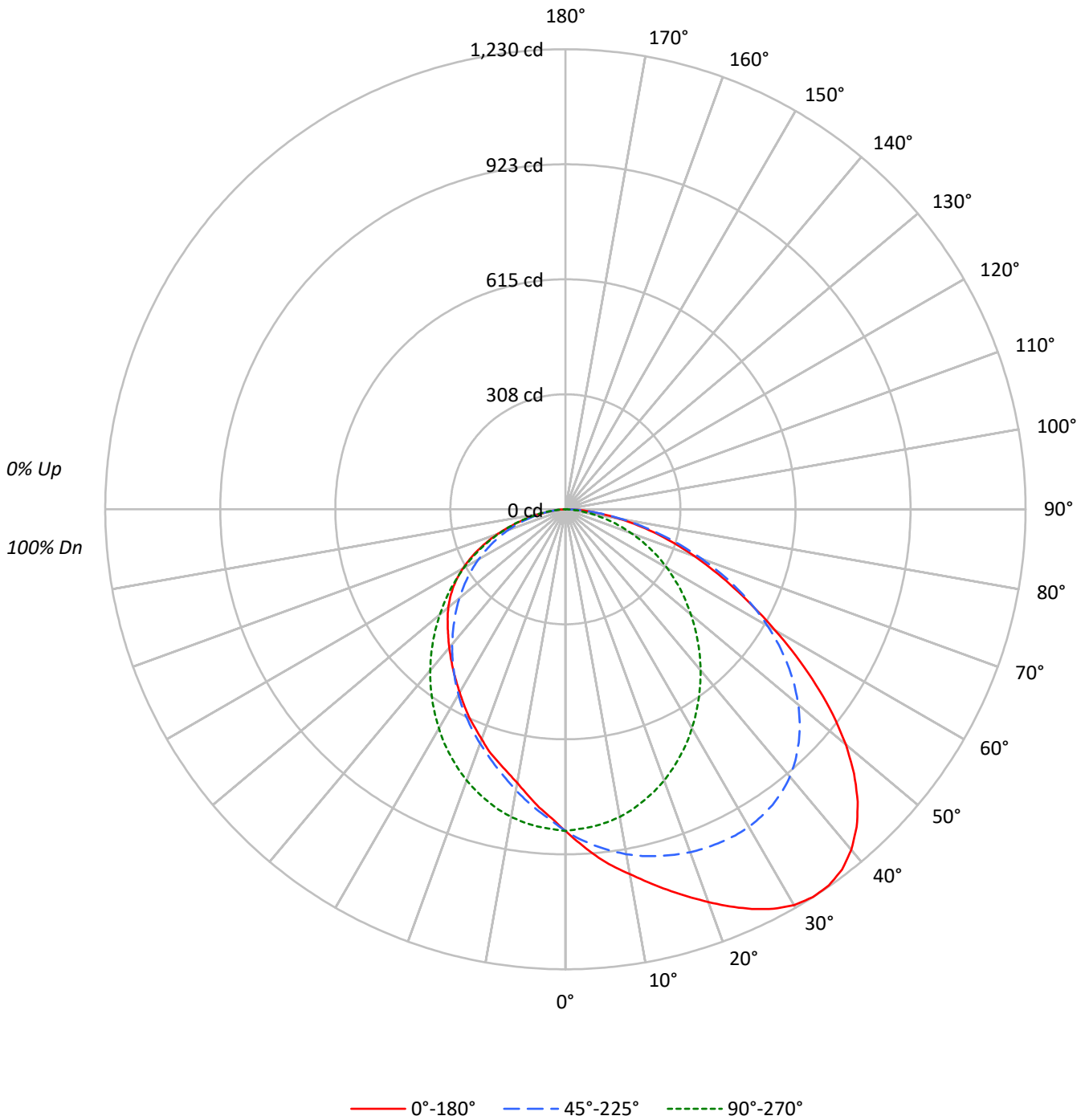
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2664.0 lumens  
Efficiency: N/A  
Efficacy: 95.5 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 (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			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°	8280	8280	8280
5°	8985	8230	7734
10°	9679	8166	7257
15°	10499	8047	6959
20°	11448	7906	6700
25°	12523	7721	6493
30°	13585	7517	6283
35°	14429	7295	6149
40°	14940	7064	6069
45°	15045	6820	6055
50°	14649	6560	6120
55°	13718	6324	6158
60°	12469	6038	6098
65°	11306	5709	5861
70°	10347	5295	5382
75°	9389	4761	4627
80°	8211	3981	3565
85°	6915	2894	2651



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.7	3.1
10°-20°	237.6	8.9
20°-30°	372.2	14.0
30°-40°	466.6	17.5
40°-50°	496.7	18.6
50°-60°	448.4	16.8
60°-70°	331.9	12.5
70°-80°	182.1	6.8
80°-90°	46.8	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°	691.4	26.0
0°-40°	1158.0	43.5
0°-60°	2103.1	78.9
0°-90°	2664.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2664.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	860	860	860	860	860	
5°	930	902	852	811	800	91
15°	1053	960	807	713	698	300
25°	1179	982	727	620	611	546
35°	1228	965	621	521	523	766
45°	1105	882	501	420	445	847
55°	817	726	377	319	367	729
65°	496	511	251	216	257	495
75°	252	268	128	111	124	268
85°	63	62	26	24	24	74
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°	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1
2.5°	894.7	892.9	890.8	890.1	886.9	882.7	878.8	878.8	874.2	863.2	855.5
5°	929.7	926.9	921.6	917.3	910.6	902.5	894.3	889.4	878.4	861.8	851.6
7.5°	961.9	958.3	951.6	943.5	932.5	920.5	907.1	896.5	879.9	857.6	844.5
10°	990.1	987.0	978.8	968.9	953.4	936.4	916.6	900.7	878.1	850.5	835.3
12.5°	1021.3	1018.1	1006.8	993.3	972.1	949.5	923.3	901.4	873.5	840.3	822.9
15°	1053.4	1049.2	1036.5	1018.4	990.1	959.7	927.6	899.3	866.1	827.9	807.4
17.5°	1085.2	1081.0	1065.1	1042.1	1006.8	968.9	929.3	894.3	855.5	812.7	790.4
20°	1117.4	1113.2	1093.0	1064.0	1021.3	975.7	929.0	886.9	842.7	795.4	771.7
22.5°	1149.6	1144.6	1120.2	1084.9	1033.3	980.2	925.1	876.7	826.8	775.6	750.1
25°	1178.9	1174.0	1147.1	1105.4	1046.0	982.4	918.4	862.5	809.2	753.7	726.8
27.5°	1204.4	1198.4	1170.4	1124.5	1057.0	983.1	909.5	846.6	788.7	730.0	702.8
30°	1222.0	1216.7	1187.0	1137.9	1063.3	980.6	898.2	827.9	765.0	704.5	676.2
32.5°	1229.8	1225.2	1195.9	1144.3	1064.4	974.2	884.4	807.0	740.2	677.7	649.0
35°	1227.7	1223.1	1195.2	1143.2	1061.2	965.0	867.1	783.3	713.7	649.7	620.7
37.5°	1214.3	1209.0	1183.5	1133.7	1052.0	951.6	847.3	757.5	685.1	621.1	591.8
40°	1188.8	1183.5	1161.6	1115.6	1036.5	933.6	824.7	730.0	655.7	591.0	562.1
42.5°	1152.4	1146.7	1129.4	1087.4	1014.2	909.9	798.9	700.6	624.6	562.1	531.7
45°	1105.0	1099.4	1087.7	1052.0	985.2	882.0	769.6	668.8	592.1	529.2	500.9
47.5°	1046.4	1041.4	1035.7	1008.2	949.5	849.8	736.7	634.9	558.2	498.4	469.4
50°	978.1	973.2	974.9	956.2	908.1	812.7	700.6	599.2	523.2	464.1	438.0
52.5°	900.7	896.8	905.3	897.2	860.1	771.3	662.1	562.4	487.5	431.6	406.5
55°	817.3	813.0	829.3	831.8	806.3	725.7	618.3	524.2	451.4	399.8	376.8
57.5°	731.4	727.8	748.7	760.4	747.6	676.6	574.1	485.0	414.3	366.6	343.6
60°	647.6	644.8	666.7	685.8	684.4	624.6	528.1	442.6	377.2	333.0	313.6
62.5°	568.8	565.6	587.5	610.1	618.3	569.1	482.5	400.9	340.1	299.4	282.1
65°	496.3	493.1	511.9	535.2	550.0	511.2	433.4	357.7	302.6	265.5	250.6
67.5°	429.9	429.9	441.5	463.1	481.1	451.8	383.2	316.7	264.1	234.0	219.2
70°	367.6	367.3	375.8	391.0	411.8	388.1	332.3	273.6	227.7	201.1	188.1
72.5°	308.6	311.1	314.3	325.9	347.8	327.3	281.7	231.2	191.9	168.6	157.7
75°	252.4	252.0	256.6	266.9	282.8	267.6	231.2	189.8	156.6	137.5	128.0
77.5°	198.7	198.3	202.2	208.2	221.6	209.6	182.4	151.7	122.0	106.0	99.3
80°	148.1	148.1	151.7	154.8	164.7	155.2	136.1	113.5	89.4	77.1	71.8
82.5°	102.9	105.0	103.6	107.8	113.5	105.3	93.3	77.8	59.4	50.9	47.4
85°	62.6	64.3	62.6	66.1	68.6	61.5	55.5	46.3	34.3	28.6	26.2
87.5°	32.2	31.8	31.5	33.2	33.9	29.7	26.2	22.3	15.2	11.7	9.9
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°	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1	860.1
2.5°	850.9	853.0	849.8	838.1	833.5	828.6	826.5	824.4	828.2	827.2
5°	843.8	841.3	833.2	818.3	810.6	802.4	798.5	796.1	801.4	800.3
7.5°	834.3	827.2	815.2	797.1	787.2	776.3	771.0	767.8	771.3	770.6
10°	822.2	810.6	795.7	774.2	762.5	750.5	744.5	739.9	742.7	742.3
12.5°	807.0	791.8	773.8	749.4	737.4	725.0	719.7	716.5	720.1	719.0
15°	790.1	771.7	750.8	726.1	713.0	701.7	697.8	695.3	698.2	698.2
17.5°	771.3	749.8	726.8	701.7	689.3	680.5	676.6	674.8	676.2	678.4
20°	750.5	726.4	701.7	677.3	666.7	657.5	654.0	652.2	655.4	654.0
22.5°	727.5	702.0	676.2	653.3	643.7	634.5	631.0	629.9	633.5	632.1
25°	703.1	675.5	650.1	629.2	619.7	611.9	608.7	607.7	609.4	611.2
27.5°	680.1	649.0	623.9	605.2	596.7	589.3	586.5	584.7	586.1	588.2
30°	652.2	622.2	597.4	580.1	572.0	564.9	562.8	561.4	563.5	565.2
32.5°	626.0	595.6	570.9	553.9	546.9	540.1	539.8	539.1	541.6	543.7
35°	597.8	568.1	544.0	528.1	521.4	515.8	516.8	517.9	520.7	523.2
37.5°	569.1	540.1	517.2	502.7	496.3	491.7	494.9	496.3	500.2	502.7
40°	540.1	511.2	489.9	476.9	470.5	468.4	473.0	476.2	480.8	482.9
42.5°	510.4	483.6	462.4	450.4	445.1	445.1	451.1	456.0	461.3	463.4
45°	480.8	454.6	434.4	423.5	419.6	422.4	429.5	435.9	442.6	444.7
47.5°	450.7	425.3	406.9	397.0	394.9	399.1	407.9	416.4	424.2	427.0
50°	420.7	397.7	379.3	370.1	370.1	375.4	386.7	397.3	405.8	408.6
52.5°	390.6	368.7	350.0	343.2	344.7	352.1	365.2	376.1	385.7	388.5
55°	360.2	338.6	322.4	316.7	319.2	328.4	341.8	354.6	363.7	366.9
57.5°	330.2	309.7	294.8	290.2	293.8	304.0	319.6	330.5	340.1	342.9
60°	299.8	278.9	267.2	263.7	268.3	278.9	294.8	305.1	313.9	316.7
62.5°	269.7	250.3	240.0	236.8	242.1	253.5	269.0	278.2	284.9	287.7
65°	239.3	222.0	212.5	210.3	216.0	226.9	241.8	249.6	254.5	257.3
67.5°	209.3	194.4	185.6	183.8	189.8	199.7	213.5	217.8	222.3	225.2
70°	179.6	166.1	158.7	157.7	163.0	172.5	184.2	186.3	188.8	191.2
72.5°	150.2	139.6	132.2	131.9	136.8	144.6	154.1	154.5	155.2	157.7
75°	122.0	112.4	106.8	107.8	110.6	117.0	124.4	122.3	122.7	124.4
77.5°	94.7	87.0	83.1	83.8	85.9	90.5	95.4	93.0	91.6	93.3
80°	68.2	61.5	60.1	60.4	61.9	65.0	67.9	65.8	62.9	64.3
82.5°	44.9	40.7	39.9	40.3	41.4	43.1	43.8	40.7	39.9	41.0
85°	24.7	23.0	23.0	24.0	24.4	24.7	24.7	23.0	23.3	24.0
87.5°	9.9	9.9	11.0	12.0	11.3	9.9	8.5	5.7	5.7	6.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)