

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-28L950-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-28L950-X-UNV-ASY  
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/  
ASYMMETRIC Lens  
Light Source: 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

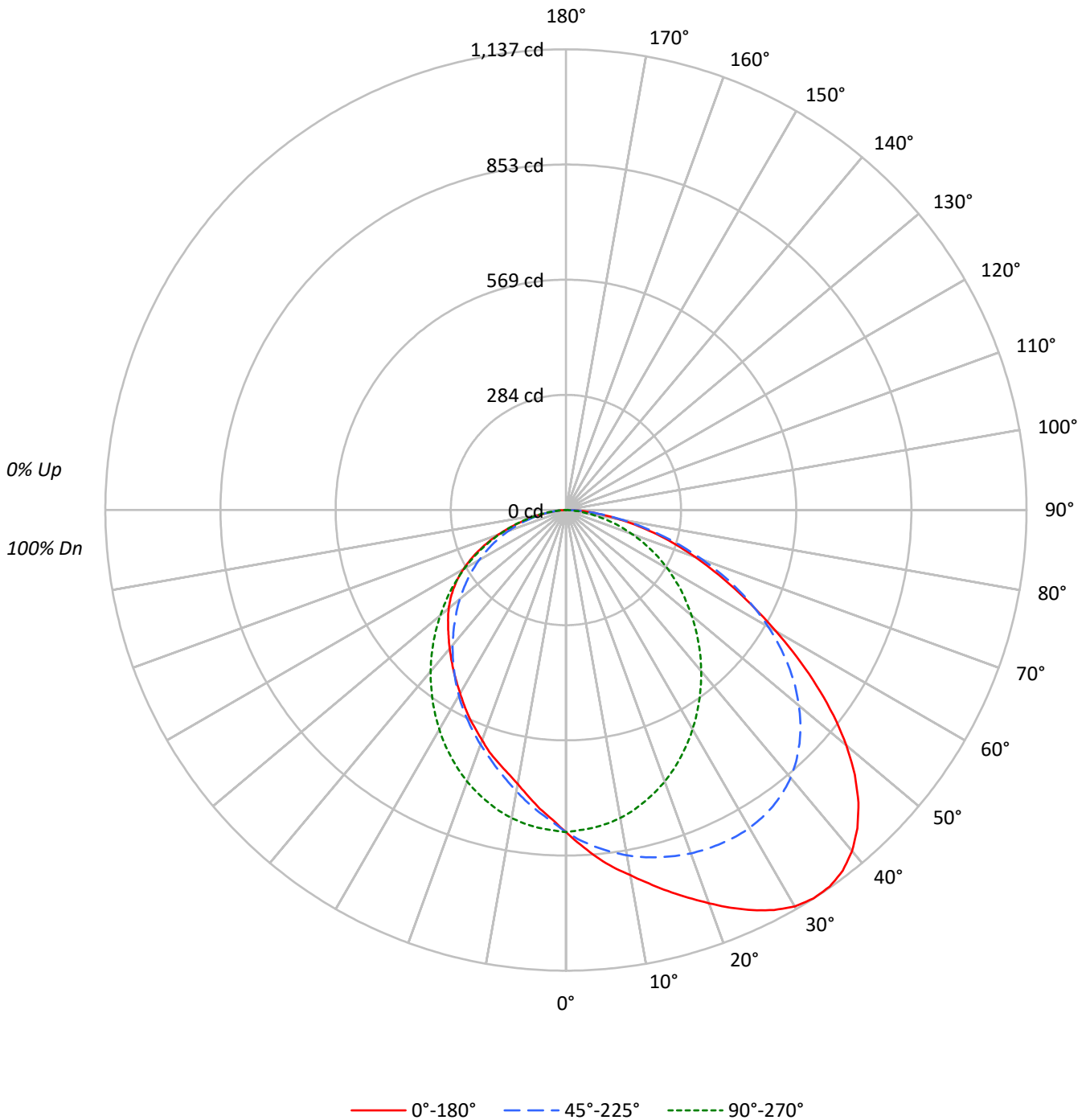
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2462.1 lumens  
Efficiency: N/A  
Efficacy: 76.5 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): 32.2  
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°	7653	7653	7653
5°	8304	7607	7149
10°	8946	7547	6707
15°	9704	7437	6432
20°	10581	7307	6192
25°	11574	7135	6001
30°	12556	6948	5807
35°	13336	6743	5682
40°	13808	6529	5609
45°	13905	6304	5596
50°	13540	6063	5657
55°	12679	5846	5692
60°	11524	5580	5636
65°	10449	5276	5419
70°	9565	4892	4977
75°	8678	4400	4278
80°	7590	3676	3299
85°	6385	2673	2452



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.5	3.1
10°-20°	219.6	8.9
20°-30°	344.0	14.0
30°-40°	431.2	17.5
40°-50°	459.1	18.6
50°-60°	414.4	16.8
60°-70°	306.8	12.5
70°-80°	168.3	6.8
80°-90°	43.2	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°	639.0	26.0
0°-40°	1070.3	43.5
0°-60°	1943.8	78.9
0°-90°	2462.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2462.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	795	795	795	795	795	
5°	859	834	787	749	740	84
15°	974	887	746	659	645	278
25°	1090	908	672	573	565	504
35°	1135	892	574	482	484	708
45°	1021	815	463	388	411	783
55°	755	671	348	295	339	674
65°	459	472	232	200	238	458
75°	233	247	118	102	115	248
85°	58	57	24	22	22	68
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°	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9
2.5°	826.9	825.3	823.3	822.7	819.7	815.8	812.2	812.2	808.0	797.8	790.7
5°	859.3	856.7	851.8	847.8	841.6	834.1	826.6	822.0	811.9	796.5	787.1
7.5°	889.0	885.7	879.5	872.0	861.9	850.8	838.4	828.6	813.2	792.6	780.5
10°	915.1	912.2	904.7	895.5	881.2	865.5	847.2	832.5	811.6	786.1	772.0
12.5°	943.9	940.9	930.5	918.1	898.5	877.6	853.4	833.1	807.3	776.6	760.6
15°	973.6	969.7	957.9	941.3	915.1	887.0	857.3	831.2	800.5	765.2	746.2
17.5°	1003.0	999.1	984.4	963.2	930.5	895.5	858.9	826.6	790.7	751.1	730.5
20°	1032.8	1028.8	1010.2	983.4	943.9	901.7	858.6	819.7	778.9	735.1	713.2
22.5°	1062.5	1057.9	1035.4	1002.7	955.0	906.0	855.0	810.3	764.2	716.8	693.3
25°	1089.6	1085.0	1060.2	1021.6	966.8	907.9	848.8	797.2	747.9	696.6	671.7
27.5°	1113.1	1107.6	1081.8	1039.3	976.9	908.6	840.6	782.5	728.9	674.7	649.5
30°	1129.5	1124.6	1097.1	1051.7	982.8	906.3	830.2	765.2	707.0	651.1	625.0
32.5°	1136.6	1132.4	1105.3	1057.6	983.7	900.4	817.4	745.9	684.1	626.3	599.9
35°	1134.7	1130.4	1104.6	1056.6	980.8	891.9	801.4	724.0	659.6	600.5	573.7
37.5°	1122.3	1117.4	1093.8	1047.8	972.3	879.5	783.1	700.2	633.2	574.0	546.9
40°	1098.7	1093.8	1073.6	1031.1	957.9	862.9	762.2	674.7	606.1	546.3	519.5
42.5°	1065.1	1059.9	1043.9	1005.0	937.4	841.0	738.4	647.6	577.3	519.5	491.4
45°	1021.3	1016.1	1005.3	972.3	910.6	815.2	711.3	618.1	547.3	489.1	463.0
47.5°	967.1	962.5	957.3	931.8	877.6	785.4	680.9	586.8	515.9	460.7	433.9
50°	904.0	899.5	901.1	883.8	839.3	751.1	647.6	553.8	483.5	429.0	404.8
52.5°	832.5	828.9	836.7	829.2	794.9	712.9	611.9	519.8	450.5	398.9	375.7
55°	755.4	751.4	766.5	768.8	745.2	670.8	571.4	484.5	417.2	369.5	348.3
57.5°	676.0	672.7	692.0	702.8	691.0	625.3	530.6	448.3	382.9	338.8	317.6
60°	598.5	595.9	616.2	633.8	632.5	577.3	488.1	409.0	348.6	307.8	289.8
62.5°	525.7	522.7	543.0	563.9	571.4	526.0	446.0	370.5	314.3	276.7	260.7
65°	458.7	455.8	473.1	494.6	508.4	472.4	400.6	330.6	279.7	245.4	231.6
67.5°	397.3	397.3	408.1	428.0	444.7	417.5	354.2	292.7	244.1	216.3	202.6
70°	339.8	339.5	347.3	361.3	380.6	358.7	307.1	252.9	210.4	185.9	173.8
72.5°	285.2	287.5	290.5	301.2	321.5	302.5	260.4	213.7	177.4	155.8	145.7
75°	233.3	232.9	237.2	246.7	261.4	247.3	213.7	175.4	144.7	127.1	118.3
77.5°	183.6	183.3	186.9	192.4	204.9	193.7	168.6	140.2	112.7	98.0	91.8
80°	136.9	136.9	140.2	143.1	152.3	143.4	125.8	104.9	82.7	71.2	66.3
82.5°	95.1	97.0	95.7	99.6	104.9	97.4	86.3	71.9	54.9	47.0	43.8
85°	57.8	59.5	57.8	61.1	63.4	56.8	51.3	42.8	31.7	26.5	24.2
87.5°	29.7	29.4	29.1	30.7	31.4	27.4	24.2	20.6	14.0	10.8	9.1
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°	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9	794.9
2.5°	786.4	788.4	785.4	774.6	770.4	765.8	763.9	761.9	765.5	764.5
5°	779.9	777.6	770.1	756.4	749.2	741.6	738.1	735.8	740.7	739.7
7.5°	771.1	764.5	753.4	736.7	727.6	717.5	712.6	709.6	712.9	712.2
10°	759.9	749.2	735.4	715.5	704.7	693.6	688.1	683.8	686.4	686.1
12.5°	745.9	731.8	715.2	692.6	681.5	670.1	665.2	662.3	665.5	664.5
15°	730.2	713.2	693.9	671.1	659.0	648.5	644.9	642.7	645.3	645.3
17.5°	712.9	693.0	671.7	648.5	637.1	628.9	625.3	623.7	625.0	627.0
20°	693.6	671.4	648.5	626.0	616.2	607.7	604.4	602.8	605.7	604.4
22.5°	672.4	648.9	625.0	603.8	595.0	586.5	583.2	582.2	585.5	584.2
25°	649.8	624.4	600.8	581.6	572.7	565.5	562.6	561.6	563.3	564.9
27.5°	628.6	599.9	576.7	559.3	551.5	544.6	542.0	540.4	541.7	543.7
30°	602.8	575.0	552.2	536.1	528.6	522.1	520.1	518.8	520.8	522.4
32.5°	578.6	550.5	527.6	512.0	505.4	499.2	498.9	498.2	500.5	502.5
35°	552.5	525.0	502.8	488.1	481.9	476.7	477.7	478.6	481.3	483.5
37.5°	526.0	499.2	478.0	464.6	458.7	454.5	457.4	458.7	462.3	464.6
40°	499.2	472.4	452.8	440.7	434.9	432.9	437.1	440.1	444.3	446.3
42.5°	471.8	446.9	427.3	416.2	411.3	411.3	416.9	421.5	426.4	428.3
45°	444.3	420.2	401.5	391.4	387.8	390.4	397.0	402.8	409.0	411.0
47.5°	416.6	393.0	376.1	366.9	364.9	368.9	377.0	384.9	392.1	394.7
50°	388.8	367.6	350.6	342.1	342.1	347.0	357.4	367.2	375.1	377.7
52.5°	361.0	340.8	323.5	317.2	318.5	325.4	337.5	347.6	356.4	359.1
55°	332.9	313.0	298.0	292.7	295.0	303.5	315.9	327.7	336.2	339.1
57.5°	305.2	286.2	272.5	268.2	271.5	281.0	295.4	305.5	314.3	316.9
60°	277.1	257.8	247.0	243.7	248.0	257.8	272.5	282.0	290.1	292.7
62.5°	249.3	231.3	221.8	218.9	223.8	234.3	248.6	257.1	263.3	265.9
65°	221.2	205.2	196.4	194.4	199.6	209.8	223.5	230.7	235.2	237.9
67.5°	193.4	179.7	171.5	169.9	175.4	184.6	197.3	201.3	205.5	208.1
70°	166.0	153.6	146.7	145.7	150.6	159.4	170.2	172.2	174.5	176.8
72.5°	138.9	129.1	122.2	121.9	126.4	133.6	142.4	142.8	143.4	145.7
75°	112.7	103.9	98.7	99.6	102.3	108.1	115.0	113.0	113.4	115.0
77.5°	87.6	80.4	76.8	77.4	79.4	83.6	88.2	85.9	84.6	86.3
80°	63.1	56.8	55.5	55.9	57.2	60.1	62.7	60.8	58.2	59.5
82.5°	41.5	37.6	36.9	37.2	38.2	39.9	40.5	37.6	36.9	37.9
85°	22.9	21.2	21.2	22.2	22.5	22.9	22.9	21.2	21.6	22.2
87.5°	9.1	9.1	10.1	11.1	10.5	9.1	7.8	5.2	5.2	6.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)