

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-22L930-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-22L930-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

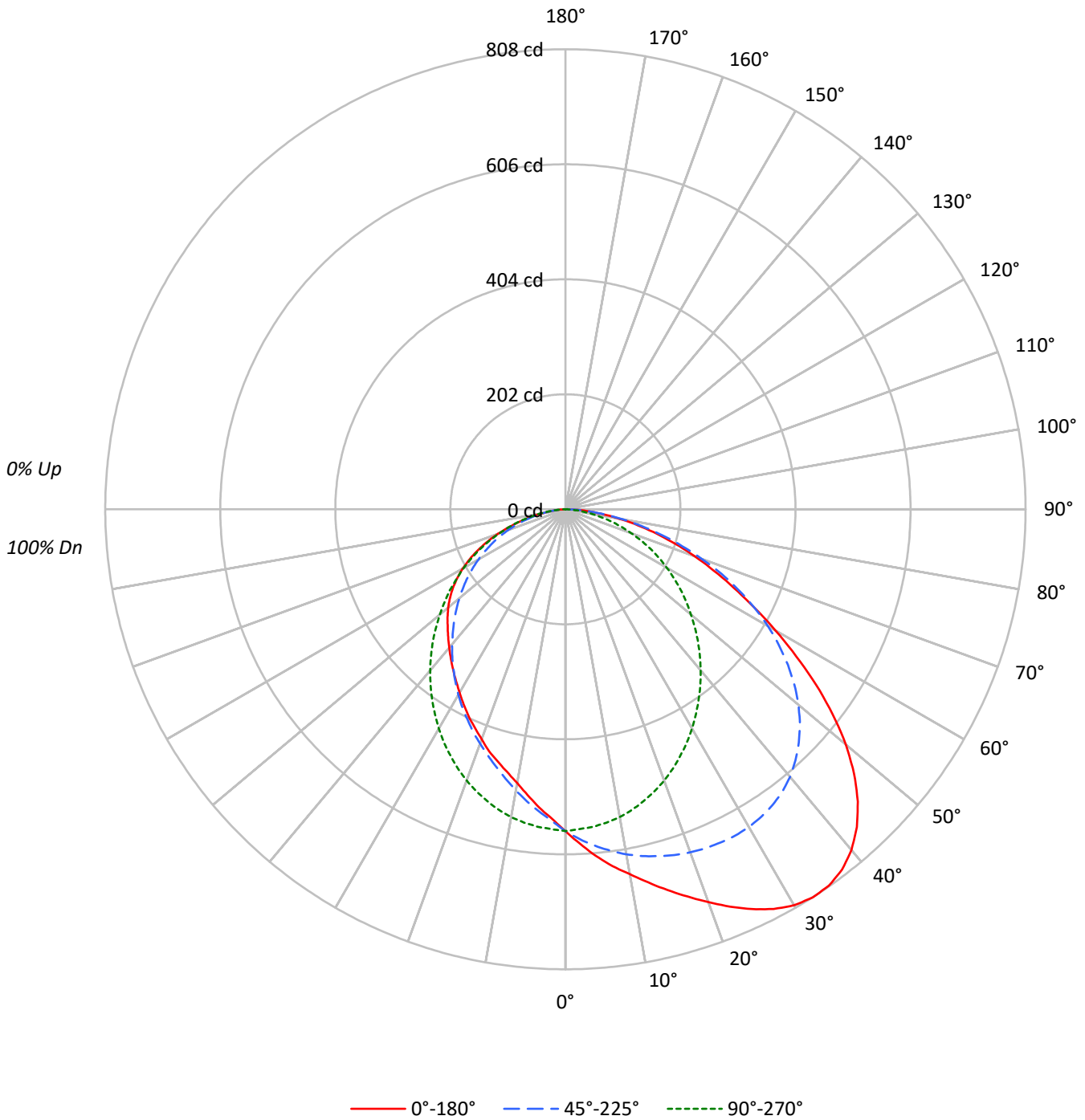
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1750.7 lumens
Efficiency: N/A
Efficacy: 72.9 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): 24
Input Voltage (V): 120
Input Current (A_{in}): 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				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°	5441	5441	5441
5°	5905	5408	5083
10°	6361	5367	4770
15°	6900	5288	4573
20°	7523	5195	4403
25°	8230	5073	4267
30°	8928	4940	4130
35°	9482	4794	4041
40°	9819	4642	3988
45°	9887	4482	3980
50°	9628	4311	4023
55°	9015	4156	4047
60°	8195	3968	4009
65°	7431	3752	3852
70°	6801	3479	3538
75°	6171	3128	3043
80°	5394	2617	2345
85°	4540	1900	1745



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.7	3.1
10°-20°	156.1	8.9
20°-30°	244.6	14.0
30°-40°	306.6	17.5
40°-50°	326.4	18.6
50°-60°	294.7	16.8
60°-70°	218.2	12.5
70°-80°	119.7	6.8
80°-90°	30.7	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°	454.4	26.0
0°-40°	761.0	43.5
0°-60°	1382.1	78.9
0°-90°	1750.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1750.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	565	565	565	565	565	
5°	611	593	560	533	526	59
15°	692	631	531	469	459	197
25°	775	646	478	407	402	359
35°	807	634	408	343	344	503
45°	726	580	329	276	292	557
55°	537	477	248	210	241	479
65°	326	336	165	142	169	325
75°	166	176	84	73	82	176
85°	41	40	17	16	16	49
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°	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2
2.5°	588.0	586.8	585.4	585.0	582.9	580.1	577.5	577.5	574.5	567.3	562.2
5°	611.0	609.1	605.6	602.9	598.4	593.1	587.8	584.5	577.3	566.4	559.6
7.5°	632.1	629.8	625.4	620.0	612.8	604.9	596.1	589.1	578.2	563.6	555.0
10°	650.7	648.6	643.3	636.8	626.6	615.4	602.4	591.9	577.1	558.9	549.0
12.5°	671.2	669.1	661.6	652.8	638.9	624.0	606.8	592.4	574.0	552.2	540.8
15°	692.3	689.5	681.1	669.3	650.7	630.7	609.6	591.0	569.2	544.1	530.6
17.5°	713.2	710.4	700.0	684.9	661.6	636.8	610.8	587.8	562.2	534.1	519.5
20°	734.3	731.6	718.3	699.3	671.2	641.2	610.5	582.9	553.8	522.7	507.1
22.5°	755.5	752.2	736.2	713.0	679.1	644.2	608.0	576.1	543.4	509.7	493.0
25°	774.8	771.5	753.9	726.4	687.4	645.6	603.6	566.8	531.8	495.3	477.6
27.5°	791.5	787.5	769.2	739.0	694.6	646.1	597.7	556.4	518.3	479.7	461.8
30°	803.1	799.6	780.1	747.8	698.8	644.4	590.3	544.1	502.7	463.0	444.4
32.5°	808.2	805.2	785.9	752.0	699.5	640.3	581.3	530.4	486.5	445.3	426.5
35°	806.8	803.8	785.5	751.3	697.4	634.2	569.9	514.8	469.0	427.0	407.9
37.5°	798.0	794.5	777.8	745.0	691.4	625.4	556.9	497.9	450.2	408.2	388.9
40°	781.3	777.8	763.4	733.2	681.1	613.5	542.0	479.7	430.9	388.4	369.4
42.5°	757.3	753.6	742.2	714.6	666.5	598.0	525.0	460.4	410.5	369.4	349.4
45°	726.2	722.5	714.8	691.4	647.5	579.6	505.7	439.5	389.1	347.8	329.2
47.5°	687.7	684.4	680.7	662.6	624.0	558.5	484.1	417.2	366.8	327.6	308.5
50°	642.8	639.6	640.7	628.4	596.8	534.1	460.4	393.8	343.8	305.0	287.8
52.5°	591.9	589.4	595.0	589.6	565.2	506.9	435.1	369.6	320.4	283.7	267.2
55°	537.1	534.3	545.0	546.6	529.9	476.9	406.3	344.5	296.7	262.7	247.6
57.5°	480.7	478.3	492.0	499.7	491.3	444.7	377.3	318.7	272.3	240.9	225.8
60°	425.6	423.7	438.1	450.7	449.8	410.5	347.1	290.9	247.9	218.8	206.1
62.5°	373.8	371.7	386.1	401.0	406.3	374.0	317.1	263.4	223.5	196.8	185.4
65°	326.2	324.1	336.4	351.7	361.5	335.9	284.8	235.1	198.9	174.5	164.7
67.5°	282.5	282.5	290.2	304.3	316.2	296.9	251.8	208.2	173.5	153.8	144.0
70°	241.6	241.4	247.0	256.9	270.6	255.1	218.4	179.8	149.6	132.2	123.6
72.5°	202.8	204.4	206.5	214.2	228.6	215.1	185.2	151.9	126.1	110.8	103.6
75°	165.9	165.6	168.7	175.4	185.9	175.9	151.9	124.8	102.9	90.4	84.1
77.5°	130.6	130.3	132.9	136.8	145.7	137.8	119.9	99.7	80.1	69.7	65.3
80°	97.3	97.3	99.7	101.8	108.3	102.0	89.4	74.6	58.8	50.6	47.2
82.5°	67.6	69.0	68.1	70.9	74.6	69.2	61.3	51.1	39.0	33.5	31.1
85°	41.1	42.3	41.1	43.4	45.1	40.4	36.5	30.4	22.5	18.8	17.2
87.5°	21.1	20.9	20.7	21.8	22.3	19.5	17.2	14.6	10.0	7.7	6.5
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°	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2
2.5°	559.2	560.6	558.5	550.8	547.8	544.5	543.2	541.8	544.3	543.6
5°	554.5	552.9	547.6	537.8	532.7	527.4	524.8	523.2	526.7	526.0
7.5°	548.3	543.6	535.7	523.9	517.4	510.2	506.7	504.6	506.9	506.4
10°	540.4	532.7	522.9	508.8	501.1	493.2	489.3	486.2	488.1	487.9
12.5°	530.4	520.4	508.5	492.5	484.6	476.5	473.0	470.9	473.2	472.5
15°	519.2	507.1	493.4	477.2	468.6	461.1	458.6	457.0	458.8	458.8
17.5°	506.9	492.7	477.6	461.1	453.0	447.2	444.7	443.5	444.4	445.8
20°	493.2	477.4	461.1	445.1	438.1	432.1	429.8	428.6	430.7	429.8
22.5°	478.1	461.4	444.4	429.3	423.0	417.0	414.7	414.0	416.3	415.4
25°	462.1	444.0	427.2	413.5	407.2	402.1	400.0	399.3	400.5	401.7
27.5°	447.0	426.5	410.0	397.7	392.1	387.3	385.4	384.2	385.2	386.6
30°	428.6	408.9	392.6	381.2	375.9	371.2	369.8	368.9	370.3	371.5
32.5°	411.4	391.5	375.2	364.0	359.4	355.0	354.7	354.3	355.9	357.3
35°	392.8	373.3	357.5	347.1	342.7	338.9	339.6	340.3	342.2	343.8
37.5°	374.0	355.0	339.9	330.4	326.2	323.1	325.2	326.2	328.7	330.4
40°	355.0	335.9	322.0	313.4	309.2	307.8	310.8	312.9	315.9	317.3
42.5°	335.5	317.8	303.9	296.0	292.5	292.5	296.4	299.7	303.2	304.6
45°	315.9	298.8	285.5	278.3	275.8	277.6	282.3	286.4	290.9	292.3
47.5°	296.2	279.5	267.4	260.9	259.5	262.3	268.1	273.7	278.8	280.6
50°	276.5	261.4	249.3	243.2	243.2	246.7	254.2	261.1	266.7	268.6
52.5°	256.7	242.3	230.0	225.6	226.5	231.4	240.0	247.2	253.5	255.3
55°	236.7	222.6	211.9	208.2	209.8	215.8	224.6	233.0	239.1	241.1
57.5°	217.0	203.5	193.8	190.7	193.1	199.8	210.0	217.2	223.5	225.3
60°	197.0	183.3	175.6	173.3	176.3	183.3	193.8	200.5	206.3	208.2
62.5°	177.3	164.5	157.7	155.7	159.1	166.6	176.8	182.8	187.2	189.1
65°	157.3	145.9	139.6	138.2	141.9	149.1	158.9	164.0	167.3	169.1
67.5°	137.5	127.8	122.0	120.8	124.8	131.3	140.3	143.1	146.1	148.0
70°	118.0	109.2	104.3	103.6	107.1	113.4	121.0	122.4	124.1	125.7
72.5°	98.7	91.8	86.9	86.7	89.9	95.0	101.3	101.5	102.0	103.6
75°	80.1	73.9	70.2	70.9	72.7	76.9	81.8	80.4	80.6	81.8
77.5°	62.3	57.1	54.6	55.1	56.5	59.5	62.7	61.1	60.2	61.3
80°	44.8	40.4	39.5	39.7	40.7	42.7	44.6	43.2	41.4	42.3
82.5°	29.5	26.7	26.3	26.5	27.2	28.3	28.8	26.7	26.3	26.9
85°	16.3	15.1	15.1	15.8	16.0	16.3	16.3	15.1	15.3	15.8
87.5°	6.5	6.5	7.2	7.9	7.4	6.5	5.6	3.7	3.7	4.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)