

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-22L850-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-22L850-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

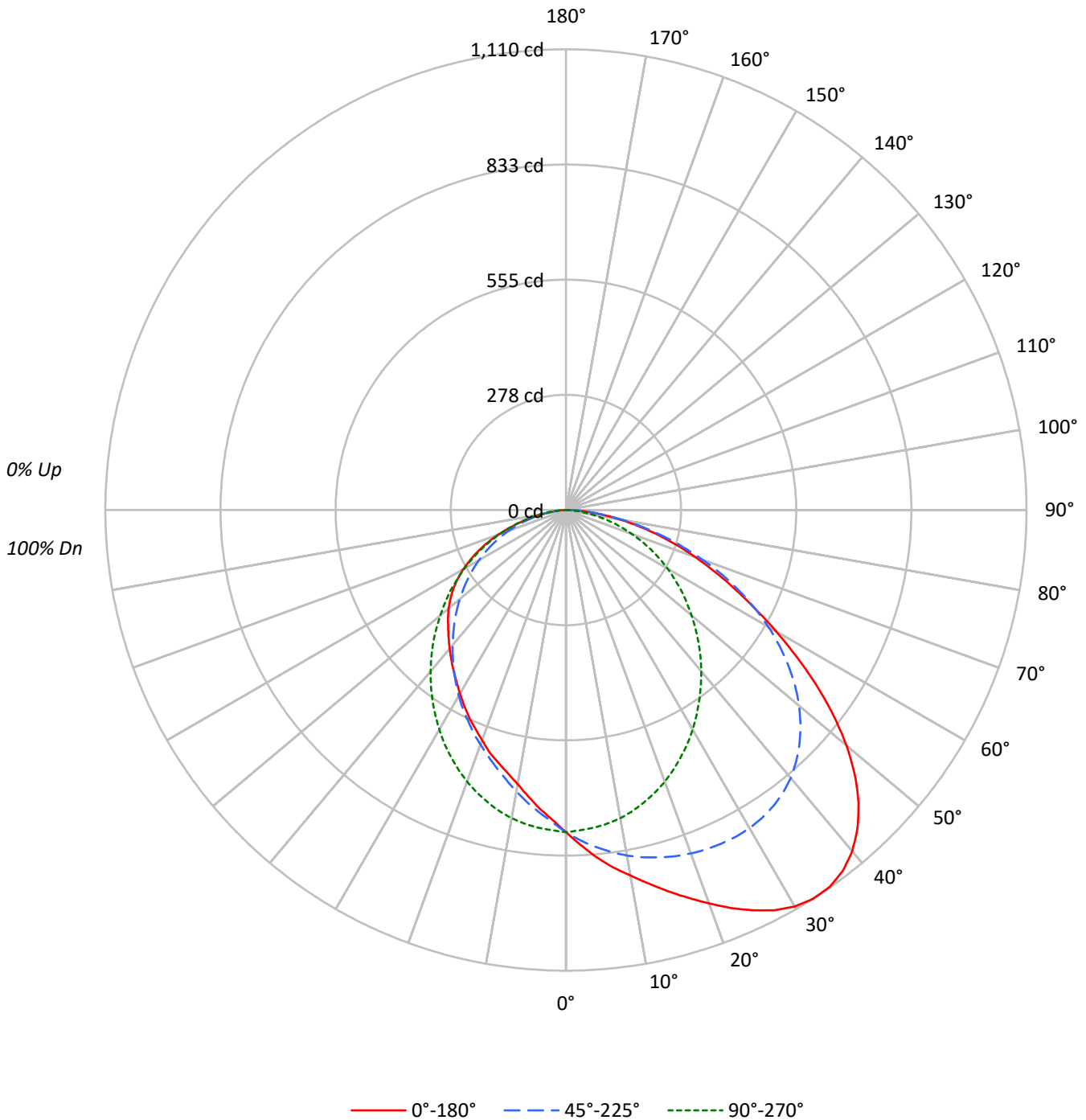
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2404.6 lumens
Efficiency: N/A
Efficacy: 100.2 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°	7474	7474	7474
5°	8110	7429	6981
10°	8738	7371	6551
15°	9478	7264	6281
20°	10333	7137	6048
25°	11304	6968	5860
30°	12263	6786	5672
35°	13024	6585	5550
40°	13486	6376	5478
45°	13581	6155	5465
50°	13224	5921	5525
55°	12382	5708	5559
60°	11256	5449	5505
65°	10206	5153	5292
70°	9340	4780	4858
75°	8474	4296	4177
80°	7413	3593	3221
85°	6241	2607	2397



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.7	3.1
10°-20°	214.4	8.9
20°-30°	335.9	14.0
30°-40°	421.2	17.5
40°-50°	448.4	18.6
50°-60°	404.8	16.8
60°-70°	299.6	12.5
70°-80°	164.4	6.8
80°-90°	42.2	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°	624.1	26.0
0°-40°	1045.3	43.5
0°-60°	1898.4	78.9
0°-90°	2404.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2404.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	776	776	776	776	776	
5°	839	815	769	732	722	82
15°	951	866	729	644	630	271
25°	1064	887	656	559	552	492
35°	1108	871	560	471	472	691
45°	998	796	452	379	401	765
55°	738	655	340	288	331	658
65°	448	461	226	195	232	447
75°	228	242	116	100	112	242
85°	56	56	24	22	22	67
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°	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3
2.5°	807.6	806.0	804.1	803.5	800.6	796.8	793.2	793.2	789.1	779.2	772.2
5°	839.2	836.6	831.9	828.0	822.0	814.6	807.3	802.8	792.9	777.9	768.7
7.5°	868.2	865.0	859.0	851.6	841.7	830.9	818.8	809.2	794.2	774.1	762.3
10°	893.8	890.9	883.5	874.6	860.6	845.3	827.4	813.0	792.6	767.7	754.0
12.5°	921.8	919.0	908.8	896.6	877.5	857.1	833.4	813.7	788.5	758.5	742.8
15°	950.9	947.0	935.6	919.3	893.8	866.3	837.3	811.8	781.8	747.3	728.8
17.5°	979.6	975.8	961.4	940.7	908.8	874.6	838.9	807.3	772.2	733.6	713.5
20°	1008.6	1004.8	986.6	960.4	921.8	880.7	838.6	800.6	760.7	717.9	696.6
22.5°	1037.7	1033.2	1011.2	979.3	932.7	884.8	835.0	791.3	746.3	700.1	677.1
25°	1064.1	1059.7	1035.4	997.8	944.2	886.7	829.0	778.6	730.4	680.3	656.0
27.5°	1087.1	1081.7	1056.5	1015.0	954.1	887.4	821.0	764.2	711.9	658.9	634.3
30°	1103.1	1098.3	1071.5	1027.1	959.8	885.1	810.8	747.3	690.5	635.9	610.4
32.5°	1110.1	1105.9	1079.5	1032.9	960.8	879.4	798.3	728.5	668.2	611.7	585.8
35°	1108.2	1104.0	1078.8	1031.9	957.9	871.1	782.7	707.1	644.2	586.5	560.3
37.5°	1096.1	1091.3	1068.3	1023.3	949.6	859.0	764.8	683.8	618.4	560.6	534.1
40°	1073.1	1068.3	1048.5	1007.0	935.6	842.7	744.4	658.9	591.9	533.5	507.3
42.5°	1040.2	1035.1	1019.5	981.5	915.5	821.3	721.1	632.4	563.8	507.3	479.9
45°	997.5	992.4	981.8	949.6	889.3	796.1	694.6	603.7	534.5	477.7	452.1
47.5°	944.5	940.0	934.9	910.0	857.1	767.1	665.0	573.1	503.8	449.9	423.7
50°	882.9	878.4	880.0	863.1	819.7	733.6	632.4	540.8	472.2	419.0	395.3
52.5°	813.0	809.5	817.2	809.8	776.3	696.2	597.6	507.7	440.0	389.6	366.9
55°	737.7	733.9	748.6	750.8	727.8	655.1	558.1	473.2	407.5	360.9	340.1
57.5°	660.2	657.0	675.8	686.4	674.9	610.7	518.2	437.8	374.0	330.9	310.2
60°	584.6	582.0	601.8	619.0	617.7	563.8	476.7	399.5	340.5	300.6	283.0
62.5°	513.4	510.5	530.3	550.7	558.1	513.7	435.6	361.8	307.0	270.3	254.6
65°	448.0	445.1	462.0	483.1	496.5	461.4	391.2	322.9	273.1	239.6	226.2
67.5°	388.0	388.0	398.5	418.0	434.3	407.8	345.9	285.9	238.4	211.2	197.8
70°	331.8	331.5	339.2	352.9	371.7	350.4	299.9	247.0	205.5	181.6	169.8
72.5°	278.6	280.8	283.7	294.2	314.0	295.5	254.3	208.7	173.3	152.2	142.3
75°	227.8	227.5	231.7	240.9	255.3	241.5	208.7	171.3	141.4	124.1	115.5
77.5°	179.3	179.0	182.5	187.9	200.1	189.2	164.6	136.9	110.1	95.7	89.7
80°	133.7	133.7	136.9	139.8	148.7	140.1	122.8	102.4	80.7	69.6	64.8
82.5°	92.9	94.8	93.5	97.3	102.4	95.1	84.2	70.2	53.6	45.9	42.8
85°	56.5	58.1	56.5	59.7	61.9	55.5	50.1	41.8	31.0	25.8	23.6
87.5°	29.0	28.7	28.4	30.0	30.6	26.8	23.6	20.1	13.7	10.5	8.9
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°	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3	776.3
2.5°	768.0	770.0	767.1	756.5	752.4	747.9	746.0	744.1	747.6	746.7
5°	761.7	759.4	752.1	738.7	731.7	724.3	720.8	718.6	723.4	722.4
7.5°	753.0	746.7	735.8	719.5	710.6	700.7	695.9	693.1	696.2	695.6
10°	742.2	731.7	718.3	698.8	688.3	677.4	672.0	667.8	670.4	670.1
12.5°	728.5	714.7	698.5	676.5	665.6	654.4	649.7	646.8	650.0	649.0
15°	713.2	696.6	677.7	655.4	643.6	633.4	629.9	627.6	630.2	630.2
17.5°	696.2	676.8	656.0	633.4	622.2	614.2	610.7	609.1	610.4	612.3
20°	677.4	655.7	633.4	611.4	601.8	593.5	590.3	588.7	591.6	590.3
22.5°	656.7	633.7	610.4	589.7	581.1	572.8	569.6	568.6	571.8	570.5
25°	634.7	609.8	586.8	568.0	559.4	552.3	549.5	548.5	550.1	551.7
27.5°	613.9	585.8	563.2	546.3	538.6	531.9	529.4	527.8	529.0	531.0
30°	588.7	561.6	539.3	523.6	516.3	509.9	508.0	506.7	508.6	510.2
32.5°	565.1	537.7	515.3	500.0	493.6	487.6	487.2	486.6	488.8	490.8
35°	539.6	512.8	491.1	476.7	470.6	465.5	466.5	467.5	470.0	472.2
37.5°	513.7	487.6	466.8	453.7	448.0	443.8	446.7	448.0	451.5	453.7
40°	487.6	461.4	442.3	430.4	424.7	422.8	426.9	429.8	434.0	435.9
42.5°	460.8	436.5	417.4	406.5	401.7	401.7	407.2	411.6	416.4	418.3
45°	434.0	410.3	392.2	382.3	378.8	381.3	387.7	393.4	399.5	401.4
47.5°	406.8	383.9	367.3	358.3	356.4	360.2	368.2	375.9	382.9	385.5
50°	379.7	359.0	342.4	334.1	334.1	338.9	349.1	358.7	366.3	368.9
52.5°	352.6	332.8	315.9	309.8	311.1	317.8	329.6	339.5	348.1	350.7
55°	325.1	305.7	291.0	285.9	288.1	296.4	308.6	320.0	328.3	331.2
57.5°	298.0	279.5	266.1	262.0	265.2	274.4	288.5	298.3	307.0	309.5
60°	270.6	251.8	241.2	238.0	242.2	251.8	266.1	275.4	283.3	285.9
62.5°	243.5	225.9	216.7	213.8	218.6	228.8	242.8	251.1	257.2	259.7
65°	216.0	200.4	191.8	189.9	195.0	204.9	218.3	225.3	229.7	232.3
67.5°	188.9	175.5	167.5	165.9	171.3	180.3	192.7	196.6	200.7	203.3
70°	162.1	150.0	143.3	142.3	147.1	155.7	166.2	168.2	170.4	172.6
72.5°	135.6	126.0	119.3	119.0	123.5	130.5	139.1	139.4	140.1	142.3
75°	110.1	101.5	96.4	97.3	99.9	105.6	112.3	110.4	110.7	112.3
77.5°	85.5	78.5	75.0	75.6	77.5	81.7	86.2	83.9	82.6	84.2
80°	61.6	55.5	54.2	54.6	55.8	58.7	61.3	59.3	56.8	58.1
82.5°	40.5	36.7	36.1	36.4	37.3	38.9	39.6	36.7	36.1	37.0
85°	22.3	20.7	20.7	21.7	22.0	22.3	22.3	20.7	21.1	21.7
87.5°	8.9	8.9	9.9	10.8	10.2	8.9	7.7	5.1	5.1	6.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)