

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-22L835-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-22L835-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

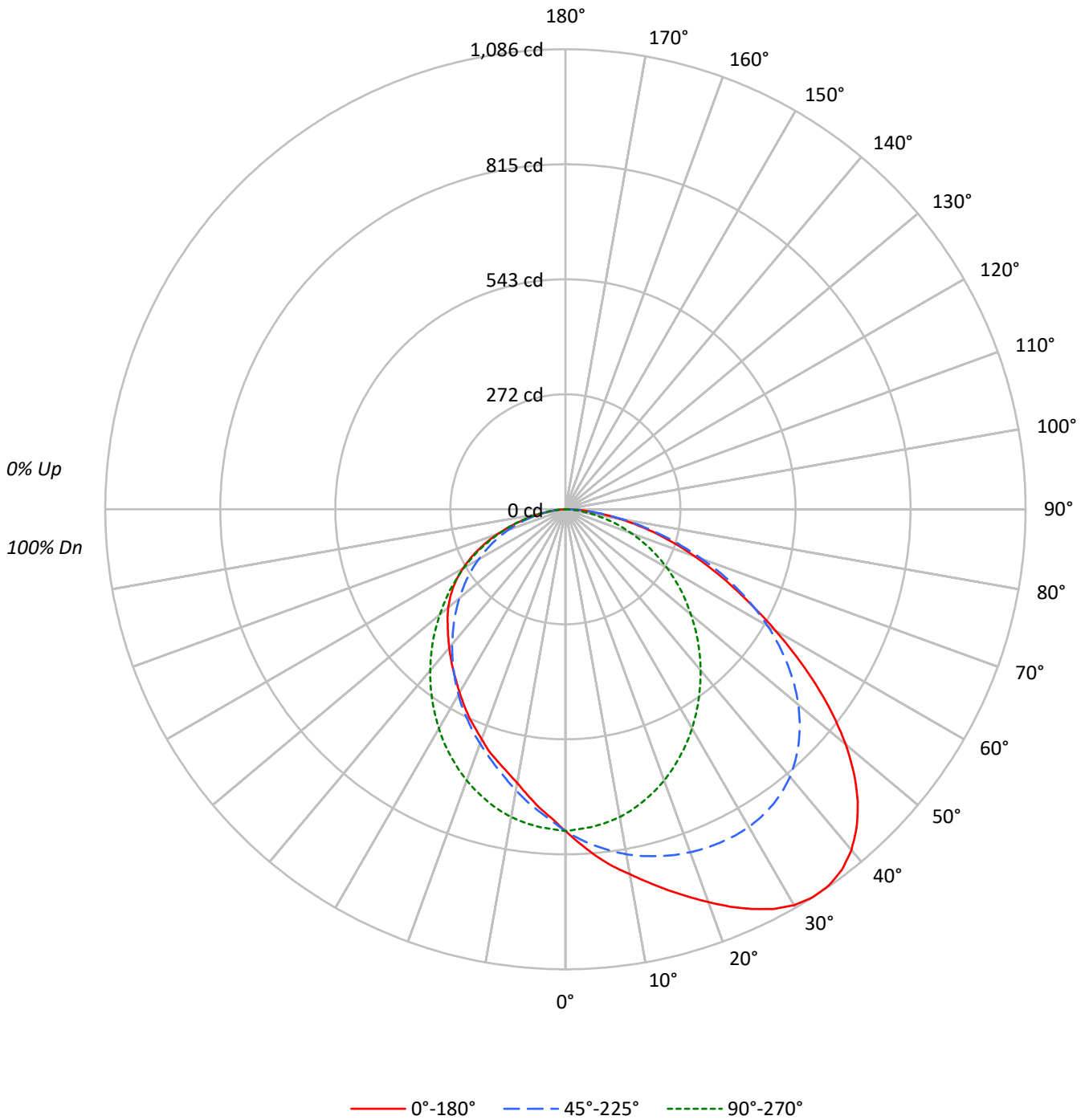
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2352.6 lumens
Efficiency: N/A
Efficacy: 98.0 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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CATALOG NUMBER: 4APN-X-22L835-UNV-ASY

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°	7312	7312	7312
5°	7934	7268	6831
10°	8548	7212	6409
15°	9272	7106	6146
20°	10110	6982	5917
25°	11059	6819	5734
30°	11997	6639	5549
35°	12742	6443	5430
40°	13195	6239	5359
45°	13287	6023	5347
50°	12938	5793	5405
55°	12115	5586	5438
60°	11012	5332	5386
65°	9985	5041	5178
70°	9140	4675	4754
75°	8291	4203	4088
80°	7252	3515	3149
85°	6109	2552	2342



TEST NUMBER: P
 CATALOG NUMBER: 4APN-X-22L835-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.1	3.1
10°-20°	209.8	8.9
20°-30°	328.7	14.0
30°-40°	412.1	17.5
40°-50°	438.7	18.6
50°-60°	396.0	16.8
60°-70°	293.1	12.5
70°-80°	160.8	6.8
80°-90°	41.3	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°	610.6	26.0
0°-40°	1022.7	43.5
0°-60°	1857.3	78.9
0°-90°	2352.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2352.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	760	760	760	760	760	
5°	821	797	752	716	707	80
15°	930	848	713	630	617	265
25°	1041	868	642	547	540	482
35°	1084	852	548	460	462	676
45°	976	779	442	371	393	748
55°	722	641	333	282	324	644
65°	438	451	221	191	227	437
75°	223	236	113	98	110	237
85°	55	54	23	22	21	65
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°	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5
2.5°	790.1	788.6	786.7	786.1	783.3	779.5	776.1	776.1	772.0	762.4	755.5
5°	821.0	818.5	813.9	810.1	804.2	797.0	789.8	785.5	775.8	761.1	752.1
7.5°	849.5	846.3	840.4	833.2	823.5	812.9	801.1	791.7	777.0	757.4	745.8
10°	874.4	871.6	864.4	855.7	842.0	827.0	809.5	795.4	775.5	751.1	737.7
12.5°	901.9	899.1	889.1	877.2	858.5	838.5	815.4	796.1	771.4	742.1	726.8
15°	930.3	926.6	915.3	899.4	874.4	847.6	819.2	794.2	764.9	731.1	713.0
17.5°	958.4	954.7	940.6	920.3	889.1	855.7	820.7	789.8	755.5	717.7	698.0
20°	986.8	983.1	965.3	939.7	901.9	861.6	820.4	783.3	744.2	702.4	681.5
22.5°	1015.2	1010.9	989.3	958.1	912.5	865.7	817.0	774.2	730.2	684.9	662.5
25°	1041.1	1036.8	1013.0	976.2	923.8	867.6	811.1	761.7	714.6	665.6	641.9
27.5°	1063.6	1058.3	1033.6	993.1	933.4	868.2	803.3	747.7	696.5	644.7	620.6
30°	1079.2	1074.5	1048.3	1004.9	939.1	866.0	793.3	731.1	675.6	622.2	597.2
32.5°	1086.1	1082.0	1056.1	1010.5	940.0	860.4	781.1	712.7	653.7	598.5	573.2
35°	1084.2	1080.2	1055.5	1009.6	937.2	852.3	765.8	691.8	630.3	573.8	548.2
37.5°	1072.4	1067.7	1045.2	1001.2	929.1	840.4	748.3	669.0	605.0	548.5	522.6
40°	1049.9	1045.2	1025.8	985.3	915.3	824.5	728.3	644.7	579.1	522.0	496.4
42.5°	1017.7	1012.7	997.4	960.3	895.7	803.6	705.5	618.8	551.6	496.4	469.5
45°	975.9	970.9	960.6	929.1	870.1	778.9	679.6	590.7	522.9	467.3	442.4
47.5°	924.1	919.7	914.7	890.4	838.5	750.5	650.6	560.7	492.9	440.2	414.6
50°	863.8	859.4	861.0	844.5	802.0	717.7	618.8	529.2	462.0	409.9	386.8
52.5°	795.4	792.0	799.5	792.3	759.5	681.2	584.7	496.7	430.5	381.2	359.0
55°	721.8	718.0	732.4	734.6	712.1	640.9	546.0	463.0	398.7	353.1	332.8
57.5°	645.9	642.8	661.2	671.5	660.3	597.5	507.0	428.3	365.9	323.7	303.4
60°	571.9	569.4	588.8	605.6	604.4	551.6	466.4	390.9	333.1	294.1	276.9
62.5°	502.3	499.5	518.9	538.8	546.0	502.6	426.1	354.0	300.3	264.4	249.1
65°	438.3	435.5	452.0	472.6	485.8	451.4	382.7	315.9	267.2	234.5	221.3
67.5°	379.6	379.6	389.9	409.0	424.9	399.0	338.4	279.7	233.2	206.7	193.6
70°	324.7	324.4	331.9	345.3	363.7	342.8	293.5	241.6	201.0	177.6	166.1
72.5°	272.5	274.7	277.5	287.8	307.2	289.1	248.8	204.2	169.5	148.9	139.2
75°	222.9	222.6	226.6	235.7	249.7	236.3	204.2	167.6	138.3	121.4	113.0
77.5°	175.4	175.1	178.6	183.9	195.7	185.1	161.1	133.9	107.7	93.7	87.7
80°	130.8	130.8	133.9	136.7	145.5	137.0	120.2	100.2	79.0	68.1	63.4
82.5°	90.8	92.7	91.5	95.2	100.2	93.0	82.4	68.7	52.4	45.0	41.8
85°	55.3	56.8	55.3	58.4	60.6	54.3	49.0	40.9	30.3	25.3	23.1
87.5°	28.4	28.1	27.8	29.3	30.0	26.2	23.1	19.7	13.4	10.3	8.7
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°	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5	759.5
2.5°	751.4	753.3	750.5	740.2	736.1	731.8	729.9	728.0	731.4	730.5
5°	745.2	743.0	735.8	722.7	715.8	708.7	705.2	703.0	707.7	706.8
7.5°	736.8	730.5	719.9	704.0	695.2	685.6	680.9	678.1	681.2	680.6
10°	726.1	715.8	702.7	683.7	673.4	662.8	657.5	653.4	655.9	655.6
12.5°	712.7	699.3	683.4	661.8	651.2	640.3	635.6	632.8	635.9	635.0
15°	697.7	681.5	663.1	641.2	629.7	619.7	616.3	614.1	616.6	616.6
17.5°	681.2	662.1	641.9	619.7	608.8	601.0	597.5	596.0	597.2	599.1
20°	662.8	641.5	619.7	598.1	588.8	580.7	577.5	576.0	578.8	577.5
22.5°	642.5	620.0	597.2	576.9	568.5	560.4	557.2	556.3	559.4	558.2
25°	620.9	596.6	574.1	555.7	547.3	540.4	537.6	536.6	538.2	539.8
27.5°	600.6	573.2	551.0	534.5	527.0	520.4	517.9	516.4	517.6	519.5
30°	576.0	549.4	527.6	512.3	505.1	498.9	497.0	495.7	497.6	499.2
32.5°	552.9	526.0	504.2	489.2	482.9	477.0	476.7	476.1	478.3	480.1
35°	527.9	501.7	480.5	466.4	460.5	455.5	456.4	457.4	459.8	462.0
37.5°	502.6	477.0	456.7	443.9	438.3	434.2	437.1	438.3	441.7	443.9
40°	477.0	451.4	432.7	421.1	415.5	413.6	417.7	420.5	424.6	426.4
42.5°	450.8	427.1	408.3	397.7	393.0	393.0	398.3	402.7	407.4	409.3
45°	424.6	401.5	383.7	374.0	370.6	373.1	379.3	384.9	390.9	392.7
47.5°	398.0	375.6	359.3	350.6	348.7	352.5	360.3	367.8	374.6	377.1
50°	371.5	351.2	335.0	326.9	326.9	331.5	341.5	350.9	358.4	360.9
52.5°	345.0	325.6	309.1	303.1	304.4	310.9	322.5	332.2	340.6	343.1
55°	318.1	299.1	284.7	279.7	281.9	290.0	301.9	313.1	321.2	324.0
57.5°	291.6	273.5	260.4	256.3	259.4	268.5	282.2	291.9	300.3	302.8
60°	264.7	246.3	236.0	232.9	236.9	246.3	260.4	269.4	277.2	279.7
62.5°	238.2	221.0	212.0	209.2	213.8	223.8	237.6	245.7	251.6	254.1
65°	211.3	196.1	187.6	185.7	190.7	200.4	213.5	220.4	224.8	227.3
67.5°	184.8	171.7	163.9	162.3	167.6	176.4	188.6	192.3	196.4	198.9
70°	158.6	146.7	140.2	139.2	143.9	152.3	162.6	164.5	166.7	168.9
72.5°	132.7	123.3	116.8	116.4	120.8	127.7	136.1	136.4	137.0	139.2
75°	107.7	99.3	94.3	95.2	97.7	103.3	109.9	108.0	108.3	109.9
77.5°	83.7	76.8	73.4	74.0	75.9	79.9	84.3	82.1	80.9	82.4
80°	60.3	54.3	53.1	53.4	54.6	57.4	59.9	58.1	55.6	56.8
82.5°	39.6	35.9	35.3	35.6	36.5	38.1	38.7	35.9	35.3	36.2
85°	21.9	20.3	20.3	21.2	21.5	21.9	21.9	20.3	20.6	21.2
87.5°	8.7	8.7	9.7	10.6	10.0	8.7	7.5	5.0	5.0	5.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)