

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-22L940-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-22L940-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

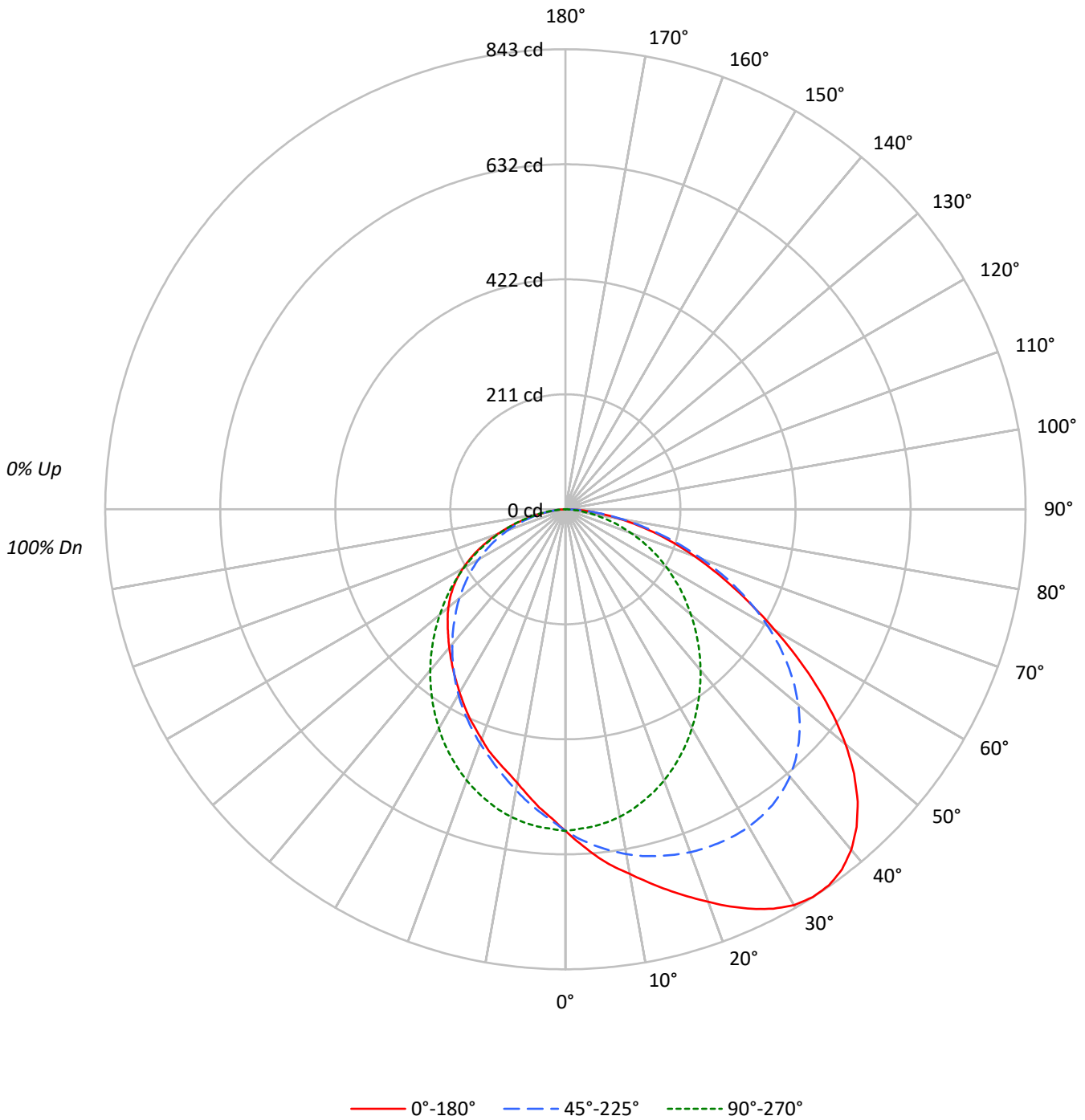
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1825.6 lumens
Efficiency: N/A
Efficacy: 76.1 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				
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	100	100	100	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84	84	84	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69	69	69	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58	58	58	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49	49	49	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43	43	43	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37	37	37	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33	33	33	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29	29	29	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26	26	26	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23	23	23	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	5674	5674	5674
5°	6157	5640	5300
10°	6633	5596	4973
15°	7195	5515	4768
20°	7845	5418	4592
25°	8582	5291	4449
30°	9309	5151	4307
35°	9888	5000	4213
40°	10239	4841	4159
45°	10311	4674	4149
50°	10039	4495	4194
55°	9401	4334	4221
60°	8545	4138	4180
65°	7748	3914	4018
70°	7091	3628	3690
75°	6435	3262	3173
80°	5627	2728	2445
85°	4739	1977	1823



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.0	3.1
10°-20°	162.8	8.9
20°-30°	255.0	14.0
30°-40°	319.7	17.5
40°-50°	340.4	18.6
50°-60°	307.3	16.8
60°-70°	227.5	12.5
70°-80°	124.8	6.8
80°-90°	32.1	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°	473.8	26.0
0°-40°	793.6	43.5
0°-60°	1441.2	78.9
0°-90°	1825.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1825.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	589	589	589	589	589	
5°	637	618	584	556	548	62
15°	722	658	553	489	478	206
25°	808	673	498	425	419	374
35°	841	661	425	357	358	525
45°	757	604	343	288	305	581
55°	560	497	258	219	252	499
65°	340	350	172	148	176	339
75°	173	183	88	76	85	184
85°	43	42	18	17	16	51
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°	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4
2.5°	613.1	611.9	610.5	610.0	607.8	604.9	602.2	602.2	599.1	591.6	586.2
5°	637.1	635.2	631.5	628.6	624.0	618.5	612.9	609.5	602.0	590.6	583.6
7.5°	659.2	656.7	652.1	646.6	639.0	630.8	621.6	614.3	603.0	587.7	578.7
10°	678.5	676.4	670.8	664.0	653.3	641.7	628.1	617.2	601.7	582.8	572.4
12.5°	699.9	697.7	689.9	680.7	666.2	650.7	632.7	617.7	598.6	575.8	564.0
15°	721.9	719.0	710.3	697.9	678.5	657.7	635.7	616.3	593.5	567.3	553.3
17.5°	743.7	740.8	729.9	714.1	689.9	664.0	636.9	612.9	586.2	556.9	541.7
20°	765.7	762.8	749.0	729.2	699.9	668.6	636.6	607.8	577.5	545.1	528.8
22.5°	787.8	784.4	767.7	743.5	708.1	671.8	634.0	600.8	566.6	531.5	514.0
25°	807.9	804.5	786.1	757.5	716.8	673.2	629.4	591.1	554.5	516.5	498.1
27.5°	825.3	821.2	802.1	770.6	724.3	673.7	623.3	580.2	540.5	500.2	481.6
30°	837.4	833.8	813.5	779.8	728.7	672.0	615.5	567.3	524.2	482.8	463.4
32.5°	842.8	839.6	819.5	784.2	729.4	667.6	606.1	553.1	507.3	464.4	444.8
35°	841.3	838.2	819.0	783.4	727.2	661.3	594.2	536.8	489.1	445.3	425.4
37.5°	832.1	828.5	811.0	776.9	720.9	652.1	580.7	519.1	469.5	425.6	405.5
40°	814.7	811.0	796.0	764.5	710.3	639.8	565.2	500.2	449.4	405.0	385.2
42.5°	789.7	785.8	774.0	745.2	695.0	623.5	547.5	480.1	428.1	385.2	364.3
45°	757.3	753.4	745.4	720.9	675.1	604.4	527.4	458.3	405.8	362.6	343.3
47.5°	717.1	713.7	709.8	690.9	650.7	582.4	504.8	435.1	382.5	341.6	321.7
50°	670.3	666.9	668.1	655.3	622.3	556.9	480.1	410.6	358.5	318.1	300.1
52.5°	617.2	614.6	620.4	614.8	589.4	528.6	453.7	385.4	334.1	295.8	278.6
55°	560.1	557.2	568.3	570.0	552.6	497.3	423.7	359.3	309.3	274.0	258.2
57.5°	501.2	498.8	513.1	521.1	512.4	463.7	393.4	332.4	283.9	251.2	235.5
60°	443.8	441.9	456.9	470.0	469.0	428.1	361.9	303.3	258.5	228.2	214.9
62.5°	389.8	387.6	402.6	418.1	423.7	390.0	330.7	274.7	233.0	205.2	193.3
65°	340.1	337.9	350.8	366.8	376.9	350.3	297.0	245.2	207.4	181.9	171.8
67.5°	294.6	294.6	302.6	317.3	329.7	309.6	262.6	217.1	181.0	160.4	150.2
70°	251.9	251.7	257.5	267.9	282.2	266.0	227.7	187.5	156.0	137.8	128.9
72.5°	211.5	213.2	215.4	223.4	238.4	224.3	193.1	158.4	131.5	115.6	108.0
75°	173.0	172.7	175.9	182.9	193.8	183.4	158.4	130.1	107.3	94.2	87.7
77.5°	136.1	135.9	138.6	142.7	151.9	143.7	125.0	103.9	83.6	72.7	68.1
80°	101.5	101.5	103.9	106.1	112.9	106.3	93.3	77.8	61.3	52.8	49.2
82.5°	70.5	71.9	71.0	73.9	77.8	72.2	64.0	53.3	40.7	34.9	32.5
85°	42.9	44.1	42.9	45.3	47.0	42.2	38.0	31.7	23.5	19.6	17.9
87.5°	22.0	21.8	21.6	22.8	23.3	20.3	17.9	15.3	10.4	8.0	6.8
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°	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4	589.4
2.5°	583.1	584.5	582.4	574.4	571.2	567.8	566.4	564.9	567.6	566.9
5°	578.2	576.5	571.0	560.8	555.5	549.9	547.2	545.5	549.2	548.4
7.5°	571.7	566.9	558.6	546.3	539.5	532.0	528.3	526.2	528.6	528.1
10°	563.5	555.5	545.3	530.5	522.5	514.3	510.2	507.0	509.0	508.7
12.5°	553.1	542.6	530.3	513.6	505.3	496.8	493.2	491.0	493.5	492.7
15°	541.4	528.8	514.5	497.6	488.6	480.9	478.2	476.5	478.4	478.4
17.5°	528.6	513.8	498.1	480.9	472.4	466.3	463.7	462.4	463.4	464.9
20°	514.3	497.8	480.9	464.1	456.9	450.6	448.2	446.9	449.1	448.2
22.5°	498.5	481.1	463.4	447.7	441.1	434.8	432.4	431.7	434.1	433.1
25°	481.8	462.9	445.5	431.2	424.7	419.3	417.1	416.4	417.6	418.8
27.5°	466.1	444.8	427.6	414.7	408.9	403.8	401.9	400.7	401.6	403.1
30°	446.9	426.4	409.4	397.5	392.0	387.1	385.7	384.7	386.1	387.4
32.5°	429.0	408.2	391.2	379.6	374.8	370.2	369.9	369.4	371.1	372.6
35°	409.6	389.3	372.8	361.9	357.3	353.4	354.2	354.9	356.8	358.5
37.5°	390.0	370.2	354.4	344.5	340.1	337.0	339.1	340.1	342.8	344.5
40°	370.2	350.3	335.8	326.8	322.4	321.0	324.1	326.3	329.5	330.9
42.5°	349.8	331.4	316.9	308.6	305.0	305.0	309.1	312.5	316.1	317.6
45°	329.5	311.5	297.7	290.2	287.5	289.5	294.3	298.7	303.3	304.7
47.5°	308.9	291.4	278.8	272.0	270.6	273.5	279.6	285.4	290.7	292.6
50°	288.3	272.5	259.9	253.6	253.6	257.3	265.0	272.3	278.1	280.0
52.5°	267.7	252.7	239.8	235.2	236.2	241.3	250.2	257.8	264.3	266.2
55°	246.8	232.1	220.9	217.1	218.7	225.0	234.3	243.0	249.3	251.5
57.5°	226.3	212.2	202.0	198.9	201.3	208.3	219.0	226.5	233.0	235.0
60°	205.4	191.1	183.1	180.7	183.9	191.1	202.0	209.1	215.1	217.1
62.5°	184.8	171.5	164.5	162.3	165.9	173.7	184.4	190.6	195.3	197.2
65°	164.0	152.1	145.6	144.1	148.0	155.5	165.7	171.0	174.4	176.4
67.5°	143.4	133.2	127.2	126.0	130.1	136.9	146.3	149.2	152.4	154.3
70°	123.1	113.9	108.8	108.0	111.7	118.2	126.2	127.7	129.4	131.1
72.5°	103.0	95.7	90.6	90.4	93.7	99.1	105.6	105.9	106.3	108.0
75°	83.6	77.0	73.2	73.9	75.8	80.2	85.3	83.8	84.1	85.3
77.5°	64.9	59.6	56.9	57.4	58.9	62.0	65.4	63.7	62.7	64.0
80°	46.8	42.2	41.2	41.4	42.4	44.6	46.5	45.1	43.1	44.1
82.5°	30.8	27.9	27.4	27.6	28.3	29.6	30.0	27.9	27.4	28.1
85°	17.0	15.7	15.7	16.5	16.7	17.0	17.0	15.7	16.0	16.5
87.5°	6.8	6.8	7.5	8.2	7.8	6.8	5.8	3.9	3.9	4.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)