

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-22L840-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-22L840-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture EXAM Light w/
ASYMMETRIC Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

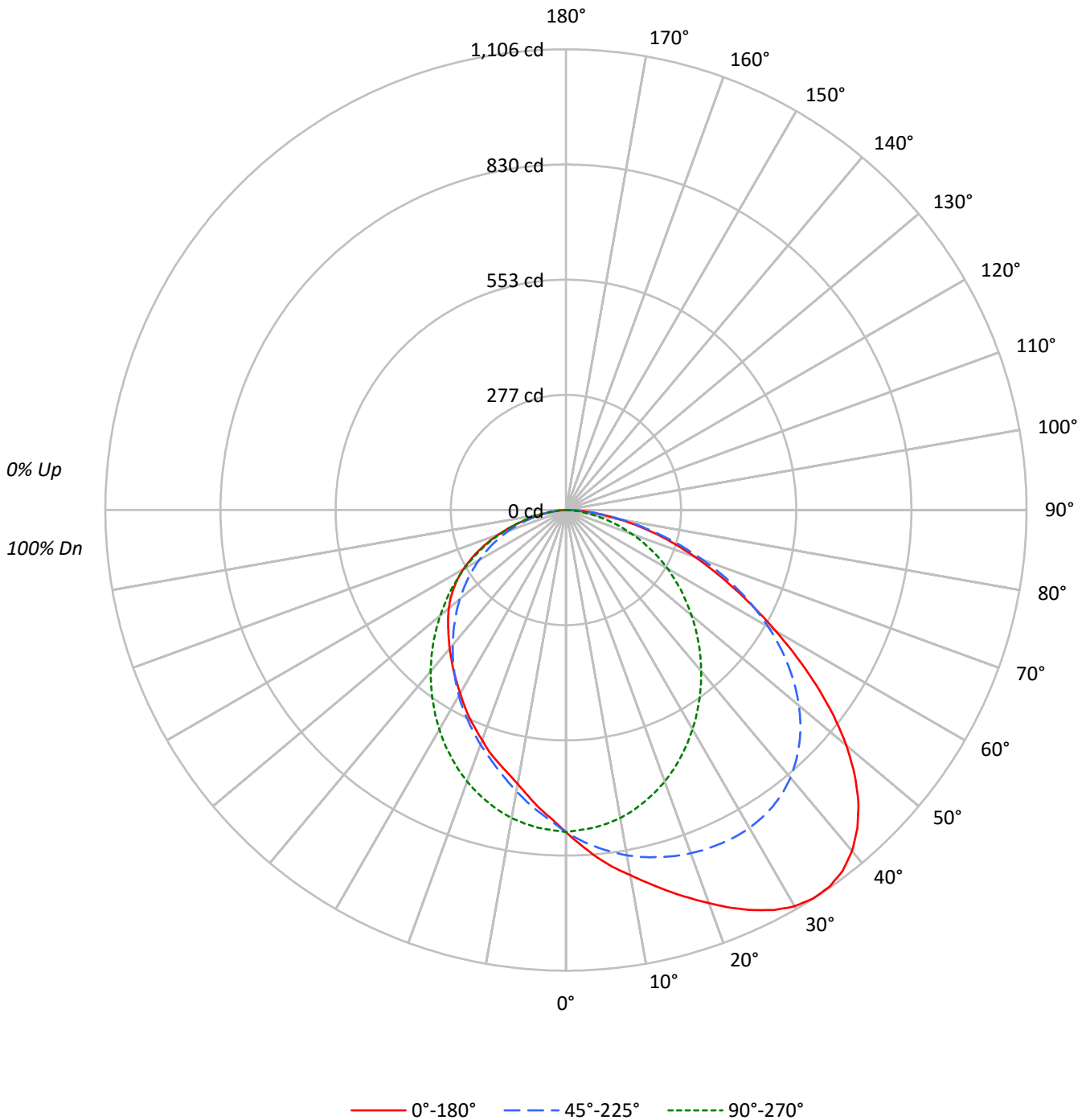
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2394.6 lumens
Efficiency: N/A
Efficacy: 99.8 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

TEST NUMBER: P
CATALOG NUMBER: 4APN-X-22L840-UNV-ASY

Luminous Intensity Polar Plot





TEST NUMBER: P
 CATALOG NUMBER: 4APN-X-22L840-UNV-ASY

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°	7443	7443	7443
5°	8076	7398	6952
10°	8701	7340	6523
15°	9438	7233	6255
20°	10290	7107	6022
25°	11257	6940	5836
30°	12212	6758	5648
35°	12970	6558	5527
40°	13430	6349	5454
45°	13524	6131	5442
50°	13168	5897	5501
55°	12330	5685	5536
60°	11208	5426	5482
65°	10162	5132	5269
70°	9303	4757	4839
75°	8440	4278	4159
80°	7379	3576	3205
85°	6208	2596	2386



TEST NUMBER: P
 CATALOG NUMBER: 4APN-X-22L840-UNV-ASY

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.4	3.1
10°-20°	213.5	8.9
20°-30°	334.5	14.0
30°-40°	419.4	17.5
40°-50°	446.5	18.6
50°-60°	403.1	16.8
60°-70°	298.4	12.5
70°-80°	163.7	6.8
80°-90°	42.0	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°	621.5	26.0
0°-40°	1040.9	43.5
0°-60°	1890.4	78.9
0°-90°	2394.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2394.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	773	773	773	773	773	
5°	836	811	766	729	719	81
15°	947	863	726	641	628	270
25°	1060	883	653	557	549	490
35°	1104	868	558	469	470	688
45°	993	793	450	377	400	762
55°	735	652	339	287	330	655
65°	446	460	225	194	231	445
75°	227	240	115	100	112	241
85°	56	55	24	22	22	66
90°	0	0	0	0	0	



TEST NUMBER: P

CATALOG NUMBER: 4APN-X-22L840-UNV-ASY

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1
2.5°	804.2	802.6	800.7	800.1	797.2	793.4	789.9	789.9	785.8	775.9	769.0
5°	835.7	833.1	828.4	824.6	818.5	811.2	803.9	799.5	789.6	774.7	765.5
7.5°	864.6	861.4	855.4	848.1	838.2	827.4	815.4	805.8	790.9	770.9	759.1
10°	890.0	887.2	879.9	871.0	857.0	841.7	823.9	809.6	789.3	764.5	750.8
12.5°	918.0	915.1	905.0	892.9	873.8	853.5	830.0	810.3	785.2	755.3	739.7
15°	946.9	943.1	931.6	915.4	890.0	862.7	833.8	808.4	778.5	744.2	725.7
17.5°	975.5	971.7	957.4	936.7	905.0	871.0	835.4	803.9	769.0	730.5	710.5
20°	1004.4	1000.6	982.5	956.4	918.0	877.0	835.1	797.2	757.5	714.9	693.7
22.5°	1033.3	1028.9	1007.0	975.2	928.8	881.1	831.6	788.0	743.2	697.1	674.3
25°	1059.7	1055.3	1031.1	993.6	940.2	883.0	825.5	775.3	727.3	677.4	653.3
27.5°	1082.6	1077.2	1052.1	1010.8	950.1	883.7	817.6	761.0	708.9	656.2	631.7
30°	1098.5	1093.7	1067.0	1022.8	955.8	881.4	807.4	744.2	687.6	633.3	607.9
32.5°	1105.5	1101.3	1075.0	1028.6	956.8	875.7	795.0	725.4	665.4	609.1	583.4
35°	1103.6	1099.4	1074.3	1027.6	953.9	867.5	779.4	704.1	641.5	584.0	558.0
37.5°	1091.5	1086.7	1063.8	1019.0	945.6	855.4	761.7	680.9	615.8	558.3	531.9
40°	1068.6	1063.8	1044.1	1002.8	931.6	839.2	741.3	656.2	589.4	531.3	505.2
42.5°	1035.9	1030.8	1015.2	977.4	911.6	817.9	718.1	629.8	561.5	505.2	477.9
45°	993.3	988.2	977.7	945.6	885.6	792.8	691.7	601.2	532.2	475.7	450.3
47.5°	940.5	936.1	931.0	906.2	853.5	763.9	662.2	570.7	501.7	448.0	422.0
50°	879.2	874.8	876.4	859.5	816.3	730.5	629.8	538.6	470.3	417.2	393.7
52.5°	809.6	806.1	813.8	806.5	773.1	693.3	595.1	505.5	438.2	388.0	365.4
55°	734.6	730.8	745.4	747.7	724.8	652.3	555.7	471.2	405.8	359.4	338.7
57.5°	657.4	654.3	673.0	683.5	672.0	608.2	516.0	436.0	372.4	329.5	308.9
60°	582.1	579.6	599.3	616.4	615.2	561.5	474.7	397.8	339.0	299.3	281.8
62.5°	511.3	508.4	528.1	548.4	555.7	511.6	433.7	360.3	305.7	269.1	253.6
65°	446.1	443.3	460.1	481.1	494.4	459.5	389.6	321.6	272.0	238.6	225.3
67.5°	386.4	386.4	396.9	416.3	432.5	406.1	344.4	284.7	237.4	210.4	197.0
70°	330.5	330.1	337.8	351.4	370.2	348.9	298.7	245.9	204.6	180.8	169.0
72.5°	277.4	279.6	282.5	293.0	312.7	294.2	253.2	207.8	172.5	151.6	141.7
75°	226.9	226.6	230.7	239.9	254.2	240.5	207.8	170.6	140.8	123.6	115.0
77.5°	178.6	178.3	181.8	187.2	199.2	188.4	164.0	136.3	109.6	95.3	89.3
80°	133.1	133.1	136.3	139.2	148.1	139.5	122.3	102.0	80.4	69.3	64.5
82.5°	92.5	94.4	93.1	96.9	102.0	94.7	83.9	69.9	53.4	45.8	42.6
85°	56.2	57.8	56.2	59.4	61.6	55.3	49.9	41.6	30.8	25.7	23.5
87.5°	28.9	28.6	28.3	29.9	30.5	26.7	23.5	20.0	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



TEST NUMBER: P
 CATALOG NUMBER: 4APN-X-22L840-UNV-ASY

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1	773.1
2.5°	764.8	766.7	763.9	753.4	749.3	744.8	742.9	741.0	744.5	743.5
5°	758.5	756.2	748.9	735.6	728.6	721.3	717.8	715.6	720.3	719.4
7.5°	749.9	743.5	732.7	716.5	707.6	697.8	693.0	690.2	693.3	692.7
10°	739.1	728.6	715.3	695.9	685.4	674.6	669.2	665.1	667.6	667.3
12.5°	725.4	711.8	695.6	673.6	662.8	651.7	646.9	644.1	647.3	646.3
15°	710.2	693.7	674.9	652.7	640.9	630.7	627.2	625.0	627.6	627.6
17.5°	693.3	674.0	653.3	630.7	619.6	611.7	608.2	606.6	607.9	609.8
20°	674.6	653.0	630.7	608.8	599.3	591.0	587.8	586.3	589.1	587.8
22.5°	653.9	631.1	607.9	587.2	578.6	570.4	567.2	566.2	569.4	568.1
25°	632.0	607.2	584.3	565.6	557.0	550.0	547.2	546.2	547.8	549.4
27.5°	611.4	583.4	560.8	544.0	536.4	529.7	527.1	525.6	526.8	528.7
30°	586.3	559.2	537.0	521.4	514.1	507.8	505.9	504.6	506.5	508.1
32.5°	562.7	535.4	513.2	497.9	491.6	485.5	485.2	484.6	486.8	488.7
35°	537.3	510.6	489.0	474.7	468.7	463.6	464.6	465.5	468.0	470.3
37.5°	511.6	485.5	464.9	451.8	446.1	442.0	444.9	446.1	449.6	451.8
40°	485.5	459.5	440.4	428.6	422.9	421.0	425.2	428.0	432.1	434.0
42.5°	458.8	434.7	415.6	404.8	400.0	400.0	405.5	409.9	414.7	416.6
45°	432.1	408.6	390.5	380.7	377.2	379.7	386.1	391.8	397.8	399.7
47.5°	405.1	382.3	365.7	356.8	354.9	358.7	366.7	374.3	381.3	383.8
50°	378.1	357.5	340.9	332.7	332.7	337.5	347.6	357.2	364.8	367.3
52.5°	351.1	331.4	314.6	308.5	309.8	316.5	328.2	338.1	346.7	349.2
55°	323.8	304.4	289.8	284.7	286.9	295.2	307.3	318.7	327.0	329.8
57.5°	296.8	278.4	265.0	260.9	264.1	273.3	287.2	297.1	305.7	308.2
60°	269.5	250.7	240.2	237.0	241.2	250.7	265.0	274.2	282.2	284.7
62.5°	242.4	225.0	215.8	212.9	217.7	227.8	241.8	250.1	256.1	258.6
65°	215.1	199.5	191.0	189.1	194.1	204.0	217.3	224.3	228.8	231.3
67.5°	188.1	174.8	166.8	165.2	170.6	179.5	191.9	195.7	199.9	202.4
70°	161.4	149.3	142.7	141.7	146.5	155.1	165.5	167.5	169.7	171.9
72.5°	135.0	125.5	118.8	118.5	123.0	130.0	138.5	138.9	139.5	141.7
75°	109.6	101.0	96.0	96.9	99.5	105.2	111.8	109.9	110.3	111.8
77.5°	85.2	78.2	74.7	75.3	77.2	81.3	85.8	83.6	82.3	83.9
80°	61.3	55.3	54.0	54.3	55.6	58.5	61.0	59.1	56.6	57.8
82.5°	40.4	36.5	35.9	36.2	37.2	38.8	39.4	36.5	35.9	36.9
85°	22.2	20.7	20.7	21.6	21.9	22.2	22.2	20.7	21.0	21.6
87.5°	8.9	8.9	9.9	10.8	10.2	8.9	7.6	5.1	5.1	6.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)