

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-20L950-X-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-20L950-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

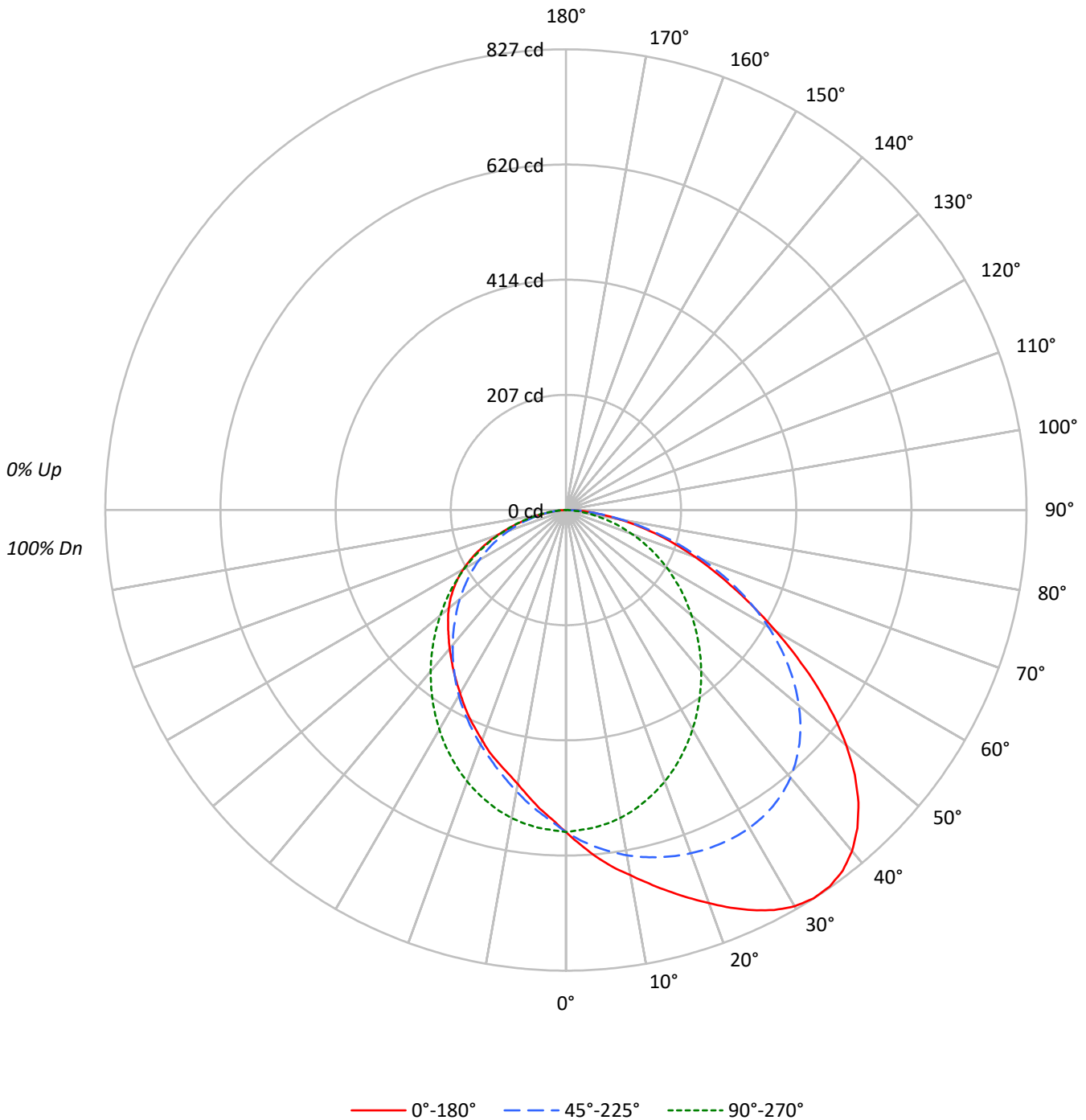
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1790.7 lumens
Efficiency: N/A
Efficacy: 75.2 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): 23.8
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	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°	5566	5566	5566
5°	6039	5532	5199
10°	6507	5489	4878
15°	7058	5409	4677
20°	7695	5314	4504
25°	8418	5189	4364
30°	9131	5054	4224
35°	9698	4904	4133
40°	10043	4748	4079
45°	10113	4584	4070
50°	9848	4409	4114
55°	9222	4252	4139
60°	8382	4059	4099
65°	7599	3838	3941
70°	6955	3558	3620
75°	6312	3199	3110
80°	5522	2672	2395
85°	4650	1944	1789



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.9	3.1
10°-20°	159.7	8.9
20°-30°	250.2	14.0
30°-40°	313.6	17.5
40°-50°	333.9	18.6
50°-60°	301.4	16.8
60°-70°	223.1	12.5
70°-80°	122.4	6.8
80°-90°	31.4	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°	464.8	26.0
0°-40°	778.4	43.5
0°-60°	1413.7	78.9
0°-90°	1790.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1790.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	578	578	578	578	578	
5°	625	607	572	545	538	61
15°	708	645	543	479	469	202
25°	792	660	488	416	411	367
35°	825	649	417	350	352	515
45°	743	593	337	282	299	569
55°	549	488	253	215	247	490
65°	334	344	168	145	173	333
75°	170	180	86	74	84	180
85°	42	41	18	16	16	50
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°	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1
2.5°	601.4	600.2	598.8	598.3	596.2	593.3	590.7	590.7	587.6	580.3	575.0
5°	624.9	623.0	619.5	616.6	612.1	606.6	601.2	597.8	590.5	579.3	572.4
7.5°	646.6	644.2	639.7	634.2	626.8	618.8	609.7	602.6	591.4	576.5	567.7
10°	665.6	663.4	658.0	651.3	640.9	629.4	616.1	605.5	590.2	571.7	561.5
12.5°	686.5	684.3	676.7	667.7	653.4	638.2	620.7	605.9	587.2	564.8	553.2
15°	708.1	705.2	696.7	684.6	665.6	645.1	623.5	604.5	582.2	556.5	542.7
17.5°	729.5	726.6	715.9	700.5	676.7	651.3	624.7	601.2	575.0	546.3	531.3
20°	751.1	748.3	734.7	715.2	686.5	655.8	624.5	596.2	566.5	534.6	518.7
22.5°	772.7	769.4	753.0	729.2	694.6	658.9	621.8	589.3	555.8	521.3	504.2
25°	792.5	789.1	771.1	743.0	703.1	660.3	617.3	579.8	543.9	506.6	488.5
27.5°	809.6	805.5	786.8	755.9	710.5	660.8	611.4	569.1	530.1	490.7	472.4
30°	821.4	817.9	797.9	764.9	714.8	659.2	603.8	556.5	514.2	473.6	454.6
32.5°	826.7	823.6	803.9	769.2	715.5	654.9	594.5	542.5	497.6	455.5	436.3
35°	825.2	822.2	803.4	768.5	713.3	648.7	582.9	526.6	479.8	436.7	417.3
37.5°	816.2	812.7	795.5	762.0	707.2	639.7	569.6	509.2	460.5	417.5	397.8
40°	799.1	795.5	780.8	749.9	696.7	627.5	554.4	490.7	440.8	397.3	377.8
42.5°	774.6	770.8	759.2	730.9	681.7	611.6	537.0	471.0	419.9	377.8	357.4
45°	742.8	739.0	731.2	707.2	662.2	592.9	517.3	449.6	398.0	355.7	336.7
47.5°	703.3	700.0	696.2	677.7	638.2	571.2	495.2	426.8	375.2	335.0	315.6
50°	657.5	654.2	655.3	642.8	610.4	546.3	471.0	402.8	351.7	312.0	294.4
52.5°	605.5	602.8	608.5	603.1	578.1	518.5	445.1	378.0	327.7	290.1	273.3
55°	549.4	546.5	557.5	559.1	542.0	487.8	415.6	352.4	303.4	268.7	253.3
57.5°	491.6	489.3	503.3	511.1	502.6	454.8	385.9	326.0	278.5	246.4	231.0
60°	435.3	433.4	448.1	461.0	460.0	419.9	355.0	297.5	253.5	223.8	210.8
62.5°	382.3	380.2	394.9	410.1	415.6	382.6	324.3	269.5	228.6	201.3	189.6
65°	333.6	331.5	344.1	359.8	369.7	343.6	291.3	240.5	203.4	178.5	168.5
67.5°	288.9	288.9	296.8	311.3	323.4	303.7	257.6	212.9	177.5	157.3	147.3
70°	247.1	246.9	252.6	262.8	276.8	260.9	223.4	183.9	153.0	135.2	126.4
72.5°	207.4	209.1	211.2	219.1	233.8	220.0	189.4	155.4	129.0	113.3	106.0
75°	169.7	169.4	172.5	179.4	190.1	179.9	155.4	127.6	105.3	92.4	86.0
77.5°	133.5	133.3	135.9	140.0	149.0	140.9	122.6	101.9	82.0	71.3	66.8
80°	99.6	99.6	101.9	104.1	110.7	104.3	91.5	76.3	60.1	51.8	48.2
82.5°	69.1	70.6	69.6	72.5	76.3	70.8	62.7	52.3	39.9	34.2	31.8
85°	42.1	43.2	42.1	44.4	46.1	41.3	37.3	31.1	23.0	19.2	17.6
87.5°	21.6	21.4	21.1	22.3	22.8	20.0	17.6	15.0	10.2	7.8	6.7
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°	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1	578.1
2.5°	571.9	573.4	571.2	563.4	560.3	557.0	555.6	554.1	556.7	556.0
5°	567.2	565.5	560.1	550.1	544.9	539.4	536.8	535.1	538.7	538.0
7.5°	560.8	556.0	547.9	535.8	529.2	521.8	518.2	516.1	518.5	518.0
10°	552.7	544.9	534.9	520.4	512.5	504.5	500.4	497.3	499.2	499.0
12.5°	542.5	532.3	520.1	503.7	495.7	487.4	483.8	481.7	484.0	483.3
15°	531.1	518.7	504.7	488.1	479.3	471.7	469.1	467.4	469.3	469.3
17.5°	518.5	504.0	488.5	471.7	463.4	457.4	454.8	453.6	454.6	456.0
20°	504.5	488.3	471.7	455.3	448.1	442.0	439.6	438.4	440.5	439.6
22.5°	489.0	471.9	454.6	439.1	432.7	426.5	424.1	423.4	425.8	424.9
25°	472.6	454.1	437.0	423.0	416.5	411.3	409.2	408.5	409.7	410.8
27.5°	457.2	436.3	419.4	406.8	401.1	396.1	394.2	393.0	394.0	395.4
30°	438.4	418.2	401.6	389.9	384.5	379.7	378.3	377.3	378.8	380.0
32.5°	420.8	400.4	383.8	372.3	367.6	363.1	362.8	362.4	364.0	365.5
35°	401.8	381.9	365.7	355.0	350.5	346.7	347.4	348.1	350.0	351.7
37.5°	382.6	363.1	347.6	337.9	333.6	330.5	332.7	333.6	336.2	337.9
40°	363.1	343.6	329.3	320.5	316.3	314.8	317.9	320.1	323.2	324.6
42.5°	343.1	325.1	310.8	302.7	299.2	299.2	303.2	306.5	310.1	311.5
45°	323.2	305.6	292.0	284.7	282.1	284.0	288.7	293.0	297.5	298.9
47.5°	303.0	285.9	273.5	266.8	265.4	268.3	274.2	279.9	285.1	287.0
50°	282.8	267.3	255.0	248.8	248.8	252.4	260.0	267.1	272.8	274.7
52.5°	262.6	247.8	235.2	230.7	231.7	236.7	245.5	252.8	259.2	261.1
55°	242.1	227.6	216.7	212.9	214.6	220.7	229.8	238.3	244.5	246.6
57.5°	221.9	208.2	198.2	195.1	197.5	204.4	214.8	222.2	228.6	230.5
60°	201.5	187.5	179.6	177.3	180.4	187.5	198.2	205.1	211.0	212.9
62.5°	181.3	168.2	161.3	159.2	162.8	170.4	180.8	187.0	191.5	193.4
65°	160.9	149.2	142.8	141.4	145.2	152.6	162.5	167.8	171.1	173.0
67.5°	140.7	130.7	124.7	123.6	127.6	134.3	143.5	146.4	149.5	151.4
70°	120.7	111.7	106.7	106.0	109.5	116.0	123.8	125.2	126.9	128.6
72.5°	101.0	93.9	88.9	88.6	92.0	97.2	103.6	103.8	104.3	106.0
75°	82.0	75.6	71.8	72.5	74.4	78.7	83.6	82.2	82.5	83.6
77.5°	63.7	58.5	55.8	56.3	57.7	60.8	64.2	62.5	61.5	62.7
80°	45.9	41.3	40.4	40.6	41.6	43.7	45.6	44.2	42.3	43.2
82.5°	30.2	27.3	26.9	27.1	27.8	29.0	29.5	27.3	26.9	27.6
85°	16.6	15.4	15.4	16.2	16.4	16.6	16.6	15.4	15.7	16.2
87.5°	6.7	6.7	7.4	8.1	7.6	6.7	5.7	3.8	3.8	4.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)