

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-20L930-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-20L930-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

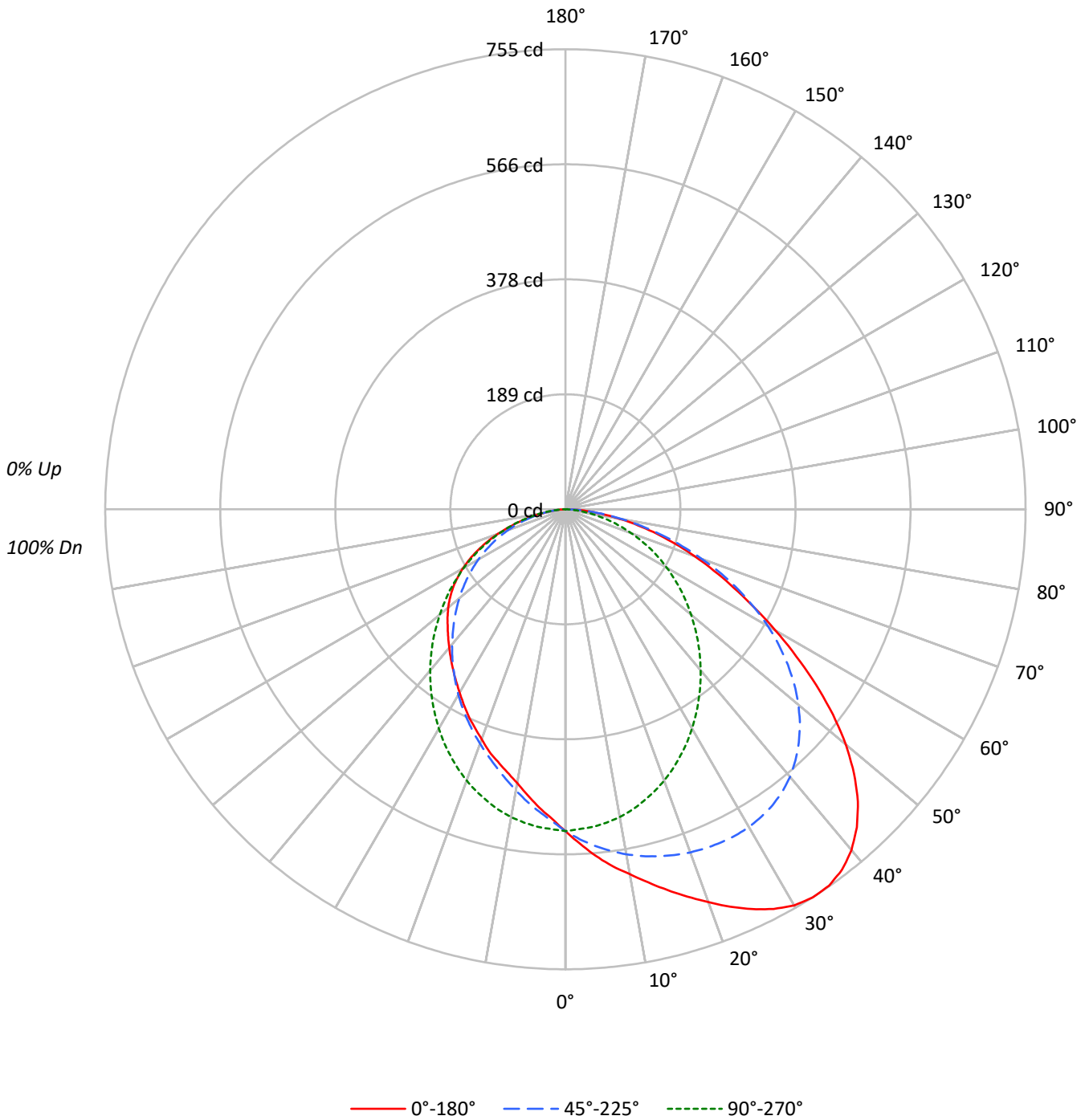
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1636.0 lumens
Efficiency: N/A
Efficacy: 68.7 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 (Ain): 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°	5085	5085	5085
5°	5518	5054	4750
10°	5945	5015	4457
15°	6448	4942	4274
20°	7030	4855	4114
25°	7691	4741	3988
30°	8343	4617	3859
35°	8862	4480	3776
40°	9176	4338	3726
45°	9239	4188	3718
50°	8997	4029	3759
55°	8424	3884	3782
60°	7658	3708	3745
65°	6943	3506	3599
70°	6356	3251	3305
75°	5766	2924	2842
80°	5045	2445	2190
85°	4242	1778	1635



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.2	3.1
10°-20°	145.9	8.9
20°-30°	228.6	14.0
30°-40°	286.5	17.5
40°-50°	305.0	18.6
50°-60°	275.4	16.8
60°-70°	203.9	12.5
70°-80°	111.9	6.8
80°-90°	28.7	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°	424.6	26.0
0°-40°	711.2	43.5
0°-60°	1291.6	78.9
0°-90°	1636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1636.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	528	528	528	528	528	
5°	571	554	523	498	492	56
15°	647	589	496	438	429	185
25°	724	603	446	381	375	335
35°	754	593	381	320	321	470
45°	679	542	308	258	273	520
55°	502	446	231	196	225	448
65°	305	314	154	133	158	304
75°	155	164	79	68	76	165
85°	38	38	16	15	15	45
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°	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2
2.5°	549.5	548.4	547.1	546.6	544.7	542.1	539.7	539.7	536.9	530.1	525.4
5°	571.0	569.2	566.0	563.4	559.2	554.2	549.2	546.2	539.5	529.3	523.0
7.5°	590.7	588.5	584.4	579.4	572.7	565.3	557.1	550.5	540.3	526.7	518.6
10°	608.1	606.1	601.1	595.1	585.5	575.1	562.9	553.2	539.3	522.3	513.0
12.5°	627.2	625.2	618.3	610.0	597.0	583.1	567.0	553.6	536.4	516.0	505.4
15°	646.9	644.3	636.5	625.4	608.1	589.4	569.7	552.3	531.9	508.4	495.8
17.5°	666.5	663.9	654.1	640.0	618.3	595.1	570.7	549.2	525.4	499.1	485.4
20°	686.2	683.6	671.3	653.5	627.2	599.2	570.5	544.7	517.6	488.5	473.9
22.5°	706.0	702.9	688.0	666.3	634.6	602.0	568.1	538.4	507.8	476.3	460.7
25°	724.0	721.0	704.5	678.9	642.4	603.3	564.0	529.7	496.9	462.8	446.3
27.5°	739.6	735.9	718.8	690.6	649.1	603.7	558.6	519.9	484.3	448.3	431.6
30°	750.5	747.2	729.0	698.8	653.0	602.2	551.6	508.4	469.8	432.7	415.3
32.5°	755.3	752.4	734.4	702.7	653.7	598.3	543.2	495.6	454.6	416.2	398.6
35°	754.0	751.1	734.0	702.1	651.7	592.7	532.5	481.1	438.3	399.0	381.2
37.5°	745.7	742.5	726.8	696.2	646.1	584.4	520.4	465.2	420.7	381.4	363.4
40°	730.1	726.8	713.4	685.1	636.5	573.3	506.5	448.3	402.7	363.0	345.2
42.5°	707.7	704.3	693.6	667.8	622.8	558.8	490.6	430.3	383.6	345.2	326.5
45°	678.6	675.2	668.0	646.1	605.0	541.6	472.6	410.7	363.6	325.0	307.6
47.5°	642.6	639.6	636.1	619.2	583.1	521.9	452.4	389.9	342.8	306.1	288.3
50°	600.7	597.7	598.7	587.2	557.7	499.1	430.3	368.0	321.3	285.0	269.0
52.5°	553.2	550.8	556.0	551.0	528.2	473.7	406.6	345.4	299.4	265.1	249.7
55°	501.9	499.3	509.3	510.8	495.2	445.7	379.7	321.9	277.2	245.5	231.4
57.5°	449.2	447.0	459.8	467.0	459.2	415.5	352.6	297.9	254.4	225.1	211.0
60°	397.7	396.0	409.4	421.2	420.3	383.6	324.3	271.8	231.6	204.5	192.6
62.5°	349.3	347.3	360.8	374.7	379.7	349.5	296.3	246.2	208.8	183.9	173.2
65°	304.8	302.8	314.4	328.7	337.8	313.9	266.2	219.7	185.8	163.0	153.9
67.5°	264.0	264.0	271.1	284.4	295.5	277.4	235.3	194.5	162.2	143.7	134.6
70°	225.8	225.6	230.8	240.1	252.9	238.4	204.1	168.0	139.8	123.5	115.5
72.5°	189.5	191.0	193.0	200.2	213.6	201.0	173.0	142.0	117.9	103.6	96.8
75°	155.0	154.8	157.6	163.9	173.7	164.3	142.0	116.6	96.2	84.4	78.6
77.5°	122.0	121.8	124.2	127.9	136.1	128.7	112.0	93.1	74.9	65.1	61.0
80°	91.0	91.0	93.1	95.1	101.2	95.3	83.6	69.7	54.9	47.3	44.1
82.5°	63.2	64.5	63.6	66.2	69.7	64.7	57.3	47.8	36.5	31.3	29.1
85°	38.4	39.5	38.4	40.6	42.1	37.8	34.1	28.4	21.1	17.6	16.1
87.5°	19.8	19.5	19.3	20.4	20.8	18.2	16.1	13.7	9.3	7.2	6.1
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°	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2	528.2
2.5°	522.5	523.8	521.9	514.7	511.9	508.9	507.6	506.3	508.7	508.0
5°	518.2	516.7	511.7	502.6	497.8	492.8	490.4	488.9	492.2	491.5
7.5°	512.3	508.0	500.6	489.5	483.5	476.7	473.5	471.5	473.7	473.3
10°	505.0	497.8	488.7	475.4	468.3	460.9	457.2	454.4	456.1	455.9
12.5°	495.6	486.3	475.2	460.2	452.9	445.3	442.0	440.0	442.2	441.6
15°	485.2	473.9	461.1	445.9	437.9	430.9	428.5	427.0	428.8	428.8
17.5°	473.7	460.5	446.3	430.9	423.3	417.9	415.5	414.4	415.3	416.6
20°	460.9	446.1	430.9	416.0	409.4	403.8	401.6	400.5	402.5	401.6
22.5°	446.8	431.1	415.3	401.2	395.3	389.7	387.5	386.9	389.0	388.2
25°	431.8	414.9	399.2	386.4	380.6	375.8	373.8	373.2	374.3	375.4
27.5°	417.7	398.6	383.2	371.7	366.5	361.9	360.2	359.1	359.9	361.2
30°	400.5	382.1	366.9	356.3	351.3	346.9	345.6	344.7	346.0	347.1
32.5°	384.5	365.8	350.6	340.2	335.8	331.7	331.5	331.1	332.6	333.9
35°	367.1	348.9	334.1	324.3	320.2	316.7	317.4	318.0	319.8	321.3
37.5°	349.5	331.7	317.6	308.7	304.8	302.0	303.9	304.8	307.2	308.7
40°	331.7	313.9	300.9	292.9	289.0	287.6	290.5	292.4	295.2	296.5
42.5°	313.5	297.0	284.0	276.6	273.3	273.3	277.0	280.1	283.3	284.6
45°	295.2	279.2	266.8	260.1	257.7	259.4	263.8	267.7	271.8	273.1
47.5°	276.8	261.2	249.9	243.8	242.5	245.1	250.5	255.7	260.5	262.2
50°	258.3	244.2	232.9	227.3	227.3	230.6	237.5	244.0	249.2	251.0
52.5°	239.9	226.4	214.9	210.8	211.7	216.2	224.3	231.0	236.8	238.6
55°	221.2	208.0	198.0	194.5	196.0	201.7	209.9	217.7	223.4	225.3
57.5°	202.8	190.2	181.1	178.2	180.4	186.7	196.3	203.0	208.8	210.6
60°	184.1	171.3	164.1	162.0	164.8	171.3	181.1	187.4	192.8	194.5
62.5°	165.6	153.7	147.4	145.5	148.7	155.7	165.2	170.9	175.0	176.7
65°	147.0	136.3	130.5	129.2	132.6	139.4	148.5	153.3	156.3	158.0
67.5°	128.5	119.4	114.0	112.9	116.6	122.7	131.1	133.7	136.6	138.3
70°	110.3	102.0	97.5	96.8	100.1	105.9	113.1	114.4	115.9	117.4
72.5°	92.3	85.8	81.2	81.0	84.0	88.8	94.7	94.9	95.3	96.8
75°	74.9	69.0	65.6	66.2	68.0	71.9	76.4	75.1	75.3	76.4
77.5°	58.2	53.4	51.0	51.5	52.8	55.6	58.6	57.1	56.2	57.3
80°	41.9	37.8	36.9	37.1	38.0	39.9	41.7	40.4	38.6	39.5
82.5°	27.6	25.0	24.5	24.7	25.4	26.5	26.9	25.0	24.5	25.2
85°	15.2	14.1	14.1	14.8	15.0	15.2	15.2	14.1	14.3	14.8
87.5°	6.1	6.1	6.7	7.4	6.9	6.1	5.2	3.5	3.5	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)