

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-28L940-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-28L940-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

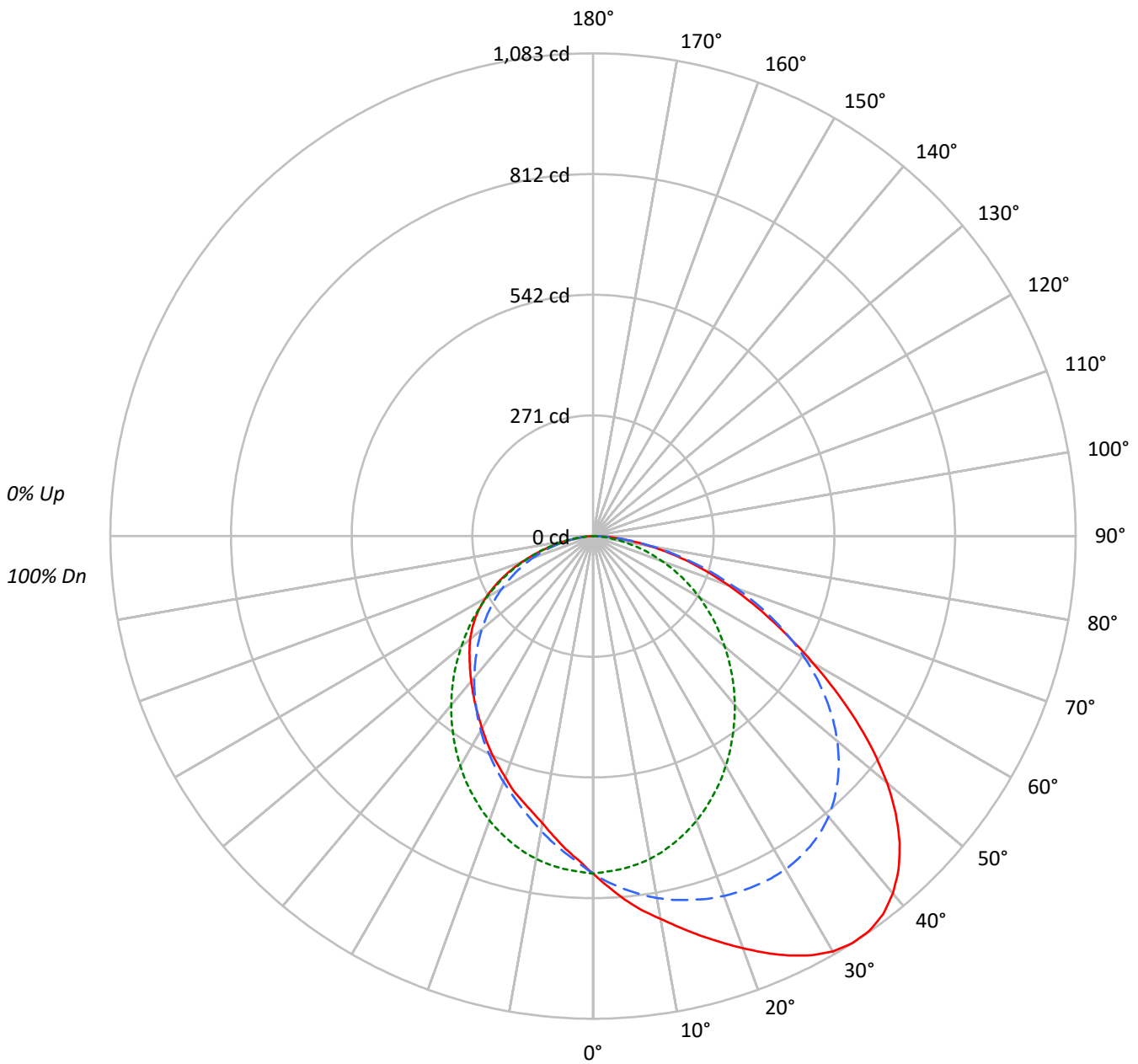
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2345.8 lumens
Efficiency: N/A
Efficacy: 72.9 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): 32.2
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



— 0°-180° - - 45°-225° - - - 90°-270°



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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°	7291	7291	7291
5°	7912	7247	6810
10°	8524	7190	6390
15°	9245	7087	6128
20°	10080	6962	5900
25°	11027	6798	5717
30°	11963	6620	5533
35°	12706	6424	5415
40°	13156	6220	5344
45°	13249	6006	5332
50°	12900	5777	5389
55°	12080	5569	5423
60°	10981	5316	5370
65°	9955	5028	5162
70°	9112	4661	4740
75°	8269	4192	4077
80°	7230	3504	3144
85°	6086	2541	2342



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.9	3.1
10°-20°	209.2	8.9
20°-30°	327.7	14.0
30°-40°	410.9	17.5
40°-50°	437.4	18.6
50°-60°	394.8	16.8
60°-70°	292.3	12.5
70°-80°	160.4	6.8
80°-90°	41.2	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°	608.8	26.0
0°-40°	1019.7	43.5
0°-60°	1851.9	78.9
0°-90°	2345.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2345.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	757	757	757	757	757	
5°	819	795	750	714	705	80
15°	928	845	711	628	615	265
25°	1038	865	640	546	538	480
35°	1081	850	547	459	461	674
45°	973	777	441	370	392	746
55°	720	639	332	281	323	642
65°	437	450	221	190	227	436
75°	222	236	113	97	110	236
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°	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3
2.5°	787.8	786.3	784.4	783.8	781.0	777.3	773.8	773.8	769.8	760.1	753.3
5°	818.7	816.2	811.5	807.8	801.8	794.7	787.5	783.2	773.5	758.9	749.9
7.5°	847.0	843.9	838.0	830.8	821.1	810.6	798.7	789.4	774.8	755.2	743.6
10°	871.9	869.1	861.9	853.2	839.5	824.6	807.1	793.1	773.2	748.9	735.5
12.5°	899.3	896.5	886.5	874.7	856.0	836.1	813.1	793.8	769.2	739.9	724.7
15°	927.6	923.9	912.7	896.8	871.9	845.1	816.8	791.9	762.6	729.0	711.0
17.5°	955.6	951.9	937.9	917.6	886.5	853.2	818.3	787.5	753.3	715.6	696.0
20°	983.9	980.2	962.5	936.9	899.3	859.1	818.0	781.0	742.1	700.4	679.5
22.5°	1012.3	1007.9	986.4	955.3	909.9	863.2	814.6	772.0	728.1	682.9	660.5
25°	1038.1	1033.7	1010.1	973.4	921.1	865.0	808.7	759.5	712.5	663.6	640.0
27.5°	1060.5	1055.2	1030.6	990.2	930.7	865.7	800.9	745.5	694.5	642.8	618.8
30°	1076.1	1071.4	1045.3	1002.0	936.3	863.5	791.0	729.0	673.6	620.4	595.5
32.5°	1082.9	1078.9	1053.0	1007.6	937.3	857.9	778.8	710.6	651.8	596.7	571.5
35°	1081.1	1077.0	1052.4	1006.7	934.5	849.8	763.6	689.8	628.5	572.1	546.6
37.5°	1069.2	1064.6	1042.2	998.3	926.4	838.0	746.1	667.1	603.3	546.9	521.1
40°	1046.8	1042.2	1022.9	982.4	912.7	822.1	726.2	642.8	577.4	520.5	494.9
42.5°	1014.8	1009.8	994.5	957.5	893.1	801.2	703.5	616.9	550.0	494.9	468.2
45°	973.1	968.1	957.8	926.4	867.5	776.6	677.6	588.9	521.4	466.0	441.1
47.5°	921.4	917.0	912.0	887.8	836.1	748.3	648.7	559.1	491.5	438.9	413.4
50°	861.3	856.9	858.5	842.0	799.7	715.6	616.9	527.6	460.7	408.7	385.7
52.5°	793.1	789.7	797.2	790.0	757.3	679.2	583.0	495.2	429.3	380.1	358.0
55°	719.7	715.9	730.3	732.4	710.0	639.1	544.4	461.6	397.5	352.1	331.8
57.5°	644.0	640.9	659.3	669.6	658.3	595.8	505.5	427.1	364.8	322.8	302.6
60°	570.3	567.8	587.1	603.9	602.6	550.0	465.0	389.7	332.1	293.2	276.1
62.5°	500.8	498.0	517.3	537.3	544.4	501.2	424.9	353.0	299.4	263.7	248.4
65°	437.0	434.2	450.7	471.3	484.3	450.1	381.6	315.0	266.5	233.8	220.7
67.5°	378.5	378.5	388.8	407.8	423.6	397.8	337.4	278.9	232.5	206.1	193.0
70°	323.7	323.4	330.9	344.3	362.6	341.8	292.6	240.9	200.5	177.1	165.6
72.5°	271.7	273.9	276.7	287.0	306.3	288.2	248.1	203.6	169.0	148.5	138.8
75°	222.3	221.9	226.0	235.0	249.0	235.6	203.6	167.2	137.9	121.1	112.7
77.5°	174.9	174.6	178.1	183.3	195.2	184.6	160.6	133.5	107.4	93.4	87.5
80°	130.4	130.4	133.5	136.3	145.1	136.7	119.8	99.9	78.8	67.9	63.2
82.5°	90.6	92.4	91.2	94.9	99.9	92.8	82.2	68.5	52.3	44.8	41.7
85°	55.1	56.7	55.1	58.2	60.4	54.2	48.9	40.8	30.2	25.2	23.0
87.5°	28.3	28.0	27.7	29.3	29.9	26.1	23.0	19.6	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°	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3	757.3
2.5°	749.2	751.1	748.3	738.0	734.0	729.6	727.8	725.9	729.3	728.4
5°	743.0	740.8	733.7	720.6	713.8	706.6	703.2	701.0	705.7	704.7
7.5°	734.6	728.4	717.8	701.9	693.2	683.6	678.9	676.1	679.2	678.6
10°	724.0	713.8	700.7	681.7	671.4	660.8	655.5	651.5	654.0	653.7
12.5°	710.6	697.3	681.4	659.9	649.3	638.4	633.8	631.0	634.1	633.1
15°	695.7	679.5	661.2	639.4	627.8	617.9	614.5	612.3	614.8	614.8
17.5°	679.2	660.2	640.0	617.9	607.0	599.2	595.8	594.2	595.5	597.3
20°	660.8	639.7	617.9	596.4	587.1	579.0	575.9	574.3	577.1	575.9
22.5°	640.6	618.2	595.5	575.2	566.8	558.7	555.6	554.7	557.8	556.6
25°	619.1	594.8	572.4	554.1	545.7	538.8	536.0	535.1	536.6	538.2
27.5°	598.9	571.5	549.4	532.9	525.4	518.9	516.4	514.9	516.1	518.0
30°	574.3	547.8	526.1	510.8	503.6	497.4	495.6	494.3	496.2	497.7
32.5°	551.3	524.5	502.7	487.8	481.5	475.6	475.3	474.7	476.9	478.7
35°	526.4	500.2	479.1	465.0	459.1	454.2	455.1	456.0	458.5	460.7
37.5°	501.2	475.6	455.4	442.6	437.0	433.0	435.8	437.0	440.5	442.6
40°	475.6	450.1	431.4	419.9	414.3	412.4	416.5	419.3	423.3	425.2
42.5°	449.5	425.8	407.1	396.6	391.9	391.9	397.2	401.5	406.2	408.1
45°	423.3	400.3	382.6	372.9	369.5	372.0	378.2	383.8	389.7	391.6
47.5°	396.9	374.5	358.3	349.6	347.7	351.4	359.2	366.7	373.5	376.0
50°	370.4	350.2	334.0	325.9	325.9	330.6	340.5	349.9	357.3	359.8
52.5°	344.0	324.7	308.2	302.2	303.5	310.0	321.5	331.2	339.6	342.1
55°	317.2	298.2	283.9	278.9	281.1	289.2	301.0	312.2	320.3	323.1
57.5°	290.7	272.7	259.6	255.6	258.7	267.7	281.4	291.0	299.4	301.9
60°	264.0	245.6	235.3	232.2	236.3	245.6	259.6	268.6	276.4	278.9
62.5°	237.5	220.4	211.4	208.6	213.2	223.2	236.9	245.0	250.9	253.4
65°	210.7	195.5	187.1	185.2	190.2	199.8	212.9	219.8	224.1	226.6
67.5°	184.3	171.2	163.4	161.9	167.2	175.9	188.0	191.7	195.8	198.3
70°	158.1	146.3	139.8	138.8	143.5	151.9	162.2	164.0	166.2	168.4
72.5°	132.3	123.0	116.4	116.1	120.5	127.3	135.7	136.0	136.7	138.8
75°	107.4	99.0	94.0	94.9	97.4	103.0	109.6	107.7	108.0	109.6
77.5°	83.4	76.6	73.1	73.8	75.6	79.7	84.0	81.9	80.6	82.2
80°	60.1	54.2	52.9	53.2	54.5	57.3	59.8	57.9	55.4	56.7
82.5°	39.5	35.8	35.2	35.5	36.4	38.0	38.6	35.8	35.2	36.1
85°	21.8	20.2	20.2	21.2	21.5	21.8	21.8	20.2	20.5	21.2
87.5°	8.7	8.7	9.6	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)