

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-24L835-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-24L835-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

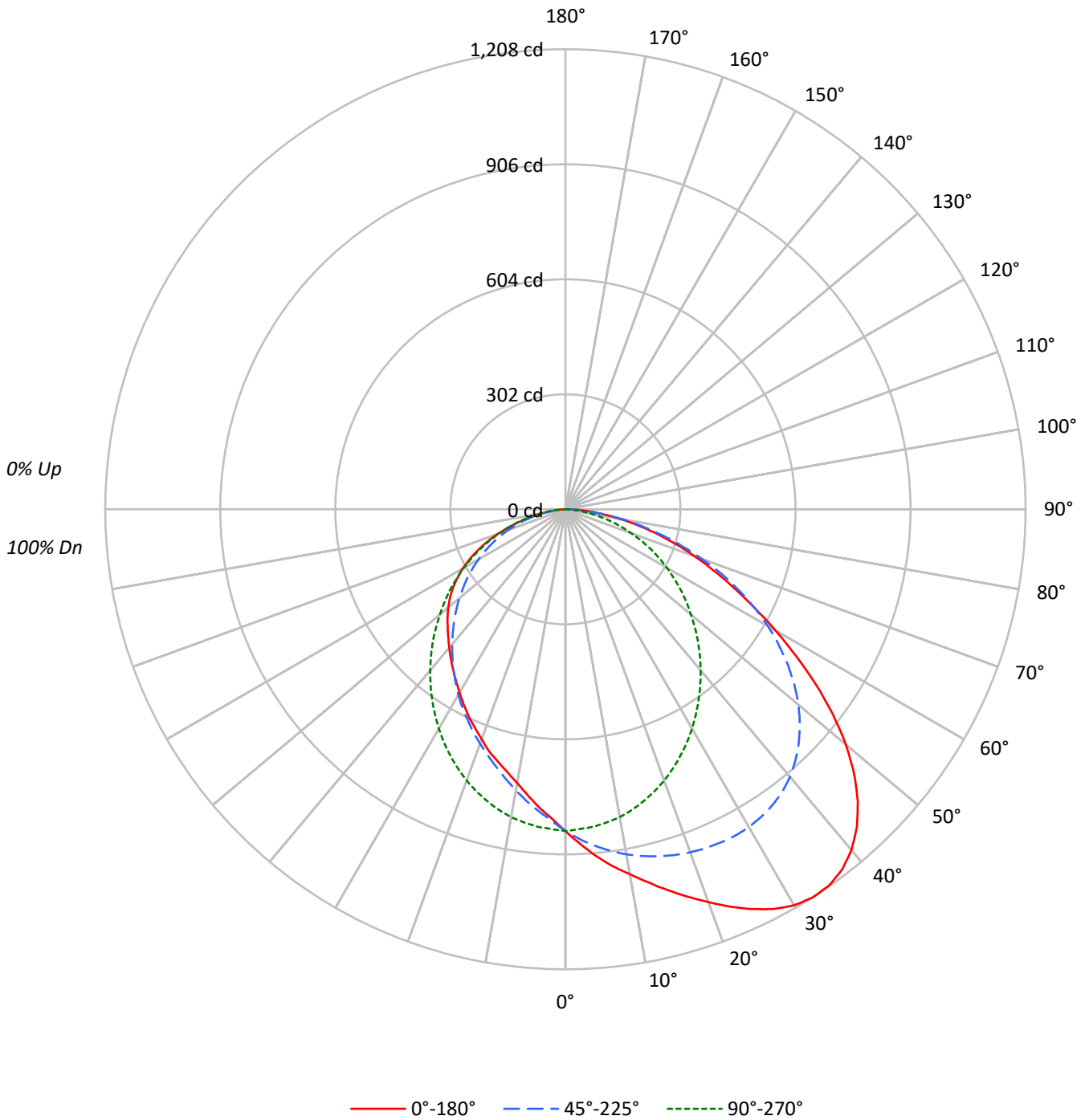
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2617.3 lumens
Efficiency: N/A
Efficacy: 93.8 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): 27.9
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°	8135	8135	8135
5°	8827	8086	7599
10°	9510	8023	7131
15°	10316	7907	6836
20°	11248	7768	6583
25°	12304	7586	6379
30°	13348	7386	6174
35°	14176	7168	6041
40°	14679	6940	5962
45°	14782	6700	5948
50°	14393	6445	6013
55°	13478	6214	6051
60°	12252	5932	5992
65°	11108	5608	5759
70°	10167	5202	5289
75°	9225	4676	4549
80°	8067	3909	3504
85°	6793	2839	2607



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.3	3.1
10°-20°	233.4	8.9
20°-30°	365.7	14.0
30°-40°	458.4	17.5
40°-50°	488.0	18.6
50°-60°	440.6	16.8
60°-70°	326.1	12.5
70°-80°	179.0	6.8
80°-90°	45.9	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°	679.3	26.0
0°-40°	1137.7	43.5
0°-60°	2066.3	78.9
0°-90°	2617.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2617.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	845	845	845	845	845	
5°	913	887	837	796	786	89
15°	1035	943	793	700	686	295
25°	1158	965	714	609	600	536
35°	1206	948	610	512	514	752
45°	1086	867	492	412	437	832
55°	803	713	370	314	360	716
65°	488	502	246	212	253	486
75°	248	263	126	109	122	264
85°	62	60	26	24	24	73
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°	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0
2.5°	879.1	877.3	875.2	874.5	871.4	867.2	863.4	863.4	858.9	848.1	840.5
5°	913.4	910.7	905.4	901.3	894.7	886.7	878.7	873.8	863.1	846.8	836.7
7.5°	945.0	941.6	935.0	927.0	916.2	904.4	891.2	880.8	864.5	842.6	829.7
10°	972.8	969.7	961.7	952.0	936.7	920.0	900.6	885.0	862.7	835.6	820.7
12.5°	1003.4	1000.3	989.2	976.0	955.1	932.9	907.2	885.7	858.2	825.6	808.5
15°	1035.0	1030.8	1018.3	1000.6	972.8	943.0	911.4	883.6	850.9	813.4	793.3
17.5°	1066.3	1062.1	1046.5	1023.9	989.2	952.0	913.1	878.7	840.5	798.5	776.6
20°	1097.9	1093.7	1073.9	1045.4	1003.4	958.6	912.7	871.4	828.0	781.5	758.2
22.5°	1129.5	1124.6	1100.6	1065.9	1015.2	963.1	908.9	861.3	812.4	762.0	737.0
25°	1158.3	1153.4	1127.0	1086.1	1027.7	965.2	902.3	847.4	795.0	740.5	714.1
27.5°	1183.3	1177.4	1150.0	1104.8	1038.5	965.9	893.6	831.8	774.9	717.2	690.5
30°	1200.7	1195.5	1166.3	1118.0	1044.7	963.5	882.5	813.4	751.6	692.2	664.4
32.5°	1208.3	1203.8	1175.0	1124.3	1045.8	957.2	869.0	792.9	727.3	665.8	637.7
35°	1206.2	1201.7	1174.3	1123.2	1042.6	948.2	852.0	769.6	701.2	638.4	609.9
37.5°	1193.0	1187.8	1162.8	1113.8	1033.6	935.0	832.5	744.3	673.1	610.2	581.4
40°	1168.0	1162.8	1141.3	1096.1	1018.3	917.3	810.3	717.2	644.3	580.7	552.2
42.5°	1132.2	1126.7	1109.7	1068.3	996.4	894.0	784.9	688.4	613.7	552.2	522.4
45°	1085.7	1080.1	1068.7	1033.6	968.0	866.6	756.1	657.1	581.8	519.9	492.1
47.5°	1028.1	1023.2	1017.6	990.5	932.9	834.9	723.8	623.8	548.4	489.7	461.2
50°	961.0	956.2	957.9	939.5	892.3	798.5	688.4	588.7	514.0	456.0	430.3
52.5°	885.0	881.1	889.5	881.5	845.0	757.8	650.5	552.6	478.9	424.1	399.4
55°	803.0	798.8	814.8	817.2	792.2	713.0	607.5	515.1	443.5	392.8	370.2
57.5°	718.6	715.1	735.6	747.1	734.6	664.8	564.0	476.5	407.1	360.2	337.6
60°	636.3	633.5	655.0	673.8	672.4	613.7	518.9	434.8	370.6	327.2	308.1
62.5°	558.8	555.7	577.2	599.5	607.5	559.2	474.1	393.9	334.1	294.2	277.2
65°	487.6	484.5	502.9	525.8	540.4	502.2	425.8	351.5	297.3	260.8	246.2
67.5°	422.3	422.3	433.8	455.0	472.7	443.9	376.5	311.2	259.4	229.9	215.3
70°	361.2	360.9	369.2	384.1	404.6	381.4	326.5	268.8	223.7	197.6	184.8
72.5°	303.2	305.6	308.8	320.2	341.8	321.6	276.8	227.1	188.6	165.7	154.9
75°	248.0	247.6	252.2	262.2	277.9	262.9	227.1	186.5	153.9	135.1	125.7
77.5°	195.2	194.8	198.7	204.6	217.8	206.0	179.2	149.0	119.8	104.2	97.6
80°	145.5	145.5	149.0	152.1	161.8	152.5	133.7	111.5	87.9	75.7	70.5
82.5°	101.1	103.2	101.8	105.9	111.5	103.5	91.7	76.4	58.3	50.0	46.5
85°	61.5	63.2	61.5	64.9	67.4	60.4	54.5	45.5	33.7	28.1	25.7
87.5°	31.6	31.3	30.9	32.6	33.3	29.2	25.7	21.9	14.9	11.5	9.7
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°	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0	845.0
2.5°	836.0	838.1	834.9	823.5	819.0	814.1	812.0	809.9	813.8	812.7
5°	829.0	826.6	818.6	804.0	796.4	788.4	784.6	782.2	787.4	786.3
7.5°	819.7	812.7	800.9	783.2	773.5	762.7	757.5	754.4	757.8	757.1
10°	807.9	796.4	781.8	760.6	749.2	737.3	731.4	726.9	729.7	729.4
12.5°	792.9	778.0	760.3	736.3	724.5	712.3	707.1	704.0	707.5	706.4
15°	776.2	758.2	737.7	713.4	700.5	689.4	685.6	683.2	685.9	685.9
17.5°	757.8	736.7	714.1	689.4	677.3	668.6	664.8	663.0	664.4	666.5
20°	737.3	713.7	689.4	665.5	655.0	646.0	642.5	640.8	643.9	642.5
22.5°	714.8	689.8	664.4	641.8	632.5	623.4	620.0	618.9	622.4	621.0
25°	690.8	663.7	638.7	618.2	608.8	601.2	598.1	597.0	598.8	600.5
27.5°	668.2	637.7	613.0	594.6	586.3	579.0	576.2	574.5	575.8	577.9
30°	640.8	611.3	587.0	569.9	562.0	555.0	552.9	551.5	553.6	555.4
32.5°	615.1	585.2	560.9	544.2	537.3	530.7	530.3	529.7	532.1	534.2
35°	587.3	558.1	534.5	518.9	512.3	506.7	507.8	508.8	511.6	514.0
37.5°	559.2	530.7	508.1	493.9	487.6	483.1	486.2	487.6	491.5	493.9
40°	530.7	502.2	481.4	468.5	462.3	460.2	464.7	467.8	472.3	474.4
42.5°	501.5	475.1	454.3	442.5	437.3	437.3	443.2	448.0	453.2	455.3
45°	472.3	446.6	426.8	416.1	412.3	415.0	422.0	428.2	434.8	436.9
47.5°	442.8	417.8	399.8	390.0	388.0	392.1	400.8	409.1	416.8	419.6
50°	413.3	390.7	372.7	363.6	363.6	368.8	380.0	390.4	398.7	401.5
52.5°	383.8	362.2	343.8	337.2	338.6	345.9	358.8	369.5	378.9	381.7
55°	353.9	332.7	316.8	311.2	313.6	322.7	335.9	348.4	357.4	360.5
57.5°	324.4	304.2	289.7	285.1	288.6	298.7	314.0	324.7	334.1	336.9
60°	294.5	274.0	262.6	259.1	263.6	274.0	289.7	299.7	308.4	311.2
62.5°	265.0	245.9	235.8	232.7	237.9	249.0	264.3	273.3	279.9	282.7
65°	235.1	218.1	208.7	206.7	212.2	223.0	237.6	245.2	250.1	252.8
67.5°	205.6	191.0	182.3	180.6	186.5	196.2	209.8	213.9	218.5	221.2
70°	176.4	163.2	155.9	154.9	160.1	169.5	181.0	183.0	185.5	187.9
72.5°	147.6	137.2	129.9	129.5	134.4	142.1	151.4	151.8	152.5	154.9
75°	119.8	110.4	104.9	105.9	108.7	115.0	122.3	120.2	120.5	122.3
77.5°	93.1	85.4	81.6	82.3	84.4	88.9	93.8	91.3	90.0	91.7
80°	67.0	60.4	59.0	59.4	60.8	63.9	66.7	64.6	61.8	63.2
82.5°	44.1	39.9	39.2	39.6	40.6	42.4	43.1	39.9	39.2	40.3
85°	24.3	22.6	22.6	23.6	24.0	24.3	24.3	22.6	22.9	23.6
87.5°	9.7	9.7	10.8	11.8	11.1	9.7	8.3	5.6	5.6	6.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)