

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: P231933

Luminaire Tested: **FVS4M-2-LD4-35-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231933  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-10)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-2-LD4-35-2LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (84) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

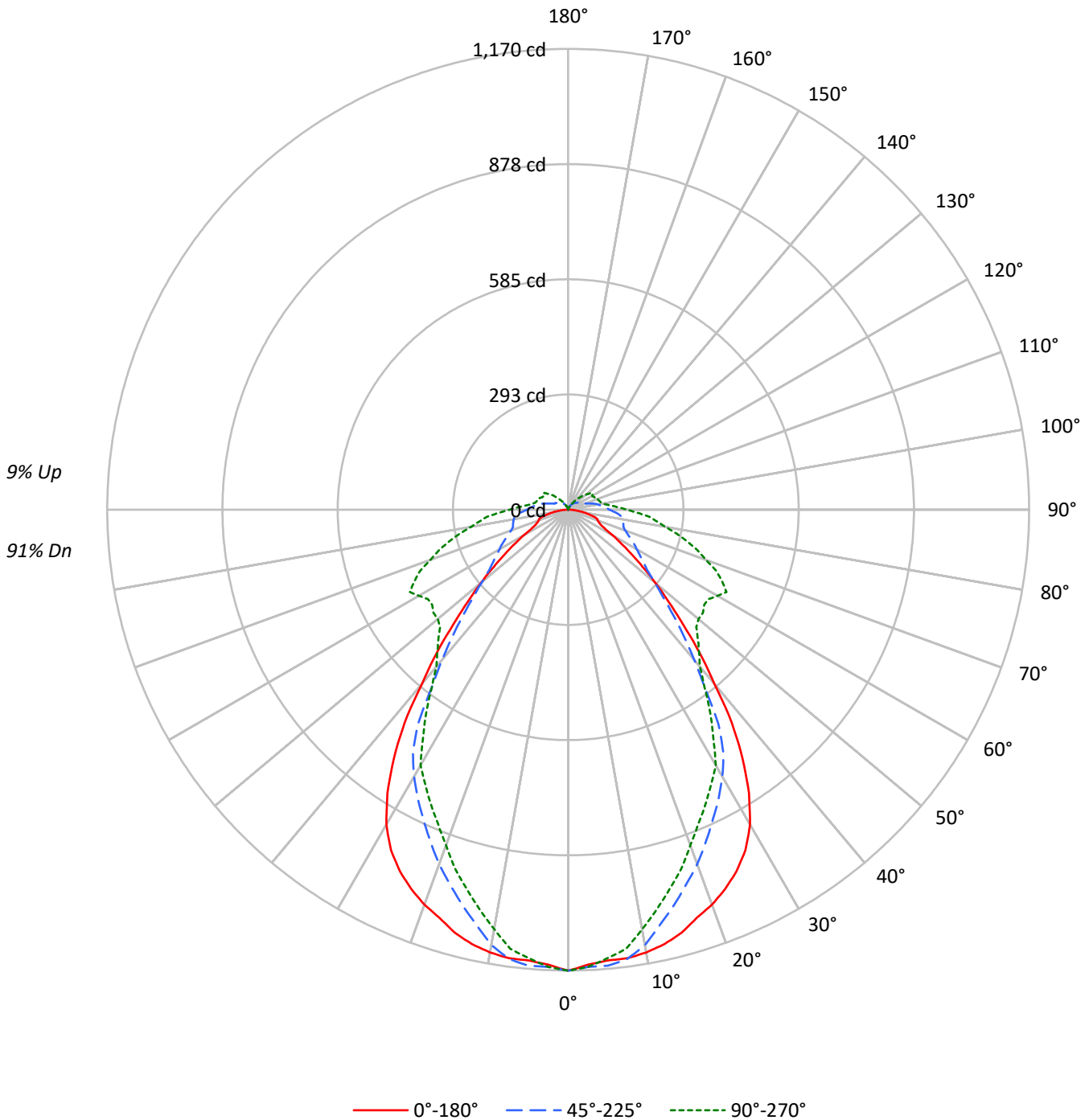
Lumens per Lamp: N/A  
Luminaire Lumens: 2587.9 lumens  
Efficiency: N/A  
Efficacy: 107.4 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.98 / 1.07  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 24.1  
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	
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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	91
1	106	101	96	92	102	98	93	90	92	88	85	86	83	81	81	79	77	74
2	97	88	81	76	93	86	79	74	81	75	71	76	72	68	72	68	65	62
3	89	78	70	64	85	76	69	63	72	66	61	68	63	58	64	60	56	54
4	82	70	62	55	79	68	60	54	65	58	53	61	56	51	58	53	49	47
5	76	63	55	48	73	62	54	48	59	52	46	56	50	45	53	48	44	41
6	70	58	49	43	68	56	48	42	53	47	41	51	45	40	49	43	39	37
7	66	53	44	39	63	51	44	38	49	42	37	47	41	36	45	40	35	33
8	61	49	40	35	59	47	40	34	45	39	34	43	37	33	42	36	32	30
9	58	45	37	32	56	44	36	31	42	35	31	40	34	30	39	33	30	28
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	36	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	21032	21032	21032
5°	20545	20093	19594
10°	20475	18839	17846
15°	20160	17068	15964
20°	19702	15525	14229
25°	19186	14003	12779
30°	18125	12633	11545
35°	15851	10833	9708
40°	12529	8252	8108
45°	9540	6370	7396
50°	7221	5025	7041
55°	5366	4284	7105
60°	4026	3901	7708
65°	3209	3624	8020
70°	3284	3430	7366
75°	3423	3538	6722
80°	2636	3814	5874
85°	1752	3975	5440



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.0	4.2
10°-20°	294.2	11.4
20°-30°	408.6	15.8
30°-40°	418.9	16.2
40°-50°	314.9	12.2
50°-60°	246.8	9.5
60°-70°	235.8	9.1
70°-80°	190.0	7.3
80°-90°	128.7	5.0
90°-100°	79.4	3.1
100°-110°	55.7	2.2
110°-120°	41.8	1.6
120°-130°	31.5	1.2
130°-140°	18.8	0.7
140°-150°	9.7	0.4
150°-160°	3.6	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	811.8	31.4
0°-40°	1230.6	47.6
0°-60°	1792.4	69.3
0°-90°	2346.9	90.7
90°-120°	176.9	6.8
90°-150°	236.9	9.2
90°-180°	241.0	9.3
0°-180°	2587.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1170	1170	1170	1170	1170	
5°	1149	1157	1162	1149	1143	110
15°	1112	1091	1039	1003	996	313
25°	1012	930	869	837	825	464
35°	772	720	664	628	628	476
45°	412	386	374	409	466	323
55°	195	200	233	339	421	178
65°	91	127	175	394	431	96
75°	67	74	145	306	314	68
85°	18	42	128	191	207	19
90°	0	24	104	156	148	1
95°	0	23	90	116	112	0
105°	0	22	60	86	83	0
115°	0	19	38	72	74	0
125°	0	16	31	58	74	0
135°	1	13	25	35	48	0
145°	1	9	19	21	23	0
155°	1	5	9	11	10	0
165°	1	1	2	1	2	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1170.3	1170.3	1170.3	1170.3	1170.3
2.5°	1156.4	1158.8	1161.9	1163.7	1161.9
5°	1148.6	1157.0	1161.9	1149.2	1143.2
7.5°	1148.6	1149.8	1150.4	1132.4	1124.6
10°	1141.4	1137.8	1122.2	1088.0	1081.4
12.5°	1129.4	1121.6	1078.9	1045.9	1039.3
15°	1112.0	1091.0	1038.7	1003.3	996.0
17.5°	1086.2	1054.3	997.2	962.4	955.2
20°	1066.9	1017.1	957.6	923.4	906.5
22.5°	1041.7	974.4	913.1	879.5	863.3
25°	1011.7	930.0	868.7	837.4	824.8
27.5°	974.4	880.7	826.6	793.6	785.8
30°	922.8	836.2	782.2	754.5	749.1
32.5°	853.7	781.6	733.5	691.5	684.9
35°	772.0	719.7	664.4	627.8	628.4
37.5°	681.9	651.2	568.9	568.3	568.3
40°	577.9	547.9	497.4	504.0	519.6
42.5°	494.4	458.4	432.5	451.8	491.4
45°	412.1	385.7	374.3	409.1	465.6
47.5°	344.8	324.4	325.0	377.9	441.0
50°	288.4	275.1	285.4	355.6	431.9
52.5°	237.9	231.9	253.5	344.2	430.7
55°	195.2	200.0	233.1	339.4	421.1
57.5°	158.6	175.4	215.7	347.8	422.3
60°	131.0	156.2	201.3	358.6	437.3
62.5°	105.7	140.0	189.2	373.1	453.0
65°	91.3	127.4	175.4	393.5	431.3
67.5°	84.7	112.3	163.4	411.5	406.7
70°	79.3	97.9	153.8	386.9	371.3
72.5°	77.5	85.3	147.2	343.6	344.8
75°	67.3	74.5	144.8	306.4	313.6
77.5°	52.3	67.3	143.0	272.1	281.8
80°	39.6	58.9	140.0	242.7	249.9
82.5°	28.8	49.9	137.0	215.7	226.5
85°	18.0	41.5	128.0	191.0	207.3
87.5°	7.8	31.2	115.9	174.2	174.8
90°	0.0	24.0	104.5	155.6	148.4
92.5°	0.0	23.4	97.9	134.0	128.6
95°	0.0	22.8	90.1	116.5	112.3
97.5°	0.0	22.8	82.9	105.1	97.9
100°	0.0	22.2	76.9	96.1	90.1
102.5°	0.0	21.6	69.7	89.5	85.3
105°	0.0	21.6	60.1	86.5	82.9
107.5°	0.0	21.0	52.3	82.9	80.5
110°	0.0	20.4	45.7	77.5	79.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	19.8	41.5	73.9	78.1
115°	0.0	18.6	37.8	71.5	73.9
117.5°	0.0	18.0	36.0	73.3	71.5
120°	0.0	17.4	34.2	72.7	70.3
122.5°	0.0	16.8	33.0	64.9	73.3
125°	0.0	15.6	31.2	57.7	74.5
127.5°	0.0	15.0	29.4	51.1	66.7
130°	0.0	13.8	27.6	45.1	60.1
132.5°	0.0	13.2	25.8	39.6	54.7
135°	0.6	12.6	24.6	34.8	47.5
137.5°	0.6	12.0	23.4	31.2	40.9
140°	0.6	11.4	21.6	27.6	34.2
142.5°	0.6	10.2	20.4	24.0	28.8
145°	0.6	9.0	18.6	21.0	23.4
147.5°	0.6	8.4	16.2	18.0	18.6
150°	0.6	7.2	13.8	15.6	14.4
152.5°	0.6	6.0	11.4	13.2	11.4
155°	0.6	4.8	9.0	10.8	9.6
157.5°	0.6	3.6	7.2	9.0	7.8
160°	0.6	2.4	6.0	6.0	6.6
162.5°	0.6	1.8	4.2	3.6	4.8
165°	0.6	1.2	2.4	1.2	2.4
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)