

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: P231897

Luminaire Tested: **FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231897  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-5)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (42) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

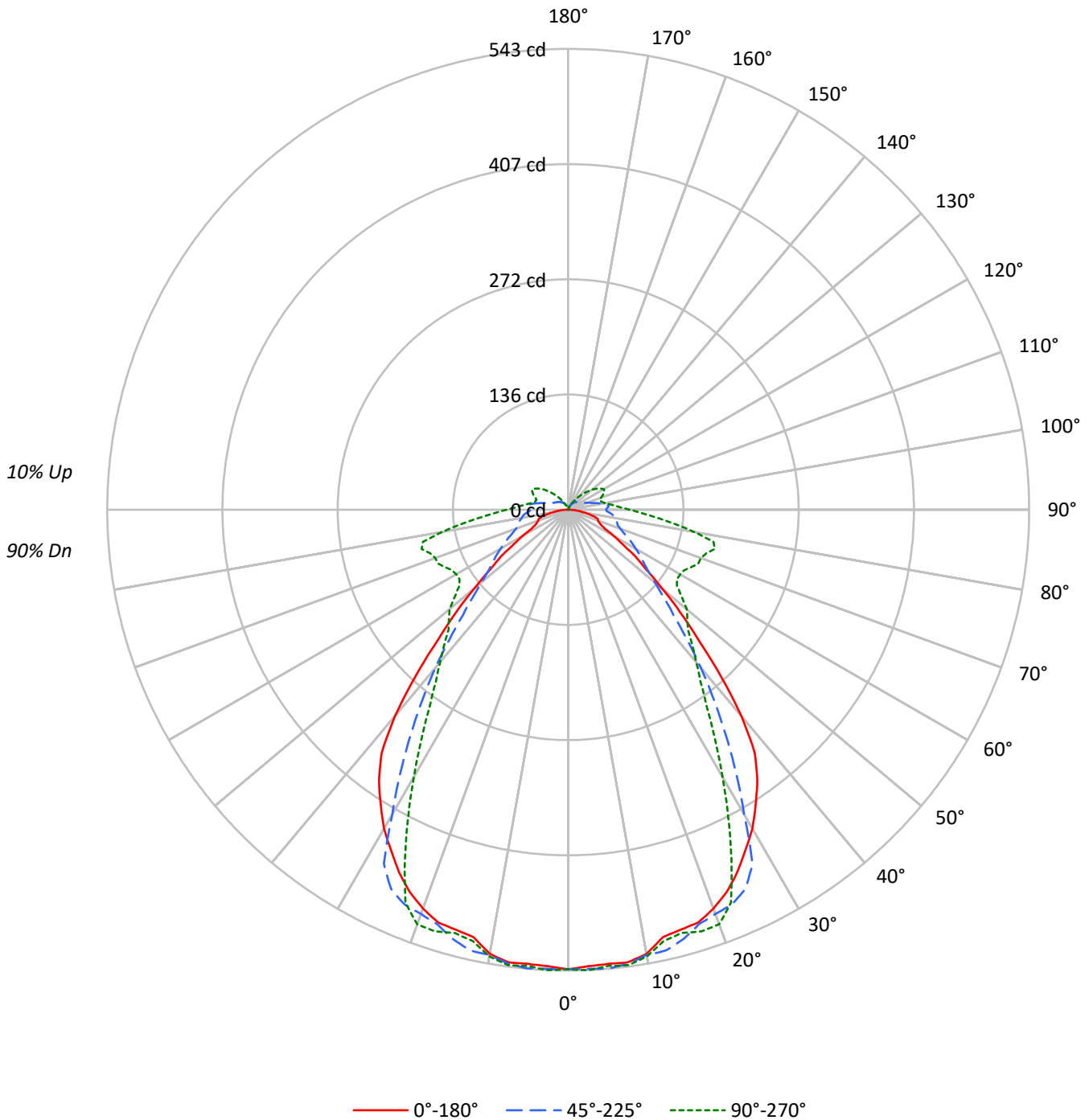
Lumens per Lamp: N/A  
Luminaire Lumens: 1254.0 lumens  
Efficiency: N/A  
Efficacy: 102.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.07 / 1.1  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Semi-Direct

Input Watts (W): 12.3  
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

TEST NUMBER: P231897

CATALOG NUMBER: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P231897

CATALOG NUMBER: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1

**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	105	105	105	99	99	99	93	93	93	90
1	106	101	96	92	102	97	93	90	91	88	85	86	83	81	81	78	77	74
2	97	89	82	76	93	86	80	75	81	76	71	76	72	68	72	68	65	63
3	89	79	71	65	86	77	69	64	72	66	61	68	63	59	64	60	57	54
4	82	71	63	56	79	69	61	55	65	59	54	62	56	52	59	54	50	48
5	76	64	56	50	74	63	55	49	59	53	47	56	51	46	54	49	45	42
6	71	59	50	44	69	57	49	44	54	47	42	52	46	41	49	44	40	38
7	66	54	45	40	64	52	45	39	50	43	38	48	42	37	46	40	36	34
8	62	49	41	36	60	48	41	36	46	39	35	44	38	34	42	37	33	31
9	58	46	38	33	56	45	37	32	43	36	32	41	35	31	39	34	30	29
10	55	42	35	30	53	42	35	30	40	34	29	38	33	29	37	32	28	26

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

	0°	45°	90°
0°	9730	9730	9730
5°	9610	9383	9250
10°	9535	8943	8819
15°	9286	8609	8275
20°	9233	8220	8159
25°	8938	7955	7050
30°	8525	6697	5599
35°	7975	5267	4403
40°	6875	4031	3664
45°	5017	2982	3164
50°	3613	2334	2970
55°	2667	1987	2641
60°	1921	1777	2686
65°	1497	1593	2975
70°	1549	1459	3303
75°	1633	1456	3831
80°	1285	1512	3528
85°	857	1559	2713



TEST NUMBER: P231897

CATALOG NUMBER: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.3	4.1
10°-20°	147.4	11.8
20°-30°	216.1	17.2
30°-40°	207.8	16.6
40°-50°	148.9	11.9
50°-60°	107.9	8.6
60°-70°	94.2	7.5
70°-80°	88.6	7.1
80°-90°	64.8	5.2
90°-100°	39.1	3.1
100°-110°	27.9	2.2
110°-120°	23.9	1.9
120°-130°	17.5	1.4
130°-140°	10.5	0.8
140°-150°	5.4	0.4
150°-160°	2.1	0.2
160°-170°	0.4	0.0
170°-180°	0.0	0.0
0°-30°	414.8	33.1
0°-40°	622.6	49.7
0°-60°	879.4	70.1
0°-90°	1127.1	89.9
90°-120°	90.9	7.2
90°-150°	124.4	9.9
90°-180°	127.0	10.1
0°-180°	1254.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	541	541	541	541	541	
5°	537	541	543	538	540	51
15°	512	525	524	529	516	145
25°	471	477	494	470	455	216
35°	388	385	323	295	285	240
45°	217	190	175	182	199	171
55°	97	99	108	137	156	87
65°	43	61	77	139	160	45
75°	32	34	60	137	179	32
85°	9	19	50	113	103	9
90°	0	10	44	76	72	0
95°	0	10	48	58	55	0
105°	0	10	30	42	40	0
115°	0	9	19	46	46	0
125°	0	8	16	33	43	0
135°	0	6	13	20	29	0
145°	0	5	10	12	14	0
155°	0	3	5	6	6	0
165°	0	1	2	2	2	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231897

CATALOG NUMBER: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	541.4	541.4	541.4	541.4	541.4
2.5°	538.5	540.3	541.4	542.0	543.2
5°	537.3	541.4	542.6	538.5	539.7
7.5°	537.9	537.3	539.7	537.9	541.4
10°	531.5	528.0	532.7	525.1	534.4
12.5°	515.7	529.2	532.1	526.8	520.4
15°	512.2	525.1	523.9	528.6	516.3
17.5°	509.9	512.2	512.2	523.3	521.0
20°	500.0	500.0	507.0	518.1	519.8
22.5°	487.7	487.1	503.5	505.2	501.1
25°	471.3	477.2	493.5	469.6	455.0
27.5°	452.1	462.6	470.2	422.3	408.3
30°	434.0	445.1	414.7	382.6	363.3
32.5°	411.2	425.2	368.0	334.1	322.4
35°	388.4	384.9	323.0	295.0	285.0
37.5°	361.0	325.3	281.5	261.1	256.4
40°	317.1	272.2	243.0	230.1	234.8
42.5°	266.3	225.4	206.8	206.2	216.1
45°	216.7	190.4	175.2	182.2	199.2
47.5°	179.3	160.0	152.4	164.7	190.4
50°	144.3	134.3	132.6	155.9	182.2
52.5°	115.6	114.5	118.6	149.5	168.2
55°	97.0	99.3	108.1	137.3	156.5
57.5°	75.9	87.0	100.5	133.8	151.9
60°	62.5	77.7	91.7	135.5	152.4
62.5°	49.1	68.9	84.7	137.3	154.2
65°	42.6	61.3	77.1	139.0	160.0
67.5°	39.7	53.7	70.1	139.6	165.9
70°	37.4	46.1	65.4	139.6	166.5
72.5°	36.8	39.7	61.3	139.0	170.5
75°	32.1	34.5	59.6	137.3	178.7
77.5°	25.7	31.0	58.4	137.3	175.2
80°	19.3	26.9	55.5	144.8	150.1
82.5°	14.0	22.8	53.7	131.4	125.6
85°	8.8	18.7	50.2	112.7	103.4
87.5°	3.5	14.0	46.1	92.3	85.3
90°	0.0	10.5	44.4	75.9	72.4
92.5°	0.0	10.5	46.1	65.4	61.9
95°	0.0	10.5	47.9	58.4	54.9
97.5°	0.0	10.5	46.1	51.4	49.6
100°	0.0	10.5	41.5	46.1	44.4
102.5°	0.0	10.5	35.6	43.2	40.9
105°	0.0	10.5	30.4	42.1	39.7
107.5°	0.0	9.9	26.9	43.2	39.1
110°	0.0	9.9	23.4	45.0	40.9



TEST NUMBER: P231897

CATALOG NUMBER: FVS4M-2-LD4-35-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	9.3	21.0	46.1	43.8
115°	0.0	9.3	19.3	46.1	46.1
117.5°	0.0	8.8	18.1	43.2	47.9
120°	0.0	8.8	16.9	40.3	48.5
122.5°	0.0	8.2	16.4	36.8	46.1
125°	0.0	7.6	15.8	32.7	43.2
127.5°	0.0	7.6	15.2	29.2	40.3
130°	0.0	7.0	14.0	25.7	36.8
132.5°	0.0	7.0	13.4	22.8	32.1
135°	0.0	6.4	12.8	20.4	28.6
137.5°	0.0	6.4	11.7	18.1	24.5
140°	0.0	6.4	11.7	15.8	21.0
142.5°	0.0	5.8	10.5	14.0	17.5
145°	0.0	5.3	9.9	11.7	14.0
147.5°	0.0	4.7	8.8	10.5	11.1
150°	0.0	4.1	7.6	8.8	8.8
152.5°	0.0	3.5	6.4	7.6	7.0
155°	0.0	2.9	5.3	6.4	5.8
157.5°	0.0	2.3	4.1	5.3	4.7
160°	0.0	1.8	3.5	4.1	4.1
162.5°	0.0	1.2	2.3	2.9	3.5
165°	0.0	1.2	1.8	1.8	2.3
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)