

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: P231968

Luminaire Tested: **FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231968  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
4FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

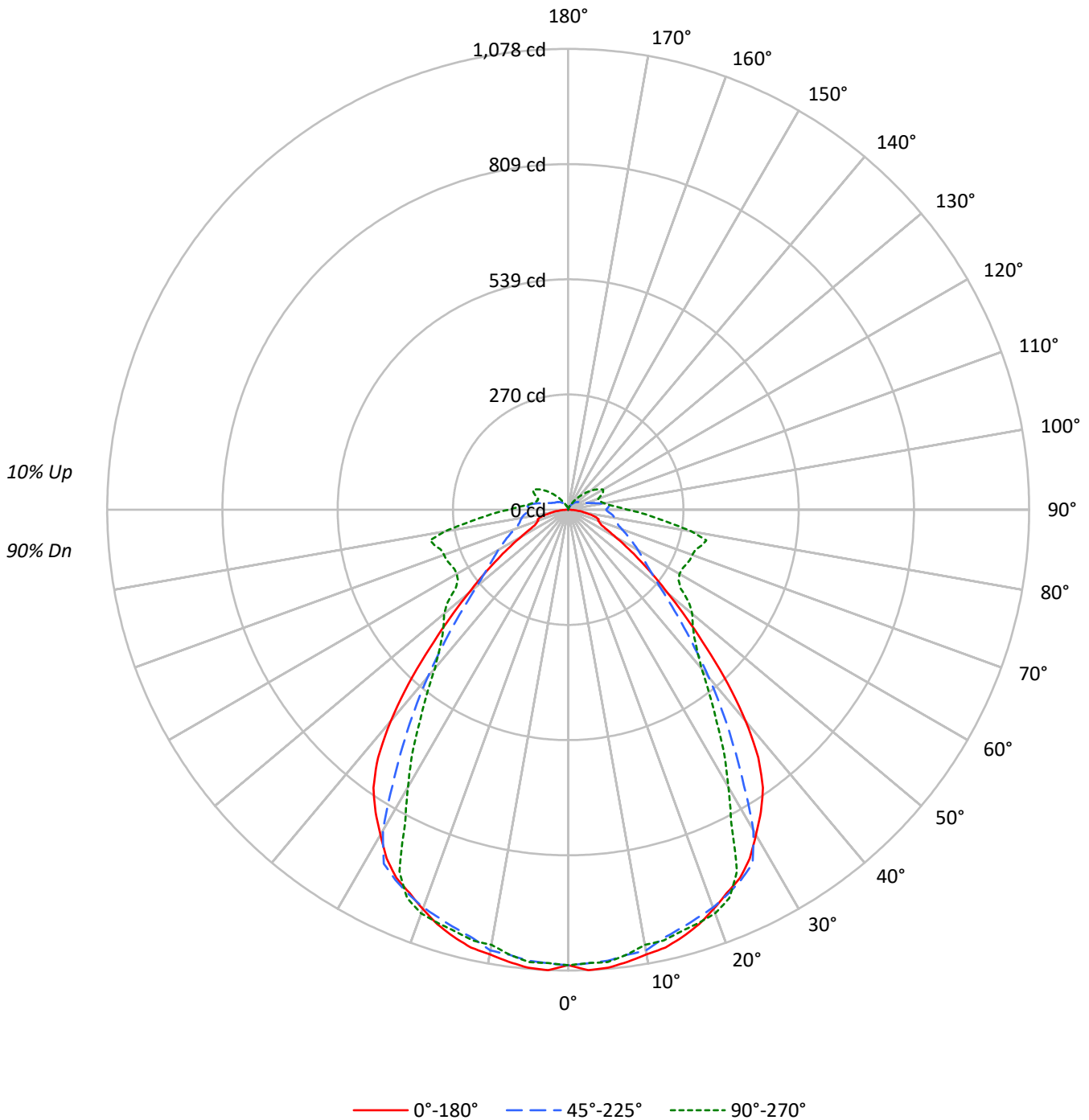
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2515.0 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.09 / 1.12  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
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: P231968

CATALOG NUMBER: FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P231968

CATALOG NUMBER: FVS4M-4-LD4-30-1LO-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	106	106	106	99	99	99	93	93	93	90
1	106	101	97	93	102	98	94	90	92	88	85	86	84	81	81	79	77	74
2	97	89	82	77	94	86	80	75	81	76	72	76	72	69	72	69	66	63
3	89	79	71	65	86	77	70	64	73	67	62	69	64	59	65	61	57	55
4	82	71	63	56	79	69	61	56	65	59	54	62	57	52	59	54	50	48
5	76	64	56	50	74	63	55	49	60	53	48	57	51	46	54	49	45	43
6	71	59	50	44	69	57	49	44	54	48	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	35	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	41	34	30	40	33	29	38	33	29	37	32	28	26

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

	0°	45°	90°
0°	9679	9679	9679
5°	9764	9285	9201
10°	9658	8933	8620
15°	9602	8492	8273
20°	9441	8202	7973
25°	9312	7890	7311
30°	8955	7184	5835
35°	8511	5653	4728
40°	7352	4373	3822
45°	5588	3300	3338
50°	4060	2544	3117
55°	2963	2139	2739
60°	2130	1902	2679
65°	1679	1720	2854
70°	1747	1570	3097
75°	1988	1525	3499
80°	1597	1601	3476
85°	1125	1655	2663



TEST NUMBER: P231968

CATALOG NUMBER: FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.1	4.0
10°-20°	289.2	11.5
20°-30°	430.7	17.1
30°-40°	430.6	17.1
40°-50°	313.4	12.5
50°-60°	222.8	8.9
60°-70°	186.5	7.4
70°-80°	170.5	6.8
80°-90°	125.9	5.0
90°-100°	76.2	3.0
100°-110°	53.8	2.1
110°-120°	46.3	1.8
120°-130°	33.8	1.3
130°-140°	20.0	0.8
140°-150°	10.0	0.4
150°-160°	3.6	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	821.1	32.6
0°-40°	1251.7	49.8
0°-60°	1787.9	71.1
0°-90°	2270.7	90.3
90°-120°	176.3	7.0
90°-150°	240.0	9.5
90°-180°	244.0	9.7
0°-180°	2515.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1075	1068	1059	1065	1062	102
15°	1034	1028	1014	1023	1021	291
25°	950	940	956	962	934	436
35°	794	790	674	621	605	488
45°	456	402	375	388	416	356
55°	200	204	224	288	321	184
65°	86	126	159	270	304	92
75°	67	70	118	262	323	67
85°	17	37	99	216	201	19
90°	1	22	89	148	138	1
95°	0	22	96	110	105	0
105°	0	20	60	79	76	0
115°	0	18	38	90	88	0
125°	1	15	31	62	83	0
135°	1	12	24	38	54	0
145°	1	9	17	23	27	0
155°	1	5	9	10	11	0
165°	1	2	3	2	4	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231968

CATALOG NUMBER: FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1065.5	1065.5	1065.5	1065.5	1065.5
2.5°	1078.3	1071.9	1062.0	1064.9	1061.4
5°	1075.4	1067.8	1059.1	1064.9	1062.0
7.5°	1066.6	1066.1	1050.3	1056.7	1049.7
10°	1056.1	1059.6	1046.8	1046.2	1033.4
12.5°	1049.1	1043.9	1026.9	1038.0	1032.2
15°	1034.5	1028.1	1014.1	1023.4	1021.1
17.5°	1017.0	1011.2	1001.8	1007.7	1013.5
20°	994.2	989.6	990.2	1005.3	1004.8
22.5°	970.3	971.5	973.8	990.2	983.7
25°	950.5	940.0	955.7	961.6	933.5
27.5°	919.5	916.0	933.5	870.5	825.5
30°	878.1	883.3	866.4	773.0	749.0
32.5°	838.4	846.0	764.8	697.7	679.0
35°	794.0	789.9	673.7	621.2	605.4
37.5°	730.4	693.6	590.2	551.7	541.8
40°	645.7	575.1	510.8	486.3	484.6
42.5°	552.9	479.3	437.3	433.8	445.5
45°	456.5	402.3	374.8	387.7	415.7
47.5°	375.4	335.7	321.1	350.9	394.7
50°	304.2	280.8	278.5	325.8	378.3
52.5°	249.3	238.2	247.5	311.2	355.5
55°	200.3	204.3	223.6	287.8	321.1
57.5°	161.1	178.1	204.9	271.5	305.9
60°	127.3	156.5	188.0	265.6	300.7
62.5°	103.3	140.1	172.8	268.0	300.1
65°	86.4	125.5	158.8	270.3	303.6
67.5°	80.0	109.8	145.4	270.9	307.7
70°	74.7	94.6	133.7	270.9	308.8
72.5°	74.7	81.2	123.8	268.6	311.8
75°	67.1	70.1	117.9	261.6	322.9
77.5°	53.7	61.9	114.4	256.3	331.0
80°	39.1	54.3	110.3	265.1	292.5
82.5°	29.8	45.5	105.7	250.5	240.5
85°	16.9	37.4	99.2	216.0	200.8
87.5°	7.6	28.6	92.2	178.1	168.7
90°	0.6	22.2	88.7	148.3	138.4
92.5°	0.0	21.0	92.2	124.4	119.7
95°	0.0	21.6	95.7	109.8	105.1
97.5°	0.0	21.6	91.1	98.1	93.4
100°	0.0	21.6	81.2	89.3	85.8
102.5°	0.0	21.0	69.5	82.3	80.6
105°	0.0	20.4	59.5	78.8	76.5
107.5°	0.0	20.4	52.0	81.2	74.7
110°	0.0	19.8	45.5	86.4	74.7



TEST NUMBER: P231968

CATALOG NUMBER: FVS4M-4-LD4-30-1LO-PA187-UNV-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	19.3	41.5	89.9	81.2
115°	0.0	18.1	37.9	89.9	87.6
117.5°	0.0	17.5	35.6	84.1	92.2
120°	0.0	16.9	33.9	77.1	94.0
122.5°	0.6	15.8	32.7	69.5	88.7
125°	0.6	15.2	30.9	61.9	82.9
127.5°	0.6	14.0	29.8	55.5	76.5
130°	0.6	13.4	28.0	49.0	68.9
132.5°	0.6	12.8	26.3	43.2	61.3
135°	0.6	11.7	24.5	38.5	53.7
137.5°	0.6	11.1	22.8	34.4	46.7
140°	0.6	10.5	21.0	30.4	39.1
142.5°	0.6	9.9	18.7	26.9	32.7
145°	0.6	8.8	16.9	23.4	26.9
147.5°	0.6	8.2	14.6	19.3	21.6
150°	0.6	7.0	12.8	16.3	16.9
152.5°	0.6	5.8	10.5	13.4	13.4
155°	0.6	4.7	8.8	10.5	11.1
157.5°	0.6	4.1	7.0	8.2	9.3
160°	0.6	3.5	5.3	5.8	7.6
162.5°	0.6	2.3	4.1	3.5	5.8
165°	0.6	1.8	2.9	1.8	3.5
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)