

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: P231970

Luminaire Tested: **FVS4M-4-LD4-40-1LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231970
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-LD4-40-1LO-PA187-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

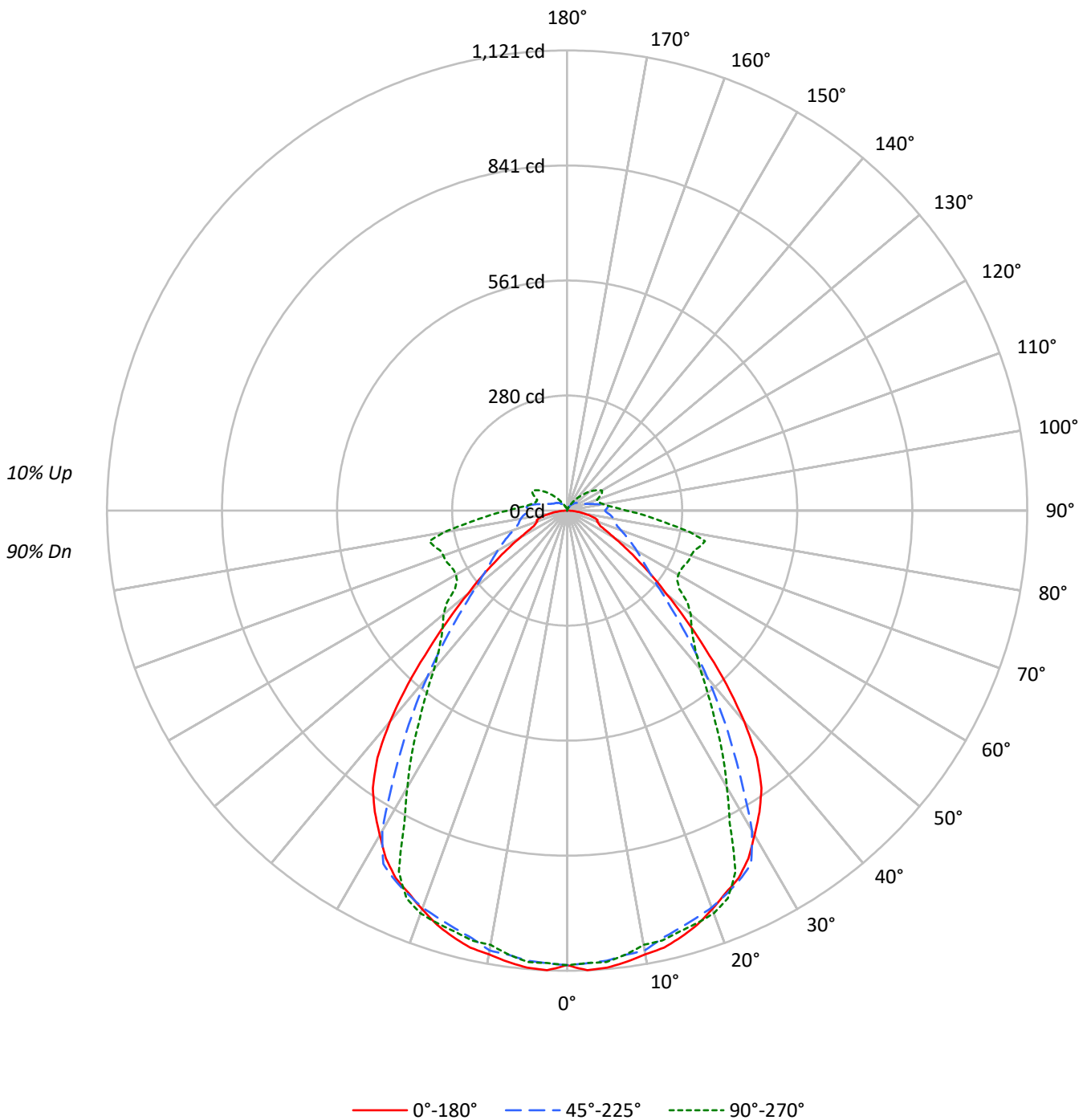
Lumens per Lamp: N/A
Luminaire Lumens: 2614.0 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.09 / 1.12
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

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: P231970

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-PA187-UNV-EDC1

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	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°	10060	10060	10060
5°	10148	9650	9564
10°	10038	9284	8959
15°	9981	8826	8599
20°	9814	8524	8286
25°	9679	8200	7599
30°	9307	7466	6065
35°	8846	5877	4914
40°	7641	4545	3972
45°	5809	3430	3469
50°	4219	2643	3240
55°	3078	2223	2846
60°	2214	1977	2784
65°	1745	1788	2966
70°	1817	1632	3219
75°	2068	1586	3636
80°	1663	1665	3612
85°	1172	1721	2768



TEST NUMBER: P231970

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.1	4.0
10°-20°	300.6	11.5
20°-30°	447.7	17.1
30°-40°	447.5	17.1
40°-50°	325.8	12.5
50°-60°	231.6	8.9
60°-70°	193.9	7.4
70°-80°	177.2	6.8
80°-90°	130.8	5.0
90°-100°	79.2	3.0
100°-110°	55.9	2.1
110°-120°	48.1	1.8
120°-130°	35.1	1.3
130°-140°	20.8	0.8
140°-150°	10.4	0.4
150°-160°	3.8	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	853.4	32.6
0°-40°	1300.9	49.8
0°-60°	1858.2	71.1
0°-90°	2360.1	90.3
90°-120°	183.2	7.0
90°-150°	249.4	9.5
90°-180°	254.0	9.7
0°-180°	2614.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1107	1107	1107	1107	1107	
5°	1118	1110	1101	1107	1104	106
15°	1075	1069	1054	1064	1061	303
25°	988	977	993	999	970	453
35°	825	821	700	646	629	507
45°	474	418	390	403	432	370
55°	208	212	232	299	334	191
65°	90	130	165	281	316	95
75°	70	73	123	272	336	69
85°	18	39	103	224	209	20
90°	1	23	92	154	144	1
95°	0	22	100	114	109	0
105°	0	21	62	82	80	0
115°	0	19	39	93	91	0
125°	1	16	32	64	86	0
135°	1	12	26	40	56	0
145°	1	9	18	24	28	0
155°	1	5	9	11	12	0
165°	1	2	3	2	4	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P231970

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1107.4	1107.4	1107.4	1107.4	1107.4
2.5°	1120.8	1114.1	1103.8	1106.8	1103.2
5°	1117.7	1109.8	1100.7	1106.8	1103.8
7.5°	1108.6	1108.0	1091.6	1098.3	1091.0
10°	1097.7	1101.3	1088.0	1087.4	1074.0
12.5°	1090.4	1085.0	1067.4	1078.9	1072.8
15°	1075.3	1068.6	1054.0	1063.7	1061.3
17.5°	1057.1	1051.0	1041.3	1047.3	1053.4
20°	1033.4	1028.5	1029.1	1044.9	1044.3
22.5°	1008.5	1009.7	1012.1	1029.1	1022.5
25°	987.9	977.0	993.3	999.4	970.3
27.5°	955.7	952.1	970.3	904.7	858.0
30°	912.6	918.1	900.5	803.4	778.5
32.5°	871.4	879.3	794.9	725.1	705.7
35°	825.3	821.0	700.3	645.6	629.3
37.5°	759.1	720.9	613.5	573.4	563.1
40°	671.1	597.7	531.0	505.5	503.6
42.5°	574.6	498.2	454.5	450.9	463.0
45°	474.5	418.1	389.6	402.9	432.0
47.5°	390.2	348.9	333.7	364.7	410.2
50°	316.1	291.9	289.4	338.6	393.2
52.5°	259.1	247.6	257.3	323.4	369.5
55°	208.1	212.4	232.4	299.2	333.7
57.5°	167.5	185.1	213.0	282.2	318.0
60°	132.3	162.6	195.4	276.1	312.5
62.5°	107.4	145.6	179.6	278.5	311.9
65°	89.8	130.5	165.1	280.9	315.5
67.5°	83.1	114.1	151.1	281.6	319.8
70°	77.7	98.3	139.0	281.6	321.0
72.5°	77.7	84.3	128.6	279.1	324.0
75°	69.8	72.8	122.6	271.8	335.6
77.5°	55.8	64.3	118.9	266.4	344.1
80°	40.7	56.4	114.7	275.5	304.0
82.5°	30.9	47.3	109.8	260.3	250.0
85°	17.6	38.8	103.2	224.5	208.7
87.5°	7.9	29.7	95.9	185.1	175.4
90°	0.6	23.1	92.2	154.1	143.8
92.5°	0.0	21.8	95.9	129.2	124.4
95°	0.0	22.5	99.5	114.1	109.2
97.5°	0.0	22.5	94.7	101.9	97.1
100°	0.0	22.5	84.3	92.8	89.2
102.5°	0.0	21.8	72.2	85.6	83.7
105°	0.0	21.2	61.9	81.9	79.5
107.5°	0.0	21.2	54.0	84.3	77.7
110°	0.0	20.6	47.3	89.8	77.7



TEST NUMBER: P231970

CATALOG NUMBER: FVS4M-4-LD4-40-1LO-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	20.0	43.1	93.4	84.3
115°	0.0	18.8	39.4	93.4	91.0
117.5°	0.0	18.2	37.0	87.4	95.9
120°	0.0	17.6	35.2	80.1	97.7
122.5°	0.6	16.4	34.0	72.2	92.2
125°	0.6	15.8	32.2	64.3	86.2
127.5°	0.6	14.6	30.9	57.6	79.5
130°	0.6	14.0	29.1	51.0	71.6
132.5°	0.6	13.3	27.3	44.9	63.7
135°	0.6	12.1	25.5	40.0	55.8
137.5°	0.6	11.5	23.7	35.8	48.5
140°	0.6	10.9	21.8	31.6	40.7
142.5°	0.6	10.3	19.4	27.9	34.0
145°	0.6	9.1	17.6	24.3	27.9
147.5°	0.6	8.5	15.2	20.0	22.5
150°	0.6	7.3	13.3	17.0	17.6
152.5°	0.6	6.1	10.9	14.0	14.0
155°	0.6	4.9	9.1	10.9	11.5
157.5°	0.6	4.2	7.3	8.5	9.7
160°	0.6	3.6	5.5	6.1	7.9
162.5°	0.6	2.4	4.2	3.6	6.1
165°	0.6	1.8	3.0	1.8	3.6
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)