

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: P232079

Luminaire Tested: **FVS4M-3-LD4-50-2LO-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232079  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-30)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-3-LD4-50-2LO-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
3FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (168) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

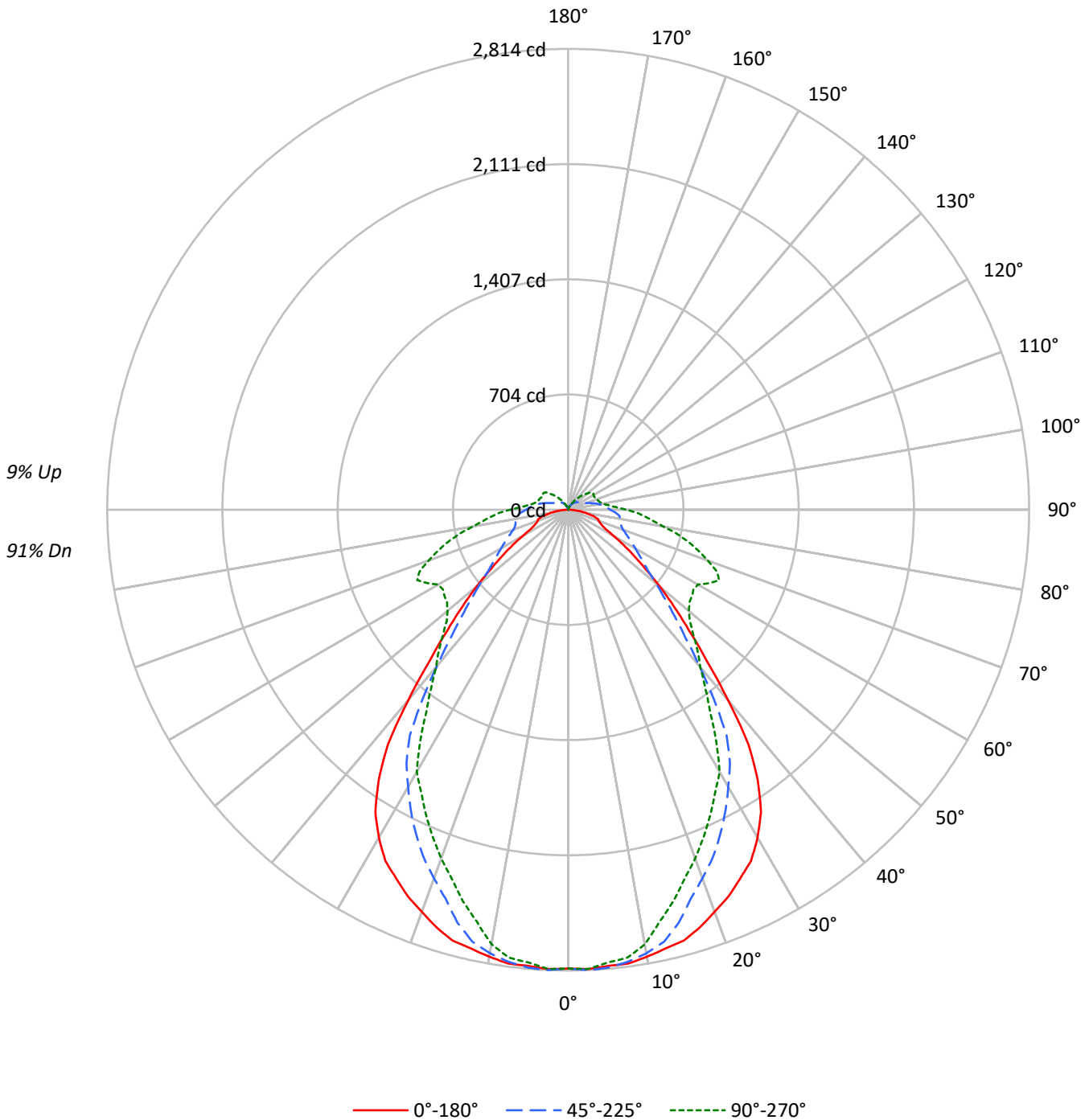
Lumens per Lamp: N/A  
Luminaire Lumens: 6317.0 lumens  
Efficiency: N/A  
Efficacy: 111.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.01 / 1.1  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 2.92' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 56.8  
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	94	90	92	88	85	86	84	81	81	79	77	74
2	97	89	82	76	93	86	80	75	81	76	71	76	72	68	72	69	65	63
3	89	79	71	65	86	76	69	63	72	66	61	68	63	59	64	60	57	54
4	82	71	62	56	79	69	61	55	65	58	53	62	56	51	58	54	50	47
5	76	64	55	49	73	62	54	48	59	52	47	56	50	46	53	48	44	42
6	71	58	50	44	68	57	49	43	54	47	42	51	45	41	49	44	40	38
7	66	53	45	39	64	52	44	39	50	43	38	47	41	37	45	40	36	34
8	62	49	41	35	60	48	40	35	46	39	34	44	38	33	42	37	33	31
9	58	45	37	32	56	44	37	32	42	36	31	41	35	31	39	34	30	28
10	55	42	35	30	53	41	34	29	40	33	29	38	32	28	37	31	28	26

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

	0°	45°	90°
0°	33084	33084	33084
5°	32961	31961	31259
10°	32865	30455	29226
15°	32739	28344	26086
20°	32086	25708	23367
25°	31423	23443	20924
30°	30391	20961	18721
35°	27829	18280	15337
40°	22179	13753	12854
45°	16372	10410	11286
50°	12446	8239	10297
55°	9242	6896	10218
60°	6809	6159	10590
65°	5607	5678	12430
70°	5802	5360	11801
75°	6112	5519	10679
80°	5039	5981	9077
85°	3593	6434	8061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.5	4.2
10°-20°	731.0	11.6
20°-30°	1022.2	16.2
30°-40°	1053.1	16.7
40°-50°	771.6	12.2
50°-60°	575.0	9.1
60°-70°	539.9	8.5
70°-80°	457.0	7.2
80°-90°	304.8	4.8
90°-100°	190.9	3.0
100°-110°	134.5	2.1
110°-120°	103.5	1.6
120°-130°	80.6	1.3
130°-140°	49.1	0.8
140°-150°	25.8	0.4
150°-160°	10.2	0.2
160°-170°	2.1	0.0
170°-180°	0.0	0.0
0°-30°	2018.7	32.0
0°-40°	3071.8	48.6
0°-60°	4418.5	69.9
0°-90°	5720.1	90.6
90°-120°	428.9	6.8
90°-150°	584.5	9.3
90°-180°	597.0	9.5
0°-180°	6317.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2802	2802	2802	2802	2802	
5°	2796	2811	2807	2792	2775	267
15°	2724	2700	2610	2502	2477	766
25°	2484	2341	2193	2093	2055	1144
35°	2017	1820	1685	1547	1511	1236
45°	1043	976	916	977	1081	823
55°	490	505	560	751	922	447
65°	228	315	408	848	1017	237
75°	166	178	333	750	758	169
85°	46	99	302	458	468	49
90°	1	56	256	359	353	3
95°	0	53	224	282	261	0
105°	0	51	153	203	194	0
115°	0	48	97	179	179	0
125°	0	40	78	153	181	0
135°	1	32	62	93	126	1
145°	1	24	47	56	67	1
155°	1	14	26	30	28	1
165°	2	6	12	8	12	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°	2801.5	2801.5	2801.5	2801.5	2801.5
2.5°	2807.8	2808.7	2814.1	2813.2	2806.9
5°	2796.1	2811.4	2806.9	2792.5	2775.3
7.5°	2795.2	2787.0	2784.3	2771.7	2759.1
10°	2771.7	2770.8	2750.0	2723.0	2695.0
12.5°	2744.6	2749.1	2701.3	2613.7	2576.7
15°	2723.9	2700.4	2610.1	2501.8	2476.6
17.5°	2674.2	2636.3	2490.1	2409.8	2361.9
20°	2612.8	2551.5	2395.3	2311.4	2265.4
22.5°	2556.9	2445.0	2302.4	2211.2	2160.7
25°	2483.8	2341.2	2193.2	2093.0	2055.1
27.5°	2417.0	2220.2	2077.6	1983.8	1943.2
30°	2311.4	2096.6	1954.0	1884.5	1848.4
32.5°	2190.5	1966.6	1837.6	1756.3	1683.2
35°	2017.2	1819.5	1685.0	1546.9	1510.8
37.5°	1807.8	1645.3	1461.2	1389.9	1375.5
40°	1516.3	1404.3	1243.7	1227.5	1253.6
42.5°	1252.7	1162.5	1060.5	1093.9	1168.8
45°	1043.3	976.5	916.1	977.4	1081.2
47.5°	875.5	830.3	794.2	880.0	1005.4
50°	729.3	691.3	699.5	816.8	961.2
52.5°	593.9	587.6	614.6	771.7	932.3
55°	490.1	505.4	559.6	750.9	921.5
57.5°	398.9	444.0	513.5	756.3	907.1
60°	320.4	394.4	472.9	779.8	914.3
62.5°	259.9	350.2	438.6	813.2	970.2
65°	228.3	315.0	407.9	847.5	1017.2
67.5°	210.3	276.2	380.0	880.9	981.1
70°	197.7	240.1	355.6	916.1	905.2
72.5°	191.3	205.8	340.3	849.3	833.0
75°	166.1	177.8	333.0	750.0	758.1
77.5°	132.7	161.6	328.5	665.2	678.7
80°	101.1	142.6	322.2	587.6	587.6
82.5°	74.9	122.7	316.8	522.6	524.4
85°	46.0	99.3	302.4	457.6	467.5
87.5°	19.9	74.9	278.9	398.9	418.8
90°	0.9	56.0	256.3	359.2	352.9
92.5°	0.0	54.2	241.0	321.3	301.4
95°	0.0	53.2	223.8	281.6	260.8
97.5°	0.0	53.2	206.7	251.8	233.8
100°	0.0	52.3	191.3	227.4	215.7
102.5°	0.0	51.4	174.2	213.0	203.1
105°	0.0	51.4	153.4	203.1	194.0
107.5°	0.0	50.5	134.5	194.0	190.4
110°	0.0	50.5	118.2	185.0	187.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	48.7	104.7	179.6	185.0
115°	0.0	47.8	96.6	178.7	178.7
117.5°	0.0	46.0	90.3	180.5	176.9
120°	0.0	44.2	84.8	180.5	178.7
122.5°	0.0	42.4	81.2	171.5	182.3
125°	0.0	39.7	77.6	153.4	181.4
127.5°	0.0	37.9	74.0	136.3	173.3
130°	0.0	35.2	70.4	120.9	156.1
132.5°	0.9	33.4	65.9	106.5	140.8
135°	0.9	31.6	62.3	93.0	126.4
137.5°	0.9	29.8	58.7	83.0	110.1
140°	0.9	28.9	56.0	74.0	94.8
142.5°	0.9	27.1	52.3	65.0	79.4
145°	0.9	24.4	46.9	56.0	66.8
147.5°	0.9	22.6	42.4	48.7	54.2
150°	0.9	19.9	37.0	42.4	43.3
152.5°	0.9	17.1	31.6	36.1	34.3
155°	0.9	14.4	26.2	29.8	28.0
157.5°	1.8	12.6	21.7	23.5	22.6
160°	1.8	10.8	18.1	18.1	19.0
162.5°	1.8	9.0	14.4	12.6	16.2
165°	1.8	6.3	11.7	8.1	11.7
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)