

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: P231907

Luminaire Tested: **FVS4M-2-LD4-50-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231907  
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-LD4-50-1HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (42) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

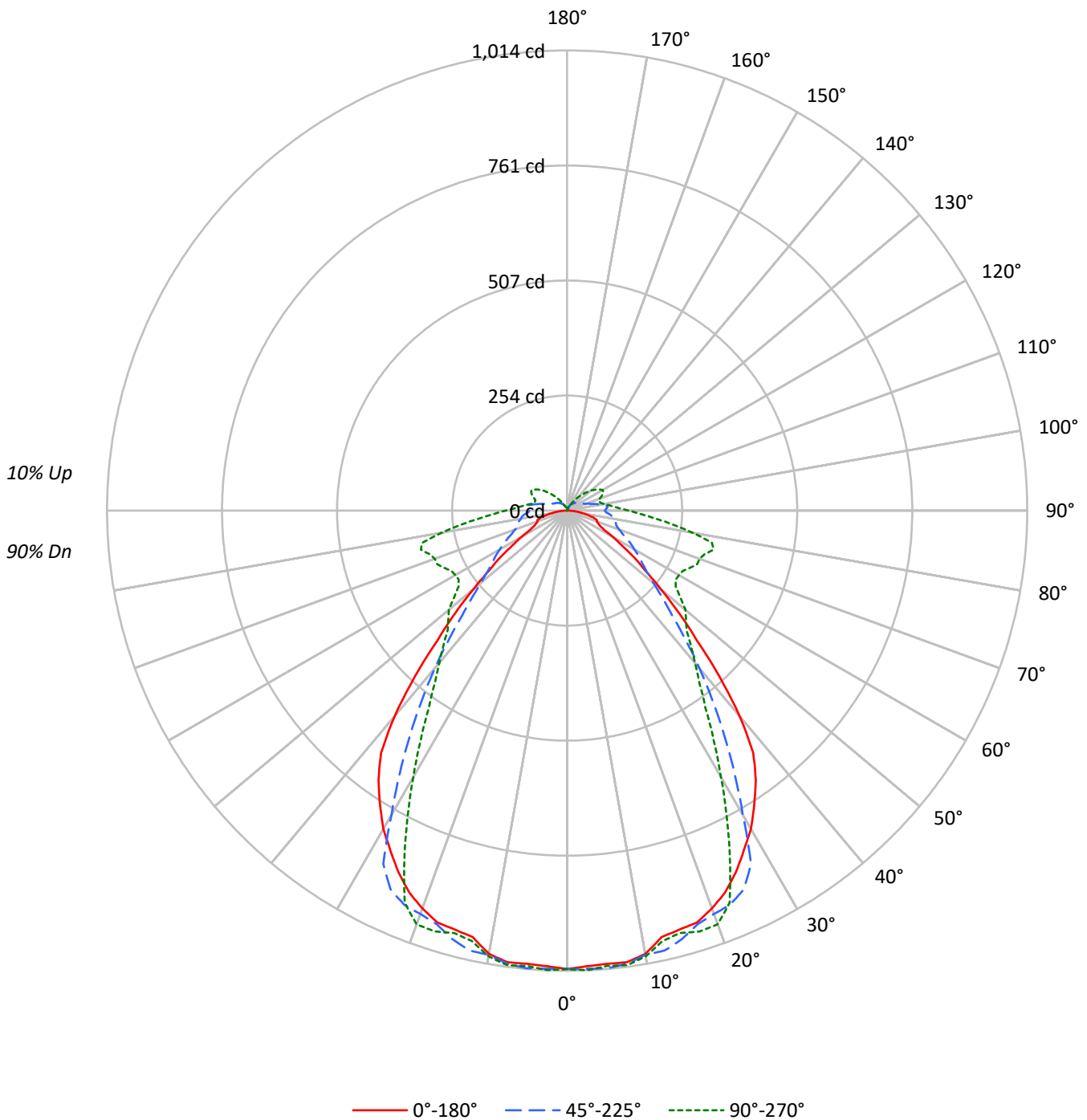
Lumens per Lamp: N/A  
Luminaire Lumens: 2340.0 lumens  
Efficiency: N/A  
Efficacy: 105.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.07 / 1.1  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Semi-Direct

Input Watts (W): 22.2  
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	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					90			
1	106	101	96	92	102	97	93	90	91	88	85	86	83	81	81	78	77	74					74			
2	97	89	82	76	93	86	80	75	81	76	71	76	72	68	72	68	65	63					63			
3	89	79	71	65	86	77	69	64	72	66	61	68	63	59	64	60	57	54					54			
4	82	71	63	56	79	69	61	55	65	59	54	62	56	52	59	54	50	48					48			
5	76	64	56	50	74	63	55	49	59	53	47	56	51	46	54	49	45	42					42			
6	71	59	50	44	69	57	49	44	54	47	42	52	46	41	49	44	40	38					38			
7	66	54	45	40	64	52	45	39	50	43	38	48	42	37	46	40	36	34					34			
8	62	49	41	36	60	48	41	36	46	39	35	44	38	34	42	37	33	31					31			
9	58	46	38	33	56	45	37	32	43	36	32	41	35	31	39	34	30	29					29			
10	55	42	35	30	53	42	35	30	40	34	29	38	33	29	37	32	28	26					26			

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

	0°	45°	90°
0°	18156	18156	18156
5°	17935	17509	17262
10°	17792	16687	16456
15°	17328	16064	15443
20°	17228	15337	15226
25°	16679	14846	13154
30°	15906	12497	10448
35°	14882	9827	8217
40°	12830	7522	6836
45°	9360	5565	5904
50°	6740	4356	5543
55°	4973	3705	4929
60°	3584	3316	5014
65°	2798	2973	5553
70°	2891	2723	6162
75°	3047	2717	7149
80°	2396	2820	6584
85°	1587	2910	5062



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.7	4.1
10°-20°	275.1	11.8
20°-30°	403.3	17.2
30°-40°	387.8	16.6
40°-50°	277.9	11.9
50°-60°	201.3	8.6
60°-70°	175.8	7.5
70°-80°	165.3	7.1
80°-90°	121.0	5.2
90°-100°	73.0	3.1
100°-110°	52.1	2.2
110°-120°	44.6	1.9
120°-130°	32.7	1.4
130°-140°	19.7	0.8
140°-150°	10.2	0.4
150°-160°	3.9	0.2
160°-170°	0.7	0.0
170°-180°	0.0	0.0
0°-30°	774.1	33.1
0°-40°	1161.8	49.7
0°-60°	1641.0	70.1
0°-90°	2103.1	89.9
90°-120°	169.7	7.3
90°-150°	232.2	9.9
90°-180°	237.0	10.1
0°-180°	2340.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	1003	1010	1012	1005	1007	96
15°	956	980	978	986	964	271
25°	880	890	921	876	849	404
35°	725	718	603	550	532	448
45°	404	355	327	340	372	319
55°	181	185	202	256	292	163
65°	80	114	144	259	299	84
75°	60	64	111	256	334	61
85°	16	35	94	210	193	17
90°	0	20	83	142	135	1
95°	0	20	89	109	102	0
105°	0	20	57	78	74	0
115°	0	17	36	86	86	0
125°	0	14	29	61	81	0
135°	0	12	24	38	53	0
145°	0	10	18	22	26	0
155°	0	5	10	12	11	0
165°	0	2	3	3	4	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°	1010.3	1010.3	1010.3	1010.3	1010.3
2.5°	1004.9	1008.1	1010.3	1011.4	1013.6
5°	1002.7	1010.3	1012.5	1004.9	1007.1
7.5°	1003.8	1002.7	1007.1	1003.8	1010.3
10°	991.8	985.3	994.0	979.8	997.2
12.5°	962.4	987.4	992.9	983.1	971.1
15°	955.8	979.8	977.6	986.3	963.5
17.5°	951.5	955.8	955.8	976.5	972.2
20°	932.9	932.9	946.0	966.7	970.0
22.5°	910.1	909.0	939.5	942.8	935.1
25°	879.5	890.4	921.0	876.3	849.0
27.5°	843.6	863.2	877.4	788.0	761.8
30°	809.8	830.5	773.8	713.9	677.9
32.5°	767.3	793.4	686.6	623.4	601.6
35°	724.8	718.2	602.7	550.4	531.9
37.5°	673.5	607.1	525.3	487.2	478.5
40°	591.8	507.9	453.4	429.4	438.1
42.5°	497.0	420.7	385.8	384.7	403.3
45°	404.3	355.3	327.0	340.0	371.7
47.5°	334.6	298.6	284.5	307.3	355.3
50°	269.2	250.7	247.4	291.0	340.0
52.5°	215.8	213.6	221.2	279.0	313.9
55°	180.9	185.3	201.6	256.1	292.1
57.5°	141.7	162.4	187.5	249.6	283.4
60°	116.6	145.0	171.1	252.9	284.5
62.5°	91.6	128.6	158.0	256.1	287.7
65°	79.6	114.4	143.9	259.4	298.6
67.5°	74.1	100.3	130.8	260.5	309.5
70°	69.8	86.1	122.1	260.5	310.6
72.5°	68.7	74.1	114.4	259.4	318.2
75°	59.9	64.3	111.2	256.1	333.5
77.5°	48.0	57.8	109.0	256.1	327.0
80°	36.0	50.1	103.5	270.3	280.1
82.5°	26.2	42.5	100.3	245.2	234.3
85°	16.3	34.9	93.7	210.3	192.9
87.5°	6.5	26.2	86.1	172.2	159.1
90°	0.0	19.6	82.8	141.7	135.1
92.5°	0.0	19.6	86.1	122.1	115.5
95°	0.0	19.6	89.4	109.0	102.4
97.5°	0.0	19.6	86.1	95.9	92.6
100°	0.0	19.6	77.4	86.1	82.8
102.5°	0.0	19.6	66.5	80.7	76.3
105°	0.0	19.6	56.7	78.5	74.1
107.5°	0.0	18.5	50.1	80.7	73.0
110°	0.0	18.5	43.6	83.9	76.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	17.4	39.2	86.1	81.7
115°	0.0	17.4	36.0	86.1	86.1
117.5°	0.0	16.3	33.8	80.7	89.4
120°	0.0	16.3	31.6	75.2	90.5
122.5°	0.0	15.3	30.5	68.7	86.1
125°	0.0	14.2	29.4	61.0	80.7
127.5°	0.0	14.2	28.3	54.5	75.2
130°	0.0	13.1	26.2	48.0	68.7
132.5°	0.0	13.1	25.1	42.5	59.9
135°	0.0	12.0	24.0	38.1	53.4
137.5°	0.0	12.0	21.8	33.8	45.8
140°	0.0	12.0	21.8	29.4	39.2
142.5°	0.0	10.9	19.6	26.2	32.7
145°	0.0	9.8	18.5	21.8	26.2
147.5°	0.0	8.7	16.3	19.6	20.7
150°	0.0	7.6	14.2	16.3	16.3
152.5°	0.0	6.5	12.0	14.2	13.1
155°	0.0	5.4	9.8	12.0	10.9
157.5°	0.0	4.4	7.6	9.8	8.7
160°	0.0	3.3	6.5	7.6	7.6
162.5°	0.0	2.2	4.4	5.4	6.5
165°	0.0	2.2	3.3	3.3	4.4
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)