

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: P232011

Luminaire Tested: **FVS4M-4-LD4-50-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232011  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-20)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-4-LD4-50-2STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
4FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (168) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

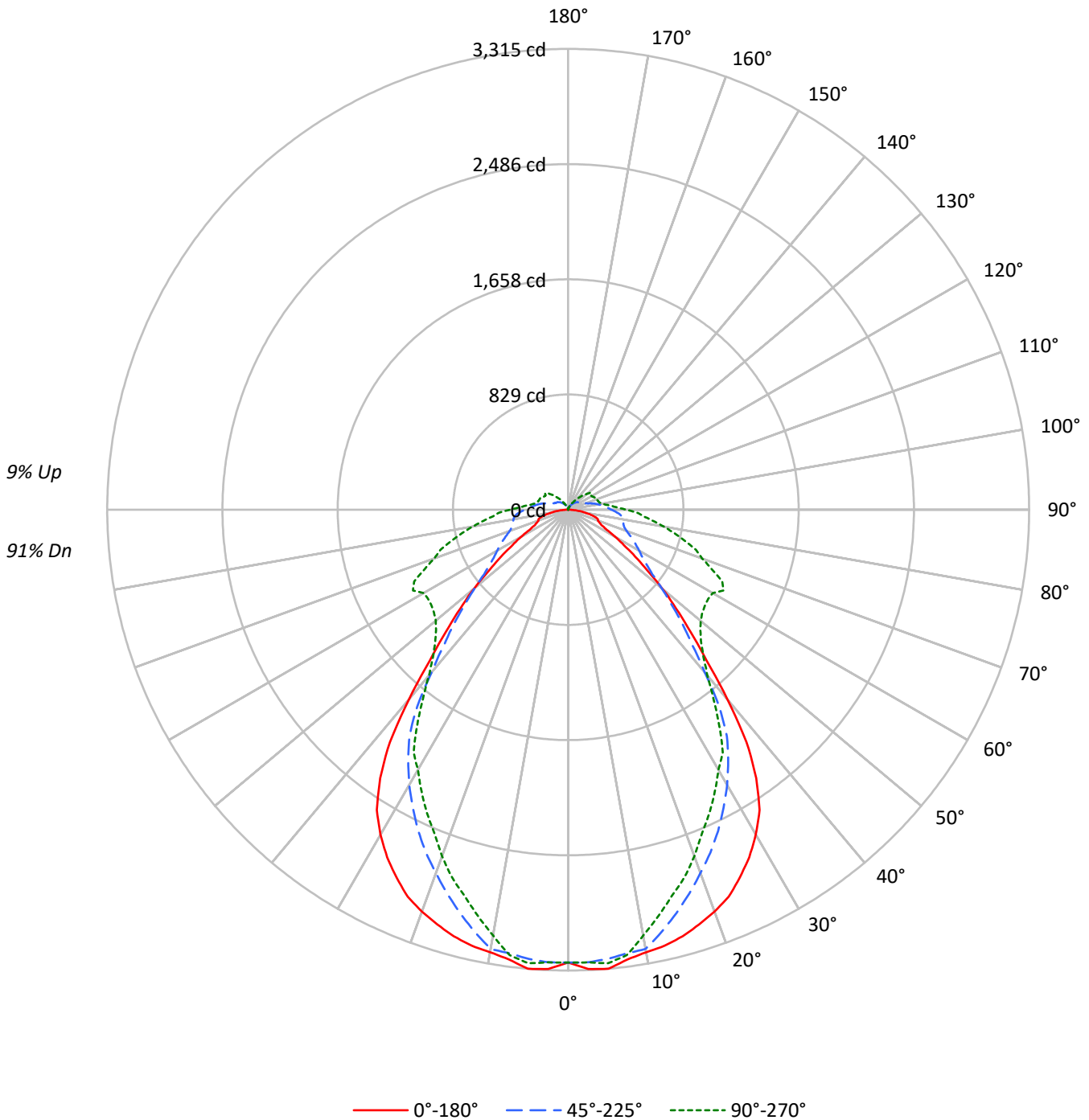
Lumens per Lamp: N/A  
Luminaire Lumens: 7550.0 lumens  
Efficiency: N/A  
Efficacy: 111.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.02 / 1.12  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 67.5  
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	100	100	100	94	94	94	91
1	106	101	96	92	102	98	94	90	92	89	85	86	84	81	81	79	77	75
2	97	89	82	76	93	86	80	74	81	76	71	76	72	68	72	69	66	63
3	89	79	71	64	86	76	69	63	72	66	61	68	63	59	64	60	57	54
4	82	70	62	55	79	68	61	55	65	58	53	61	56	51	58	54	50	47
5	76	64	55	49	73	62	54	48	59	52	47	56	50	45	53	48	44	42
6	70	58	49	43	68	56	48	43	54	47	42	51	45	40	49	44	39	37
7	66	53	44	39	63	52	44	38	49	42	37	47	41	36	45	40	36	34
8	61	49	40	35	59	48	40	35	45	39	34	44	38	33	42	36	32	30
9	58	45	37	32	56	44	37	31	42	36	31	40	35	30	39	34	30	28
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	36	31	27	26

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

	0°	45°	90°
0°	29587	29587	29587
5°	30102	28436	28375
10°	29555	27380	25951
15°	29483	25159	23310
20°	29219	23035	21042
25°	28609	21051	18834
30°	27523	18950	16828
35°	25266	16704	14789
40°	20278	13081	12279
45°	15229	10219	10853
50°	11794	8006	10236
55°	8724	6583	10236
60°	6555	5967	10684
65°	5173	5582	11483
70°	5324	5252	10264
75°	5896	5321	9430
80°	4944	5801	8285
85°	3583	6175	7204



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	309.9	4.1
10°-20°	851.9	11.3
20°-30°	1193.4	15.8
30°-40°	1258.0	16.7
40°-50°	955.5	12.7
50°-60°	721.8	9.6
60°-70°	668.9	8.9
70°-80°	539.6	7.1
80°-90°	362.1	4.8
90°-100°	223.8	3.0
100°-110°	157.4	2.1
110°-120°	118.8	1.6
120°-130°	91.2	1.2
130°-140°	56.1	0.7
140°-150°	28.7	0.4
150°-160°	10.8	0.1
160°-170°	2.2	0.0
170°-180°	0.0	0.0
0°-30°	2355.2	31.2
0°-40°	3613.2	47.9
0°-60°	5290.4	70.1
0°-90°	6861.0	90.9
90°-120°	500.0	6.6
90°-150°	676.0	9.0
90°-180°	689.0	9.1
0°-180°	7550.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3257	3257	3257	3257	3257	
5°	3315	3287	3244	3271	3275	313
15°	3176	3166	3004	2930	2877	896
25°	2920	2728	2550	2449	2405	1342
35°	2357	2148	1991	1896	1894	1444
45°	1244	1202	1161	1222	1352	979
55°	590	610	688	972	1200	538
65°	266	375	515	1078	1222	280
75°	199	218	411	863	870	201
85°	54	122	370	534	543	59
90°	3	72	311	426	416	5
95°	2	65	259	324	311	2
105°	2	62	175	242	226	2
115°	2	56	110	201	209	2
125°	2	47	93	168	203	2
135°	3	35	73	107	142	2
145°	3	26	51	64	74	2
155°	4	15	27	30	30	1
165°	4	6	12	6	11	1
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°	3257.0	3257.0	3257.0	3257.0	3257.0
2.5°	3307.2	3292.9	3258.8	3266.9	3259.7
5°	3315.3	3286.6	3243.6	3271.4	3275.0
7.5°	3262.4	3271.4	3219.4	3240.0	3231.9
10°	3231.9	3250.8	3208.6	3166.5	3110.9
12.5°	3212.2	3209.5	3109.1	3047.3	2994.4
15°	3176.4	3165.6	3004.3	2929.9	2877.0
17.5°	3128.9	3089.4	2894.9	2803.5	2775.7
20°	3076.9	2968.4	2781.1	2686.1	2652.0
22.5°	3014.1	2855.5	2670.9	2572.3	2515.8
25°	2920.0	2728.2	2549.9	2448.6	2404.7
27.5°	2818.8	2595.6	2418.1	2321.3	2284.6
30°	2698.7	2456.7	2285.5	2209.3	2160.0
32.5°	2561.5	2312.4	2141.2	2067.7	2069.5
35°	2357.2	2148.3	1990.6	1895.6	1893.8
37.5°	2106.2	1935.9	1784.5	1720.8	1716.3
40°	1780.9	1708.3	1528.1	1555.0	1556.8
42.5°	1471.7	1429.5	1322.9	1361.4	1438.5
45°	1244.0	1201.9	1160.7	1222.5	1351.6
47.5°	1054.0	994.0	1004.7	1117.6	1288.8
50°	883.7	842.5	876.5	1043.3	1242.2
52.5°	714.3	710.7	762.7	995.8	1216.2
55°	589.7	610.4	688.3	972.4	1200.1
57.5°	475.9	526.1	630.1	976.0	1193.8
60°	391.7	463.4	589.7	1008.3	1199.2
62.5°	311.9	415.9	549.4	1038.8	1258.4
65°	266.2	374.6	515.4	1078.2	1221.6
67.5°	242.9	334.3	477.7	1142.7	1116.7
70°	227.7	291.3	447.2	1090.8	1023.5
72.5°	225.0	251.0	423.9	985.0	963.5
75°	199.0	217.8	411.4	863.1	870.3
77.5°	164.0	194.5	405.1	762.7	781.5
80°	121.0	171.2	399.7	677.6	697.3
82.5°	91.4	145.2	389.9	605.0	613.9
85°	53.8	121.9	370.2	534.2	543.1
87.5°	26.0	91.4	342.4	462.5	498.3
90°	2.7	71.7	311.0	425.7	415.9
92.5°	2.7	66.3	285.0	368.4	354.0
95°	1.8	65.4	259.0	323.6	311.0
97.5°	1.8	65.4	240.2	288.6	273.4
100°	1.8	64.5	220.5	265.3	248.3
102.5°	1.8	63.6	199.0	250.1	233.0
105°	1.8	61.8	174.8	242.0	225.9
107.5°	1.8	60.9	149.7	233.9	221.4
110°	1.8	59.2	132.6	220.5	218.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	57.4	118.3	209.7	217.8
115°	1.8	55.6	110.2	200.8	208.8
117.5°	1.8	53.8	104.9	199.0	200.8
120°	1.8	51.1	101.3	202.6	194.5
122.5°	1.8	48.4	96.8	189.1	192.7
125°	1.8	46.6	93.2	167.6	202.6
127.5°	1.8	43.0	88.7	149.7	199.0
130°	1.8	40.3	83.4	134.4	177.5
132.5°	1.8	37.6	78.9	119.2	159.5
135°	2.7	35.0	72.6	106.7	142.5
137.5°	2.7	33.2	67.2	95.0	123.7
140°	2.7	30.5	62.7	84.2	106.7
142.5°	2.7	28.7	57.4	74.4	89.6
145°	2.7	26.0	51.1	64.5	73.5
147.5°	2.7	24.2	45.7	54.7	58.3
150°	2.7	20.6	39.4	46.6	45.7
152.5°	2.7	17.9	33.2	36.7	37.6
155°	3.6	15.2	26.9	29.6	30.5
157.5°	2.7	12.5	22.4	23.3	26.0
160°	3.6	10.8	18.8	17.0	22.4
162.5°	3.6	8.1	16.1	11.7	17.9
165°	3.6	6.3	11.7	6.3	10.8
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)