

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: P231939

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231939  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-10)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-2-LD4-50-2STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (84) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

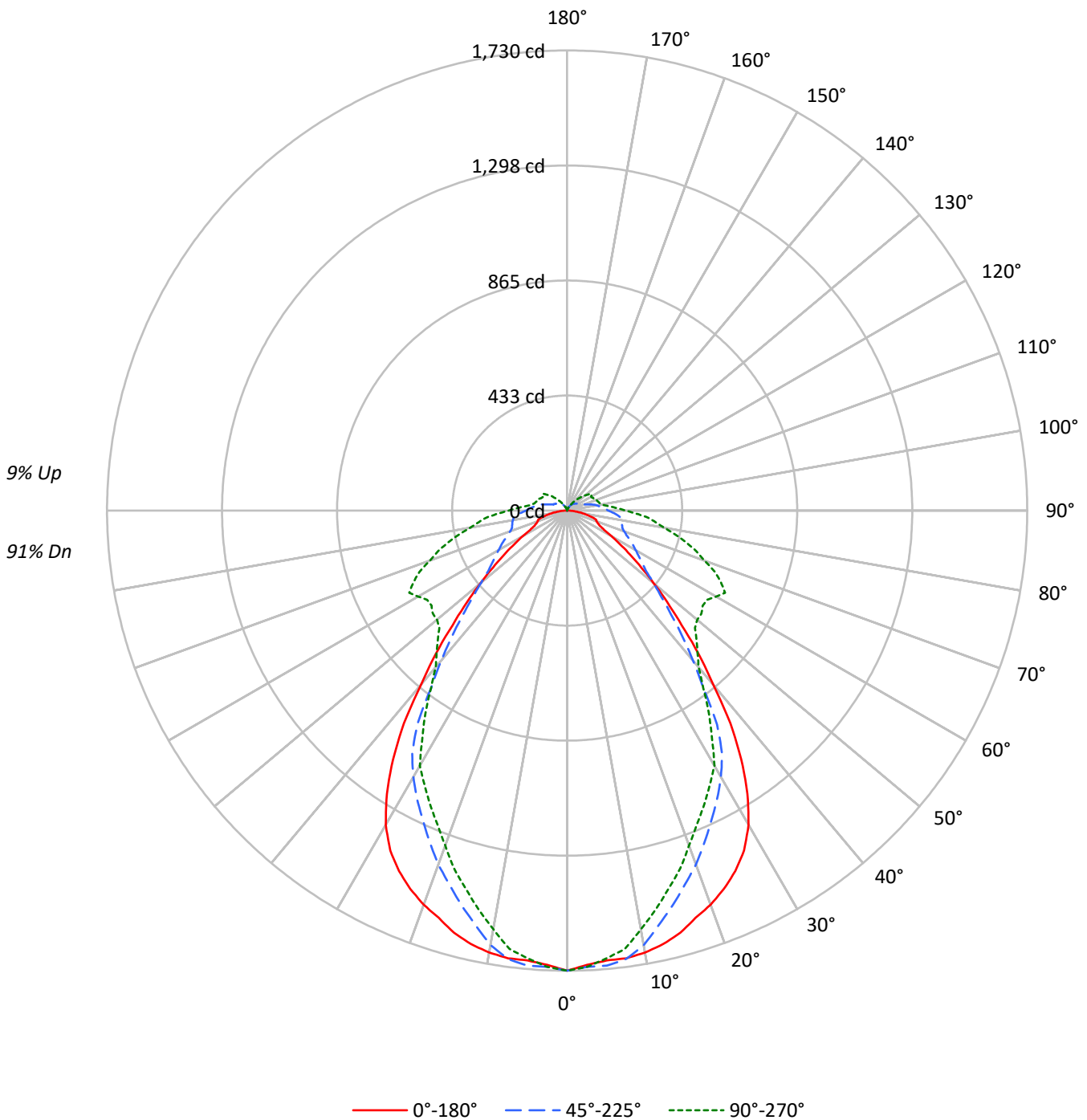
Lumens per Lamp: N/A  
Luminaire Lumens: 3825.0 lumens  
Efficiency: N/A  
Efficacy: 112.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.98 / 1.07  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 33.9  
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	93	90	92	88	85	86	83	81	81	79	77	74
2	97	88	81	76	93	86	79	74	81	75	71	76	72	68	72	68	65	62
3	89	78	70	64	85	76	69	63	72	66	61	68	63	58	64	60	56	54
4	82	70	62	55	79	68	60	54	65	58	53	61	56	51	58	53	49	47
5	76	63	55	48	73	62	54	48	59	52	46	56	50	45	53	48	44	41
6	70	58	49	43	68	56	48	42	53	47	41	51	45	40	49	43	39	37
7	66	53	44	39	63	51	44	38	49	42	37	47	41	36	45	40	35	33
8	61	49	40	35	59	47	40	34	45	39	34	43	37	33	42	36	32	30
9	58	45	37	32	56	44	36	31	42	35	31	40	34	30	39	33	30	28
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	36	31	27	25

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

	0°	45°	90°
0°	31083	31083	31083
5°	30366	29696	28961
10°	30263	27844	26374
15°	29796	25227	23595
20°	29120	22946	21030
25°	28355	20696	18889
30°	26788	18670	17064
35°	23425	16012	14347
40°	18519	12197	11984
45°	14101	9414	10930
50°	10672	7424	10407
55°	7934	6332	10502
60°	5950	5763	11393
65°	4745	5357	11855
70°	4854	5070	10886
75°	5056	5229	9935
80°	3901	5637	8683
85°	2589	5872	8037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.2	4.2
10°-20°	434.8	11.4
20°-30°	603.8	15.8
30°-40°	619.0	16.2
40°-50°	465.4	12.2
50°-60°	364.8	9.5
60°-70°	348.5	9.1
70°-80°	280.8	7.3
80°-90°	190.2	5.0
90°-100°	117.4	3.1
100°-110°	82.3	2.2
110°-120°	61.8	1.6
120°-130°	46.6	1.2
130°-140°	27.8	0.7
140°-150°	14.3	0.4
150°-160°	5.3	0.1
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	1199.8	31.4
0°-40°	1818.9	47.6
0°-60°	2649.1	69.3
0°-90°	3468.7	90.7
90°-120°	261.5	6.8
90°-150°	350.2	9.2
90°-180°	356.0	9.3
0°-180°	3825.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1730	1730	1730	1730	1730	
5°	1698	1710	1717	1698	1690	162
15°	1644	1612	1535	1483	1472	462
25°	1495	1374	1284	1238	1219	685
35°	1141	1064	982	928	929	704
45°	609	570	553	605	688	477
55°	289	296	344	502	622	264
65°	135	188	259	582	638	141
75°	99	110	214	453	464	100
85°	27	61	189	282	306	28
90°	0	36	154	230	219	2
95°	0	34	133	172	166	0
105°	0	32	89	128	122	0
115°	0	28	56	106	109	0
125°	0	23	46	85	110	0
135°	1	19	36	52	70	0
145°	1	13	28	31	35	1
155°	1	7	13	16	14	0
165°	1	2	4	2	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°	1729.6	1729.6	1729.6	1729.6	1729.6
2.5°	1709.2	1712.7	1717.2	1719.9	1717.2
5°	1697.7	1710.1	1717.2	1698.5	1689.7
7.5°	1697.7	1699.4	1700.3	1673.7	1662.1
10°	1687.0	1681.7	1658.6	1608.0	1598.2
12.5°	1669.2	1657.7	1594.7	1545.8	1536.1
15°	1643.5	1612.4	1535.2	1482.8	1472.1
17.5°	1605.3	1558.3	1473.9	1422.4	1411.8
20°	1576.9	1503.2	1415.3	1364.7	1339.8
22.5°	1539.6	1440.2	1349.6	1299.9	1275.9
25°	1495.2	1374.5	1283.9	1237.7	1219.1
27.5°	1440.2	1301.7	1221.7	1172.9	1161.4
30°	1363.8	1235.9	1156.0	1115.2	1107.2
32.5°	1261.7	1155.2	1084.1	1022.0	1012.2
35°	1140.9	1063.7	982.0	927.8	928.7
37.5°	1007.8	962.5	840.8	839.9	839.9
40°	854.2	809.8	735.2	744.9	768.0
42.5°	730.7	677.5	639.3	667.7	726.3
45°	609.1	570.0	553.2	604.7	688.1
47.5°	509.7	479.5	480.4	558.5	651.7
50°	426.2	406.7	421.7	525.6	638.4
52.5°	351.6	342.7	374.7	508.8	636.6
55°	288.6	295.7	344.5	501.7	622.4
57.5°	234.4	259.3	318.8	514.1	624.2
60°	193.6	230.9	297.4	530.1	646.4
62.5°	156.3	206.9	279.7	551.4	669.5
65°	135.0	188.2	259.3	581.6	637.5
67.5°	125.2	166.0	241.5	608.2	601.1
70°	117.2	144.7	227.3	571.8	548.7
72.5°	114.5	126.1	217.5	507.9	509.7
75°	99.4	110.1	214.0	452.8	463.5
77.5°	77.2	99.4	211.3	402.2	416.4
80°	58.6	87.0	206.9	358.7	369.4
82.5°	42.6	73.7	202.4	318.8	334.7
85°	26.6	61.3	189.1	282.4	306.3
87.5°	11.5	46.2	171.4	257.5	258.4
90°	0.0	35.5	154.5	230.0	219.3
92.5°	0.0	34.6	144.7	198.0	190.0
95°	0.0	33.7	133.2	172.3	166.0
97.5°	0.0	33.7	122.5	155.4	144.7
100°	0.0	32.9	113.7	142.1	133.2
102.5°	0.0	32.0	103.0	132.3	126.1
105°	0.0	32.0	88.8	127.9	122.5
107.5°	0.0	31.1	77.2	122.5	119.0
110°	0.0	30.2	67.5	114.5	117.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	29.3	61.3	109.2	115.4
115°	0.0	27.5	55.9	105.7	109.2
117.5°	0.0	26.6	53.3	108.3	105.7
120°	0.0	25.7	50.6	107.4	103.9
122.5°	0.0	24.9	48.8	95.9	108.3
125°	0.0	23.1	46.2	85.2	110.1
127.5°	0.0	22.2	43.5	75.5	98.6
130°	0.0	20.4	40.8	66.6	88.8
132.5°	0.0	19.5	38.2	58.6	80.8
135°	0.9	18.6	36.4	51.5	70.1
137.5°	0.9	17.8	34.6	46.2	60.4
140°	0.9	16.9	32.0	40.8	50.6
142.5°	0.9	15.1	30.2	35.5	42.6
145°	0.9	13.3	27.5	31.1	34.6
147.5°	0.9	12.4	24.0	26.6	27.5
150°	0.9	10.7	20.4	23.1	21.3
152.5°	0.9	8.9	16.9	19.5	16.9
155°	0.9	7.1	13.3	16.0	14.2
157.5°	0.9	5.3	10.7	13.3	11.5
160°	0.9	3.6	8.9	8.9	9.8
162.5°	0.9	2.7	6.2	5.3	7.1
165°	0.9	1.8	3.6	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)