

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: P232046

Luminaire Tested: **FVS4M-3-LD4-40-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232046  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-25)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FVS4M-3-LD4-40-1STD-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
3FT LENGTH, 1-MODULE LED WITH PA187 LENS  
Light Source: (84) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

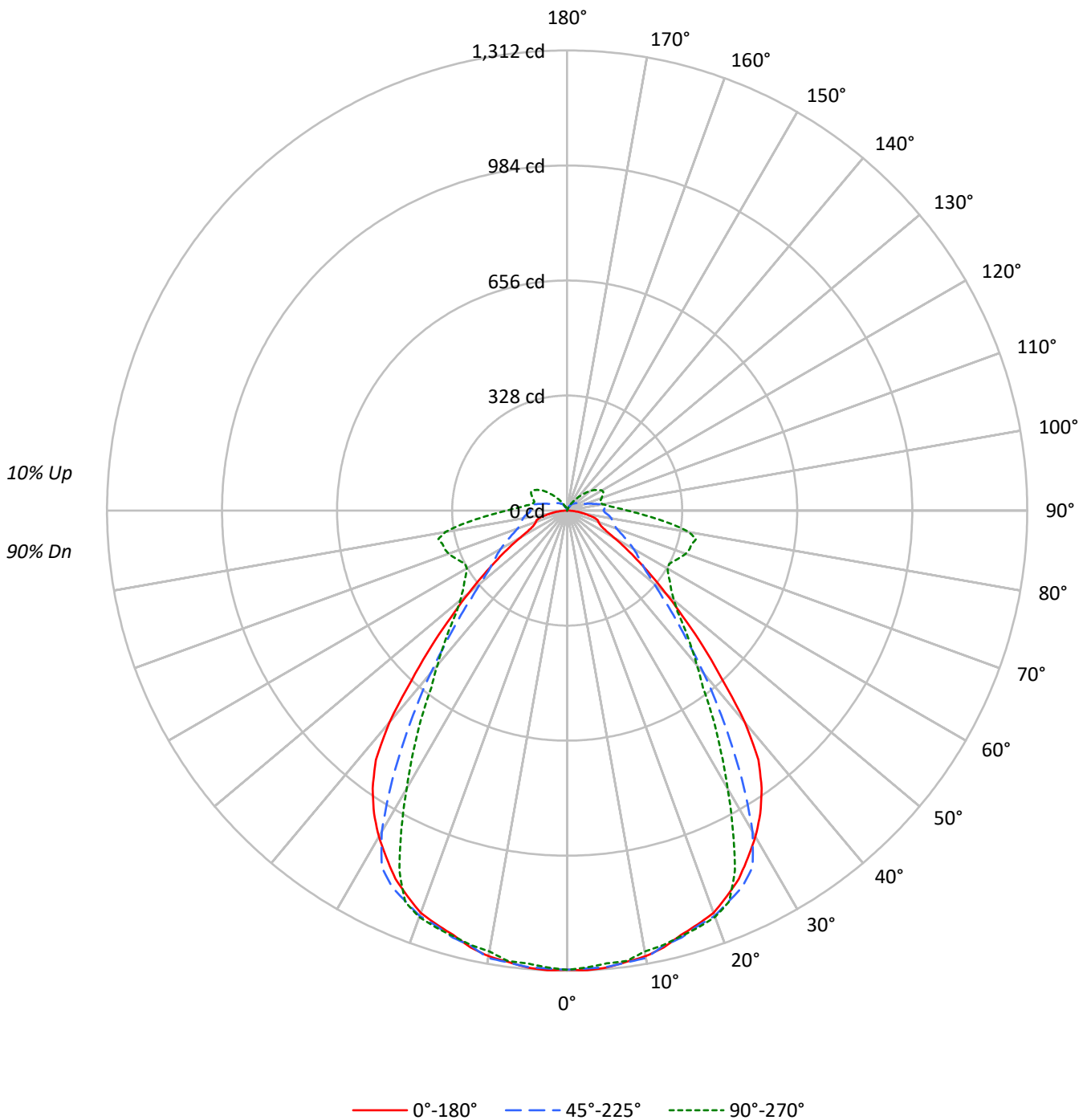
Lumens per Lamp: N/A  
Luminaire Lumens: 3014.0 lumens  
Efficiency: N/A  
Efficacy: 105.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.1 / 1.11  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 2.92' x H: 0.19')  
CIE Type: Semi-Direct

Input Watts (W): 28.5  
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	99	99	99	93	93	93	90
1	106	101	97	93	102	98	94	90	92	88	86	86	84	81	81	79	77	74
2	97	89	83	77	94	86	80	75	81	76	72	77	73	69	72	69	66	63
3	89	79	72	66	86	77	70	64	73	67	62	69	64	60	65	61	57	55
4	83	71	63	57	80	70	62	56	66	59	54	62	57	52	59	55	51	48
5	77	65	56	50	74	63	55	49	60	53	48	57	51	47	54	49	45	43
6	71	59	51	45	69	58	50	44	55	48	43	52	46	42	50	45	41	39
7	67	54	46	40	64	53	45	40	50	44	39	48	42	38	46	41	37	35
8	62	50	42	36	60	49	41	36	47	40	35	45	39	34	43	38	34	32
9	59	46	38	33	57	45	38	33	43	37	32	42	36	32	40	35	31	29
10	55	43	35	30	53	42	35	30	40	34	30	39	33	29	37	32	28	27

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

	0°	45°	90°
0°	15461	15461	15461
5°	15414	14870	14597
10°	15298	14343	13839
15°	15058	13686	13231
20°	14988	13197	12717
25°	14654	12647	11524
30°	14118	11341	9271
35°	13338	8887	7365
40°	11522	6693	5900
45°	8587	4975	4925
50°	6254	3789	4255
55°	4550	3167	3972
60°	3260	2861	3822
65°	2647	2504	4134
70°	2773	2263	4692
75°	2992	2267	5185
80°	2397	2370	5443
85°	1617	2434	4332



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.9	4.1
10°-20°	355.5	11.8
20°-30°	529.5	17.6
30°-40°	520.8	17.3
40°-50°	365.0	12.1
50°-60°	255.0	8.5
60°-70°	214.3	7.1
70°-80°	196.0	6.5
80°-90°	151.2	5.0
90°-100°	92.0	3.1
100°-110°	68.3	2.3
110°-120°	57.8	1.9
120°-130°	42.0	1.4
130°-140°	24.9	0.8
140°-150°	12.4	0.4
150°-160°	4.5	0.2
160°-170°	0.8	0.0
170°-180°	0.0	0.0
0°-30°	1008.9	33.5
0°-40°	1529.7	50.8
0°-60°	2149.7	71.3
0°-90°	2711.3	90.0
90°-120°	218.1	7.2
90°-150°	297.4	9.9
90°-180°	303.0	10.1
0°-180°	3014.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1308	1309	1306	1302	1296	124
15°	1253	1256	1260	1260	1256	355
25°	1158	1162	1183	1169	1132	532
35°	967	957	819	745	726	596
45°	547	479	438	436	472	427
55°	241	250	257	315	358	221
65°	108	153	180	304	338	113
75°	81	85	137	296	368	81
85°	21	45	114	266	251	23
90°	0	26	104	187	172	1
95°	0	25	109	134	127	0
105°	0	24	75	107	97	0
115°	0	22	46	109	114	0
125°	0	18	37	80	103	0
135°	0	15	29	49	68	0
145°	0	12	22	28	34	0
155°	0	6	11	14	13	0
165°	1	2	2	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°	1309.2	1309.2	1309.2	1309.2	1309.2
2.5°	1311.7	1306.7	1306.7	1305.9	1303.4
5°	1307.6	1309.2	1305.9	1301.8	1296.0
7.5°	1297.6	1297.6	1299.3	1294.3	1295.1
10°	1290.2	1287.7	1295.1	1276.1	1276.1
12.5°	1275.2	1274.4	1270.3	1275.2	1268.6
15°	1252.8	1256.2	1260.3	1259.5	1256.2
17.5°	1237.1	1237.9	1241.2	1245.4	1246.2
20°	1220.5	1214.7	1229.6	1240.4	1232.9
22.5°	1189.8	1194.8	1205.6	1224.7	1207.2
25°	1158.3	1161.6	1183.2	1169.1	1131.8
27.5°	1116.0	1133.4	1145.1	1066.3	1023.2
30°	1073.7	1091.2	1057.2	950.2	915.4
32.5°	1024.8	1046.4	938.6	845.7	816.7
35°	966.8	956.8	819.2	745.4	725.5
37.5°	895.5	824.2	707.3	651.7	636.0
40°	787.7	685.7	605.3	573.8	575.4
42.5°	656.7	570.5	510.8	498.3	522.4
45°	547.2	479.2	437.8	436.1	471.8
47.5°	447.7	402.1	371.5	389.7	427.0
50°	366.5	340.0	321.7	351.6	397.2
52.5°	297.7	286.9	282.7	328.3	374.8
55°	241.3	249.6	257.0	315.1	358.2
57.5°	194.9	218.1	238.0	307.6	342.4
60°	153.4	192.4	219.7	303.5	330.0
62.5°	125.2	171.6	198.2	303.5	328.3
65°	107.8	153.4	179.9	303.5	338.3
67.5°	100.3	133.5	163.3	303.5	349.1
70°	94.5	115.3	150.1	298.5	359.9
72.5°	92.0	97.0	141.0	296.8	365.7
75°	81.3	84.6	136.8	296.0	368.1
77.5°	63.0	75.5	132.7	291.9	376.4
80°	48.1	66.3	127.7	296.0	352.4
82.5°	34.8	55.6	121.9	295.2	304.3
85°	20.7	44.8	114.4	266.2	251.2
87.5°	8.3	33.2	107.0	222.2	205.6
90°	0.0	25.7	103.6	186.6	171.6
92.5°	0.0	24.9	106.1	157.5	146.8
95°	0.0	24.9	108.6	133.5	126.9
97.5°	0.0	24.9	107.8	121.9	115.3
100°	0.0	24.9	99.5	111.1	102.8
102.5°	0.0	24.0	86.2	107.0	99.5
105°	0.0	24.0	74.6	107.0	97.0
107.5°	0.0	24.0	64.7	108.6	100.3
110°	0.0	23.2	56.4	110.3	104.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	22.4	50.6	112.8	108.6
115°	0.0	22.4	46.4	109.4	113.6
117.5°	0.0	21.6	43.1	103.6	116.1
120°	0.0	20.7	40.6	97.0	114.4
122.5°	0.0	19.1	39.0	88.7	109.4
125°	0.0	18.2	37.3	80.4	102.8
127.5°	0.0	17.4	34.8	71.3	96.2
130°	0.0	16.6	33.2	63.0	87.9
132.5°	0.0	15.8	30.7	55.6	77.9
135°	0.0	14.9	29.0	48.9	68.0
137.5°	0.0	14.1	27.4	43.1	58.9
140°	0.0	13.3	25.7	37.3	49.7
142.5°	0.0	12.4	24.0	32.3	41.5
145°	0.0	11.6	21.6	28.2	34.0
147.5°	0.0	9.9	19.1	24.0	27.4
150°	0.0	9.1	15.8	19.9	21.6
152.5°	0.0	7.5	13.3	17.4	16.6
155°	0.0	5.8	10.8	14.1	13.3
157.5°	0.8	5.0	8.3	10.8	10.8
160°	0.8	4.1	6.6	7.5	8.3
162.5°	0.8	3.3	4.1	5.0	6.6
165°	0.8	2.5	2.5	2.5	4.1
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)