

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: P232083

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232083  
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-LD4-50-2STD-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**

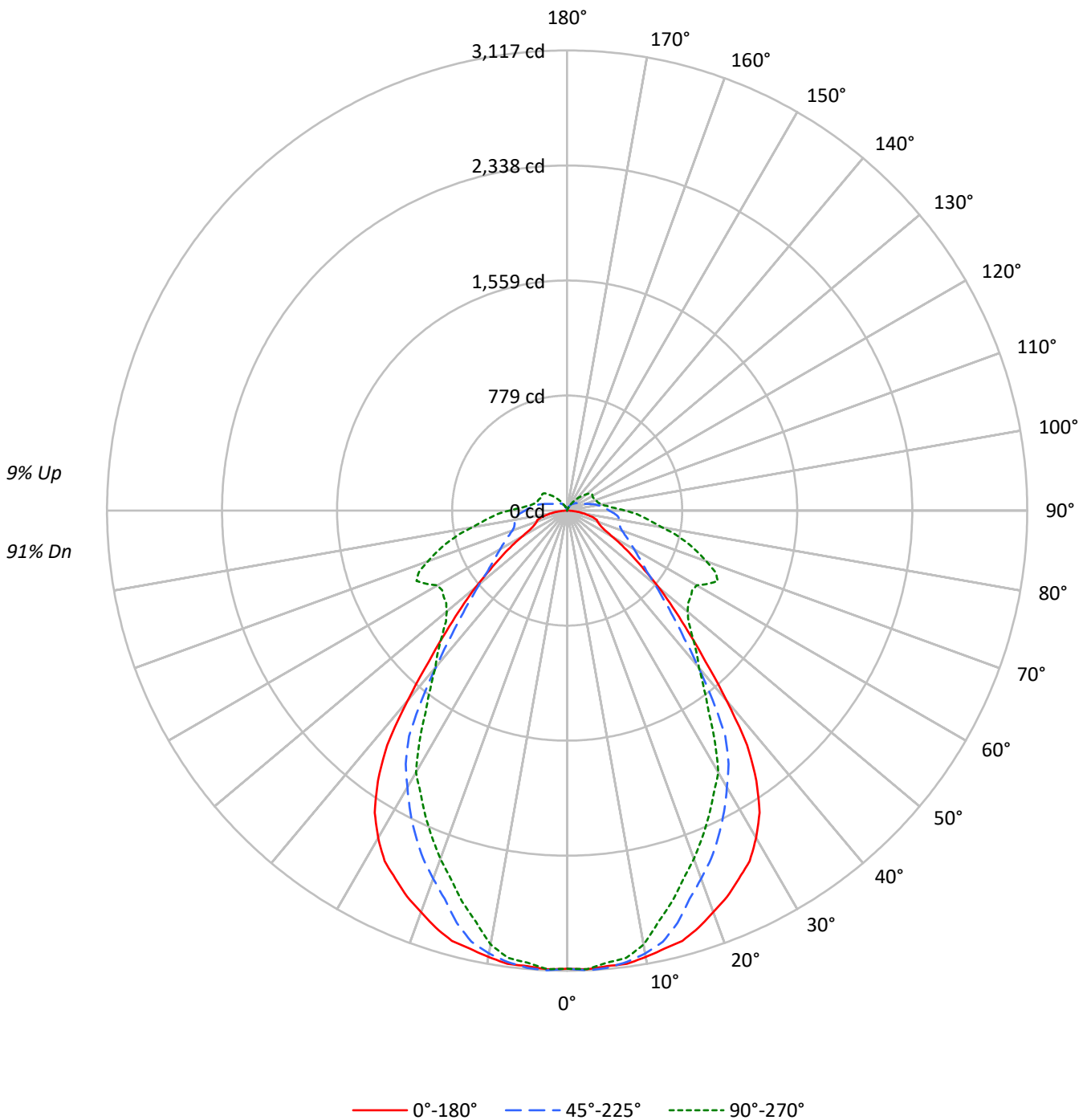
Lumens per Lamp: N/A  
Luminaire Lumens: 6997.0 lumens  
Efficiency: N/A  
Efficacy: 109.3 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.01 / 1.1  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 2.92' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 64  
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	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°	36645	36645	36645
5°	36509	35401	34625
10°	36403	33734	32372
15°	36263	31396	28894
20°	35540	28476	25882
25°	34806	25967	23177
30°	33663	23217	20736
35°	30824	20248	16989
40°	24566	15233	14239
45°	18134	11531	12501
50°	13785	9126	11406
55°	10236	7638	11318
60°	7543	6822	11729
65°	6211	6291	13768
70°	6424	5938	13072
75°	6767	6114	11828
80°	5582	6625	10053
85°	3983	7125	8929



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	294.1	4.2
10°-20°	809.7	11.6
20°-30°	1132.2	16.2
30°-40°	1166.5	16.7
40°-50°	854.7	12.2
50°-60°	636.9	9.1
60°-70°	598.0	8.5
70°-80°	506.2	7.2
80°-90°	337.6	4.8
90°-100°	211.5	3.0
100°-110°	149.0	2.1
110°-120°	114.6	1.6
120°-130°	89.3	1.3
130°-140°	54.4	0.8
140°-150°	28.6	0.4
150°-160°	11.4	0.2
160°-170°	2.4	0.0
170°-180°	0.0	0.0
0°-30°	2236.0	32.0
0°-40°	3402.5	48.6
0°-60°	4894.1	69.9
0°-90°	6335.9	90.6
90°-120°	475.1	6.8
90°-150°	647.4	9.3
90°-180°	661.0	9.4
0°-180°	6997.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3103	3103	3103	3103	3103	
5°	3097	3114	3109	3093	3074	295
15°	3017	2991	2891	2771	2743	848
25°	2751	2593	2429	2318	2276	1267
35°	2234	2015	1866	1714	1674	1369
45°	1156	1082	1015	1083	1198	912
55°	543	560	620	832	1021	495
65°	253	349	452	939	1127	262
75°	184	197	369	831	840	187
85°	51	110	335	507	518	55
90°	1	62	284	398	391	3
95°	0	59	248	312	289	0
105°	0	57	170	225	215	0
115°	0	53	107	198	198	0
125°	0	44	86	170	201	0
135°	1	35	69	103	140	1
145°	1	27	52	62	74	1
155°	1	16	29	33	31	1
165°	2	7	13	9	13	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°	3103.0	3103.0	3103.0	3103.0	3103.0
2.5°	3110.0	3111.0	3117.0	3116.0	3109.0
5°	3097.0	3114.0	3109.0	3093.0	3074.1
7.5°	3096.0	3087.0	3084.1	3070.1	3056.1
10°	3070.1	3069.1	3046.1	3016.1	2985.1
12.5°	3040.1	3045.1	2992.1	2895.1	2854.1
15°	3017.1	2991.1	2891.1	2771.1	2743.2
17.5°	2962.1	2920.1	2758.2	2669.2	2616.2
20°	2894.1	2826.1	2653.2	2560.2	2509.2
22.5°	2832.1	2708.2	2550.2	2449.2	2393.3
25°	2751.2	2593.2	2429.3	2318.3	2276.3
27.5°	2677.2	2459.2	2301.3	2197.3	2152.3
30°	2560.2	2322.3	2164.3	2087.4	2047.4
32.5°	2426.3	2178.3	2035.4	1945.4	1864.4
35°	2234.3	2015.4	1866.4	1713.5	1673.5
37.5°	2002.4	1822.4	1618.5	1539.5	1523.5
40°	1679.5	1555.5	1377.6	1359.6	1388.6
42.5°	1387.6	1287.6	1174.6	1211.6	1294.6
45°	1155.6	1081.7	1014.7	1082.7	1197.6
47.5°	969.7	919.7	879.7	974.7	1113.7
50°	807.8	765.8	774.8	904.7	1064.7
52.5°	657.8	650.8	680.8	854.7	1032.7
55°	542.8	559.8	619.8	831.7	1020.7
57.5°	441.9	491.8	568.8	837.7	1004.7
60°	354.9	436.9	523.8	863.7	1012.7
62.5°	287.9	387.9	485.9	900.7	1074.7
65°	252.9	348.9	451.9	938.7	1126.7
67.5°	232.9	305.9	420.9	975.7	1086.7
70°	218.9	265.9	393.9	1014.7	1002.7
72.5°	211.9	227.9	376.9	940.7	922.7
75°	183.9	196.9	368.9	830.7	839.7
77.5°	147.0	178.9	363.9	736.8	751.8
80°	112.0	158.0	356.9	650.8	650.8
82.5°	83.0	136.0	350.9	578.8	580.8
85°	51.0	110.0	334.9	506.8	517.8
87.5°	22.0	83.0	308.9	441.9	463.9
90°	1.0	62.0	283.9	397.9	390.9
92.5°	0.0	60.0	266.9	355.9	333.9
95°	0.0	59.0	247.9	311.9	288.9
97.5°	0.0	59.0	228.9	278.9	258.9
100°	0.0	58.0	211.9	251.9	238.9
102.5°	0.0	57.0	192.9	235.9	224.9
105°	0.0	57.0	169.9	224.9	214.9
107.5°	0.0	56.0	149.0	214.9	210.9
110°	0.0	56.0	131.0	204.9	207.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	54.0	116.0	198.9	204.9
115°	0.0	53.0	107.0	197.9	197.9
117.5°	0.0	51.0	100.0	199.9	195.9
120°	0.0	49.0	94.0	199.9	197.9
122.5°	0.0	47.0	90.0	189.9	201.9
125°	0.0	44.0	86.0	169.9	200.9
127.5°	0.0	42.0	82.0	151.0	191.9
130°	0.0	39.0	78.0	134.0	172.9
132.5°	1.0	37.0	73.0	118.0	156.0
135°	1.0	35.0	69.0	103.0	140.0
137.5°	1.0	33.0	65.0	92.0	122.0
140°	1.0	32.0	62.0	82.0	105.0
142.5°	1.0	30.0	58.0	72.0	88.0
145°	1.0	27.0	52.0	62.0	74.0
147.5°	1.0	25.0	47.0	54.0	60.0
150°	1.0	22.0	41.0	47.0	48.0
152.5°	1.0	19.0	35.0	40.0	38.0
155°	1.0	16.0	29.0	33.0	31.0
157.5°	2.0	14.0	24.0	26.0	25.0
160°	2.0	12.0	20.0	20.0	21.0
162.5°	2.0	10.0	16.0	14.0	18.0
165°	2.0	7.0	13.0	9.0	13.0
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)