

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: P232084

Luminaire Tested: **FVS4M-3-LD4-30-2HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P232084  
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-LD4-30-2HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
3FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (168) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

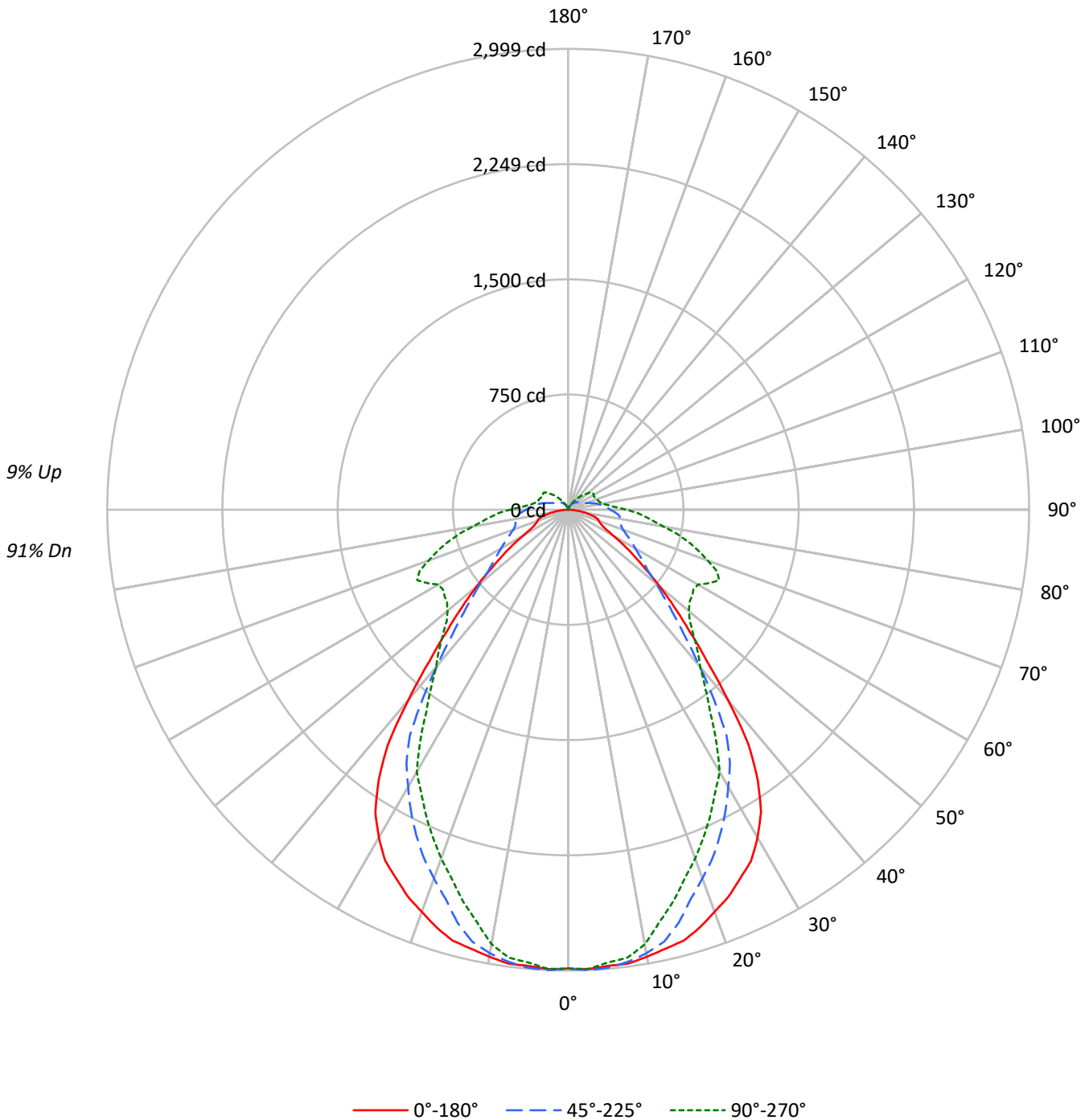
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6733.0 lumens  
Efficiency: N/A  
Efficacy: 93.9 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): 71.7  
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	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°	35263	35263	35263
5°	35132	34066	33318
10°	35029	32460	31151
15°	34894	30211	27803
20°	34199	27401	24906
25°	33493	24987	22302
30°	32393	22342	19953
35°	29661	19484	16347
40°	23639	14658	13701
45°	17450	11095	12029
50°	13265	8781	10975
55°	9851	7349	10891
60°	7258	6565	11287
65°	5977	6053	13248
70°	6183	5713	12580
75°	6514	5884	11383
80°	5368	6374	9673
85°	3835	6857	8592



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	283.0	4.2
10°-20°	779.2	11.6
20°-30°	1089.5	16.2
30°-40°	1122.4	16.7
40°-50°	822.4	12.2
50°-60°	612.9	9.1
60°-70°	575.4	8.5
70°-80°	487.1	7.2
80°-90°	324.9	4.8
90°-100°	203.5	3.0
100°-110°	143.4	2.1
110°-120°	110.3	1.6
120°-130°	85.9	1.3
130°-140°	52.4	0.8
140°-150°	27.5	0.4
150°-160°	10.9	0.2
160°-170°	2.3	0.0
170°-180°	0.0	0.0
0°-30°	2151.7	32.0
0°-40°	3274.1	48.6
0°-60°	4709.4	69.9
0°-90°	6096.8	90.6
90°-120°	457.1	6.8
90°-150°	623.0	9.3
90°-180°	636.0	9.4
0°-180°	6733.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2986	2986	2986	2986	2986	
5°	2980	2996	2992	2976	2958	284
15°	2903	2878	2782	2667	2640	816
25°	2647	2495	2338	2231	2190	1219
35°	2150	1939	1796	1649	1610	1317
45°	1112	1041	976	1042	1152	877
55°	522	539	596	800	982	476
65°	243	336	435	903	1084	252
75°	177	190	355	799	808	180
85°	49	106	322	488	498	53
90°	1	60	273	383	376	3
95°	0	57	239	300	278	0
105°	0	55	164	216	207	0
115°	0	51	103	190	190	0
125°	0	42	83	164	193	0
135°	1	34	66	99	135	1
145°	1	26	50	60	71	1
155°	1	15	28	32	30	1
165°	2	7	12	9	12	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°	2986.0	2986.0	2986.0	2986.0	2986.0
2.5°	2992.7	2993.7	2999.4	2998.5	2991.7
5°	2980.2	2996.5	2991.7	2976.3	2958.1
7.5°	2979.2	2970.6	2967.7	2954.2	2940.8
10°	2954.2	2953.3	2931.1	2902.3	2872.5
12.5°	2925.4	2930.2	2879.2	2785.9	2746.4
15°	2903.2	2878.2	2782.0	2666.6	2639.7
17.5°	2850.3	2809.9	2654.1	2568.5	2517.5
20°	2784.9	2719.5	2553.1	2463.6	2414.6
22.5°	2725.3	2606.0	2454.0	2356.8	2303.0
25°	2647.4	2495.4	2337.6	2230.8	2190.4
27.5°	2576.2	2366.5	2214.5	2114.4	2071.1
30°	2463.6	2234.7	2082.7	2008.6	1970.1
32.5°	2334.7	2096.1	1958.6	1872.0	1794.1
35°	2150.0	1939.3	1796.0	1648.8	1610.3
37.5°	1926.8	1753.7	1557.4	1481.4	1466.0
40°	1616.1	1496.8	1325.6	1308.3	1336.2
42.5°	1335.2	1239.0	1130.3	1165.9	1245.8
45°	1112.0	1040.9	976.4	1041.8	1152.4
47.5°	933.1	885.0	846.5	937.9	1071.6
50°	777.3	736.9	745.5	870.6	1024.5
52.5°	633.0	626.2	655.1	822.5	993.7
55°	522.4	538.7	596.4	800.4	982.2
57.5°	425.2	473.3	547.4	806.1	966.8
60°	341.5	420.4	504.1	831.1	974.5
62.5°	277.0	373.2	467.5	866.7	1034.1
65°	243.4	335.7	434.8	903.3	1084.1
67.5°	224.1	294.4	405.0	938.9	1045.7
70°	210.7	255.9	379.0	976.4	964.9
72.5°	203.9	219.3	362.7	905.2	887.9
75°	177.0	189.5	355.0	799.4	808.1
77.5°	141.4	172.2	350.2	709.0	723.4
80°	107.7	152.0	343.4	626.2	626.2
82.5°	79.8	130.8	337.7	557.0	558.9
85°	49.1	105.8	322.3	487.7	498.3
87.5°	21.2	79.8	297.2	425.2	446.4
90°	1.0	59.6	273.2	382.9	376.1
92.5°	0.0	57.7	256.8	342.5	321.3
95°	0.0	56.8	238.6	300.1	278.0
97.5°	0.0	56.8	220.3	268.4	249.2
100°	0.0	55.8	203.9	242.4	229.9
102.5°	0.0	54.8	185.7	227.0	216.4
105°	0.0	54.8	163.5	216.4	206.8
107.5°	0.0	53.9	143.3	206.8	203.0
110°	0.0	53.9	126.0	197.2	200.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	51.9	111.6	191.4	197.2
115°	0.0	51.0	102.9	190.5	190.5
117.5°	0.0	49.1	96.2	192.4	188.5
120°	0.0	47.1	90.4	192.4	190.5
122.5°	0.0	45.2	86.6	182.8	194.3
125°	0.0	42.3	82.7	163.5	193.4
127.5°	0.0	40.4	78.9	145.3	184.7
130°	0.0	37.5	75.0	128.9	166.4
132.5°	1.0	35.6	70.2	113.5	150.1
135°	1.0	33.7	66.4	99.1	134.7
137.5°	1.0	31.7	62.5	88.5	117.4
140°	1.0	30.8	59.6	78.9	101.0
142.5°	1.0	28.9	55.8	69.3	84.7
145°	1.0	26.0	50.0	59.6	71.2
147.5°	1.0	24.0	45.2	51.9	57.7
150°	1.0	21.2	39.4	45.2	46.2
152.5°	1.0	18.3	33.7	38.5	36.6
155°	1.0	15.4	27.9	31.7	29.8
157.5°	1.9	13.5	23.1	25.0	24.0
160°	1.9	11.5	19.2	19.2	20.2
162.5°	1.9	9.6	15.4	13.5	17.3
165°	1.9	6.7	12.5	8.7	12.5
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)