

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: P231940

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P231940  
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-LD4-30-2HI-PA187-UNV-EDC1  
Description: FAILSAFE FVS LED FIXTURE  
2FT LENGTH, 2-MODULE LED WITH PA187 LENS  
Light Source: (84) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

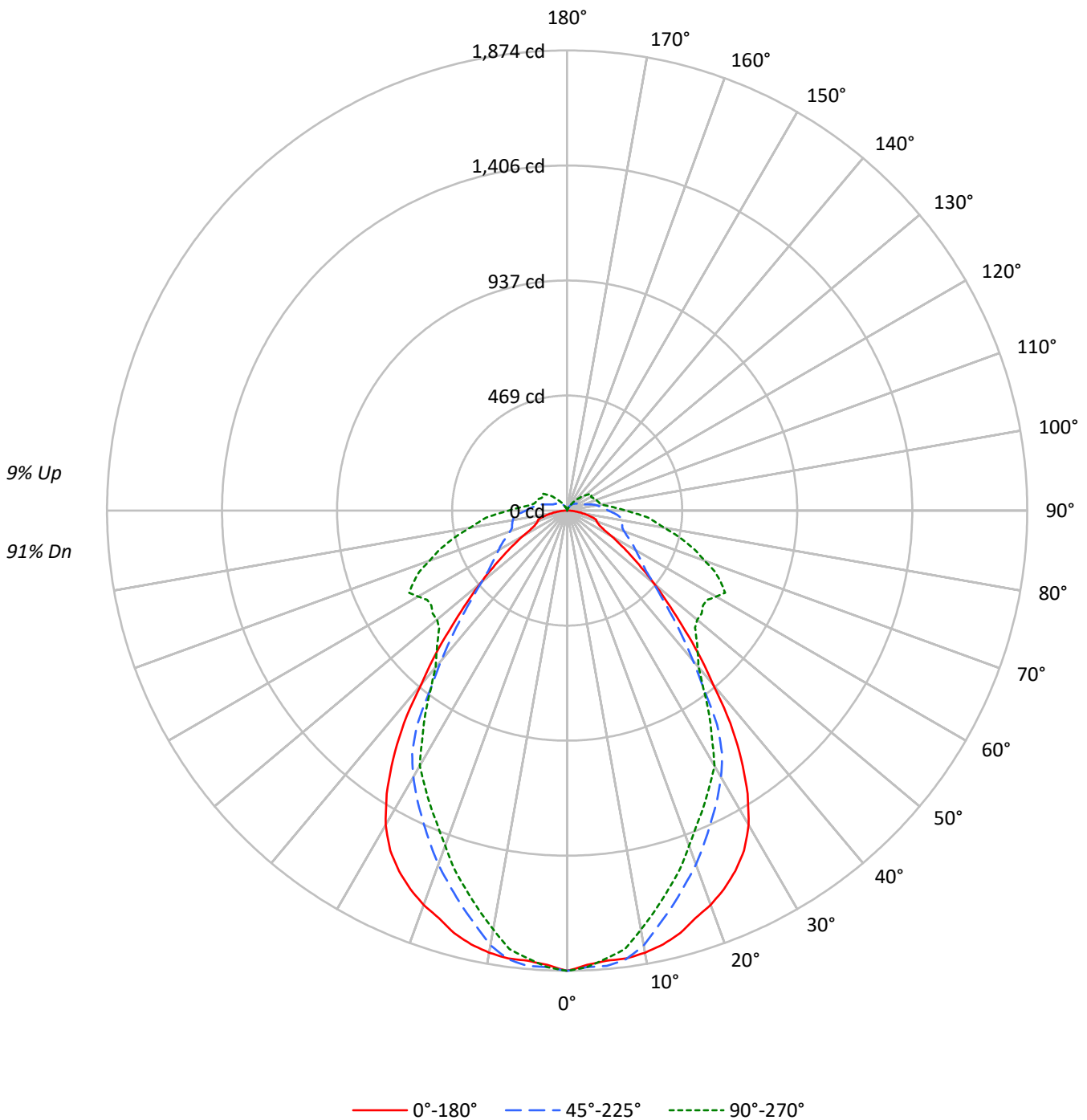
Lumens per Lamp: N/A  
Luminaire Lumens: 4145.0 lumens  
Efficiency: N/A  
Efficacy: 92.5 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.98 / 1.07  
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 1.92' x H: 0.19')  
CIE Type: Direct

Input Watts (W): 44.8  
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°	33683	33683	33683
5°	32906	32179	31383
10°	32794	30172	28581
15°	32289	27337	25570
20°	31556	24865	22790
25°	30727	22427	20469
30°	29029	20233	18492
35°	25386	17352	15547
40°	20067	13218	12987
45°	15281	10200	11845
50°	11563	8046	11277
55°	8596	6861	11381
60°	6448	6246	12347
65°	5142	5806	12846
70°	5259	5494	11796
75°	5483	5667	10767
80°	4227	6109	9409
85°	2813	6363	8712



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.6	4.2
10°-20°	471.2	11.4
20°-30°	654.3	15.8
30°-40°	670.8	16.2
40°-50°	504.3	12.2
50°-60°	395.3	9.5
60°-70°	377.7	9.1
70°-80°	304.3	7.3
80°-90°	206.1	5.0
90°-100°	127.2	3.1
100°-110°	89.2	2.2
110°-120°	67.0	1.6
120°-130°	50.4	1.2
130°-140°	30.2	0.7
140°-150°	15.5	0.4
150°-160°	5.8	0.1
160°-170°	0.9	0.0
170°-180°	0.0	0.0
0°-30°	1300.2	31.4
0°-40°	1971.0	47.6
0°-60°	2870.7	69.3
0°-90°	3758.8	90.7
90°-120°	283.4	6.8
90°-150°	379.5	9.2
90°-180°	386.0	9.3
0°-180°	4145.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1874	1874	1874	1874	1874	
5°	1840	1853	1861	1841	1831	176
15°	1781	1747	1664	1607	1595	501
25°	1620	1489	1391	1341	1321	742
35°	1236	1153	1064	1006	1006	762
45°	660	618	599	655	746	517
55°	313	320	373	544	674	286
65°	146	204	281	630	691	153
75°	108	119	232	491	502	108
85°	29	66	205	306	332	31
90°	0	38	167	249	238	2
95°	0	37	144	187	180	0
105°	0	35	96	139	133	0
115°	0	30	61	114	118	0
125°	0	25	50	92	119	0
135°	1	20	39	56	76	0
145°	1	14	30	34	38	1
155°	1	8	14	17	15	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°	1874.3	1874.3	1874.3	1874.3	1874.3
2.5°	1852.2	1856.0	1860.8	1863.7	1860.8
5°	1839.7	1853.1	1860.8	1840.6	1831.0
7.5°	1839.7	1841.6	1842.6	1813.7	1801.2
10°	1828.1	1822.4	1797.3	1742.5	1731.9
12.5°	1808.9	1796.4	1728.1	1675.1	1664.6
15°	1781.0	1747.3	1663.6	1606.8	1595.3
17.5°	1739.6	1688.6	1597.2	1541.4	1529.9
20°	1708.8	1629.0	1533.7	1478.9	1451.9
22.5°	1668.4	1560.6	1462.5	1408.6	1382.6
25°	1620.3	1489.4	1391.3	1341.3	1321.1
27.5°	1560.6	1410.5	1324.0	1271.0	1258.5
30°	1477.9	1339.3	1252.8	1208.5	1199.8
32.5°	1367.3	1251.8	1174.8	1107.5	1096.9
35°	1236.4	1152.7	1064.2	1005.5	1006.4
37.5°	1092.1	1043.0	911.2	910.2	910.2
40°	925.6	877.5	796.7	807.3	832.3
42.5°	791.9	734.1	692.8	723.6	787.1
45°	660.1	617.7	599.4	655.2	745.7
47.5°	552.3	519.6	520.5	605.2	706.2
50°	461.8	440.7	457.0	569.6	691.8
52.5°	381.0	371.4	406.0	551.3	689.9
55°	312.7	320.4	373.3	543.6	674.5
57.5°	254.0	281.0	345.4	557.1	676.4
60°	209.8	250.2	322.3	574.4	700.5
62.5°	169.3	224.2	303.1	597.5	725.5
65°	146.3	204.0	281.0	630.2	690.8
67.5°	135.7	179.9	261.7	659.1	651.4
70°	127.0	156.8	246.3	619.6	594.6
72.5°	124.1	136.6	235.7	550.4	552.3
75°	107.8	119.3	231.9	490.7	502.3
77.5°	83.7	107.8	229.0	435.9	451.3
80°	63.5	94.3	224.2	388.7	400.3
82.5°	46.2	79.9	219.4	345.4	362.7
85°	28.9	66.4	204.9	306.0	332.0
87.5°	12.5	50.0	185.7	279.0	280.0
90°	0.0	38.5	167.4	249.2	237.7
92.5°	0.0	37.5	156.8	214.6	205.9
95°	0.0	36.6	144.3	186.7	179.9
97.5°	0.0	36.6	132.8	168.4	156.8
100°	0.0	35.6	123.2	153.9	144.3
102.5°	0.0	34.6	111.6	143.4	136.6
105°	0.0	34.6	96.2	138.6	132.8
107.5°	0.0	33.7	83.7	132.8	128.9
110°	0.0	32.7	73.1	124.1	127.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	31.8	66.4	118.3	125.1
115°	0.0	29.8	60.6	114.5	118.3
117.5°	0.0	28.9	57.7	117.4	114.5
120°	0.0	27.9	54.8	116.4	112.6
122.5°	0.0	26.9	52.9	103.9	117.4
125°	0.0	25.0	50.0	92.4	119.3
127.5°	0.0	24.1	47.1	81.8	106.8
130°	0.0	22.1	44.3	72.2	96.2
132.5°	0.0	21.2	41.4	63.5	87.6
135°	1.0	20.2	39.4	55.8	76.0
137.5°	1.0	19.2	37.5	50.0	65.4
140°	1.0	18.3	34.6	44.3	54.8
142.5°	1.0	16.4	32.7	38.5	46.2
145°	1.0	14.4	29.8	33.7	37.5
147.5°	1.0	13.5	26.0	28.9	29.8
150°	1.0	11.5	22.1	25.0	23.1
152.5°	1.0	9.6	18.3	21.2	18.3
155°	1.0	7.7	14.4	17.3	15.4
157.5°	1.0	5.8	11.5	14.4	12.5
160°	1.0	3.8	9.6	9.6	10.6
162.5°	1.0	2.9	6.7	5.8	7.7
165°	1.0	1.9	3.8	1.9	3.8
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)