

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: P231978

Luminaire Tested: **FVS4M-4-LD4-40-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231978
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-40-1HI-PA187-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

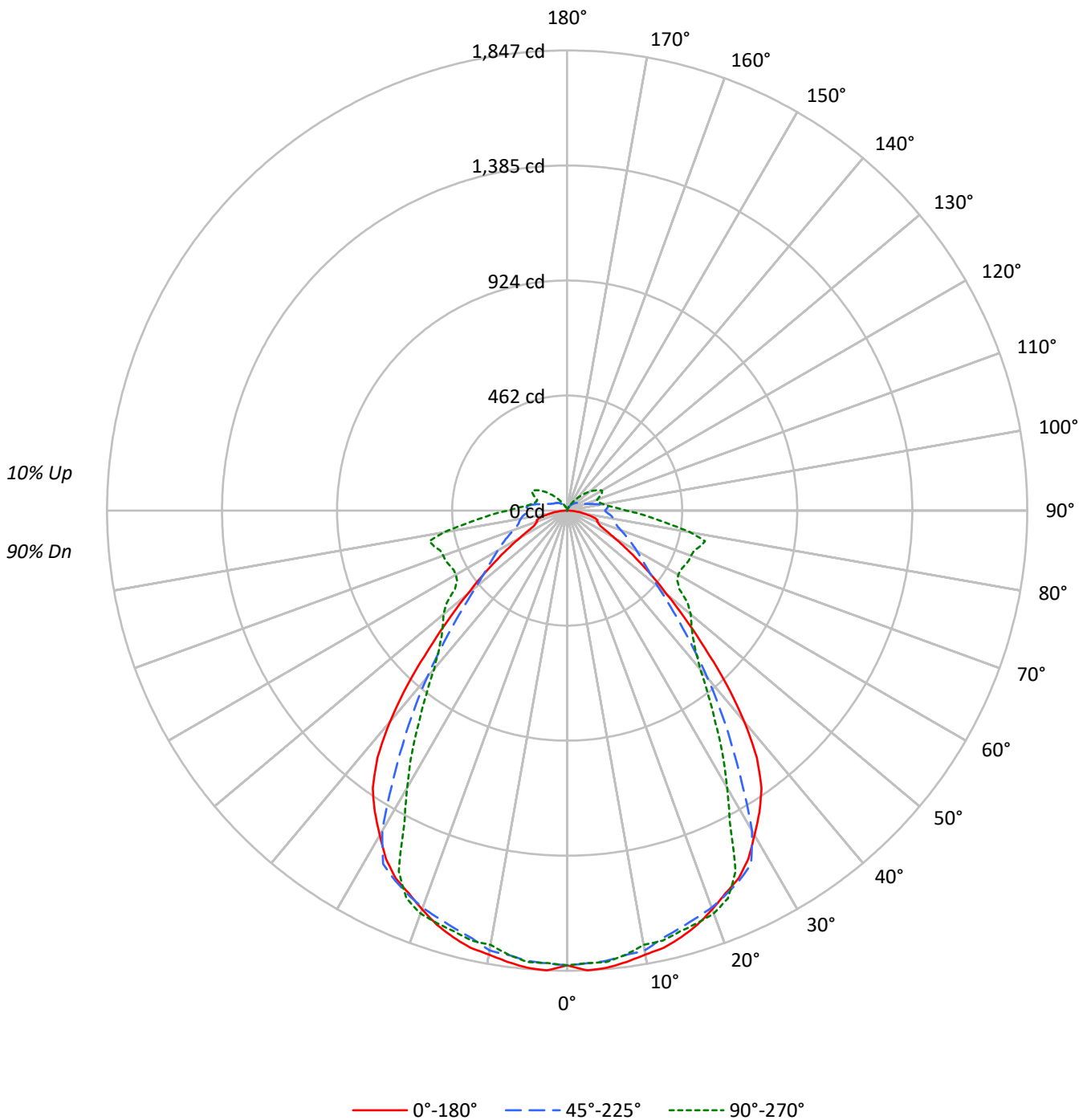
Lumens per Lamp: N/A
Luminaire Lumens: 4307.9 lumens
Efficiency: N/A
Efficacy: 96.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.09 / 1.12
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

Input Watts (W): 44.5
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	85	86	84	81	81	79	77	74
2	97	89	82	77	94	86	80	75	81	76	72	76	72	69	72	69	66	63
3	89	79	71	65	86	77	70	64	73	67	62	69	64	59	65	61	57	55
4	82	71	63	56	79	69	61	56	65	59	54	62	57	52	59	54	50	48
5	76	64	56	50	74	63	55	49	60	53	48	57	51	46	54	49	45	43
6	71	59	50	44	69	57	49	44	54	48	42	52	46	41	49	44	40	38
7	66	54	45	40	64	52	45	39	50	43	38	48	42	37	46	40	36	34
8	62	49	41	36	60	48	41	35	46	39	35	44	38	34	42	37	33	31
9	58	46	38	33	56	45	37	32	43	36	32	41	35	31	39	34	30	29
10	55	42	35	30	53	41	34	30	40	33	29	38	33	29	37	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16580	16580	16580
5°	16726	15904	15761
10°	16544	15301	14766
15°	16448	14547	14171
20°	16173	14049	13656
25°	15951	13515	12524
30°	15339	12305	9996
35°	14579	9684	8098
40°	12593	7490	6547
45°	9573	5652	5717
50°	6953	4357	5340
55°	5074	3663	4691
60°	3648	3258	4588
65°	2876	2946	4888
70°	2993	2689	5305
75°	3408	2612	5992
80°	2737	2743	5953
85°	1931	2836	4563



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.2	4.0
10°-20°	495.4	11.5
20°-30°	737.8	17.1
30°-40°	737.6	17.1
40°-50°	536.8	12.5
50°-60°	381.6	8.9
60°-70°	319.5	7.4
70°-80°	292.0	6.8
80°-90°	215.6	5.0
90°-100°	130.4	3.0
100°-110°	92.2	2.1
110°-120°	79.3	1.8
120°-130°	57.8	1.3
130°-140°	34.2	0.8
140°-150°	17.1	0.4
150°-160°	6.2	0.1
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	1406.5	32.6
0°-40°	2144.0	49.8
0°-60°	3062.5	71.1
0°-90°	3889.5	90.3
90°-120°	302.0	7.0
90°-150°	411.1	9.5
90°-180°	418.0	9.7
0°-180°	4307.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1825	1825	1825	1825	1825	
5°	1842	1829	1814	1824	1819	175
15°	1772	1761	1737	1753	1749	499
25°	1628	1610	1637	1647	1599	746
35°	1360	1353	1154	1064	1037	836
45°	782	689	642	664	712	610
55°	343	350	383	493	550	315
65°	148	215	272	463	520	157
75°	115	120	202	448	553	114
85°	29	64	170	370	344	33
90°	1	38	152	254	237	2
95°	0	37	164	188	180	0
105°	0	35	102	135	131	0
115°	0	31	65	154	150	0
125°	1	26	53	106	142	1
135°	1	20	42	66	92	1
145°	1	15	29	40	46	1
155°	1	8	15	18	19	0
165°	1	3	5	3	6	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°	1825.1	1825.1	1825.1	1825.1	1825.1
2.5°	1847.1	1836.1	1819.1	1824.1	1818.1
5°	1842.1	1829.1	1814.1	1824.1	1819.1
7.5°	1827.1	1826.1	1799.1	1810.1	1798.1
10°	1809.1	1815.1	1793.1	1792.1	1770.1
12.5°	1797.1	1788.1	1759.1	1778.1	1768.1
15°	1772.1	1761.1	1737.1	1753.1	1749.1
17.5°	1742.1	1732.1	1716.1	1726.1	1736.1
20°	1703.1	1695.1	1696.1	1722.1	1721.1
22.5°	1662.1	1664.1	1668.1	1696.1	1685.1
25°	1628.1	1610.1	1637.1	1647.1	1599.1
27.5°	1575.1	1569.1	1599.1	1491.1	1414.1
30°	1504.1	1513.1	1484.1	1324.1	1283.1
32.5°	1436.1	1449.1	1310.1	1195.0	1163.0
35°	1360.1	1353.1	1154.0	1064.0	1037.0
37.5°	1251.1	1188.0	1011.0	945.0	928.0
40°	1106.0	985.0	875.0	833.0	830.0
42.5°	947.0	821.0	749.0	743.0	763.0
45°	782.0	689.0	642.0	664.0	712.0
47.5°	643.0	575.0	550.0	601.0	676.0
50°	521.0	481.0	477.0	558.0	648.0
52.5°	427.0	408.0	424.0	533.0	609.0
55°	343.0	350.0	383.0	493.0	550.0
57.5°	276.0	305.0	351.0	465.0	524.0
60°	218.0	268.0	322.0	455.0	515.0
62.5°	177.0	240.0	296.0	459.0	514.0
65°	148.0	215.0	272.0	463.0	520.0
67.5°	137.0	188.0	249.0	464.0	527.0
70°	128.0	162.0	229.0	464.0	529.0
72.5°	128.0	139.0	212.0	460.0	534.0
75°	115.0	120.0	202.0	448.0	553.0
77.5°	92.0	106.0	196.0	439.0	567.0
80°	67.0	93.0	189.0	454.0	501.0
82.5°	51.0	78.0	181.0	429.0	412.0
85°	29.0	64.0	170.0	370.0	344.0
87.5°	13.0	49.0	158.0	305.0	289.0
90°	1.0	38.0	152.0	254.0	237.0
92.5°	0.0	36.0	158.0	213.0	205.0
95°	0.0	37.0	164.0	188.0	180.0
97.5°	0.0	37.0	156.0	168.0	160.0
100°	0.0	37.0	139.0	153.0	147.0
102.5°	0.0	36.0	119.0	141.0	138.0
105°	0.0	35.0	102.0	135.0	131.0
107.5°	0.0	35.0	89.0	139.0	128.0
110°	0.0	34.0	78.0	148.0	128.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	33.0	71.0	154.0	139.0
115°	0.0	31.0	65.0	154.0	150.0
117.5°	0.0	30.0	61.0	144.0	158.0
120°	0.0	29.0	58.0	132.0	161.0
122.5°	1.0	27.0	56.0	119.0	152.0
125°	1.0	26.0	53.0	106.0	142.0
127.5°	1.0	24.0	51.0	95.0	131.0
130°	1.0	23.0	48.0	84.0	118.0
132.5°	1.0	22.0	45.0	74.0	105.0
135°	1.0	20.0	42.0	66.0	92.0
137.5°	1.0	19.0	39.0	59.0	80.0
140°	1.0	18.0	36.0	52.0	67.0
142.5°	1.0	17.0	32.0	46.0	56.0
145°	1.0	15.0	29.0	40.0	46.0
147.5°	1.0	14.0	25.0	33.0	37.0
150°	1.0	12.0	22.0	28.0	29.0
152.5°	1.0	10.0	18.0	23.0	23.0
155°	1.0	8.0	15.0	18.0	19.0
157.5°	1.0	7.0	12.0	14.0	16.0
160°	1.0	6.0	9.0	10.0	13.0
162.5°	1.0	4.0	7.0	6.0	10.0
165°	1.0	3.0	5.0	3.0	6.0
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)