

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: P231977

Luminaire Tested: **FVS4M-4-LD4-35-1HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231977
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-LD4-35-1HI-PA187-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

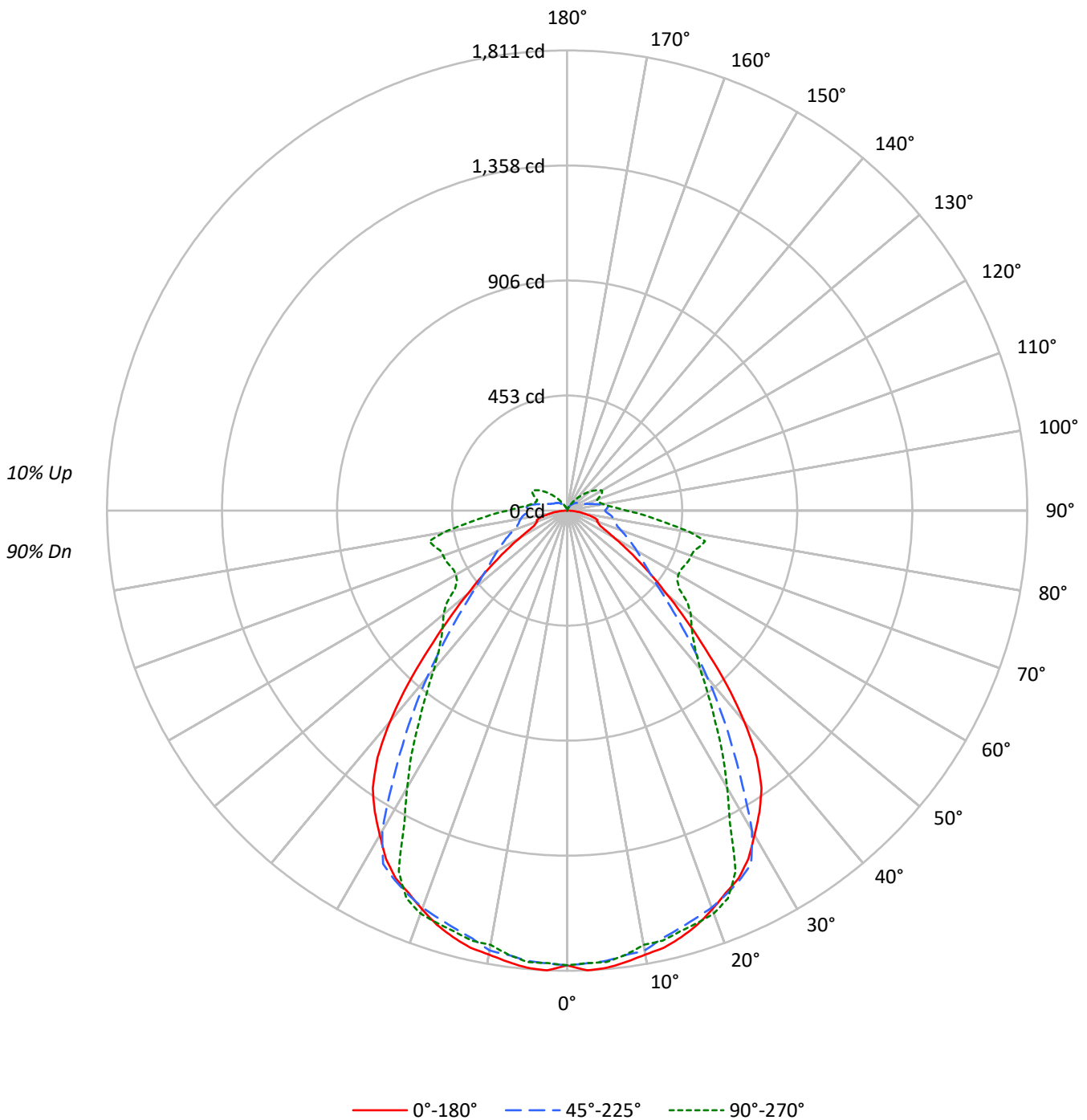
Lumens per Lamp: N/A
Luminaire Lumens: 4224.0 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.09 / 1.12
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

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°	16256	16256	16256
5°	16400	15593	15453
10°	16221	15003	14478
15°	16127	14263	13895
20°	15858	13774	13390
25°	15640	13251	12280
30°	15040	12065	9801
35°	14293	9495	7940
40°	12348	7345	6419
45°	9387	5542	5605
50°	6819	4272	5236
55°	4975	3592	4600
60°	3578	3195	4499
65°	2820	2888	4793
70°	2935	2636	5202
75°	3342	2562	5875
80°	2684	2689	5838
85°	1891	2780	4474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.8	4.0
10°-20°	485.8	11.5
20°-30°	723.4	17.1
30°-40°	723.2	17.1
40°-50°	526.4	12.5
50°-60°	374.2	8.9
60°-70°	313.2	7.4
70°-80°	286.3	6.8
80°-90°	211.4	5.0
90°-100°	127.9	3.0
100°-110°	90.4	2.1
110°-120°	77.8	1.8
120°-130°	56.7	1.3
130°-140°	33.6	0.8
140°-150°	16.8	0.4
150°-160°	6.1	0.1
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	1379.0	32.6
0°-40°	2102.2	49.8
0°-60°	3002.7	71.1
0°-90°	3813.7	90.3
90°-120°	296.1	7.0
90°-150°	403.1	9.5
90°-180°	410.0	9.7
0°-180°	4224.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1790	1790	1790	1790	1790	
5°	1806	1793	1779	1788	1784	171
15°	1738	1727	1703	1719	1715	490
25°	1596	1579	1605	1615	1568	731
35°	1334	1327	1132	1043	1017	820
45°	767	676	630	651	698	599
55°	336	343	376	483	539	309
65°	145	211	267	454	510	154
75°	113	118	198	439	542	112
85°	28	63	167	363	337	32
90°	1	37	149	249	232	2
95°	0	36	161	184	176	0
105°	0	34	100	132	128	0
115°	0	30	64	151	147	0
125°	1	26	52	104	139	1
135°	1	20	41	65	90	1
145°	1	15	28	39	45	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°	1789.5	1789.5	1789.5	1789.5	1789.5
2.5°	1811.1	1800.3	1783.6	1788.5	1782.6
5°	1806.2	1793.4	1778.7	1788.5	1783.6
7.5°	1791.4	1790.5	1764.0	1774.8	1763.0
10°	1773.8	1779.7	1758.1	1757.1	1735.6
12.5°	1762.0	1753.2	1724.8	1743.4	1733.6
15°	1737.5	1726.7	1703.2	1718.9	1715.0
17.5°	1708.1	1698.3	1682.6	1692.4	1702.2
20°	1669.9	1662.0	1663.0	1688.5	1687.5
22.5°	1629.7	1631.6	1635.5	1663.0	1652.2
25°	1596.3	1578.7	1605.1	1615.0	1567.9
27.5°	1544.4	1538.5	1567.9	1462.0	1386.5
30°	1474.7	1483.6	1455.1	1298.2	1258.0
32.5°	1408.1	1420.8	1284.5	1171.7	1140.4
35°	1333.5	1326.7	1131.5	1043.3	1016.8
37.5°	1226.7	1164.9	991.3	926.6	909.9
40°	1084.5	965.8	858.0	816.8	813.8
42.5°	928.6	805.0	734.4	728.5	748.2
45°	766.8	675.6	629.5	651.1	698.1
47.5°	630.5	563.8	539.3	589.3	662.8
50°	510.9	471.6	467.7	547.1	635.4
52.5°	418.7	400.1	415.7	522.6	597.1
55°	336.3	343.2	375.5	483.4	539.3
57.5°	270.6	299.1	344.2	456.0	513.8
60°	213.8	262.8	315.7	446.1	505.0
62.5°	173.6	235.3	290.2	450.1	504.0
65°	145.1	210.8	266.7	454.0	509.9
67.5°	134.3	184.3	244.2	455.0	516.7
70°	125.5	158.8	224.5	455.0	518.7
72.5°	125.5	136.3	207.9	451.0	523.6
75°	112.8	117.7	198.1	439.3	542.2
77.5°	90.2	103.9	192.2	430.5	556.0
80°	65.7	91.2	185.3	445.2	491.3
82.5°	50.0	76.5	177.5	420.7	404.0
85°	28.4	62.8	166.7	362.8	337.3
87.5°	12.7	48.0	154.9	299.1	283.4
90°	1.0	37.3	149.0	249.1	232.4
92.5°	0.0	35.3	154.9	208.9	201.0
95°	0.0	36.3	160.8	184.3	176.5
97.5°	0.0	36.3	153.0	164.7	156.9
100°	0.0	36.3	136.3	150.0	144.1
102.5°	0.0	35.3	116.7	138.3	135.3
105°	0.0	34.3	100.0	132.4	128.5
107.5°	0.0	34.3	87.3	136.3	125.5
110°	0.0	33.3	76.5	145.1	125.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	32.4	69.6	151.0	136.3
115°	0.0	30.4	63.7	151.0	147.1
117.5°	0.0	29.4	59.8	141.2	154.9
120°	0.0	28.4	56.9	129.4	157.9
122.5°	1.0	26.5	54.9	116.7	149.0
125°	1.0	25.5	52.0	103.9	139.2
127.5°	1.0	23.5	50.0	93.2	128.5
130°	1.0	22.6	47.1	82.4	115.7
132.5°	1.0	21.6	44.1	72.6	103.0
135°	1.0	19.6	41.2	64.7	90.2
137.5°	1.0	18.6	38.2	57.9	78.4
140°	1.0	17.6	35.3	51.0	65.7
142.5°	1.0	16.7	31.4	45.1	54.9
145°	1.0	14.7	28.4	39.2	45.1
147.5°	1.0	13.7	24.5	32.4	36.3
150°	1.0	11.8	21.6	27.5	28.4
152.5°	1.0	9.8	17.6	22.6	22.6
155°	1.0	7.8	14.7	17.6	18.6
157.5°	1.0	6.9	11.8	13.7	15.7
160°	1.0	5.9	8.8	9.8	12.7
162.5°	1.0	3.9	6.9	5.9	9.8
165°	1.0	2.9	4.9	2.9	5.9
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)