

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: P231969

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P231969
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-LD4-35-1LO-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

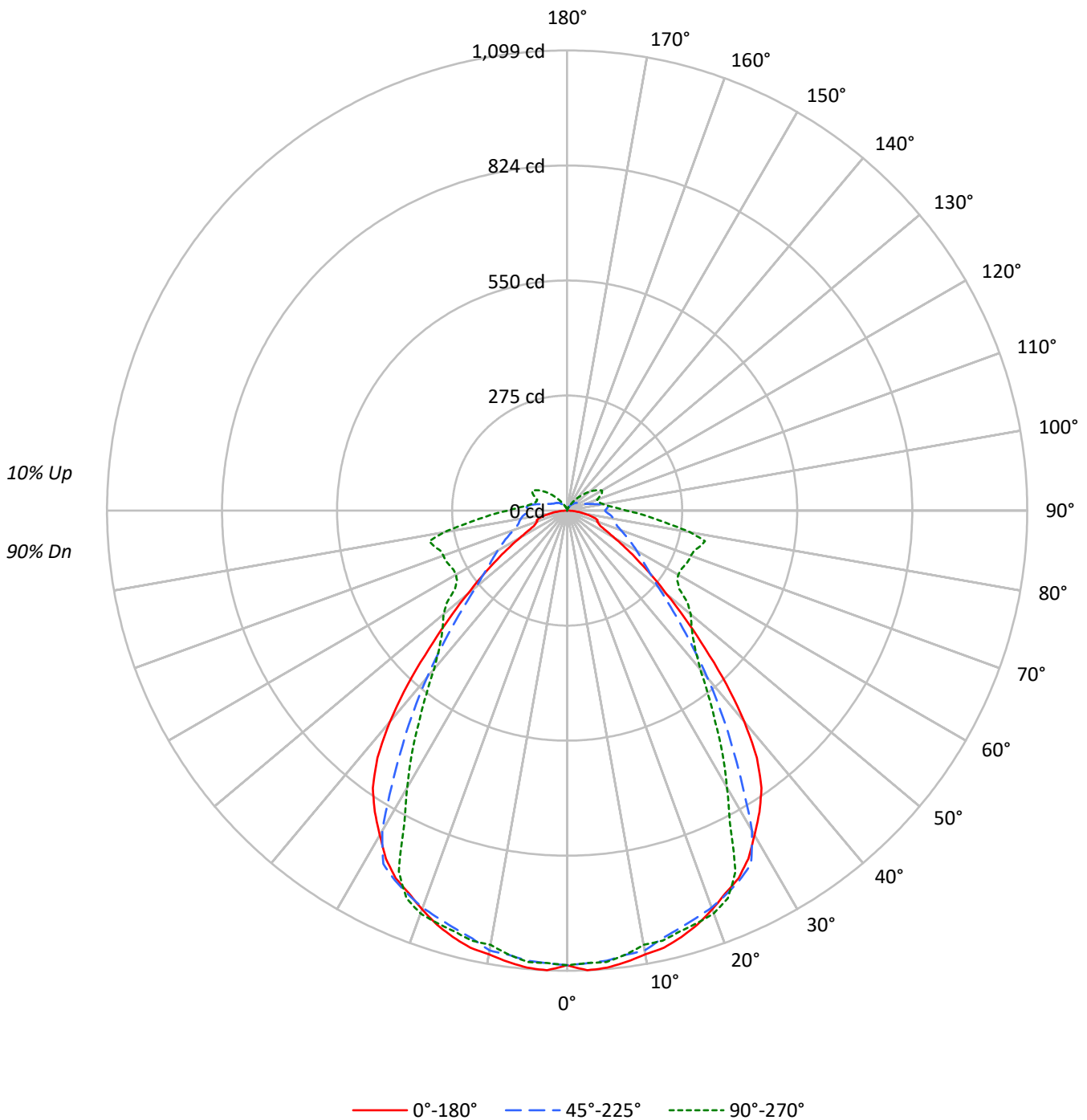
Lumens per Lamp: N/A
Luminaire Lumens: 2563.0 lumens
Efficiency: N/A
Efficacy: 108.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.09 / 1.12
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Direct

Input Watts (W): 23.6
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°	9864	9864	9864
5°	9950	9462	9376
10°	9842	9103	8785
15°	9786	8655	8431
20°	9622	8358	8124
25°	9490	8041	7451
30°	9126	7320	5947
35°	8674	5762	4818
40°	7492	4456	3895
45°	5696	3363	3401
50°	4137	2592	3177
55°	3019	2180	2791
60°	2171	1939	2730
65°	1712	1752	2908
70°	1782	1599	3156
75°	2027	1555	3565
80°	1630	1631	3542
85°	1152	1686	2715



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.0	4.0
10°-20°	294.8	11.5
20°-30°	439.0	17.1
30°-40°	438.8	17.1
40°-50°	319.4	12.5
50°-60°	227.0	8.9
60°-70°	190.1	7.4
70°-80°	173.7	6.8
80°-90°	128.3	5.0
90°-100°	77.6	3.0
100°-110°	54.8	2.1
110°-120°	47.2	1.8
120°-130°	34.4	1.3
130°-140°	20.4	0.8
140°-150°	10.2	0.4
150°-160°	3.7	0.1
160°-170°	0.6	0.0
170°-180°	0.0	0.0
0°-30°	836.7	32.6
0°-40°	1275.5	49.8
0°-60°	1822.0	71.1
0°-90°	2314.1	90.3
90°-120°	179.6	7.0
90°-150°	244.6	9.5
90°-180°	249.0	9.7
0°-180°	2563.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1086	1086	1086	1086	1086	
5°	1096	1088	1079	1085	1082	104
15°	1054	1048	1034	1043	1041	297
25°	969	958	974	980	951	444
35°	809	805	687	633	617	497
45°	465	410	382	395	424	363
55°	204	208	228	293	327	187
65°	88	128	162	276	309	93
75°	68	71	120	266	329	68
85°	17	38	101	220	205	19
90°	1	23	90	151	141	1
95°	0	22	98	112	107	0
105°	0	21	61	80	78	0
115°	0	18	39	92	89	0
125°	1	16	32	63	84	0
135°	1	12	25	39	55	0
145°	1	9	17	24	27	0
155°	1	5	9	11	11	0
165°	1	2	3	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°	1085.8	1085.8	1085.8	1085.8	1085.8
2.5°	1098.9	1092.4	1082.2	1085.2	1081.6
5°	1095.9	1088.2	1079.3	1085.2	1082.2
7.5°	1087.0	1086.4	1070.3	1076.9	1069.7
10°	1076.3	1079.9	1066.8	1066.2	1053.1
12.5°	1069.2	1063.8	1046.5	1057.8	1051.9
15°	1054.3	1047.7	1033.5	1043.0	1040.6
17.5°	1036.4	1030.5	1021.0	1026.9	1032.9
20°	1013.2	1008.5	1009.1	1024.5	1023.9
22.5°	988.8	990.0	992.4	1009.1	1002.5
25°	968.6	957.9	974.0	979.9	951.3
27.5°	937.1	933.5	951.3	887.1	841.3
30°	894.8	900.2	882.9	787.7	763.3
32.5°	854.4	862.1	779.4	711.0	691.9
35°	809.2	805.0	686.6	633.0	617.0
37.5°	744.3	706.8	601.5	562.2	552.1
40°	658.0	586.0	520.6	495.6	493.8
42.5°	563.4	488.5	445.6	442.1	454.0
45°	465.3	409.9	382.0	395.1	423.6
47.5°	382.6	342.1	327.2	357.6	402.2
50°	310.0	286.2	283.8	332.0	385.5
52.5°	254.0	242.7	252.3	317.1	362.3
55°	204.1	208.2	227.9	293.3	327.2
57.5°	164.2	181.5	208.8	276.7	311.8
60°	129.7	159.5	191.6	270.7	306.4
62.5°	105.3	142.8	176.1	273.1	305.8
65°	88.1	127.9	161.8	275.5	309.4
67.5°	81.5	111.9	148.1	276.1	313.5
70°	76.2	96.4	136.2	276.1	314.7
72.5°	76.2	82.7	126.1	273.7	317.7
75°	68.4	71.4	120.2	266.5	329.0
77.5°	54.7	63.1	116.6	261.2	337.3
80°	39.9	55.3	112.4	270.1	298.1
82.5°	30.3	46.4	107.7	255.2	245.1
85°	17.3	38.1	101.1	220.1	204.7
87.5°	7.7	29.2	94.0	181.5	171.9
90°	0.6	22.6	90.4	151.1	141.0
92.5°	0.0	21.4	94.0	126.7	122.0
95°	0.0	22.0	97.6	111.9	107.1
97.5°	0.0	22.0	92.8	100.0	95.2
100°	0.0	22.0	82.7	91.0	87.5
102.5°	0.0	21.4	70.8	83.9	82.1
105°	0.0	20.8	60.7	80.3	77.9
107.5°	0.0	20.8	53.0	82.7	76.2
110°	0.0	20.2	46.4	88.1	76.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	19.6	42.2	91.6	82.7
115°	0.0	18.4	38.7	91.6	89.2
117.5°	0.0	17.8	36.3	85.7	94.0
120°	0.0	17.3	34.5	78.5	95.8
122.5°	0.6	16.1	33.3	70.8	90.4
125°	0.6	15.5	31.5	63.1	84.5
127.5°	0.6	14.3	30.3	56.5	77.9
130°	0.6	13.7	28.6	50.0	70.2
132.5°	0.6	13.1	26.8	44.0	62.5
135°	0.6	11.9	25.0	39.3	54.7
137.5°	0.6	11.3	23.2	35.1	47.6
140°	0.6	10.7	21.4	30.9	39.9
142.5°	0.6	10.1	19.0	27.4	33.3
145°	0.6	8.9	17.3	23.8	27.4
147.5°	0.6	8.3	14.9	19.6	22.0
150°	0.6	7.1	13.1	16.7	17.3
152.5°	0.6	5.9	10.7	13.7	13.7
155°	0.6	4.8	8.9	10.7	11.3
157.5°	0.6	4.2	7.1	8.3	9.5
160°	0.6	3.6	5.4	5.9	7.7
162.5°	0.6	2.4	4.2	3.6	5.9
165°	0.6	1.8	3.0	1.8	3.6
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)