

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: P241523

Luminaire Tested: **FVS8M-4-LD4-40-3HI-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241523
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-45)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-40-3HI-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (252) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

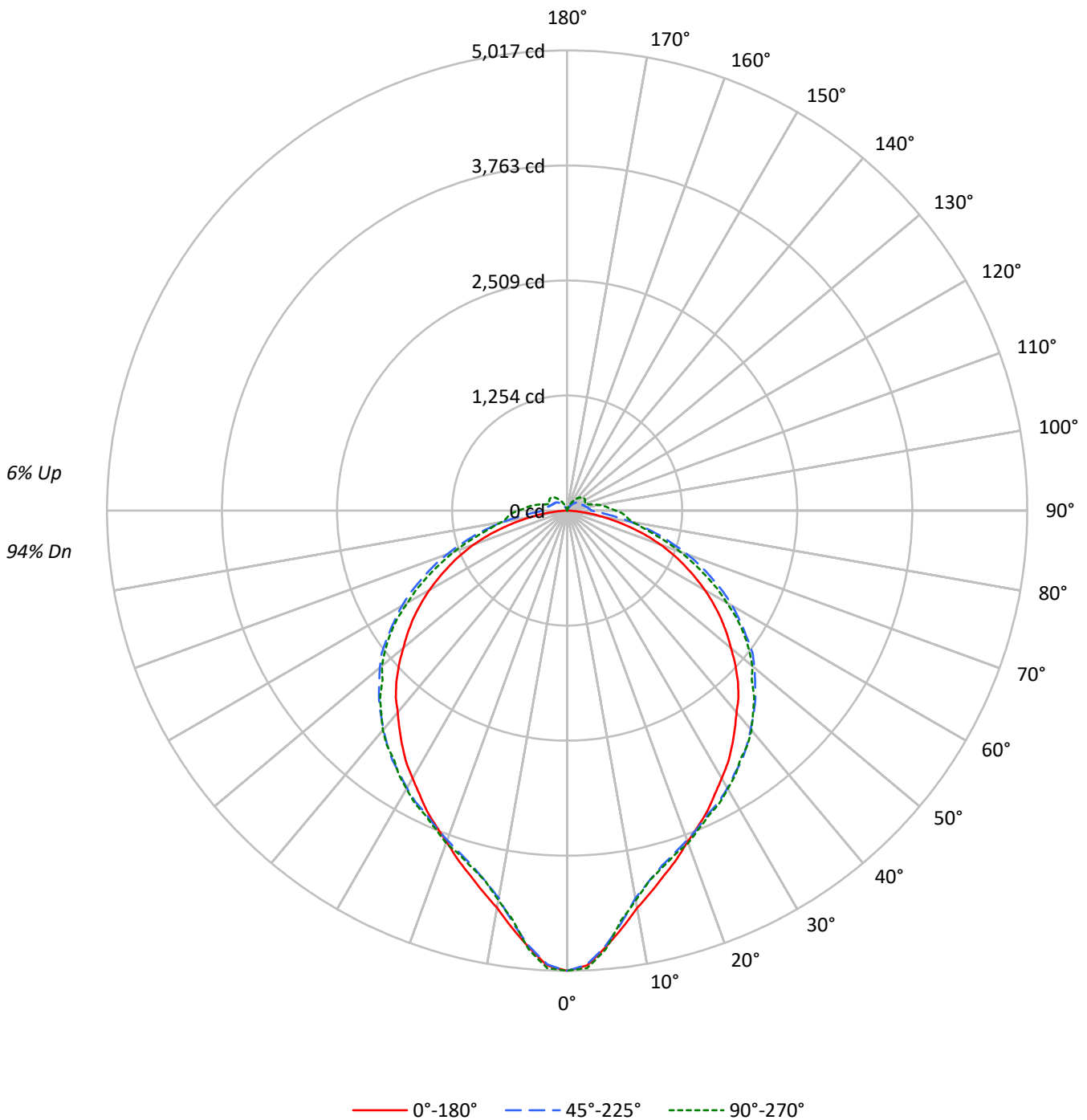
Lumens per Lamp: N/A
Luminaire Lumens: 13501.0 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.04 / 1.27
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 129.5
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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	106	101	97	93	103	98	94	91	93	90	87	88	85	83	83	81	79	77
2	96	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	68	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45
5	74	61	51	45	71	59	50	44	56	49	43	54	47	42	51	45	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	40	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	37	33	42	36	32	30
8	59	45	36	30	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22422	22422	22422
5°	21376	21033	21131
10°	19822	18842	18820
15°	18820	17641	17557
20°	18012	17027	16956
25°	17517	16526	16338
30°	17002	16272	15997
35°	16643	16023	15542
40°	16224	15700	15328
45°	16010	15454	14865
50°	15492	15154	14436
55°	15099	14649	13875
60°	14525	14051	12922
65°	13757	13120	11806
70°	12767	12026	10564
75°	10955	10600	9052
80°	8300	8798	8204
85°	4394	6824	9136



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.5	3.3
10°-20°	1143.2	8.5
20°-30°	1687.9	12.5
30°-40°	2054.1	15.2
40°-50°	2186.4	16.2
50°-60°	2055.9	15.2
60°-70°	1626.3	12.0
70°-80°	1014.8	7.5
80°-90°	450.7	3.3
90°-100°	248.3	1.8
100°-110°	181.3	1.3
110°-120°	140.1	1.0
120°-130°	120.2	0.9
130°-140°	84.7	0.6
140°-150°	45.7	0.3
150°-160°	16.9	0.1
160°-170°	3.1	0.0
170°-180°	0.1	0.0
0°-30°	3272.7	24.2
0°-40°	5326.7	39.5
0°-60°	9569.0	70.9
0°-90°	12660.8	93.8
90°-120°	569.6	4.2
90°-150°	820.2	6.1
90°-180°	840.0	6.2
0°-180°	13501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5017	5017	5017	5017	5017	
5°	4781	4777	4765	4810	4803	444
15°	4110	4081	4004	3996	4024	1159
25°	3617	3642	3644	3685	3662	1664
35°	3134	3228	3322	3353	3299	1960
45°	2632	2776	2903	2900	2883	2024
55°	2046	2237	2383	2395	2355	1825
65°	1410	1577	1739	1703	1657	1395
75°	727	886	1043	1049	966	772
85°	124	268	418	510	638	162
90°	3	127	266	387	530	6
95°	1	107	239	348	434	1
105°	1	89	197	263	257	1
115°	1	75	167	209	215	1
125°	2	61	152	212	229	2
135°	2	42	118	177	202	2
145°	3	21	74	121	141	2
155°	4	8	33	62	72	2
165°	4	3	7	15	20	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	5017	5017	5017	5017	5017	5017	5017	5017	5017	5017	5017
2.5°	4964	4969	4976	4966	4973	4968	4975	4972	4966	4964	4953
5°	4781	4796	4789	4783	4787	4777	4792	4783	4775	4763	4765
7.5°	4590	4583	4589	4571	4568	4573	4567	4565	4569	4544	4533
10°	4398	4407	4390	4388	4382	4384	4374	4361	4338	4310	4289
12.5°	4253	4252	4252	4237	4218	4222	4205	4176	4158	4143	4135
15°	4110	4111	4098	4084	4082	4081	4077	4053	4032	4020	4004
17.5°	3980	3982	3980	3973	3970	3956	3958	3936	3907	3904	3908
20°	3841	3856	3865	3839	3840	3831	3836	3827	3815	3821	3824
22.5°	3727	3741	3738	3730	3735	3737	3738	3741	3743	3737	3739
25°	3617	3615	3617	3635	3635	3642	3642	3639	3638	3632	3644
27.5°	3487	3501	3514	3523	3523	3530	3525	3551	3561	3566	3580
30°	3369	3390	3396	3404	3433	3444	3452	3475	3480	3483	3494
32.5°	3261	3267	3274	3314	3341	3349	3357	3367	3383	3385	3399
35°	3134	3137	3169	3197	3216	3228	3245	3274	3296	3313	3322
37.5°	3003	3028	3052	3066	3107	3133	3157	3190	3197	3209	3221
40°	2872	2898	2909	2958	3004	3024	3041	3064	3076	3101	3114
42.5°	2765	2770	2789	2837	2876	2891	2915	2958	2990	3010	3007
45°	2632	2631	2672	2696	2746	2776	2806	2841	2872	2899	2903
47.5°	2486	2497	2527	2562	2631	2663	2682	2707	2743	2762	2778
50°	2332	2365	2378	2440	2492	2515	2542	2585	2623	2653	2666
52.5°	2190	2207	2248	2292	2343	2382	2403	2460	2496	2518	2547
55°	2046	2054	2102	2144	2200	2237	2262	2314	2338	2373	2383
57.5°	1892	1907	1944	1995	2048	2074	2092	2152	2188	2225	2230
60°	1735	1755	1786	1844	1881	1908	1935	1996	2033	2064	2082
62.5°	1570	1586	1625	1673	1713	1742	1776	1827	1863	1898	1914
65°	1410	1427	1462	1502	1551	1577	1607	1649	1694	1719	1739
67.5°	1250	1258	1291	1333	1385	1403	1433	1474	1532	1551	1570
70°	1082	1087	1114	1164	1203	1232	1250	1307	1347	1375	1394
72.5°	910	922	939	987	1030	1054	1085	1135	1173	1202	1210
75°	727	741	770	816	858	886	913	949	992	1022	1043
77.5°	555	576	597	636	689	714	736	784	825	854	866
80°	394	410	437	474	526	548	571	615	651	678	705
82.5°	257	259	295	329	375	396	418	462	499	524	549
85°	124	138	166	202	246	268	289	326	356	385	418
87.5°	39	48	79	114	151	171	189	224	254	284	316
90°	3	12	37	71	108	127	143	174	206	237	266
92.5°	1	9	32	64	98	114	130	161	191	222	253
95°	1	8	29	59	92	107	122	153	184	213	239
97.5°	1	8	28	56	86	101	116	147	176	204	228
100°	1	7	26	52	82	96	111	140	168	194	217
102.5°	1	6	24	50	78	92	107	134	160	184	207
105°	1	6	23	48	75	89	102	129	153	176	197
107.5°	1	5	22	45	72	85	98	124	147	169	188
110°	1	5	20	43	69	82	95	119	142	162	180



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1	4	19	41	66	79	91	115	137	156	173
115°	1	4	18	39	63	75	88	111	132	151	167
117.5°	2	3	16	37	60	72	84	107	128	147	164
120°	2	3	15	35	57	69	80	103	124	143	161
122.5°	2	3	14	32	54	65	77	99	120	140	157
125°	2	3	12	30	51	61	72	94	115	134	152
127.5°	2	2	11	27	47	57	68	89	109	127	145
130°	2	2	9	24	43	53	63	84	102	120	137
132.5°	2	2	8	21	38	47	57	77	95	112	128
135°	2	2	6	18	34	42	51	69	86	103	118
137.5°	3	2	5	15	29	37	44	61	76	93	109
140°	3	3	4	12	24	31	37	52	67	82	97
142.5°	3	3	4	10	20	26	32	44	58	72	86
145°	3	3	3	8	16	21	26	38	50	62	74
147.5°	3	3	3	6	13	17	21	31	42	53	63
150°	4	3	3	5	10	13	17	25	34	43	52
152.5°	4	3	3	4	8	10	13	20	27	34	42
155°	4	3	3	4	6	8	10	15	21	27	33
157.5°	4	4	3	3	5	6	7	11	15	20	25
160°	4	4	3	3	4	4	5	8	11	14	18
162.5°	4	4	3	3	3	3	4	5	7	9	12
165°	4	4	4	3	3	3	3	3	4	6	7
167.5°	4	4	4	3	3	2	2	2	3	3	4
170°	5	4	4	3	3	2	2	2	2	2	2
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	5017	5017	5017	5017	5017	5017	5017	5017	5017	5017
2.5°	4957	4961	4978	4982	4988	4986	4989	4989	4992	4993
5°	4776	4798	4810	4802	4810	4806	4807	4802	4800	4803
7.5°	4506	4505	4507	4505	4506	4506	4514	4517	4507	4506
10°	4274	4278	4287	4290	4286	4281	4292	4295	4305	4312
12.5°	4123	4106	4131	4148	4150	4156	4156	4161	4151	4133
15°	4005	4017	4016	3997	3996	3997	4011	4003	4012	4024
17.5°	3902	3897	3910	3924	3929	3936	3932	3928	3928	3926
20°	3808	3835	3849	3843	3847	3856	3865	3867	3863	3858
22.5°	3745	3757	3771	3801	3791	3792	3773	3766	3759	3754
25°	3652	3674	3704	3691	3685	3684	3673	3673	3664	3662
27.5°	3585	3613	3590	3603	3603	3610	3606	3601	3597	3597
30°	3517	3500	3514	3526	3522	3518	3519	3505	3509	3504
32.5°	3409	3411	3431	3438	3440	3442	3434	3430	3426	3415
35°	3327	3347	3337	3352	3353	3327	3328	3317	3308	3299
37.5°	3233	3227	3255	3246	3231	3229	3220	3229	3226	3228
40°	3132	3148	3137	3137	3133	3142	3141	3134	3130	3125
42.5°	3035	3036	3024	3031	3030	3028	3018	3011	3014	2998
45°	2934	2905	2927	2908	2900	2909	2895	2891	2879	2883
47.5°	2791	2787	2789	2774	2771	2764	2744	2734	2730	2731
50°	2659	2667	2662	2656	2648	2637	2634	2638	2647	2635
52.5°	2543	2549	2545	2528	2521	2529	2536	2513	2504	2502
55°	2393	2415	2396	2404	2395	2395	2367	2365	2362	2355
57.5°	2247	2250	2256	2267	2240	2237	2234	2215	2199	2196
60°	2099	2091	2099	2083	2079	2077	2046	2022	2006	2011
62.5°	1927	1937	1923	1903	1897	1885	1851	1857	1851	1845
65°	1740	1751	1734	1712	1703	1695	1689	1667	1668	1657
67.5°	1572	1563	1563	1538	1535	1535	1510	1494	1493	1483
70°	1396	1401	1388	1379	1384	1367	1343	1334	1312	1310
72.5°	1222	1237	1222	1221	1211	1206	1180	1166	1149	1136
75°	1049	1063	1060	1054	1049	1039	1020	992	975	966
77.5°	885	891	904	896	899	889	874	852	835	832
80°	722	736	748	750	750	749	736	729	731	727
82.5°	573	589	608	616	622	624	633	643	660	670
85°	441	465	484	500	510	521	543	571	613	638
87.5°	343	369	393	421	438	449	475	516	563	593
90°	294	320	350	376	387	402	436	469	509	530
92.5°	277	305	329	353	367	379	406	428	456	471
95°	264	287	314	336	348	359	376	397	420	434
97.5°	252	276	297	317	327	334	355	375	392	396
100°	240	262	279	296	307	315	332	344	348	349
102.5°	228	247	264	278	286	293	302	309	310	307
105°	215	232	247	260	263	267	270	265	261	257
107.5°	204	219	231	238	239	240	238	234	230	229
110°	195	208	216	219	220	220	217	214	212	210



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	187	198	205	209	210	211	211	210	209	208
115°	181	193	201	206	209	211	214	215	215	215
117.5°	178	191	201	209	213	216	220	222	222	221
120°	176	190	201	212	216	219	224	227	227	226
122.5°	173	188	200	211	216	220	226	229	229	229
125°	168	184	196	208	212	217	223	227	228	229
127.5°	161	177	190	202	207	211	218	223	225	226
130°	153	168	181	194	199	204	211	216	219	220
132.5°	143	158	171	183	189	193	202	207	211	211
135°	133	147	159	171	177	182	191	197	201	202
137.5°	122	135	147	159	164	169	177	184	189	190
140°	111	123	135	146	151	155	163	170	174	175
142.5°	99	111	122	132	136	140	148	154	156	158
145°	87	98	108	117	121	125	131	137	139	141
147.5°	74	85	94	102	106	109	115	119	123	123
150°	61	71	80	88	91	94	98	102	104	106
152.5°	49	57	66	74	76	78	83	85	88	89
155°	39	45	52	59	62	64	68	70	72	72
157.5°	30	35	39	45	48	51	54	56	57	57
160°	21	25	29	33	35	37	40	41	43	43
162.5°	14	17	20	23	24	25	28	30	31	31
165°	9	10	12	14	15	16	18	19	20	20
167.5°	4	5	6	7	7	8	9	11	11	11
170°	2	2	2	2	3	3	3	4	4	4
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)