

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: P29167

Luminaire Tested: **H12-LD4-50W-40-OPL-EDC1**

Test Date: 12/21/16



**Test Information**

Test Method: LM-79-08  
Report Number: P29167  
Test Lab: INNOVATION CENTER-P2  
Test Date: 12/21/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: H12-LD4-50W-40-OPL-EDC1  
Description: H12 LED FIXTURE WITH OPAL LENS  
Light Source: (112) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (950mA)  
OT50W-UNV-1250C

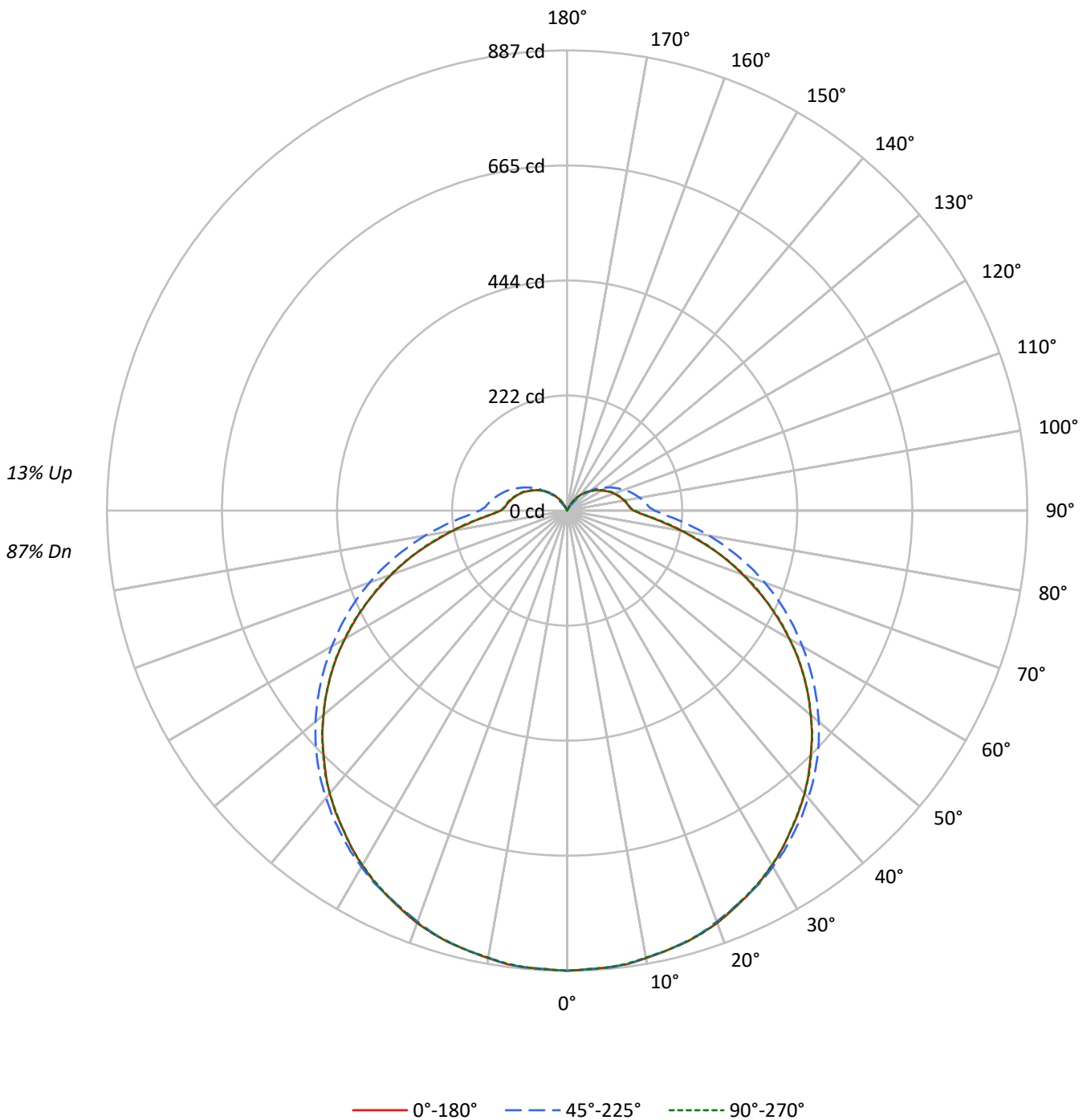
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3690.7 lumens  
Efficiency: N/A  
Efficacy: 79.7 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.32 / 1.48  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')  
CIE Type: Semi-Direct  
  
Input Watts (W): 46.3  
Input Voltage (V): 120.1  
Input Current (A<sub>in</sub>): 0.386  
Voltage Rise (V): NR  
Power Factor: 0.9984  
Total Harmonic Distortion (THDi): 6.08%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): 24.7  
Test Distance: 25 FT

TEST NUMBER: P29167

CATALOG NUMBER: H12-LD4-50W-40-OPL-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P29167

CATALOG NUMBER: H12-LD4-50W-40-OPL-EDC1

**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	50	30	10	0	
RCR																						
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87				87
1	103	98	93	88	99	94	90	85	87	84	80	81	78	75	76	73	71	68				68
2	93	84	76	70	89	81	74	68	75	69	64	70	65	61	65	61	58	55				55
3	84	73	64	57	81	70	62	55	65	58	53	61	55	50	56	52	48	45				45
4	77	64	55	47	73	62	53	46	58	50	44	54	47	42	50	45	40	38				38
5	70	57	47	40	67	55	46	39	51	44	38	48	41	36	45	39	35	32				32
6	65	51	42	35	62	49	40	34	46	38	33	43	36	31	40	35	30	28				28
7	60	46	37	30	57	44	36	30	42	34	29	39	33	28	37	31	27	24				24
8	56	42	33	27	53	40	32	26	38	31	26	36	29	25	34	28	24	22				22
9	52	38	30	24	50	37	29	24	35	28	23	33	27	22	31	25	21	19				19
10	49	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17				17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13749	13749	13749
5°	13178	12968	13178
10°	12670	12245	12656
15°	12226	11643	12226
20°	11806	11059	11792
25°	11372	10534	11359
30°	10972	10079	10958
35°	10539	9618	10539
40°	10149	9181	10149
45°	9703	8744	9718
50°	9262	8284	9262
55°	8781	7798	8781
60°	8223	7302	8223
65°	7593	6792	7593
70°	6873	6237	6911
75°	6102	5612	6122
80°	5190	4953	5236
85°	4370	4230	4423



TEST NUMBER: P29167

CATALOG NUMBER: H12-LD4-50W-40-OPL-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.1	2.3
10°-20°	243.9	6.6
20°-30°	378.2	10.2
30°-40°	473.3	12.8
40°-50°	519.2	14.1
50°-60°	509.2	13.8
60°-70°	445.1	12.1
70°-80°	339.0	9.2
80°-90°	216.7	5.9
90°-100°	150.8	4.1
100°-110°	124.4	3.4
110°-120°	93.8	2.5
120°-130°	62.7	1.7
130°-140°	35.0	0.9
140°-150°	13.6	0.4
150°-160°	1.6	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	706.3	19.1
0°-40°	1179.6	32.0
0°-60°	2208.0	59.8
0°-90°	3208.9	86.9
90°-120°	369.0	10.0
90°-150°	480.2	13.0
90°-180°	482.0	13.1
0°-180°	3690.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	887	887	887	887	887	
5°	884	884	885	884	884	84
15°	864	864	863	863	864	244
25°	820	819	819	819	819	378
35°	752	754	760	754	752	471
45°	664	673	681	672	665	513
55°	557	570	580	571	557	498
65°	429	451	466	452	429	424
75°	292	324	341	325	293	308
85°	165	200	216	201	167	147
90°	128	154	168	154	129	71
95°	118	139	153	140	119	95
105°	104	118	130	119	105	110
115°	87	94	103	94	88	86
125°	68	68	75	68	69	61
135°	48	41	46	42	49	37
145°	27	22	13	22	28	17
155°	5	1	0	2	5	3
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P29167

CATALOG NUMBER: H12-LD4-50W-40-OPL-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	887	887	887	887	887	887	887	887	887	887	887
2.5°	885	885	885	885	885	885	885	885	885	885	885
5°	884	885	884	884	885	885	884	884	885	885	884
7.5°	882	882	882	882	881	882	882	881	881	881	881
10°	876	876	876	875	875	875	876	876	875	875	875
12.5°	870	870	870	869	869	870	869	869	870	870	870
15°	864	864	864	864	863	863	864	863	864	865	864
17.5°	856	856	856	855	854	855	855	855	855	856	856
20°	846	846	846	845	843	843	843	844	845	845	845
22.5°	833	833	833	832	831	831	831	831	832	832	832
25°	820	820	820	819	818	819	819	819	819	820	819
27.5°	806	806	806	806	806	808	806	806	805	805	805
30°	790	791	790	790	791	793	792	790	790	790	789
32.5°	772	772	772	773	776	778	776	773	772	771	772
35°	752	753	753	755	759	760	758	755	753	752	752
37.5°	733	733	734	737	741	743	740	737	734	732	732
40°	712	712	713	717	722	723	722	717	713	711	712
42.5°	689	690	692	696	701	703	701	696	691	689	690
45°	664	665	669	674	679	681	678	674	668	665	665
47.5°	640	641	645	651	656	658	655	651	644	640	641
50°	613	614	619	625	631	633	631	626	618	613	613
52.5°	586	586	592	600	605	607	606	600	591	585	586
55°	557	557	564	572	579	580	579	573	564	557	557
57.5°	527	528	535	545	551	552	550	544	535	527	528
60°	495	496	505	515	522	524	523	516	505	496	495
62.5°	462	464	474	486	493	495	493	486	475	464	464
65°	429	431	442	454	463	466	464	455	444	430	429
67.5°	394	396	409	423	433	436	433	423	410	397	397
70°	360	363	376	392	401	405	402	392	377	364	362
72.5°	327	328	343	361	371	374	370	360	344	330	328
75°	292	295	310	329	339	341	338	329	312	296	293
77.5°	256	260	279	297	306	309	306	298	281	263	259
80°	223	226	247	265	275	278	275	266	248	229	225
82.5°	192	196	217	233	242	246	243	233	219	199	195
85°	165	169	189	204	213	216	212	205	189	171	167
87.5°	142	145	162	176	185	189	185	178	163	148	144
90°	128	130	144	157	165	168	165	157	145	132	129
92.5°	121	122	135	147	155	158	156	148	136	124	122
95°	118	119	130	142	150	153	150	143	131	120	119
97.5°	115	115	126	137	145	148	145	138	127	117	116
100°	111	112	121	132	139	142	140	133	122	113	113
102.5°	108	108	116	126	134	136	134	127	117	109	109
105°	104	104	111	121	128	130	128	121	112	105	105
107.5°	100	100	105	115	121	124	122	115	106	101	101
110°	96	95	100	108	115	117	115	109	101	97	97



TEST NUMBER: P29167

CATALOG NUMBER: H12-LD4-50W-40-OPL-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	92	91	94	102	108	110	108	103	95	92	93
115°	87	87	88	96	101	103	102	96	89	88	88
117.5°	82	82	82	89	95	96	95	90	83	83	83
120°	77	77	75	82	88	89	88	83	76	78	79
122.5°	73	72	70	76	80	82	81	76	71	73	74
125°	68	68	65	69	73	75	73	69	66	69	69
127.5°	63	63	60	62	66	68	66	62	61	64	64
130°	58	58	55	54	59	60	59	55	56	59	59
132.5°	53	53	50	47	51	53	52	47	51	54	54
135°	48	48	45	40	44	46	44	41	46	48	49
137.5°	43	43	40	35	36	38	36	36	41	43	44
140°	38	37	35	30	29	30	29	31	36	38	38
142.5°	32	32	30	26	20	22	21	26	30	33	33
145°	27	27	25	21	15	13	15	21	25	27	28
147.5°	22	21	20	16	10	4	10	16	20	22	22
150°	16	16	14	10	5	0	5	11	15	16	17
152.5°	11	10	9	5	0	0	1	5	9	11	11
155°	5	4	3	0	0	0	0	1	3	5	5
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
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

(END OF REPORT)