

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: P29162

Luminaire Tested: **H12-LD4-15W-40-OPL-EDC1**

Test Date: 12/21/16



**Test Information**

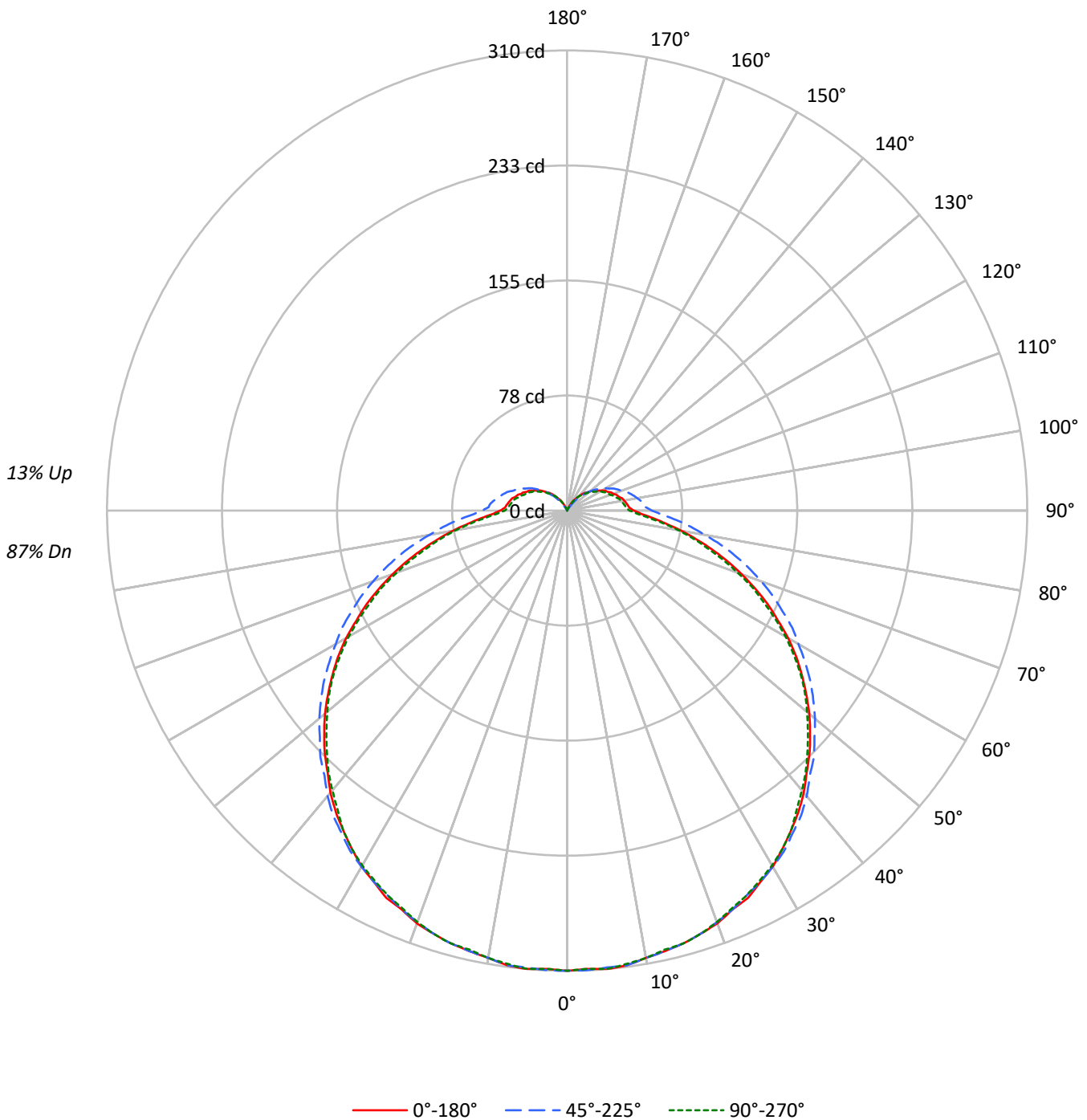
Test Method: LM-79-08  
Report Number: P29162  
Test Lab: INNOVATION CENTER-P2  
Test Date: 12/21/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: H12-LD4-15W-40-OPL-EDC1  
Description: H12 LED FIXTURE WITH OPAL LENS  
Light Source: (56) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (300mA)  
OT25W-UNV-1250C

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1272.1 lumens  
Efficiency: N/A  
Efficacy: 87.7 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.32 / 1.46  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')  
CIE Type: Semi-Direct  
  
Input Watts (W): 14.5  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.121  
Voltage Rise (V): NR  
Power Factor: 0.9968  
Total Harmonic Distortion (THDi): 5.21%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): 24.4  
Test Distance: 25 FT

TEST NUMBER: P29162  
CATALOG NUMBER: H12-LD4-15W-40-OPL-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P29162

CATALOG NUMBER: H12-LD4-15W-40-OPL-EDC1

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	0														
RCR																																						
0	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87																				
1	104	98	93	88	99	94	90	86	88	84	80	82	79	76	76	73	71	68																				
2	93	84	76	70	89	81	74	68	75	70	65	70	65	61	65	61	58	55																				
3	84	73	64	57	81	70	62	56	66	59	53	61	55	51	57	52	48	45																				
4	77	64	55	48	74	62	53	47	58	50	45	54	48	43	50	45	41	38																				
5	70	57	47	41	67	55	46	40	51	44	38	48	42	36	45	39	35	32																				
6	65	51	42	35	62	49	41	34	46	39	33	43	37	32	41	35	30	28																				
7	60	46	37	31	57	45	36	30	42	34	29	39	33	28	37	31	27	25																				
8	56	42	33	27	53	41	32	27	38	31	26	36	30	25	34	28	24	22																				
9	52	38	30	24	50	37	29	24	35	28	23	33	27	22	31	26	21	19																				
10	49	35	27	22	47	34	27	21	32	25	21	31	24	20	29	23	19	18																				

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

	0°	45°	90°
0°	4805	4805	4805
5°	4621	4528	4621
10°	4426	4282	4426
15°	4274	4074	4274
20°	4131	3870	4117
25°	3994	3678	3966
30°	3847	3520	3833
35°	3686	3354	3686
40°	3535	3187	3506
45°	3376	3018	3347
50°	3218	2853	3188
55°	3043	2689	3027
60°	2857	2508	2824
65°	2637	2332	2584
70°	2386	2141	2329
75°	2110	1926	2048
80°	1815	1675	1769
85°	1536	1449	1457



TEST NUMBER: P29162

CATALOG NUMBER: H12-LD4-15W-40-OPL-EDC1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.4	2.3
10°-20°	85.3	6.7
20°-30°	132.2	10.4
30°-40°	165.0	13.0
40°-50°	179.3	14.1
50°-60°	175.7	13.8
60°-70°	153.2	12.0
70°-80°	116.0	9.1
80°-90°	73.9	5.8
90°-100°	50.9	4.0
100°-110°	41.9	3.3
110°-120°	31.6	2.5
120°-130°	21.1	1.7
130°-140°	11.7	0.9
140°-150°	4.5	0.4
150°-160°	0.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	246.9	19.4
0°-40°	411.9	32.4
0°-60°	766.9	60.3
0°-90°	1110.0	87.3
90°-120°	124.4	9.8
90°-150°	161.6	12.7
90°-180°	162.0	12.7
0°-180°	1272.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	310	310	310	310	310	
5°	310	309	309	309	310	29
15°	302	302	302	302	302	85
25°	288	287	286	286	286	133
35°	263	264	265	263	263	165
45°	231	232	235	232	229	178
55°	193	197	200	196	192	173
65°	149	156	160	155	146	147
75°	101	112	117	110	98	107
85°	58	69	74	68	55	51
90°	45	53	57	51	42	25
95°	41	48	52	47	39	33
105°	36	40	44	39	34	38
115°	30	32	35	31	29	30
125°	24	24	25	22	22	21
135°	17	14	15	14	16	13
145°	9	8	4	7	9	6
155°	2	0	0	0	2	1
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P29162

CATALOG NUMBER: H12-LD4-15W-40-OPL-EDC1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	310	310	310	310	310	310	310	310	310	310	310
2.5°	309	310	310	309	309	310	310	309	310	309	309
5°	310	309	309	309	309	309	309	309	309	310	310
7.5°	309	309	309	309	309	309	308	308	308	309	308
10°	306	306	306	306	306	306	305	306	305	306	306
12.5°	304	304	304	304	304	304	304	304	304	304	303
15°	302	302	302	302	302	302	302	302	302	302	302
17.5°	299	300	299	300	299	299	299	299	299	299	299
20°	296	296	295	295	295	295	295	295	295	295	295
22.5°	291	292	291	291	290	291	290	290	290	291	290
25°	288	287	287	287	286	286	287	286	286	286	286
27.5°	282	282	282	282	282	282	282	281	281	281	281
30°	277	276	276	276	277	277	277	275	275	275	276
32.5°	270	270	270	271	271	272	271	270	270	269	270
35°	263	263	263	264	265	265	265	263	263	262	263
37.5°	256	255	256	257	259	259	258	256	255	255	254
40°	248	247	247	249	251	251	250	247	246	246	246
42.5°	239	239	239	241	243	242	242	240	238	238	238
45°	231	230	231	233	235	235	234	232	230	229	229
47.5°	222	222	223	225	227	226	226	224	221	221	220
50°	213	212	214	217	218	218	218	216	213	212	211
52.5°	203	203	205	207	209	209	209	206	204	202	202
55°	193	193	195	198	200	200	199	197	194	192	192
57.5°	183	183	185	188	190	190	190	187	184	181	181
60°	172	172	175	178	180	180	180	177	174	170	170
62.5°	160	161	164	168	170	171	170	167	163	159	158
65°	149	149	153	157	159	160	159	156	152	147	146
67.5°	137	137	141	146	149	150	149	145	140	135	135
70°	125	126	130	135	138	139	138	134	129	123	122
72.5°	113	114	119	124	127	128	127	123	117	112	110
75°	101	102	108	113	116	117	115	112	106	100	98
77.5°	89	91	96	102	105	106	104	101	94	88	87
80°	78	79	86	91	94	94	93	90	84	77	76
82.5°	67	69	76	81	83	84	83	79	74	67	65
85°	58	59	65	70	73	74	72	69	63	57	55
87.5°	50	51	56	61	63	64	63	59	54	49	47
90°	45	45	50	54	56	57	55	52	48	43	42
92.5°	42	43	47	50	53	53	52	49	45	41	40
95°	41	41	45	49	51	52	50	48	43	39	39
97.5°	40	40	43	47	49	50	49	46	42	38	38
100°	39	39	42	45	47	48	47	44	40	37	37
102.5°	38	38	40	43	46	46	45	42	39	36	36
105°	36	36	38	41	43	44	43	40	37	34	34
107.5°	35	35	36	39	41	42	41	38	35	33	33
110°	33	33	34	37	39	39	38	36	33	31	31



TEST NUMBER: P29162

CATALOG NUMBER: H12-LD4-15W-40-OPL-EDC1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	32	32	33	35	37	37	36	34	31	30	30
115°	30	30	31	33	34	35	34	32	29	29	29
117.5°	29	29	28	31	32	32	32	30	27	27	27
120°	27	27	26	28	30	30	29	27	25	25	26
122.5°	25	25	24	26	27	28	27	25	23	24	24
125°	24	24	23	24	25	25	24	23	21	22	22
127.5°	22	22	21	21	22	23	22	20	20	21	21
130°	20	20	19	19	20	20	20	18	18	19	19
132.5°	18	18	17	16	17	18	17	15	16	17	17
135°	17	17	16	14	15	15	14	13	15	16	16
137.5°	15	15	14	12	12	13	12	12	13	14	14
140°	13	13	12	11	10	10	9	10	11	12	13
142.5°	11	11	10	9	7	7	7	8	10	10	11
145°	9	9	9	7	5	4	5	7	8	9	9
147.5°	8	7	7	5	3	2	3	5	6	7	7
150°	6	6	5	4	2	0	2	3	5	5	5
152.5°	4	3	3	2	0	0	0	2	3	3	3
155°	2	2	1	0	0	0	0	0	1	1	2
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)