

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: P29169

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

Test Date: 12/21/16



**Test Information**

Test Method: LM-79-08  
Report Number: P29169  
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-CLR-EDC1  
Description: H12 LED FIXTURE WITH CLEAR LENS  
Light Source: (56) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (300mA)  
OT25W-UNV-1250C

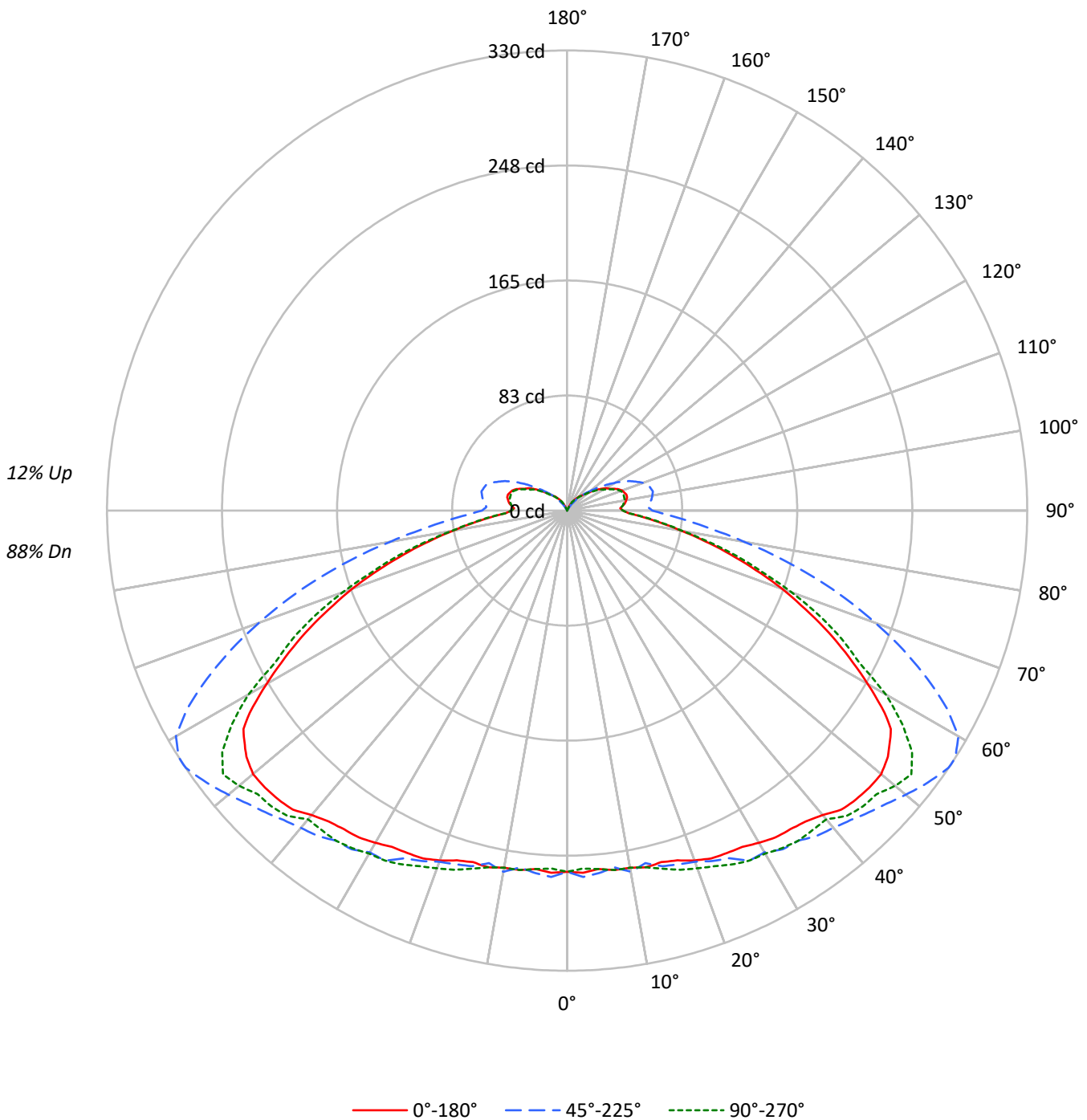
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1618.8 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.66 / 1.68 / 1.98  
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): 5.23%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): 24.7  
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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	91	91	91	88
1	103	97	92	87	99	94	89	85	87	83	80	81	78	75	76	73	71	68
2	92	82	74	67	88	79	72	66	74	68	62	68	63	59	64	60	56	53
3	83	71	61	54	79	68	59	52	63	56	50	59	53	47	54	49	45	42
4	75	61	51	44	71	59	50	43	55	47	41	51	44	39	47	42	37	34
5	68	54	44	36	65	52	43	36	48	40	34	45	38	33	42	36	31	29
6	62	48	38	31	59	46	37	30	43	35	29	40	33	28	37	31	27	24
7	57	43	33	27	55	41	32	26	39	31	25	36	29	24	34	28	23	21
8	53	39	29	23	51	37	29	23	35	27	22	33	26	21	31	25	20	18
9	49	35	26	20	47	34	26	20	32	24	19	30	23	18	28	22	18	16
10	46	32	24	18	44	31	23	18	29	22	17	27	21	16	26	20	16	14

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

	0°	45°	90°
0°	4015	4015	4015
5°	3846	3824	3846
10°	3761	3681	3761
15°	3693	3562	3764
20°	3726	3516	3810
25°	3758	3537	3883
30°	3819	3597	3944
35°	3910	3658	4050
40°	4062	3772	4119
45°	4282	3929	4384
50°	4442	4148	4639
55°	4462	4410	4761
60°	4137	4515	4386
65°	3664	4154	3841
70°	3131	3619	3265
75°	2528	2995	2633
80°	1932	2298	1955
85°	1457	1723	1483



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.9	1.5
10°-20°	75.1	4.6
20°-30°	127.7	7.9
30°-40°	180.2	11.1
40°-50°	233.8	14.4
50°-60°	278.1	17.2
60°-70°	249.8	15.4
70°-80°	168.1	10.4
80°-90°	85.2	5.3
90°-100°	55.7	3.4
100°-110°	55.5	3.4
110°-120°	42.3	2.6
120°-130°	24.8	1.5
130°-140°	11.9	0.7
140°-150°	4.9	0.3
150°-160°	0.7	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	227.7	14.1
0°-40°	407.9	25.2
0°-60°	919.9	56.8
0°-90°	1423.0	87.9
90°-120°	153.6	9.5
90°-150°	195.1	12.1
90°-180°	196.0	12.1
0°-180°	1618.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	259	259	259	259	259	
5°	258	260	261	261	258	25
15°	261	262	264	266	266	74
25°	271	273	275	278	280	126
35°	279	284	289	288	289	176
45°	293	302	306	303	300	226
55°	283	310	328	326	302	250
65°	207	254	285	260	217	205
75°	121	162	182	165	126	129
85°	55	79	88	80	56	51
90°	40	52	61	52	40	22
95°	40	52	59	51	40	33
105°	44	54	62	53	42	46
115°	37	43	50	42	36	37
125°	26	27	30	26	25	23
135°	16	14	16	14	15	13
145°	10	8	6	8	10	6
155°	3	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



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	52°	55°	65°	75°	85°
0°	259	259	259	259	259	259	259	259	259	259	259
2.5°	260	260	260	261	262	263	264	263	262	260	258
5°	258	259	259	260	262	261	259	259	261	262	259
7.5°	260	262	262	262	259	258	262	263	262	264	262
10°	260	260	259	258	258	263	262	260	262	261	263
12.5°	262	261	259	258	261	259	264	264	262	263	265
15°	261	260	259	263	263	264	265	263	266	267	269
17.5°	263	264	263	266	264	266	268	268	271	271	273
20°	267	268	267	267	270	268	270	269	272	273	276
22.5°	270	269	268	269	270	272	276	275	274	276	277
25°	271	271	271	274	273	275	279	277	278	278	280
27.5°	272	272	274	277	279	283	285	281	281	281	283
30°	275	275	276	278	282	283	285	284	281	285	284
32.5°	278	278	279	282	286	288	291	285	287	287	287
35°	279	279	281	285	289	289	293	291	289	286	289
37.5°	281	281	285	288	294	294	297	292	288	289	288
40°	285	285	288	293	298	297	300	295	292	291	288
42.5°	291	290	293	298	301	301	304	299	297	294	296
45°	293	293	298	303	305	306	309	305	304	300	298
47.5°	294	294	300	309	310	311	318	313	311	306	300
50°	294	294	301	313	316	317	324	320	318	311	307
52.5°	290	290	301	314	321	323	332	328	326	321	312
55°	283	283	298	314	323	328	339	334	329	317	305
56°	280	280	294	313	323	330	340	334	327	313	297
57.5°	270	271	289	310	321	330	338	332	322	304	288
60°	249	252	273	297	313	324	328	321	309	286	267
62.5°	228	231	255	281	297	307	311	302	289	264	240
65°	207	210	235	260	277	285	290	282	267	241	221
67.5°	185	189	214	238	253	261	266	257	243	223	199
70°	164	168	194	215	227	235	239	231	220	199	175
72.5°	142	147	172	192	203	209	213	205	194	174	151
75°	121	126	148	167	176	182	186	178	169	152	130
77.5°	101	105	126	143	151	155	159	152	145	129	110
80°	83	87	107	120	126	129	132	127	121	108	89
82.5°	68	72	89	99	105	106	110	105	100	89	73
85°	55	59	72	81	86	88	91	86	82	73	60
87.5°	44	47	57	64	70	72	74	70	65	56	47
90°	40	41	48	54	59	61	63	59	54	47	41
92.5°	38	39	45	51	56	58	59	56	51	45	39
95°	40	41	47	53	58	59	60	58	53	46	40
97.5°	42	43	49	55	59	61	61	59	54	48	42
100°	43	44	50	56	60	62	62	60	55	48	42
102.5°	44	44	50	56	61	63	62	60	55	49	43
105°	44	44	50	56	60	62	62	60	55	48	42
107.5°	43	44	48	54	59	61	60	59	54	47	42



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	52°	55°	65°	75°	85°
110°	42	43	46	52	56	58	58	56	51	45	41
112.5°	40	40	43	48	53	54	54	52	48	42	39
115°	37	37	39	44	48	50	50	48	43	38	36
117.5°	34	34	35	40	43	45	45	43	39	34	33
120°	32	32	32	35	39	40	41	39	35	31	30
122.5°	29	29	29	32	34	35	36	34	31	28	28
125°	26	26	26	27	30	30	31	29	27	25	25
127.5°	23	23	23	24	25	26	26	25	23	22	22
130°	20	20	20	20	21	22	22	21	19	19	20
132.5°	18	18	17	17	18	19	19	18	16	17	17
135°	16	16	15	14	15	16	16	15	13	15	15
137.5°	14	14	14	12	13	13	13	12	12	13	14
140°	13	13	12	10	10	11	11	10	10	12	12
142.5°	11	11	11	9	8	8	8	7	9	10	11
145°	10	10	9	7	5	6	5	6	8	9	9
147.5°	8	8	7	6	4	3	3	4	6	7	8
150°	6	6	6	4	2	0	2	3	4	6	6
152.5°	5	5	4	3	0	0	0	0	3	4	4
155°	3	2	2	0	0	0	0	0	0	2	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



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**CANDELA DISTRIBUTION (continued):**

	90°
0°	259
2.5°	257
5°	258
7.5°	260
10°	260
12.5°	262
15°	266
17.5°	270
20°	273
22.5°	276
25°	280
27.5°	283
30°	284
32.5°	287
35°	289
37.5°	289
40°	289
42.5°	297
45°	300
47.5°	301
50°	307
52.5°	311
55°	302
56°	295
57.5°	285
60°	264
62.5°	236
65°	217
67.5°	195
70°	171
72.5°	147
75°	126
77.5°	104
80°	84
82.5°	69
85°	56
87.5°	44
90°	40
92.5°	38
95°	40
97.5°	41
100°	42
102.5°	42
105°	42
107.5°	42





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**CANDELA DISTRIBUTION (continued):**

	90°
110°	41
112.5°	39
115°	36
117.5°	33
120°	30
122.5°	28
125°	25
127.5°	22
130°	20
132.5°	17
135°	15
137.5°	14
140°	12
142.5°	11
145°	10
147.5°	8
150°	7
152.5°	5
155°	2
157.5°	0
160°	0
162.5°	0
165°	0
167.5°	0
170°	0
172.5°	0
175°	0
177.5°	0
180°	0

(END OF REPORT)