

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: P29172

Luminaire Tested: **H12-LD4-30W-40-CLR-EDC1**

Test Date: 12/20/16



**Test Information**

Test Method: LM-79-08  
Report Number: P29172  
Test Lab: INNOVATION CENTER-P2  
Test Date: 12/20/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: H12-LD4-30W-40-CLR-EDC1  
Description: H12 LED FIXTURE WITH CLEAR LENS  
Light Source: (112) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (700mA)  
OT40W-UNV-1250C

**Summary**

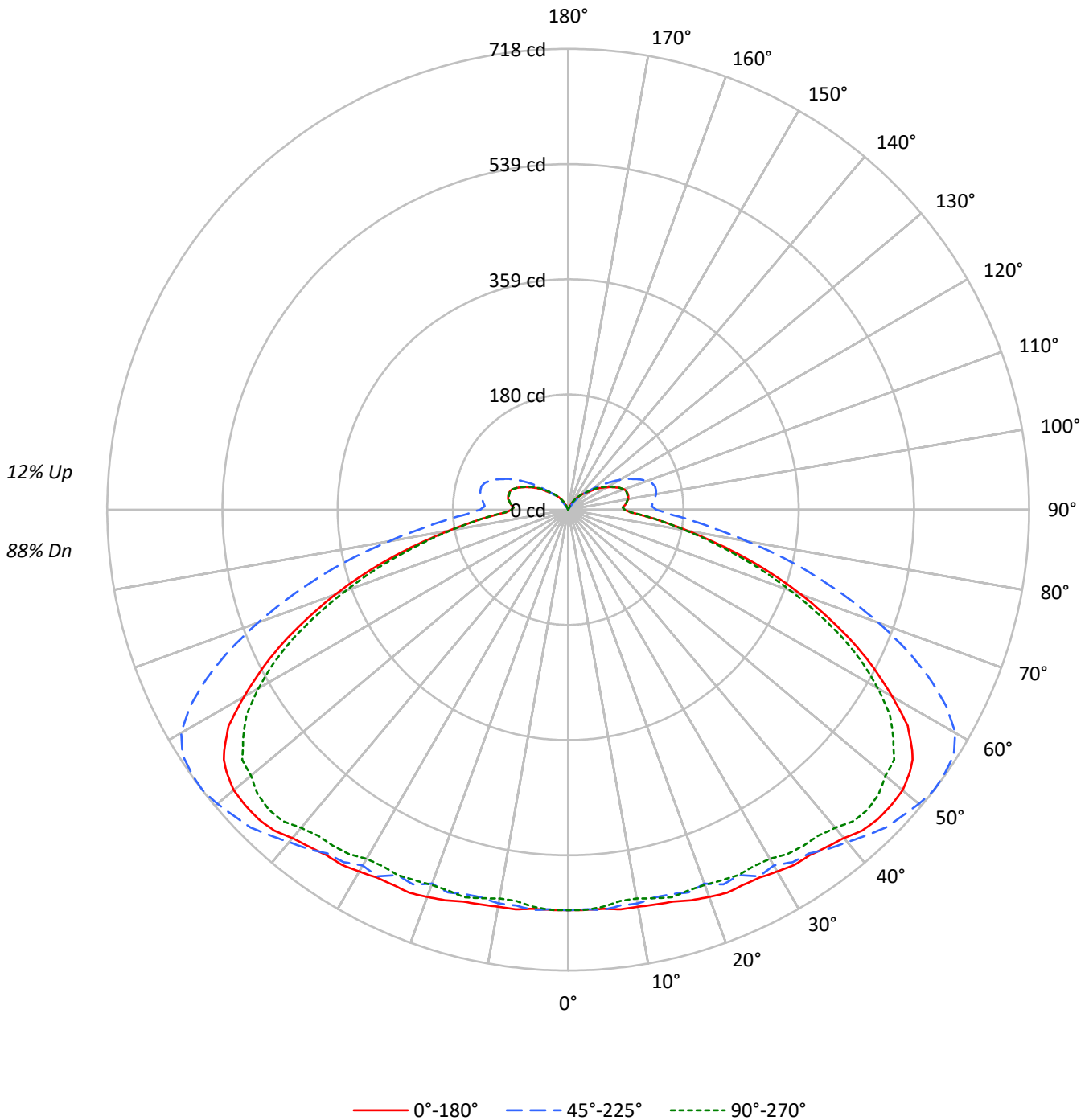
Lumens per Lamp: N/A  
Luminaire Lumens: 3628.0 lumens  
Efficiency: N/A  
Efficacy: 112.7 lumens/watt  
Spacing Criteria (0/90/45): 1.62 / 1.57 / 1.88  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')  
CIE Type: Semi-Direct

Input Watts (W): 32.2  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.269  
Voltage Rise (V): NR  
Power Factor: 0.9991  
Total Harmonic Distortion (THDi): 6.96%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): 25.1  
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	83	75	68	88	80	72	66	74	68	63	69	64	59	64	60	56	53
3	83	71	62	54	79	68	60	53	63	56	50	59	53	48	55	50	46	43
4	75	62	52	44	72	59	50	43	55	47	41	51	45	39	48	42	38	35
5	68	54	44	37	65	52	43	36	49	41	35	45	38	33	42	36	32	29
6	63	48	38	31	60	46	37	31	43	35	29	40	34	28	38	32	27	25
7	58	43	34	27	55	42	33	26	39	31	25	36	30	24	34	28	23	21
8	53	39	30	24	51	38	29	23	35	28	22	33	26	21	31	25	21	18
9	50	35	27	21	48	34	26	20	32	25	20	30	24	19	28	22	18	16
10	46	32	24	19	44	31	24	18	30	22	18	28	21	17	26	20	16	14

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

	0°	45°	90°
0°	9672	9672	9672
5°	9302	9173	9257
10°	9083	8718	8895
15°	8943	8364	8844
20°	8959	8133	8680
25°	8945	8077	8710
30°	9041	8134	8722
35°	9208	8277	8956
40°	9521	8585	9222
45°	9966	8988	9645
50°	10275	9330	9746
55°	10311	9627	9743
60°	9685	9698	9253
65°	8672	9051	8336
70°	7369	7916	7026
75°	5872	6550	5642
80°	4375	5042	4305
85°	3258	3779	3284



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.6
10°-20°	177.3	4.9
20°-30°	293.7	8.1
30°-40°	410.3	11.3
40°-50°	529.3	14.6
50°-60°	607.7	16.8
60°-70°	550.5	15.2
70°-80°	371.0	10.2
80°-90°	186.9	5.2
90°-100°	124.4	3.4
100°-110°	124.3	3.4
110°-120°	96.0	2.6
120°-130°	57.1	1.6
130°-140°	27.4	0.8
140°-150°	11.0	0.3
150°-160°	1.6	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	530.5	14.6
0°-40°	940.8	25.9
0°-60°	2077.8	57.3
0°-90°	3186.2	87.8
90°-120°	344.6	9.5
90°-150°	440.2	12.1
90°-180°	442.0	12.2
0°-180°	3628.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	624	622	626	624	621	60
15°	632	631	620	619	625	180
25°	645	642	628	626	628	299
35°	657	655	654	646	639	414
45°	682	694	700	680	660	526
55°	654	699	716	678	618	579
65°	490	568	621	566	471	483
75°	281	362	398	358	270	299
85°	123	172	193	174	124	114
90°	88	117	137	117	88	49
95°	89	114	133	115	89	74
105°	96	120	140	120	95	101
115°	82	96	113	96	83	81
125°	58	61	71	63	60	52
135°	36	32	36	33	37	28
145°	21	18	13	18	21	14
155°	6	1	0	1	5	3
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°	39°	45°	55°	65°	75°	85°
0°	624	624	624	624	624	624	624	624	624	624	624
2.5°	624	625	622	619	620	623	623	627	627	626	623
5°	624	623	618	624	630	631	626	621	623	627	622
7.5°	628	626	625	630	623	623	622	626	623	622	619
10°	628	624	627	621	622	624	623	617	624	618	620
12.5°	630	627	627	621	623	622	619	619	614	620	624
15°	632	629	628	632	623	627	620	621	618	623	629
17.5°	638	636	636	633	626	629	625	621	629	622	624
20°	642	642	639	630	628	631	620	623	624	627	625
22.5°	646	646	640	638	631	627	632	628	621	626	628
25°	645	645	643	642	630	643	628	627	628	622	628
27.5°	646	646	649	637	644	639	644	633	629	625	626
30°	651	651	652	643	643	650	640	637	628	635	628
32.5°	656	656	653	651	651	656	651	642	642	638	635
35°	657	656	656	655	661	664	654	654	649	638	640
37.5°	662	661	663	664	669	675	666	661	649	646	640
40°	668	669	672	676	679	683	676	670	661	654	647
42.5°	678	677	680	686	688	695	688	680	669	657	658
45°	682	682	689	696	696	709	700	692	685	667	658
47.5°	682	681	692	704	708	719	706	701	688	672	657
50°	680	680	692	711	716	728	713	708	693	666	648
52.5°	671	671	688	713	720	735	718	711	693	665	644
54°	663	663	682	709	720	735	717	710	690	655	631
55°	654	654	678	706	718	734	716	709	686	655	624
57.5°	627	628	658	692	707	726	712	703	678	635	601
60°	583	585	620	663	685	706	696	684	656	607	565
62.5°	538	541	580	625	652	675	664	651	621	570	525
65°	490	494	536	579	607	631	621	608	578	528	479
67.5°	437	443	488	532	558	583	570	555	528	482	429
70°	386	394	440	480	502	526	514	503	478	431	379
72.5°	333	343	389	427	448	468	456	447	424	380	329
75°	281	290	334	372	388	410	398	388	368	326	279
77.5°	232	241	284	317	330	348	341	333	317	281	235
80°	188	196	234	263	277	290	283	280	265	233	194
82.5°	153	160	193	215	227	239	232	230	218	196	160
85°	123	130	156	177	187	198	193	190	179	159	130
87.5°	97	104	123	141	153	163	158	155	142	126	104
90°	88	91	105	121	132	140	137	133	121	106	91
92.5°	85	87	100	115	125	132	130	126	115	101	87
95°	89	90	104	118	129	135	133	129	119	104	90
97.5°	92	94	107	122	132	138	136	132	122	106	93
100°	95	96	110	124	134	140	139	135	124	109	95
102.5°	96	97	111	124	135	141	140	136	125	110	96
105°	96	96	109	123	134	139	140	135	124	109	96
107.5°	95	96	107	121	131	136	137	132	121	106	95



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
110°	93	94	102	116	126	131	131	127	116	102	94
112.5°	88	88	95	108	118	123	123	118	108	95	89
115°	82	83	87	99	108	115	113	109	99	87	83
117.5°	76	76	79	89	99	105	104	100	90	80	77
120°	70	70	71	81	89	95	93	90	82	72	72
122.5°	64	64	64	71	78	84	82	80	73	65	66
125°	58	58	57	62	68	73	71	69	64	59	60
127.5°	52	51	50	53	58	62	60	59	55	53	54
130°	45	45	43	44	48	53	51	50	45	45	47
132.5°	40	40	38	37	41	44	43	42	38	40	41
135°	36	35	34	31	34	37	36	35	32	35	37
137.5°	32	31	30	27	28	31	30	29	28	31	33
140°	28	28	26	23	23	25	24	23	24	27	29
142.5°	25	25	23	20	17	20	18	17	20	24	25
145°	21	21	20	17	12	13	13	13	17	20	21
147.5°	18	17	16	13	9	7	6	9	13	16	17
150°	14	14	13	10	5	4	0	6	10	13	14
152.5°	10	10	9	6	0	0	0	1	6	9	10
155°	6	6	4	0	0	0	0	0	0	4	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



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**CANDELA DISTRIBUTION (continued):**

	90°
0°	624
2.5°	624
5°	621
7.5°	615
10°	615
12.5°	620
15°	625
17.5°	622
20°	622
22.5°	625
25°	628
27.5°	626
30°	628
32.5°	636
35°	639
37.5°	640
40°	647
42.5°	658
45°	660
47.5°	656
50°	645
52.5°	640
54°	626
55°	618
57.5°	594
60°	557
62.5°	517
65°	471
67.5°	419
70°	368
72.5°	319
75°	270
77.5°	226
80°	185
82.5°	152
85°	124
87.5°	99
90°	88
92.5°	85
95°	89
97.5°	92
100°	94
102.5°	95
105°	95
107.5°	95





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**CANDELA DISTRIBUTION (continued):**

	90°
110°	93
112.5°	88
115°	83
117.5°	77
120°	71
122.5°	66
125°	60
127.5°	54
130°	47
132.5°	42
135°	37
137.5°	33
140°	29
142.5°	25
145°	21
147.5°	18
150°	14
152.5°	10
155°	5
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)