

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: P29166

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

Test Date: 12/20/16



Test Information

Test Method: LM-79-08
Report Number: P29166
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-LD4-40W-40-OPL-EDC1
Description: H12 LED FIXTURE WITH OPAL LENS
Light Source: (112) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (900mA)
OT40W-UNV-1250C

Summary

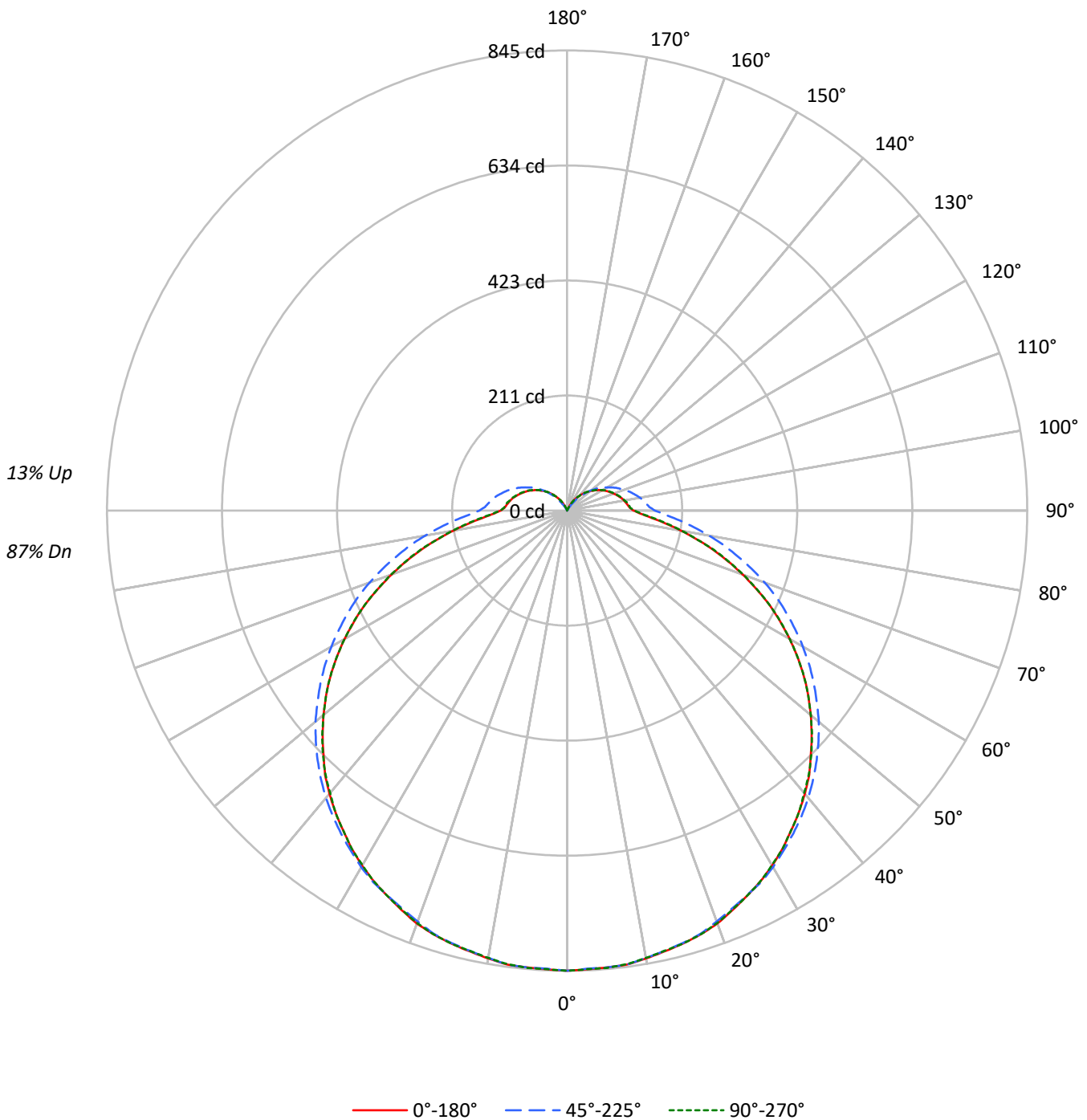
Lumens per Lamp: N/A
Luminaire Lumens: 3517.0 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.32 / 1.47
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 42.4
Input Voltage (V): 120.0
Input Current (A_{in}): 0.355
Voltage Rise (V): NR
Power Factor: 0.9996
Total Harmonic Distortion (THDi): 7.14%
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	90	90	90	87
1	103	98	93	88	99	94	90	85	87	84	80	81	78	75	76	73	71	68
2	93	84	76	70	89	81	74	68	75	69	64	70	65	61	65	61	58	55
3	84	73	64	57	81	70	62	55	65	58	53	61	55	50	56	52	48	45
4	77	64	55	47	73	62	53	46	58	50	44	54	47	42	50	45	40	38
5	70	57	47	40	67	55	46	39	51	44	38	48	41	36	45	39	35	32
6	65	51	42	35	62	49	40	34	46	38	33	43	36	31	40	35	30	28
7	60	46	37	30	57	44	36	30	42	34	29	39	33	28	37	31	27	24
8	56	42	33	27	53	40	32	26	38	31	26	36	29	25	34	28	24	22
9	52	38	30	24	50	37	29	24	35	28	23	33	27	22	31	25	21	19
10	49	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13098	13098	13098
5°	12552	12338	12567
10°	12077	11671	12063
15°	11646	11089	11646
20°	11262	10534	11248
25°	10832	10032	10832
30°	10458	9608	10444
35°	10049	9163	10049
40°	9678	8750	9650
45°	9250	8321	9265
50°	8824	7891	8824
55°	8372	7435	8372
60°	7841	6967	7841
65°	7256	6471	7256
70°	6549	5944	6568
75°	5788	5332	5830
80°	4934	4703	4980
85°	4132	4053	4211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.2	2.3
10°-20°	232.4	6.6
20°-30°	360.4	10.2
30°-40°	450.9	12.8
40°-50°	494.6	14.1
50°-60°	485.4	13.8
60°-70°	424.3	12.1
70°-80°	322.7	9.2
80°-90°	206.5	5.9
90°-100°	143.9	4.1
100°-110°	118.7	3.4
110°-120°	89.4	2.5
120°-130°	59.9	1.7
130°-140°	33.2	0.9
140°-150°	12.9	0.4
150°-160°	1.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	673.0	19.1
0°-40°	1123.9	32.0
0°-60°	2104.0	59.8
0°-90°	3057.5	86.9
90°-120°	351.9	10.0
90°-150°	457.9	13.0
90°-180°	459.0	13.1
0°-180°	3517.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	845	845	845	845	845	
5°	842	842	842	843	843	80
15°	823	823	822	822	823	233
25°	781	781	780	780	781	361
35°	717	719	724	718	717	450
45°	633	641	648	640	634	489
55°	531	544	553	544	531	474
65°	410	430	444	431	410	405
75°	277	309	324	310	279	293
85°	156	190	207	191	159	140
90°	122	146	161	147	123	68
95°	112	133	146	134	114	90
105°	99	113	124	114	100	105
115°	83	89	99	90	84	82
125°	65	65	72	65	66	58
135°	46	39	43	40	47	36
145°	26	20	13	21	26	17
155°	4	0	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



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

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	845	845	845	845	845	845	845	845	845	845	845
2.5°	843	843	843	843	843	842	843	843	843	843	843
5°	842	842	842	842	843	842	842	843	843	843	843
7.5°	841	840	841	841	840	841	840	840	840	840	840
10°	835	834	834	834	834	834	834	834	834	834	834
12.5°	829	828	828	828	828	828	828	828	828	829	828
15°	823	823	823	823	823	822	823	822	823	824	823
17.5°	816	816	815	815	814	815	815	815	816	816	816
20°	807	806	806	805	804	803	804	805	805	806	806
22.5°	794	794	793	793	792	791	792	792	793	793	793
25°	781	781	781	781	780	780	780	780	780	781	781
27.5°	768	768	768	768	769	770	768	768	767	768	768
30°	753	752	753	753	755	756	755	752	752	752	752
32.5°	736	735	735	737	740	740	739	736	735	735	736
35°	717	717	717	720	723	724	723	719	716	717	717
37.5°	699	698	699	702	706	707	706	701	699	698	699
40°	679	678	679	684	688	689	688	683	680	678	677
42.5°	658	656	659	664	669	669	668	664	658	657	657
45°	633	633	636	643	647	648	647	642	636	634	634
47.5°	609	609	613	620	625	626	624	620	613	610	610
50°	584	585	589	597	602	603	601	597	589	584	584
52.5°	558	558	564	572	578	578	577	572	564	558	558
55°	531	531	537	546	552	553	551	546	537	531	531
57.5°	502	502	511	519	526	527	525	520	510	503	502
60°	472	472	482	491	498	500	498	492	481	474	472
62.5°	441	442	452	462	470	472	470	463	452	443	442
65°	410	411	422	433	441	444	443	434	422	412	410
67.5°	376	378	391	403	412	416	412	404	391	378	377
70°	343	345	359	372	383	386	383	373	359	346	344
72.5°	310	312	327	342	353	355	353	344	328	313	311
75°	277	281	297	313	322	324	322	314	297	281	279
77.5°	244	248	265	283	292	295	292	285	267	248	244
80°	212	216	235	252	261	264	262	252	236	218	214
82.5°	183	187	207	222	230	235	231	223	208	189	185
85°	156	162	179	194	203	207	203	195	180	163	159
87.5°	135	139	154	168	177	181	177	169	155	140	137
90°	122	124	137	149	157	161	158	150	138	125	123
92.5°	115	117	129	140	148	151	149	141	130	118	116
95°	112	113	124	136	143	146	144	137	125	115	114
97.5°	109	110	120	131	138	141	139	132	121	111	111
100°	106	106	115	126	133	136	133	127	116	108	107
102.5°	103	103	111	121	128	130	128	121	111	104	104
105°	99	99	106	115	122	124	122	116	106	100	100
107.5°	95	95	100	109	116	118	116	110	101	96	96
110°	91	91	95	104	110	112	110	104	96	92	92



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

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	87	87	89	98	103	105	103	98	90	88	88
115°	83	83	84	91	97	99	97	92	84	83	84
117.5°	79	78	78	85	90	92	90	86	79	79	80
120°	74	74	72	79	84	85	84	79	73	74	75
122.5°	70	69	67	72	77	79	77	73	68	70	70
125°	65	65	62	66	70	72	70	66	63	65	66
127.5°	60	60	57	59	63	65	63	59	58	61	61
130°	56	55	52	52	56	58	56	52	53	56	56
132.5°	51	50	48	45	49	51	49	45	48	51	51
135°	46	45	43	38	42	43	42	39	44	46	47
137.5°	41	40	38	33	34	36	34	34	39	41	41
140°	36	36	33	29	27	29	27	30	34	36	36
142.5°	31	31	28	24	19	21	20	25	29	31	31
145°	26	25	23	19	14	13	14	20	24	26	26
147.5°	21	20	18	15	9	5	10	15	19	21	21
150°	15	15	13	10	4	0	5	10	14	16	16
152.5°	10	10	8	5	1	0	1	5	9	10	10
155°	4	4	2	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)