

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: P29173

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

Test Date: 12/20/16



**Test Information**

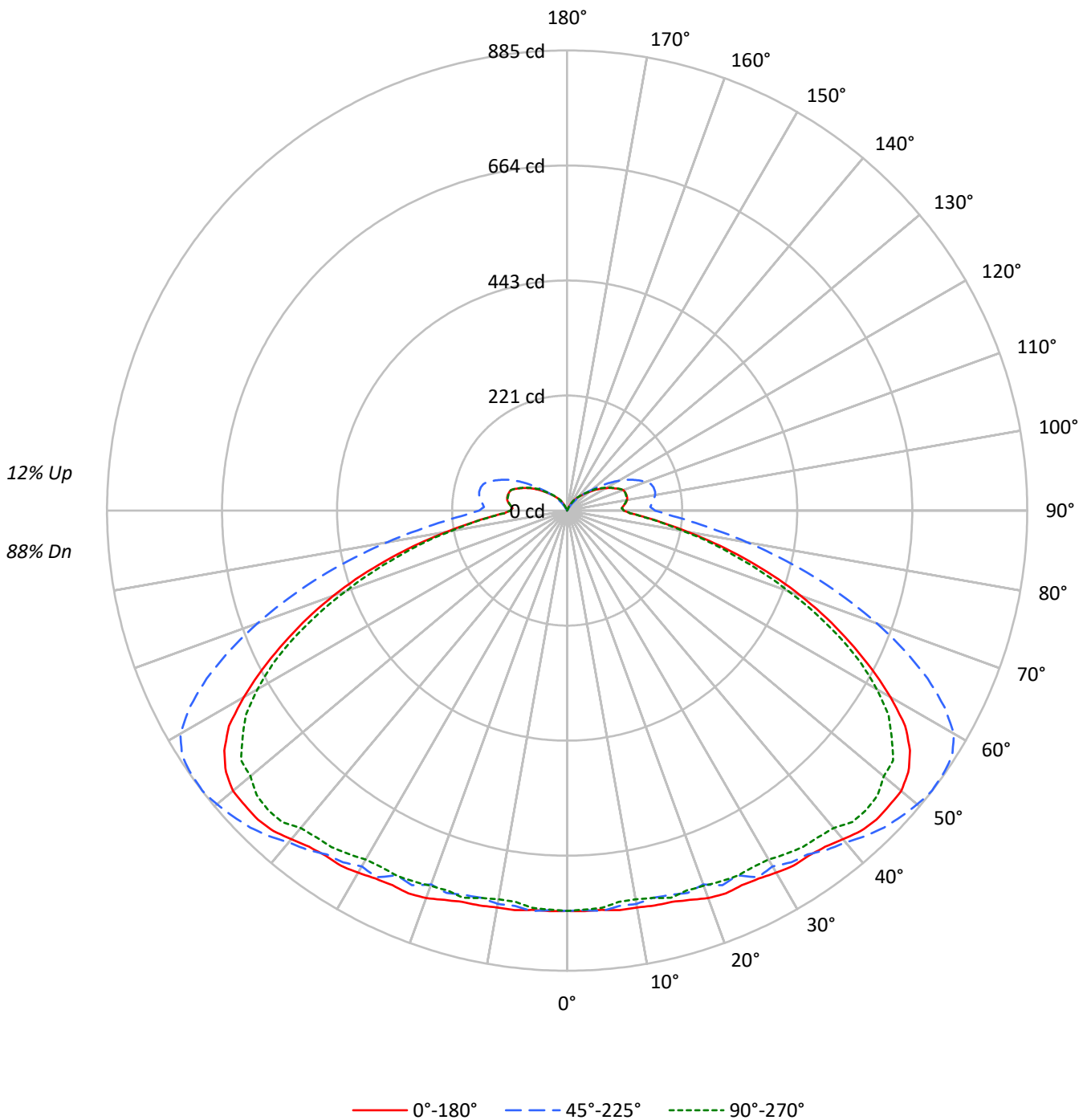
Test Method: LM-79-08  
Report Number: P29173  
Test Lab: INNOVATION CENTER-P2  
Test Date: 12/20/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: H12-LD4-40W-40-CLR-EDC1  
Description: H12 LED FIXTURE WITH CLEAR LENS  
Light Source: (112) NICHIA 4000K LEDS  
1FS402256M8404  
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (900mA)  
OT40W-UNV-1250C

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4476.4 lumens  
Efficiency: N/A  
Efficacy: 105.3 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): 42.5  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.355  
Voltage Rise (V): NR  
Power Factor: 0.9996  
Total Harmonic Distortion (THDi): 7.13%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): 25.1  
Test Distance: 25 FT

TEST NUMBER: P29173  
CATALOG NUMBER: H12-LD4-40W-40-CLR-EDC1

### Luminous Intensity Polar Plot





TEST NUMBER: P29173

CATALOG NUMBER: H12-LD4-40W-40-CLR-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	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°	11935	11935	11935
5°	11493	11327	11434
10°	11210	10748	10978
15°	11024	10320	10910
20°	11066	10036	10718
25°	11026	9955	10748
30°	11166	10040	10764
35°	11352	10213	11072
40°	11759	10578	11360
45°	12290	11069	11895
50°	12677	11503	12012
55°	12691	11872	12013
60°	11928	11969	11430
65°	10619	11150	10265
70°	9126	9764	8649
75°	7313	8081	6937
80°	5446	6271	5283
85°	4026	4660	3999



TEST NUMBER: P29173

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

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.4	1.6
10°-20°	218.7	4.9
20°-30°	362.4	8.1
30°-40°	506.0	11.3
40°-50°	652.9	14.6
50°-60°	749.5	16.7
60°-70°	679.2	15.2
70°-80°	458.2	10.2
80°-90°	231.6	5.2
90°-100°	153.3	3.4
100°-110°	153.2	3.4
110°-120°	118.4	2.6
120°-130°	70.4	1.6
130°-140°	33.8	0.8
140°-150°	13.5	0.3
150°-160°	1.9	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	654.4	14.6
0°-40°	1160.4	25.9
0°-60°	2562.9	57.3
0°-90°	3931.8	87.8
90°-120°	424.9	9.5
90°-150°	542.6	12.1
90°-180°	545.0	12.2
0°-180°	4476.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	771	768	773	770	767	74
15°	779	778	765	764	771	222
25°	795	792	774	772	775	369
35°	810	808	807	797	790	511
45°	841	856	862	839	814	649
55°	805	863	883	836	762	713
65°	600	700	765	697	580	594
75°	350	448	491	442	332	372
85°	152	213	238	214	151	141
90°	109	145	169	145	109	61
95°	109	141	164	142	109	91
105°	118	148	172	148	117	124
115°	101	118	140	118	102	101
125°	71	74	87	77	74	64
135°	44	39	45	40	45	35
145°	26	21	16	22	27	16
155°	7	1	0	2	7	3
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P29173

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

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	770	770	770	770	770	770	770	770	770	770	770
2.5°	771	770	767	764	766	764	769	773	774	772	769
5°	771	769	764	770	778	777	773	767	769	774	768
7.5°	775	772	771	777	772	769	767	773	767	767	763
10°	775	771	773	766	769	767	768	761	769	764	765
12.5°	778	773	773	767	770	768	763	764	758	766	770
15°	779	776	775	779	776	769	765	766	762	768	776
17.5°	785	783	783	780	778	771	771	765	774	766	769
20°	793	793	789	778	778	775	765	768	770	774	771
22.5°	797	797	790	786	787	779	780	775	766	773	774
25°	795	795	793	791	781	778	774	774	774	768	775
27.5°	798	798	801	787	794	794	795	781	777	771	772
30°	804	804	804	794	801	793	790	787	775	783	775
32.5°	810	810	804	804	803	802	802	791	791	788	784
35°	810	809	809	808	820	815	807	807	800	787	789
37.5°	815	815	818	820	833	825	822	815	801	796	790
40°	825	825	828	835	843	838	833	827	815	807	797
42.5°	836	836	839	848	858	849	849	839	826	811	811
45°	841	841	850	858	872	859	862	854	845	822	813
47.5°	840	841	853	868	884	872	871	865	849	829	810
50°	839	839	853	876	898	884	879	874	855	822	798
52.5°	827	828	848	879	906	889	885	877	854	821	793
53°	823	824	845	878	907	889	884	877	855	816	789
55°	805	808	835	872	905	885	883	875	846	807	768
57.5°	771	776	810	854	892	872	878	868	836	783	740
60°	718	723	765	817	864	846	859	844	810	749	696
62.5°	661	670	715	768	822	804	818	803	767	703	648
65°	600	612	661	713	766	749	765	752	712	651	591
67.5°	540	548	601	655	706	689	702	688	653	596	532
70°	478	486	541	590	637	621	634	621	591	533	469
72.5°	415	422	477	526	568	553	563	551	525	471	408
75°	350	357	411	460	495	481	491	480	455	405	345
77.5°	290	298	350	391	423	407	419	410	391	348	294
80°	234	243	292	329	353	342	352	345	329	292	239
82.5°	189	197	241	270	295	284	290	287	272	240	197
85°	152	159	194	219	242	233	238	235	221	195	161
87.5°	121	127	153	175	197	190	196	190	176	154	129
90°	109	112	130	150	168	163	169	164	150	131	113
92.5°	105	107	124	141	159	154	160	155	142	124	108
95°	109	111	128	145	162	158	164	159	146	128	111
97.5°	114	116	132	150	166	163	168	163	150	131	115
100°	117	119	135	153	168	166	172	166	153	134	117
102.5°	118	120	136	154	169	167	173	168	154	135	118
105°	118	119	135	152	167	165	172	167	153	134	118
107.5°	117	118	131	149	163	162	169	163	150	131	117



TEST NUMBER: P29173

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

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
110°	115	116	126	143	157	156	162	156	143	126	116
112.5°	109	109	117	133	148	146	151	147	133	117	110
115°	101	102	107	122	137	134	140	135	122	108	103
117.5°	94	94	97	110	125	122	128	123	111	98	95
120°	86	87	88	99	113	110	115	111	101	89	88
122.5°	79	79	79	88	100	97	101	98	89	81	81
125°	71	71	70	76	87	84	87	85	78	73	74
127.5°	63	63	62	65	75	71	74	73	67	65	67
130°	56	56	54	55	63	60	62	61	56	56	59
132.5°	50	49	47	46	54	50	53	51	47	49	51
135°	44	44	42	38	45	42	45	43	39	44	46
137.5°	39	39	37	33	37	35	37	35	34	38	40
140°	34	34	32	29	30	28	30	28	29	34	36
142.5°	30	30	28	25	22	21	23	21	25	29	31
145°	26	26	24	20	17	15	16	15	21	25	26
147.5°	22	22	20	16	13	11	7	11	16	20	22
150°	17	17	15	12	8	6	0	7	12	16	17
152.5°	12	12	11	7	2	1	0	1	7	11	12
155°	7	7	5	0	0	0	0	0	1	5	6
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



TEST NUMBER: P29173

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

**CANDELA DISTRIBUTION (continued):**

	90°
0°	770
2.5°	768
5°	767
7.5°	759
10°	759
12.5°	763
15°	771
17.5°	766
20°	768
22.5°	772
25°	775
27.5°	773
30°	775
32.5°	783
35°	790
37.5°	792
40°	797
42.5°	812
45°	814
47.5°	810
50°	795
52.5°	790
53°	785
55°	762
57.5°	733
60°	688
62.5°	638
65°	580
67.5°	517
70°	453
72.5°	392
75°	332
77.5°	280
80°	227
82.5°	186
85°	151
87.5°	122
90°	109
92.5°	105
95°	109
97.5°	113
100°	116
102.5°	117
105°	117
107.5°	117





TEST NUMBER: P29173

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

**CANDELA DISTRIBUTION (continued):**

	90°
110°	115
112.5°	109
115°	102
117.5°	95
120°	88
122.5°	81
125°	74
127.5°	67
130°	58
132.5°	51
135°	45
137.5°	40
140°	35
142.5°	31
145°	27
147.5°	22
150°	17
152.5°	13
155°	7
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)