

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: P29165

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

Test Date: 12/20/16



Test Information

Test Method: LM-79-08
Report Number: P29165
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-OPL-EDC1
Description: H12 LED FIXTURE WITH OPAL LENS
Light Source: (112) NICHIA 4000K LEDS
1FS402256M8404
Ballast/Driver: (1) OSRAM ELECTRONIC DRIVER (700mA)
OT40W-UNV-1250C

Summary

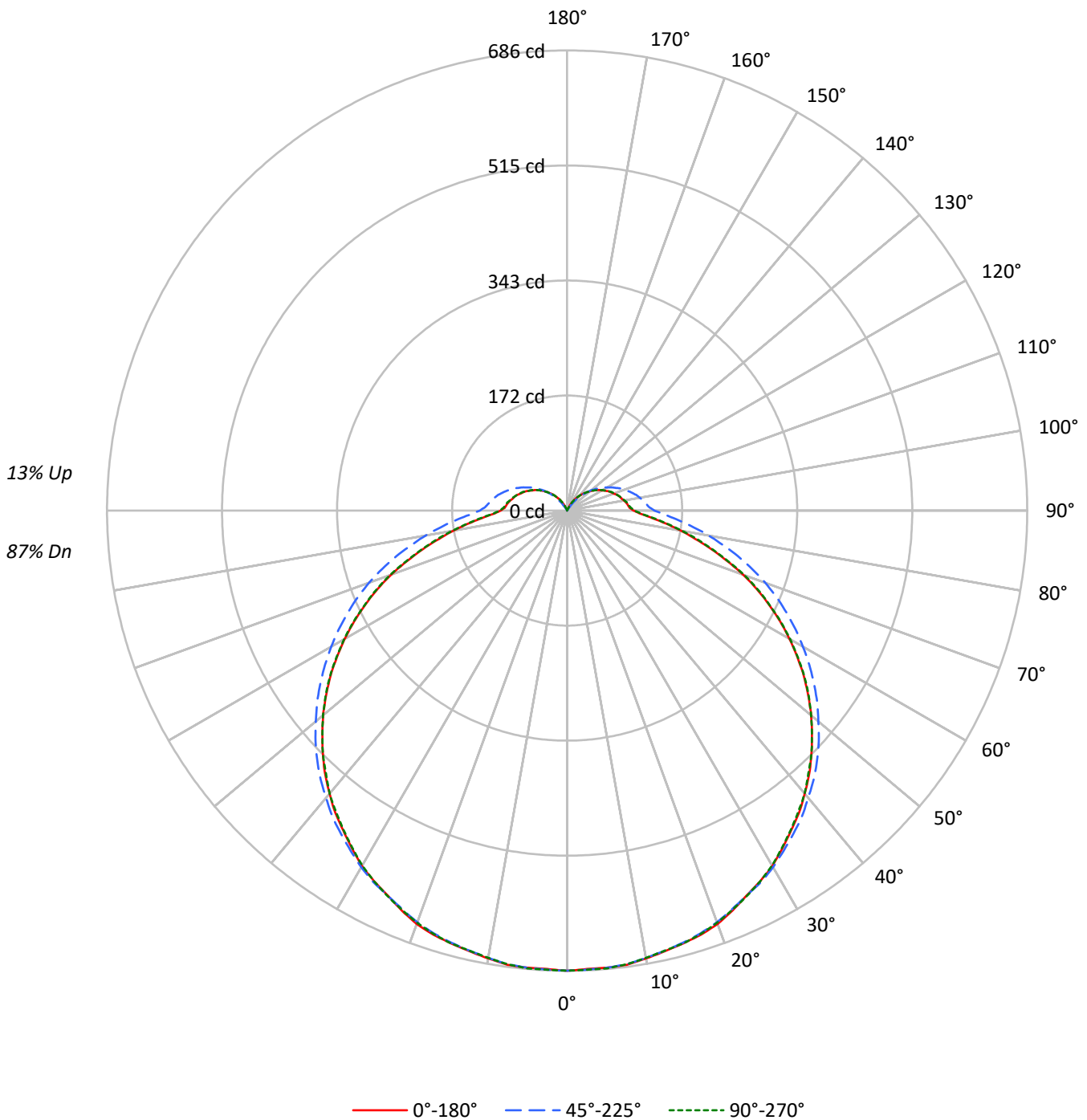
Lumens per Lamp: N/A
Luminaire Lumens: 2854.8 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.32 / 1.48
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 0.83' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 32.2
Input Voltage (V): 120.0
Input Current (A_{in}): 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	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	57	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	37	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°	10633	10633	10633
5°	10196	10023	10211
10°	9807	9474	9792
15°	9453	8998	9453
20°	9155	8566	9127
25°	8779	8141	8793
30°	8500	7804	8486
35°	8157	7442	8143
40°	7854	7099	7854
45°	7526	6767	7526
50°	7177	6399	7177
55°	6795	6037	6811
60°	6363	5657	6379
65°	5876	5262	5894
70°	5327	4836	5365
75°	4660	4345	4702
80°	4003	3813	4049
85°	3364	3270	3416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.1	2.3
10°-20°	188.7	6.6
20°-30°	292.6	10.2
30°-40°	366.3	12.8
40°-50°	401.7	14.1
50°-60°	394.2	13.8
60°-70°	344.7	12.1
70°-80°	261.2	9.1
80°-90°	167.6	5.9
90°-100°	116.7	4.1
100°-110°	96.2	3.4
110°-120°	72.6	2.5
120°-130°	48.5	1.7
130°-140°	27.0	0.9
140°-150°	10.5	0.4
150°-160°	1.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	546.4	19.1
0°-40°	912.7	32.0
0°-60°	1708.6	59.8
0°-90°	2482.1	86.9
90°-120°	285.6	10.0
90°-150°	371.5	13.0
90°-180°	373.0	13.1
0°-180°	2854.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	686	686	686	686	686	
5°	684	684	684	684	685	65
15°	668	668	667	667	668	189
25°	633	634	633	633	634	293
35°	582	584	588	584	581	365
45°	515	520	527	520	515	397
55°	431	442	449	441	432	385
65°	332	350	361	350	333	329
75°	223	249	264	250	225	236
85°	127	155	167	155	129	113
90°	99	118	130	119	100	55
95°	91	108	118	109	92	73
105°	81	91	101	92	81	85
115°	68	72	80	74	68	67
125°	53	52	58	53	53	48
135°	37	32	35	32	37	29
145°	21	17	10	17	21	13
155°	4	0	0	0	4	2
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°	55°	65°	75°	85°	90°
0°	686	686	686	686	686	686	686	686	686	686	686
2.5°	684	684	684	684	684	685	685	684	684	685	685
5°	684	684	684	684	685	684	683	684	684	684	685
7.5°	683	682	682	683	682	682	682	682	682	682	682
10°	678	677	678	677	677	677	677	678	677	677	677
12.5°	673	672	673	672	672	672	673	672	672	673	672
15°	668	668	668	668	668	667	667	667	668	669	668
17.5°	663	662	662	662	662	661	661	661	662	662	662
20°	656	655	654	654	653	653	653	653	654	654	654
22.5°	645	644	644	644	643	643	643	643	644	644	644
25°	633	633	634	634	633	633	633	633	633	634	634
27.5°	623	623	624	623	625	625	623	623	623	623	623
30°	612	612	612	612	613	614	613	612	612	611	611
32.5°	597	597	597	598	600	601	600	598	597	597	596
35°	582	582	583	584	588	588	587	585	582	583	581
37.5°	568	568	568	570	574	575	574	570	568	568	566
40°	551	551	552	555	559	559	558	555	551	550	551
42.5°	534	534	535	539	543	544	542	539	534	533	532
45°	515	515	518	521	525	527	525	522	516	514	515
47.5°	495	495	498	503	507	509	508	504	498	495	495
50°	475	475	479	484	488	489	489	485	478	475	475
52.5°	453	454	458	464	469	470	469	465	458	454	454
55°	431	431	437	443	448	449	449	443	436	432	432
57.5°	407	407	414	421	426	428	427	421	414	408	408
60°	383	384	391	399	404	406	404	399	391	384	384
62.5°	358	359	367	376	381	384	382	377	367	359	359
65°	332	332	342	352	358	361	359	352	342	333	333
67.5°	306	307	317	328	336	338	335	328	318	308	308
70°	279	281	291	303	311	314	311	303	293	281	281
72.5°	250	253	264	278	287	289	286	279	267	253	252
75°	223	226	238	253	261	264	261	253	240	227	225
77.5°	196	200	214	228	235	238	235	228	215	201	199
80°	172	176	191	203	211	214	211	204	192	177	174
82.5°	148	152	168	180	187	190	188	181	170	154	150
85°	127	131	146	158	165	167	165	158	147	133	129
87.5°	109	113	125	137	143	146	144	137	127	114	111
90°	99	100	111	121	128	130	128	121	112	102	100
92.5°	93	95	105	114	120	122	121	115	105	96	95
95°	91	92	101	110	116	118	117	111	102	93	92
97.5°	89	89	97	106	112	114	113	107	98	90	90
100°	86	86	94	102	108	110	108	103	94	87	87
102.5°	83	83	90	98	103	106	104	98	91	84	84
105°	81	80	86	93	99	101	99	94	86	81	81
107.5°	78	77	81	89	94	96	94	89	82	78	78
110°	74	74	77	84	89	91	89	84	78	75	75



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	71	71	73	79	84	86	84	79	73	71	72
115°	68	67	68	74	79	80	79	75	69	68	68
117.5°	64	64	63	69	73	75	73	69	64	64	64
120°	60	60	58	64	68	69	68	64	59	60	61
122.5°	57	56	54	59	62	64	63	59	55	57	57
125°	53	52	50	53	57	58	57	54	51	53	53
127.5°	49	49	46	48	51	52	51	48	47	49	49
130°	45	45	43	42	46	47	46	42	43	45	45
132.5°	41	41	39	36	40	41	40	36	39	41	41
135°	37	37	35	31	34	35	34	31	35	37	37
137.5°	33	33	31	27	28	29	28	28	32	33	34
140°	29	29	27	24	22	23	22	24	28	29	29
142.5°	25	25	23	20	16	17	16	20	23	25	25
145°	21	21	19	16	11	10	12	16	19	21	21
147.5°	17	16	15	12	8	4	8	12	15	17	17
150°	13	12	11	8	4	0	4	8	11	13	13
152.5°	8	8	7	4	0	0	0	4	7	8	8
155°	4	3	2	0	0	0	0	0	2	4	4
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)