

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: P32764

Luminaire Tested: **FWL-D-2-LD3-UNV-LO/LO-35-80/84-ED**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P32764
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FWL-D-2-LD3-UNV-LO/LO-35-80/84-ED
Description: FAILSAFE FWL LED FIXTURE WITH .125" PATTERN 12 ACRYLIC LENS &
.125" POLYCARBONATE LENS
Light Source: (98) LG 3500K LED
1UT217049835
Ballast/Driver: (1) LG ELECTRONIC DRIVER
LEDINTA2000C24DO

Summary

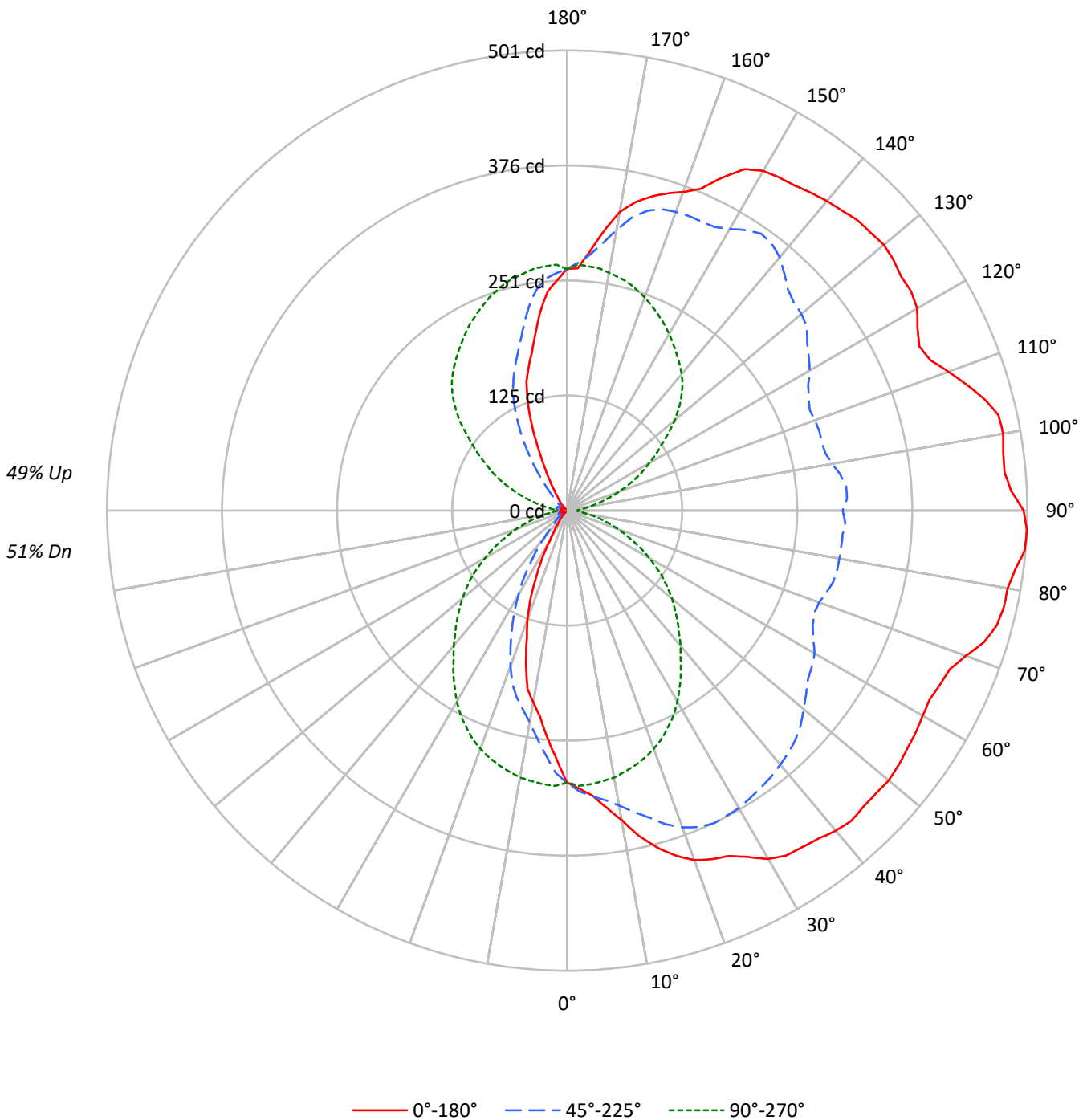
Lumens per Lamp: N/A
Luminaire Lumens: 2247.4 lumens
Efficiency: N/A
Efficacy: 79.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.2 / 1.36
Luminous Opening: Rectangular (W 0.17' x L: 1.81' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 28.3
Input Voltage (V): NR
Input Current (Ain): 0.2376
Voltage Rise (V): NR
Power Factor: 0.9953
Total Harmonic Distortion (THDi): 7.1%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: 3 HR
Ambient Temperature (°C): NR
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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51				
1	95	89	84	79	87	82	77	73	69	65	62	56	54	52	45	43	42	36				
2	85	76	69	63	78	70	64	58	59	54	49	48	44	41	38	35	33	28				
3	77	66	58	51	70	61	54	48	51	45	40	42	37	34	33	30	27	23				
4	70	58	49	43	64	54	46	40	45	39	34	37	32	28	29	26	23	19				
5	64	52	43	36	59	48	40	34	40	34	29	33	28	24	26	23	20	16				
6	59	46	37	31	54	43	35	29	36	30	25	30	25	21	24	20	17	14				
7	55	42	33	27	50	38	31	25	32	26	22	27	22	18	22	18	15	12				
8	51	38	29	24	46	35	27	22	30	24	19	25	20	16	20	16	13	11				
9	47	34	26	21	43	32	25	20	27	21	17	23	18	15	18	15	12	10				
10	44	31	24	19	40	29	22	18	25	19	15	21	16	13	17	13	11	9				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10547	10547	10547
5°	11124	10695	8871
10°	12374	10674	7671
15°	14018	10587	6382
20°	15357	10466	4778
25°	16316	10222	3145
30°	18021	9875	1563
35°	19444	9396	783
40°	21164	8931	512
45°	22979	8567	101
50°	25333	8260	111
55°	28080	7890	186
60°	31855	7340	285
65°	37772	6745	590
70°	48132	6147	938
75°	66633	5507	1239
80°	99931	4925	1642
85°	204417	6133	2453



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.4	1.2
10°-20°	78.7	3.5
20°-30°	117.5	5.2
30°-40°	139.8	6.2
40°-50°	150.3	6.7
50°-60°	153.6	6.8
60°-70°	153.3	6.8
70°-80°	158.3	7.0
80°-90°	159.7	7.1
90°-100°	157.0	7.0
100°-110°	154.4	6.9
110°-120°	150.1	6.7
120°-130°	151.9	6.8
130°-140°	148.5	6.6
140°-150°	135.7	6.0
150°-160°	111.9	5.0
160°-170°	74.1	3.3
170°-180°	25.4	1.1
0°-30°	223.6	9.9
0°-40°	363.3	16.2
0°-60°	667.2	29.7
0°-90°	1138.5	50.7
90°-120°	461.5	20.5
90°-150°	897.6	39.9
90°-180°	1109.0	49.3
0°-180°	2247.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	296	296	296	296	296	
5°	311	312	299	267	248	31
15°	380	346	287	211	173	108
25°	415	376	260	142	80	194
35°	447	368	216	70	18	281
45°	456	352	170	21	2	354
55°	452	320	127	8	3	406
65°	448	295	80	9	7	446
75°	484	300	40	13	9	508
85°	500	301	15	11	6	405
90°	497	300	11	10	5	271
95°	478	305	15	10	6	392
105°	470	287	40	12	8	494
115°	423	290	82	9	7	427
125°	444	319	126	8	3	399
135°	447	340	176	22	2	345
145°	432	368	208	69	18	272
155°	400	347	235	139	73	186
165°	354	338	257	194	162	100
175°	283	279	267	254	240	29
180°	263	263	263	263	263	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	296	296	296	296	296	296	296	296	296
2.5°	303	304	306	306	300	292	286	276	270
5°	311	311	312	309	299	283	267	253	248
7.5°	326	323	318	311	297	274	250	234	226
10°	342	338	326	313	295	263	234	218	212
12.5°	363	356	336	314	291	251	222	205	199
15°	380	373	346	314	287	240	211	188	173
17.5°	394	386	358	314	282	228	198	164	146
20°	405	396	367	315	276	218	180	138	126
22.5°	411	403	373	315	269	207	161	119	104
25°	415	406	376	315	260	196	142	98	80
27.5°	425	409	375	314	251	184	124	74	59
30°	438	416	374	312	240	172	106	54	38
32.5°	445	424	371	306	228	157	89	38	26
35°	447	428	368	299	216	144	70	26	18
37.5°	450	428	365	291	203	129	54	19	13
40°	455	425	361	281	192	115	39	15	11
42.5°	458	425	357	271	180	100	28	12	5
45°	456	425	352	263	170	86	21	6	2
47.5°	456	422	345	255	159	73	17	4	2
50°	457	420	336	247	149	60	15	4	2
52.5°	455	416	328	239	138	48	10	4	3
55°	452	412	320	229	127	38	8	5	3
57.5°	450	409	316	220	115	30	8	5	3
60°	447	407	311	209	103	23	8	6	4
62.5°	445	407	302	199	92	18	9	6	5
65°	448	409	295	188	80	16	9	8	7
67.5°	451	411	291	177	69	12	10	9	8
70°	462	416	292	167	59	10	10	10	9
72.5°	476	428	296	157	49	10	11	11	9
75°	484	435	300	146	40	11	13	11	9
77.5°	487	439	301	138	31	11	13	11	8
80°	487	441	301	131	24	11	13	10	8
82.5°	492	448	301	126	18	11	12	9	7
85°	500	453	301	123	15	11	11	8	6
87.5°	501	451	303	120	12	11	10	7	5
90°	497	447	300	118	11	11	10	7	5
92.5°	484	436	305	120	12	11	10	6	5
95°	478	433	305	122	15	11	10	7	6
97.5°	479	438	300	125	19	11	11	8	6
100°	482	443	293	130	25	11	12	9	7
102.5°	481	437	288	136	32	11	12	10	8
105°	470	423	287	144	40	11	12	11	8
107.5°	456	408	288	156	50	10	11	11	8
110°	442	396	287	167	60	10	11	10	8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	428	389	286	179	71	13	10	10	8
115°	423	392	290	189	82	15	9	9	7
117.5°	430	402	296	198	93	18	9	7	6
120°	440	408	305	207	103	23	8	6	4
122.5°	444	405	312	215	115	29	8	5	4
125°	444	403	319	226	126	38	8	5	3
127.5°	448	406	329	236	139	48	11	4	3
130°	450	411	333	247	153	60	15	4	2
132.5°	448	416	335	258	165	72	17	4	2
135°	447	418	340	263	176	86	22	8	2
137.5°	443	413	350	264	186	99	29	12	6
140°	440	410	360	266	194	114	40	15	11
142.5°	436	411	366	271	201	128	53	19	13
145°	432	415	368	279	208	142	69	27	18
147.5°	430	418	362	289	215	155	86	38	26
150°	427	414	354	299	222	168	104	52	38
152.5°	419	399	348	307	229	180	122	71	53
155°	400	383	347	311	235	193	139	94	73
157.5°	379	373	347	311	241	205	153	117	100
160°	369	365	346	308	247	218	166	137	125
162.5°	362	359	344	302	252	229	179	155	147
165°	354	352	338	295	257	239	194	168	162
167.5°	344	343	327	288	260	247	212	184	177
170°	330	327	310	282	263	253	230	205	197
172.5°	307	304	293	277	266	259	245	228	220
175°	283	284	279	272	267	262	254	245	240
177.5°	264	268	270	269	268	265	259	253	251
180°	263	263	263	263	263	263	263	263	263

(END OF REPORT)