

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: P32760

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P32760  
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-HI/HI-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

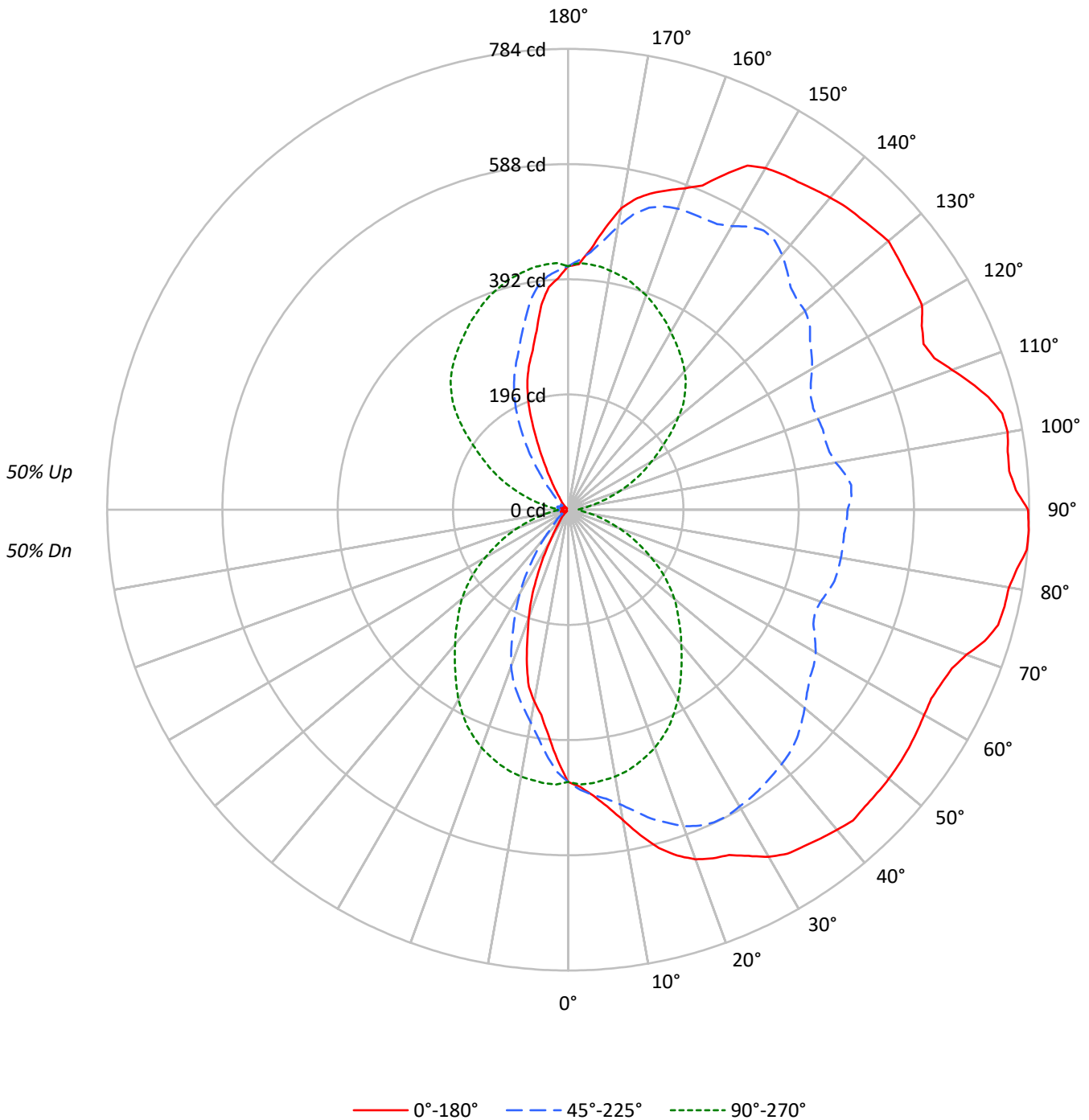
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3526.3 lumens  
Efficiency: N/A  
Efficacy: 72.1 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): 48.9  
Input Voltage (V): NR  
Input Current (Ain): 0.4088  
Voltage Rise (V): NR  
Power Factor: 0.9984  
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	50	30	10	0		
RCR																										
0	107	107	107	107	99	99	99	99	84	84	84	69	69	69	57	57	57	50					50			
1	95	89	84	79	87	82	77	73	69	65	62	56	54	51	45	43	41	36					36			
2	85	76	69	63	78	70	64	58	59	54	49	48	44	41	38	35	33	28					28			
3	77	66	58	51	70	61	54	48	51	45	40	42	37	34	33	30	27	23					23			
4	70	58	49	43	64	54	46	40	45	39	34	37	32	28	29	26	23	19					19			
5	64	52	43	36	59	48	40	34	40	34	29	33	28	24	26	22	20	16					16			
6	59	46	37	31	54	43	35	29	36	30	25	30	25	21	24	20	17	14					14			
7	55	42	33	27	50	38	31	25	32	26	22	27	22	18	22	18	15	12					12			
8	51	38	29	24	46	35	27	22	29	24	19	24	20	16	20	16	13	11					11			
9	47	34	26	21	43	32	25	20	27	21	17	22	18	15	18	15	12	10					10			
10	44	31	24	19	40	29	22	18	25	19	15	21	16	13	17	13	11	9					9			

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

	0°	90°	180°
0°	16498	16498	16498
5°	17455	16704	13771
10°	19393	16680	11976
15°	21986	16563	10034
20°	24003	16343	7432
25°	25477	15962	4914
30°	28061	15347	2469
35°	30406	14572	1174
40°	33072	13908	791
45°	35980	13404	151
50°	39469	13082	166
55°	43921	12487	311
60°	49814	11616	428
65°	59019	10708	843
70°	75115	9585	1354
75°	104218	8536	1790
80°	156155	7798	2257
85°	320117	8994	3680



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.8	1.2
10°-20°	122.9	3.5
20°-30°	183.4	5.2
30°-40°	218.1	6.2
40°-50°	235.0	6.7
50°-60°	240.5	6.8
60°-70°	239.7	6.8
70°-80°	247.2	7.0
80°-90°	249.9	7.1
90°-100°	246.9	7.0
100°-110°	242.9	6.9
110°-120°	236.1	6.7
120°-130°	239.8	6.8
130°-140°	234.3	6.6
140°-150°	213.8	6.1
150°-160°	176.2	5.0
160°-170°	116.7	3.3
170°-180°	40.0	1.1
0°-30°	349.1	9.9
0°-40°	567.2	16.1
0°-60°	1042.8	29.6
0°-90°	1779.6	50.5
90°-120°	725.9	20.6
90°-150°	1413.9	40.1
90°-180°	1747.0	49.5
0°-180°	3526.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	463	463	463	463	463	
5°	488	487	467	419	385	48
15°	596	544	449	328	272	169
25°	648	587	406	220	125	303
35°	699	575	335	109	27	439
45°	714	550	266	33	3	553
55°	707	501	201	12	5	634
65°	700	460	127	14	10	698
75°	757	469	62	20	13	794
85°	783	471	22	17	9	633
90°	782	475	17	16	8	426
95°	753	483	23	15	9	618
105°	740	453	63	19	13	778
115°	667	455	129	14	11	673
125°	701	502	202	12	5	630
135°	702	535	281	34	3	544
145°	681	580	329	109	27	429
155°	629	546	369	217	119	292
165°	558	532	403	307	256	158
175°	445	440	419	399	380	45
180°	414	414	414	414	414	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	463	463	463	463	463	463	463	463	463
2.5°	472	473	477	477	468	456	446	433	425
5°	488	486	487	482	467	443	419	397	385
7.5°	509	503	496	485	464	428	391	363	352
10°	536	529	509	487	461	411	367	341	331
12.5°	567	555	525	489	456	393	347	320	309
15°	596	582	544	490	449	376	328	293	272
17.5°	617	603	558	489	440	358	308	254	230
20°	633	619	573	491	431	340	284	218	196
22.5°	642	629	582	491	419	322	252	188	162
25°	648	634	587	492	406	304	220	154	125
27.5°	664	640	587	491	390	286	193	118	91
30°	682	649	583	487	373	266	164	85	60
32.5°	694	663	580	479	354	245	137	60	41
35°	699	668	575	468	335	223	109	41	27
37.5°	705	667	570	455	317	200	85	29	21
40°	711	665	565	438	299	178	62	23	17
42.5°	717	664	559	425	283	155	44	19	8
45°	714	663	550	411	266	133	33	11	3
47.5°	713	659	538	400	251	113	27	6	3
50°	712	655	525	388	236	94	24	7	3
52.5°	710	651	512	375	219	75	16	7	4
55°	707	644	501	359	201	60	12	7	5
57.5°	703	639	495	344	183	47	13	8	5
60°	699	636	486	327	163	36	13	9	6
62.5°	696	637	473	310	144	28	14	10	8
65°	700	639	460	293	127	24	14	13	10
67.5°	706	642	454	277	109	19	15	15	12
70°	721	651	457	260	92	16	17	16	13
72.5°	743	666	463	244	76	16	19	17	13
75°	757	680	469	228	62	17	20	17	13
77.5°	760	686	470	215	48	17	21	17	12
80°	761	690	471	204	38	18	21	16	11
82.5°	770	700	471	197	29	18	19	13	10
85°	783	708	471	192	22	18	17	12	9
87.5°	784	705	474	189	19	17	16	10	7
90°	782	701	475	185	17	17	16	11	8
92.5°	762	683	482	187	19	17	15	10	8
95°	753	679	483	191	23	17	15	11	9
97.5°	754	687	474	196	30	18	17	12	10
100°	759	696	462	203	39	18	19	15	11
102.5°	756	688	455	213	50	17	19	16	12
105°	740	665	453	226	63	17	19	17	13
107.5°	718	642	454	244	78	16	18	17	13
110°	695	621	452	262	94	16	17	16	13



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	674	612	451	281	112	20	15	15	12
115°	667	619	455	297	129	24	14	14	11
117.5°	678	632	465	311	147	29	14	11	9
120°	695	642	479	325	163	37	13	9	7
122.5°	698	639	491	341	182	47	13	8	6
125°	701	635	502	355	202	60	12	8	5
127.5°	706	639	518	373	224	76	18	7	4
130°	711	647	526	390	244	95	24	7	3
132.5°	706	654	528	406	265	115	27	6	3
135°	702	657	535	415	281	136	34	13	3
137.5°	699	651	551	418	296	158	45	19	10
140°	693	647	566	420	308	178	63	23	17
142.5°	687	648	577	427	319	201	82	30	20
145°	681	653	580	441	329	223	109	41	27
147.5°	677	658	571	455	339	243	136	60	40
150°	671	653	557	471	349	263	164	81	60
152.5°	660	631	548	483	360	284	192	111	84
155°	629	604	546	490	369	304	217	146	119
157.5°	597	585	546	491	379	325	240	183	160
160°	582	575	545	485	388	344	261	219	199
162.5°	570	565	541	475	395	361	281	245	231
165°	558	555	532	465	403	376	307	267	256
167.5°	543	540	515	453	408	389	334	291	278
170°	521	516	489	444	413	398	364	323	309
172.5°	483	481	462	435	417	406	385	361	351
175°	445	447	440	428	419	412	399	385	380
177.5°	418	422	425	423	420	417	407	398	394
180°	414	414	414	414	414	414	414	414	414

(END OF REPORT)