

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: P32771

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P32771  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FWLDL-D-2-LD3-UNV-HI-35-80/84-ED  
Description: FAILSAFE FWLDL LED FIXTURE WITH .125" PATTERN 12 ACRYLIC LENS  
& .125" POLYCARBONATE LENS  
Light Source: (49) LG 3500K LED  
1UT217049835  
Ballast/Driver: (1) ADVANCE ELECTRONIC DRIVER  
XIO25C100V036XPL1

**Summary**

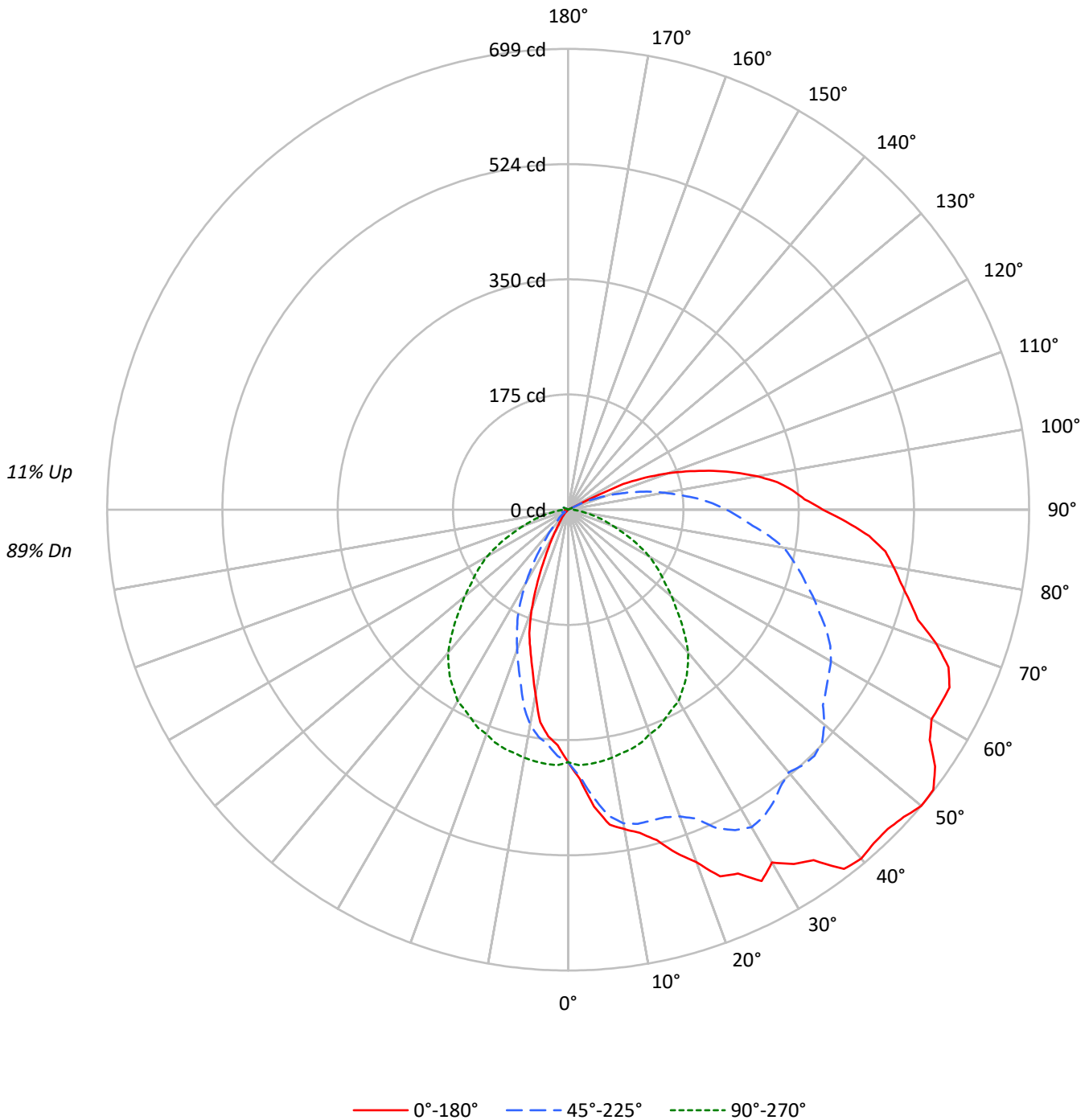
Lumens per Lamp: N/A  
Luminaire Lumens: 1679.7 lumens  
Efficiency: N/A  
Efficacy: 66.1 lumens/watt  
Spacing Criteria (0/90/45): 1.34 / 1.29 / 1.45  
Luminous Opening: Rectangular (W 0.17' x L: 1.81' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 25.4  
Input Voltage (V): NR  
Input Current (Ain): 0.2139  
Voltage Rise (V): NR  
Power Factor: 0.9986  
Total Harmonic Distortion (THDi): 13.1%  
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	0
RCR																		
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	102	96	90	85	98	93	88	83	86	82	78	80	77	74	75	72	70	67
2	92	82	74	67	88	79	71	65	73	67	62	68	63	59	64	60	56	53
3	83	71	61	54	79	68	60	53	64	56	50	59	53	48	55	50	46	43
4	75	62	52	45	72	60	51	44	56	48	42	52	46	40	49	43	39	36
5	69	55	45	38	66	53	44	37	50	42	36	47	40	34	44	38	33	30
6	64	49	40	33	61	48	39	32	45	37	31	42	35	30	39	33	29	26
7	59	45	35	29	56	43	34	28	41	33	27	38	31	26	36	30	25	23
8	55	40	32	25	52	39	31	25	37	30	24	35	28	23	33	27	23	20
9	51	37	28	23	49	36	28	22	34	27	22	32	26	21	30	25	20	18
10	48	34	26	20	46	33	25	20	31	24	20	30	23	19	28	22	18	16

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

	0°	90°	180°
0°	13647	13647	13647
5°	16167	13842	12340
10°	17801	13821	10312
15°	19145	13833	8153
20°	21576	13727	6143
25°	23943	13721	3538
30°	25427	13783	1769
35°	28231	13572	870
40°	32142	13164	558
45°	34518	12245	50
50°	38748	11364	111
55°	42181	10685	248
60°	45324	10120	285
65°	53792	9021	506
70°	61884	7605	625
75°	73792	6608	551
80°	102804	5335	616
85°	187246	5315	1227



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	2.2
10°-20°	107.6	6.4
20°-30°	163.0	9.7
30°-40°	197.6	11.8
40°-50°	219.1	13.0
50°-60°	223.6	13.3
60°-70°	213.7	12.7
70°-80°	185.7	11.1
80°-90°	147.7	8.8
90°-100°	103.6	6.2
100°-110°	61.7	3.7
110°-120°	18.6	1.1
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	308.3	18.4
0°-40°	505.9	30.1
0°-60°	948.7	56.5
0°-90°	1495.8	89.0
90°-120°	184.0	11.0
90°-150°	184.0	11.0
90°-180°	184.0	11.0
0°-180°	1679.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	383	383	383	383	383	
5°	452	438	387	357	345	44
15°	519	488	375	276	221	150
25°	609	533	349	181	90	283
35°	649	542	312	78	20	414
45°	685	528	243	22	1	534
55°	679	477	172	6	4	604
65°	638	432	107	9	6	624
75°	536	364	48	11	4	570
85°	458	281	13	7	3	382
90°	386	240	8	8	4	213
95°	341	196	8	8	4	269
105°	228	103	8	8	5	241
115°	92	27	8	7	4	76
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
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°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	383	383	383	383	383	383	383	383	383
2.5°	409	409	405	397	388	379	374	362	358
5°	452	451	438	412	387	368	357	349	345
7.5°	482	479	468	424	385	357	347	327	325
10°	492	491	483	441	382	349	331	297	285
12.5°	502	493	488	454	378	342	308	264	249
15°	519	504	488	460	375	330	276	234	221
17.5°	546	526	489	460	370	317	250	210	196
20°	569	557	495	454	362	304	226	183	162
22.5°	602	583	507	444	358	287	203	147	125
25°	609	609	533	430	349	268	181	113	90
27.5°	635	620	548	423	341	248	156	84	63
30°	618	618	556	415	335	227	128	59	43
32.5°	637	608	552	412	323	206	102	41	28
35°	649	607	542	414	312	187	78	28	20
37.5°	687	627	529	412	298	166	57	21	16
40°	691	651	520	415	283	144	41	17	12
42.5°	686	649	526	402	263	124	29	13	5
45°	685	632	528	388	243	105	22	6	1
47.5°	690	619	522	368	222	87	18	3	1
50°	699	614	507	352	205	71	14	3	2
52.5°	698	639	487	340	186	55	9	4	3
55°	679	632	477	326	172	42	6	5	4
57.5°	650	614	468	319	157	32	6	6	4
60°	636	589	460	304	142	23	7	6	4
62.5°	637	573	448	287	124	18	8	7	5
65°	638	576	432	268	107	13	9	8	6
67.5°	624	566	413	248	88	10	9	8	6
70°	594	552	397	234	73	8	10	9	6
72.5°	556	528	379	219	60	8	11	8	5
75°	536	492	364	203	48	9	11	7	4
77.5°	517	460	348	185	36	9	9	6	3
80°	501	445	332	165	26	9	8	5	3
82.5°	485	430	308	145	19	9	7	5	3
85°	458	418	281	126	13	8	7	5	3
87.5°	422	389	260	109	10	8	8	5	3
90°	386	356	240	91	8	9	8	5	4
92.5°	359	322	219	74	8	9	8	5	4
95°	341	302	196	58	8	9	8	5	4
97.5°	320	280	170	45	8	9	8	5	5
100°	291	255	148	34	8	9	8	6	5
102.5°	260	226	127	24	8	8	8	6	5
105°	228	200	103	17	8	9	8	6	5
107.5°	194	163	81	13	8	9	8	6	5
110°	162	135	62	10	8	9	8	6	5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	127	104	42	7	8	8	8	5	4
115°	92	73	27	7	8	8	7	5	4
117.5°	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0

(END OF REPORT)