

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: P32773

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P32773  
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-LO-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

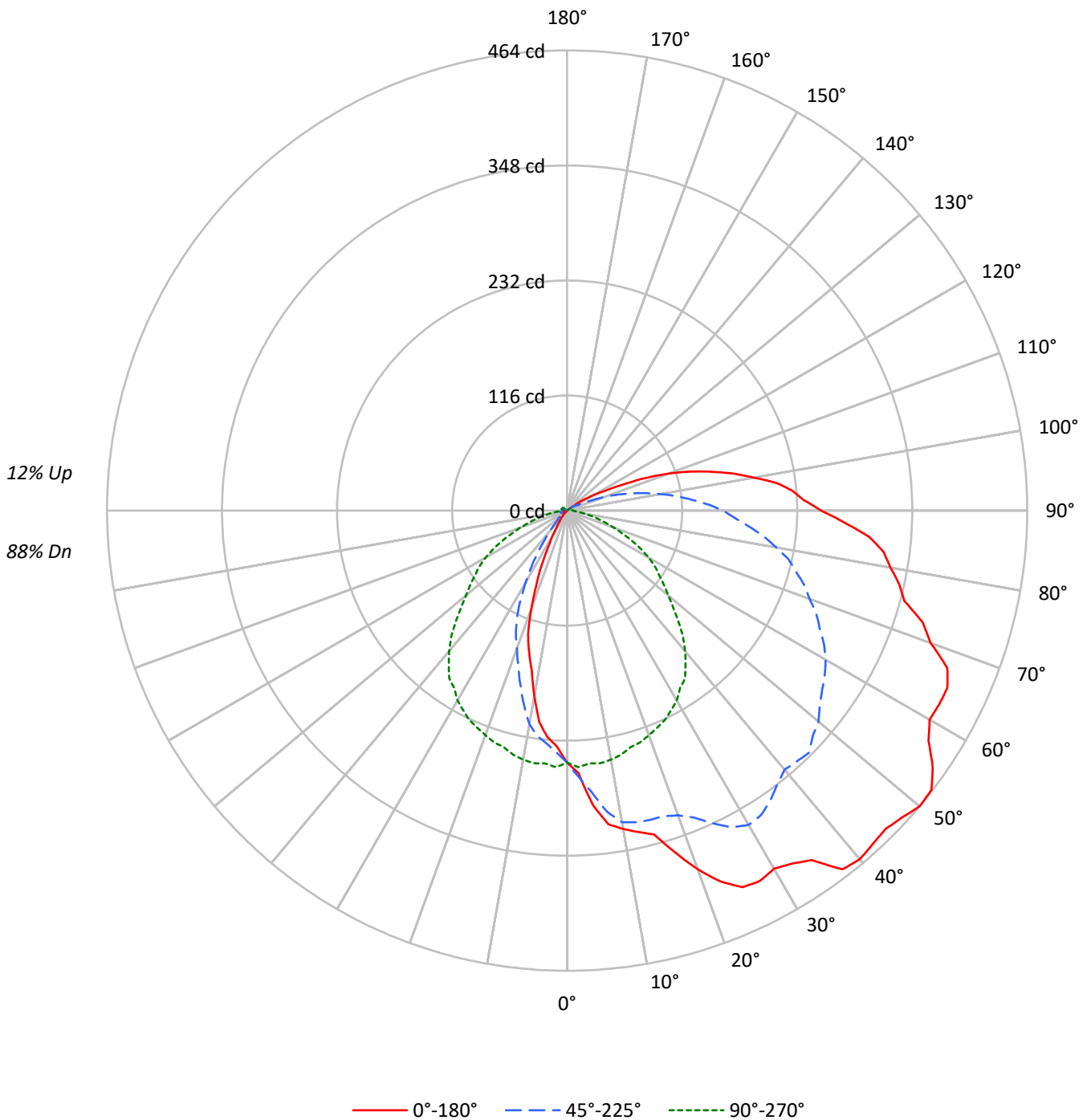
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1120.1 lumens  
Efficiency: N/A  
Efficacy: 69.1 lumens/watt  
Spacing Criteria (0/90/45): 1.34 / 1.28 / 1.44  
Luminous Opening: Rectangular (W 0.17' x L: 1.81' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 16.2  
Input Voltage (V): NR  
Input Current (Ain): 0.1377  
Voltage Rise (V): NR  
Power Factor: 0.9966  
Total Harmonic Distortion (THDi): 17.36%  
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	91	91	91	88
1	102	96	90	85	98	93	87	83	86	82	78	80	77	73	75	72	69	66
2	92	82	74	67	88	79	71	65	73	67	62	68	63	58	63	59	55	52
3	83	71	61	54	79	68	60	53	63	56	50	59	53	48	55	50	46	43
4	75	62	52	45	72	60	51	44	56	48	42	52	45	40	48	43	38	36
5	69	55	45	38	66	53	44	37	50	42	36	46	40	34	43	38	33	30
6	64	49	40	33	61	48	39	32	45	37	31	42	35	30	39	33	29	26
7	59	44	35	29	56	43	34	28	40	33	27	38	31	26	36	30	25	23
8	55	40	32	25	52	39	31	25	37	29	24	35	28	23	33	27	22	20
9	51	37	28	23	49	36	28	22	34	27	22	32	26	21	30	24	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°	9051	9051	9051
5°	10659	9157	8191
10°	11795	9226	6875
15°	12469	9112	5460
20°	14599	9138	4019
25°	16473	9161	2398
30°	17157	9093	1193
35°	18705	9004	565
40°	21350	8605	372
45°	22878	8012	0
50°	25721	7373	55
55°	27955	7020	186
60°	30074	6770	214
65°	35664	6071	337
70°	40631	5209	417
75°	48461	4406	413
80°	67920	3694	410
85°	125103	3680	818



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.0	2.2
10°-20°	71.3	6.4
20°-30°	108.1	9.7
30°-40°	130.9	11.7
40°-50°	144.4	12.9
50°-60°	148.0	13.2
60°-70°	141.5	12.6
70°-80°	123.3	11.0
80°-90°	97.9	8.7
90°-100°	68.7	6.1
100°-110°	40.7	3.6
110°-120°	16.3	1.5
120°-130°	4.1	0.4
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°	204.4	18.2
0°-40°	335.3	29.9
0°-60°	627.6	56.0
0°-90°	990.3	88.4
90°-120°	125.7	11.2
90°-150°	129.8	11.6
90°-180°	130.0	11.6
0°-180°	1120.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	254	254	254	254	254	
5°	298	285	256	236	229	29
15°	338	323	247	182	148	99
25°	419	348	233	120	61	191
35°	430	357	207	51	13	275
45°	454	345	159	14	0	354
55°	450	314	113	4	3	401
65°	423	281	72	6	4	414
75°	352	239	32	7	3	378
85°	306	184	9	5	2	254
90°	256	157	6	5	2	141
95°	228	126	5	5	3	179
105°	151	67	5	6	3	160
115°	62	18	5	5	3	66
125°	15	4	5	5	1	12
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°	254	254	254	254	254	254	254	254	254
2.5°	265	271	269	261	259	252	244	239	238
5°	298	298	285	272	256	245	236	231	229
7.5°	319	318	306	282	257	239	229	218	215
10°	326	327	319	291	255	234	219	198	190
12.5°	332	331	322	300	252	227	201	173	165
15°	338	336	323	305	247	220	182	154	148
17.5°	361	348	323	305	245	211	164	140	131
20°	385	370	327	301	241	202	148	120	106
22.5°	405	391	335	294	237	191	135	96	81
25°	419	405	348	285	233	178	120	74	61
27.5°	421	413	360	279	227	165	102	54	41
30°	417	411	366	274	221	151	83	39	29
32.5°	422	405	364	271	212	138	67	28	19
35°	430	407	357	273	207	124	51	19	13
37.5°	456	419	348	274	196	110	37	14	11
40°	459	433	341	273	185	96	27	11	8
42.5°	456	432	343	267	173	83	19	8	3
45°	454	415	345	256	159	70	14	4	0
47.5°	458	410	336	243	145	58	12	2	0
50°	464	412	331	233	133	46	10	2	1
52.5°	463	420	321	226	123	37	6	3	2
55°	450	421	314	218	113	27	4	3	3
57.5°	432	407	308	212	105	21	4	4	3
60°	422	387	301	202	95	15	5	4	3
62.5°	423	381	292	190	84	12	5	5	3
65°	423	380	281	178	72	9	6	5	4
67.5°	415	377	272	167	60	7	6	6	4
70°	390	367	260	156	50	5	6	6	4
72.5°	376	351	251	146	40	5	7	5	3
75°	352	328	239	135	32	6	7	5	3
77.5°	343	309	229	124	24	6	6	4	2
80°	331	297	214	111	18	6	5	3	2
82.5°	322	289	200	97	12	6	5	3	2
85°	306	277	184	84	9	6	5	3	2
87.5°	280	262	169	72	7	6	5	3	2
90°	256	237	157	61	6	6	5	3	2
92.5°	239	216	142	50	5	6	5	3	3
95°	228	202	126	40	5	6	5	3	3
97.5°	213	189	111	30	5	6	5	4	3
100°	191	171	96	22	5	6	5	4	3
102.5°	172	150	81	16	5	6	5	4	3
105°	151	131	67	11	5	6	6	4	3
107.5°	131	109	53	9	5	6	5	4	3
110°	109	89	40	6	5	6	5	4	3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	86	69	27	5	5	6	5	4	3
115°	62	49	18	5	5	6	5	3	3
117.5°	44	34	12	5	5	5	5	3	2
120°	32	24	10	5	5	5	5	3	2
122.5°	22	16	8	5	5	5	5	3	2
125°	15	12	4	5	5	5	5	2	1
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)