

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: P32774

Luminaire Tested: **FWLDL-D-18-LD3-UNV-HI-35-80/84-ED**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P32774
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FWLDL-D-18-LD3-UNV-HI-35-80/84-ED
Description: FAILSAFE FWLDL LED FIXTURE WITH .125" PATTERN 12 ACRYLIC LENS
& .125" POLYCARBONATE LENS
Light Source: (28) LG 3500K LED
1UT211028835
Ballast/Driver: (1) ADVANCE ELECTRONIC DRIVER
XIO25C100V036XPL1

Summary

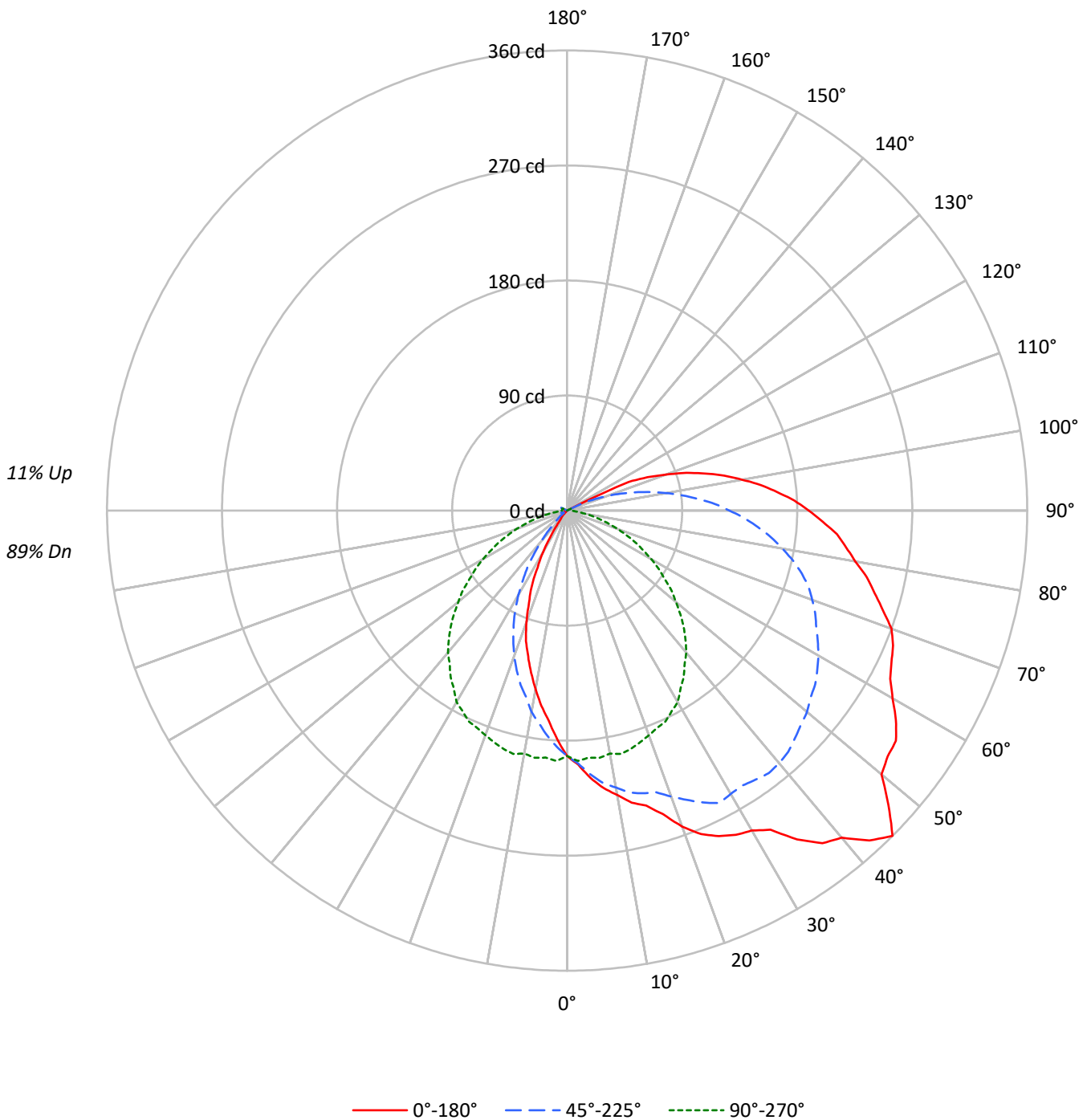
Lumens per Lamp: N/A
Luminaire Lumens: 834.1 lumens
Efficiency: N/A
Efficacy: 49.1 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.31 / 1.43
Luminous Opening: Rectangular (W 0.17' x L: 1.17' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 17
Input Voltage (V): NR
Input Current (Ain): 0.1444
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 16.6%
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			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	87	83	86	82	78	80	77	74	75	72	69	66
2	92	82	74	67	88	79	71	65	73	67	62	68	63	59	63	59	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	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	19	30	23	19	28	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10629	10629	10629
5°	11669	10780	9169
10°	12704	10849	7982
15°	13697	11061	6763
20°	15493	11016	5479
25°	17163	11117	4031
30°	18473	11058	2429
35°	21220	10745	946
40°	24136	10478	506
45°	28183	10099	0
50°	27645	9559	86
55°	30305	8976	193
60°	32550	8414	332
65°	36676	7728	262
70°	43700	6798	324
75°	53257	5775	428
80°	73003	4463	319
85°	134652	3811	635



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.2	2.2
10°-20°	52.4	6.3
20°-30°	80.9	9.7
30°-40°	99.1	11.9
40°-50°	109.0	13.1
50°-60°	109.6	13.1
60°-70°	104.3	12.5
70°-80°	92.6	11.1
80°-90°	73.6	8.8
90°-100°	53.0	6.4
100°-110°	31.2	3.7
110°-120°	10.1	1.2
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°	151.5	18.2
0°-40°	250.7	30.1
0°-60°	469.3	56.3
0°-90°	739.8	88.7
90°-120°	94.3	11.3
90°-150°	94.3	11.3
90°-180°	94.0	11.3
0°-180°	834.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	192	192	192	192	192	
5°	210	207	194	177	165	21
15°	239	229	193	141	118	69
25°	281	252	182	99	66	130
35°	314	257	159	54	14	197
45°	360	252	129	15	0	267
55°	314	237	93	3	2	278
65°	280	215	59	4	2	279
75°	249	190	27	4	2	264
85°	212	150	6	3	1	176
90°	189	127	4	4	2	104
95°	165	103	4	4	2	130
105°	112	55	4	4	2	118
115°	53	14	4	5	2	41
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°	192	192	192	192	192	192	192	192	192
2.5°	199	199	198	198	196	191	185	180	179
5°	210	209	207	203	194	186	177	168	165
7.5°	219	218	215	207	195	181	168	157	154
10°	226	225	220	210	193	175	160	146	142
12.5°	234	232	226	214	195	170	149	137	130
15°	239	237	229	215	193	166	141	125	118
17.5°	249	246	231	217	190	157	131	113	107
20°	263	259	238	216	187	151	121	101	93
22.5°	274	269	245	214	184	144	110	86	78
25°	281	277	252	215	182	136	99	73	66
27.5°	286	280	258	217	177	128	88	59	50
30°	289	281	256	219	173	121	76	48	38
32.5°	296	285	255	217	165	111	64	35	25
35°	314	294	257	214	159	102	54	23	14
37.5°	328	297	259	209	151	92	42	13	8
40°	334	297	258	205	145	83	32	9	7
42.5°	350	296	256	201	137	73	23	7	4
45°	360	295	252	196	129	63	15	4	0
47.5°	341	294	248	191	120	53	10	1	0
50°	321	292	245	185	111	43	8	1	1
52.5°	316	289	240	180	103	35	5	2	1
55°	314	286	237	174	93	26	3	2	2
57.5°	305	282	232	166	85	20	3	2	2
60°	294	282	227	158	76	14	3	3	3
62.5°	285	275	221	152	67	10	3	4	3
65°	280	268	215	144	59	7	4	4	2
67.5°	276	259	210	136	50	5	5	3	2
70°	270	252	204	127	42	4	5	3	2
72.5°	259	248	198	119	34	4	4	3	2
75°	249	241	190	109	27	4	4	2	2
77.5°	240	232	181	99	20	5	4	2	1
80°	229	221	171	90	14	4	3	2	1
82.5°	220	209	161	80	9	4	3	2	1
85°	212	197	150	69	6	4	3	2	1
87.5°	200	188	139	59	5	4	4	2	1
90°	189	178	127	50	4	4	4	2	2
92.5°	178	167	116	41	4	4	4	2	2
95°	165	156	103	32	4	4	4	2	2
97.5°	153	143	91	24	4	4	4	2	2
100°	139	128	79	17	4	4	4	3	2
102.5°	126	114	67	12	4	4	4	3	2
105°	112	99	55	8	4	4	4	3	2
107.5°	98	85	44	6	4	4	4	3	2
110°	82	70	33	4	4	4	4	3	2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	68	56	23	4	4	4	5	3	2
115°	53	42	14	4	4	4	5	3	2
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)