

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: P32768

Luminaire Tested: **FWLDL-D-4-LD3-UNV-HI-35-80/84-ED**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P32768
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FWLDL-D-4-LD3-UNV-HI-35-80/84-ED
Description: FAILSAFE FWLDL 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

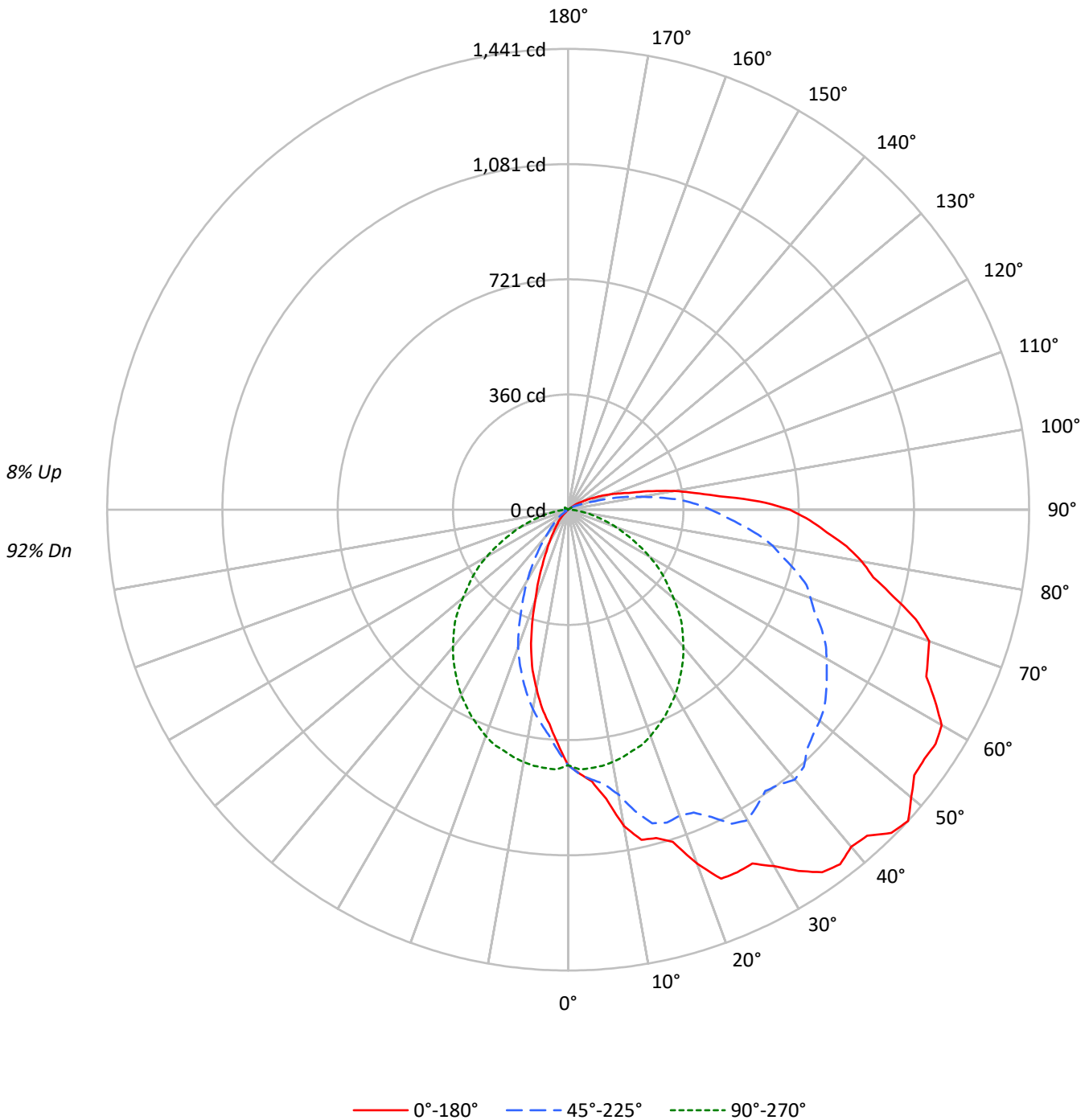
Lumens per Lamp: N/A
Luminaire Lumens: 3286.8 lumens
Efficiency: N/A
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 1.4 / 1.24 / 1.43
Luminous Opening: Rectangular (W 0.17' x L: 3.71' x H: 0')
CIE Type: Direct

Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (Ain): 0.4161
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	0
RCR																		
0	117	117	117	117	113	113	113	113	107	107	107	100	100	100	95	95	95	92
1	103	97	91	86	100	94	89	84	88	84	80	83	79	76	78	75	72	69
2	93	83	74	67	89	80	72	66	75	69	63	70	65	60	66	62	58	55
3	84	71	62	55	80	69	60	54	65	58	51	61	55	49	57	52	48	45
4	76	63	53	45	73	61	52	45	57	49	43	54	47	41	50	45	40	37
5	70	56	46	38	67	54	45	38	51	43	37	48	41	35	45	39	34	32
6	64	50	40	33	62	48	39	33	46	38	32	43	36	31	41	35	30	27
7	59	45	36	29	57	44	35	29	41	33	28	39	32	27	37	31	26	24
8	55	41	32	26	53	40	31	25	38	30	25	36	29	24	34	28	23	21
9	51	37	29	23	50	36	28	23	35	27	22	33	26	22	31	25	21	19
10	48	34	26	21	46	34	26	20	32	25	20	30	24	19	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13915	13915	13915
5°	14912	14178	11766
10°	17755	14165	10062
15°	19166	14063	8077
20°	21814	13956	5560
25°	24039	13720	3651
30°	25882	13454	2353
35°	29425	13097	1488
40°	31283	12731	1023
45°	35196	12339	148
50°	37932	11650	0
55°	41264	11052	91
60°	46953	10240	70
65°	50893	9148	165
70°	61155	8096	306
75°	70856	6729	269
80°	93473	5416	201
85°	162057	4596	200



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.7	2.3
10°-20°	216.5	6.6
20°-30°	330.6	10.1
30°-40°	409.2	12.4
40°-50°	453.1	13.8
50°-60°	458.6	14.0
60°-70°	432.5	13.2
70°-80°	369.2	11.2
80°-90°	274.4	8.3
90°-100°	165.5	5.0
100°-110°	69.1	2.1
110°-120°	25.8	0.8
120°-130°	7.6	0.2
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°	621.8	18.9
0°-40°	1031.0	31.4
0°-60°	1942.7	59.1
0°-90°	3018.8	91.8
90°-120°	260.4	7.9
90°-150°	268.0	8.2
90°-180°	268.0	8.2
0°-180°	3286.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	799	799	799	799	799	
5°	853	847	811	706	673	86
15°	1063	1015	780	548	448	307
25°	1251	1060	714	348	190	577
35°	1384	1074	616	173	70	857
45°	1429	1057	501	67	6	1093
55°	1359	985	364	12	3	1224
65°	1235	872	222	10	4	1244
75°	1053	735	100	12	4	1119
85°	811	542	23	10	1	690
90°	693	445	12	9	2	375
95°	476	353	11	10	2	366
105°	204	134	11	10	2	234
115°	88	34	11	8	1	92
125°	29	6	12	8	0	21
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°	799	799	799	799	799	799	799	799	799
2.5°	826	833	828	827	813	786	753	737	734
5°	853	855	847	842	811	756	706	683	673
7.5°	911	895	865	849	808	726	670	639	626
10°	1004	980	904	852	801	699	634	588	569
12.5°	1057	1050	965	856	792	674	592	536	514
15°	1063	1062	1015	868	780	648	548	482	448
17.5°	1089	1068	1026	885	770	623	503	413	376
20°	1177	1119	1018	905	753	591	458	343	300
22.5°	1249	1203	1025	919	733	560	402	285	245
25°	1251	1239	1060	919	714	528	348	229	190
27.5°	1247	1225	1107	903	691	491	299	181	148
30°	1287	1229	1121	879	669	459	256	142	117
32.5°	1339	1272	1098	858	643	420	212	113	91
35°	1384	1309	1074	846	616	385	173	86	70
37.5°	1397	1314	1083	843	590	349	139	67	54
40°	1376	1308	1102	833	560	310	108	54	45
42.5°	1383	1302	1090	806	530	273	85	46	32
45°	1429	1297	1057	775	501	235	67	31	6
47.5°	1441	1300	1039	753	467	199	54	7	0
50°	1400	1300	1027	733	430	165	46	1	0
52.5°	1364	1288	1010	709	395	134	34	3	1
55°	1359	1246	985	682	364	105	12	4	3
57.5°	1362	1219	958	653	331	81	7	5	3
60°	1348	1223	933	620	294	61	8	5	2
62.5°	1292	1215	907	587	257	47	9	6	3
65°	1235	1167	872	555	222	37	10	7	4
67.5°	1217	1105	833	524	188	28	10	7	5
70°	1201	1075	806	489	159	12	10	8	6
72.5°	1139	1052	781	452	129	12	11	8	5
75°	1053	999	735	412	100	13	12	7	4
77.5°	977	919	688	374	75	13	12	7	3
80°	932	859	649	333	54	13	12	5	2
82.5°	878	816	599	292	37	13	11	4	1
85°	811	758	542	249	23	13	10	4	1
87.5°	756	703	490	207	15	12	9	4	1
90°	693	646	445	168	12	12	9	4	2
92.5°	598	572	401	135	11	13	10	5	2
95°	476	468	353	101	11	13	10	5	2
97.5°	398	379	287	73	11	13	10	5	2
100°	337	314	231	51	11	12	10	5	2
102.5°	269	256	187	34	12	12	10	5	3
105°	204	194	134	23	11	12	10	5	2
107.5°	169	151	89	20	11	12	10	5	2
110°	142	124	63	11	11	12	9	5	2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	115	97	46	10	11	12	9	4	2
115°	88	74	34	10	11	11	8	4	1
117.5°	69	57	27	10	12	11	8	3	1
120°	50	42	23	10	12	11	8	3	0
122.5°	38	32	13	10	12	11	8	3	0
125°	29	25	6	10	12	11	8	3	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)