

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: P#

Luminaire Tested: **FLDSQ4C15D010 FEU4C159027 F4LC-SQ-WLI**

Issue Date: 12/13/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P#
 Test Lab: INNOVATION CENTER
 Issue Date: 12/13/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: FAIL-SAFE
 Catalog Number: FLDSQ4C15D010 FEU4C159027 F4LC-SQ-WLI
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

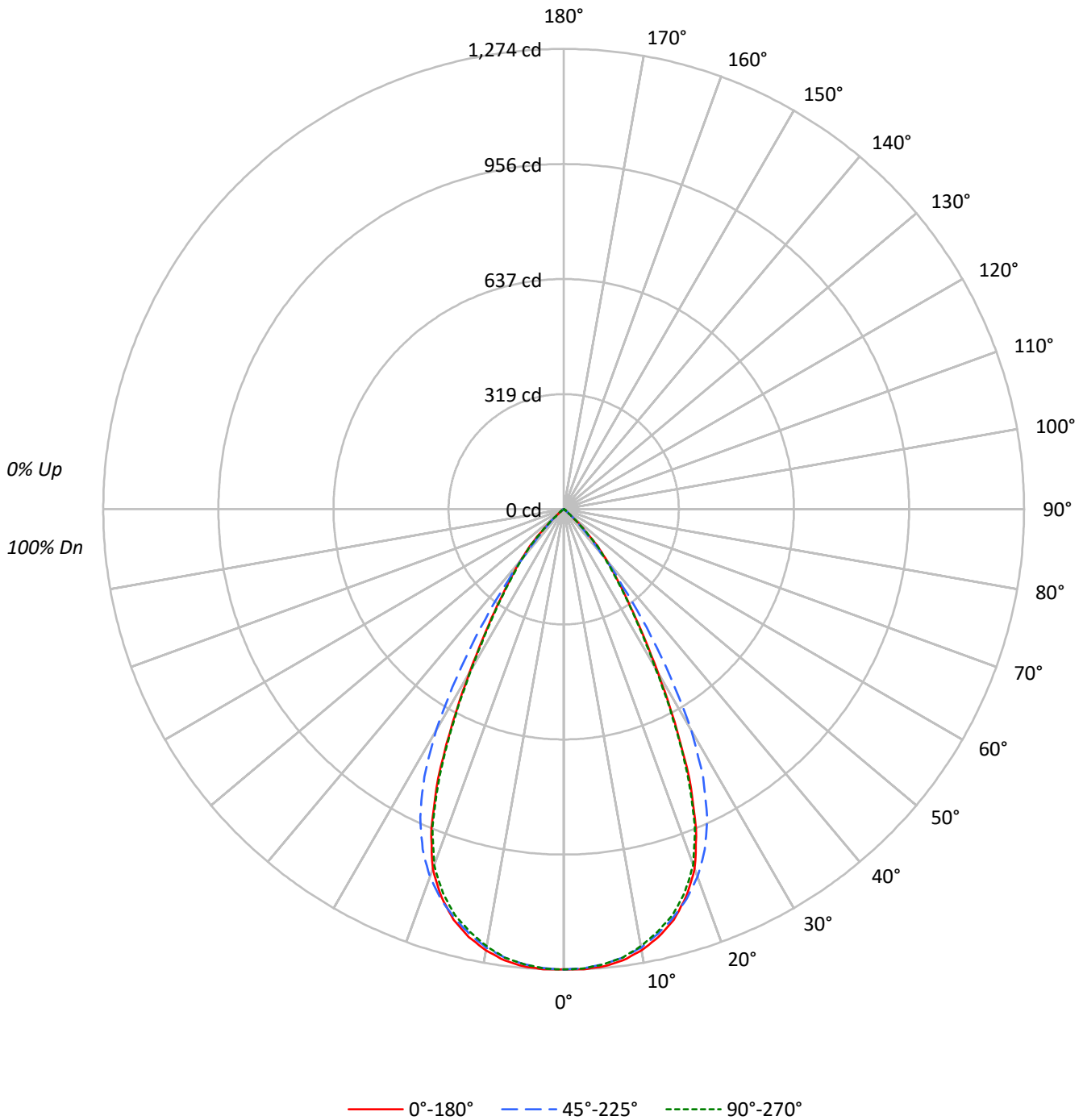
Lumens per Lamp: N/A
 Luminaire Lumens: 1140.0 lumens
 Efficiency: N/A
 Efficacy: 72.2 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 15.8
 Input Voltage (V):
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	GONIO 1 IN0055	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20				
RC	80					70					50					30				
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
	1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	
	2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	
	3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	
	4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	
	5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	
	6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	
	7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	
	8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	
	9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	
	10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	122869	122869	122869
5°	122999	122428	122428
10°	121384	120669	120297
15°	117444	116884	116095
20°	108770	111142	107569
25°	87449	99969	86299
30°	57725	78381	56354
35°	36079	47069	35420
40°	23541	21816	22622
45°	11339	8706	10698
50°	2852	3468	2672
55°	1581	1430	1531
60°	1081	907	1023
65°	731	662	731
70°	564	508	564
75°	447	447	447
80°	333	500	500
85°	332	664	664

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	10.5
10°-20°	327.0	28.7
20°-30°	389.7	34.2
30°-40°	220.7	19.4
40°-50°	68.2	6.0
50°-60°	9.5	0.8
60°-70°	3.2	0.3
70°-80°	1.3	0.1
80°-90°	0.6	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
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°	836.5	73.4
0°-40°	1057.2	92.7
0°-60°	1135.0	99.6
0°-90°	1140.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1140.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1273	1273	1273	1273	1273	
5°	1270	1267	1264	1263	1264	120
15°	1176	1174	1170	1166	1162	328
25°	821	869	939	871	811	366
35°	306	334	400	335	301	199
45°	83	97	64	94	78	69
55°	9	9	8	9	9	9
65°	3	3	3	3	3	3
75°	1	1	1	1	1	1
85°	0	1	1	1	1	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1273.4	1273.4	1273.4	1273.4	1273.4
2.5°	1273.7	1271.6	1271.1	1270.5	1271.6
5°	1269.9	1267.0	1264.0	1263.2	1264.0
7.5°	1259.1	1256.1	1251.2	1250.0	1250.9
10°	1238.9	1236.2	1231.6	1228.9	1227.8
12.5°	1212.3	1207.9	1203.5	1200.6	1197.6
15°	1175.7	1173.6	1170.1	1165.5	1162.2
17.5°	1125.1	1128.0	1130.1	1120.7	1112.2
20°	1059.3	1070.1	1082.4	1063.4	1047.6
22.5°	956.6	987.6	1018.9	982.9	947.8
25°	821.4	869.4	939.0	870.9	810.6
27.5°	663.8	724.6	834.3	724.9	655.0
30°	518.1	580.7	703.5	572.5	505.8
32.5°	397.8	444.7	549.7	437.6	389.4
35°	306.3	334.1	399.6	335.0	300.7
37.5°	238.1	252.2	268.8	247.2	231.1
40°	186.9	187.5	173.2	184.6	179.6
42.5°	138.7	138.1	106.5	134.6	135.4
45°	83.1	96.8	63.8	94.2	78.4
47.5°	39.5	54.7	38.3	51.8	36.6
50°	19.0	26.3	23.1	24.6	17.8
52.5°	12.9	13.5	13.2	12.9	12.3
55°	9.4	9.4	8.5	9.1	9.1
57.5°	7.0	7.0	6.1	6.7	6.7
60°	5.6	5.3	4.7	5.3	5.3
62.5°	4.1	4.1	3.5	4.1	4.1
65°	3.2	3.2	2.9	3.2	3.2
67.5°	2.6	2.6	2.0	2.6	2.3
70°	2.0	2.0	1.8	2.0	2.0
72.5°	1.5	1.5	1.5	1.5	1.5
75°	1.2	1.2	1.2	1.2	1.2
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.6	0.6	0.9	0.9	0.9
82.5°	0.6	0.6	0.6	0.6	0.6
85°	0.3	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)