

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 FEU4C159035 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 FEU4C159035 F4LC-SQ-WLI
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

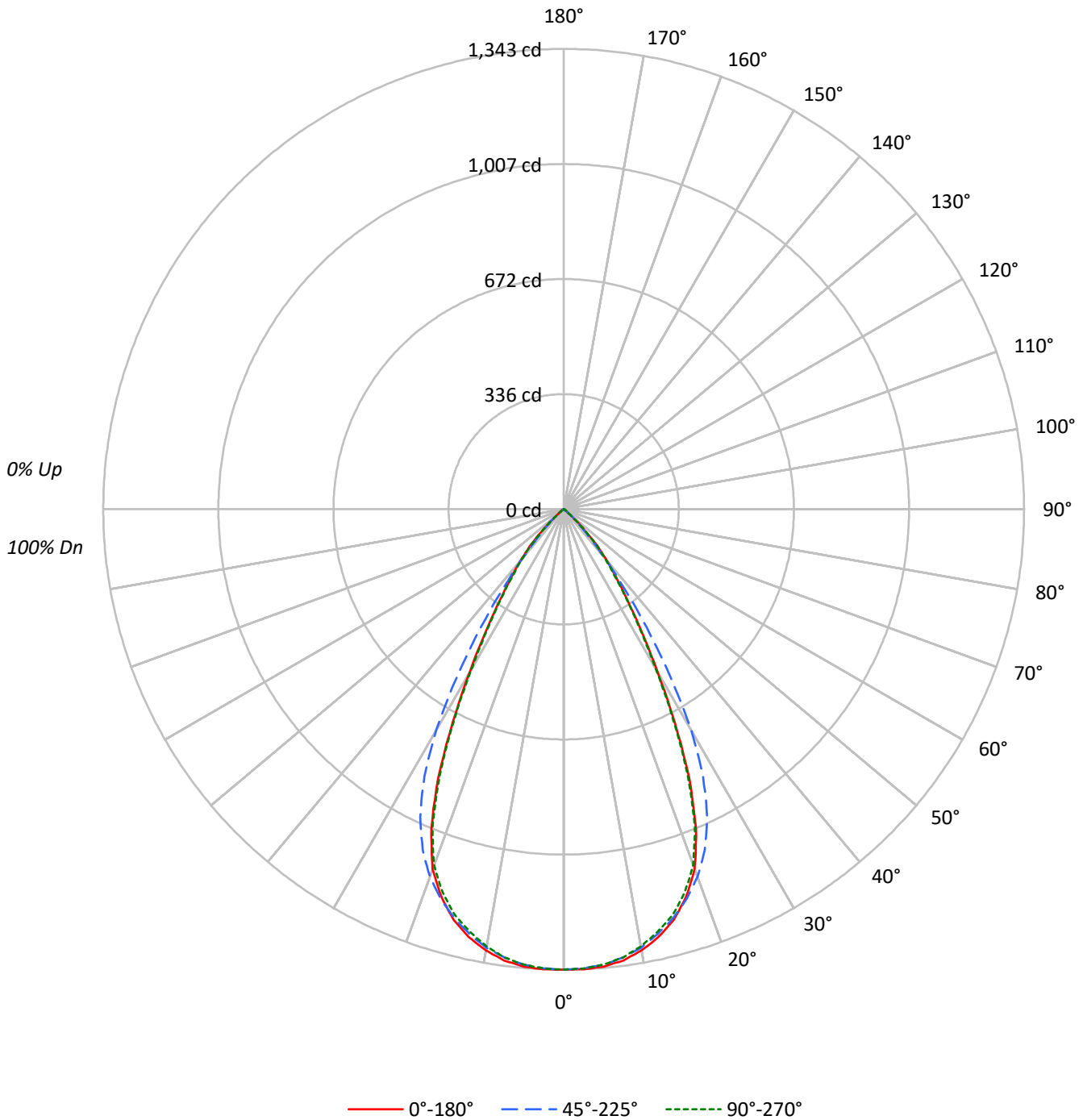
Lumens per Lamp: N/A
 Luminaire Lumens: 1202.0 lumens
 Efficiency: N/A
 Efficacy: 76.1 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	129556	129556	129556
5°	129692	129092	129092
10°	127988	127224	126832
15°	123827	123248	122408
20°	114685	117180	113412
25°	92208	105410	90995
30°	60866	82648	59418
35°	38035	49625	37352
40°	24826	23000	23856
45°	11954	9170	11285
50°	3002	3663	2822
55°	1665	1497	1615
60°	1139	946	1081
65°	776	708	776
70°	621	536	621
75°	447	447	447
80°	333	500	500
85°	332	664	664

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.3	10.5
10°-20°	344.8	28.7
20°-30°	410.9	34.2
30°-40°	232.7	19.4
40°-50°	71.9	6.0
50°-60°	10.0	0.8
60°-70°	3.4	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°	882.0	73.4
0°-40°	1114.7	92.7
0°-60°	1196.7	99.6
0°-90°	1202.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1202.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1343	1343	1343	1343	1343	
5°	1339	1336	1333	1332	1333	127
15°	1240	1238	1234	1229	1225	346
25°	866	917	990	918	855	386
35°	323	352	421	353	317	210
45°	88	102	67	99	83	72
55°	10	10	9	10	10	10
65°	3	3	3	3	3	4
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°	1342.7	1342.7	1342.7	1342.7	1342.7
2.5°	1343.0	1340.8	1340.2	1339.6	1340.8
5°	1339.0	1335.9	1332.8	1331.9	1332.8
7.5°	1327.5	1324.5	1319.2	1318.0	1318.9
10°	1306.3	1303.5	1298.5	1295.8	1294.5
12.5°	1278.2	1273.6	1268.9	1265.9	1262.8
15°	1239.6	1237.5	1233.8	1228.8	1225.4
17.5°	1186.3	1189.4	1191.5	1181.6	1172.7
20°	1116.9	1128.3	1141.2	1121.2	1104.5
22.5°	1008.6	1041.3	1074.3	1036.4	999.4
25°	866.1	916.7	990.1	918.2	854.7
27.5°	699.9	764.0	879.7	764.3	690.6
30°	546.3	612.3	741.8	603.6	533.3
32.5°	419.5	468.8	579.6	461.4	410.5
35°	322.9	352.2	421.3	353.2	317.1
37.5°	251.1	265.9	283.5	260.6	243.7
40°	197.1	197.7	182.6	194.6	189.4
42.5°	146.2	145.6	112.3	141.9	142.8
45°	87.6	102.1	67.2	99.3	82.7
47.5°	41.6	57.7	40.4	54.6	38.6
50°	20.0	27.8	24.4	25.9	18.8
52.5°	13.6	14.2	13.9	13.6	13.0
55°	9.9	9.9	8.9	9.6	9.6
57.5°	7.4	7.4	6.5	7.1	7.1
60°	5.9	5.6	4.9	5.6	5.6
62.5°	4.3	4.3	3.7	4.3	4.3
65°	3.4	3.4	3.1	3.4	3.4
67.5°	2.8	2.8	2.2	2.8	2.5
70°	2.2	2.2	1.9	2.2	2.2
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)