

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: **FLDSQ4C50D010 FEU4C509030 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: FLDSQ4C50D010 FEU4C509030 F4LC-SQ-WLI
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

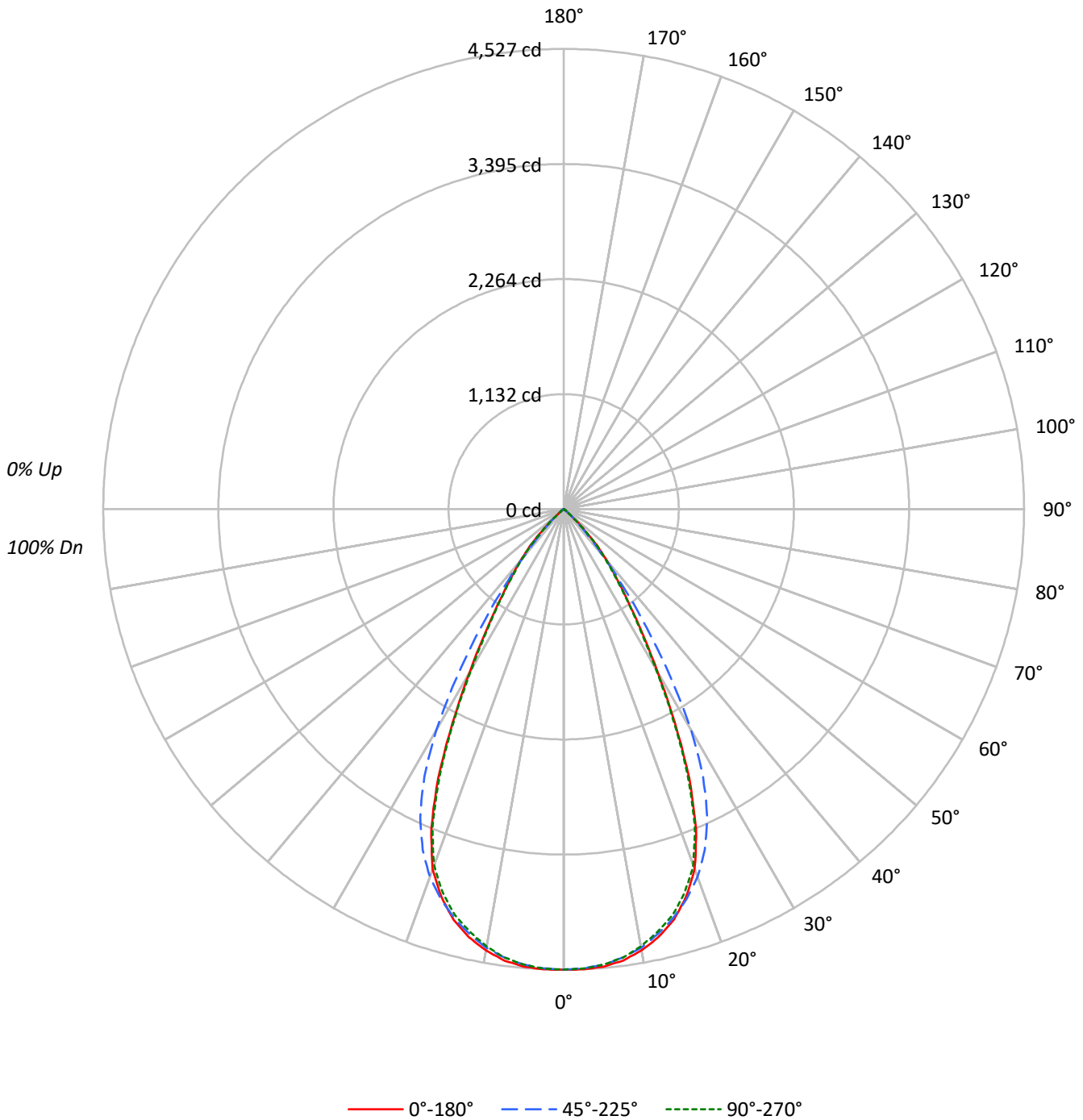
Lumens per Lamp: N/A
 Luminaire Lumens: 4052.0 lumens
 Efficiency: N/A
 Efficacy: 69.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 58.4
 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	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°	436728	436728	436728
5°	437186	435171	435171
10°	431443	428896	427573
15°	417441	415464	412657
20°	386595	395036	382324
25°	310842	355344	306743
30°	205161	278617	200303
35°	128227	167299	125907
40°	83686	77527	80411
45°	40295	30935	38030
50°	10147	12324	9517
55°	5602	5080	5417
60°	3821	3203	3609
65°	2603	2374	2603
70°	2059	1749	2059
75°	1566	1566	1566
80°	1167	1723	1723
85°	1107	2325	2325

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	425.7	10.5
10°-20°	1162.4	28.7
20°-30°	1385.3	34.2
30°-40°	784.4	19.4
40°-50°	242.5	6.0
50°-60°	33.7	0.8
60°-70°	11.5	0.3
70°-80°	4.6	0.1
80°-90°	1.9	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°	2973.4	73.4
0°-40°	3757.8	92.7
0°-60°	4034.0	99.6
0°-90°	4052.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4052.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4526	4526	4526	4526	4526	
5°	4514	4503	4493	4490	4493	427
15°	4179	4172	4159	4142	4131	1165
25°	2920	3090	3338	3095	2881	1302
35°	1089	1187	1420	1190	1069	709
45°	295	344	227	335	279	244
55°	33	33	30	32	32	33
65°	11	11	10	11	11	12
75°	4	4	4	4	4	5
85°	1	2	2	2	2	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4526.2	4526.2	4526.2	4526.2	4526.2
2.5°	4527.2	4519.9	4517.8	4515.8	4519.9
5°	4513.7	4503.3	4492.9	4489.8	4492.9
7.5°	4475.2	4464.8	4447.1	4443.0	4446.1
10°	4403.5	4394.1	4377.5	4368.1	4364.0
12.5°	4308.8	4293.2	4277.7	4267.3	4256.9
15°	4178.9	4171.6	4159.1	4142.5	4131.0
17.5°	3999.0	4009.4	4016.7	3983.4	3953.2
20°	3765.0	3803.5	3847.2	3779.6	3723.4
22.5°	3400.1	3510.3	3621.6	3493.7	3368.9
25°	2919.7	3090.2	3337.7	3095.4	2881.2
27.5°	2359.3	2575.5	2965.5	2576.6	2328.1
30°	1841.4	2064.0	2500.7	2034.8	1797.8
32.5°	1414.1	1580.5	1953.7	1555.5	1383.9
35°	1088.6	1187.4	1420.3	1190.5	1068.9
37.5°	846.4	896.3	955.6	878.6	821.4
40°	664.4	666.5	615.5	656.1	638.4
42.5°	492.9	490.8	378.5	478.3	481.4
45°	295.3	344.2	226.7	334.8	278.7
47.5°	140.4	194.4	136.2	184.0	130.0
50°	67.6	93.6	82.1	87.3	63.4
52.5°	45.8	47.8	46.8	45.8	43.7
55°	33.3	33.3	30.2	32.2	32.2
57.5°	25.0	25.0	21.8	23.9	23.9
60°	19.8	18.7	16.6	18.7	18.7
62.5°	14.6	14.6	12.5	14.6	14.6
65°	11.4	11.4	10.4	11.4	11.4
67.5°	9.4	9.4	7.3	9.4	8.3
70°	7.3	7.3	6.2	7.3	7.3
72.5°	5.2	5.2	5.2	5.2	5.2
75°	4.2	4.2	4.2	4.2	4.2
77.5°	3.1	3.1	3.1	3.1	3.1
80°	2.1	2.1	3.1	3.1	3.1
82.5°	2.1	2.1	2.1	2.1	2.1
85°	1.0	2.1	2.1	2.1	2.1
87.5°	1.0	1.0	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)