

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: **FLDSQ4C60D010 FEU4C609027 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: FLDSQ4C60D010 FEU4C609027 F4LC-SQ-WLI
 Description: 4 INCH 6000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

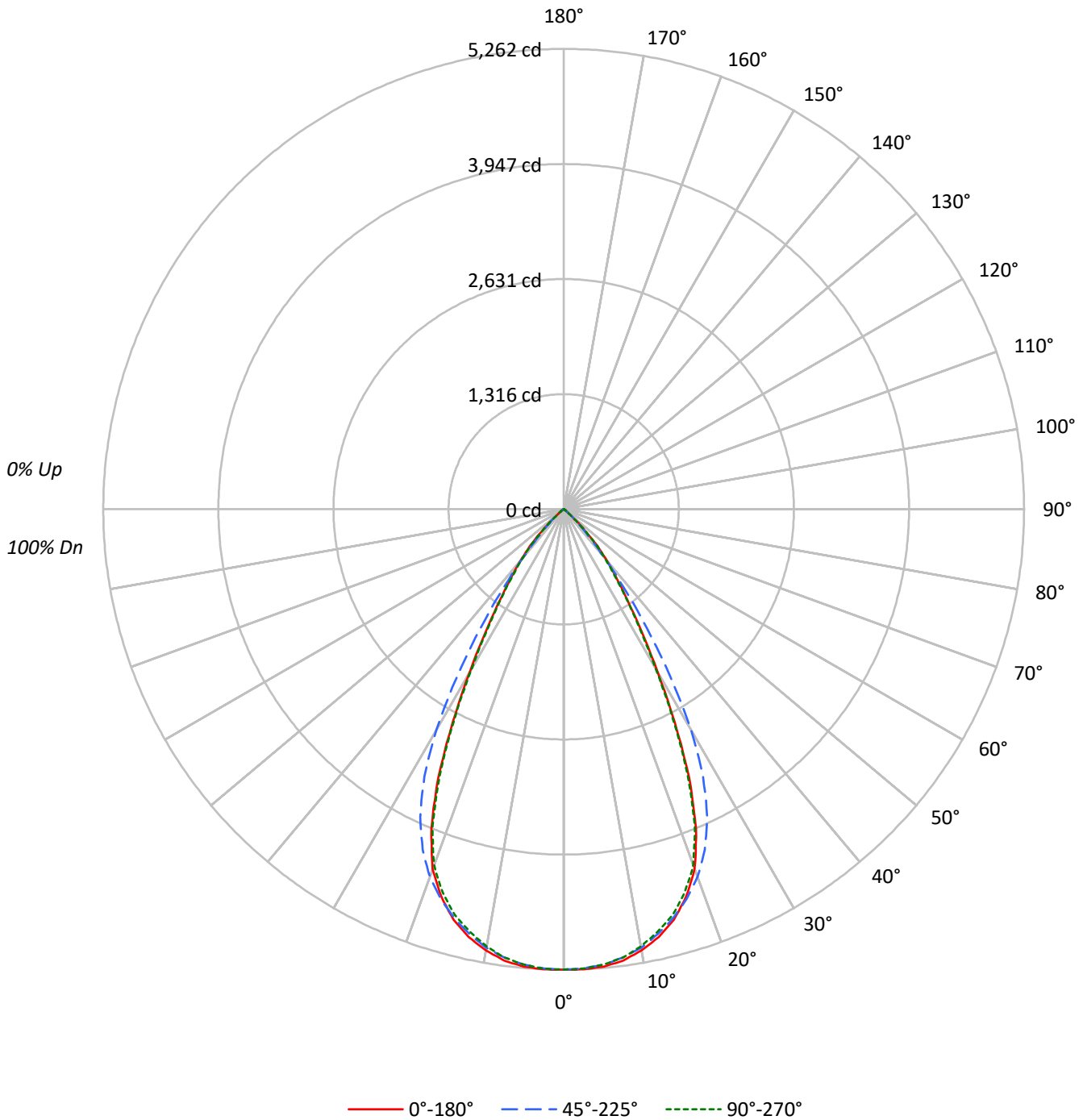
Lumens per Lamp: N/A
 Luminaire Lumens: 4710.0 lumens
 Efficiency: N/A
 Efficacy: 65.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	507647	507647	507647
5°	508182	505838	505838
10°	501497	498538	497000
15°	485229	482931	479675
20°	449375	459181	444415
25°	361317	413047	356558
30°	238485	323852	232826
35°	149053	194473	146356
40°	97277	90122	93473
45°	46845	35956	44198
50°	11799	14336	11063
55°	6510	5905	6308
60°	4438	3724	4207
65°	3037	2763	3037
70°	2398	2059	2398
75°	1789	1789	1789
80°	1334	2000	2000
85°	1329	2657	2657

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	494.8	10.5
10°-20°	1351.2	28.7
20°-30°	1610.2	34.2
30°-40°	911.8	19.4
40°-50°	281.9	6.0
50°-60°	39.2	0.8
60°-70°	13.4	0.3
70°-80°	5.3	0.1
80°-90°	2.2	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°	3456.2	73.4
0°-40°	4368.0	92.7
0°-60°	4689.1	99.6
0°-90°	4710.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4710.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5261	5261	5261	5261	5261	
5°	5247	5235	5222	5219	5222	497
15°	4858	4849	4834	4815	4802	1354
25°	3394	3592	3880	3598	3349	1513
35°	1265	1380	1651	1384	1242	824
45°	343	400	264	389	324	283
55°	39	39	35	38	38	38
65°	13	13	12	13	13	14
75°	5	5	5	5	5	5
85°	1	2	2	2	2	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5261.2	5261.2	5261.2	5261.2	5261.2
2.5°	5262.4	5253.9	5251.5	5249.1	5253.9
5°	5246.7	5234.6	5222.5	5218.9	5222.5
7.5°	5201.9	5189.8	5169.3	5164.5	5168.1
10°	5118.5	5107.7	5088.3	5077.4	5072.6
12.5°	5008.6	4990.4	4972.3	4960.2	4948.1
15°	4857.5	4849.0	4834.5	4815.2	4801.9
17.5°	4648.4	4660.5	4668.9	4630.3	4595.2
20°	4376.4	4421.2	4471.9	4393.4	4328.1
22.5°	3952.2	4080.3	4209.7	4061.0	3916.0
25°	3393.8	3592.0	3879.7	3598.1	3349.1
27.5°	2742.4	2993.8	3447.0	2995.0	2706.1
30°	2140.5	2399.1	2906.7	2365.3	2089.7
32.5°	1643.7	1837.1	2271.0	1808.1	1608.7
35°	1265.4	1380.3	1651.0	1383.9	1242.5
37.5°	983.8	1041.8	1110.7	1021.3	954.8
40°	772.3	774.7	715.5	762.6	742.1
42.5°	572.9	570.5	439.9	556.0	559.6
45°	343.3	400.1	263.5	389.2	323.9
47.5°	163.2	226.0	158.3	213.9	151.1
50°	78.6	108.8	95.5	101.5	73.7
52.5°	53.2	55.6	54.4	53.2	50.8
55°	38.7	38.7	35.1	37.5	37.5
57.5°	29.0	29.0	25.4	27.8	27.8
60°	23.0	21.8	19.3	21.8	21.8
62.5°	16.9	16.9	14.5	16.9	16.9
65°	13.3	13.3	12.1	13.3	13.3
67.5°	10.9	10.9	8.5	10.9	9.7
70°	8.5	8.5	7.3	8.5	8.5
72.5°	6.0	6.0	6.0	6.0	6.0
75°	4.8	4.8	4.8	4.8	4.8
77.5°	3.6	3.6	3.6	3.6	3.6
80°	2.4	2.4	3.6	3.6	3.6
82.5°	2.4	2.4	2.4	2.4	2.4
85°	1.2	2.4	2.4	2.4	2.4
87.5°	1.2	1.2	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)