

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 FEU4C159030 F4LC-SQ-WH**

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 FEU4C159030 F4LC-SQ-WH
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

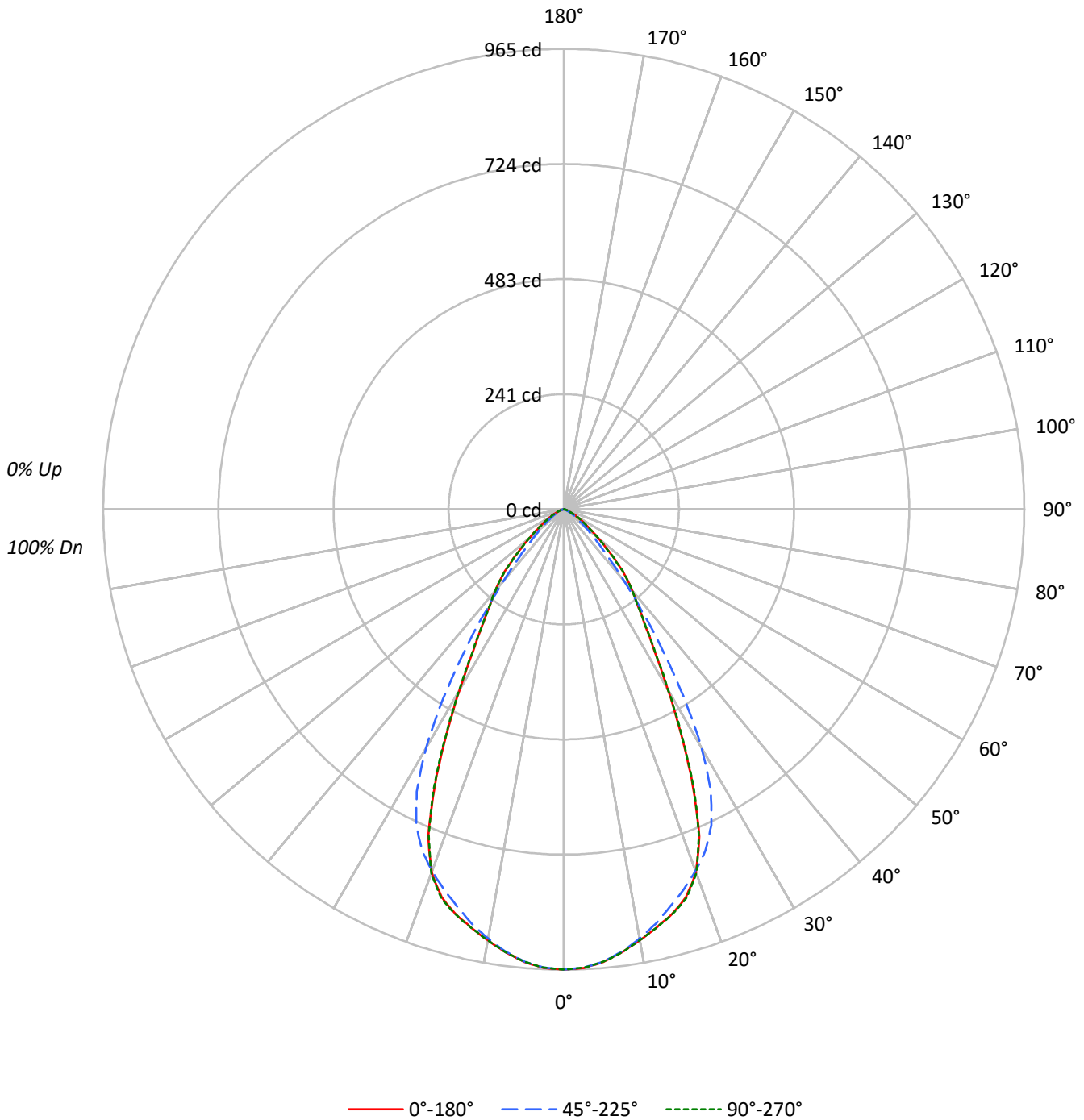
Lumens per Lamp: N/A
 Luminaire Lumens: 1021.0 lumens
 Efficiency: N/A
 Efficacy: 64.6 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100		100	98	97		96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		90	88	86	84
3	101	93	88	84	98	92	87	83	89	85	82		87	83	80		85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74		81	77	74		79	76	73	71
5	89	80	74	69	88	79	73	69	78	72	68		76	71	68		74	70	67	66
6	85	75	68	64	83	74	68	63	72	67	63		71	66	63		70	65	62	61
7	80	70	63	59	79	69	63	59	68	62	58		67	62	58		65	61	58	56
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		62	57	54	52
9	72	61	55	51	71	61	55	51	60	54	51		59	54	50		58	54	50	49
10	68	58	52	48	67	57	51	47	57	51	47		56	51	47		55	50	47	46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	93083	93083	93083
5°	92228	92170	92199
10°	89865	89502	89865
15°	87706	86117	87796
20°	83151	82843	83305
25°	68211	77825	68563
30°	48633	64298	48711
35°	35078	42605	35184
40°	28126	24751	28126
45°	21465	14451	21301
50°	14155	9232	14110
55°	9521	6191	9421
60°	6407	4226	6465
65°	4384	2991	4315
70°	2906	2144	2906
75°	1939	1603	1939
80°	1334	1167	1334
85°	996	996	996

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.7	8.8
10°-20°	244.5	23.9
20°-30°	305.7	29.9
30°-40°	205.6	20.1
40°-50°	108.6	10.6
50°-60°	44.1	4.3
60°-70°	16.4	1.6
70°-80°	5.3	0.5
80°-90°	1.1	0.1
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°	639.9	62.7
0°-40°	845.5	82.8
0°-60°	998.2	97.8
0°-90°	1021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1021.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	952	951	952	952	952	90
15°	878	871	862	870	879	246
25°	641	677	731	678	644	288
35°	298	313	362	313	299	192
45°	157	149	106	149	156	121
55°	57	48	37	48	56	52
65°	19	16	13	16	19	20
75°	5	5	4	5	5	6
85°	1	1	1	1	1	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	964.7	964.7	964.7	964.7	964.7
2.5°	962.2	961.6	961.3	961.3	961.6
5°	952.2	951.3	951.6	951.6	951.9
7.5°	936.1	935.8	934.8	936.1	936.1
10°	917.2	915.7	913.5	916.0	917.2
12.5°	897.7	893.2	889.5	893.2	897.7
15°	878.0	870.7	862.1	870.3	878.9
17.5°	852.1	844.8	835.4	846.3	854.5
20°	809.8	810.4	806.8	809.8	811.3
22.5°	742.0	755.7	774.8	756.0	739.8
25°	640.7	676.6	731.0	677.8	644.0
27.5°	532.1	577.7	666.8	580.4	535.4
30°	436.5	477.0	577.1	479.7	437.2
32.5°	353.5	383.6	469.1	387.3	357.4
35°	297.8	312.7	361.7	313.3	298.7
37.5°	255.2	255.2	268.6	256.4	254.0
40°	223.3	213.6	196.5	213.3	223.3
42.5°	193.5	178.9	142.7	178.3	194.1
45°	157.3	149.4	105.9	148.8	156.1
47.5°	120.8	115.3	79.7	114.7	121.7
50°	94.3	85.8	61.5	85.2	94.0
52.5°	72.4	63.3	47.5	63.3	71.8
55°	56.6	47.5	36.8	47.5	56.0
57.5°	43.5	36.2	28.0	35.6	43.2
60°	33.2	27.1	21.9	27.1	33.5
62.5°	25.2	20.7	16.7	20.4	24.9
65°	19.2	15.5	13.1	15.5	18.9
67.5°	14.0	11.6	10.0	11.6	14.3
70°	10.3	8.8	7.6	8.5	10.3
72.5°	7.6	6.4	5.8	6.4	7.6
75°	5.2	4.6	4.3	4.6	5.2
77.5°	3.7	3.3	3.0	3.3	3.7
80°	2.4	2.1	2.1	2.4	2.4
82.5°	1.5	1.5	1.5	1.5	1.5
85°	0.9	0.9	0.9	0.9	0.9
87.5°	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)