

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-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 FEU4C159027 F4LC-SQ-WH
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

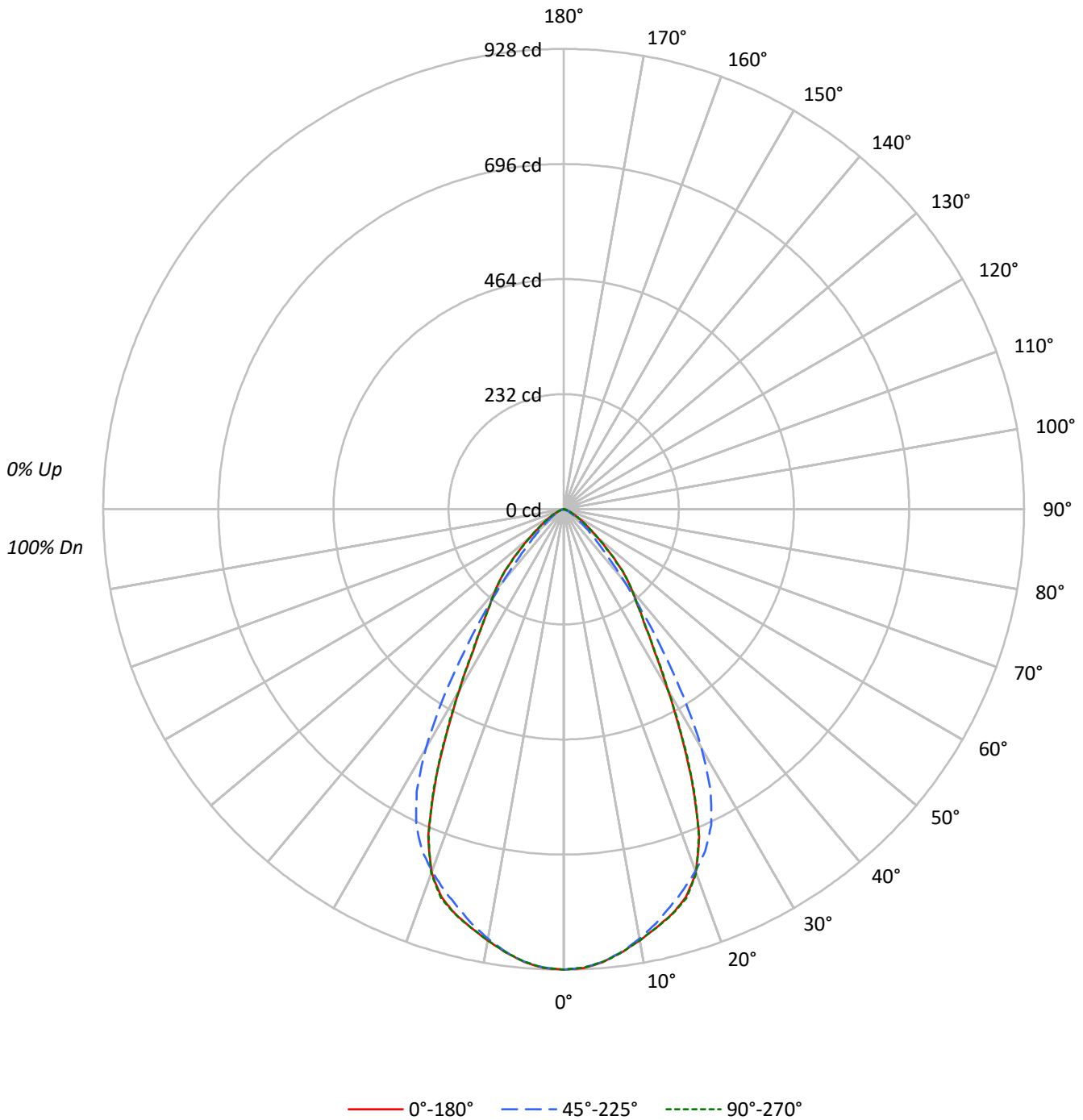
Lumens per Lamp: N/A
 Luminaire Lumens: 982.0 lumens
 Efficiency: N/A
 Efficacy: 62.2 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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				
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	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°	89522	89522	89522
5°	88702	88644	88673
10°	86436	86093	86436
15°	84349	82831	84439
20°	79978	79681	80122
25°	65603	74855	65944
30°	46783	61836	46850
35°	33735	40980	33841
40°	27056	23806	27056
45°	20646	13891	20482
50°	13615	8872	13570
55°	9151	5955	9050
60°	6156	4072	6214
65°	4201	2877	4132
70°	2793	2059	2793
75°	1864	1528	1864
80°	1278	1111	1278
85°	996	996	996

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.2	8.8
10°-20°	235.2	23.9
20°-30°	294.0	29.9
30°-40°	197.8	20.1
40°-50°	104.4	10.6
50°-60°	42.4	4.3
60°-70°	15.7	1.6
70°-80°	5.1	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°	615.4	62.7
0°-40°	813.2	82.8
0°-60°	960.1	97.8
0°-90°	982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	982.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	928	928	928	928	928	
5°	916	915	915	915	916	86
15°	844	837	829	837	845	237
25°	616	651	703	652	619	277
35°	286	301	348	301	287	184
45°	151	144	102	143	150	116
55°	54	46	35	46	54	50
65°	18	15	13	15	18	19
75°	5	4	4	4	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°	927.8	927.8	927.8	927.8	927.8
2.5°	925.5	924.9	924.6	924.6	924.9
5°	915.8	914.9	915.2	915.2	915.5
7.5°	900.3	900.0	899.1	900.3	900.3
10°	882.2	880.7	878.7	881.0	882.2
12.5°	863.4	859.0	855.5	859.0	863.4
15°	844.4	837.4	829.2	837.1	845.3
17.5°	819.5	812.5	803.5	814.0	821.9
20°	778.9	779.5	776.0	778.9	780.3
22.5°	713.6	726.8	745.2	727.1	711.6
25°	616.2	650.7	703.1	651.9	619.4
27.5°	511.7	555.6	641.4	558.3	515.0
30°	419.9	458.8	555.0	461.4	420.5
32.5°	340.0	369.0	451.2	372.5	343.8
35°	286.4	300.8	347.9	301.4	287.3
37.5°	245.5	245.5	258.4	246.7	244.3
40°	214.8	205.4	189.0	205.1	214.8
42.5°	186.1	172.0	137.2	171.5	186.7
45°	151.3	143.7	101.8	143.1	150.1
47.5°	116.2	110.9	76.7	110.3	117.0
50°	90.7	82.5	59.1	81.9	90.4
52.5°	69.6	60.9	45.6	60.9	69.1
55°	54.4	45.6	35.4	45.6	53.8
57.5°	41.8	34.8	26.9	34.2	41.5
60°	31.9	26.0	21.1	26.0	32.2
62.5°	24.3	19.9	16.1	19.6	24.0
65°	18.4	14.9	12.6	14.9	18.1
67.5°	13.5	11.1	9.7	11.1	13.8
70°	9.9	8.5	7.3	8.2	9.9
72.5°	7.3	6.1	5.6	6.1	7.3
75°	5.0	4.4	4.1	4.4	5.0
77.5°	3.5	3.2	2.9	3.2	3.5
80°	2.3	2.0	2.0	2.3	2.3
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)