

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: **FLDSQ4C05D010 FEU4C059040 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: FLDSQ4C05D010 FEU4C059040 F4LC-SQ-WH
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

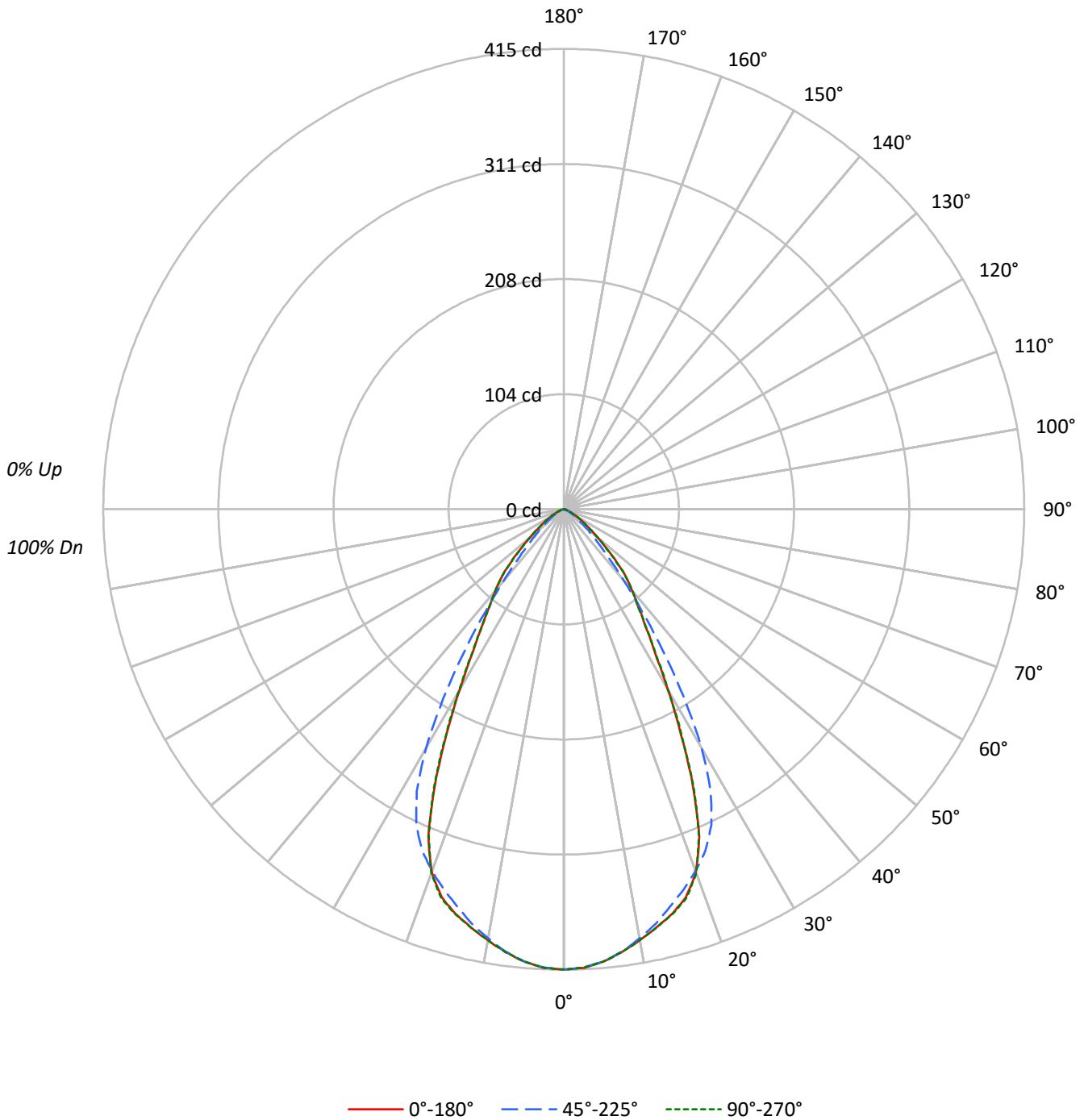
Lumens per Lamp: N/A
 Luminaire Lumens: 439.0 lumens
 Efficiency: N/A
 Efficacy: 61.0 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 7.2
 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°	40024	40024	40024
5°	39653	39624	39644
10°	38642	38486	38642
15°	37709	37030	37749
20°	35754	35620	35815
25°	29331	33462	29480
30°	20913	27642	20946
35°	15089	18317	15124
40°	12092	10643	12092
45°	9224	6209	9156
50°	6079	3963	6064
55°	4088	2658	4054
60°	2760	1814	2779
65°	1872	1279	1849
70°	1241	931	1241
75°	820	671	820
80°	556	500	556
85°	443	443	443

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.6	8.8
10°-20°	105.1	23.9
20°-30°	131.4	29.9
30°-40°	88.4	20.1
40°-50°	46.7	10.6
50°-60°	19.0	4.3
60°-70°	7.0	1.6
70°-80°	2.3	0.5
80°-90°	0.5	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°	275.1	62.7
0°-40°	363.5	82.8
0°-60°	429.2	97.8
0°-90°	439.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	439.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	415	415	415	415	415	
5°	409	409	409	409	409	39
15°	378	374	371	374	378	106
25°	276	291	314	291	277	124
35°	128	134	156	135	128	82
45°	68	64	46	64	67	52
55°	24	20	16	20	24	23
65°	8	7	6	7	8	8
75°	2	2	2	2	2	3
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	414.8	414.8	414.8	414.8	414.8
2.5°	413.7	413.5	413.3	413.3	413.5
5°	409.4	409.0	409.1	409.1	409.3
7.5°	402.5	402.3	402.0	402.5	402.5
10°	394.4	393.7	392.8	393.8	394.4
12.5°	386.0	384.0	382.5	384.0	386.0
15°	377.5	374.4	370.7	374.2	377.9
17.5°	366.4	363.2	359.2	363.9	367.4
20°	348.2	348.5	346.9	348.2	348.8
22.5°	319.0	324.9	333.2	325.0	318.1
25°	275.5	290.9	314.3	291.4	276.9
27.5°	228.8	248.4	286.7	249.6	230.2
30°	187.7	205.1	248.1	206.3	188.0
32.5°	152.0	164.9	201.7	166.5	153.7
35°	128.1	134.5	155.5	134.7	128.4
37.5°	109.7	109.7	115.5	110.3	109.2
40°	96.0	91.8	84.5	91.7	96.0
42.5°	83.2	76.9	61.3	76.6	83.5
45°	67.6	64.2	45.5	64.0	67.1
47.5°	51.9	49.6	34.3	49.3	52.3
50°	40.5	36.9	26.4	36.6	40.4
52.5°	31.1	27.2	20.4	27.2	30.9
55°	24.3	20.4	15.8	20.4	24.1
57.5°	18.7	15.6	12.0	15.3	18.6
60°	14.3	11.6	9.4	11.6	14.4
62.5°	10.9	8.9	7.2	8.8	10.7
65°	8.2	6.7	5.6	6.7	8.1
67.5°	6.0	5.0	4.3	5.0	6.1
70°	4.4	3.8	3.3	3.7	4.4
72.5°	3.3	2.7	2.5	2.7	3.3
75°	2.2	2.0	1.8	2.0	2.2
77.5°	1.6	1.4	1.3	1.4	1.6
80°	1.0	0.9	0.9	1.0	1.0
82.5°	0.7	0.7	0.7	0.7	0.7
85°	0.4	0.4	0.4	0.4	0.4
87.5°	0.3	0.3	0.3	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)