

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 FEU4C059050 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 FEU4C059050 F4LC-SQ-WH
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

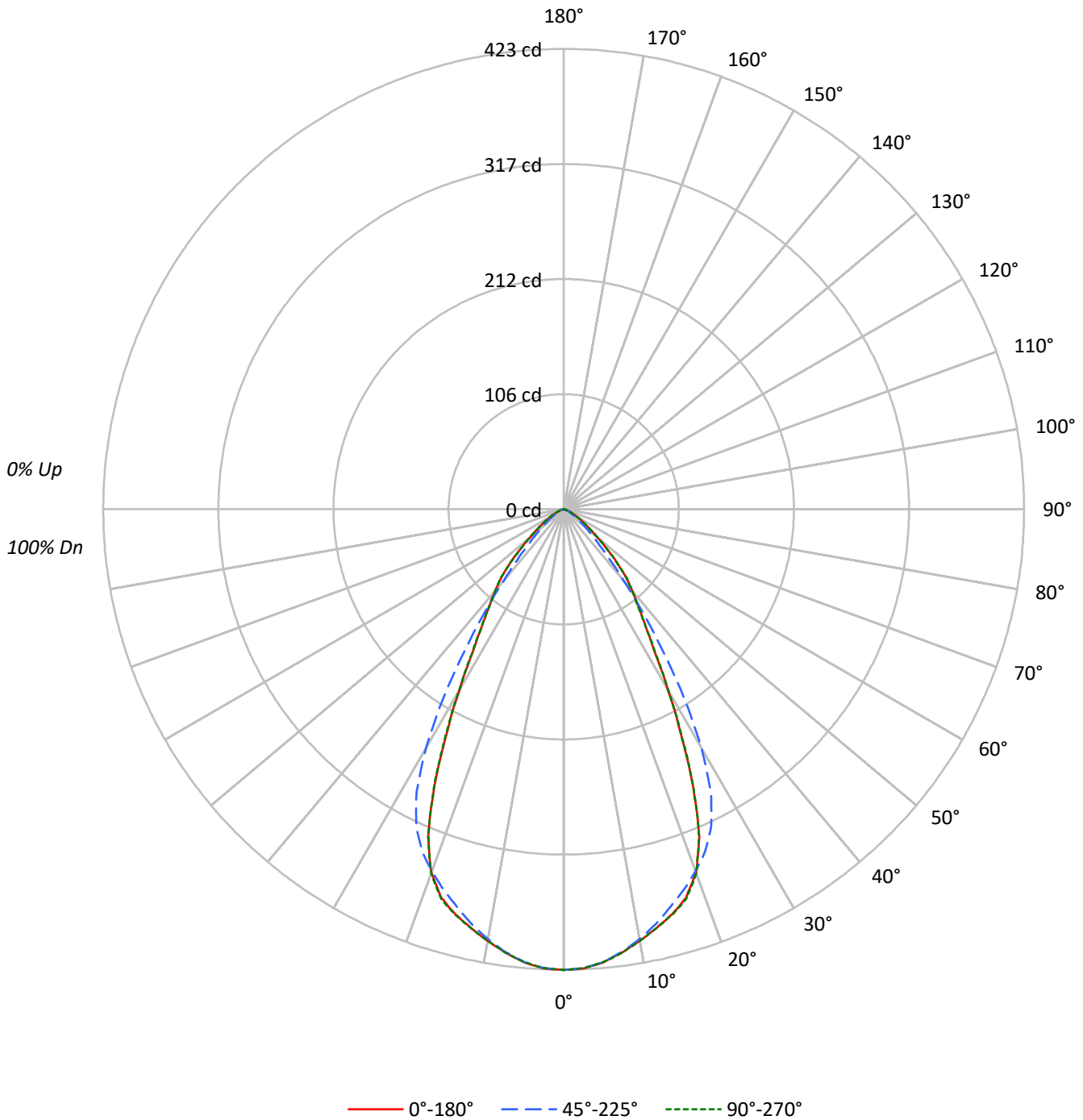
Lumens per Lamp: N/A
 Luminaire Lumens: 448.0 lumens
 Efficiency: N/A
 Efficacy: 62.2 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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	65
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°	40844	40844	40844
5°	40467	40438	40457
10°	39436	39279	39436
15°	38479	37789	38519
20°	36483	36349	36555
25°	29927	34154	30087
30°	21336	28210	21370
35°	15395	18693	15442
40°	12344	10858	12344
45°	9415	6345	9347
50°	6215	4053	6185
55°	4172	2725	4138
60°	2798	1853	2837
65°	1918	1301	1895
70°	1270	931	1270
75°	857	708	857
80°	611	500	611
85°	443	443	443

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.3	8.8
10°-20°	107.3	23.9
20°-30°	134.1	29.9
30°-40°	90.2	20.1
40°-50°	47.6	10.6
50°-60°	19.4	4.3
60°-70°	7.2	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°	280.8	62.7
0°-40°	371.0	82.8
0°-60°	438.0	97.8
0°-90°	448.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	448.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	418	417	418	418	418	39
15°	385	382	378	382	386	108
25°	281	297	321	297	283	127
35°	131	137	159	138	131	84
45°	69	66	46	65	68	53
55°	25	21	16	21	25	23
65°	8	7	6	7	8	9
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°	423.3	423.3	423.3	423.3	423.3
2.5°	422.2	421.9	421.8	421.8	421.9
5°	417.8	417.4	417.5	417.5	417.7
7.5°	410.7	410.6	410.2	410.7	410.7
10°	402.5	401.8	400.9	401.9	402.5
12.5°	393.9	391.9	390.3	391.9	393.9
15°	385.2	382.0	378.3	381.9	385.6
17.5°	373.9	370.7	366.5	371.4	375.0
20°	355.3	355.6	354.0	355.3	356.0
22.5°	325.6	331.6	340.0	331.7	324.6
25°	281.1	296.9	320.8	297.4	282.6
27.5°	233.5	253.5	292.6	254.7	234.9
30°	191.5	209.3	253.2	210.5	191.8
32.5°	155.1	168.3	205.8	169.9	156.8
35°	130.7	137.2	158.7	137.5	131.1
37.5°	112.0	112.0	117.9	112.5	111.5
40°	98.0	93.7	86.2	93.6	98.0
42.5°	84.9	78.5	62.6	78.2	85.2
45°	69.0	65.5	46.5	65.3	68.5
47.5°	53.0	50.6	35.0	50.3	53.4
50°	41.4	37.6	27.0	37.4	41.2
52.5°	31.8	27.8	20.8	27.8	31.5
55°	24.8	20.8	16.2	20.8	24.6
57.5°	19.1	15.9	12.3	15.6	19.0
60°	14.5	11.9	9.6	11.9	14.7
62.5°	11.1	9.1	7.3	8.9	10.9
65°	8.4	6.8	5.7	6.8	8.3
67.5°	6.1	5.1	4.4	5.1	6.3
70°	4.5	3.9	3.3	3.7	4.5
72.5°	3.3	2.8	2.5	2.8	3.3
75°	2.3	2.0	1.9	2.0	2.3
77.5°	1.6	1.5	1.3	1.5	1.6
80°	1.1	0.9	0.9	1.1	1.1
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)