

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: **FLDSQ4C10D010 FEU4C109027 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: FLDSQ4C10D010 FEU4C109027 F4LC-SQ-WH
 Description: 4 INCH 1000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

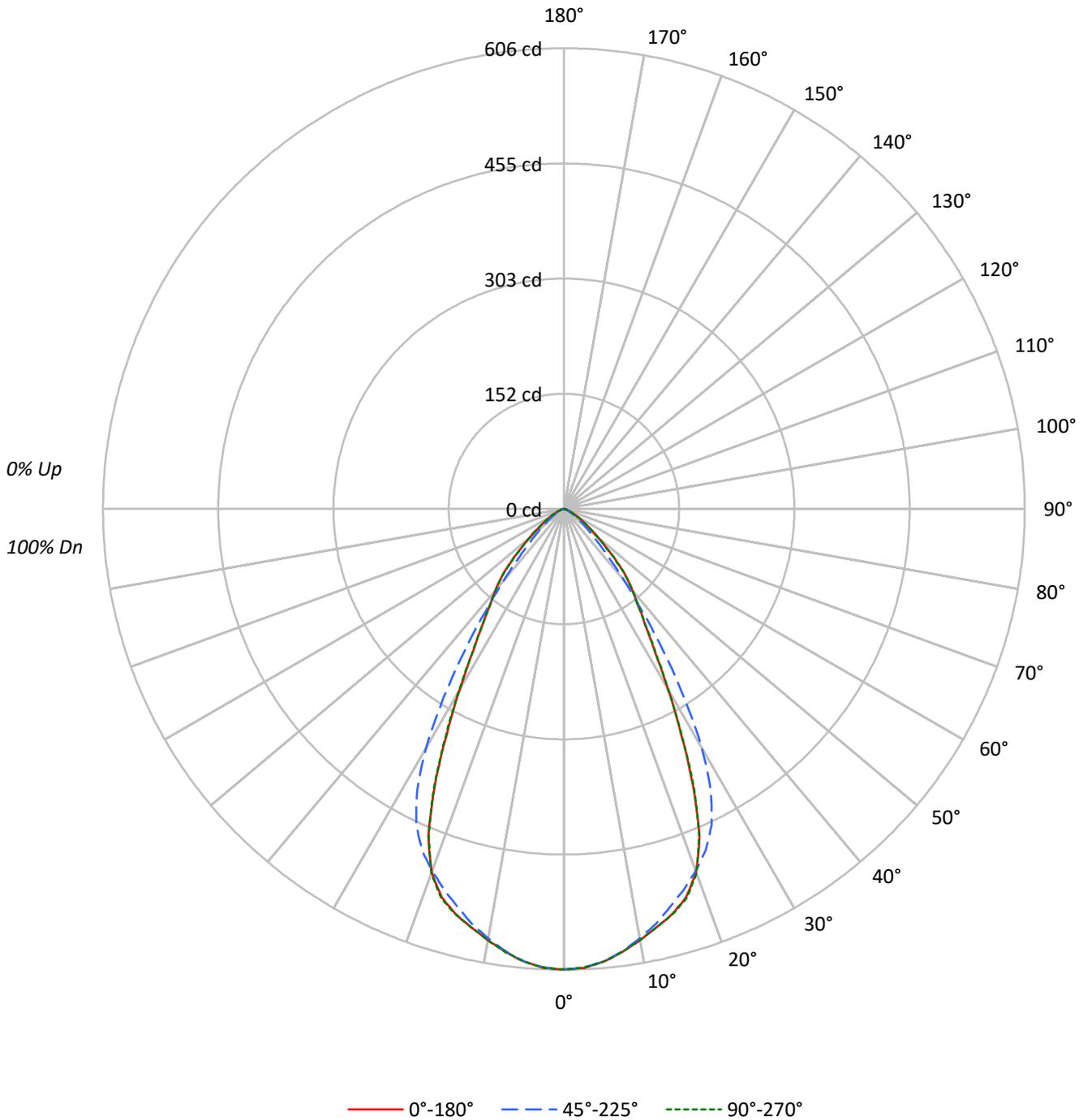
Lumens per Lamp: N/A
 Luminaire Lumens: 641.0 lumens
 Efficiency: N/A
 Efficacy: 65.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.8
 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°	58434	58434	58434
5°	57901	57863	57882
10°	56415	56190	56415
15°	55061	54072	55121
20°	52203	52008	52306
25°	42820	48856	43043
30°	30539	40366	30584
35°	22027	26750	22098
40°	17659	15543	17659
45°	13468	9074	13373
50°	8887	5794	8856
55°	5972	3886	5905
60°	4014	2663	4053
65°	2740	1872	2694
70°	1834	1354	1834
75°	1193	1007	1193
80°	833	722	833
85°	664	664	664

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.3	8.8
10°-20°	153.5	23.9
20°-30°	191.9	29.9
30°-40°	129.1	20.1
40°-50°	68.2	10.6
50°-60°	27.7	4.3
60°-70°	10.3	1.6
70°-80°	3.3	0.5
80°-90°	0.7	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°	401.7	62.7
0°-40°	530.8	82.8
0°-60°	626.7	97.8
0°-90°	641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	641.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	598	597	597	597	598	56
15°	551	547	541	546	552	154
25°	402	425	459	426	404	181
35°	187	196	227	197	188	120
45°	99	94	66	93	98	76
55°	36	30	23	30	35	33
65°	12	10	8	10	12	12
75°	3	3	3	3	3	4
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°	605.6	605.6	605.6	605.6	605.6
2.5°	604.1	603.7	603.5	603.5	603.7
5°	597.8	597.2	597.4	597.4	597.6
7.5°	587.7	587.5	586.9	587.7	587.7
10°	575.8	574.9	573.5	575.1	575.8
12.5°	563.6	560.7	558.5	560.7	563.6
15°	551.2	546.6	541.3	546.4	551.8
17.5°	535.0	530.4	524.5	531.3	536.5
20°	508.4	508.8	506.5	508.4	509.4
22.5°	465.8	474.4	486.4	474.6	464.5
25°	402.2	424.8	458.9	425.5	404.3
27.5°	334.0	362.7	418.6	364.4	336.1
30°	274.1	299.5	362.3	301.2	274.5
32.5°	221.9	240.8	294.5	243.1	224.4
35°	187.0	196.3	227.1	196.7	187.6
37.5°	160.2	160.2	168.6	161.0	159.5
40°	140.2	134.1	123.4	133.9	140.2
42.5°	121.5	112.3	89.6	111.9	121.9
45°	98.7	93.8	66.5	93.4	98.0
47.5°	75.8	72.4	50.0	72.0	76.4
50°	59.2	53.9	38.6	53.5	59.0
52.5°	45.5	39.7	29.8	39.7	45.1
55°	35.5	29.8	23.1	29.8	35.1
57.5°	27.3	22.7	17.6	22.3	27.1
60°	20.8	17.0	13.8	17.0	21.0
62.5°	15.9	13.0	10.5	12.8	15.7
65°	12.0	9.7	8.2	9.7	11.8
67.5°	8.8	7.3	6.3	7.3	9.0
70°	6.5	5.5	4.8	5.3	6.5
72.5°	4.8	4.0	3.6	4.0	4.8
75°	3.2	2.9	2.7	2.9	3.2
77.5°	2.3	2.1	1.9	2.1	2.3
80°	1.5	1.3	1.3	1.5	1.5
82.5°	1.0	1.0	1.0	1.0	1.0
85°	0.6	0.6	0.6	0.6	0.6
87.5°	0.4	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)