

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: **FLDSQ4C100D010 FEU4C1009027 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: FLDSQ4C100D010 FEU4C1009027 F4LC-SQ-WH
 Description: 4 INCH 10000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

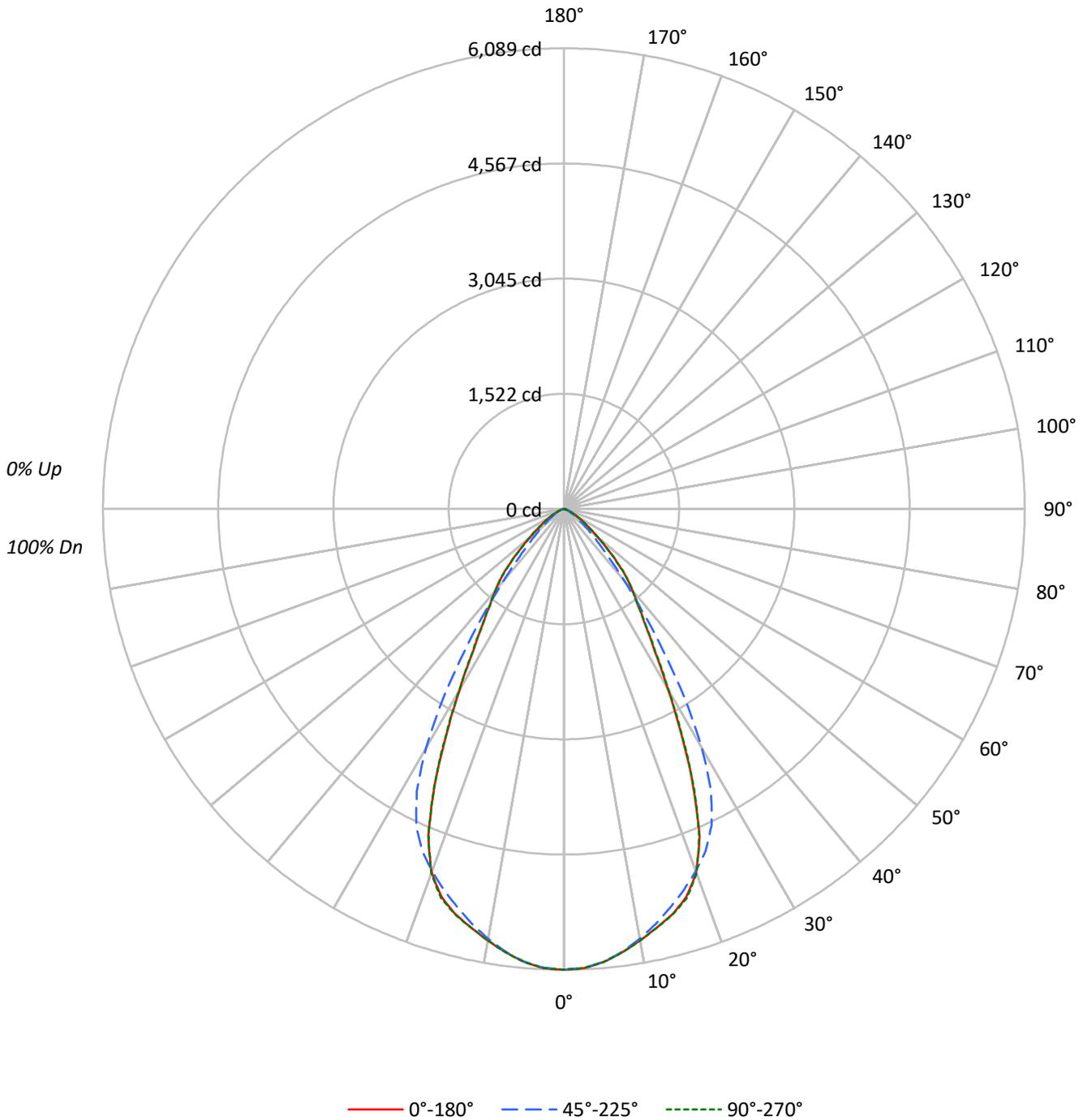
Lumens per Lamp: N/A
 Luminaire Lumens: 6445.0 lumens
 Efficiency: N/A
 Efficacy: 56.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 114.4
 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77	
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71	71	71	71	
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66	66	66	66	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56	56	56	56	
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52	52	52	52	
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49	49	49	49	
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46	46	46	46	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	587550	587550	587550
5°	582171	581794	581987
10°	567260	565006	567260
15°	553605	543636	554184
20°	524897	522925	525882
25°	430561	491277	432807
30°	307017	405865	307452
35°	221447	268953	222119
40°	177537	156250	177537
45°	135473	91193	134423
50°	89361	58228	89075
55°	60089	39095	59433
60°	40390	26689	40757
65°	27626	18859	27192
70°	18422	13542	18422
75°	12153	10028	12153
80°	8557	7446	8557
85°	6421	6421	6421

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	566.1	8.8
10°-20°	1543.5	23.9
20°-30°	1929.6	29.9
30°-40°	1298.1	20.1
40°-50°	685.4	10.6
50°-60°	278.6	4.3
60°-70°	103.3	1.6
70°-80°	33.3	0.5
80°-90°	7.2	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°	4039.1	62.7
0°-40°	5337.2	82.8
0°-60°	6301.2	97.8
0°-90°	6445.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6445.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6089	6089	6089	6089	6089	
5°	6011	6005	6007	6007	6009	566
15°	5542	5496	5442	5494	5548	1553
25°	4044	4271	4614	4278	4065	1820
35°	1880	1974	2283	1978	1886	1210
45°	993	943	668	939	985	761
55°	357	300	232	300	353	331
65°	121	98	83	98	119	125
75°	33	29	27	29	33	38
85°	6	6	6	6	6	7
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6089.3	6089.3	6089.3	6089.3	6089.3
2.5°	6074.0	6070.1	6068.2	6068.2	6070.1
5°	6010.6	6004.8	6006.7	6006.7	6008.7
7.5°	5908.8	5906.9	5901.1	5908.8	5908.8
10°	5789.7	5780.1	5766.7	5782.1	5789.7
12.5°	5666.8	5638.0	5615.0	5638.0	5666.8
15°	5542.0	5495.9	5442.2	5494.0	5547.8
17.5°	5378.8	5332.7	5273.2	5342.3	5394.2
20°	5111.9	5115.7	5092.7	5111.9	5121.5
22.5°	4683.6	4770.1	4891.0	4772.0	4670.2
25°	4044.2	4270.8	4614.5	4278.5	4065.3
27.5°	3358.6	3646.7	4209.3	3664.0	3379.8
30°	2755.6	3011.1	3642.8	3028.3	2759.5
32.5°	2231.4	2421.5	2961.1	2444.6	2256.4
35°	1880.0	1974.1	2283.3	1977.9	1885.7
37.5°	1611.1	1611.1	1695.6	1618.8	1603.5
40°	1409.5	1348.1	1240.5	1346.1	1409.5
42.5°	1221.3	1129.1	900.6	1125.3	1225.2
45°	992.8	942.9	668.3	939.0	985.1
47.5°	762.4	727.8	503.1	724.0	768.1
50°	595.3	541.5	387.9	537.7	593.4
52.5°	457.0	399.4	299.6	399.4	453.2
55°	357.2	299.6	232.4	299.6	353.3
57.5°	274.6	228.5	176.7	224.7	272.7
60°	209.3	170.9	138.3	170.9	211.2
62.5°	159.4	130.6	105.6	128.7	157.5
65°	121.0	97.9	82.6	97.9	119.1
67.5°	88.3	73.0	63.4	73.0	90.3
70°	65.3	55.7	48.0	53.8	65.3
72.5°	48.0	40.3	36.5	40.3	48.0
75°	32.6	28.8	26.9	28.8	32.6
77.5°	23.0	21.1	19.2	21.1	23.0
80°	15.4	13.4	13.4	15.4	15.4
82.5°	9.6	9.6	9.6	9.6	9.6
85°	5.8	5.8	5.8	5.8	5.8
87.5°	3.8	3.8	3.8	3.8	3.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)