

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: **FLDSQ4C30D010 FEU4C309030 F4LC-SQ-WLI**

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: FLDSQ4C30D010 FEU4C309030 F4LC-SQ-WLI
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

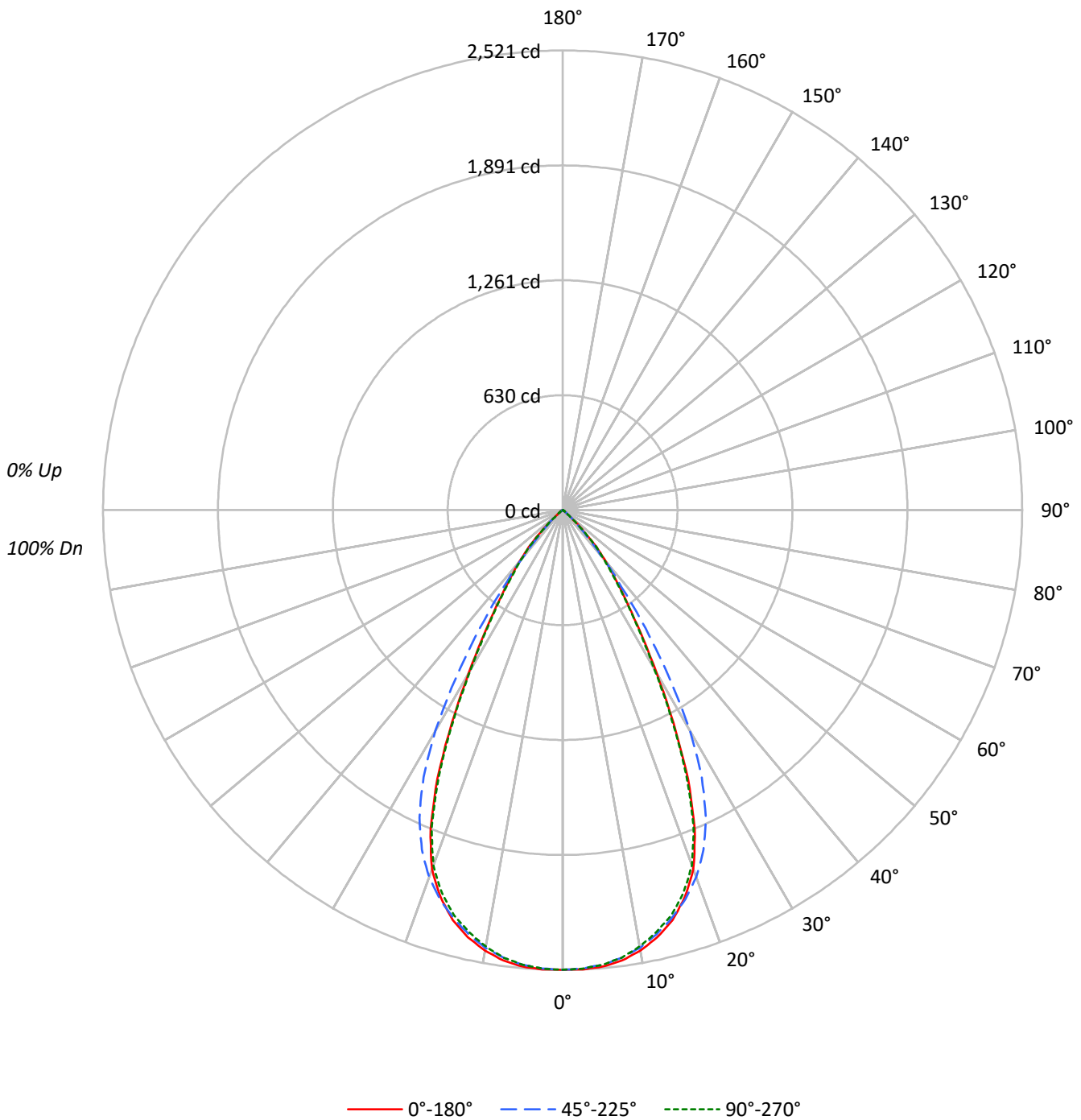
Lumens per Lamp: N/A
 Luminaire Lumens: 2256.0 lumens
 Efficiency: N/A
 Efficacy: 71.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.6
 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
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95				94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89				87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83				81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77				76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72				71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68				66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63				62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59				58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56				55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53				52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	243152	243152	243152
5°	243403	242289	242289
10°	240211	238790	238056
15°	232410	231311	229753
20°	215241	219943	212869
25°	173067	197842	170789
30°	114223	155124	111516
35°	71393	93149	70098
40°	46592	43166	44778
45°	22433	17221	21164
50°	5644	6860	5299
55°	3112	2826	3011
60°	2123	1795	2007
65°	1461	1324	1461
70°	1157	987	1157
75°	857	857	857
80°	667	945	945
85°	664	1329	1329

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.0	10.5
10°-20°	647.2	28.7
20°-30°	771.3	34.2
30°-40°	436.7	19.4
40°-50°	135.0	6.0
50°-60°	18.8	0.8
60°-70°	6.4	0.3
70°-80°	2.5	0.1
80°-90°	1.1	0.0
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°	1655.5	73.4
0°-40°	2092.2	92.7
0°-60°	2246.0	99.6
0°-90°	2256.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2256.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2520	2520	2520	2520	2520	
5°	2513	2507	2502	2500	2502	238
15°	2327	2323	2316	2306	2300	649
25°	1626	1720	1858	1723	1604	725
35°	606	661	791	663	595	394
45°	164	192	126	186	155	136
55°	18	18	17	18	18	18
65°	6	6	6	6	6	7
75°	2	2	2	2	2	3
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°	2520.0	2520.0	2520.0	2520.0	2520.0
2.5°	2520.6	2516.5	2515.4	2514.2	2516.5
5°	2513.0	2507.3	2501.5	2499.7	2501.5
7.5°	2491.6	2485.8	2476.0	2473.7	2475.4
10°	2451.7	2446.5	2437.2	2432.0	2429.7
12.5°	2399.0	2390.3	2381.6	2375.8	2370.1
15°	2326.6	2322.6	2315.6	2306.4	2300.0
17.5°	2226.5	2232.3	2236.3	2217.8	2201.0
20°	2096.2	2117.7	2142.0	2104.3	2073.1
22.5°	1893.0	1954.4	2016.3	1945.1	1875.7
25°	1625.6	1720.5	1858.3	1723.4	1604.2
27.5°	1313.5	1434.0	1651.1	1434.5	1296.2
30°	1025.2	1149.1	1392.3	1132.9	1000.9
32.5°	787.3	879.9	1087.8	866.0	770.5
35°	606.1	661.1	790.8	662.9	595.1
37.5°	471.2	499.0	532.0	489.2	457.3
40°	369.9	371.1	342.7	365.3	355.5
42.5°	274.4	273.2	210.7	266.3	268.0
45°	164.4	191.6	126.2	186.4	155.1
47.5°	78.2	108.3	75.8	102.5	72.4
50°	37.6	52.1	45.7	48.6	35.3
52.5°	25.5	26.6	26.1	25.5	24.3
55°	18.5	18.5	16.8	17.9	17.9
57.5°	13.9	13.9	12.2	13.3	13.3
60°	11.0	10.4	9.3	10.4	10.4
62.5°	8.1	8.1	6.9	8.1	8.1
65°	6.4	6.4	5.8	6.4	6.4
67.5°	5.2	5.2	4.1	5.2	4.6
70°	4.1	4.1	3.5	4.1	4.1
72.5°	2.9	2.9	2.9	2.9	2.9
75°	2.3	2.3	2.3	2.3	2.3
77.5°	1.7	1.7	1.7	1.7	1.7
80°	1.2	1.2	1.7	1.7	1.7
82.5°	1.2	1.2	1.2	1.2	1.2
85°	0.6	1.2	1.2	1.2	1.2
87.5°	0.6	0.6	1.2	1.2	1.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)