

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: **FLDSQ4C70D010 FEU4C709040 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: FLDSQ4C70D010 FEU4C709040 F4LC-SQ-WLI
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

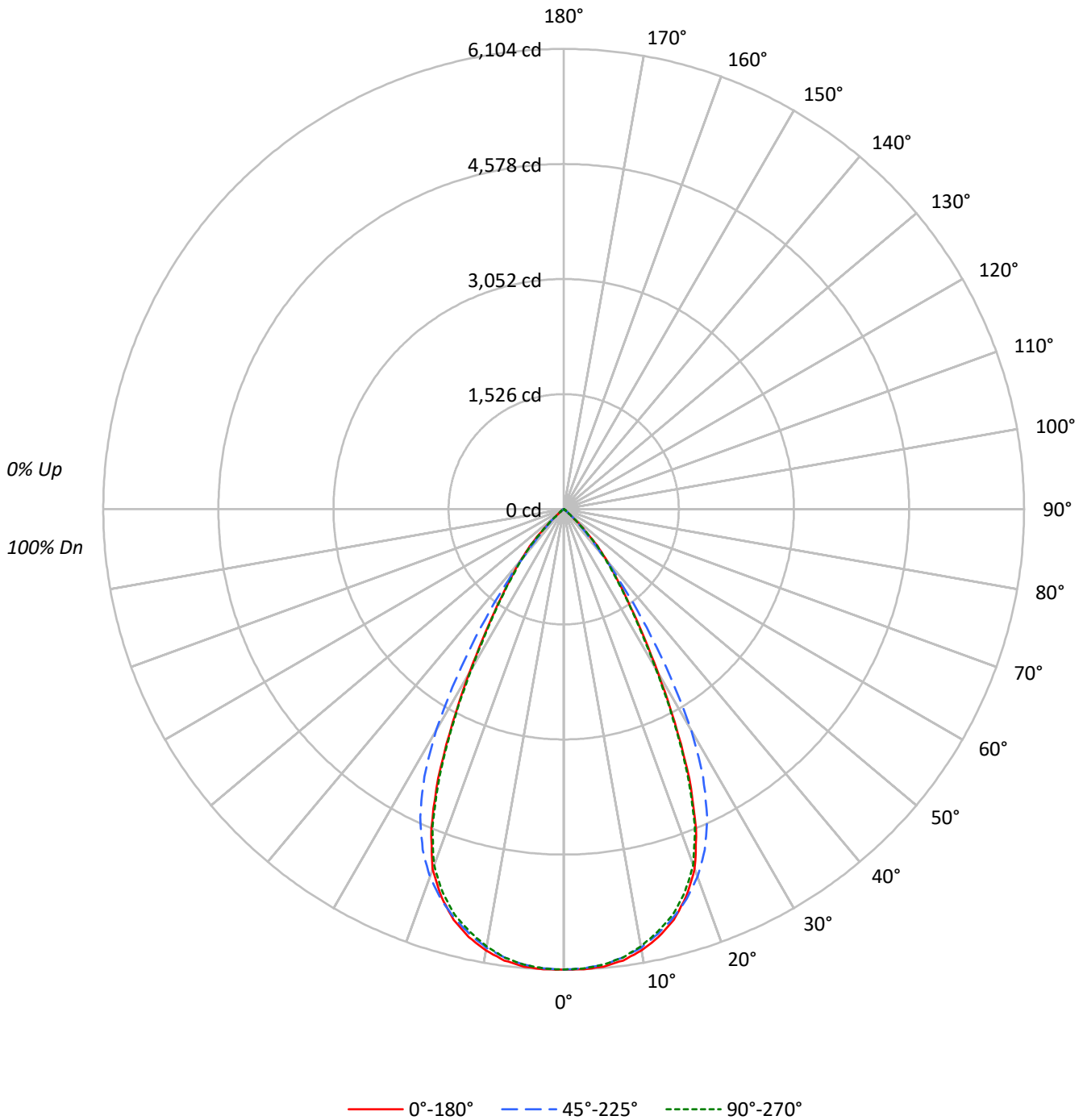
Lumens per Lamp: N/A
 Luminaire Lumens: 5463.0 lumens
 Efficiency: N/A
 Efficacy: 70.0 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	588804	588804	588804
5°	589416	586704	586704
10°	581682	578243	576460
15°	562805	560138	556362
20°	521221	532598	515460
25°	419084	479087	413558
30°	276612	375638	270050
35°	172882	225558	169749
40°	112833	104532	108411
45°	54323	41701	51266
50°	13675	16617	12834
55°	7553	6847	7318
60°	5133	4323	4863
65°	3516	3196	3516
70°	2765	2370	2765
75°	2088	2088	2088
80°	1556	2334	2334
85°	1550	3100	3100

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	573.9	10.5
10°-20°	1567.2	28.7
20°-30°	1867.7	34.2
30°-40°	1057.6	19.4
40°-50°	327.0	6.0
50°-60°	45.4	0.8
60°-70°	15.5	0.3
70°-80°	6.2	0.1
80°-90°	2.6	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°	4008.8	73.4
0°-40°	5066.4	92.7
0°-60°	5438.7	99.6
0°-90°	5463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5463.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6102	6102	6102	6102	6102	
5°	6085	6071	6057	6053	6057	576
15°	5634	5624	5607	5585	5570	1571
25°	3936	4166	4500	4173	3884	1755
35°	1468	1601	1915	1605	1441	955
45°	398	464	306	451	376	329
55°	45	45	41	44	44	44
65°	15	15	14	15	15	16
75°	6	6	6	6	6	6
85°	1	3	3	3	3	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6102.3	6102.3	6102.3	6102.3	6102.3
2.5°	6103.7	6093.9	6091.1	6088.3	6093.9
5°	6085.4	6071.4	6057.4	6053.2	6057.4
7.5°	6033.6	6019.6	5995.7	5990.1	5994.3
10°	5936.9	5924.2	5901.8	5889.2	5883.6
12.5°	5809.3	5788.3	5767.2	5753.2	5739.2
15°	5634.1	5624.2	5607.4	5585.0	5569.6
17.5°	5391.5	5405.6	5415.4	5370.5	5329.8
20°	5076.1	5128.0	5186.9	5095.7	5020.0
22.5°	4584.1	4732.7	4882.7	4710.2	4542.0
25°	3936.4	4166.3	4500.0	4173.3	3884.5
27.5°	3180.8	3472.4	3998.1	3473.8	3138.8
30°	2482.7	2782.7	3371.5	2743.4	2423.8
32.5°	1906.5	2130.8	2634.1	2097.2	1865.9
35°	1467.7	1600.9	1914.9	1605.1	1441.1
37.5°	1141.1	1208.4	1288.3	1184.6	1107.5
40°	895.8	898.6	829.9	884.6	860.7
42.5°	664.5	661.7	510.3	644.9	649.1
45°	398.1	464.0	305.6	451.4	375.7
47.5°	189.3	262.1	183.6	248.1	175.2
50°	91.1	126.2	110.7	117.8	85.5
52.5°	61.7	64.5	63.1	61.7	58.9
55°	44.9	44.9	40.7	43.5	43.5
57.5°	33.6	33.6	29.4	32.2	32.2
60°	26.6	25.2	22.4	25.2	25.2
62.5°	19.6	19.6	16.8	19.6	19.6
65°	15.4	15.4	14.0	15.4	15.4
67.5°	12.6	12.6	9.8	12.6	11.2
70°	9.8	9.8	8.4	9.8	9.8
72.5°	7.0	7.0	7.0	7.0	7.0
75°	5.6	5.6	5.6	5.6	5.6
77.5°	4.2	4.2	4.2	4.2	4.2
80°	2.8	2.8	4.2	4.2	4.2
82.5°	2.8	2.8	2.8	2.8	2.8
85°	1.4	2.8	2.8	2.8	2.8
87.5°	1.4	1.4	2.8	2.8	2.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)