

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: **FLDSQ4C45D010 FEU4C459035 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: FLDSQ4C45D010 FEU4C459035 F4LC-SQ-WLI
 Description: 4 INCH 4500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

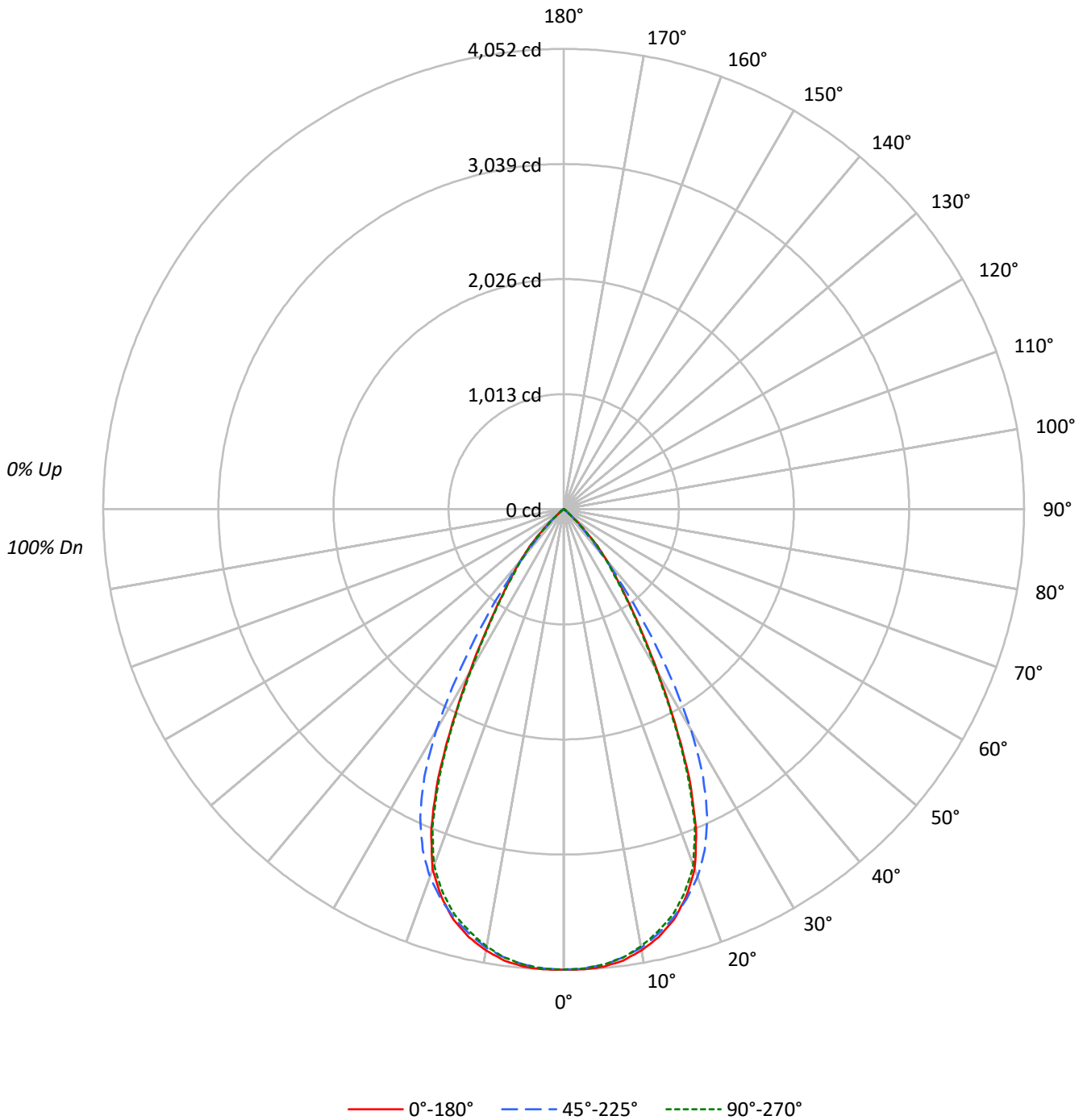
Lumens per Lamp: N/A
 Luminaire Lumens: 3627.0 lumens
 Efficiency: N/A
 Efficacy: 73.1 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 49.6
 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				
RC	80					70					50					30				
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	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°	390915	390915	390915
5°	391333	389522	389522
10°	386188	383905	382719
15°	373658	371890	369383
20°	346046	353604	342227
25°	278243	318071	274570
30°	183647	249393	179290
35°	114788	149760	112703
40°	74907	69402	71985
45°	36065	27687	34032
50°	9082	11033	8526
55°	5013	4542	4862
60°	3416	2875	3242
65°	2329	2123	2329
70°	1834	1580	1834
75°	1379	1379	1379
80°	1056	1556	1556
85°	996	2103	2103

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	381.0	10.5
10°-20°	1040.5	28.7
20°-30°	1240.0	34.2
30°-40°	702.2	19.4
40°-50°	217.1	6.0
50°-60°	30.2	0.8
60°-70°	10.3	0.3
70°-80°	4.1	0.1
80°-90°	1.8	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°	2661.5	73.4
0°-40°	3363.7	92.7
0°-60°	3610.9	99.6
0°-90°	3627.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3627.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4051	4051	4051	4051	4051	
5°	4040	4031	4022	4019	4022	383
15°	3741	3734	3723	3708	3698	1043
25°	2614	2766	2988	2771	2579	1165
35°	974	1063	1271	1066	957	634
45°	264	308	203	300	249	218
55°	30	30	27	29	29	29
65°	10	10	9	10	10	11
75°	4	4	4	4	4	4
85°	1	2	2	2	2	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4051.4	4051.4	4051.4	4051.4	4051.4
2.5°	4052.4	4045.8	4044.0	4042.1	4045.8
5°	4040.3	4030.9	4021.6	4018.9	4021.6
7.5°	4005.8	3996.5	3980.7	3977.0	3979.8
10°	3941.6	3933.2	3918.3	3910.0	3906.2
12.5°	3856.9	3842.9	3829.0	3819.7	3810.4
15°	3740.6	3734.1	3722.9	3708.0	3697.8
17.5°	3579.6	3588.9	3595.4	3565.6	3538.6
20°	3370.1	3404.6	3443.7	3383.2	3332.9
22.5°	3043.5	3142.1	3241.7	3127.2	3015.5
25°	2613.5	2766.1	2987.6	2770.8	2579.0
27.5°	2111.8	2305.4	2654.4	2306.3	2083.9
30°	1648.3	1847.5	2238.4	1821.4	1609.2
32.5°	1265.8	1414.7	1748.8	1392.4	1238.8
35°	974.5	1062.9	1271.4	1065.7	956.8
37.5°	757.6	802.3	855.3	786.5	735.3
40°	594.7	596.6	551.0	587.3	571.5
42.5°	441.2	439.3	338.8	428.1	430.9
45°	264.3	308.1	202.9	299.7	249.4
47.5°	125.6	174.0	121.9	164.7	116.3
50°	60.5	83.8	73.5	78.2	56.8
52.5°	41.0	42.8	41.9	41.0	39.1
55°	29.8	29.8	27.0	28.9	28.9
57.5°	22.3	22.3	19.5	21.4	21.4
60°	17.7	16.8	14.9	16.8	16.8
62.5°	13.0	13.0	11.2	13.0	13.0
65°	10.2	10.2	9.3	10.2	10.2
67.5°	8.4	8.4	6.5	8.4	7.4
70°	6.5	6.5	5.6	6.5	6.5
72.5°	4.7	4.7	4.7	4.7	4.7
75°	3.7	3.7	3.7	3.7	3.7
77.5°	2.8	2.8	2.8	2.8	2.8
80°	1.9	1.9	2.8	2.8	2.8
82.5°	1.9	1.9	1.9	1.9	1.9
85°	0.9	1.9	1.9	1.9	1.9
87.5°	0.9	0.9	1.9	1.9	1.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)