

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 FEU4C459040 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 FEU4C459040 F4LC-SQ-WLI
 Description: 4 INCH 4500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

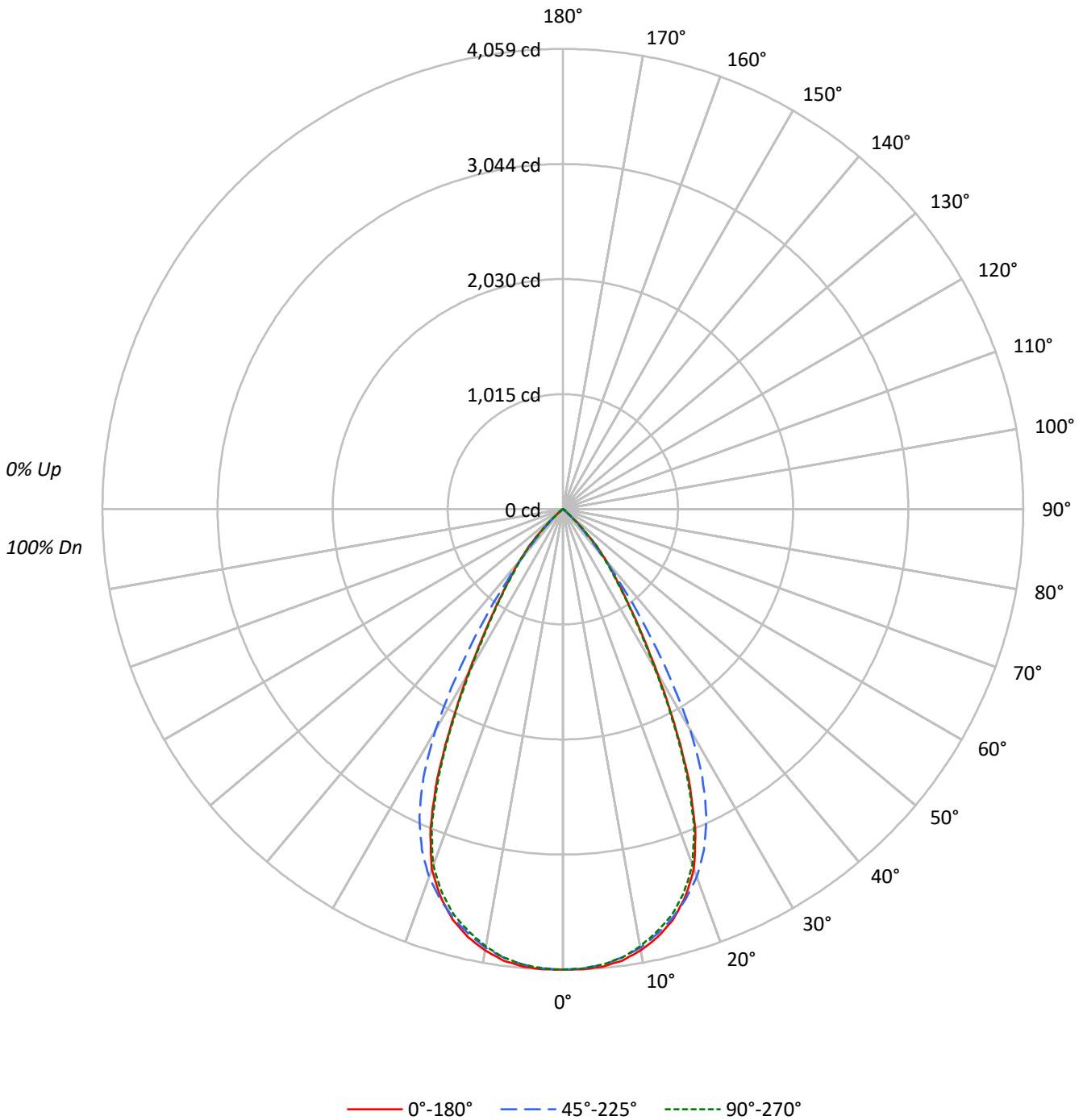
Lumens per Lamp: N/A
 Luminaire Lumens: 3633.0 lumens
 Efficiency: N/A
 Efficacy: 73.2 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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				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	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°	391562	391562	391562
5°	391972	390171	390171
10°	386825	384542	383356
15°	374278	372500	369992
20°	346621	354189	342791
25°	278701	318603	275028
30°	183947	249805	179591
35°	114976	150007	112891
40°	75033	69516	72098
45°	36134	27728	34087
50°	9097	11048	8541
55°	5013	4542	4862
60°	3416	2875	3242
65°	2352	2123	2352
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°	381.6	10.5
10°-20°	1042.2	28.7
20°-30°	1242.0	34.2
30°-40°	703.3	19.4
40°-50°	217.4	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°	2665.9	73.4
0°-40°	3369.2	92.7
0°-60°	3616.9	99.6
0°-90°	3633.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3633.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4058	4058	4058	4058	4058	
5°	4047	4038	4028	4026	4028	383
15°	3747	3740	3729	3714	3704	1045
25°	2618	2771	2993	2775	2583	1167
35°	976	1065	1274	1067	958	635
45°	265	309	203	300	250	219
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°	4058.1	4058.1	4058.1	4058.1	4058.1
2.5°	4059.1	4052.5	4050.7	4048.8	4052.5
5°	4046.9	4037.6	4028.3	4025.5	4028.3
7.5°	4012.4	4003.1	3987.3	3983.5	3986.3
10°	3948.1	3939.7	3924.8	3916.4	3912.7
12.5°	3863.3	3849.3	3835.3	3826.0	3816.7
15°	3746.8	3740.2	3729.0	3714.1	3703.9
17.5°	3585.5	3594.8	3601.3	3571.5	3544.5
20°	3375.7	3410.2	3449.4	3388.8	3338.4
22.5°	3048.5	3147.3	3247.1	3132.4	3020.5
25°	2617.8	2770.7	2992.6	2775.3	2583.3
27.5°	2115.3	2309.2	2658.8	2310.1	2087.3
30°	1651.0	1850.5	2242.1	1824.4	1611.9
32.5°	1267.9	1417.0	1751.7	1394.7	1240.8
35°	976.1	1064.6	1273.5	1067.4	958.4
37.5°	758.9	803.6	856.7	787.8	736.5
40°	595.7	597.6	551.9	588.3	572.4
42.5°	441.9	440.0	339.3	428.8	431.6
45°	264.8	308.6	203.2	300.2	249.8
47.5°	125.9	174.3	122.1	165.0	116.5
50°	60.6	83.9	73.6	78.3	56.9
52.5°	41.0	42.9	42.0	41.0	39.2
55°	29.8	29.8	27.0	28.9	28.9
57.5°	22.4	22.4	19.6	21.4	21.4
60°	17.7	16.8	14.9	16.8	16.8
62.5°	13.1	13.1	11.2	13.1	13.1
65°	10.3	10.3	9.3	10.3	10.3
67.5°	8.4	8.4	6.5	8.4	7.5
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)