

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: **FLDSQ4C40D010 FEU4C409030 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: FLDSQ4C40D010 FEU4C409030 F4LC-SQ-WLI
 Description: 4 INCH 4000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

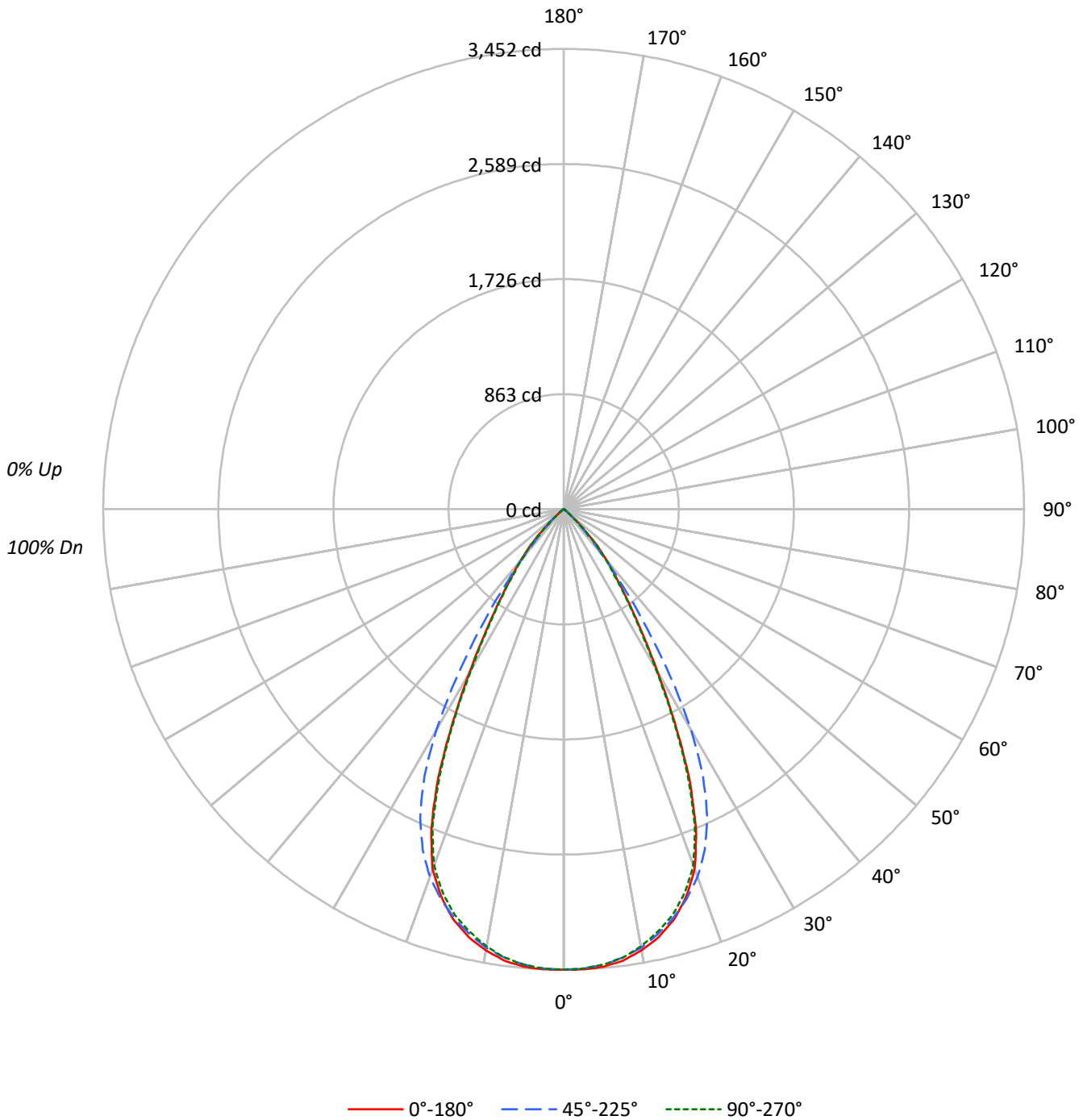
Lumens per Lamp: N/A
 Luminaire Lumens: 3090.1 lumens
 Efficiency: N/A
 Efficacy: 65.7 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 47
 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°	333041	333041	333041
5°	333393	331853	331853
10°	329008	327068	326059
15°	318338	316830	314692
20°	294819	301247	291564
25°	237041	270982	233922
30°	156461	212470	152751
35°	97790	127580	96012
40°	63823	59124	61329
45°	30730	23593	28997
50°	7731	9397	7265
55°	4273	3869	4138
60°	2914	2451	2760
65°	1986	1804	1986
70°	1580	1354	1580
75°	1193	1193	1193
80°	889	1334	1334
85°	886	1771	1771



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.6	10.5
10°-20°	886.5	28.7
20°-30°	1056.4	34.2
30°-40°	598.2	19.4
40°-50°	184.9	6.0
50°-60°	25.7	0.8
60°-70°	8.8	0.3
70°-80°	3.5	0.1
80°-90°	1.5	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°	2267.5	73.4
0°-40°	2865.6	92.7
0°-60°	3076.3	99.6
0°-90°	3090.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3090.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3452	3452	3452	3452	3452	
5°	3442	3434	3426	3424	3426	326
15°	3187	3181	3172	3159	3150	889
25°	2226	2357	2545	2360	2197	993
35°	830	906	1083	908	815	540
45°	225	262	173	255	212	186
55°	25	25	23	25	25	25
65°	9	9	8	9	9	9
75°	3	3	3	3	3	3
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°	3451.6	3451.6	3451.6	3451.6	3451.6
2.5°	3452.4	3446.8	3445.2	3443.7	3446.8
5°	3442.1	3434.1	3426.2	3423.8	3426.2
7.5°	3412.7	3404.8	3391.3	3388.2	3390.5
10°	3358.0	3350.9	3338.2	3331.1	3327.9
12.5°	3285.9	3274.0	3262.1	3254.1	3246.2
15°	3186.8	3181.2	3171.7	3159.0	3150.3
17.5°	3049.6	3057.5	3063.1	3037.7	3014.7
20°	2871.2	2900.5	2933.8	2882.3	2839.5
22.5°	2592.9	2676.9	2761.7	2664.2	2569.1
25°	2226.5	2356.6	2545.3	2360.5	2197.2
27.5°	1799.1	1964.1	2261.4	1964.9	1775.4
30°	1404.3	1573.9	1907.0	1551.7	1371.0
32.5°	1078.4	1205.2	1489.9	1186.2	1055.4
35°	830.2	905.5	1083.1	907.9	815.1
37.5°	645.4	683.5	728.7	670.0	626.4
40°	506.7	508.3	469.4	500.3	486.9
42.5°	375.8	374.3	288.6	364.7	367.1
45°	225.2	262.5	172.9	255.3	212.5
47.5°	107.0	148.3	103.9	140.3	99.1
50°	51.5	71.4	62.6	66.6	48.4
52.5°	34.9	36.5	35.7	34.9	33.3
55°	25.4	25.4	23.0	24.6	24.6
57.5°	19.0	19.0	16.7	18.2	18.2
60°	15.1	14.3	12.7	14.3	14.3
62.5°	11.1	11.1	9.5	11.1	11.1
65°	8.7	8.7	7.9	8.7	8.7
67.5°	7.1	7.1	5.6	7.1	6.3
70°	5.6	5.6	4.8	5.6	5.6
72.5°	4.0	4.0	4.0	4.0	4.0
75°	3.2	3.2	3.2	3.2	3.2
77.5°	2.4	2.4	2.4	2.4	2.4
80°	1.6	1.6	2.4	2.4	2.4
82.5°	1.6	1.6	1.6	1.6	1.6
85°	0.8	1.6	1.6	1.6	1.6
87.5°	0.8	0.8	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)