

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: **FLDSQ4C60D010 FEU4C609050 F4LC-SQ-WH**

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: FLDSQ4C60D010 FEU4C609050 F4LC-SQ-WH
 Description: 4 INCH 6000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

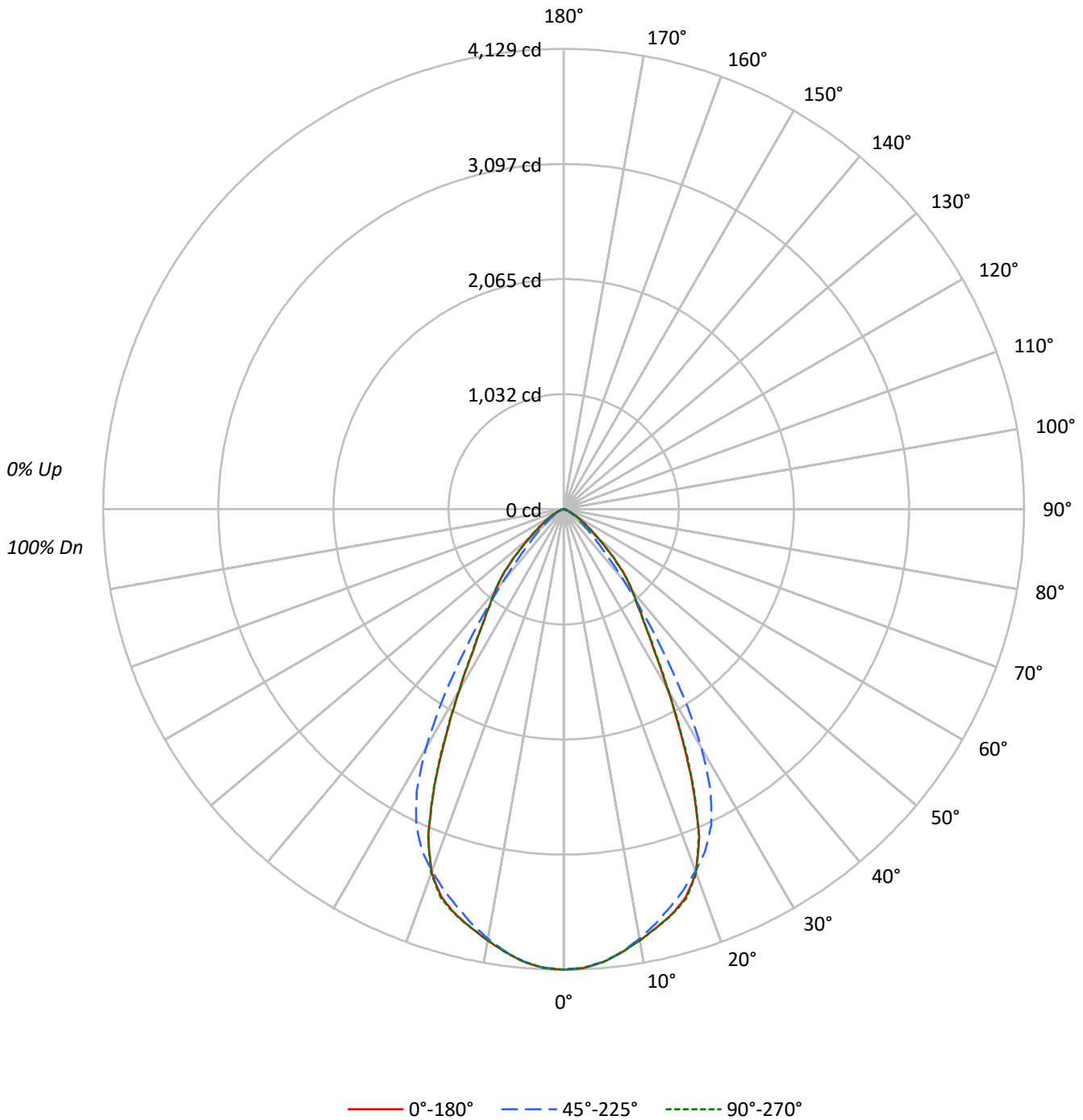
Lumens per Lamp: N/A
 Luminaire Lumens: 4369.9 lumens
 Efficiency: N/A
 Efficacy: 60.7 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 72
 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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92				92
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84				84
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66				66
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61				61
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56				56
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52				52
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49				49
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46				46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	398383	398383	398383
5°	394733	394481	394607
10°	384630	383101	384630
15°	375367	368604	375756
20°	355904	354569	356571
25°	291934	333104	293467
30°	208180	275197	208470
35°	150148	182353	150608
40°	120377	105943	120377
45°	91862	61828	91153
50°	60584	39479	60389
55°	40744	26495	40306
60°	27384	18082	27634
65°	18722	12785	18425
70°	12498	9197	12498
75°	8239	6785	8239
80°	5779	5056	5779
85°	4318	4318	4318

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.8	8.8
10°-20°	1046.6	23.9
20°-30°	1308.3	29.9
30°-40°	880.1	20.1
40°-50°	464.7	10.6
50°-60°	188.9	4.3
60°-70°	70.0	1.6
70°-80°	22.6	0.5
80°-90°	4.9	0.1
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°	2738.7	62.7
0°-40°	3618.8	82.8
0°-60°	4272.4	97.8
0°-90°	4369.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4369.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4129	4129	4129	4129	4129	
5°	4075	4072	4073	4073	4074	384
15°	3758	3726	3690	3725	3762	1053
25°	2742	2896	3129	2901	2756	1234
35°	1275	1338	1548	1341	1279	820
45°	673	639	453	637	668	516
55°	242	203	158	203	240	225
65°	82	66	56	66	81	85
75°	22	20	18	20	22	26
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4128.8	4128.8	4128.8	4128.8	4128.8
2.5°	4118.4	4115.8	4114.5	4114.5	4115.8
5°	4075.4	4071.5	4072.8	4072.8	4074.1
7.5°	4006.4	4005.1	4001.2	4006.4	4006.4
10°	3925.7	3919.2	3910.1	3920.5	3925.7
12.5°	3842.4	3822.8	3807.2	3822.8	3842.4
15°	3757.7	3726.5	3690.0	3725.2	3761.6
17.5°	3647.1	3615.8	3575.5	3622.3	3657.5
20°	3466.1	3468.7	3453.1	3466.1	3472.6
22.5°	3175.7	3234.3	3316.3	3235.6	3166.6
25°	2742.1	2895.8	3128.8	2901.0	2756.5
27.5°	2277.3	2472.6	2854.1	2484.3	2291.6
30°	1868.5	2041.6	2470.0	2053.3	1871.1
32.5°	1513.0	1641.9	2007.8	1657.5	1529.9
35°	1274.7	1338.5	1548.1	1341.1	1278.6
37.5°	1092.4	1092.4	1149.7	1097.6	1087.2
40°	955.7	914.0	841.1	912.7	955.7
42.5°	828.1	765.6	610.7	763.0	830.7
45°	673.2	639.3	453.1	636.7	668.0
47.5°	516.9	493.5	341.1	490.9	520.8
50°	403.6	367.2	263.0	364.6	402.3
52.5°	309.9	270.8	203.1	270.8	307.3
55°	242.2	203.1	157.5	203.1	239.6
57.5°	186.2	154.9	119.8	152.3	184.9
60°	141.9	115.9	93.7	115.9	143.2
62.5°	108.1	88.5	71.6	87.2	106.8
65°	82.0	66.4	56.0	66.4	80.7
67.5°	59.9	49.5	43.0	49.5	61.2
70°	44.3	37.8	32.6	36.5	44.3
72.5°	32.6	27.3	24.7	27.3	32.6
75°	22.1	19.5	18.2	19.5	22.1
77.5°	15.6	14.3	13.0	14.3	15.6
80°	10.4	9.1	9.1	10.4	10.4
82.5°	6.5	6.5	6.5	6.5	6.5
85°	3.9	3.9	3.9	3.9	3.9
87.5°	2.6	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)