

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: **FLDSQ4C50D010 FEU4C509027 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: FLDSQ4C50D010 FEU4C509027 F4LC-SQ-WH
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

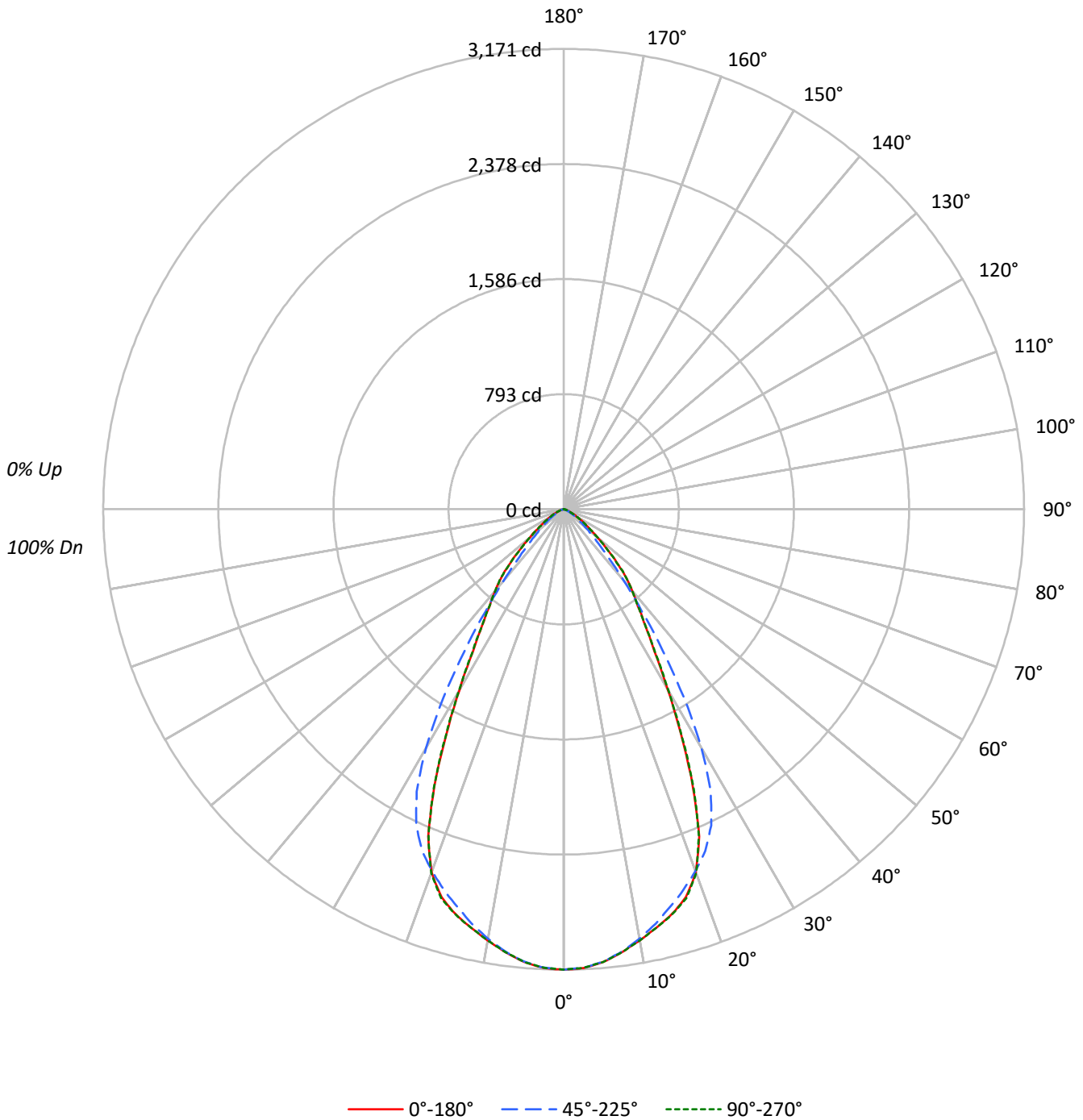
Lumens per Lamp: N/A
 Luminaire Lumens: 3356.0 lumens
 Efficiency: N/A
 Efficacy: 57.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 58.4
 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	113	110	107	105	110	108	105	103	104	102	100		100	98	97		96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		90	88	86	84
3	101	93	88	84	98	92	87	83	89	85	82		87	83	80		85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74		81	77	74		79	76	73	71
5	89	80	74	69	88	79	73	69	78	72	68		76	71	68		74	70	67	66
6	85	75	68	64	83	74	68	63	72	67	63		71	66	63		70	65	62	61
7	80	70	63	59	79	69	63	59	68	62	58		67	62	58		65	61	58	56
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		62	57	54	52
9	72	61	55	51	71	61	55	51	60	54	51		59	54	50		58	54	50	49
10	68	58	52	48	67	57	51	47	57	51	47		56	51	47		55	50	47	46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	305947	305947	305947
5°	303144	302951	303048
10°	295382	294207	295382
15°	288270	283076	288570
20°	273317	272290	273831
25°	224202	255811	225373
30°	159870	211345	160093
35°	115306	140042	115659
40°	92453	81368	92453
45°	70548	47487	70002
50°	46534	30322	46384
55°	31290	20355	30953
60°	21035	13894	21228
65°	14384	9817	14155
70°	9592	7053	9592
75°	6338	5219	6338
80°	4445	3890	4445
85°	3321	3321	3321

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	294.8	8.8
10°-20°	803.7	23.9
20°-30°	1004.8	29.9
30°-40°	675.9	20.1
40°-50°	356.9	10.6
50°-60°	145.1	4.3
60°-70°	53.8	1.6
70°-80°	17.4	0.5
80°-90°	3.7	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°	2103.2	62.7
0°-40°	2779.1	82.8
0°-60°	3281.1	97.8
0°-90°	3356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3356.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3171	3171	3171	3171	3171	
5°	3130	3127	3128	3128	3129	295
15°	2886	2862	2834	2861	2889	808
25°	2106	2224	2403	2228	2117	948
35°	979	1028	1189	1030	982	630
45°	517	491	348	489	513	396
55°	186	156	121	156	184	172
65°	63	51	43	51	62	65
75°	17	15	14	15	17	20
85°	3	3	3	3	3	4
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3170.8	3170.8	3170.8	3170.8	3170.8
2.5°	3162.8	3160.8	3159.8	3159.8	3160.8
5°	3129.8	3126.8	3127.8	3127.8	3128.8
7.5°	3076.8	3075.8	3072.8	3076.8	3076.8
10°	3014.8	3009.8	3002.8	3010.8	3014.8
12.5°	2950.8	2935.8	2923.8	2935.8	2950.8
15°	2885.8	2861.8	2833.8	2860.8	2888.8
17.5°	2800.8	2776.8	2745.8	2781.8	2808.8
20°	2661.8	2663.8	2651.8	2661.8	2666.8
22.5°	2438.8	2483.8	2546.8	2484.8	2431.8
25°	2105.9	2223.9	2402.8	2227.9	2116.9
27.5°	1748.9	1898.9	2191.9	1907.9	1759.9
30°	1434.9	1567.9	1896.9	1576.9	1436.9
32.5°	1161.9	1260.9	1541.9	1272.9	1174.9
35°	978.9	1027.9	1188.9	1029.9	981.9
37.5°	838.9	838.9	882.9	842.9	834.9
40°	734.0	702.0	646.0	701.0	734.0
42.5°	636.0	588.0	469.0	586.0	638.0
45°	517.0	491.0	348.0	489.0	513.0
47.5°	397.0	379.0	262.0	377.0	400.0
50°	310.0	282.0	202.0	280.0	309.0
52.5°	238.0	208.0	156.0	208.0	236.0
55°	186.0	156.0	121.0	156.0	184.0
57.5°	143.0	119.0	92.0	117.0	142.0
60°	109.0	89.0	72.0	89.0	110.0
62.5°	83.0	68.0	55.0	67.0	82.0
65°	63.0	51.0	43.0	51.0	62.0
67.5°	46.0	38.0	33.0	38.0	47.0
70°	34.0	29.0	25.0	28.0	34.0
72.5°	25.0	21.0	19.0	21.0	25.0
75°	17.0	15.0	14.0	15.0	17.0
77.5°	12.0	11.0	10.0	11.0	12.0
80°	8.0	7.0	7.0	8.0	8.0
82.5°	5.0	5.0	5.0	5.0	5.0
85°	3.0	3.0	3.0	3.0	3.0
87.5°	2.0	2.0	2.0	2.0	2.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)