

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: **FLDSQ4C05D010 FEU4C059027 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: FLDSQ4C05D010 FEU4C059027 F4LC-SQ-WH
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

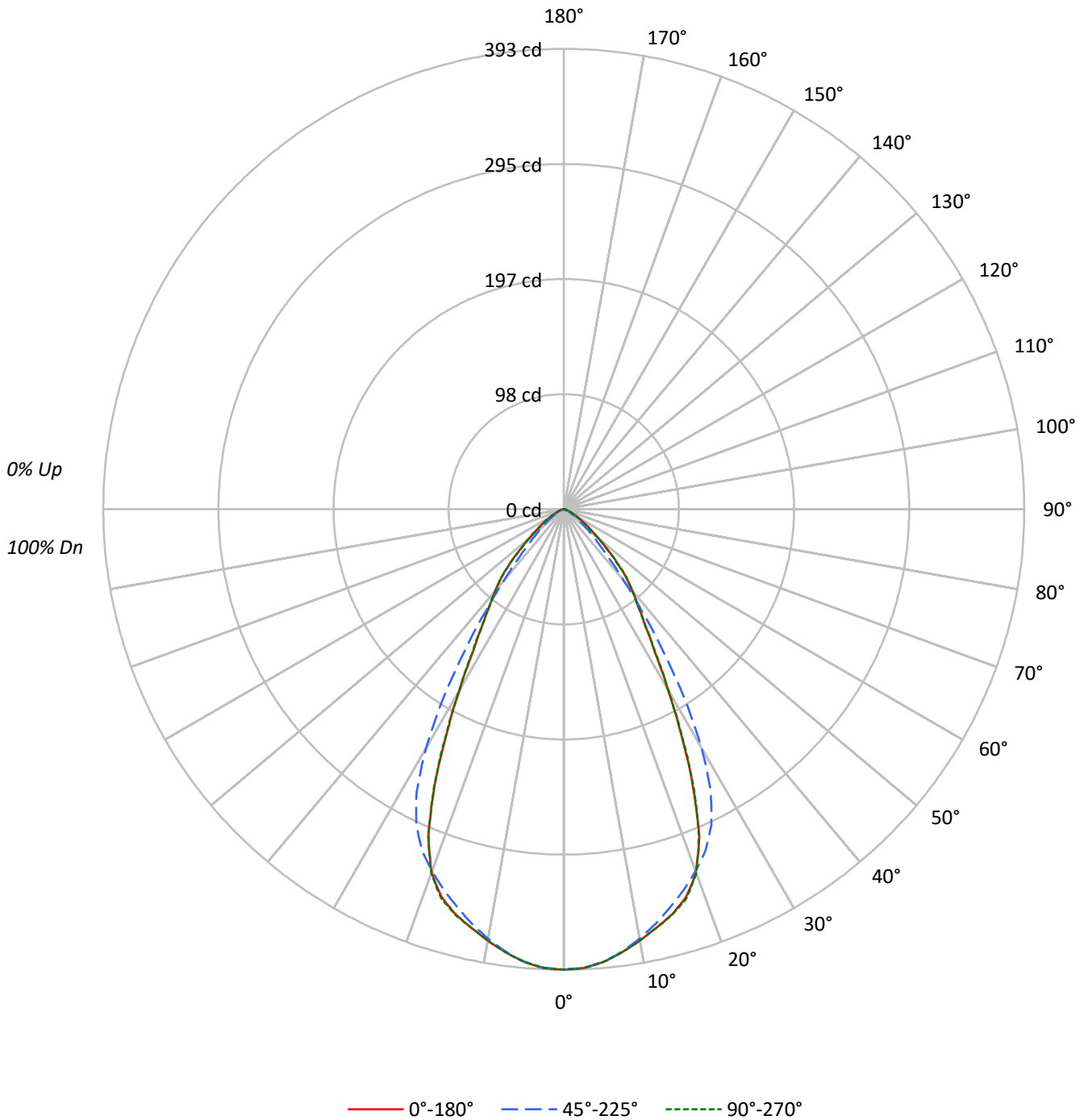
Lumens per Lamp: N/A
 Luminaire Lumens: 416.0 lumens
 Efficiency: N/A
 Efficacy: 57.8 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 7.2
 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	100	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77	
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71	71	71	71	
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66	66	66	66	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56	56	56	56	
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52	52	52	52	
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49	49	49	49	
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46	46	46	46	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	37920	37920	37920
5°	37581	37552	37561
10°	36614	36467	36614
15°	35732	35092	35772
20°	33885	33751	33946
25°	27787	31705	27936
30°	19821	26194	19843
35°	14288	17362	14335
40°	11462	10089	11462
45°	8747	5881	8679
50°	5764	3753	5749
55°	3886	2523	3835
60°	2605	1718	2624
65°	1781	1210	1758
70°	1185	875	1185
75°	783	634	783
80°	556	500	556
85°	443	443	443

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.5	8.8
10°-20°	99.6	23.9
20°-30°	124.5	29.9
30°-40°	83.8	20.1
40°-50°	44.2	10.6
50°-60°	18.0	4.3
60°-70°	6.7	1.6
70°-80°	2.2	0.5
80°-90°	0.5	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°	260.7	62.7
0°-40°	344.5	82.8
0°-60°	406.7	97.8
0°-90°	416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	416.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	388	388	388	388	388	37
15°	358	355	351	355	358	100
25°	261	276	298	276	262	117
35°	121	127	147	128	122	78
45°	64	61	43	61	64	49
55°	23	19	15	19	23	21
65°	8	6	5	6	8	8
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	393.0	393.0	393.0	393.0	393.0
2.5°	392.1	391.8	391.7	391.7	391.8
5°	388.0	387.6	387.7	387.7	387.8
7.5°	381.4	381.3	380.9	381.4	381.4
10°	373.7	373.1	372.2	373.2	373.7
12.5°	365.8	363.9	362.4	363.9	365.8
15°	357.7	354.7	351.3	354.6	358.1
17.5°	347.2	344.2	340.4	344.8	348.2
20°	330.0	330.2	328.7	330.0	330.6
22.5°	302.3	307.9	315.7	308.0	301.4
25°	261.0	275.7	297.8	276.2	262.4
27.5°	216.8	235.4	271.7	236.5	218.1
30°	177.9	194.4	235.1	195.5	178.1
32.5°	144.0	156.3	191.1	157.8	145.6
35°	121.3	127.4	147.4	127.7	121.7
37.5°	104.0	104.0	109.4	104.5	103.5
40°	91.0	87.0	80.1	86.9	91.0
42.5°	78.8	72.9	58.1	72.6	79.1
45°	64.1	60.9	43.1	60.6	63.6
47.5°	49.2	47.0	32.5	46.7	49.6
50°	38.4	35.0	25.0	34.7	38.3
52.5°	29.5	25.8	19.3	25.8	29.3
55°	23.1	19.3	15.0	19.3	22.8
57.5°	17.7	14.7	11.4	14.5	17.6
60°	13.5	11.0	8.9	11.0	13.6
62.5°	10.3	8.4	6.8	8.3	10.2
65°	7.8	6.3	5.3	6.3	7.7
67.5°	5.7	4.7	4.1	4.7	5.8
70°	4.2	3.6	3.1	3.5	4.2
72.5°	3.1	2.6	2.4	2.6	3.1
75°	2.1	1.9	1.7	1.9	2.1
77.5°	1.5	1.4	1.2	1.4	1.5
80°	1.0	0.9	0.9	1.0	1.0
82.5°	0.6	0.6	0.6	0.6	0.6
85°	0.4	0.4	0.4	0.4	0.4
87.5°	0.2	0.2	0.2	0.2	0.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)