

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: **FLDSQ4C25D010 FEU4C259027 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: FLDSQ4C25D010 FEU4C259027 F4LC-SQ-WH
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

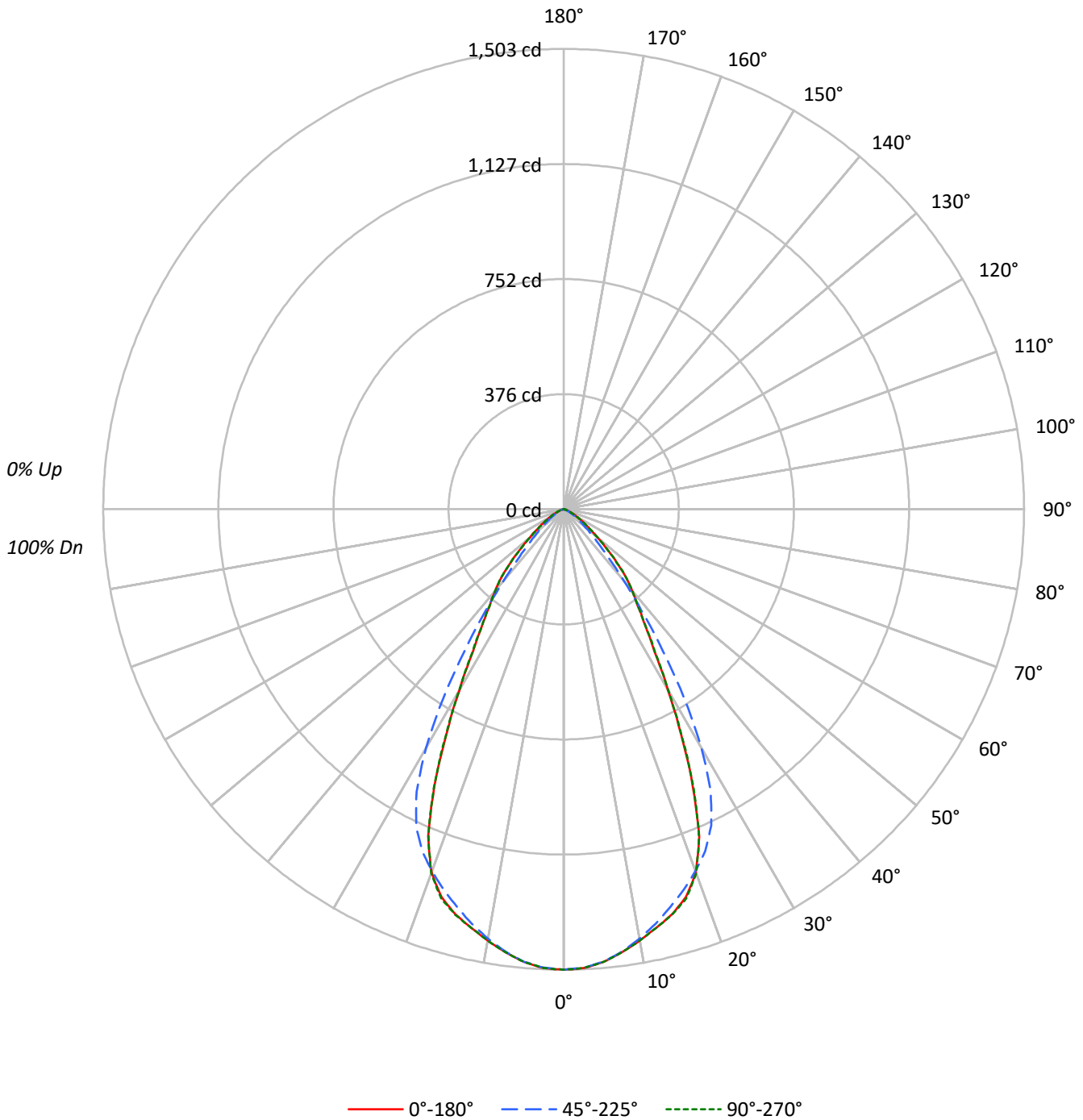
Lumens per Lamp: N/A
 Luminaire Lumens: 1591.0 lumens
 Efficiency: N/A
 Efficacy: 50.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.5
 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	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°	145042	145042	145042
5°	143717	143620	143669
10°	140029	139481	140029
15°	136663	134196	136803
20°	129574	129091	129820
25°	106283	121273	106847
30°	75796	100196	75896
35°	54667	66387	54832
40°	43821	38568	43821
45°	33445	22515	33186
50°	22066	14381	21991
55°	14837	9656	14669
60°	9977	6581	10054
65°	6827	4658	6712
70°	4542	3357	4542
75°	3020	2461	3020
80°	2111	1834	2111
85°	1550	1550	1550

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.7	8.8
10°-20°	381.0	23.9
20°-30°	476.3	29.9
30°-40°	320.4	20.1
40°-50°	169.2	10.6
50°-60°	68.8	4.3
60°-70°	25.5	1.6
70°-80°	8.2	0.5
80°-90°	1.8	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°	997.1	62.7
0°-40°	1317.5	82.8
0°-60°	1555.5	97.8
0°-90°	1591.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1591.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1484	1482	1483	1483	1483	140
15°	1368	1357	1343	1356	1370	383
25°	998	1054	1139	1056	1004	449
35°	464	487	564	488	466	299
45°	245	233	165	232	243	188
55°	88	74	57	74	87	82
65°	30	24	20	24	29	31
75°	8	7	7	7	8	9
85°	1	1	1	1	1	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1503.2	1503.2	1503.2	1503.2	1503.2
2.5°	1499.4	1498.5	1498.0	1498.0	1498.5
5°	1483.8	1482.3	1482.8	1482.8	1483.3
7.5°	1458.6	1458.2	1456.7	1458.6	1458.6
10°	1429.2	1426.9	1423.6	1427.3	1429.2
12.5°	1398.9	1391.8	1386.1	1391.8	1398.9
15°	1368.1	1356.7	1343.4	1356.2	1369.5
17.5°	1327.8	1316.4	1301.7	1318.8	1331.6
20°	1261.9	1262.9	1257.2	1261.9	1264.3
22.5°	1156.2	1177.5	1207.4	1178.0	1152.9
25°	998.3	1054.3	1139.1	1056.2	1003.6
27.5°	829.1	900.2	1039.1	904.5	834.3
30°	680.3	743.3	899.3	747.6	681.2
32.5°	550.8	597.8	731.0	603.5	557.0
35°	464.1	487.3	563.6	488.3	465.5
37.5°	397.7	397.7	418.6	399.6	395.8
40°	347.9	332.8	306.2	332.3	347.9
42.5°	301.5	278.7	222.3	277.8	302.4
45°	245.1	232.8	165.0	231.8	243.2
47.5°	188.2	179.7	124.2	178.7	189.6
50°	147.0	133.7	95.8	132.7	146.5
52.5°	112.8	98.6	74.0	98.6	111.9
55°	88.2	74.0	57.4	74.0	87.2
57.5°	67.8	56.4	43.6	55.5	67.3
60°	51.7	42.2	34.1	42.2	52.1
62.5°	39.3	32.2	26.1	31.8	38.9
65°	29.9	24.2	20.4	24.2	29.4
67.5°	21.8	18.0	15.6	18.0	22.3
70°	16.1	13.7	11.9	13.3	16.1
72.5°	11.9	10.0	9.0	10.0	11.9
75°	8.1	7.1	6.6	7.1	8.1
77.5°	5.7	5.2	4.7	5.2	5.7
80°	3.8	3.3	3.3	3.8	3.8
82.5°	2.4	2.4	2.4	2.4	2.4
85°	1.4	1.4	1.4	1.4	1.4
87.5°	0.9	0.9	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)