

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: **FLDSQ4C80D010 FEU4C809035 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: FLDSQ4C80D010 FEU4C809035 F4LC-SQ-WH
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

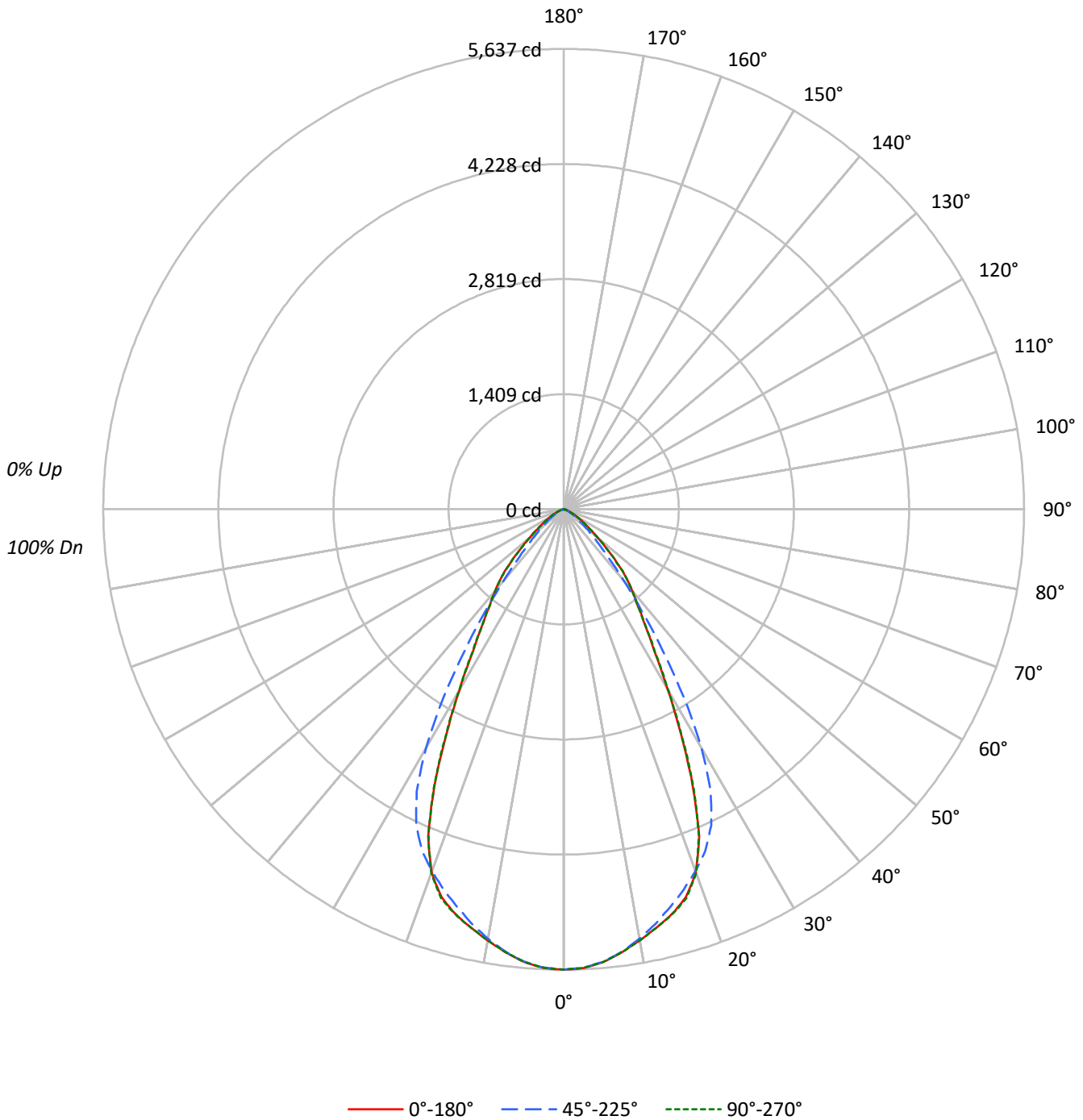
Lumens per Lamp: N/A
 Luminaire Lumens: 5966.0 lumens
 Efficiency: N/A
 Efficacy: 66.7 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 89.5
 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					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°	543879	543879	543879
5°	538905	538557	538731
10°	525100	523013	525100
15°	512459	503229	512999
20°	485888	484060	486792
25°	398558	454770	400644
30°	284199	375705	284600
35°	204992	248963	205616
40°	164349	144637	164349
45°	125403	84412	124434
50°	82726	53905	82455
55°	55615	36185	55026
60°	37399	24701	37727
65°	25571	17443	25160
70°	17040	12526	17040
75°	11259	9283	11259
80°	7890	6890	7890
85°	5868	5868	5868

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	524.0	8.8
10°-20°	1428.8	23.9
20°-30°	1786.2	29.9
30°-40°	1201.6	20.1
40°-50°	634.5	10.6
50°-60°	257.9	4.3
60°-70°	95.6	1.6
70°-80°	30.9	0.5
80°-90°	6.7	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°	3738.9	62.7
0°-40°	4940.5	82.8
0°-60°	5832.8	97.8
0°-90°	5966.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5966.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5637	5637	5637	5637	5637	
5°	5564	5558	5560	5560	5562	524
15°	5130	5088	5038	5086	5136	1437
25°	3744	3953	4272	3960	3763	1685
35°	1740	1827	2114	1831	1746	1120
45°	919	873	619	869	912	705
55°	331	277	215	277	327	307
65°	112	91	76	91	110	115
75°	30	27	25	27	30	35
85°	5	5	5	5	5	7
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5636.7	5636.7	5636.7	5636.7	5636.7
2.5°	5622.5	5619.0	5617.2	5617.2	5619.0
5°	5563.9	5558.5	5560.3	5560.3	5562.1
7.5°	5469.7	5467.9	5462.5	5469.7	5469.7
10°	5359.4	5350.6	5338.1	5352.3	5359.4
12.5°	5245.7	5219.0	5197.7	5219.0	5245.7
15°	5130.1	5087.5	5037.7	5085.7	5135.5
17.5°	4979.0	4936.4	4881.3	4945.3	4993.3
20°	4732.0	4735.5	4714.2	4732.0	4740.8
22.5°	4335.5	4415.5	4527.5	4417.3	4323.1
25°	3743.6	3953.4	4271.6	3960.5	3763.2
27.5°	3109.0	3375.6	3896.5	3391.6	3128.6
30°	2550.8	2787.3	3372.1	2803.3	2554.4
32.5°	2065.6	2241.5	2741.0	2262.9	2088.7
35°	1740.3	1827.4	2113.6	1830.9	1745.6
37.5°	1491.4	1491.4	1569.6	1498.5	1484.3
40°	1304.8	1247.9	1148.3	1246.1	1304.8
42.5°	1130.5	1045.2	833.7	1041.7	1134.1
45°	919.0	872.8	618.6	869.2	911.9
47.5°	705.7	673.7	465.7	670.2	711.0
50°	551.1	501.3	359.1	497.7	549.3
52.5°	423.1	369.7	277.3	369.7	419.5
55°	330.6	277.3	215.1	277.3	327.1
57.5°	254.2	211.5	163.5	208.0	252.4
60°	193.8	158.2	128.0	158.2	195.5
62.5°	147.5	120.9	97.8	119.1	145.8
65°	112.0	90.7	76.4	90.7	110.2
67.5°	81.8	67.5	58.7	67.5	83.5
70°	60.4	51.6	44.4	49.8	60.4
72.5°	44.4	37.3	33.8	37.3	44.4
75°	30.2	26.7	24.9	26.7	30.2
77.5°	21.3	19.6	17.8	19.6	21.3
80°	14.2	12.4	12.4	14.2	14.2
82.5°	8.9	8.9	8.9	8.9	8.9
85°	5.3	5.3	5.3	5.3	5.3
87.5°	3.6	3.6	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)