

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 FEU4C509050 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 FEU4C509050 F4LC-SQ-WH
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

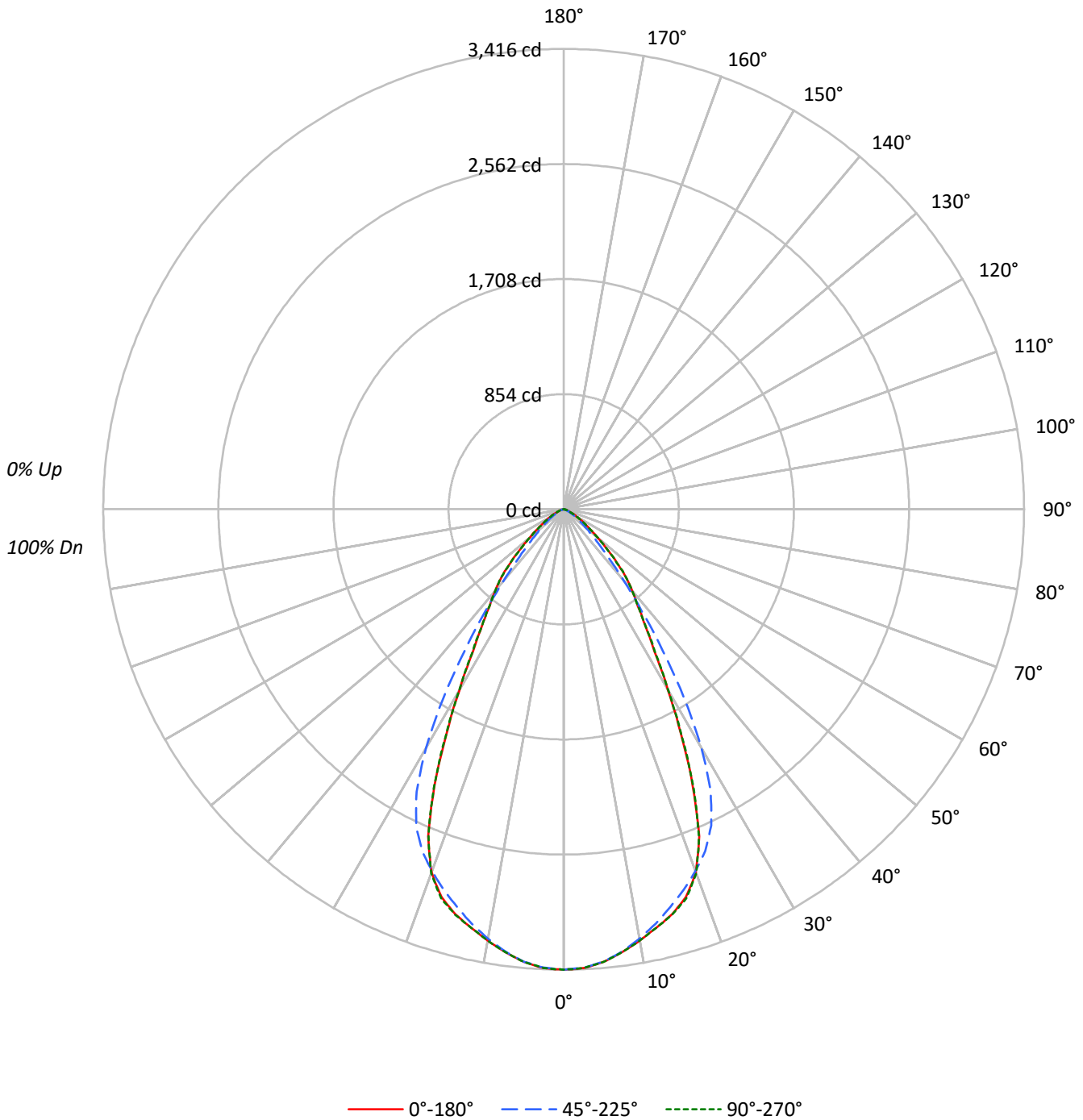
Lumens per Lamp: N/A
 Luminaire Lumens: 3616.0 lumens
 Efficiency: N/A
 Efficacy: 61.9 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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	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	
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°	329645	329645	329645
5°	326632	326419	326526
10°	318270	316996	318270
15°	310606	305012	310926
20°	294490	293391	295045
25°	241566	275635	242833
30°	172260	227712	172494
35°	124246	150891	124623
40°	99607	87666	99607
45°	76006	51157	75419
50°	50137	32664	49972
55°	33712	21936	33342
60°	22656	14975	22868
65°	15502	10571	15251
70°	10325	7589	10325
75°	6822	5629	6822
80°	4779	4167	4779
85°	3543	3543	3543

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.6	8.8
10°-20°	866.0	23.9
20°-30°	1082.6	29.9
30°-40°	728.3	20.1
40°-50°	384.5	10.6
50°-60°	156.3	4.3
60°-70°	58.0	1.6
70°-80°	18.7	0.5
80°-90°	4.0	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°	2266.2	62.7
0°-40°	2994.4	82.8
0°-60°	3535.3	97.8
0°-90°	3616.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3616.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3416	3416	3416	3416	3416	
5°	3372	3369	3370	3370	3371	318
15°	3109	3084	3053	3082	3113	871
25°	2269	2396	2589	2400	2281	1021
35°	1055	1108	1281	1110	1058	679
45°	557	529	375	527	553	427
55°	200	168	130	168	198	186
65°	68	55	46	55	67	70
75°	18	16	15	16	18	21
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°	3416.4	3416.4	3416.4	3416.4	3416.4
2.5°	3407.8	3405.7	3404.6	3404.6	3405.7
5°	3372.3	3369.0	3370.1	3370.1	3371.2
7.5°	3315.2	3314.1	3310.9	3315.2	3315.2
10°	3248.4	3243.0	3235.4	3244.1	3248.4
12.5°	3179.4	3163.3	3150.3	3163.3	3179.4
15°	3109.4	3083.5	3053.4	3082.4	3112.6
17.5°	3017.8	2991.9	2958.5	2997.3	3026.4
20°	2868.0	2870.2	2857.3	2868.0	2873.4
22.5°	2627.8	2676.3	2744.1	2677.3	2620.2
25°	2269.0	2396.1	2589.0	2400.5	2280.9
27.5°	1884.4	2046.0	2361.7	2055.7	1896.2
30°	1546.1	1689.4	2043.8	1699.1	1548.2
32.5°	1251.9	1358.6	1661.4	1371.5	1265.9
35°	1054.8	1107.6	1281.0	1109.7	1058.0
37.5°	903.9	903.9	951.3	908.2	899.6
40°	790.8	756.3	696.0	755.3	790.8
42.5°	685.2	633.5	505.3	631.4	687.4
45°	557.0	529.0	374.9	526.8	552.7
47.5°	427.7	408.3	282.3	406.2	431.0
50°	334.0	303.8	217.6	301.7	332.9
52.5°	256.4	224.1	168.1	224.1	254.3
55°	200.4	168.1	130.4	168.1	198.2
57.5°	154.1	128.2	99.1	126.1	153.0
60°	117.4	95.9	77.6	95.9	118.5
62.5°	89.4	73.3	59.3	72.2	88.3
65°	67.9	54.9	46.3	54.9	66.8
67.5°	49.6	40.9	35.6	40.9	50.6
70°	36.6	31.2	26.9	30.2	36.6
72.5°	26.9	22.6	20.5	22.6	26.9
75°	18.3	16.2	15.1	16.2	18.3
77.5°	12.9	11.9	10.8	11.9	12.9
80°	8.6	7.5	7.5	8.6	8.6
82.5°	5.4	5.4	5.4	5.4	5.4
85°	3.2	3.2	3.2	3.2	3.2
87.5°	2.2	2.2	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)