

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: **FLDSQ4C65D010 FEU4C659030 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: FLDSQ4C65D010 FEU4C659030 F4LC-SQ-WH
 Description: 4 INCH 6500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

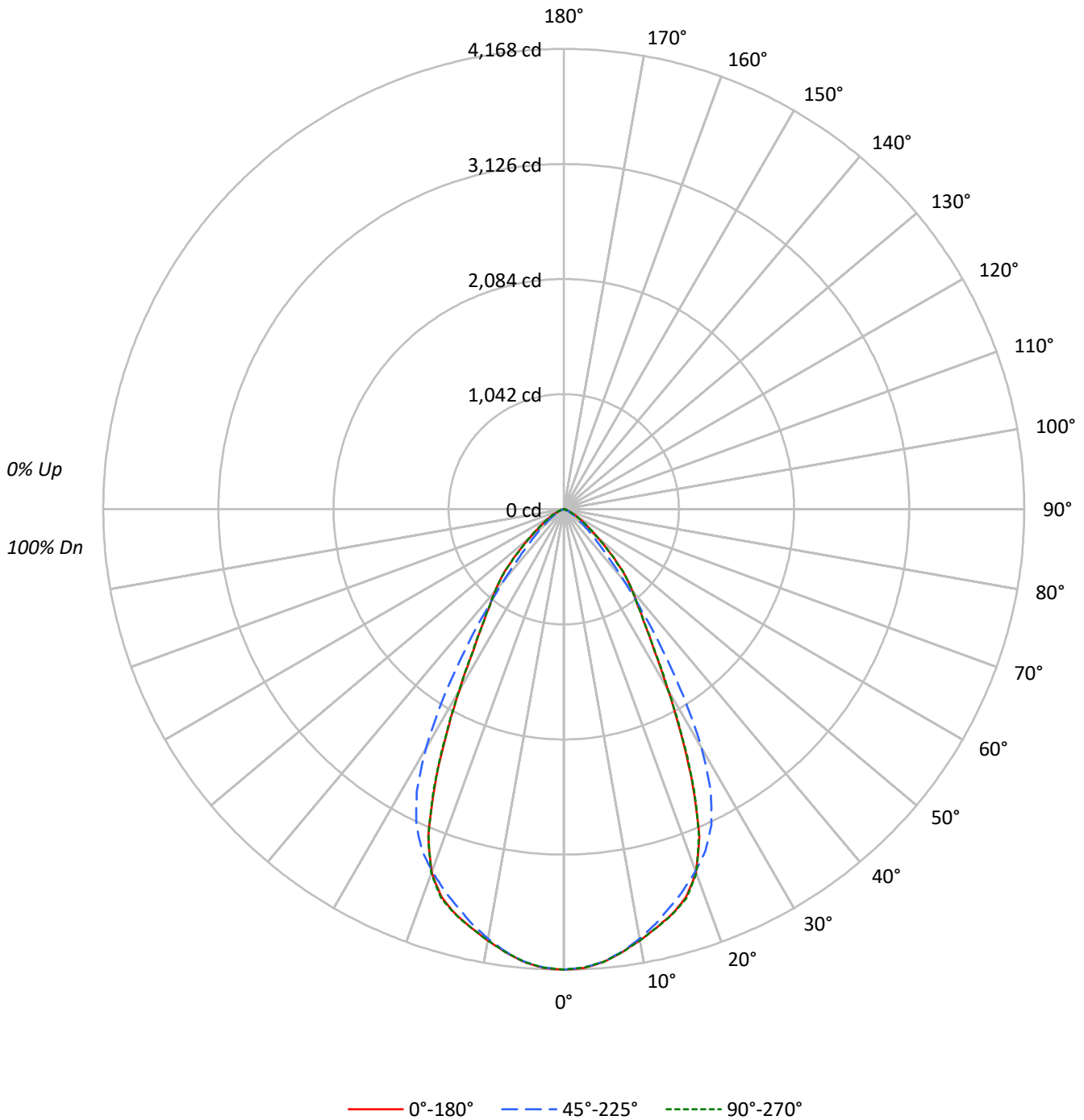
Lumens per Lamp: N/A
 Luminaire Lumens: 4411.0 lumens
 Efficiency: N/A
 Efficacy: 60.9 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 72.4
 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				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°	402127	402127	402127
5°	398443	398191	398317
10°	388235	386697	388235
15°	378893	372070	379282
20°	359241	357896	359919
25°	294681	336234	296214
30°	210130	277782	210420
35°	151562	184072	152021
40°	121511	106938	121511
45°	92722	62415	91999
50°	61155	39854	60960
55°	41131	26747	40676
60°	27654	18256	27905
65°	18904	12900	18607
70°	12611	9282	12611
75°	8314	6860	8314
80°	5834	5112	5834
85°	4318	4318	4318

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.4	8.8
10°-20°	1056.4	23.9
20°-30°	1320.6	29.9
30°-40°	888.4	20.1
40°-50°	469.1	10.6
50°-60°	190.7	4.3
60°-70°	70.7	1.6
70°-80°	22.8	0.5
80°-90°	4.9	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°	2764.4	62.7
0°-40°	3652.8	82.8
0°-60°	4312.6	97.8
0°-90°	4411.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4411.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4168	4168	4168	4168	4168	
5°	4114	4110	4111	4111	4112	388
15°	3793	3762	3725	3760	3797	1063
25°	2768	2923	3158	2928	2782	1246
35°	1287	1351	1563	1354	1291	828
45°	680	645	457	643	674	521
55°	244	205	159	205	242	227
65°	83	67	56	67	82	85
75°	22	20	18	20	22	26
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4167.6	4167.6	4167.6	4167.6	4167.6
2.5°	4157.1	4154.4	4153.1	4153.1	4154.4
5°	4113.7	4109.7	4111.1	4111.1	4112.4
7.5°	4044.0	4042.7	4038.8	4044.0	4044.0
10°	3962.5	3956.0	3946.8	3957.3	3962.5
12.5°	3878.4	3858.7	3842.9	3858.7	3878.4
15°	3793.0	3761.5	3724.7	3760.1	3796.9
17.5°	3681.3	3649.7	3609.0	3656.3	3691.8
20°	3498.6	3501.2	3485.5	3498.6	3505.2
22.5°	3205.5	3264.7	3347.5	3266.0	3196.3
25°	2767.9	2922.9	3158.2	2928.2	2782.3
27.5°	2298.7	2495.8	2880.9	2507.6	2313.1
30°	1886.0	2060.8	2493.2	2072.6	1888.6
32.5°	1527.2	1657.3	2026.6	1673.1	1544.3
35°	1286.7	1351.1	1562.7	1353.7	1290.6
37.5°	1102.7	1102.7	1160.5	1107.9	1097.4
40°	964.7	922.6	849.0	921.3	964.7
42.5°	835.9	772.8	616.4	770.2	838.5
45°	679.5	645.3	457.4	642.7	674.2
47.5°	521.8	498.1	344.3	495.5	525.7
50°	407.4	370.6	265.5	368.0	406.1
52.5°	312.8	273.4	205.0	273.4	310.2
55°	244.5	205.0	159.0	205.0	241.8
57.5°	187.9	156.4	120.9	153.8	186.6
60°	143.3	117.0	94.6	117.0	144.6
62.5°	109.1	89.4	72.3	88.1	107.8
65°	82.8	67.0	56.5	67.0	81.5
67.5°	60.5	49.9	43.4	49.9	61.8
70°	44.7	38.1	32.9	36.8	44.7
72.5°	32.9	27.6	25.0	27.6	32.9
75°	22.3	19.7	18.4	19.7	22.3
77.5°	15.8	14.5	13.1	14.5	15.8
80°	10.5	9.2	9.2	10.5	10.5
82.5°	6.6	6.6	6.6	6.6	6.6
85°	3.9	3.9	3.9	3.9	3.9
87.5°	2.6	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)