

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: **FLDSQ4C35D010 FEU4C359030 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: FLDSQ4C35D010 FEU4C359030 F4LC-SQ-WH
Description: 4 INCH 3500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND F4LC-SQW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Summary

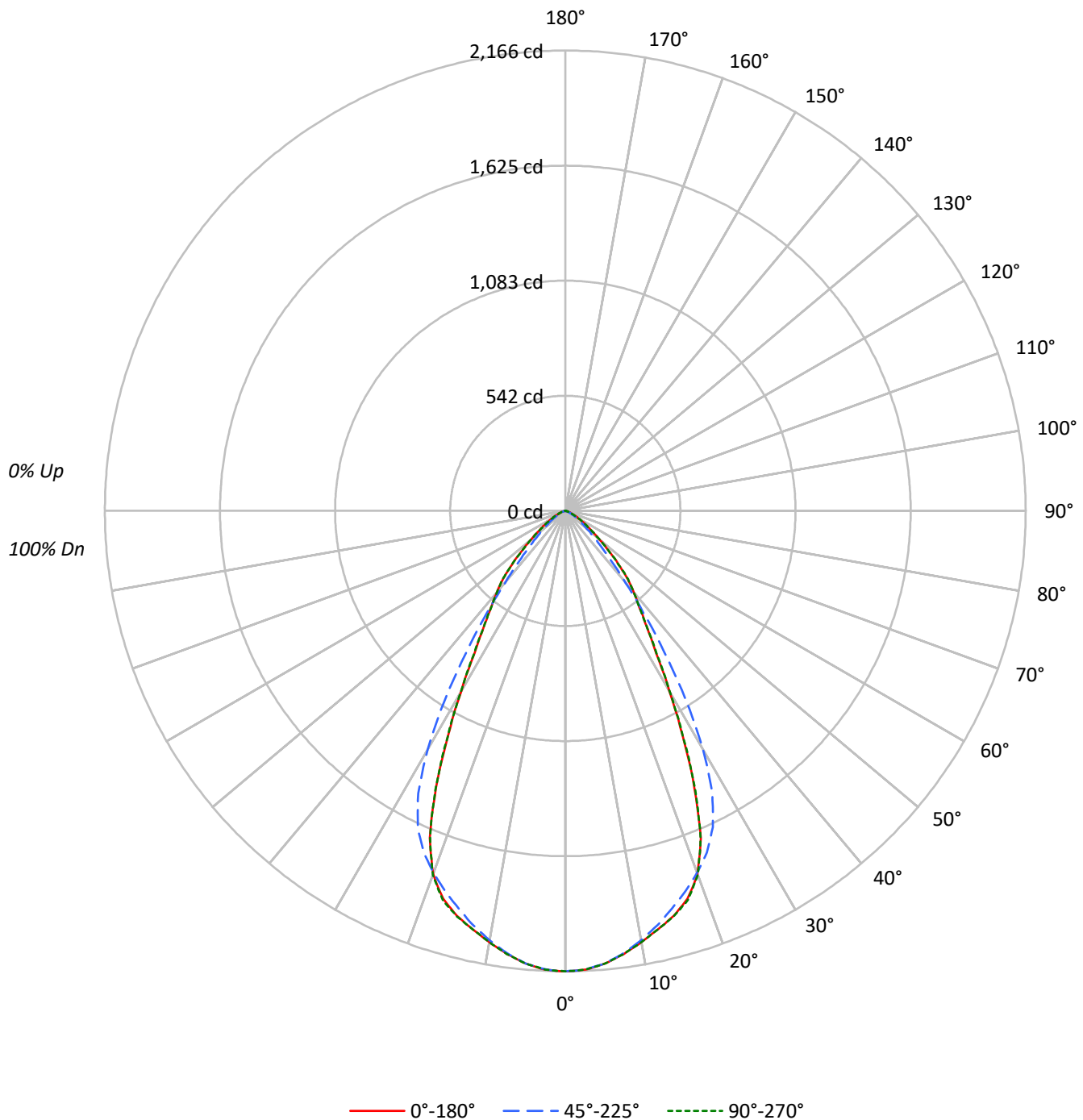
Lumens per Lamp: N/A
Luminaire Lumens: 2293.0 lumens
Efficiency: N/A
Efficacy: 56.8 lumens/watt
Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 40.4
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
RW	70	50	30	10	70	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		100
1	113	110	107	105	110	108	105	103	104	102	100		100	98	97		92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		84
3	101	93	88	84	98	92	87	83	89	85	82		87	83	80		77
4	95	87	80	76	93	85	80	75	83	78	74		81	77	74		71
5	89	80	74	69	88	79	73	69	78	72	68		76	71	68		66
6	85	75	68	64	83	74	68	63	72	67	63		71	66	63		61
7	80	70	63	59	79	69	63	59	68	62	58		67	62	58		56
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		52
9	72	61	55	51	71	61	55	51	60	54	51		59	54	50		49
10	68	58	52	48	67	57	51	47	57	51	47		56	51	47		46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	209043	209043	209043
5°	207120	206994	207062
10°	201824	201020	201824
15°	196958	193412	197168
20°	186747	186048	187096
25°	153180	174781	153989
30°	109232	144395	109388
35°	78791	95682	79026
40°	63168	55598	63168
45°	48196	32449	47828
50°	31793	20715	31688
55°	21381	13912	21146
60°	14377	9495	14512
65°	9817	6712	9680
70°	6545	4824	6545
75°	4325	3579	4325
80°	3056	2667	3056
85°	2214	2214	2214

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.4	8.8
10°-20°	549.1	23.9
20°-30°	686.5	29.9
30°-40°	461.8	20.1
40°-50°	243.9	10.6
50°-60°	99.1	4.3
60°-70°	36.8	1.6
70°-80°	11.9	0.5
80°-90°	2.6	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°	1437.0	62.7
0°-40°	1898.9	82.8
0°-60°	2241.8	97.8
0°-90°	2293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2293.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2166	2166	2166	2166	2166	
5°	2138	2136	2137	2137	2138	202
15°	1972	1955	1936	1955	1974	552
25°	1439	1520	1642	1522	1446	648
35°	669	702	812	704	671	430
45°	353	336	238	334	350	271
55°	127	107	83	107	126	118
65°	43	35	29	35	42	44
75°	12	10	10	10	12	13
85°	2	2	2	2	2	3
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2166.5	2166.5	2166.5	2166.5	2166.5
2.5°	2161.0	2159.6	2158.9	2158.9	2159.6
5°	2138.4	2136.4	2137.1	2137.1	2137.8
7.5°	2102.2	2101.5	2099.5	2102.2	2102.2
10°	2059.9	2056.5	2051.7	2057.1	2059.9
12.5°	2016.1	2005.9	1997.7	2005.9	2016.1
15°	1971.7	1955.3	1936.2	1954.7	1973.8
17.5°	1913.7	1897.3	1876.1	1900.7	1919.1
20°	1818.7	1820.1	1811.9	1818.7	1822.1
22.5°	1666.3	1697.1	1740.1	1697.8	1661.6
25°	1438.8	1519.5	1641.7	1522.2	1446.4
27.5°	1194.9	1297.4	1497.6	1303.6	1202.4
30°	980.4	1071.3	1296.0	1077.4	981.8
32.5°	793.9	861.5	1053.5	869.7	802.8
35°	668.9	702.3	812.3	703.7	670.9
37.5°	573.2	573.2	603.3	575.9	570.5
40°	501.5	479.6	441.4	478.9	501.5
42.5°	434.5	401.7	320.4	400.4	435.9
45°	353.2	335.5	237.8	334.1	350.5
47.5°	271.2	258.9	179.0	257.6	273.3
50°	211.8	192.7	138.0	191.3	211.1
52.5°	162.6	142.1	106.6	142.1	161.2
55°	127.1	106.6	82.7	106.6	125.7
57.5°	97.7	81.3	62.9	79.9	97.0
60°	74.5	60.8	49.2	60.8	75.2
62.5°	56.7	46.5	37.6	45.8	56.0
65°	43.0	34.8	29.4	34.8	42.4
67.5°	31.4	26.0	22.5	26.0	32.1
70°	23.2	19.8	17.1	19.1	23.2
72.5°	17.1	14.3	13.0	14.3	17.1
75°	11.6	10.2	9.6	10.2	11.6
77.5°	8.2	7.5	6.8	7.5	8.2
80°	5.5	4.8	4.8	5.5	5.5
82.5°	3.4	3.4	3.4	3.4	3.4
85°	2.0	2.0	2.0	2.0	2.0
87.5°	1.4	1.4	1.4	1.4	1.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)