

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: **FLDSQ4C20D010 FEU4C209035 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: FLDSQ4C20D010 FEU4C209035 F4LC-SQ-WH
 Description: 4 INCH 2000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

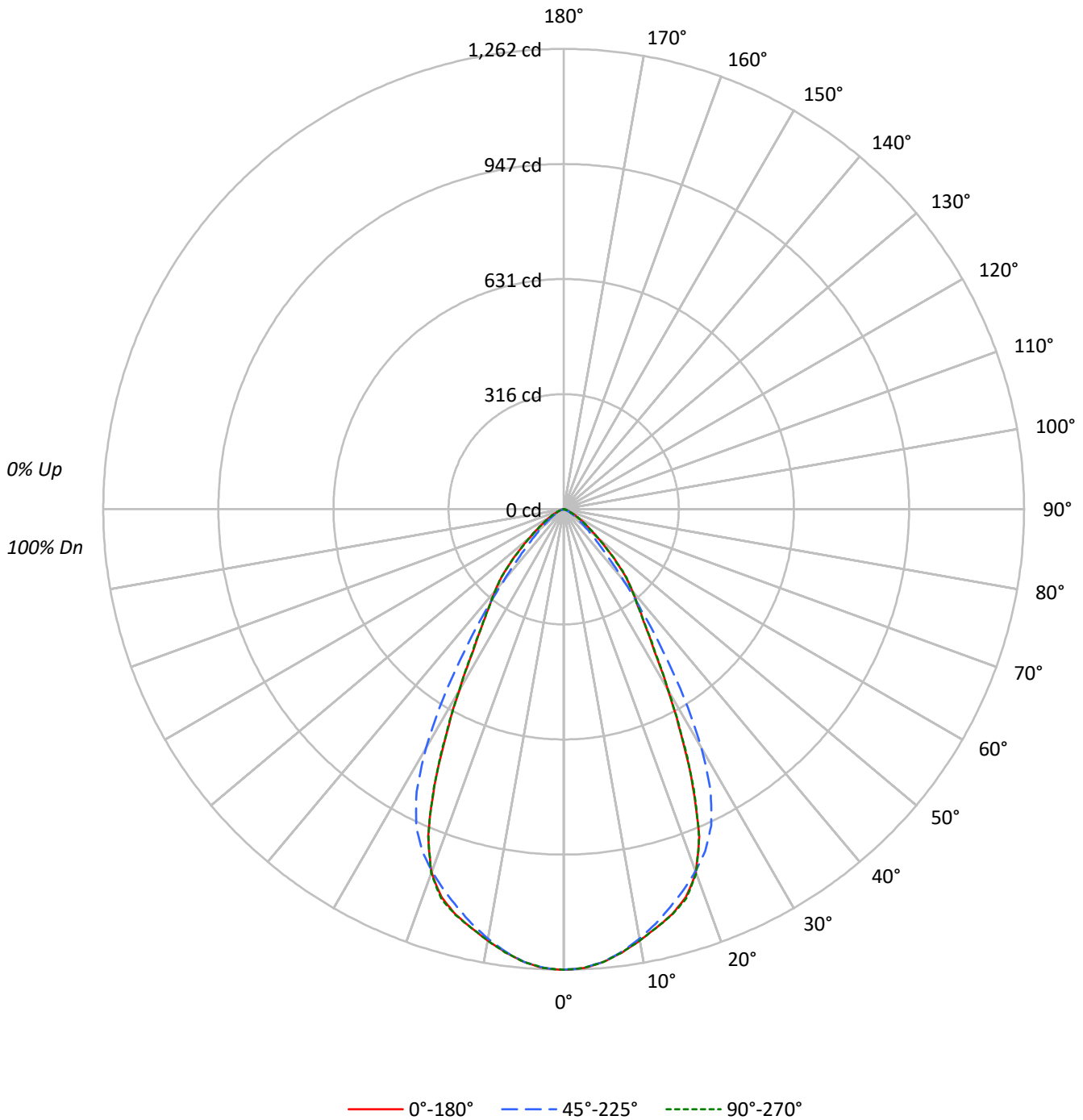
Lumens per Lamp: N/A
 Luminaire Lumens: 1336.0 lumens
 Efficiency: N/A
 Efficacy: 61.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 21.8
 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	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°	121798	121798	121798
5°	120675	120607	120636
10°	117592	117122	117592
15°	114757	112689	114877
20°	108811	108401	109007
25°	89249	101843	89717
30°	63641	84130	63730
35°	45903	55751	46045
40°	36805	32396	36805
45°	28083	18899	27864
50°	18524	12069	18464
55°	12449	8108	12314
60°	8375	5538	8452
65°	5731	3904	5639
70°	3809	2821	3809
75°	2535	2088	2535
80°	1778	1556	1778
85°	1329	1329	1329

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.3	8.8
10°-20°	320.0	23.9
20°-30°	400.0	29.9
30°-40°	269.1	20.1
40°-50°	142.1	10.6
50°-60°	57.7	4.3
60°-70°	21.4	1.6
70°-80°	6.9	0.5
80°-90°	1.5	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°	837.3	62.7
0°-40°	1106.4	82.8
0°-60°	1306.2	97.8
0°-90°	1336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1246	1245	1245	1245	1246	117
15°	1149	1139	1128	1139	1150	322
25°	838	885	957	887	843	377
35°	390	409	473	410	391	251
45°	206	196	138	195	204	158
55°	74	62	48	62	73	69
65°	25	20	17	20	25	26
75°	7	6	6	6	7	8
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°	1262.3	1262.3	1262.3	1262.3	1262.3
2.5°	1259.1	1258.3	1257.9	1257.9	1258.3
5°	1245.9	1244.8	1245.2	1245.2	1245.5
7.5°	1224.9	1224.5	1223.3	1224.9	1224.9
10°	1200.2	1198.2	1195.4	1198.6	1200.2
12.5°	1174.7	1168.7	1163.9	1168.7	1174.7
15°	1148.8	1139.3	1128.1	1138.9	1150.0
17.5°	1115.0	1105.4	1093.1	1107.4	1118.2
20°	1059.7	1060.4	1055.7	1059.7	1061.6
22.5°	970.9	988.8	1013.9	989.2	968.1
25°	838.3	885.3	956.6	886.9	842.7
27.5°	696.2	755.9	872.6	759.5	700.6
30°	571.2	624.2	755.1	627.8	572.0
32.5°	462.6	502.0	613.8	506.7	467.7
35°	389.7	409.2	473.3	410.0	390.9
37.5°	334.0	334.0	351.5	335.6	332.4
40°	292.2	279.4	257.2	279.0	292.2
42.5°	253.2	234.1	186.7	233.3	254.0
45°	205.8	195.5	138.5	194.7	204.2
47.5°	158.0	150.9	104.3	150.1	159.2
50°	123.4	112.3	80.4	111.5	123.0
52.5°	94.7	82.8	62.1	82.8	93.9
55°	74.0	62.1	48.2	62.1	73.2
57.5°	56.9	47.4	36.6	46.6	56.5
60°	43.4	35.4	28.7	35.4	43.8
62.5°	33.0	27.1	21.9	26.7	32.6
65°	25.1	20.3	17.1	20.3	24.7
67.5°	18.3	15.1	13.1	15.1	18.7
70°	13.5	11.5	10.0	11.1	13.5
72.5°	10.0	8.4	7.6	8.4	10.0
75°	6.8	6.0	5.6	6.0	6.8
77.5°	4.8	4.4	4.0	4.4	4.8
80°	3.2	2.8	2.8	3.2	3.2
82.5°	2.0	2.0	2.0	2.0	2.0
85°	1.2	1.2	1.2	1.2	1.2
87.5°	0.8	0.8	0.8	0.8	0.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)