

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: **FLDSQ4C25D010 FEU4C259050 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: FLDSQ4C25D010 FEU4C259050 F4LC-SQ-WH
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

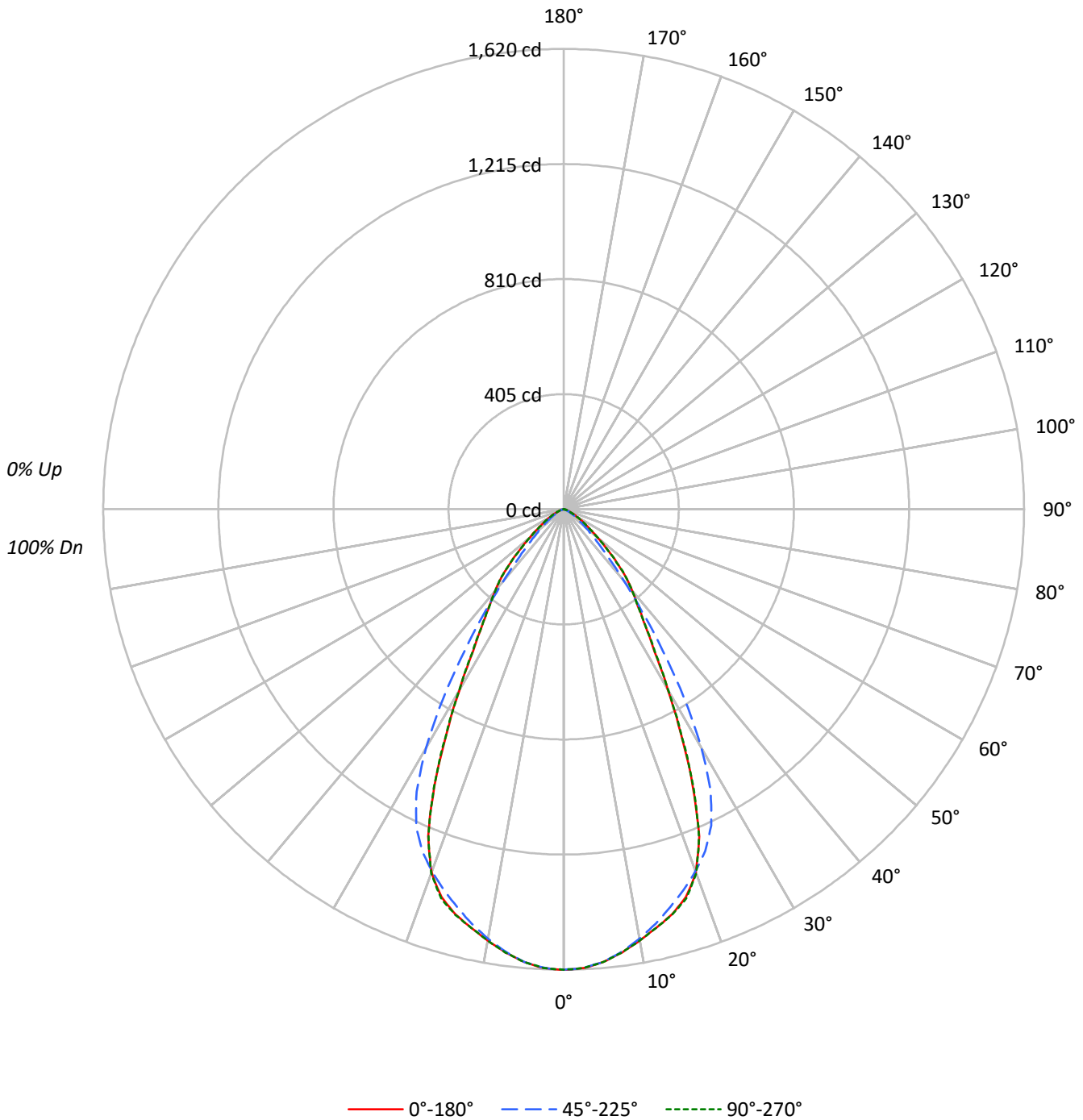
Lumens per Lamp: N/A
 Luminaire Lumens: 1715.0 lumens
 Efficiency: N/A
 Efficacy: 54.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.5
 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	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°	156351	156351	156351
5°	154914	154817	154865
10°	150944	150346	150944
15°	147312	144655	147472
20°	139677	139143	139934
25°	114566	130727	115172
30°	81701	107995	81813
35°	58931	71570	59108
40°	47247	41579	47247
45°	36052	24262	35765
50°	23777	15491	23702
55°	15981	10396	15813
60°	10749	7102	10845
65°	7352	5023	7237
70°	4909	3611	4909
75°	3243	2684	3243
80°	2278	2000	2278
85°	1661	1661	1661

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	8.8
10°-20°	410.7	23.9
20°-30°	513.5	29.9
30°-40°	345.4	20.1
40°-50°	182.4	10.6
50°-60°	74.1	4.3
60°-70°	27.5	1.6
70°-80°	8.9	0.5
80°-90°	1.9	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°	1074.8	62.7
0°-40°	1420.2	82.8
0°-60°	1676.7	97.8
0°-90°	1715.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1715.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1620	1620	1620	1620	1620	
5°	1599	1598	1598	1598	1599	151
15°	1475	1462	1448	1462	1476	413
25°	1076	1136	1228	1138	1082	484
35°	500	525	608	526	502	322
45°	264	251	178	250	262	203
55°	95	80	62	80	94	88
65°	32	26	22	26	32	33
75°	9	8	7	8	9	10
85°	2	2	2	2	2	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1620.4	1620.4	1620.4	1620.4	1620.4
2.5°	1616.3	1615.2	1614.7	1614.7	1615.2
5°	1599.4	1597.9	1598.4	1598.4	1598.9
7.5°	1572.3	1571.8	1570.3	1572.3	1572.3
10°	1540.6	1538.1	1534.5	1538.6	1540.6
12.5°	1507.9	1500.3	1494.1	1500.3	1507.9
15°	1474.7	1462.5	1448.1	1461.9	1476.3
17.5°	1431.3	1419.0	1403.2	1421.6	1435.4
20°	1360.3	1361.3	1355.1	1360.3	1362.8
22.5°	1246.3	1269.3	1301.5	1269.8	1242.7
25°	1076.1	1136.4	1227.9	1138.5	1081.8
27.5°	893.7	970.4	1120.1	975.0	899.3
30°	733.3	801.2	969.3	805.8	734.3
32.5°	593.8	644.4	787.9	650.5	600.4
35°	500.3	525.3	607.6	526.3	501.8
37.5°	428.7	428.7	451.2	430.8	426.7
40°	375.1	358.7	330.1	358.2	375.1
42.5°	325.0	300.5	239.7	299.4	326.0
45°	264.2	250.9	177.8	249.9	262.1
47.5°	202.9	193.7	133.9	192.6	204.4
50°	158.4	144.1	103.2	143.1	157.9
52.5°	121.6	106.3	79.7	106.3	120.6
55°	95.0	79.7	61.8	79.7	94.0
57.5°	73.1	60.8	47.0	59.8	72.6
60°	55.7	45.5	36.8	45.5	56.2
62.5°	42.4	34.7	28.1	34.2	41.9
65°	32.2	26.1	22.0	26.1	31.7
67.5°	23.5	19.4	16.9	19.4	24.0
70°	17.4	14.8	12.8	14.3	17.4
72.5°	12.8	10.7	9.7	10.7	12.8
75°	8.7	7.7	7.2	7.7	8.7
77.5°	6.1	5.6	5.1	5.6	6.1
80°	4.1	3.6	3.6	4.1	4.1
82.5°	2.6	2.6	2.6	2.6	2.6
85°	1.5	1.5	1.5	1.5	1.5
87.5°	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)