

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 FEU4C359027 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 FEU4C359027 F4LC-SQ-WH
Description: 4 INCH 3500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
AND F4LC-SQW TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Summary

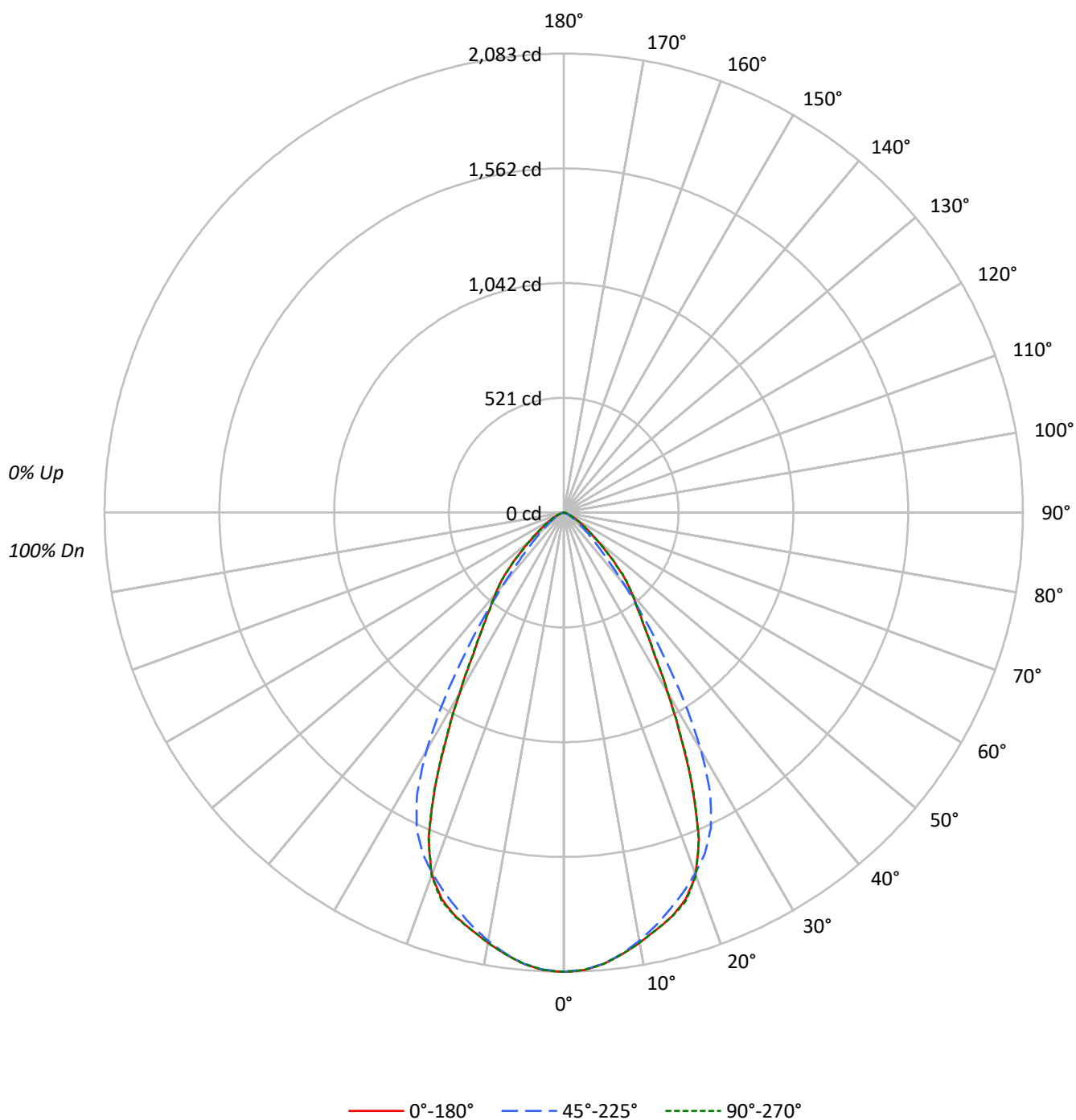
Lumens per Lamp: N/A
Luminaire Lumens: 2205.0 lumens
Efficiency: N/A
Efficacy: 54.6 lumens/watt
Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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	50	30	10	50	30	10
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°	201015	201015	201015
5°	199178	199052	199110
10°	194074	193300	194074
15°	189406	185990	189596
20°	179579	178902	179918
25°	147303	168074	148070
30°	105043	138857	105188
35°	75763	92018	75999
40°	60737	53456	60737
45°	46354	31194	45986
50°	30577	19920	30472
55°	20557	13374	20338
60°	13817	9128	13952
65°	9452	6461	9292
70°	6291	4627	6291
75°	4175	3430	4175
80°	2945	2556	2945
85°	2214	2214	2214

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	8.8
10°-20°	528.1	23.9
20°-30°	660.2	29.9
30°-40°	444.1	20.1
40°-50°	234.5	10.6
50°-60°	95.3	4.3
60°-70°	35.3	1.6
70°-80°	11.4	0.5
80°-90°	2.5	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°	1381.9	62.7
0°-40°	1826.0	82.8
0°-60°	2155.8	97.8
0°-90°	2205.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2205.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2083	2083	2083	2083	2083	
5°	2056	2054	2055	2055	2056	194
15°	1896	1880	1862	1880	1898	531
25°	1384	1461	1579	1464	1391	623
35°	643	675	781	677	645	414
45°	340	323	229	321	337	260
55°	122	102	80	102	121	113
65°	41	34	28	34	41	43
75°	11	10	9	10	11	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°	2083.3	2083.3	2083.3	2083.3	2083.3
2.5°	2078.1	2076.7	2076.1	2076.1	2076.7
5°	2056.4	2054.4	2055.1	2055.1	2055.7
7.5°	2021.6	2020.9	2018.9	2021.6	2021.6
10°	1980.8	1977.5	1972.9	1978.2	1980.8
12.5°	1938.8	1928.9	1921.0	1928.9	1938.8
15°	1896.1	1880.3	1861.9	1879.6	1898.0
17.5°	1840.2	1824.5	1804.1	1827.7	1845.5
20°	1748.9	1750.2	1742.3	1748.9	1752.2
22.5°	1602.4	1632.0	1673.3	1632.6	1597.8
25°	1383.6	1461.1	1578.7	1463.8	1390.8
27.5°	1149.1	1247.6	1440.1	1253.5	1156.3
30°	942.8	1030.2	1246.3	1036.1	944.1
32.5°	763.4	828.5	1013.1	836.3	772.0
35°	643.2	675.4	781.2	676.7	645.2
37.5°	551.2	551.2	580.1	553.8	548.6
40°	482.2	461.2	424.4	460.5	482.2
42.5°	417.8	386.3	308.1	385.0	419.2
45°	339.7	322.6	228.6	321.3	337.0
47.5°	260.8	249.0	172.1	247.7	262.8
50°	203.7	185.3	132.7	184.0	203.0
52.5°	156.4	136.7	102.5	136.7	155.0
55°	122.2	102.5	79.5	102.5	120.9
57.5°	93.9	78.2	60.4	76.9	93.3
60°	71.6	58.5	47.3	58.5	72.3
62.5°	54.5	44.7	36.1	44.0	53.9
65°	41.4	33.5	28.3	33.5	40.7
67.5°	30.2	25.0	21.7	25.0	30.9
70°	22.3	19.1	16.4	18.4	22.3
72.5°	16.4	13.8	12.5	13.8	16.4
75°	11.2	9.9	9.2	9.9	11.2
77.5°	7.9	7.2	6.6	7.2	7.9
80°	5.3	4.6	4.6	5.3	5.3
82.5°	3.3	3.3	3.3	3.3	3.3
85°	2.0	2.0	2.0	2.0	2.0
87.5°	1.3	1.3	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)