

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 FEU4C659035 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 FEU4C659035 F4LC-SQ-WH
 Description: 4 INCH 6500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

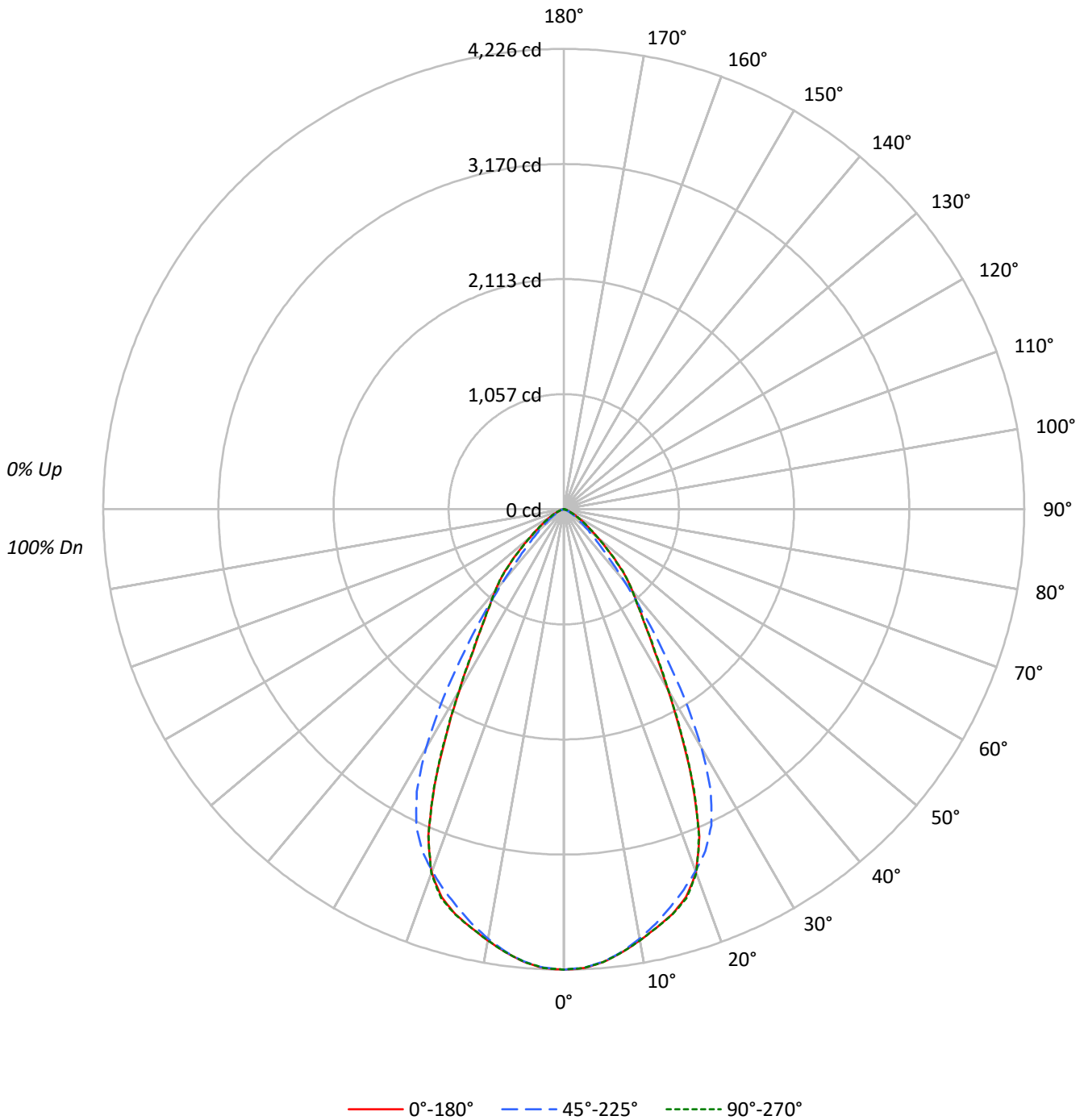
Lumens per Lamp: N/A
 Luminaire Lumens: 4473.0 lumens
 Efficiency: N/A
 Efficacy: 61.8 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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	100	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77	
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71	71	71	71	
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66	66	66	66	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56	56	56	56	
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52	52	52	52	
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49	49	49	49	
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46	46	46	46	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	407772	407772	407772
5°	404041	403779	403915
10°	393693	392125	393693
15°	384217	377295	384617
20°	364293	362917	364971
25°	298822	340961	300377
30°	213083	281681	213383
35°	153694	186652	154165
40°	123211	108449	123211
45°	94018	63288	93295
50°	62025	40410	61815
55°	41703	27134	41248
60°	28040	18526	28291
65°	19178	13082	18859
70°	12780	9394	12780
75°	8463	6971	8463
80°	5946	5168	5946
85°	4428	4428	4428

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	392.9	8.8
10°-20°	1071.2	23.9
20°-30°	1339.2	29.9
30°-40°	900.9	20.1
40°-50°	475.7	10.6
50°-60°	193.3	4.3
60°-70°	71.7	1.6
70°-80°	23.2	0.5
80°-90°	5.0	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°	2803.2	62.7
0°-40°	3704.1	82.8
0°-60°	4373.2	97.8
0°-90°	4473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4473.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4226	4226	4226	4226	4226	
5°	4172	4168	4169	4169	4170	393
15°	3846	3814	3777	3813	3850	1078
25°	2807	2964	3203	2969	2821	1263
35°	1305	1370	1585	1373	1309	840
45°	689	654	464	652	684	528
55°	248	208	161	208	245	230
65°	84	68	57	68	83	87
75°	23	20	19	20	23	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°	4226.1	4226.1	4226.1	4226.1	4226.1
2.5°	4215.5	4212.8	4211.5	4211.5	4212.8
5°	4171.5	4167.5	4168.8	4168.8	4170.2
7.5°	4100.9	4099.5	4095.5	4100.9	4100.9
10°	4018.2	4011.6	4002.2	4012.9	4018.2
12.5°	3932.9	3912.9	3897.0	3912.9	3932.9
15°	3846.3	3814.3	3777.0	3813.0	3850.3
17.5°	3733.0	3701.0	3659.7	3707.7	3743.7
20°	3547.8	3550.4	3534.4	3547.8	3554.4
22.5°	3250.6	3310.5	3394.5	3311.9	3241.2
25°	2806.8	2964.0	3202.6	2969.4	2821.4
27.5°	2331.0	2530.9	2921.4	2542.9	2345.6
30°	1912.5	2089.7	2528.2	2101.7	1915.2
32.5°	1548.7	1680.6	2055.1	1696.6	1566.0
35°	1304.8	1370.1	1584.6	1372.7	1308.8
37.5°	1118.2	1118.2	1176.8	1123.5	1112.8
40°	978.2	935.6	861.0	934.3	978.2
42.5°	847.6	783.7	625.1	781.0	850.3
45°	689.0	654.4	463.8	651.7	683.7
47.5°	529.1	505.1	349.2	502.4	533.1
50°	413.2	375.8	269.2	373.2	411.8
52.5°	317.2	277.2	207.9	277.2	314.5
55°	247.9	207.9	161.3	207.9	245.2
57.5°	190.6	158.6	122.6	155.9	189.3
60°	145.3	118.6	96.0	118.6	146.6
62.5°	110.6	90.6	73.3	89.3	109.3
65°	84.0	68.0	57.3	68.0	82.6
67.5°	61.3	50.6	44.0	50.6	62.6
70°	45.3	38.6	33.3	37.3	45.3
72.5°	33.3	28.0	25.3	28.0	33.3
75°	22.7	20.0	18.7	20.0	22.7
77.5°	16.0	14.7	13.3	14.7	16.0
80°	10.7	9.3	9.3	10.7	10.7
82.5°	6.7	6.7	6.7	6.7	6.7
85°	4.0	4.0	4.0	4.0	4.0
87.5°	2.7	2.7	2.7	2.7	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)