

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: **FLDSQ4C40D010 FEU4C409035 F4LC-SQ-WLI**

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: FLDSQ4C40D010 FEU4C409035 F4LC-SQ-WLI
 Description: 4 INCH 4000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

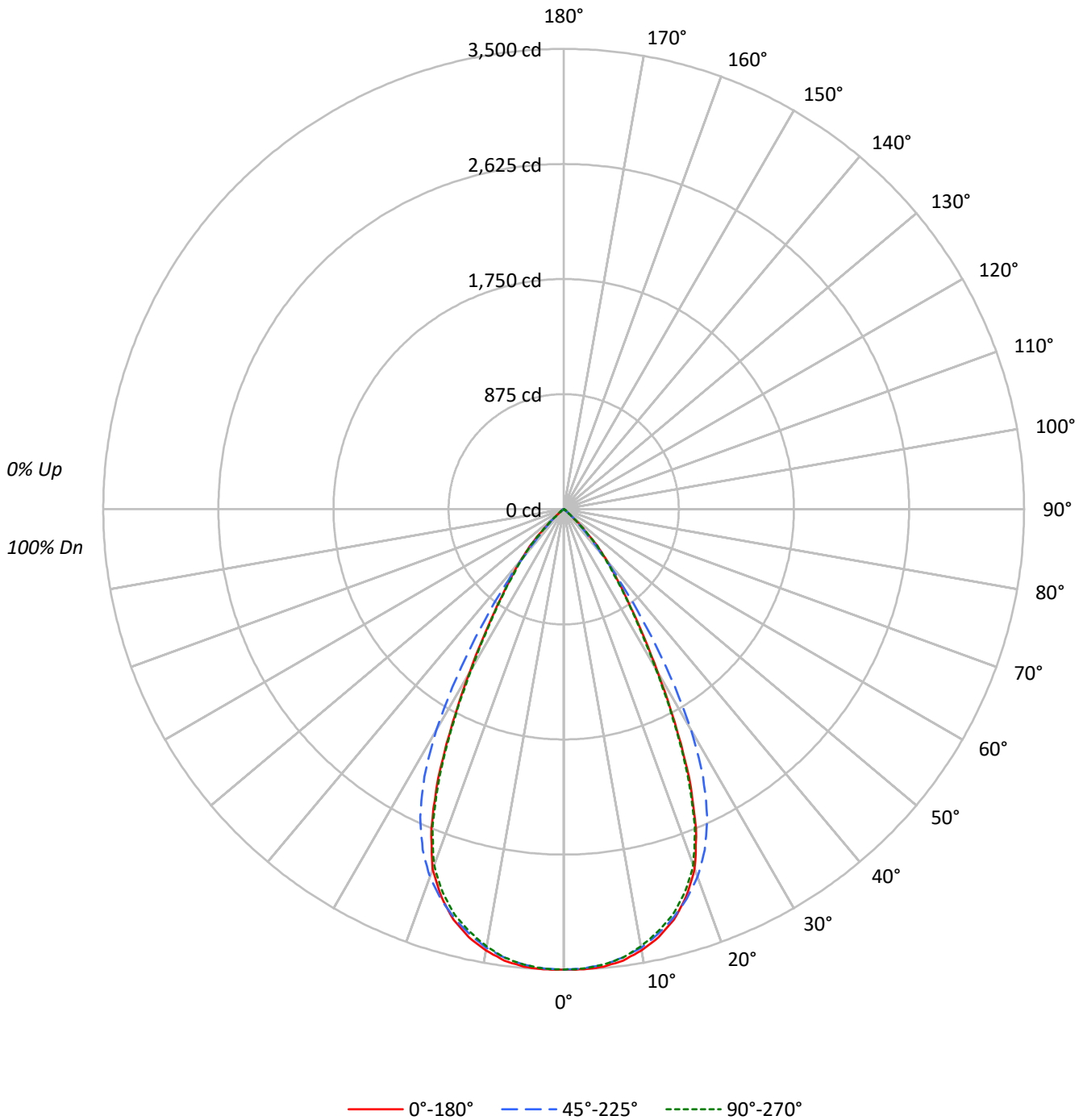
Lumens per Lamp: N/A
 Luminaire Lumens: 3133.0 lumens
 Efficiency: N/A
 Efficacy: 66.7 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 47
 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	114	111	108	106	111	109	106	104	105	103	101		101	100	98		97	96	95	94
2	108	103	99	96	106	102	98	95	98	95	93		95	93	91		93	91	89	87
3	103	96	91	88	101	95	90	87	92	89	85		90	87	84		88	85	83	81
4	98	90	85	80	96	89	84	80	87	82	79		85	81	78		83	80	77	76
5	93	84	79	74	91	84	78	74	82	77	73		80	76	73		79	75	72	71
6	88	79	73	69	87	79	73	69	77	72	68		76	71	68		74	71	68	66
7	84	75	69	65	82	74	68	64	73	68	64		71	67	64		70	66	63	62
8	80	70	64	60	79	70	64	60	69	64	60		68	63	60		67	63	59	58
9	76	66	61	57	75	66	60	57	65	60	56		64	60	56		63	59	56	55
10	72	63	57	53	71	62	57	53	62	57	53		61	56	53		60	56	53	52

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	337673	337673	337673
5°	338033	336473	336473
10°	333593	331624	330595
15°	322763	321235	319067
20°	298916	305436	295620
25°	240342	274751	237180
30°	158634	215422	154868
35°	99145	129358	97354
40°	64704	59943	62173
45°	31153	23921	29406
50°	7851	9532	7355
55°	4323	3920	4189
60°	2953	2489	2798
65°	2009	1826	2009
70°	1580	1354	1580
75°	1193	1193	1193
80°	889	1334	1334
85°	886	1771	1771

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.1	10.5
10°-20°	898.8	28.7
20°-30°	1071.1	34.2
30°-40°	606.5	19.4
40°-50°	187.5	6.0
50°-60°	26.1	0.8
60°-70°	8.9	0.3
70°-80°	3.5	0.1
80°-90°	1.5	0.0
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°	2299.0	73.4
0°-40°	2905.5	92.7
0°-60°	3119.1	99.6
0°-90°	3133.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3133.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3500	3500	3500	3500	3500	
5°	3490	3482	3474	3472	3474	330
15°	3231	3226	3216	3203	3194	901
25°	2258	2389	2581	2393	2228	1007
35°	842	918	1098	920	826	548
45°	228	266	175	259	216	189
55°	26	26	23	25	25	25
65°	9	9	8	9	9	9
75°	3	3	3	3	3	3
85°	1	2	2	2	2	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3499.6	3499.6	3499.6	3499.6	3499.6
2.5°	3500.4	3494.8	3493.2	3491.6	3494.8
5°	3490.0	3481.9	3473.9	3471.5	3473.9
7.5°	3460.2	3452.2	3438.5	3435.3	3437.7
10°	3404.8	3397.5	3384.7	3377.4	3374.2
12.5°	3331.6	3319.5	3307.5	3299.4	3291.4
15°	3231.1	3225.5	3215.8	3203.0	3194.1
17.5°	3092.0	3100.1	3105.7	3080.0	3056.6
20°	2911.1	2940.9	2974.6	2922.4	2879.0
22.5°	2628.9	2714.2	2800.2	2701.3	2604.8
25°	2257.5	2389.4	2580.7	2393.4	2227.8
27.5°	1824.2	1991.4	2292.9	1992.2	1800.1
30°	1423.8	1595.9	1933.5	1573.3	1390.0
32.5°	1093.4	1222.0	1510.6	1202.7	1070.1
35°	841.7	918.1	1098.2	920.5	826.5
37.5°	654.4	693.0	738.8	679.3	635.1
40°	513.7	515.3	475.9	507.3	493.6
42.5°	381.1	379.5	292.6	369.8	372.2
45°	228.3	266.1	175.3	258.9	215.5
47.5°	108.5	150.3	105.3	142.3	100.5
50°	52.3	72.4	63.5	67.5	49.0
52.5°	35.4	37.0	36.2	35.4	33.8
55°	25.7	25.7	23.3	24.9	24.9
57.5°	19.3	19.3	16.9	18.5	18.5
60°	15.3	14.5	12.9	14.5	14.5
62.5°	11.3	11.3	9.6	11.3	11.3
65°	8.8	8.8	8.0	8.8	8.8
67.5°	7.2	7.2	5.6	7.2	6.4
70°	5.6	5.6	4.8	5.6	5.6
72.5°	4.0	4.0	4.0	4.0	4.0
75°	3.2	3.2	3.2	3.2	3.2
77.5°	2.4	2.4	2.4	2.4	2.4
80°	1.6	1.6	2.4	2.4	2.4
82.5°	1.6	1.6	1.6	1.6	1.6
85°	0.8	1.6	1.6	1.6	1.6
87.5°	0.8	0.8	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)