

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: **FLDSQ4C45D010 FEU4C459030 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: FLDSQ4C45D010 FEU4C459030 F4LC-SQ-WLI
 Description: 4 INCH 4500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

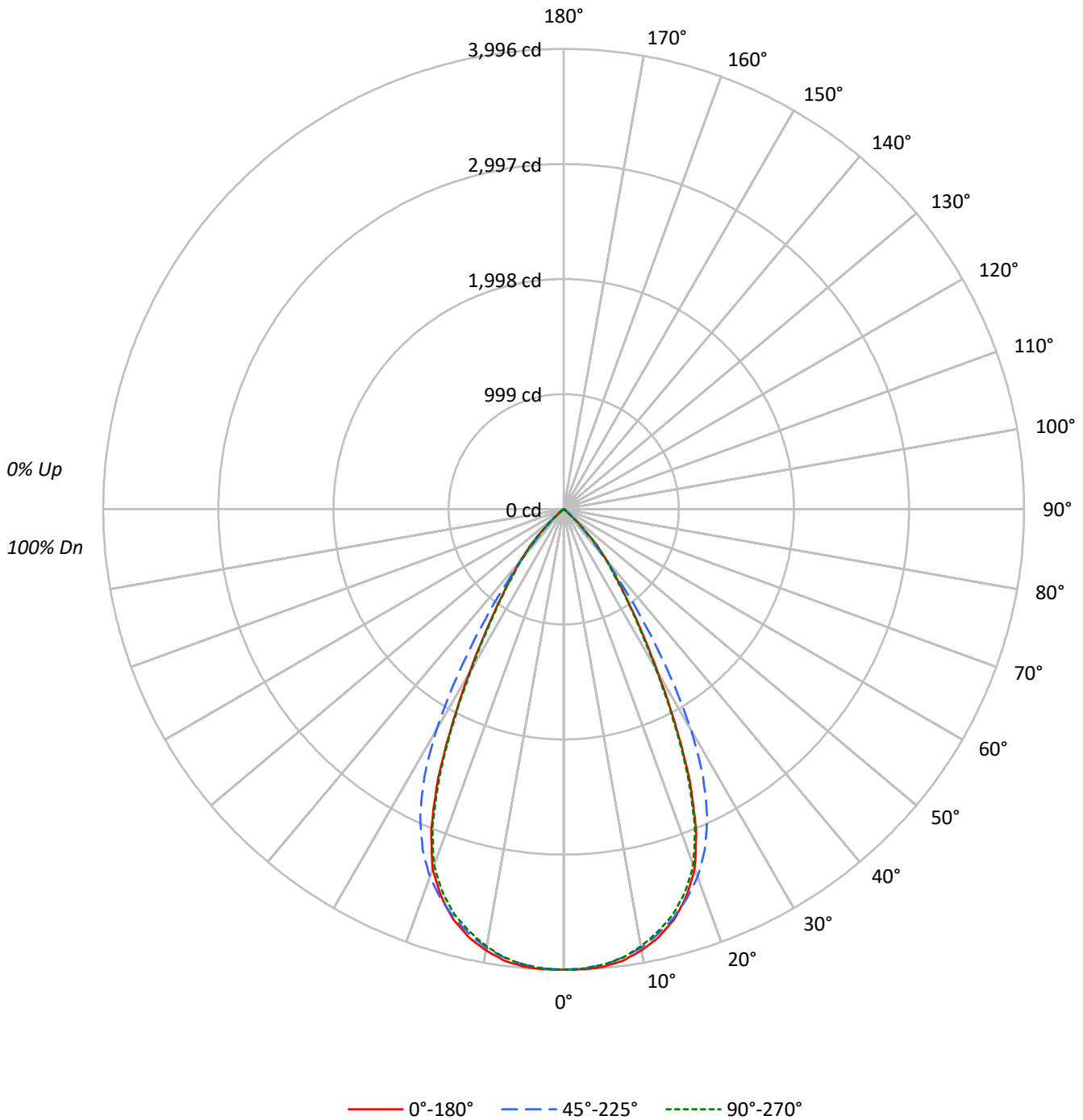
Lumens per Lamp: N/A
 Luminaire Lumens: 3577.0 lumens
 Efficiency: N/A
 Efficacy: 72.1 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 49.6
 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	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94	94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71	71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66	66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58	58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	385531	385531	385531
5°	385938	384156	384156
10°	380868	378614	377448
15°	368504	366766	364289
20°	341282	348726	337514
25°	274400	313685	270790
30°	181117	245950	176817
35°	113197	147687	111148
40°	73874	68445	70990
45°	35574	27305	33568
50°	8962	10883	8406
55°	4946	4475	4794
60°	3358	2837	3184
65°	2306	2100	2306
70°	1806	1552	1806
75°	1379	1379	1379
80°	1000	1556	1556
85°	996	1993	1993

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	375.8	10.5
10°-20°	1026.2	28.7
20°-30°	1222.9	34.2
30°-40°	692.5	19.4
40°-50°	214.1	6.0
50°-60°	29.7	0.8
60°-70°	10.2	0.3
70°-80°	4.1	0.1
80°-90°	1.7	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°	2624.8	73.4
0°-40°	3317.3	92.7
0°-60°	3561.1	99.6
0°-90°	3577.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3577.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3996	3996	3996	3996	3996	
5°	3985	3975	3966	3963	3966	377
15°	3689	3683	3672	3657	3647	1029
25°	2577	2728	2946	2733	2544	1149
35°	961	1048	1254	1051	944	625
45°	261	304	200	296	246	215
55°	29	29	27	28	28	29
65°	10	10	9	10	10	11
75°	4	4	4	4	4	4
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°	3995.6	3995.6	3995.6	3995.6	3995.6
2.5°	3996.5	3990.1	3988.2	3986.4	3990.1
5°	3984.6	3975.4	3966.2	3963.4	3966.2
7.5°	3950.6	3941.4	3925.8	3922.1	3924.9
10°	3887.3	3879.0	3864.3	3856.1	3852.4
12.5°	3803.7	3790.0	3776.2	3767.0	3757.8
15°	3689.0	3682.6	3671.6	3656.9	3646.8
17.5°	3530.2	3539.4	3545.8	3516.4	3489.8
20°	3323.7	3357.6	3396.2	3336.5	3287.0
22.5°	3001.5	3098.8	3197.0	3084.1	2974.0
25°	2577.4	2728.0	2946.4	2732.6	2543.5
27.5°	2082.7	2273.6	2617.8	2274.5	2055.2
30°	1625.6	1822.0	2207.5	1796.3	1587.0
32.5°	1248.3	1395.2	1724.7	1373.2	1221.7
35°	961.0	1048.2	1253.8	1051.0	943.6
37.5°	747.2	791.2	843.5	775.6	725.1
40°	586.5	588.4	543.4	579.2	563.6
42.5°	435.1	433.2	334.1	422.2	425.0
45°	260.7	303.8	200.1	295.6	246.0
47.5°	123.9	171.6	120.2	162.5	114.7
50°	59.7	82.6	72.5	77.1	56.0
52.5°	40.4	42.2	41.3	40.4	38.6
55°	29.4	29.4	26.6	28.5	28.5
57.5°	22.0	22.0	19.3	21.1	21.1
60°	17.4	16.5	14.7	16.5	16.5
62.5°	12.9	12.9	11.0	12.9	12.9
65°	10.1	10.1	9.2	10.1	10.1
67.5°	8.3	8.3	6.4	8.3	7.3
70°	6.4	6.4	5.5	6.4	6.4
72.5°	4.6	4.6	4.6	4.6	4.6
75°	3.7	3.7	3.7	3.7	3.7
77.5°	2.8	2.8	2.8	2.8	2.8
80°	1.8	1.8	2.8	2.8	2.8
82.5°	1.8	1.8	1.8	1.8	1.8
85°	0.9	1.8	1.8	1.8	1.8
87.5°	0.9	0.9	1.8	1.8	1.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)