

Scaled data based on original data using
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: P545987

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-81-88-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P545987
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-12-4-LD4-1LO-50-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

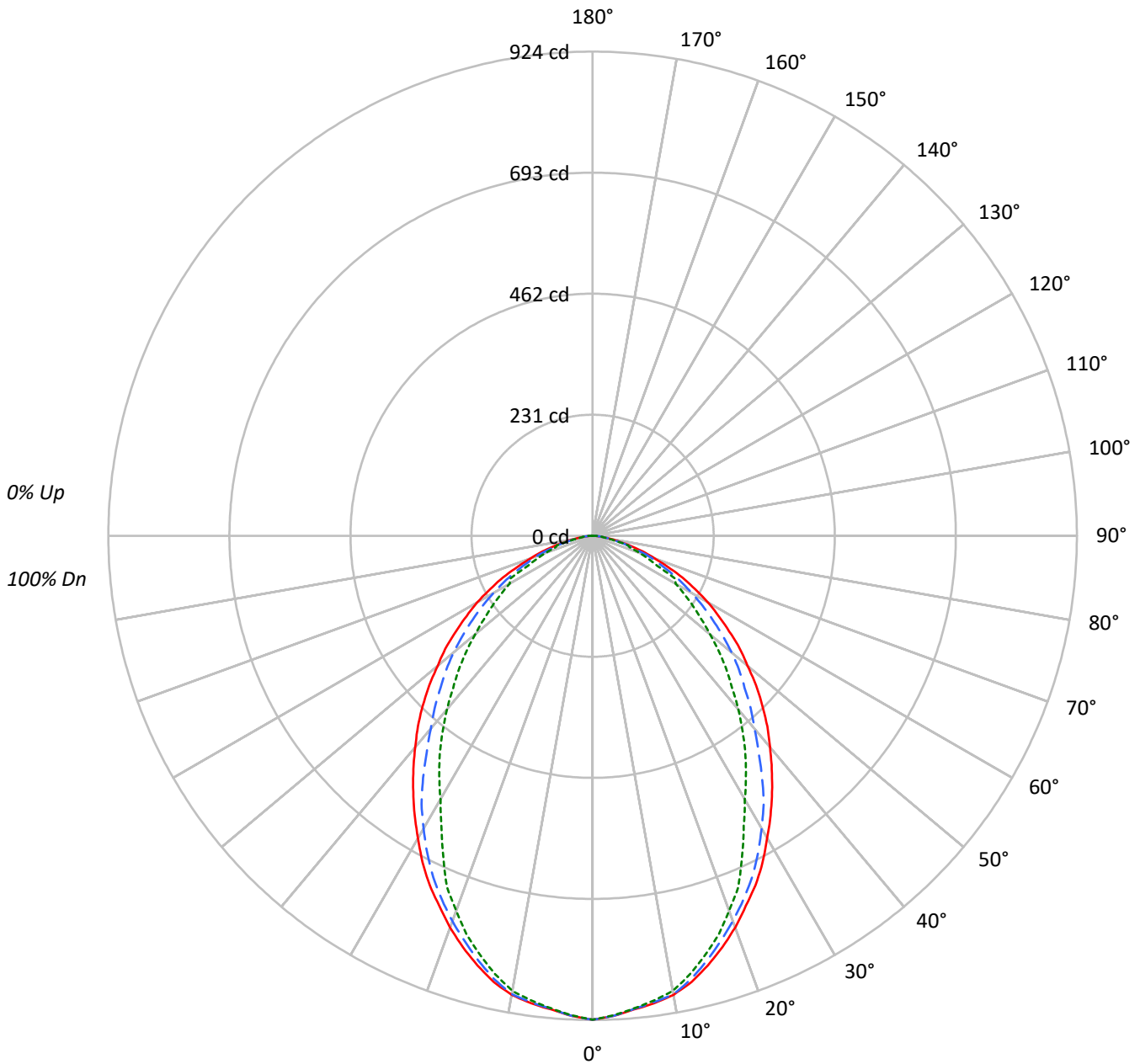
Lumens per Lamp: N/A
Luminaire Lumens: 1813.0 lumens
Efficiency: N/A
Efficacy: 77.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
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

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2485	2485	2485
5°	2451	2448	2446
10°	2430	2427	2410
15°	2365	2341	2308
20°	2278	2241	2180
25°	2184	2137	2004
30°	2070	2004	1805
35°	1961	1852	1669
40°	1849	1688	1519
45°	1743	1560	1373
50°	1613	1448	1225
55°	1493	1312	1097
60°	1368	1172	983
65°	1203	1026	870
70°	991	899	740
75°	788	688	722
80°	530	496	463
85°	330	395	460



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.0	4.7
10°-20°	235.9	13.0
20°-30°	326.6	18.0
30°-40°	348.3	19.2
40°-50°	317.7	17.5
50°-60°	248.9	13.7
60°-70°	162.2	8.9
70°-80°	71.9	4.0
80°-90°	15.4	0.9
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°	648.5	35.8
0°-40°	996.8	55.0
0°-60°	1563.5	86.2
0°-90°	1813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	908	906	906	905	905	86
15°	849	849	840	832	828	239
25°	736	731	720	694	675	338
35°	597	592	564	521	508	373
45°	458	448	410	376	361	353
55°	318	309	280	247	234	285
65°	189	178	161	164	137	186
75°	76	70	66	63	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	923.5	923.5	923.5	923.5	923.5
2.5°	917.1	917.1	917.1	916.0	916.0
5°	907.5	906.4	906.4	905.4	905.4
7.5°	900.0	899.0	897.9	896.8	894.7
10°	889.4	889.4	888.3	882.9	881.9
12.5°	872.3	871.2	866.9	859.5	857.3
15°	848.8	848.8	840.2	831.7	828.5
17.5°	823.2	822.1	811.4	802.9	798.6
20°	795.4	793.3	782.6	768.7	761.2
22.5°	764.4	764.4	751.6	733.5	726.0
25°	735.6	731.3	719.6	694.0	674.8
27.5°	702.5	696.1	683.3	647.0	624.6
30°	666.2	663.0	644.9	597.9	580.8
32.5°	632.0	626.7	607.5	558.4	544.5
35°	596.8	592.5	563.7	521.0	508.2
37.5°	561.6	556.2	519.9	485.8	469.8
40°	526.4	519.9	480.4	449.5	432.4
42.5°	493.3	484.7	446.3	413.2	394.0
45°	458.0	448.4	410.0	375.8	360.9
47.5°	422.8	414.2	379.0	343.8	326.7
50°	385.4	377.9	345.9	310.7	292.5
52.5°	354.5	342.7	311.8	276.5	261.6
55°	318.2	308.6	279.7	246.6	233.8
57.5°	285.1	275.5	248.8	217.8	207.1
60°	254.1	240.2	217.8	191.1	182.6
62.5°	219.9	209.3	190.0	167.6	178.3
65°	189.0	178.3	161.2	164.4	136.7
67.5°	154.8	149.5	134.5	119.6	115.3
70°	126.0	119.6	114.2	98.2	94.0
72.5°	100.4	94.0	86.5	77.9	74.7
75°	75.8	70.5	66.2	63.0	69.4
77.5°	52.3	50.2	47.0	43.8	42.7
80°	34.2	33.1	32.0	31.0	29.9
82.5°	20.3	20.3	20.3	20.3	20.3
85°	10.7	11.7	12.8	13.9	14.9
87.5°	6.4	6.4	7.5	8.5	9.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)