

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: P545995

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-82-88-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: P545995
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-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 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

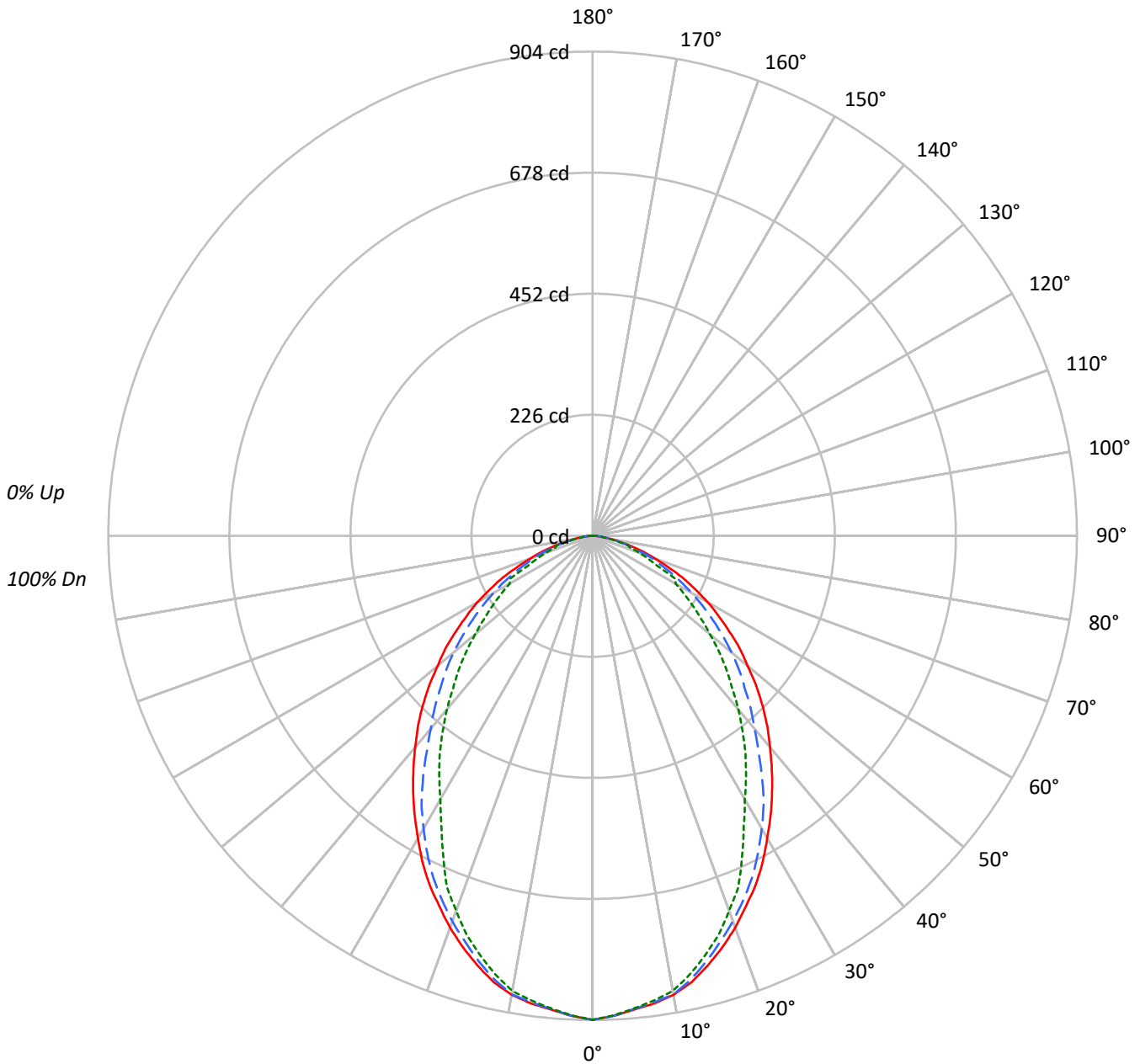
Lumens per Lamp: N/A
Luminaire Lumens: 1774.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2432	2432	2432
5°	2399	2396	2393
10°	2378	2375	2358
15°	2314	2291	2259
20°	2229	2193	2133
25°	2137	2091	1960
30°	2026	1961	1766
35°	1918	1812	1634
40°	1809	1651	1486
45°	1706	1527	1344
50°	1579	1417	1198
55°	1460	1284	1073
60°	1338	1147	961
65°	1177	1004	851
70°	970	880	723
75°	771	674	706
80°	518	485	454
85°	321	386	451



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.1	4.7
10°-20°	230.9	13.0
20°-30°	319.6	18.0
30°-40°	340.8	19.2
40°-50°	310.9	17.5
50°-60°	243.6	13.7
60°-70°	158.7	8.9
70°-80°	70.3	4.0
80°-90°	15.1	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°	634.6	35.8
0°-40°	975.4	55.0
0°-60°	1529.8	86.2
0°-90°	1774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	904	904	904	904	904	
5°	888	887	887	886	886	84
15°	830	830	822	814	811	233
25°	720	716	704	679	660	330
35°	584	580	552	510	497	365
45°	448	439	401	368	353	345
55°	311	302	274	241	229	279
65°	185	174	158	161	134	182
75°	74	69	65	62	68	80
85°	10	12	12	14	15	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	903.7	903.7	903.7	903.7	903.7
2.5°	897.4	897.4	897.4	896.3	896.3
5°	888.0	886.9	886.9	885.9	885.9
7.5°	880.7	879.6	878.6	877.5	875.4
10°	870.2	870.2	869.2	864.0	862.9
12.5°	853.5	852.5	848.3	841.0	838.9
15°	830.5	830.5	822.2	813.8	810.7
17.5°	805.5	804.4	794.0	785.6	781.4
20°	778.3	776.2	765.8	752.2	744.9
22.5°	748.0	748.0	735.5	717.7	710.4
25°	719.8	715.6	704.1	679.0	660.2
27.5°	687.4	681.1	668.6	633.1	611.1
30°	651.9	648.7	631.0	585.0	568.3
32.5°	618.5	613.2	594.4	546.4	532.8
35°	584.0	579.8	551.6	509.8	497.3
37.5°	549.5	544.3	508.8	475.3	459.7
40°	515.0	508.8	470.1	439.8	423.1
42.5°	482.6	474.3	436.7	404.3	385.5
45°	448.2	438.8	401.2	367.7	353.1
47.5°	413.7	405.3	370.9	336.4	319.7
50°	377.1	369.8	338.5	304.0	286.2
52.5°	346.8	335.3	305.0	270.6	255.9
55°	311.3	301.9	273.7	241.3	228.8
57.5°	278.9	269.5	243.4	213.1	202.7
60°	248.6	235.1	213.1	187.0	178.6
62.5°	215.2	204.8	186.0	164.0	174.5
65°	184.9	174.5	157.7	160.9	133.7
67.5°	151.5	146.3	131.6	117.0	112.8
70°	123.3	117.0	111.8	96.1	91.9
72.5°	98.2	91.9	84.6	76.3	73.1
75°	74.2	68.9	64.8	61.6	67.9
77.5°	51.2	49.1	46.0	42.8	41.8
80°	33.4	32.4	31.3	30.3	29.3
82.5°	19.8	19.8	19.8	19.8	19.8
85°	10.4	11.5	12.5	13.6	14.6
87.5°	6.3	6.3	7.3	8.4	9.4
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)