

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: P546004

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-93-94-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: P546004
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-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

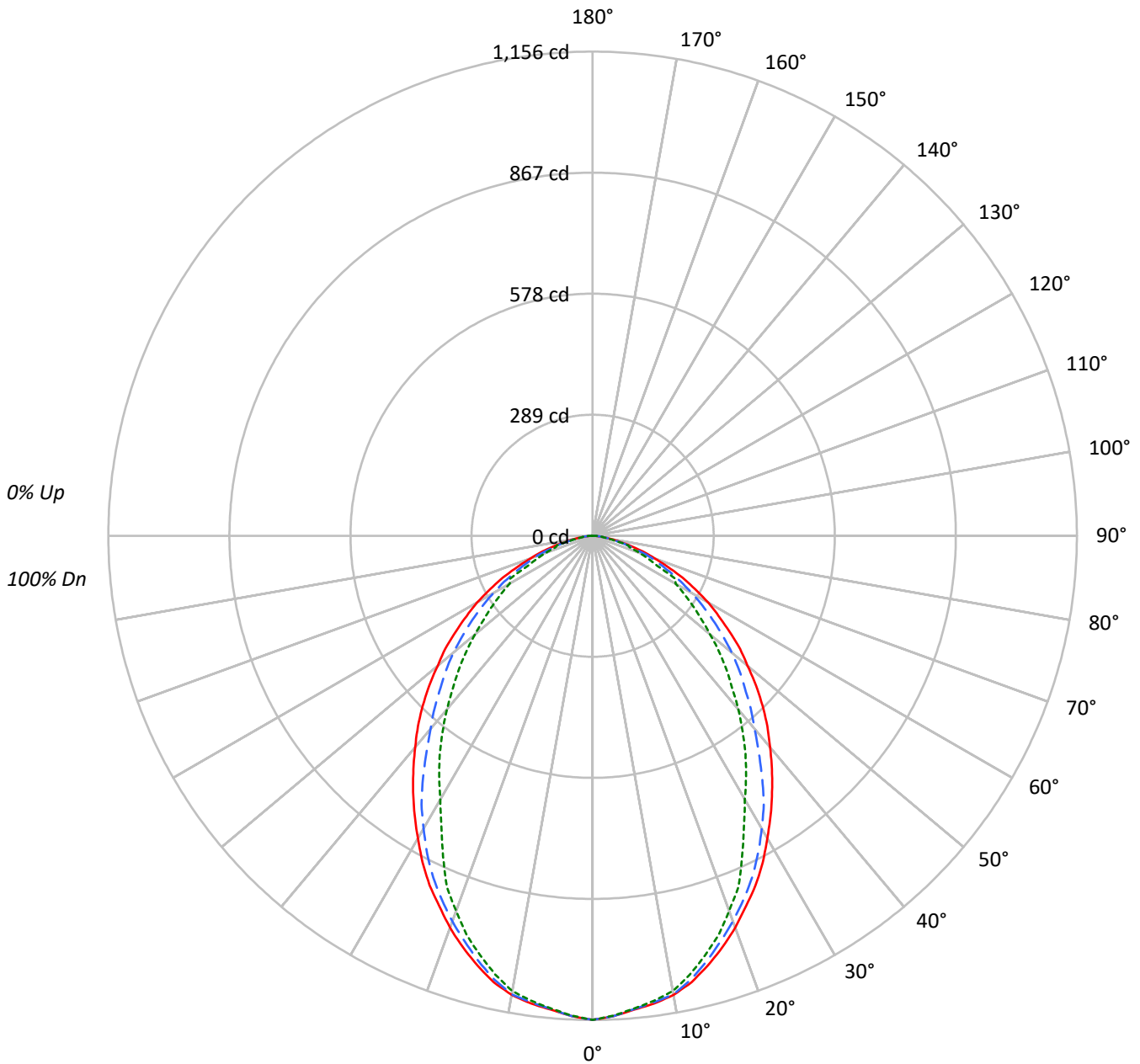
Lumens per Lamp: N/A
Luminaire Lumens: 2269.0 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	3110	3110	3110
5°	3068	3064	3061
10°	3041	3038	3016
15°	2959	2930	2889
20°	2851	2805	2728
25°	2733	2674	2507
30°	2591	2508	2259
35°	2454	2318	2089
40°	2314	2112	1901
45°	2181	1953	1719
50°	2020	1812	1533
55°	1868	1643	1373
60°	1711	1467	1230
65°	1506	1285	1089
70°	1241	1125	925
75°	987	861	904
80°	663	621	580
85°	414	494	577



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	4.7
10°-20°	295.3	13.0
20°-30°	408.8	18.0
30°-40°	435.9	19.2
40°-50°	397.6	17.5
50°-60°	311.5	13.7
60°-70°	203.0	8.9
70°-80°	89.9	4.0
80°-90°	19.3	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°	811.6	35.8
0°-40°	1247.5	55.0
0°-60°	1956.7	86.2
0°-90°	2269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1156	1156	1156	1156	1156	
5°	1136	1134	1134	1133	1133	108
15°	1062	1062	1052	1041	1037	299
25°	921	915	901	868	844	423
35°	747	742	706	652	636	467
45°	573	561	513	470	452	442
55°	398	386	350	309	293	357
65°	236	223	202	206	171	233
75°	95	88	83	79	87	102
85°	13	15	16	17	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1155.8	1155.8	1155.8	1155.8	1155.8
2.5°	1147.8	1147.8	1147.8	1146.4	1146.4
5°	1135.8	1134.4	1134.4	1133.1	1133.1
7.5°	1126.4	1125.1	1123.7	1122.4	1119.7
10°	1113.0	1113.0	1111.7	1105.0	1103.7
12.5°	1091.7	1090.3	1085.0	1075.6	1073.0
15°	1062.3	1062.3	1051.6	1040.9	1036.9
17.5°	1030.2	1028.9	1015.5	1004.8	999.5
20°	995.5	992.8	979.4	962.1	952.7
22.5°	956.7	956.7	940.7	918.0	908.6
25°	920.6	915.3	900.6	868.5	844.5
27.5°	879.2	871.2	855.2	809.7	781.7
30°	833.8	829.8	807.1	748.3	726.9
32.5°	791.0	784.3	760.3	698.8	681.5
35°	746.9	741.6	705.5	652.1	636.0
37.5°	702.8	696.2	650.7	608.0	587.9
40°	658.7	650.7	601.3	562.5	541.2
42.5°	617.3	606.6	558.5	517.1	493.1
45°	573.2	561.2	513.1	470.3	451.6
47.5°	529.1	518.4	474.3	430.3	408.9
50°	482.4	473.0	432.9	388.8	366.1
52.5°	443.6	428.9	390.2	346.1	327.4
55°	398.2	386.2	350.1	308.7	292.6
57.5°	356.8	344.7	311.3	272.6	259.2
60°	318.0	300.6	272.6	239.2	228.5
62.5°	275.3	261.9	237.8	209.8	223.1
65°	236.5	223.1	201.8	205.8	171.0
67.5°	193.7	187.1	168.4	149.7	144.3
70°	157.7	149.7	143.0	122.9	117.6
72.5°	125.6	117.6	108.2	97.5	93.5
75°	94.9	88.2	82.8	78.8	86.9
77.5°	65.5	62.8	58.8	54.8	53.4
80°	42.8	41.4	40.1	38.7	37.4
82.5°	25.4	25.4	25.4	25.4	25.4
85°	13.4	14.7	16.0	17.4	18.7
87.5°	8.0	8.0	9.4	10.7	12.0
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)