

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: P546101

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-93-96-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: P546101
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-LD4-1STD-50-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

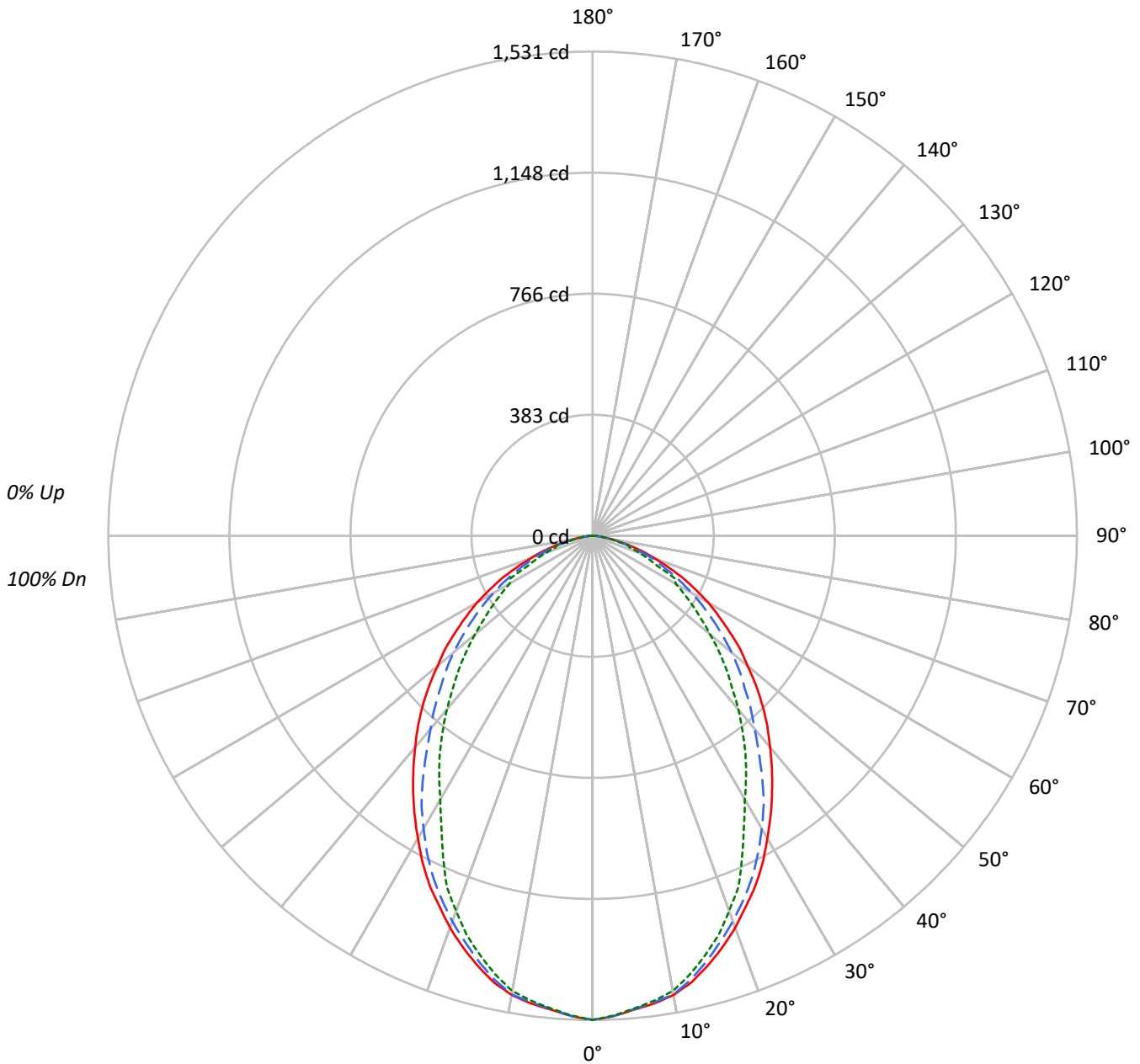
Lumens per Lamp: N/A
Luminaire Lumens: 3005.0 lumens
Efficiency: N/A
Efficacy: 90.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	4119	4119	4119
5°	4063	4058	4054
10°	4028	4023	3994
15°	3919	3880	3826
20°	3775	3714	3613
25°	3620	3541	3321
30°	3431	3321	2991
35°	3250	3070	2767
40°	3065	2797	2518
45°	2889	2586	2276
50°	2674	2400	2030
55°	2474	2175	1818
60°	2267	1943	1629
65°	1994	1701	1442
70°	1643	1489	1225
75°	1306	1141	1196
80°	877	823	767
85°	546	655	766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.5	4.7
10°-20°	391.0	13.0
20°-30°	541.4	18.0
30°-40°	577.3	19.2
40°-50°	526.6	17.5
50°-60°	412.6	13.7
60°-70°	268.9	8.9
70°-80°	119.1	4.0
80°-90°	25.6	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°	1074.9	35.8
0°-40°	1652.2	55.0
0°-60°	2591.4	86.2
0°-90°	3005.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3005.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1504	1502	1502	1501	1501	143
15°	1407	1407	1393	1378	1373	396
25°	1219	1212	1193	1150	1118	560
35°	989	982	934	864	842	618
45°	759	743	680	623	598	585
55°	527	511	464	409	388	473
65°	313	296	267	272	226	309
75°	126	117	110	104	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1530.7	1530.7	1530.7	1530.7	1530.7
2.5°	1520.1	1520.1	1520.1	1518.3	1518.3
5°	1504.2	1502.4	1502.4	1500.6	1500.6
7.5°	1491.8	1490.0	1488.2	1486.5	1482.9
10°	1474.1	1474.1	1472.3	1463.5	1461.7
12.5°	1445.8	1444.0	1436.9	1424.5	1421.0
15°	1406.8	1406.8	1392.7	1378.5	1373.2
17.5°	1364.4	1362.6	1344.9	1330.7	1323.7
20°	1318.4	1314.8	1297.1	1274.1	1261.7
22.5°	1267.0	1267.0	1245.8	1215.7	1203.3
25°	1219.3	1212.2	1192.7	1150.2	1118.4
27.5°	1164.4	1153.8	1132.5	1072.4	1035.2
30°	1104.2	1098.9	1068.8	991.0	962.7
32.5°	1047.6	1038.8	1006.9	925.5	902.5
35°	989.2	982.1	934.4	863.6	842.3
37.5°	930.8	922.0	861.8	805.2	778.6
40°	872.4	861.8	796.3	745.0	716.7
42.5°	817.6	803.4	739.7	684.8	653.0
45°	759.2	743.2	679.5	622.9	598.1
47.5°	700.8	686.6	628.2	569.8	541.5
50°	638.8	626.4	573.4	515.0	484.9
52.5°	587.5	568.0	516.7	458.3	433.6
55°	527.3	511.4	463.6	408.8	387.5
57.5°	472.5	456.6	412.3	361.0	343.3
60°	421.2	398.2	361.0	316.8	302.6
62.5°	364.5	346.8	315.0	277.8	295.5
65°	313.2	295.5	267.2	272.5	226.5
67.5°	256.6	247.7	223.0	198.2	191.1
70°	208.8	198.2	189.3	162.8	155.7
72.5°	166.3	155.7	143.3	129.2	123.9
75°	125.6	116.8	109.7	104.4	115.0
77.5°	86.7	83.2	77.9	72.6	70.8
80°	56.6	54.9	53.1	51.3	49.5
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.5	21.2	23.0	24.8
87.5°	10.6	10.6	12.4	14.2	15.9
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)