

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: P546388

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546388
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-LD4-2STD-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

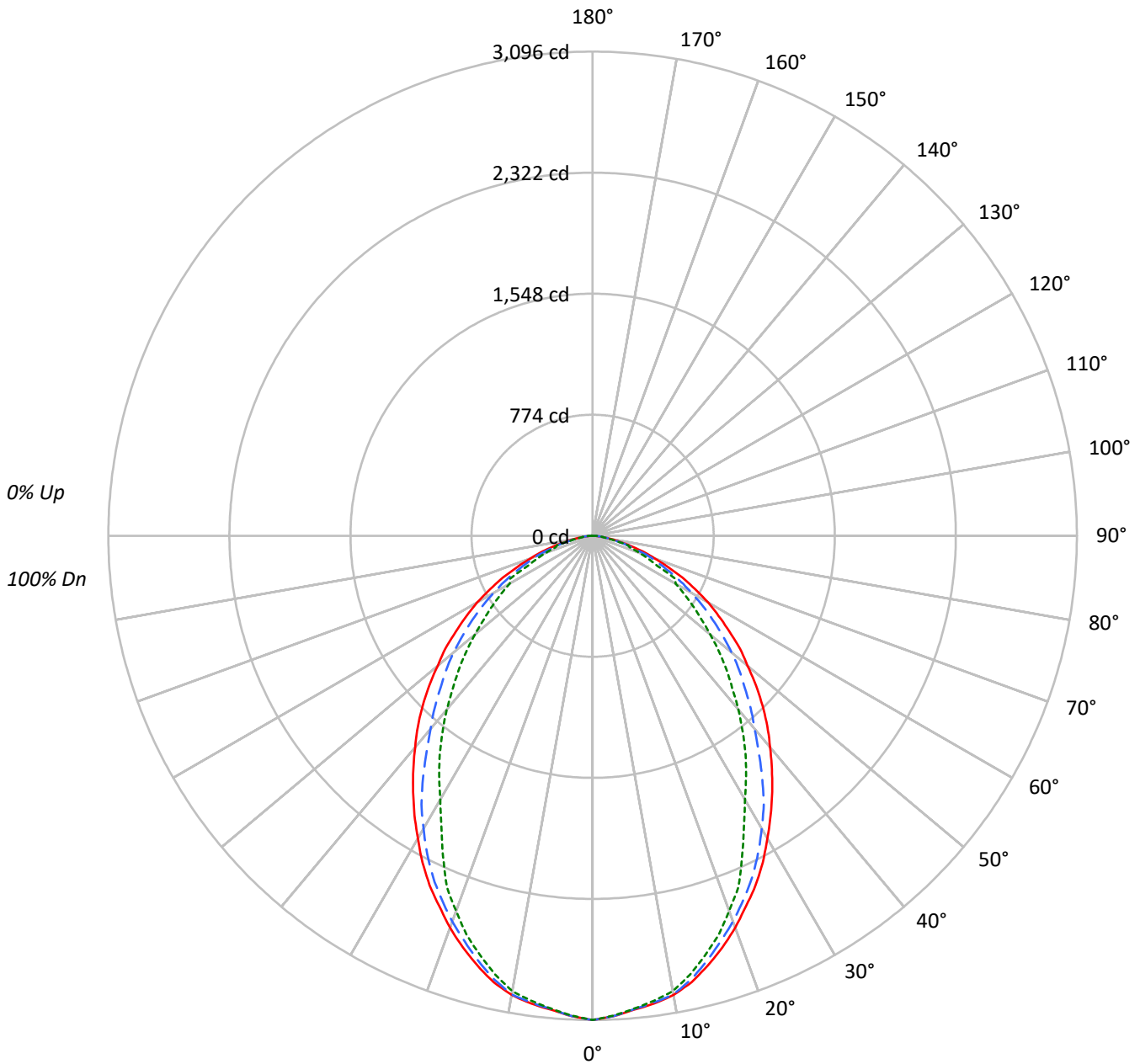
Lumens per Lamp: N/A
Luminaire Lumens: 6078.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	8332	8332	8332
5°	8218	8209	8199
10°	8147	8137	8079
15°	7927	7848	7738
20°	7636	7513	7308
25°	7322	7163	6717
30°	6940	6718	6050
35°	6573	6208	5597
40°	6199	5658	5092
45°	5844	5230	4604
50°	5409	4855	4106
55°	5004	4400	3678
60°	4585	3930	3294
65°	4034	3442	2917
70°	3323	3013	2478
75°	2642	2307	2419
80°	1774	1664	1553
85°	1105	1328	1547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	288.2	4.7
10°-20°	790.9	13.0
20°-30°	1095.0	18.0
30°-40°	1167.6	19.2
40°-50°	1065.2	17.5
50°-60°	834.5	13.7
60°-70°	543.9	8.9
70°-80°	241.0	4.0
80°-90°	51.7	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°	2174.1	35.8
0°-40°	3341.7	55.0
0°-60°	5241.4	86.2
0°-90°	6078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6078.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3096	3096	3096	3096	3096	
5°	3042	3039	3039	3035	3035	289
15°	2846	2846	2817	2788	2778	800
25°	2466	2452	2412	2326	2262	1132
35°	2001	1986	1890	1747	1704	1251
45°	1536	1503	1374	1260	1210	1183
55°	1067	1034	938	827	784	957
65°	634	598	540	551	458	624
75°	254	236	222	211	233	272
85°	36	39	43	46	50	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3096.1	3096.1	3096.1	3096.1	3096.1
2.5°	3074.6	3074.6	3074.6	3071.0	3071.0
5°	3042.4	3038.8	3038.8	3035.2	3035.2
7.5°	3017.3	3013.7	3010.1	3006.6	2999.4
10°	2981.5	2981.5	2977.9	2960.0	2956.5
12.5°	2924.2	2920.7	2906.4	2881.3	2874.1
15°	2845.5	2845.5	2816.9	2788.2	2777.5
17.5°	2759.6	2756.0	2720.2	2691.6	2677.3
20°	2666.5	2659.4	2623.6	2577.1	2552.0
22.5°	2562.7	2562.7	2519.8	2458.9	2433.9
25°	2466.1	2451.8	2412.4	2326.5	2262.1
27.5°	2355.1	2333.7	2290.7	2169.0	2093.9
30°	2233.5	2222.7	2161.9	2004.4	1947.1
32.5°	2118.9	2101.0	2036.6	1871.9	1825.4
35°	2000.8	1986.5	1889.8	1746.7	1703.7
37.5°	1882.7	1864.8	1743.1	1628.6	1574.9
40°	1764.6	1743.1	1610.7	1506.9	1449.6
42.5°	1653.6	1625.0	1496.1	1385.2	1320.7
45°	1535.5	1503.3	1374.4	1259.9	1209.8
47.5°	1417.4	1388.7	1270.6	1152.5	1095.3
50°	1292.1	1267.1	1159.7	1041.6	980.7
52.5°	1188.3	1148.9	1045.1	927.0	876.9
55°	1066.6	1034.4	937.8	826.8	783.9
57.5°	955.7	923.4	834.0	730.2	694.4
60°	851.9	805.3	730.2	640.7	612.1
62.5°	737.3	701.5	637.1	561.9	597.7
65°	633.5	597.7	540.5	551.2	458.1
67.5°	519.0	501.1	451.0	400.9	386.6
70°	422.4	400.9	383.0	329.3	315.0
72.5°	336.4	315.0	289.9	261.3	250.5
75°	254.1	236.2	221.9	211.2	232.7
77.5°	175.4	168.2	157.5	146.7	143.2
80°	114.5	111.0	107.4	103.8	100.2
82.5°	68.0	68.0	68.0	68.0	68.0
85°	35.8	39.4	43.0	46.5	50.1
87.5°	21.5	21.5	25.1	28.6	32.2
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)