

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: P545669

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-81-96-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: P545669  
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-12-2-LD4-2LO-40-UNV-81-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

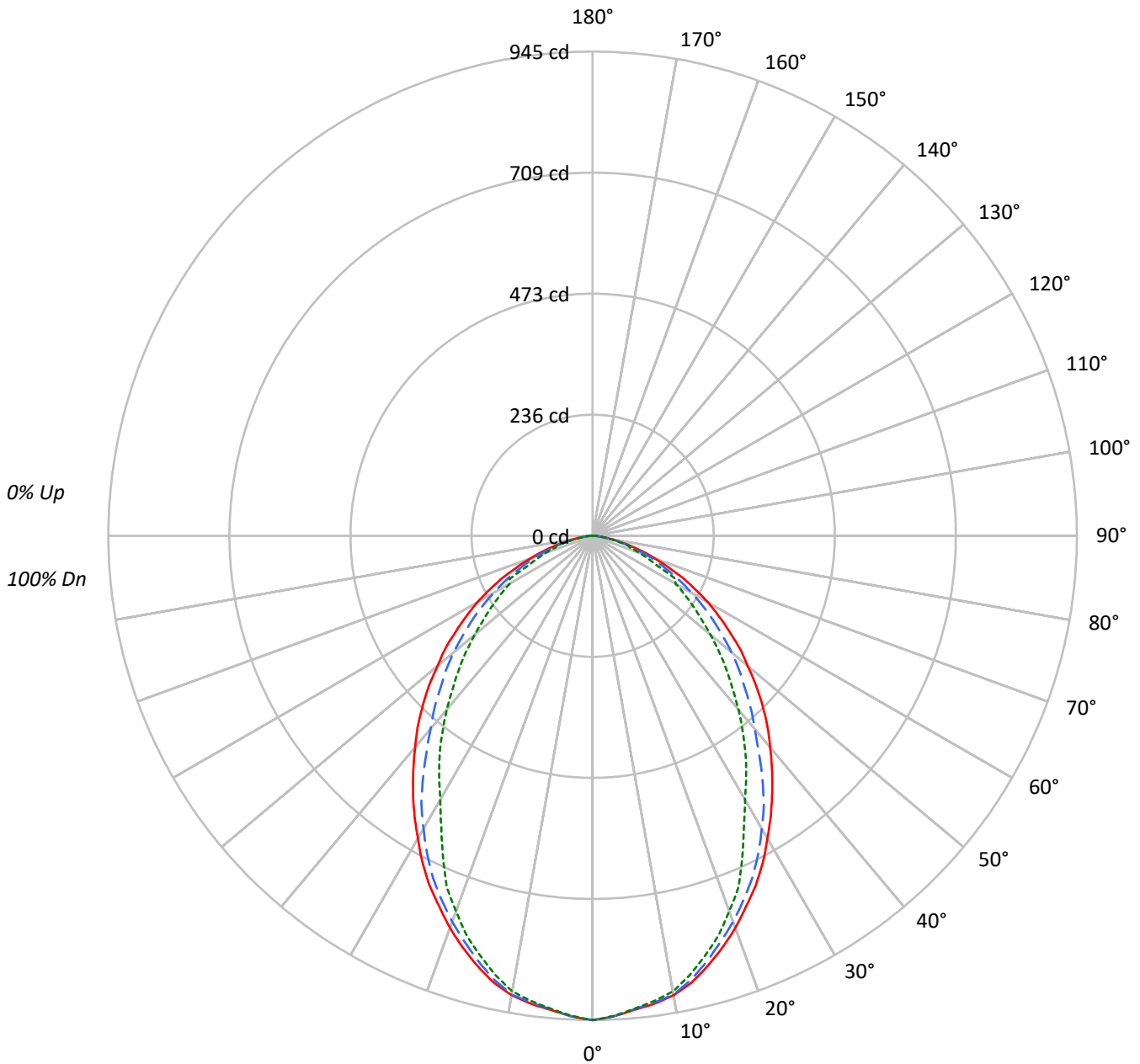
Lumens per Lamp: N/A  
Luminaire Lumens: 1856.0 lumens  
Efficiency: N/A  
Efficacy: 79.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	5088	5088	5088
5°	5019	5013	5007
10°	4975	4970	4934
15°	4841	4793	4725
20°	4664	4588	4463
25°	4472	4375	4102
30°	4238	4103	3695
35°	4014	3792	3418
40°	3785	3455	3110
45°	3569	3194	2812
50°	3304	2965	2508
55°	3056	2687	2246
60°	2800	2400	2012
65°	2464	2101	1782
70°	2030	1840	1514
75°	1614	1410	1476
80°	1085	1017	948
85°	673	809	945



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.0	4.7
10°-20°	241.5	13.0
20°-30°	334.4	18.0
30°-40°	356.5	19.2
40°-50°	325.3	17.5
50°-60°	254.8	13.7
60°-70°	166.1	8.9
70°-80°	73.6	4.0
80°-90°	15.8	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°	663.9	35.8
0°-40°	1020.5	55.0
0°-60°	1600.5	86.2
0°-90°	1856.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1856.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	945	945	945	945	945	
5°	929	928	928	927	927	88
15°	869	869	860	851	848	244
25°	753	749	737	710	691	346
35°	611	607	577	533	520	382
45°	469	459	420	385	369	361
55°	326	316	286	252	239	292
65°	194	182	165	168	140	191
75°	78	72	68	64	71	83
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°	945.4	945.4	945.4	945.4	945.4
2.5°	938.9	938.9	938.9	937.8	937.8
5°	929.0	927.9	927.9	926.8	926.8
7.5°	921.4	920.3	919.2	918.1	915.9
10°	910.4	910.4	909.4	903.9	902.8
12.5°	893.0	891.9	887.5	879.8	877.7
15°	868.9	868.9	860.2	851.4	848.1
17.5°	842.7	841.6	830.7	821.9	817.5
20°	814.3	812.1	801.1	786.9	779.3
22.5°	782.6	782.6	769.5	750.9	743.2
25°	753.1	748.7	736.7	710.4	690.8
27.5°	719.2	712.6	699.5	662.3	639.4
30°	682.0	678.7	660.2	612.1	594.6
32.5°	647.0	641.6	621.9	571.6	557.4
35°	611.0	606.6	577.1	533.4	520.3
37.5°	574.9	569.4	532.3	497.3	480.9
40°	538.8	532.3	491.8	460.1	442.7
42.5°	505.0	496.2	456.9	423.0	403.3
45°	468.9	459.0	419.7	384.7	369.4
47.5°	432.8	424.1	388.0	351.9	334.4
50°	394.6	386.9	354.1	318.1	299.5
52.5°	362.9	350.8	319.1	283.1	267.8
55°	325.7	315.9	286.4	252.5	239.4
57.5°	291.8	282.0	254.7	223.0	212.0
60°	260.1	245.9	223.0	195.6	186.9
62.5°	225.2	214.2	194.5	171.6	182.5
65°	193.5	182.5	165.0	168.3	139.9
67.5°	158.5	153.0	137.7	122.4	118.0
70°	129.0	122.4	116.9	100.6	96.2
72.5°	102.7	96.2	88.5	79.8	76.5
75°	77.6	72.1	67.8	64.5	71.0
77.5°	53.6	51.4	48.1	44.8	43.7
80°	35.0	33.9	32.8	31.7	30.6
82.5°	20.8	20.8	20.8	20.8	20.8
85°	10.9	12.0	13.1	14.2	15.3
87.5°	6.6	6.6	7.7	8.7	9.8
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)