

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: P545682

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-93-87-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: P545682  
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-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

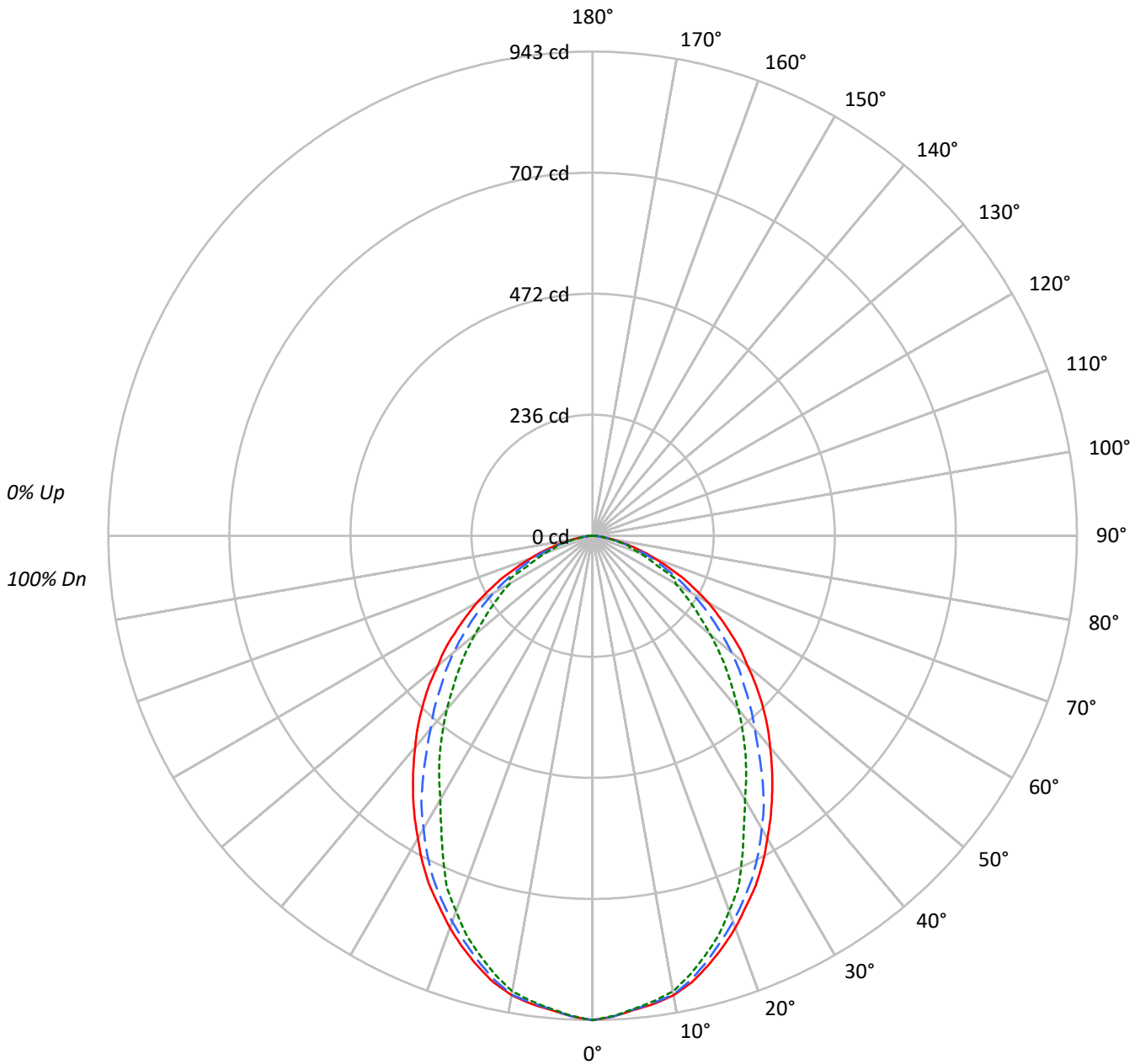
Lumens per Lamp: N/A  
Luminaire Lumens: 1852.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	5077	5077	5077
5°	5008	5002	4996
10°	4965	4959	4923
15°	4831	4782	4715
20°	4653	4578	4454
25°	4462	4365	4093
30°	4229	4094	3687
35°	4006	3783	3411
40°	3778	3448	3103
45°	3561	3188	2806
50°	3296	2959	2502
55°	3050	2681	2241
60°	2794	2395	2007
65°	2458	2097	1778
70°	2025	1836	1511
75°	1609	1406	1474
80°	1082	1013	945
85°	673	809	945



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.8	4.7
10°-20°	241.0	13.0
20°-30°	333.7	18.0
30°-40°	355.8	19.2
40°-50°	324.6	17.5
50°-60°	254.3	13.7
60°-70°	165.7	8.9
70°-80°	73.4	4.0
80°-90°	15.7	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°	662.5	35.8
0°-40°	1018.2	55.0
0°-60°	1597.1	86.2
0°-90°	1852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1852.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	927	926	926	925	925	88
15°	867	867	858	850	846	244
25°	751	747	735	709	689	345
35°	610	605	576	532	519	381
45°	468	458	419	384	369	360
55°	325	315	286	252	239	292
65°	193	182	165	168	140	190
75°	77	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°	943.4	943.4	943.4	943.4	943.4
2.5°	936.8	936.8	936.8	935.7	935.7
5°	927.0	925.9	925.9	924.8	924.8
7.5°	919.4	918.3	917.2	916.1	913.9
10°	908.5	908.5	907.4	901.9	900.8
12.5°	891.0	889.9	885.6	877.9	875.8
15°	867.0	867.0	858.3	849.6	846.3
17.5°	840.9	839.8	828.9	820.1	815.8
20°	812.5	810.3	799.4	785.2	777.6
22.5°	780.9	780.9	767.8	749.3	741.6
25°	751.4	747.1	735.1	708.9	689.3
27.5°	717.6	711.1	698.0	660.9	638.0
30°	680.5	677.3	658.7	610.7	593.3
32.5°	645.6	640.2	620.6	570.4	556.2
35°	609.7	605.3	575.8	532.2	519.1
37.5°	573.7	568.2	531.1	496.2	479.9
40°	537.7	531.1	490.8	459.1	441.7
42.5°	503.9	495.1	455.9	422.1	402.4
45°	467.9	458.1	418.8	383.9	368.6
47.5°	431.9	423.2	387.2	351.2	333.7
50°	393.7	386.1	353.4	317.4	298.8
52.5°	362.1	350.1	318.5	282.5	267.2
55°	325.0	315.2	285.7	251.9	238.8
57.5°	291.2	281.4	254.1	222.5	211.6
60°	259.6	245.4	222.5	195.2	186.5
62.5°	224.7	213.8	194.1	171.2	182.1
65°	193.0	182.1	164.7	168.0	139.6
67.5°	158.1	152.7	137.4	122.1	117.8
70°	128.7	122.1	116.7	100.3	96.0
72.5°	102.5	96.0	88.3	79.6	76.3
75°	77.4	72.0	67.6	64.3	70.9
77.5°	53.4	51.3	48.0	44.7	43.6
80°	34.9	33.8	32.7	31.6	30.5
82.5°	20.7	20.7	20.7	20.7	20.7
85°	10.9	12.0	13.1	14.2	15.3
87.5°	6.5	6.5	7.6	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)