

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: P545648

Luminaire Tested: **FMR-12-2-LD4-2LO-35-UNV-93-85-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: P545648  
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-35-UNV-93-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

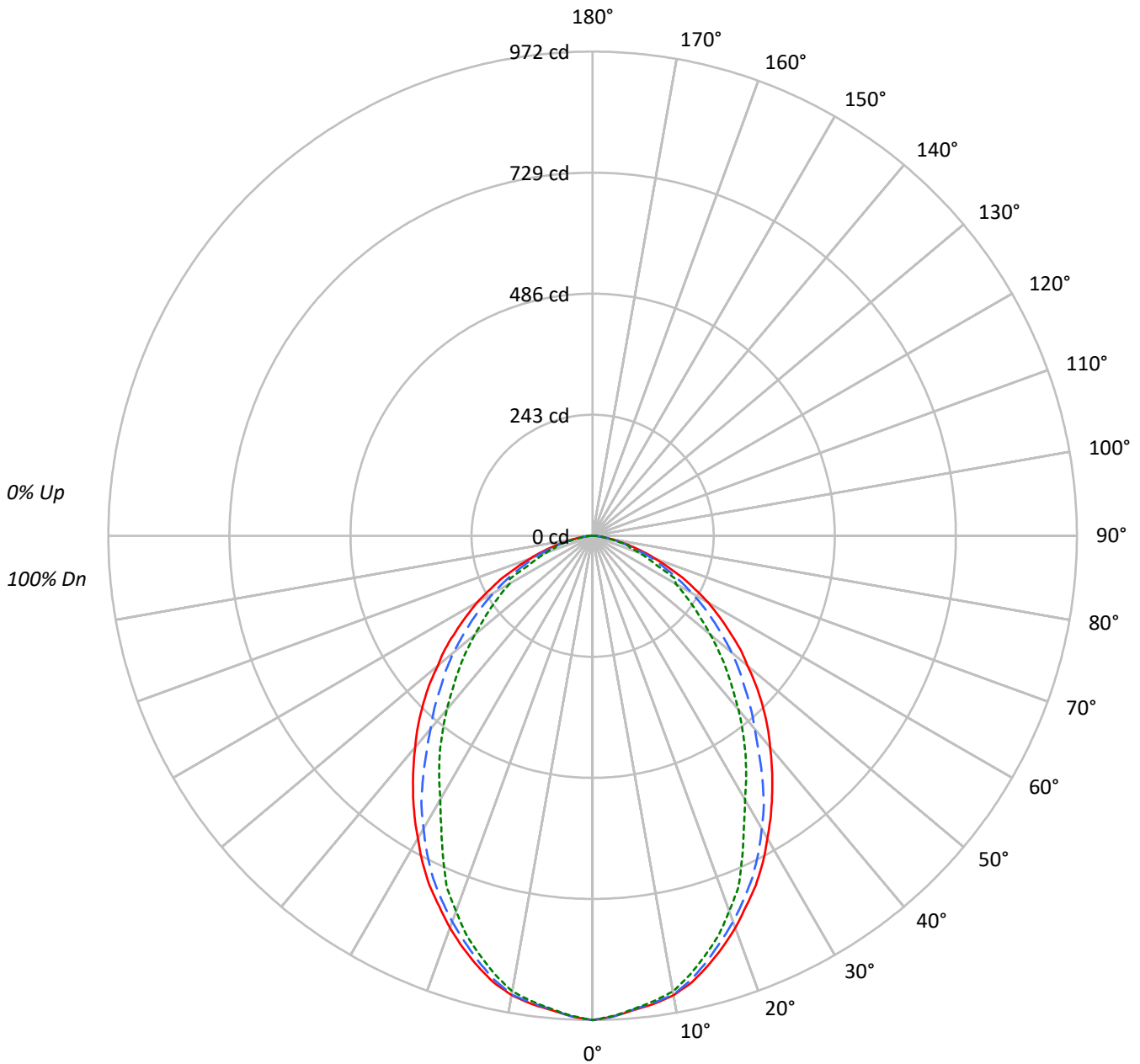
Lumens per Lamp: N/A  
Luminaire Lumens: 1909.0 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	5233	5233	5233
5°	5163	5156	5150
10°	5117	5111	5075
15°	4980	4929	4861
20°	4797	4719	4590
25°	4600	4499	4219
30°	4360	4220	3801
35°	4129	3900	3516
40°	3894	3554	3199
45°	3671	3286	2892
50°	3398	3049	2579
55°	3143	2763	2310
60°	2880	2468	2069
65°	2534	2162	1833
70°	2088	1893	1556
75°	1659	1449	1520
80°	1116	1044	976
85°	692	834	969



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.5	4.7
10°-20°	248.4	13.0
20°-30°	343.9	18.0
30°-40°	366.7	19.2
40°-50°	334.6	17.5
50°-60°	262.1	13.7
60°-70°	170.8	8.9
70°-80°	75.7	4.0
80°-90°	16.3	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°	682.9	35.8
0°-40°	1049.6	55.0
0°-60°	1646.2	86.2
0°-90°	1909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1909.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	972	972	972	972	972	
5°	956	954	954	953	953	91
15°	894	894	885	876	872	251
25°	775	770	758	731	710	356
35°	628	624	594	549	535	393
45°	482	472	432	396	380	372
55°	335	325	294	260	246	300
65°	199	188	170	173	144	196
75°	80	74	70	66	73	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	972.4	972.4	972.4	972.4	972.4
2.5°	965.7	965.7	965.7	964.5	964.5
5°	955.6	954.4	954.4	953.3	953.3
7.5°	947.7	946.6	945.4	944.3	942.1
10°	936.4	936.4	935.3	929.7	928.6
12.5°	918.5	917.3	912.8	905.0	902.7
15°	893.7	893.7	884.7	875.7	872.4
17.5°	866.7	865.6	854.4	845.4	840.9
20°	837.5	835.3	824.0	809.4	801.5
22.5°	804.9	804.9	791.4	772.3	764.4
25°	774.6	770.1	757.7	730.7	710.5
27.5°	739.7	733.0	719.5	681.3	657.6
30°	701.5	698.1	679.0	629.5	611.6
32.5°	665.5	659.9	639.7	587.9	573.3
35°	628.4	623.9	593.6	548.6	535.1
37.5°	591.3	585.7	547.5	511.5	494.6
40°	554.2	547.5	505.9	473.3	455.3
42.5°	519.4	510.4	469.9	435.1	414.8
45°	482.3	472.2	431.7	395.7	380.0
47.5°	445.2	436.2	399.1	362.0	344.0
50°	405.8	398.0	364.2	327.1	308.0
52.5°	373.2	360.9	328.3	291.2	275.4
55°	335.0	324.9	294.5	259.7	246.2
57.5°	300.2	290.0	261.9	229.3	218.1
60°	267.6	252.9	229.3	201.2	192.2
62.5°	231.6	220.3	200.1	176.5	187.7
65°	199.0	187.7	169.8	173.1	143.9
67.5°	163.0	157.4	141.6	125.9	121.4
70°	132.7	125.9	120.3	103.4	98.9
72.5°	105.7	98.9	91.1	82.1	78.7
75°	79.8	74.2	69.7	66.3	73.1
77.5°	55.1	52.8	49.5	46.1	45.0
80°	36.0	34.8	33.7	32.6	31.5
82.5°	21.4	21.4	21.4	21.4	21.4
85°	11.2	12.4	13.5	14.6	15.7
87.5°	6.7	6.7	7.9	9.0	10.1
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)