

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: P545396

Luminaire Tested: **FMR-12-2-LD4-1LO-40-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: P545396  
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-LD4-1LO-40-UNV-93-94-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

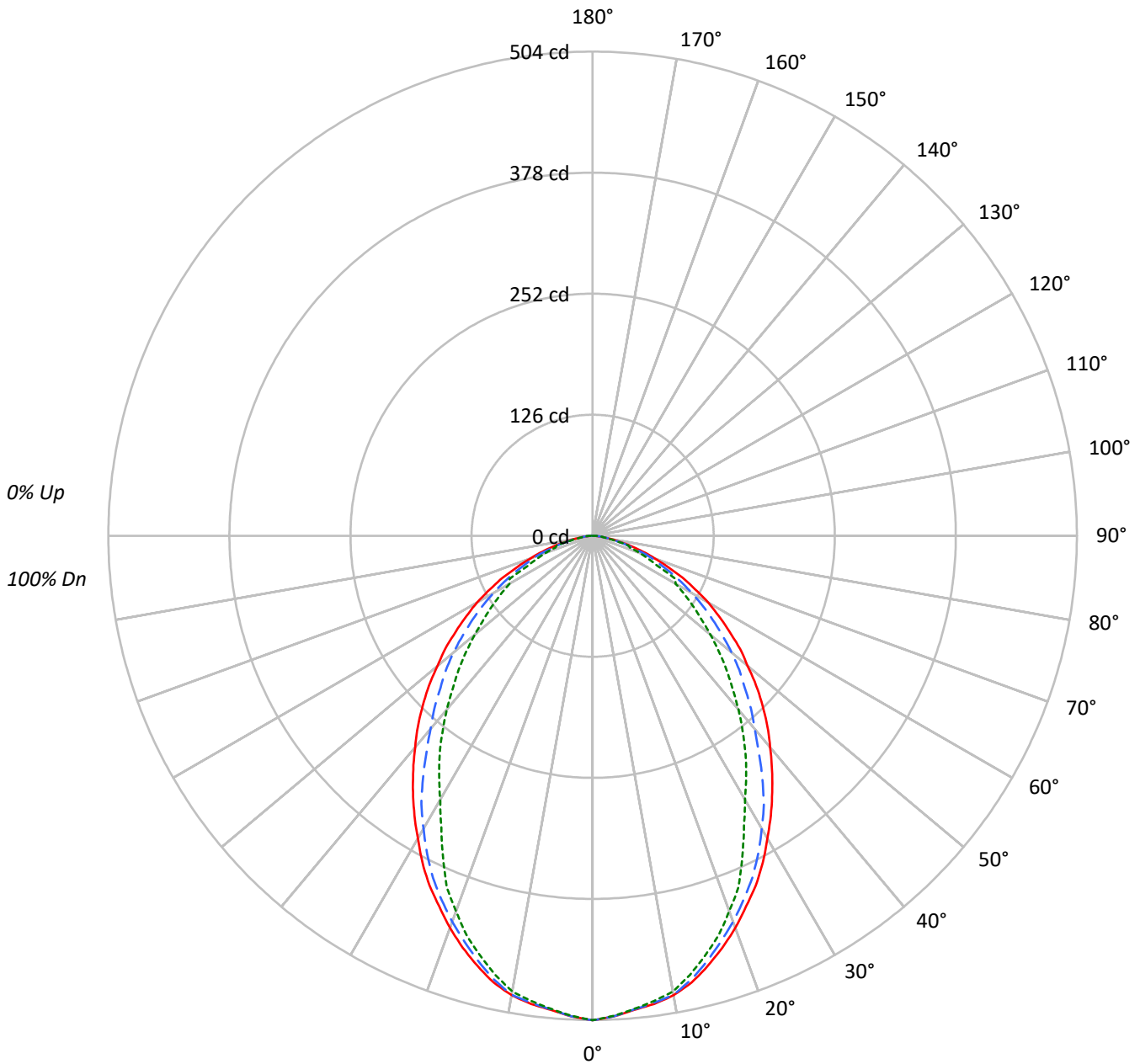
Lumens per Lamp: N/A  
Luminaire Lumens: 990.0 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	2714	2714	2714
5°	2677	2674	2671
10°	2654	2651	2632
15°	2583	2556	2521
20°	2487	2447	2381
25°	2385	2333	2188
30°	2261	2188	1971
35°	2141	2022	1823
40°	2019	1843	1659
45°	1904	1704	1500
50°	1762	1582	1337
55°	1630	1433	1198
60°	1494	1280	1073
65°	1314	1121	950
70°	1083	982	807
75°	861	751	788
80°	580	542	505
85°	358	432	506



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.9	4.7
10°-20°	128.8	13.0
20°-30°	178.4	18.0
30°-40°	190.2	19.2
40°-50°	173.5	17.5
50°-60°	135.9	13.7
60°-70°	88.6	8.9
70°-80°	39.3	4.0
80°-90°	8.4	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°	354.1	35.8
0°-40°	544.3	55.0
0°-60°	853.7	86.2
0°-90°	990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	990.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	496	495	495	494	494	47
15°	464	464	459	454	452	130
25°	402	399	393	379	368	184
35°	326	324	308	284	278	204
45°	250	245	224	205	197	193
55°	174	168	153	135	128	156
65°	103	97	88	90	75	102
75°	41	38	36	34	38	44
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	504.3	504.3	504.3	504.3	504.3
2.5°	500.8	500.8	500.8	500.2	500.2
5°	495.5	495.0	495.0	494.4	494.4
7.5°	491.5	490.9	490.3	489.7	488.6
10°	485.6	485.6	485.1	482.1	481.6
12.5°	476.3	475.7	473.4	469.3	468.1
15°	463.5	463.5	458.8	454.2	452.4
17.5°	449.5	448.9	443.1	438.4	436.1
20°	434.3	433.2	427.3	419.8	415.7
22.5°	417.4	417.4	410.4	400.5	396.4
25°	401.7	399.4	392.9	378.9	368.5
27.5°	383.6	380.1	373.1	353.3	341.1
30°	363.8	362.0	352.1	326.5	317.2
32.5°	345.1	342.2	331.7	304.9	297.3
35°	325.9	323.6	307.8	284.5	277.5
37.5°	306.7	303.7	283.9	265.3	256.5
40°	287.4	283.9	262.3	245.4	236.1
42.5°	269.3	264.7	243.7	225.6	215.1
45°	250.1	244.9	223.9	205.2	197.1
47.5°	230.9	226.2	207.0	187.7	178.4
50°	210.5	206.4	188.9	169.7	159.7
52.5°	193.6	187.1	170.2	151.0	142.8
55°	173.7	168.5	152.7	134.7	127.7
57.5°	155.7	150.4	135.8	118.9	113.1
60°	138.8	131.2	118.9	104.4	99.7
62.5°	120.1	114.3	103.8	91.5	97.4
65°	103.2	97.4	88.0	89.8	74.6
67.5°	84.5	81.6	73.5	65.3	63.0
70°	68.8	65.3	62.4	53.6	51.3
72.5°	54.8	51.3	47.2	42.6	40.8
75°	41.4	38.5	36.1	34.4	37.9
77.5°	28.6	27.4	25.7	23.9	23.3
80°	18.7	18.1	17.5	16.9	16.3
82.5°	11.1	11.1	11.1	11.1	11.1
85°	5.8	6.4	7.0	7.6	8.2
87.5°	3.5	3.5	4.1	4.7	5.2
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)