

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: P545301

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-93-96-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: P545301  
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-LD4-1HI-40-UNV-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

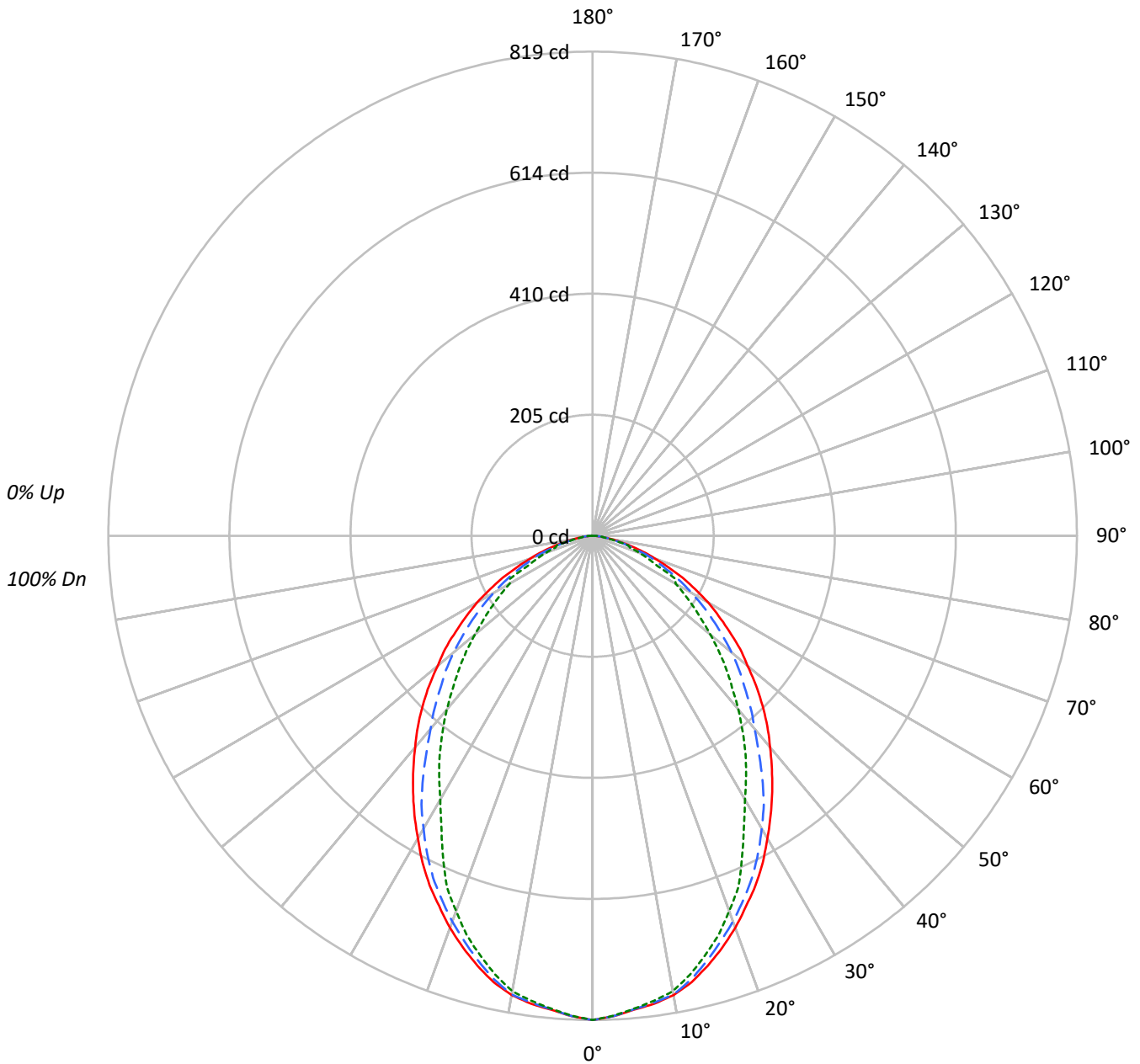
Lumens per Lamp: N/A  
Luminaire Lumens: 1608.0 lumens  
Efficiency: N/A  
Efficacy: 74.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	4408	4408	4408
5°	4348	4343	4338
10°	4311	4305	4275
15°	4194	4152	4094
20°	4041	3975	3867
25°	3874	3790	3554
30°	3672	3554	3201
35°	3478	3285	2961
40°	3280	2994	2694
45°	3092	2767	2436
50°	2862	2569	2173
55°	2648	2328	1946
60°	2426	2080	1743
65°	2134	1821	1543
70°	1758	1594	1311
75°	1397	1221	1281
80°	939	880	821
85°	587	704	821



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.2	4.7
10°-20°	209.3	13.0
20°-30°	289.7	18.0
30°-40°	308.9	19.2
40°-50°	281.8	17.5
50°-60°	220.8	13.7
60°-70°	143.9	8.9
70°-80°	63.8	4.0
80°-90°	13.7	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°	575.2	35.8
0°-40°	884.1	55.0
0°-60°	1386.7	86.2
0°-90°	1608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1608.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	819	819	819	819	819	
5°	805	804	804	803	803	76
15°	753	753	745	738	735	212
25°	652	649	638	616	598	300
35°	529	526	500	462	451	331
45°	406	398	364	333	320	313
55°	282	274	248	219	207	253
65°	168	158	143	146	121	165
75°	67	62	59	56	62	72
85°	10	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	819.1	819.1	819.1	819.1	819.1
2.5°	813.4	813.4	813.4	812.5	812.5
5°	804.9	803.9	803.9	803.0	803.0
7.5°	798.3	797.3	796.4	795.4	793.5
10°	788.8	788.8	787.8	783.1	782.2
12.5°	773.6	772.7	768.9	762.3	760.4
15°	752.8	752.8	745.2	737.7	734.8
17.5°	730.1	729.1	719.7	712.1	708.3
20°	705.5	703.6	694.1	681.8	675.2
22.5°	678.0	678.0	666.6	650.5	643.9
25°	652.4	648.6	638.2	615.5	598.5
27.5°	623.1	617.4	606.0	573.8	554.0
30°	590.9	588.0	571.9	530.3	515.1
32.5°	560.6	555.8	538.8	495.2	482.9
35°	529.3	525.5	500.0	462.1	450.7
37.5°	498.1	493.4	461.2	430.9	416.6
40°	466.8	461.2	426.1	398.7	383.5
42.5°	437.5	429.9	395.8	366.5	349.4
45°	406.2	397.7	363.6	333.3	320.1
47.5°	375.0	367.4	336.2	304.9	289.8
50°	341.8	335.2	306.8	275.6	259.5
52.5°	314.4	304.0	276.5	245.3	232.0
55°	282.2	273.7	248.1	218.7	207.4
57.5°	252.8	244.3	220.6	193.2	183.7
60°	225.4	213.1	193.2	169.5	161.9
62.5°	195.1	185.6	168.6	148.7	158.1
65°	167.6	158.1	143.0	145.8	121.2
67.5°	137.3	132.6	119.3	106.1	102.3
70°	111.7	106.1	101.3	87.1	83.3
72.5°	89.0	83.3	76.7	69.1	66.3
75°	67.2	62.5	58.7	55.9	61.6
77.5°	46.4	44.5	41.7	38.8	37.9
80°	30.3	29.4	28.4	27.5	26.5
82.5°	18.0	18.0	18.0	18.0	18.0
85°	9.5	10.4	11.4	12.3	13.3
87.5°	5.7	5.7	6.6	7.6	8.5
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)