

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: P544880

Luminaire Tested: **FMR-12-1-LD4-1STD-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: P544880  
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-12-1-LD4-1STD-35-UNV-93-85-EDD  
Description: 1X1 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**

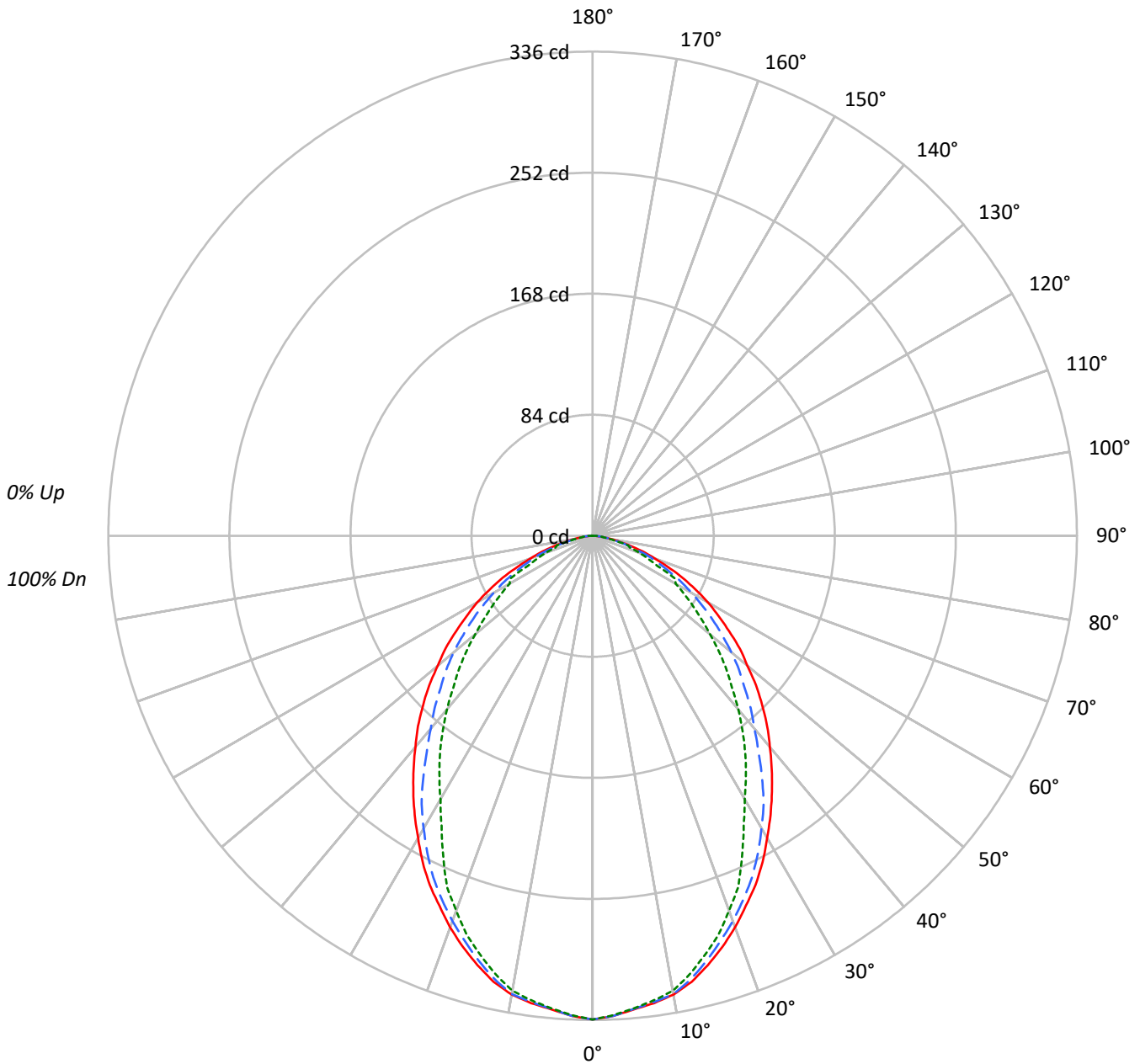
Lumens per Lamp: N/A  
Luminaire Lumens: 659.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
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°	3613	3613	3613
5°	3565	3560	3556
10°	3534	3529	3504
15°	3438	3403	3355
20°	3312	3259	3170
25°	3176	3107	2913
30°	3010	2913	2624
35°	2850	2692	2427
40°	2688	2453	2209
45°	2535	2268	1997
50°	2346	2105	1780
55°	2169	1909	1595
60°	1989	1705	1429
65°	1750	1493	1266
70°	1441	1306	1076
75°	1148	1002	1048
80°	769	719	676
85°	482	580	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.2	4.7
10°-20°	85.8	13.0
20°-30°	118.7	18.0
30°-40°	126.6	19.2
40°-50°	115.5	17.5
50°-60°	90.5	13.7
60°-70°	59.0	8.9
70°-80°	26.1	4.0
80°-90°	5.6	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°	235.7	35.8
0°-40°	362.3	55.0
0°-60°	568.3	86.2
0°-90°	659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	659.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	336	336	336	336	336	
5°	330	330	330	329	329	31
15°	308	308	305	302	301	87
25°	267	266	262	252	245	123
35°	217	215	205	189	185	136
45°	166	163	149	137	131	128
55°	116	112	102	90	85	104
65°	69	65	59	60	50	68
75°	28	26	24	23	25	30
85°	4	4	5	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	335.7	335.7	335.7	335.7	335.7
2.5°	333.4	333.4	333.4	333.0	333.0
5°	329.9	329.5	329.5	329.1	329.1
7.5°	327.1	326.8	326.4	326.0	325.2
10°	323.3	323.3	322.9	320.9	320.6
12.5°	317.1	316.7	315.1	312.4	311.6
15°	308.5	308.5	305.4	302.3	301.1
17.5°	299.2	298.8	294.9	291.8	290.3
20°	289.1	288.3	284.5	279.4	276.7
22.5°	277.9	277.9	273.2	266.6	263.9
25°	267.4	265.8	261.6	252.2	245.3
27.5°	255.4	253.0	248.4	235.2	227.0
30°	242.2	241.0	234.4	217.3	211.1
32.5°	229.7	227.8	220.8	203.0	197.9
35°	216.9	215.4	204.9	189.4	184.7
37.5°	204.1	202.2	189.0	176.6	170.8
40°	191.3	189.0	174.6	163.4	157.2
42.5°	179.3	176.2	162.2	150.2	143.2
45°	166.5	163.0	149.0	136.6	131.2
47.5°	153.7	150.6	137.8	125.0	118.8
50°	140.1	137.4	125.7	112.9	106.3
52.5°	128.8	124.6	113.3	100.5	95.1
55°	115.6	112.2	101.7	89.6	85.0
57.5°	103.6	100.1	90.4	79.2	75.3
60°	92.4	87.3	79.2	69.5	66.4
62.5°	79.9	76.1	69.1	60.9	64.8
65°	68.7	64.8	58.6	59.8	49.7
67.5°	56.3	54.3	48.9	43.5	41.9
70°	45.8	43.5	41.5	35.7	34.2
72.5°	36.5	34.2	31.4	28.3	27.2
75°	27.6	25.6	24.1	22.9	25.2
77.5°	19.0	18.2	17.1	15.9	15.5
80°	12.4	12.0	11.6	11.3	10.9
82.5°	7.4	7.4	7.4	7.4	7.4
85°	3.9	4.3	4.7	5.0	5.4
87.5°	2.3	2.3	2.7	3.1	3.5
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)