

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: P544913

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-93-86-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: P544913  
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-40-UNV-93-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

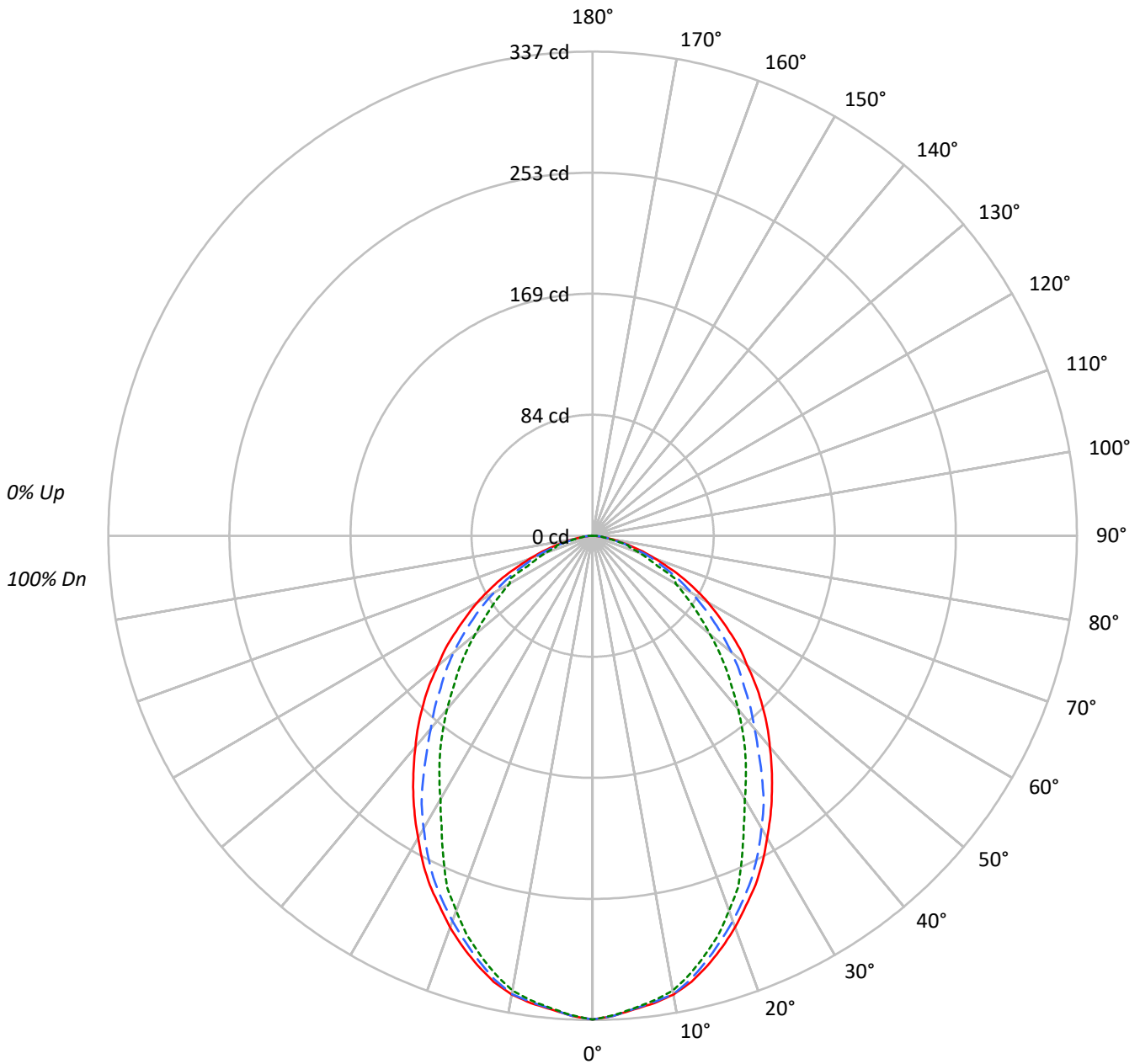
Lumens per Lamp: N/A  
Luminaire Lumens: 661.0 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (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°	3624	3624	3624
5°	3575	3571	3567
10°	3543	3540	3514
15°	3449	3413	3366
20°	3322	3268	3179
25°	3185	3116	2922
30°	3019	2922	2632
35°	2859	2700	2435
40°	2696	2462	2214
45°	2542	2276	2003
50°	2353	2112	1787
55°	2177	1914	1599
60°	1993	1709	1434
65°	1755	1498	1268
70°	1445	1312	1079
75°	1148	1002	1052
80°	775	725	676
85°	482	580	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.3	4.7
10°-20°	86.0	13.0
20°-30°	119.1	18.0
30°-40°	127.0	19.2
40°-50°	115.8	17.5
50°-60°	90.8	13.7
60°-70°	59.1	8.9
70°-80°	26.2	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°	236.4	35.8
0°-40°	363.4	55.0
0°-60°	570.0	86.2
0°-90°	661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	661.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	337	337	337	337	337	
5°	331	330	330	330	330	31
15°	310	310	306	303	302	87
25°	268	267	262	253	246	123
35°	218	216	206	190	185	136
45°	167	164	150	137	132	129
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°	336.7	336.7	336.7	336.7	336.7
2.5°	334.4	334.4	334.4	334.0	334.0
5°	330.9	330.5	330.5	330.1	330.1
7.5°	328.1	327.8	327.4	327.0	326.2
10°	324.2	324.2	323.9	321.9	321.5
12.5°	318.0	317.6	316.1	313.3	312.6
15°	309.5	309.5	306.3	303.2	302.1
17.5°	300.1	299.7	295.8	292.7	291.2
20°	290.0	289.2	285.3	280.3	277.5
22.5°	278.7	278.7	274.0	267.4	264.7
25°	268.2	266.6	262.4	253.0	246.0
27.5°	256.1	253.8	249.1	235.9	227.7
30°	242.9	241.7	235.1	218.0	211.8
32.5°	230.4	228.5	221.5	203.6	198.5
35°	217.6	216.0	205.5	190.0	185.3
37.5°	204.7	202.8	189.6	177.1	171.3
40°	191.9	189.6	175.2	163.9	157.6
42.5°	179.8	176.7	162.7	150.6	143.6
45°	167.0	163.5	149.5	137.0	131.6
47.5°	154.1	151.0	138.2	125.3	119.1
50°	140.5	137.8	126.1	113.3	106.7
52.5°	129.2	125.0	113.7	100.8	95.4
55°	116.0	112.5	102.0	89.9	85.2
57.5°	103.9	100.4	90.7	79.4	75.5
60°	92.6	87.6	79.4	69.7	66.6
62.5°	80.2	76.3	69.3	61.1	65.0
65°	68.9	65.0	58.8	59.9	49.8
67.5°	56.4	54.5	49.0	43.6	42.0
70°	45.9	43.6	41.7	35.8	34.3
72.5°	36.6	34.3	31.5	28.4	27.2
75°	27.6	25.7	24.1	23.0	25.3
77.5°	19.1	18.3	17.1	16.0	15.6
80°	12.5	12.1	11.7	11.3	10.9
82.5°	7.4	7.4	7.4	7.4	7.4
85°	3.9	4.3	4.7	5.1	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)