

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: P544889

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-80-86-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: P544889  
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-80-86-EDD  
Description: 1X1 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

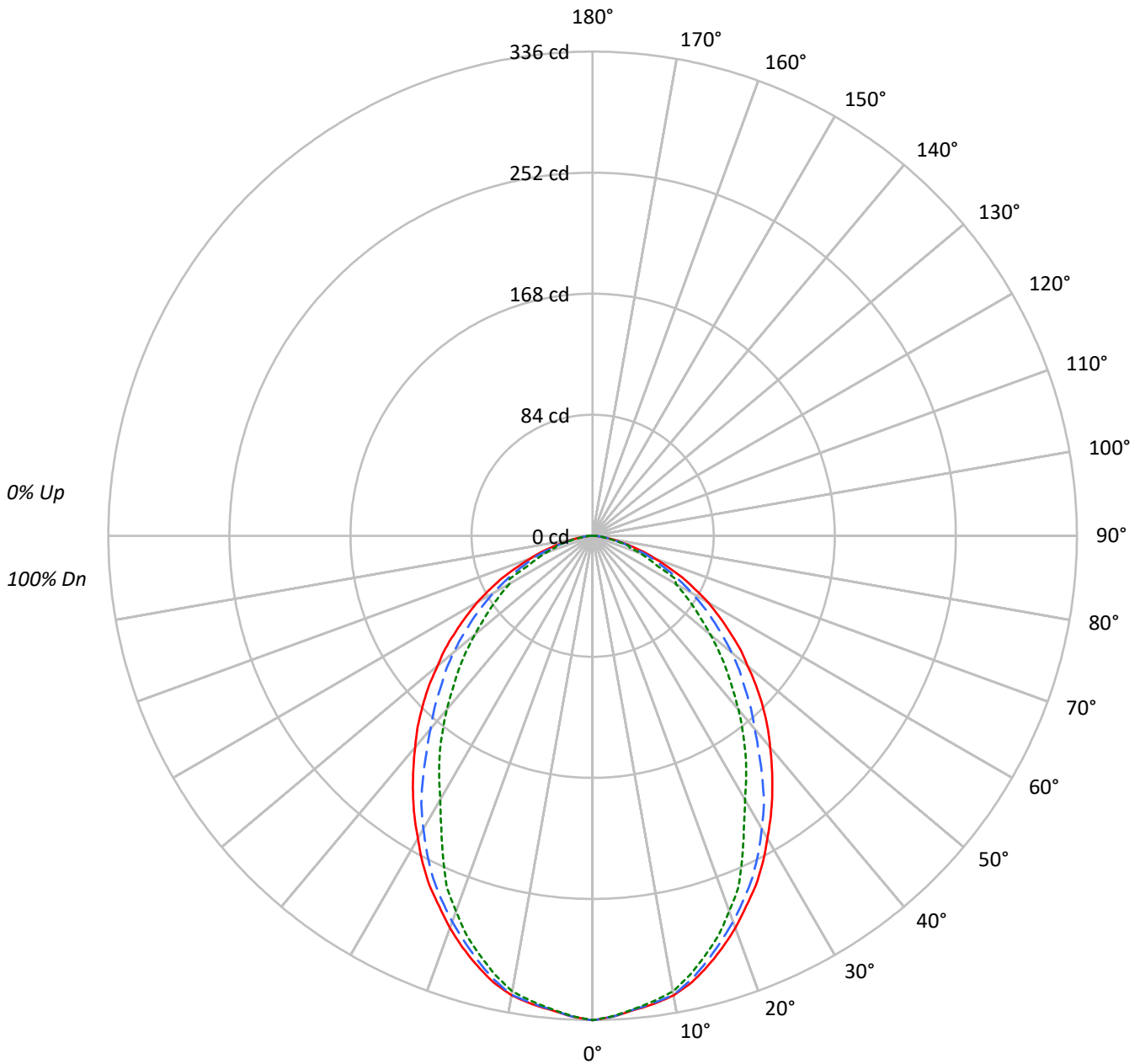
Lumens per Lamp: N/A  
Luminaire Lumens: 660.0 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	3619	3619	3619
5°	3570	3566	3561
10°	3539	3535	3509
15°	3443	3409	3361
20°	3317	3263	3174
25°	3181	3112	2917
30°	3014	2918	2628
35°	2855	2696	2431
40°	2692	2458	2212
45°	2538	2271	2000
50°	2349	2108	1783
55°	2173	1910	1597
60°	1991	1707	1432
65°	1752	1495	1266
70°	1445	1309	1076
75°	1148	1002	1052
80°	769	725	676
85°	482	580	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.3	4.7
10°-20°	85.9	13.0
20°-30°	118.9	18.0
30°-40°	126.8	19.2
40°-50°	115.7	17.5
50°-60°	90.6	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°	236.1	35.8
0°-40°	362.9	55.0
0°-60°	569.2	86.2
0°-90°	660.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	660.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	336	336	336	336	336	
5°	330	330	330	330	330	31
15°	309	309	306	303	302	87
25°	268	266	262	253	246	123
35°	217	216	205	190	185	136
45°	167	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°	336.2	336.2	336.2	336.2	336.2
2.5°	333.9	333.9	333.9	333.5	333.5
5°	330.4	330.0	330.0	329.6	329.6
7.5°	327.6	327.3	326.9	326.5	325.7
10°	323.8	323.8	323.4	321.4	321.0
12.5°	317.5	317.2	315.6	312.9	312.1
15°	309.0	309.0	305.9	302.8	301.6
17.5°	299.7	299.3	295.4	292.3	290.7
20°	289.6	288.8	284.9	279.8	277.1
22.5°	278.3	278.3	273.6	267.0	264.3
25°	267.8	266.2	262.0	252.6	245.6
27.5°	255.7	253.4	248.7	235.5	227.4
30°	242.5	241.4	234.8	217.7	211.4
32.5°	230.1	228.1	221.2	203.3	198.2
35°	217.3	215.7	205.2	189.7	185.0
37.5°	204.4	202.5	189.3	176.8	171.0
40°	191.6	189.3	174.9	163.6	157.4
42.5°	179.6	176.5	162.5	150.4	143.4
45°	166.7	163.2	149.2	136.8	131.4
47.5°	153.9	150.8	138.0	125.2	118.9
50°	140.3	137.6	125.9	113.1	106.5
52.5°	129.0	124.8	113.5	100.7	95.2
55°	115.8	112.3	101.8	89.8	85.1
57.5°	103.8	100.3	90.6	79.3	75.4
60°	92.5	87.4	79.3	69.6	66.5
62.5°	80.1	76.2	69.2	61.0	64.9
65°	68.8	64.9	58.7	59.9	49.7
67.5°	56.4	54.4	49.0	43.5	42.0
70°	45.9	43.5	41.6	35.8	34.2
72.5°	36.5	34.2	31.5	28.4	27.2
75°	27.6	25.7	24.1	22.9	25.3
77.5°	19.0	18.3	17.1	15.9	15.5
80°	12.4	12.0	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)