

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: P544896

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-81-85-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: P544896  
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-81-85-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

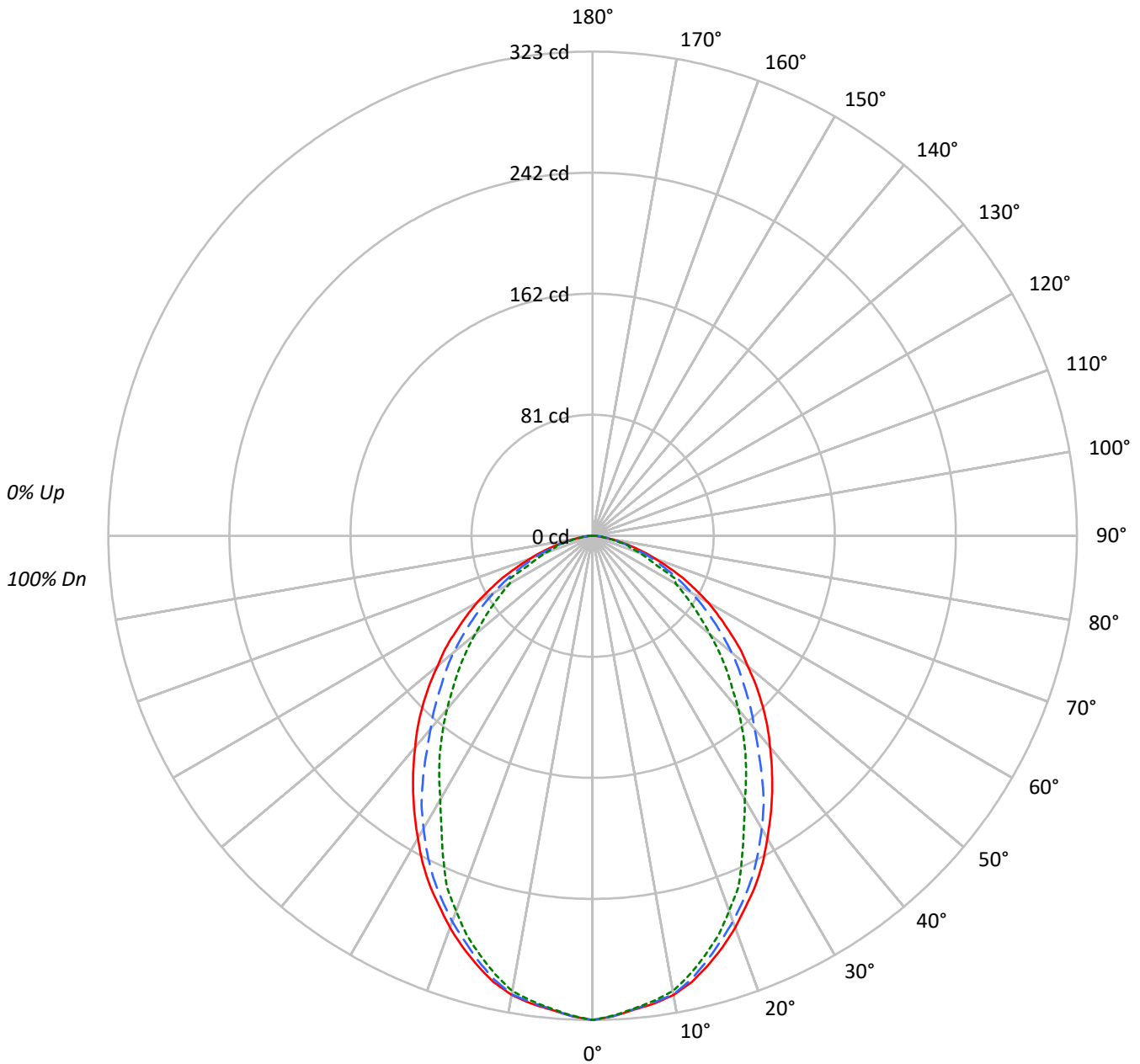
Lumens per Lamp: N/A  
Luminaire Lumens: 634.0 lumens  
Efficiency: N/A  
Efficacy: 76.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 8.3  
Input Voltage (V): NR  
Input Current (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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3477	3477	3477
5°	3430	3425	3421
10°	3399	3395	3371
15°	3307	3274	3228
20°	3186	3135	3049
25°	3055	2988	2803
30°	2896	2803	2524
35°	2742	2590	2335
40°	2587	2361	2125
45°	2439	2183	1921
50°	2257	2026	1713
55°	2089	1835	1535
60°	1914	1640	1373
65°	1684	1436	1217
70°	1388	1256	1035
75°	1102	961	1011
80°	738	694	651
85°	457	556	642



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.1	4.7
10°-20°	82.5	13.0
20°-30°	114.2	18.0
30°-40°	121.8	19.2
40°-50°	111.1	17.5
50°-60°	87.0	13.7
60°-70°	56.7	8.9
70°-80°	25.1	4.0
80°-90°	5.4	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°	226.8	35.8
0°-40°	348.6	55.0
0°-60°	546.7	86.2
0°-90°	634.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	634.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	323	323	323	323	323	
5°	317	317	317	317	317	30
15°	297	297	294	291	290	83
25°	257	256	252	243	236	118
35°	209	207	197	182	178	130
45°	160	157	143	131	126	123
55°	111	108	98	86	82	100
65°	66	62	56	58	48	65
75°	26	25	23	22	24	28
85°	4	4	4	5	5	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	323.0	323.0	323.0	323.0	323.0
2.5°	320.7	320.7	320.7	320.3	320.3
5°	317.4	317.0	317.0	316.6	316.6
7.5°	314.7	314.4	314.0	313.6	312.9
10°	311.0	311.0	310.6	308.8	308.4
12.5°	305.0	304.7	303.2	300.5	299.8
15°	296.8	296.8	293.8	290.8	289.7
17.5°	287.9	287.5	283.7	280.8	279.3
20°	278.1	277.4	273.7	268.8	266.2
22.5°	267.3	267.3	262.8	256.5	253.9
25°	257.2	255.7	251.6	242.7	236.0
27.5°	245.7	243.4	238.9	226.3	218.4
30°	233.0	231.9	225.5	209.1	203.1
32.5°	221.0	219.2	212.4	195.3	190.4
35°	208.7	207.2	197.1	182.2	177.7
37.5°	196.4	194.5	181.8	169.9	164.3
40°	184.1	181.8	168.0	157.2	151.2
42.5°	172.5	169.5	156.1	144.5	137.8
45°	160.2	156.8	143.4	131.4	126.2
47.5°	147.8	144.9	132.5	120.2	114.2
50°	134.8	132.2	121.0	108.6	102.3
52.5°	124.0	119.8	109.0	96.7	91.5
55°	111.3	107.9	97.8	86.2	81.8
57.5°	99.7	96.3	87.0	76.2	72.4
60°	88.9	84.0	76.2	66.8	63.8
62.5°	76.9	73.2	66.5	58.6	62.4
65°	66.1	62.4	56.4	57.5	47.8
67.5°	54.1	52.3	47.0	41.8	40.3
70°	44.1	41.8	39.9	34.3	32.9
72.5°	35.1	32.9	30.2	27.3	26.1
75°	26.5	24.6	23.1	22.0	24.3
77.5°	18.3	17.5	16.4	15.3	14.9
80°	11.9	11.6	11.2	10.8	10.5
82.5°	7.1	7.1	7.1	7.1	7.1
85°	3.7	4.1	4.5	4.9	5.2
87.5°	2.2	2.2	2.6	3.0	3.4
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)