

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: P544900

Luminaire Tested: **FMR-12-1-LD4-1STD-40-UNV-81-94-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: P544900  
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-81-94-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

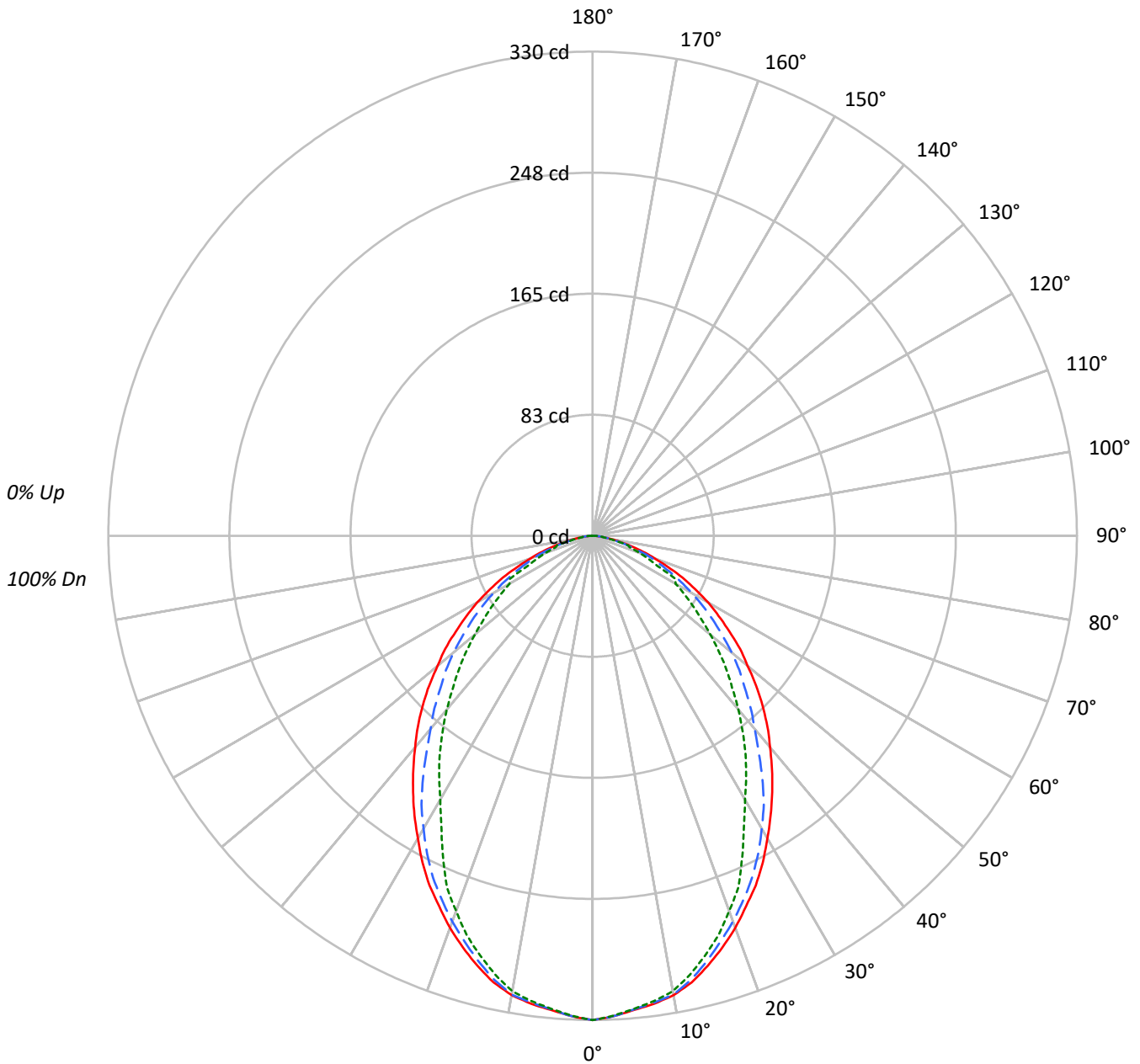
Lumens per Lamp: N/A  
Luminaire Lumens: 648.0 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	3553	3553	3553
5°	3505	3501	3497
10°	3475	3470	3445
15°	3381	3346	3300
20°	3257	3204	3117
25°	3122	3055	2865
30°	2959	2865	2580
35°	2803	2648	2386
40°	2643	2413	2171
45°	2492	2230	1964
50°	2308	2070	1752
55°	2134	1877	1569
60°	1955	1675	1406
65°	1719	1467	1243
70°	1416	1284	1057
75°	1127	986	1031
80°	756	707	663
85°	469	568	655



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.7	4.7
10°-20°	84.3	13.0
20°-30°	116.7	18.0
30°-40°	124.5	19.2
40°-50°	113.6	17.5
50°-60°	89.0	13.7
60°-70°	58.0	8.9
70°-80°	25.7	4.0
80°-90°	5.5	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°	231.8	35.8
0°-40°	356.3	55.0
0°-60°	558.8	86.2
0°-90°	648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	648.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	330	330	330	330	330	
5°	324	324	324	324	324	31
15°	303	303	300	297	296	85
25°	263	261	257	248	241	121
35°	213	212	202	186	182	133
45°	164	160	146	134	129	126
55°	114	110	100	88	84	102
65°	68	64	58	59	49	67
75°	27	25	24	22	25	29
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°	330.1	330.1	330.1	330.1	330.1
2.5°	327.8	327.8	327.8	327.4	327.4
5°	324.4	324.0	324.0	323.6	323.6
7.5°	321.7	321.3	320.9	320.5	319.8
10°	317.9	317.9	317.5	315.6	315.2
12.5°	311.8	311.4	309.9	307.2	306.4
15°	303.4	303.4	300.3	297.3	296.1
17.5°	294.2	293.8	290.0	287.0	285.4
20°	284.3	283.5	279.7	274.8	272.1
22.5°	273.2	273.2	268.6	262.2	259.5
25°	262.9	261.4	257.2	248.0	241.2
27.5°	251.1	248.8	244.2	231.2	223.2
30°	238.1	237.0	230.5	213.7	207.6
32.5°	225.9	224.0	217.1	199.6	194.6
35°	213.3	211.8	201.5	186.2	181.6
37.5°	200.7	198.8	185.8	173.6	167.9
40°	188.1	185.8	171.7	160.7	154.5
42.5°	176.3	173.2	159.5	147.7	140.8
45°	163.7	160.3	146.5	134.3	129.0
47.5°	151.1	148.1	135.5	122.9	116.8
50°	137.8	135.1	123.6	111.0	104.6
52.5°	126.7	122.5	111.4	98.8	93.5
55°	113.7	110.3	100.0	88.1	83.6
57.5°	101.9	98.5	88.9	77.8	74.0
60°	90.8	85.9	77.8	68.3	65.3
62.5°	78.6	74.8	67.9	59.9	63.7
65°	67.5	63.7	57.6	58.8	48.8
67.5°	55.3	53.4	48.1	42.7	41.2
70°	45.0	42.7	40.8	35.1	33.6
72.5°	35.9	33.6	30.9	27.9	26.7
75°	27.1	25.2	23.7	22.5	24.8
77.5°	18.7	17.9	16.8	15.6	15.3
80°	12.2	11.8	11.4	11.1	10.7
82.5°	7.3	7.3	7.3	7.3	7.3
85°	3.8	4.2	4.6	5.0	5.3
87.5°	2.3	2.3	2.7	3.1	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)