

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: P547146

Luminaire Tested: **FMR-24-4-LD4-3LO-50-UNV-82-87-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: P547146  
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-24-4-LD4-3LO-50-UNV-82-87-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

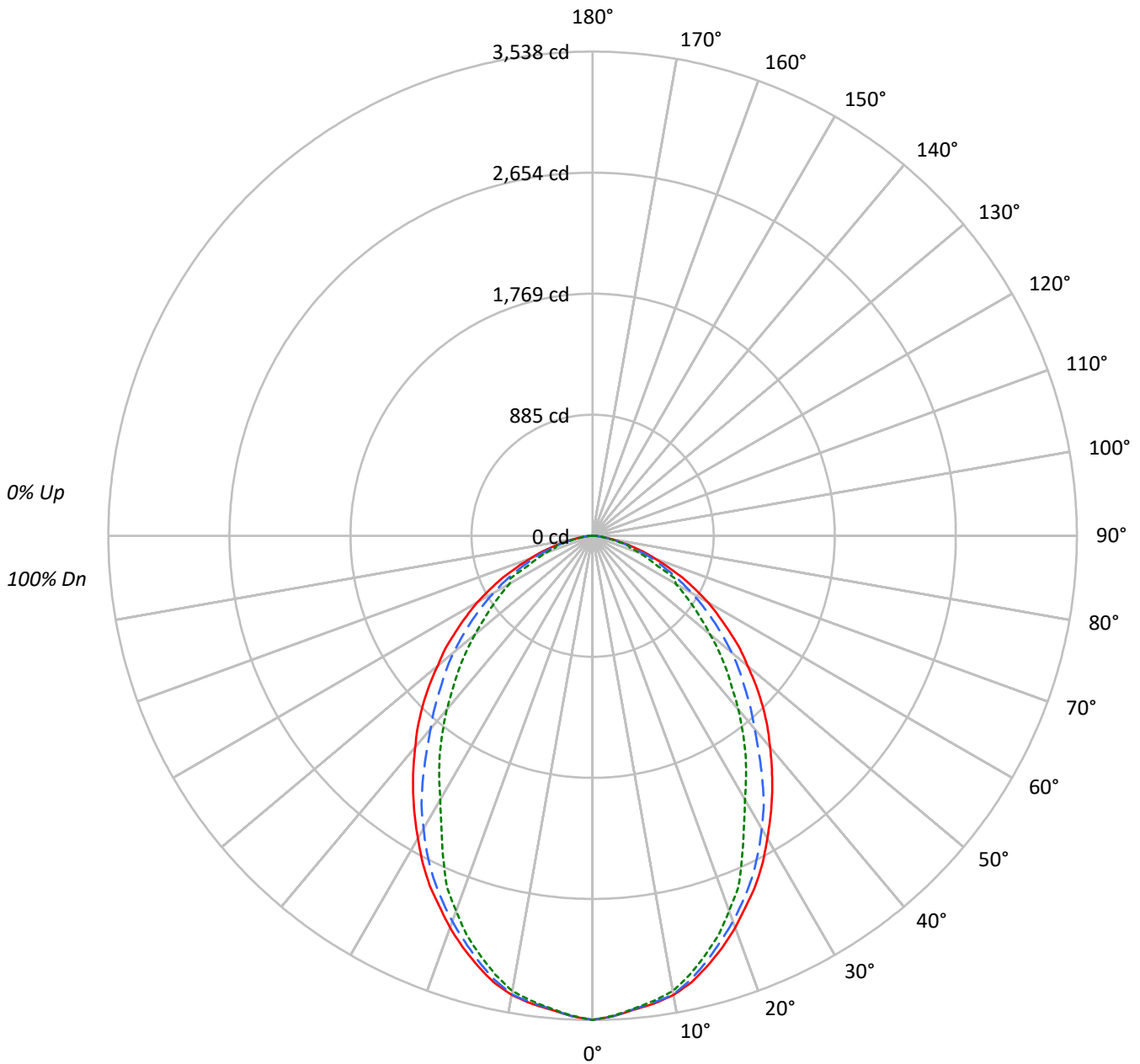
Lumens per Lamp: N/A  
Luminaire Lumens: 6945.0 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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°	4760	4760	4760
5°	4695	4690	4684
10°	4655	4649	4615
15°	4529	4483	4421
20°	4363	4292	4175
25°	4183	4092	3837
30°	3965	3838	3457
35°	3755	3547	3198
40°	3541	3232	2909
45°	3338	2988	2630
50°	3090	2774	2346
55°	2859	2514	2101
60°	2619	2245	1882
65°	2305	1966	1667
70°	1899	1721	1416
75°	1510	1318	1382
80°	1014	951	887
85°	631	758	885



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	329.3	4.7
10°-20°	903.8	13.0
20°-30°	1251.2	18.0
30°-40°	1334.1	19.2
40°-50°	1217.1	17.5
50°-60°	953.5	13.7
60°-70°	621.5	8.9
70°-80°	275.3	4.0
80°-90°	59.1	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°	2484.3	35.8
0°-40°	3818.4	55.0
0°-60°	5989.1	86.2
0°-90°	6945.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6945.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3538	3538	3538	3538	3538	
5°	3476	3472	3472	3468	3468	330
15°	3251	3251	3219	3186	3174	914
25°	2818	2802	2756	2658	2585	1294
35°	2286	2270	2159	1996	1947	1429
45°	1754	1718	1570	1440	1382	1352
55°	1219	1182	1072	945	896	1093
65°	724	683	618	630	524	713
75°	290	270	254	241	266	311
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3537.7	3537.7	3537.7	3537.7	3537.7
2.5°	3513.2	3513.2	3513.2	3509.1	3509.1
5°	3476.3	3472.3	3472.3	3468.2	3468.2
7.5°	3447.7	3443.6	3439.5	3435.4	3427.3
10°	3406.8	3406.8	3402.7	3382.3	3378.2
12.5°	3341.4	3337.3	3320.9	3292.3	3284.1
15°	3251.4	3251.4	3218.7	3186.0	3173.7
17.5°	3153.2	3149.2	3108.3	3075.5	3059.2
20°	3046.9	3038.7	2997.8	2944.7	2916.0
22.5°	2928.3	2928.3	2879.2	2809.7	2781.1
25°	2817.9	2801.5	2756.5	2658.4	2584.8
27.5°	2691.1	2666.6	2617.5	2478.4	2392.5
30°	2552.0	2539.8	2470.2	2290.3	2224.9
32.5°	2421.2	2400.7	2327.1	2139.0	2085.8
35°	2286.2	2269.8	2159.4	1995.8	1946.8
37.5°	2151.2	2130.8	1991.7	1860.9	1799.5
40°	2016.3	1991.7	1840.4	1721.8	1656.4
42.5°	1889.5	1856.8	1709.5	1582.8	1509.1
45°	1754.5	1717.7	1570.5	1439.6	1382.4
47.5°	1619.6	1586.8	1451.9	1316.9	1251.5
50°	1476.4	1447.8	1325.1	1190.1	1120.6
52.5°	1357.8	1312.8	1194.2	1059.3	1002.0
55°	1218.8	1182.0	1071.5	944.7	895.7
57.5°	1092.0	1055.2	952.9	834.3	793.4
60°	973.4	920.2	834.3	732.1	699.4
62.5°	842.5	801.6	728.0	642.1	683.0
65°	723.9	683.0	617.6	629.8	523.5
67.5°	593.0	572.6	515.3	458.1	441.7
70°	482.6	458.1	437.6	376.3	359.9
72.5°	384.4	359.9	331.3	298.6	286.3
75°	290.4	269.9	253.6	241.3	265.8
77.5°	200.4	192.2	180.0	167.7	163.6
80°	130.9	126.8	122.7	118.6	114.5
82.5°	77.7	77.7	77.7	77.7	77.7
85°	40.9	45.0	49.1	53.2	57.3
87.5°	24.5	24.5	28.6	32.7	36.8
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)