

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: P546936

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-80-85-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: P546936  
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-LD4-2STD-50-UNV-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

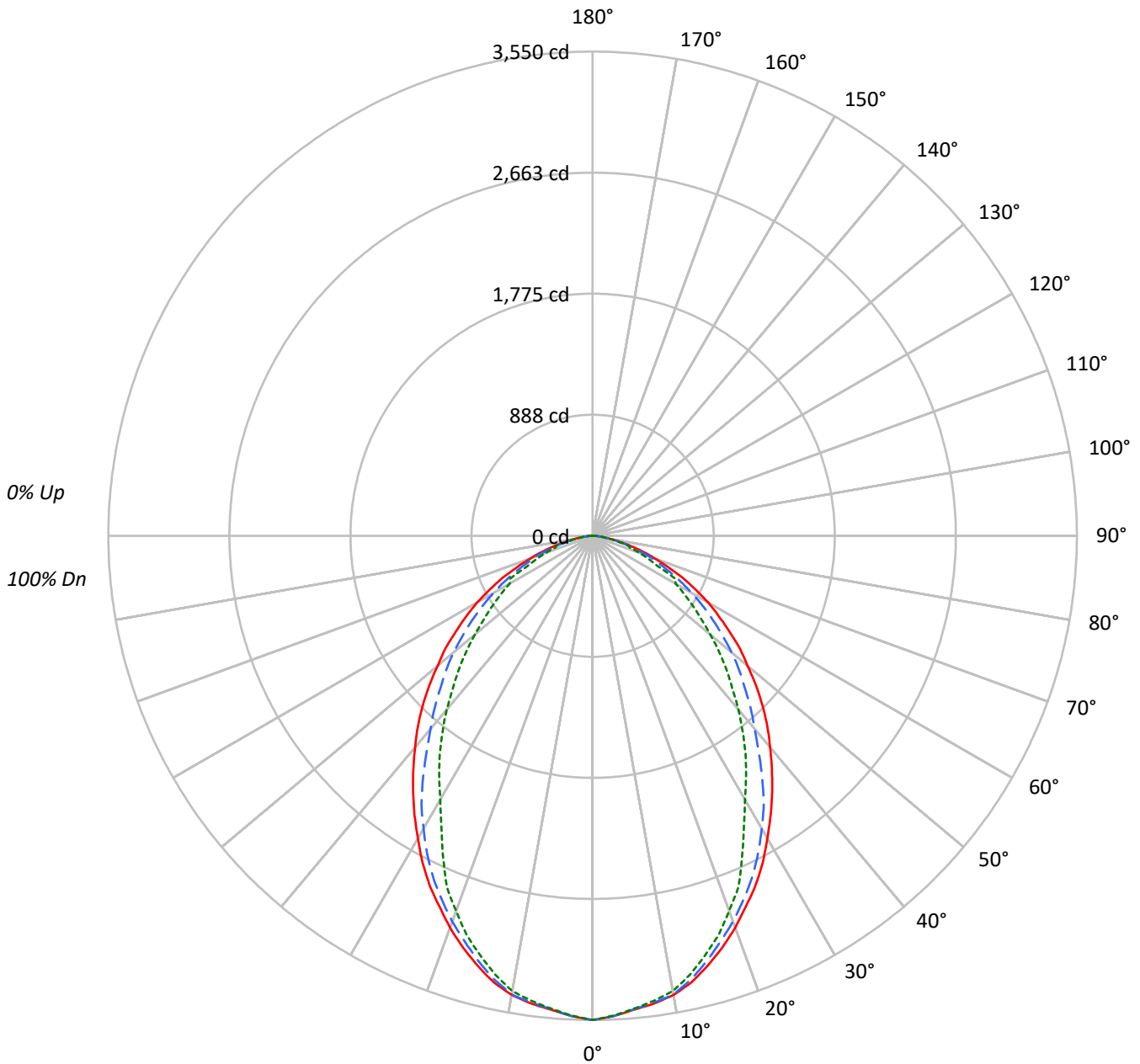
Lumens per Lamp: N/A  
Luminaire Lumens: 6969.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°	4776	4776	4776
5°	4712	4706	4700
10°	4671	4665	4631
15°	4545	4499	4436
20°	4378	4307	4190
25°	4198	4107	3851
30°	3979	3851	3468
35°	3768	3559	3209
40°	3554	3244	2919
45°	3350	2999	2639
50°	3101	2783	2354
55°	2869	2522	2108
60°	2628	2253	1889
65°	2313	1973	1672
70°	1905	1727	1421
75°	1515	1323	1387
80°	1017	954	890
85°	633	760	888



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	330.4	4.7
10°-20°	906.9	13.0
20°-30°	1255.5	18.0
30°-40°	1338.8	19.2
40°-50°	1221.3	17.5
50°-60°	956.8	13.7
60°-70°	623.6	8.9
70°-80°	276.3	4.0
80°-90°	59.3	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°	2492.9	35.8
0°-40°	3831.6	55.0
0°-60°	6009.8	86.2
0°-90°	6969.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6969.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3550	3550	3550	3550	3550	
5°	3488	3484	3484	3480	3480	331
15°	3263	3263	3230	3197	3185	917
25°	2828	2811	2766	2668	2594	1298
35°	2294	2278	2167	2003	1954	1434
45°	1761	1724	1576	1445	1387	1356
55°	1223	1186	1075	948	899	1097
65°	726	685	620	632	525	716
75°	291	271	254	242	267	312
85°	41	45	49	53	58	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3549.9	3549.9	3549.9	3549.9	3549.9
2.5°	3525.3	3525.3	3525.3	3521.2	3521.2
5°	3488.4	3484.3	3484.3	3480.1	3480.1
7.5°	3459.6	3455.5	3451.4	3447.3	3439.1
10°	3418.6	3418.6	3414.5	3394.0	3389.9
12.5°	3352.9	3348.8	3332.4	3303.7	3295.5
15°	3262.6	3262.6	3229.8	3197.0	3184.7
17.5°	3164.1	3160.0	3119.0	3086.2	3069.8
20°	3057.4	3049.2	3008.2	2954.8	2926.1
22.5°	2938.4	2938.4	2889.2	2819.4	2790.7
25°	2827.6	2811.2	2766.1	2667.6	2593.7
27.5°	2700.4	2675.8	2626.5	2487.0	2400.8
30°	2560.9	2548.6	2478.8	2298.2	2232.5
32.5°	2429.5	2409.0	2335.1	2146.4	2093.0
35°	2294.1	2277.7	2166.9	2002.7	1953.5
37.5°	2158.7	2138.2	1998.6	1867.3	1805.7
40°	2023.2	1998.6	1846.8	1727.8	1662.1
42.5°	1896.0	1863.2	1715.5	1588.2	1514.4
45°	1760.6	1723.7	1575.9	1444.6	1387.1
47.5°	1625.2	1592.3	1456.9	1321.5	1255.8
50°	1481.5	1452.8	1329.7	1194.2	1124.5
52.5°	1362.5	1317.4	1198.4	1062.9	1005.5
55°	1223.0	1186.0	1075.2	948.0	898.8
57.5°	1095.8	1058.8	956.2	837.2	796.2
60°	976.7	923.4	837.2	734.6	701.8
62.5°	845.4	804.4	730.5	644.3	685.4
65°	726.4	685.4	619.7	632.0	525.3
67.5°	595.1	574.6	517.1	459.6	443.2
70°	484.3	459.6	439.1	377.6	361.1
72.5°	385.8	361.1	332.4	299.6	287.3
75°	291.4	270.9	254.4	242.1	266.8
77.5°	201.1	192.9	180.6	168.3	164.2
80°	131.3	127.2	123.1	119.0	114.9
82.5°	78.0	78.0	78.0	78.0	78.0
85°	41.0	45.1	49.2	53.4	57.5
87.5°	24.6	24.6	28.7	32.8	36.9
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)