

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: P547486

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-80-97-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: P547486  
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-LD4-4STD-40-UNV-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

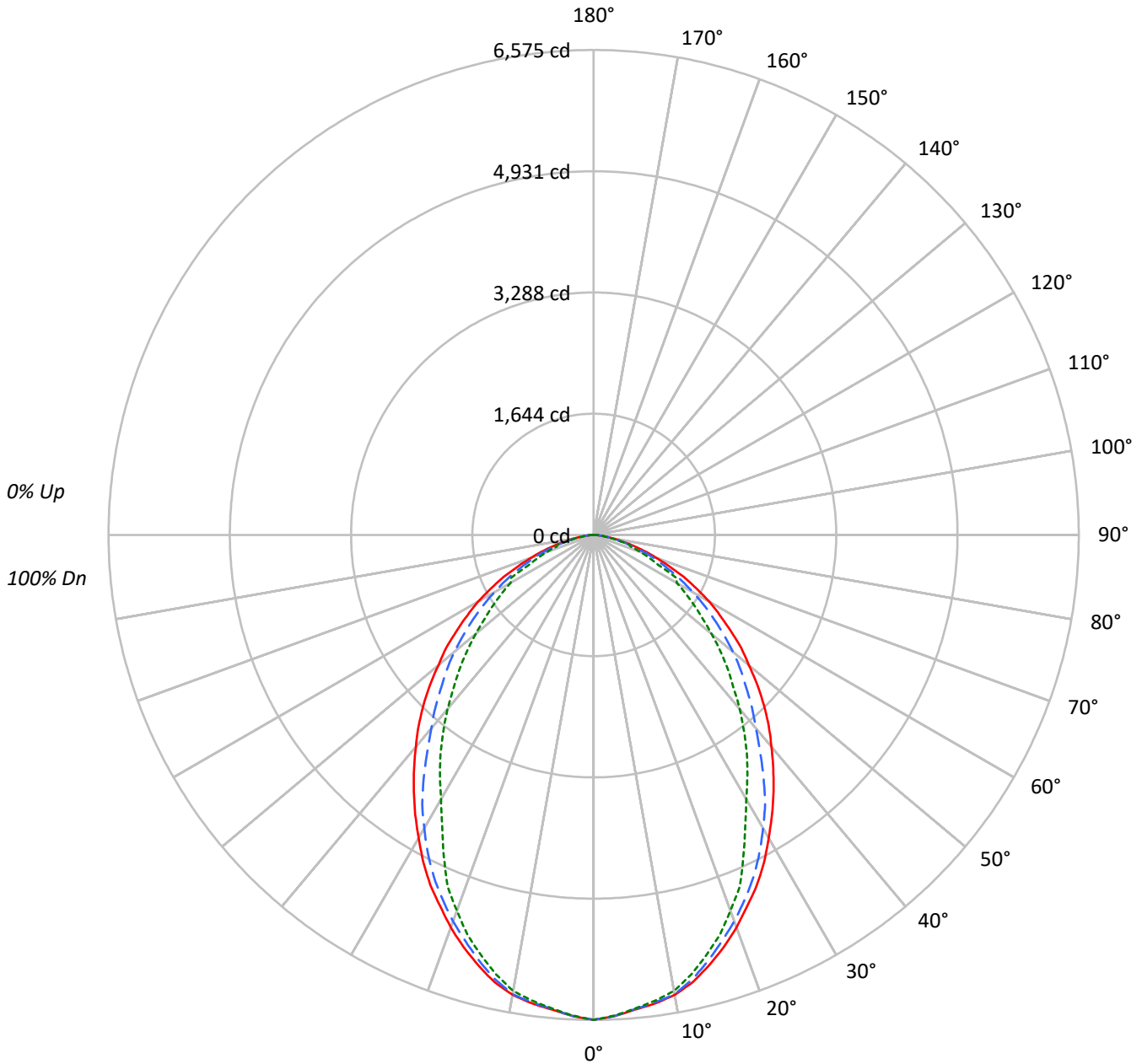
Lumens per Lamp: N/A  
Luminaire Lumens: 12907.0 lumens  
Efficiency: N/A  
Efficacy: 96.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 133.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	8846	8846	8846
5°	8726	8716	8705
10°	8650	8640	8578
15°	8417	8332	8216
20°	8108	7977	7760
25°	7775	7605	7131
30°	7369	7133	6424
35°	6979	6592	5943
40°	6582	6007	5407
45°	6204	5554	4889
50°	5744	5155	4359
55°	5313	4671	3905
60°	4868	4173	3497
65°	4283	3654	3097
70°	3528	3199	2631
75°	2806	2450	2568
80°	1884	1767	1649
85°	1173	1408	1643



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	612.0	4.7
10°-20°	1679.6	13.0
20°-30°	2325.3	18.0
30°-40°	2479.5	19.2
40°-50°	2262.0	17.5
50°-60°	1772.1	13.7
60°-70°	1155.0	8.9
70°-80°	511.7	4.0
80°-90°	109.9	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°	4616.9	35.8
0°-40°	7096.4	55.0
0°-60°	11130.5	86.2
0°-90°	12907.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12907.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6575	6575	6575	6575	6575	
5°	6461	6453	6453	6445	6445	613
15°	6043	6043	5982	5921	5898	1699
25°	5237	5206	5123	4940	4804	2404
35°	4249	4218	4013	3709	3618	2656
45°	3261	3192	2919	2676	2569	2512
55°	2265	2197	1991	1756	1665	2032
65°	1345	1269	1148	1170	973	1326
75°	540	502	471	448	494	578
85°	76	84	91	99	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6574.7	6574.7	6574.7	6574.7	6574.7
2.5°	6529.0	6529.0	6529.0	6521.4	6521.4
5°	6460.6	6453.0	6453.0	6445.4	6445.4
7.5°	6407.4	6399.8	6392.2	6384.6	6369.4
10°	6331.4	6331.4	6323.8	6285.8	6278.2
12.5°	6209.8	6202.2	6171.8	6118.6	6103.4
15°	6042.6	6042.6	5981.8	5921.0	5898.2
17.5°	5860.2	5852.6	5776.6	5715.8	5685.4
20°	5662.6	5647.4	5571.4	5472.5	5419.3
22.5°	5442.1	5442.1	5350.9	5221.7	5168.5
25°	5236.9	5206.5	5122.9	4940.5	4803.7
27.5°	5001.3	4955.7	4864.5	4606.1	4446.4
30°	4742.9	4720.1	4590.9	4256.4	4134.8
32.5°	4499.6	4461.6	4324.8	3975.2	3876.4
35°	4248.8	4218.4	4013.2	3709.2	3618.0
37.5°	3998.0	3960.0	3701.6	3458.3	3344.3
40°	3747.2	3701.6	3420.3	3199.9	3078.3
42.5°	3511.5	3450.7	3177.1	2941.5	2804.7
45°	3260.7	3192.3	2918.7	2675.5	2569.1
47.5°	3009.9	2949.1	2698.3	2447.4	2325.8
50°	2743.9	2690.7	2462.6	2211.8	2082.6
52.5°	2523.5	2439.8	2219.4	1968.6	1862.2
55°	2265.0	2196.6	1991.4	1755.8	1664.6
57.5°	2029.4	1961.0	1771.0	1550.6	1474.5
60°	1809.0	1710.2	1550.6	1360.5	1299.7
62.5°	1565.8	1489.7	1352.9	1193.3	1269.3
65°	1345.3	1269.3	1147.7	1170.5	972.9
67.5°	1102.1	1064.1	957.7	851.3	820.9
70°	896.9	851.3	813.3	699.3	668.9
72.5°	714.5	668.9	615.7	554.9	532.1
75°	539.7	501.6	471.2	448.4	494.0
77.5°	372.4	357.2	334.4	311.6	304.0
80°	243.2	235.6	228.0	220.4	212.8
82.5°	144.4	144.4	144.4	144.4	144.4
85°	76.0	83.6	91.2	98.8	106.4
87.5°	45.6	45.6	53.2	60.8	68.4
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)