

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: P547004

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-80-94-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: P547004  
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-LD4-3HI-40-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDES  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

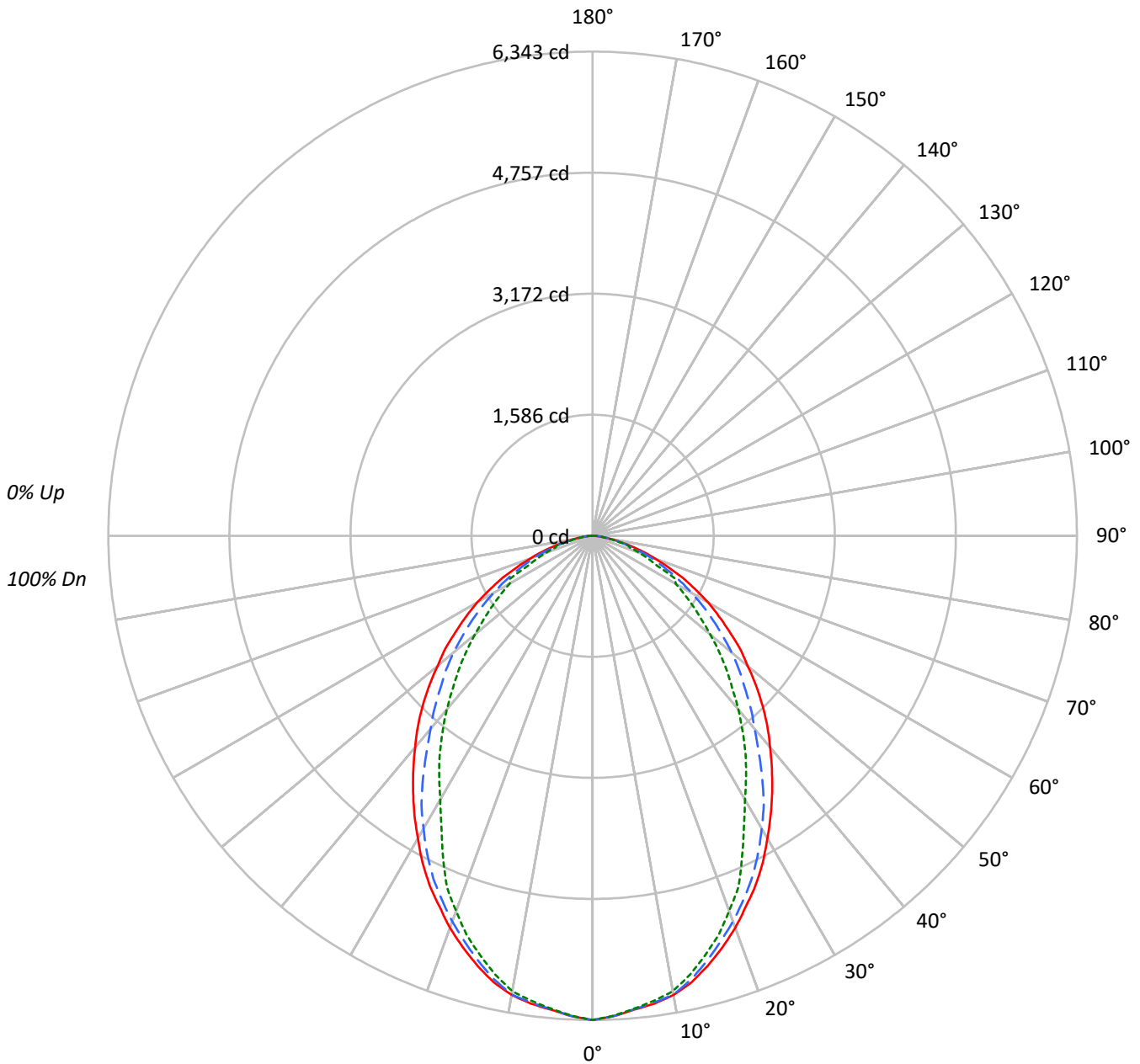
Lumens per Lamp: N/A  
Luminaire Lumens: 12453.0 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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°	8535	8535	8535
5°	8419	8409	8399
10°	8346	8336	8276
15°	8121	8039	7927
20°	7823	7697	7487
25°	7501	7338	6881
30°	7109	6882	6198
35°	6733	6360	5734
40°	6350	5796	5217
45°	5986	5358	4716
50°	5542	4973	4206
55°	5126	4507	3767
60°	4697	4026	3374
65°	4132	3525	2989
70°	3404	3087	2539
75°	2707	2364	2478
80°	1819	1705	1591
85°	1132	1359	1585



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	590.5	4.7
10°-20°	1620.5	13.0
20°-30°	2243.5	18.0
30°-40°	2392.2	19.2
40°-50°	2182.4	17.5
50°-60°	1709.8	13.7
60°-70°	1114.3	8.9
70°-80°	493.7	4.0
80°-90°	106.0	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°	4454.5	35.8
0°-40°	6846.8	55.0
0°-60°	10739.0	86.2
0°-90°	12453.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12453.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6343	6343	6343	6343	6343	
5°	6233	6226	6226	6219	6219	592
15°	5830	5830	5771	5713	5691	1639
25°	5053	5023	4943	4767	4635	2320
35°	4099	4070	3872	3579	3491	2563
45°	3146	3080	2816	2581	2479	2423
55°	2185	2119	1921	1694	1606	1960
65°	1298	1225	1107	1129	939	1279
75°	521	484	455	433	477	558
85°	73	81	88	95	103	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6343.4	6343.4	6343.4	6343.4	6343.4
2.5°	6299.4	6299.4	6299.4	6292.1	6292.1
5°	6233.4	6226.1	6226.1	6218.7	6218.7
7.5°	6182.1	6174.7	6167.4	6160.1	6145.4
10°	6108.7	6108.7	6101.4	6064.7	6057.4
12.5°	5991.4	5984.1	5954.7	5903.4	5888.7
15°	5830.1	5830.1	5771.4	5712.7	5690.7
17.5°	5654.1	5646.7	5573.4	5514.7	5485.4
20°	5463.4	5448.7	5375.4	5280.0	5228.7
22.5°	5250.7	5250.7	5162.7	5038.0	4986.7
25°	5052.7	5023.4	4942.7	4766.7	4634.7
27.5°	4825.4	4781.4	4693.4	4444.0	4290.0
30°	4576.0	4554.0	4429.4	4106.7	3989.4
32.5°	4341.4	4304.7	4172.7	3835.4	3740.0
35°	4099.4	4070.0	3872.0	3578.7	3490.7
37.5°	3857.4	3820.7	3571.4	3336.7	3226.7
40°	3615.4	3571.4	3300.0	3087.4	2970.0
42.5°	3388.0	3329.4	3065.4	2838.0	2706.0
45°	3146.0	3080.0	2816.0	2581.4	2478.7
47.5°	2904.0	2845.4	2603.4	2361.4	2244.0
50°	2647.4	2596.0	2376.0	2134.0	2009.4
52.5°	2434.7	2354.0	2141.4	1899.4	1796.7
55°	2185.4	2119.4	1921.4	1694.0	1606.0
57.5°	1958.0	1892.0	1708.7	1496.0	1422.7
60°	1745.3	1650.0	1496.0	1312.7	1254.0
62.5°	1510.7	1437.3	1305.3	1151.3	1224.7
65°	1298.0	1224.7	1107.3	1129.3	938.7
67.5°	1063.3	1026.7	924.0	821.3	792.0
70°	865.3	821.3	784.7	674.7	645.3
72.5°	689.3	645.3	594.0	535.3	513.3
75°	520.7	484.0	454.7	432.7	476.7
77.5°	359.3	344.7	322.7	300.7	293.3
80°	234.7	227.3	220.0	212.7	205.3
82.5°	139.3	139.3	139.3	139.3	139.3
85°	73.3	80.7	88.0	95.3	102.7
87.5°	44.0	44.0	51.3	58.7	66.0
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)