

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: P547257

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-80-86-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: P547257  
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-LD4-4HI-35-UNV-80-86-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

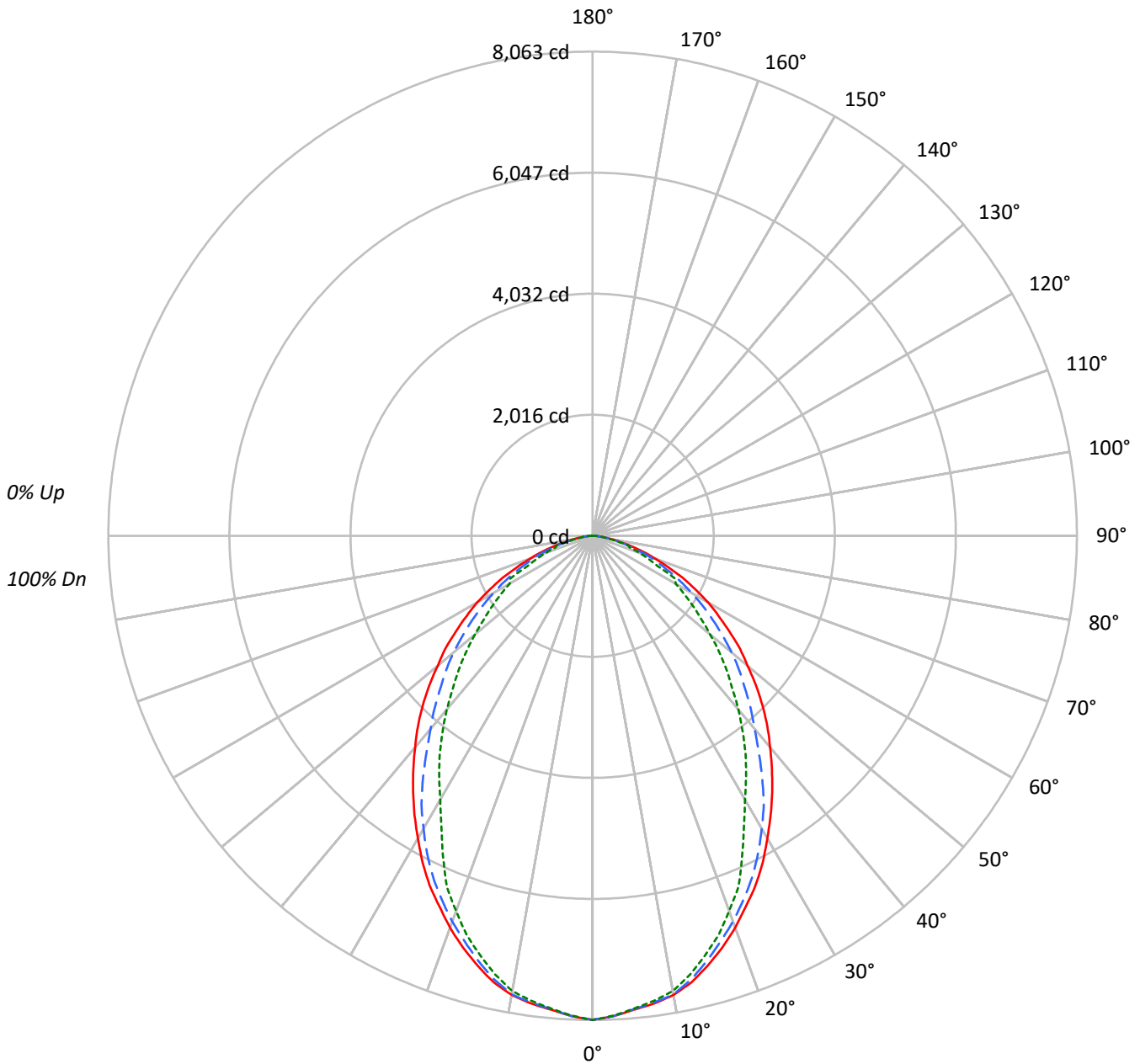
Lumens per Lamp: N/A  
Luminaire Lumens: 15828.0 lumens  
Efficiency: N/A  
Efficacy: 91.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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°	10848	10848	10848
5°	10701	10688	10676
10°	10608	10595	10519
15°	10322	10218	10075
20°	9943	9783	9516
25°	9534	9327	8745
30°	9036	8747	7878
35°	8558	8084	7287
40°	8071	7367	6630
45°	7609	6811	5995
50°	7043	6321	5346
55°	6516	5729	4788
60°	5970	5117	4289
65°	5252	4481	3798
70°	4327	3923	3227
75°	3440	3004	3150
80°	2311	2166	2022
85°	1439	1727	2015



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	750.5	4.7
10°-20°	2059.7	13.0
20°-30°	2851.6	18.0
30°-40°	3040.6	19.2
40°-50°	2773.9	17.5
50°-60°	2173.1	13.7
60°-70°	1416.3	8.9
70°-80°	627.5	4.0
80°-90°	134.7	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°	5661.8	35.8
0°-40°	8702.4	55.0
0°-60°	13649.4	86.2
0°-90°	15828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15828.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8063	8063	8063	8063	8063	
5°	7923	7913	7913	7904	7904	752
15°	7410	7410	7336	7261	7233	2083
25°	6422	6385	6282	6059	5891	2948
35°	5210	5173	4921	4549	4437	3257
45°	3999	3915	3579	3281	3150	3080
55°	2778	2694	2442	2153	2041	2491
65°	1650	1557	1408	1435	1193	1626
75°	662	615	578	550	606	709
85°	93	102	112	121	130	129
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8062.6	8062.6	8062.6	8062.6	8062.6
2.5°	8006.6	8006.6	8006.6	7997.3	7997.3
5°	7922.8	7913.4	7913.4	7904.1	7904.1
7.5°	7857.5	7848.2	7838.9	7829.5	7810.9
10°	7764.3	7764.3	7755.0	7708.4	7699.1
12.5°	7615.2	7605.8	7568.6	7503.3	7484.7
15°	7410.1	7410.1	7335.5	7261.0	7233.0
17.5°	7186.4	7177.1	7083.9	7009.3	6972.0
20°	6944.1	6925.4	6832.2	6711.0	6645.8
22.5°	6673.8	6673.8	6561.9	6403.5	6338.2
25°	6422.1	6384.8	6282.3	6058.6	5890.8
27.5°	6133.1	6077.2	5965.4	5648.5	5452.7
30°	5816.2	5788.3	5629.8	5219.7	5070.6
32.5°	5518.0	5471.4	5303.6	4874.8	4753.7
35°	5210.4	5173.1	4921.4	4548.6	4436.7
37.5°	4902.8	4856.2	4539.3	4241.0	4101.2
40°	4595.2	4539.3	4194.4	3924.1	3775.0
42.5°	4306.3	4231.7	3896.1	3607.2	3439.4
45°	3998.7	3914.8	3579.2	3281.0	3150.5
47.5°	3691.1	3616.5	3308.9	3001.3	2852.2
50°	3364.8	3299.6	3020.0	2712.4	2553.9
52.5°	3094.5	2992.0	2721.7	2414.1	2283.6
55°	2777.6	2693.7	2442.1	2153.1	2041.3
57.5°	2488.7	2404.8	2171.8	1901.5	1808.3
60°	2218.4	2097.2	1901.5	1668.4	1593.9
62.5°	1920.1	1826.9	1659.1	1463.4	1556.6
65°	1649.8	1556.6	1407.5	1435.4	1193.1
67.5°	1351.5	1304.9	1174.4	1043.9	1006.7
70°	1099.9	1043.9	997.3	857.5	820.2
72.5°	876.2	820.2	755.0	680.4	652.5
75°	661.8	615.2	577.9	549.9	605.9
77.5°	456.7	438.1	410.1	382.2	372.8
80°	298.3	288.9	279.6	270.3	261.0
82.5°	177.1	177.1	177.1	177.1	177.1
85°	93.2	102.5	111.9	121.2	130.5
87.5°	55.9	55.9	65.2	74.6	83.9
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)