

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: P546681

Luminaire Tested: **FMR-24-4-LD4-2HI-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: P546681  
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-LD4-2HI-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**

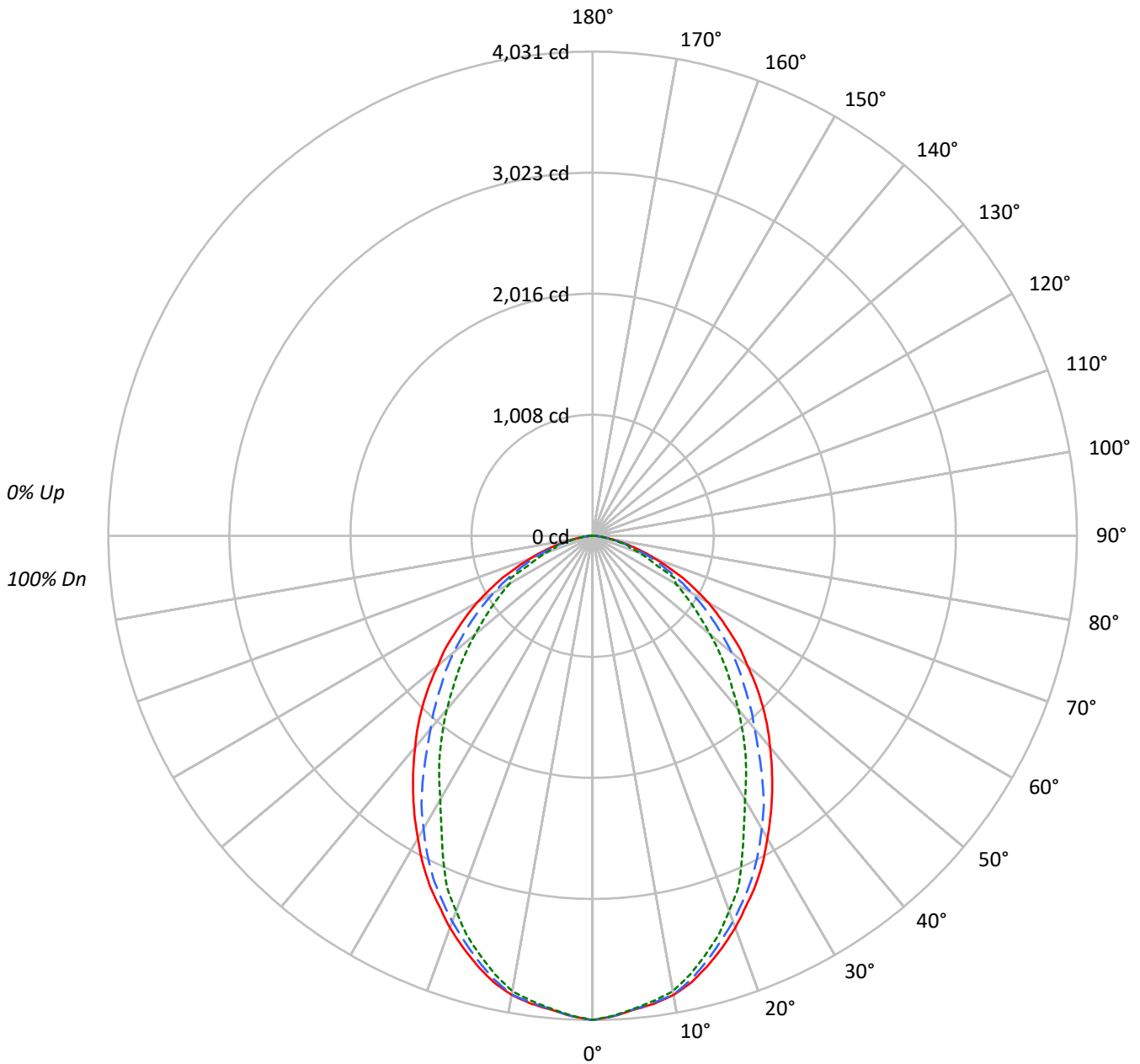
Lumens per Lamp: N/A  
Luminaire Lumens: 7914.0 lumens  
Efficiency: N/A  
Efficacy: 91.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5424	5424	5424
5°	5350	5344	5338
10°	5304	5298	5259
15°	5161	5109	5038
20°	4971	4891	4758
25°	4767	4663	4373
30°	4518	4373	3939
35°	4279	4042	3644
40°	4036	3684	3315
45°	3804	3405	2997
50°	3522	3161	2673
55°	3258	2864	2394
60°	2985	2558	2144
65°	2626	2240	1899
70°	2163	1962	1613
75°	1720	1502	1575
80°	1155	1083	1011
85°	719	863	1007



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	375.3	4.7
10°-20°	1029.9	13.0
20°-30°	1425.8	18.0
30°-40°	1520.3	19.2
40°-50°	1387.0	17.5
50°-60°	1086.6	13.7
60°-70°	708.2	8.9
70°-80°	313.8	4.0
80°-90°	67.4	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°	2830.9	35.8
0°-40°	4351.2	55.0
0°-60°	6824.7	86.2
0°-90°	7914.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7914.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4031	4031	4031	4031	4031	
5°	3961	3957	3957	3952	3952	376
15°	3705	3705	3668	3630	3616	1042
25°	3211	3192	3141	3029	2945	1474
35°	2605	2586	2461	2274	2218	1629
45°	1999	1957	1790	1640	1575	1540
55°	1389	1347	1221	1077	1021	1246
65°	825	778	704	718	596	813
75°	331	308	289	275	303	355
85°	47	51	56	61	65	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4031.3	4031.3	4031.3	4031.3	4031.3
2.5°	4003.3	4003.3	4003.3	3998.7	3998.7
5°	3961.4	3956.7	3956.7	3952.1	3952.1
7.5°	3928.8	3924.1	3919.4	3914.8	3905.5
10°	3882.2	3882.2	3877.5	3854.2	3849.5
12.5°	3807.6	3802.9	3784.3	3751.7	3742.3
15°	3705.1	3705.1	3667.8	3630.5	3616.5
17.5°	3593.2	3588.5	3541.9	3504.7	3486.0
20°	3472.0	3462.7	3416.1	3355.5	3322.9
22.5°	3336.9	3336.9	3281.0	3201.7	3169.1
25°	3211.0	3192.4	3141.1	3029.3	2945.4
27.5°	3066.6	3038.6	2982.7	2824.2	2726.4
30°	2908.1	2894.1	2814.9	2609.8	2535.3
32.5°	2759.0	2735.7	2651.8	2437.4	2376.8
35°	2605.2	2586.5	2460.7	2274.3	2218.4
37.5°	2451.4	2428.1	2269.6	2120.5	2050.6
40°	2297.6	2269.6	2097.2	1962.0	1887.5
42.5°	2153.1	2115.8	1948.1	1803.6	1719.7
45°	1999.3	1957.4	1789.6	1640.5	1575.2
47.5°	1845.5	1808.3	1654.5	1500.7	1426.1
50°	1682.4	1649.8	1510.0	1356.2	1277.0
52.5°	1547.3	1496.0	1360.9	1207.1	1141.8
55°	1388.8	1346.9	1221.0	1076.6	1020.6
57.5°	1244.3	1202.4	1085.9	950.7	904.1
60°	1109.2	1048.6	950.7	834.2	796.9
62.5°	960.1	913.4	829.6	731.7	778.3
65°	824.9	778.3	703.7	717.7	596.5
67.5°	675.8	652.5	587.2	522.0	503.3
70°	549.9	522.0	498.7	428.8	410.1
72.5°	438.1	410.1	377.5	340.2	326.2
75°	330.9	307.6	288.9	275.0	302.9
77.5°	228.4	219.0	205.1	191.1	186.4
80°	149.1	144.5	139.8	135.2	130.5
82.5°	88.5	88.5	88.5	88.5	88.5
85°	46.6	51.3	55.9	60.6	65.2
87.5°	28.0	28.0	32.6	37.3	41.9
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)