

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: P547463

Luminaire Tested: **FMR-24-4-LD4-4STD-35-UNV-82-84-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: P547463  
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-35-UNV-82-84-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

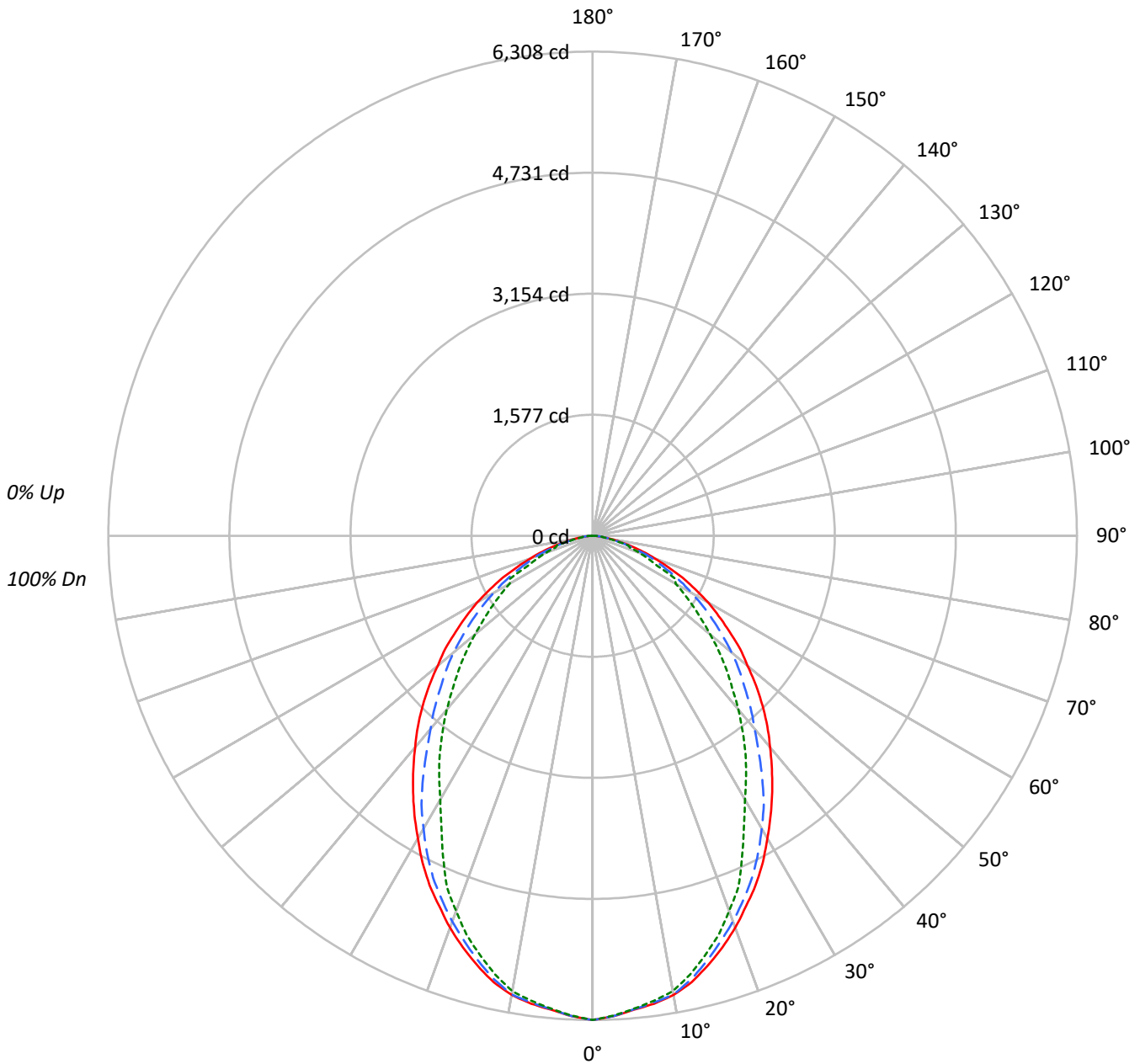
Lumens per Lamp: N/A  
Luminaire Lumens: 12384.0 lumens  
Efficiency: N/A  
Efficacy: 93.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 133.2  
Input Voltage (V): NR  
Input Current (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°	8488	8488	8488
5°	8372	8363	8353
10°	8300	8290	8230
15°	8076	7995	7883
20°	7779	7654	7445
25°	7460	7297	6842
30°	7070	6843	6164
35°	6696	6325	5702
40°	6315	5764	5188
45°	5953	5329	4690
50°	5511	4946	4183
55°	5098	4482	3746
60°	4671	4003	3356
65°	4110	3506	2972
70°	3385	3070	2525
75°	2692	2351	2464
80°	1808	1695	1582
85°	1125	1351	1576



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	587.2	4.7
10°-20°	1611.6	13.0
20°-30°	2231.1	18.0
30°-40°	2379.0	19.2
40°-50°	2170.3	17.5
50°-60°	1700.3	13.7
60°-70°	1108.2	8.9
70°-80°	491.0	4.0
80°-90°	105.4	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°	4429.9	35.8
0°-40°	6808.8	55.0
0°-60°	10679.5	86.2
0°-90°	12384.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12384.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6308	6308	6308	6308	6308	
5°	6199	6192	6192	6184	6184	588
15°	5798	5798	5739	5681	5659	1630
25°	5025	4996	4915	4740	4609	2307
35°	4077	4048	3851	3559	3471	2549
45°	3129	3063	2800	2567	2465	2410
55°	2173	2108	1911	1685	1597	1949
65°	1291	1218	1101	1123	934	1272
75°	518	481	452	430	474	555
85°	73	80	88	95	102	101
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6308.2	6308.2	6308.2	6308.2	6308.2
2.5°	6264.5	6264.5	6264.5	6257.2	6257.2
5°	6198.9	6191.6	6191.6	6184.3	6184.3
7.5°	6147.8	6140.5	6133.2	6125.9	6111.3
10°	6074.9	6074.9	6067.6	6031.1	6023.8
12.5°	5958.2	5950.9	5921.7	5870.7	5856.1
15°	5797.8	5797.8	5739.4	5681.1	5659.2
17.5°	5622.7	5615.4	5542.5	5484.2	5455.0
20°	5433.1	5418.5	5345.6	5250.8	5199.7
22.5°	5221.6	5221.6	5134.1	5010.1	4959.1
25°	5024.7	4995.5	4915.3	4740.3	4609.0
27.5°	4798.6	4754.9	4667.4	4419.4	4266.3
30°	4550.7	4528.8	4404.8	4083.9	3967.3
32.5°	4317.3	4280.9	4149.6	3814.1	3719.3
35°	4076.7	4047.5	3850.6	3558.9	3471.4
37.5°	3836.0	3799.5	3551.6	3318.2	3208.8
40°	3595.3	3551.6	3281.7	3070.3	2953.6
42.5°	3369.3	3310.9	3048.4	2822.3	2691.0
45°	3128.6	3063.0	2800.4	2567.1	2465.0
47.5°	2887.9	2829.6	2588.9	2348.3	2231.6
50°	2632.7	2581.6	2362.9	2122.2	1998.2
52.5°	2421.2	2341.0	2129.5	1888.8	1786.7
55°	2173.2	2107.6	1910.7	1684.6	1597.1
57.5°	1947.2	1881.5	1699.2	1487.7	1414.8
60°	1735.7	1640.9	1487.7	1305.4	1247.1
62.5°	1502.3	1429.4	1298.1	1145.0	1217.9
65°	1290.8	1217.9	1101.2	1123.1	933.5
67.5°	1057.5	1021.0	918.9	816.8	787.6
70°	860.5	816.8	780.3	670.9	641.8
72.5°	685.5	641.8	590.7	532.4	510.5
75°	517.8	481.3	452.2	430.3	474.0
77.5°	357.3	342.8	320.9	299.0	291.7
80°	233.4	226.1	218.8	211.5	204.2
82.5°	138.6	138.6	138.6	138.6	138.6
85°	72.9	80.2	87.5	94.8	102.1
87.5°	43.8	43.8	51.0	58.3	65.6
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)