

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: P547529

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-82-86-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: P547529  
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-50-UNV-82-86-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

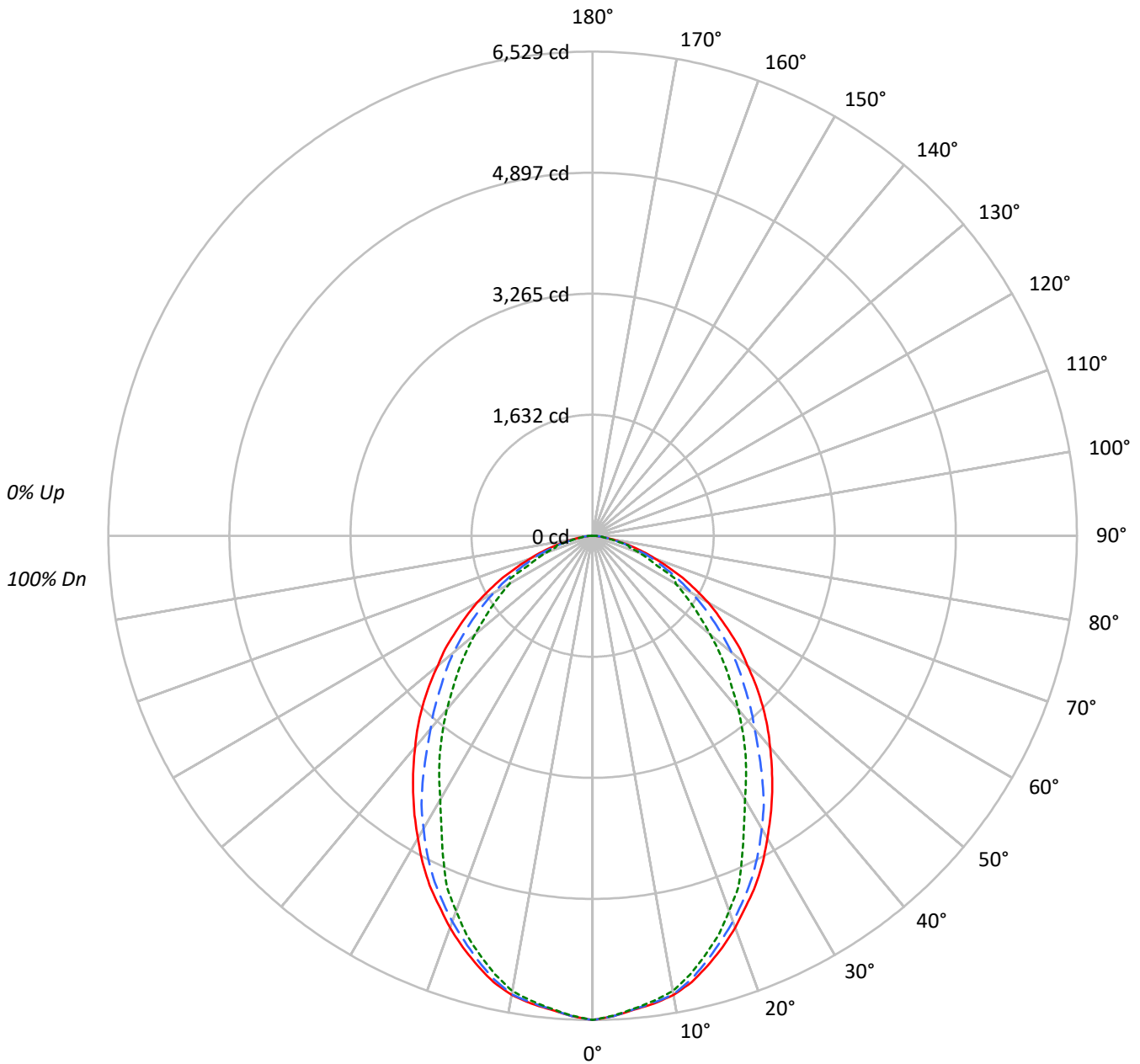
Lumens per Lamp: N/A  
Luminaire Lumens: 12817.0 lumens  
Efficiency: N/A  
Efficacy: 96.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	8784	8784	8784
5°	8665	8655	8645
10°	8590	8580	8518
15°	8358	8274	8159
20°	8051	7922	7705
25°	7720	7552	7082
30°	7317	7083	6379
35°	6930	6546	5901
40°	6536	5966	5369
45°	6161	5515	4854
50°	5703	5119	4329
55°	5276	4639	3878
60°	4834	4143	3473
65°	4253	3628	3076
70°	3504	3177	2613
75°	2786	2433	2550
80°	1871	1754	1637
85°	1166	1399	1632



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	607.7	4.7
10°-20°	1667.9	13.0
20°-30°	2309.1	18.0
30°-40°	2462.2	19.2
40°-50°	2246.2	17.5
50°-60°	1759.7	13.7
60°-70°	1146.9	8.9
70°-80°	508.1	4.0
80°-90°	109.1	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°	4584.7	35.8
0°-40°	7046.9	55.0
0°-60°	11052.9	86.2
0°-90°	12817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12817.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6529	6529	6529	6529	6529	
5°	6416	6408	6408	6400	6400	609
15°	6000	6000	5940	5880	5857	1687
25°	5200	5170	5087	4906	4770	2387
35°	4219	4189	3985	3683	3593	2638
45°	3238	3170	2898	2657	2551	2494
55°	2249	2181	1978	1744	1653	2017
65°	1336	1260	1140	1162	966	1317
75°	536	498	468	445	491	574
85°	76	83	91	98	106	105
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6528.8	6528.8	6528.8	6528.8	6528.8
2.5°	6483.5	6483.5	6483.5	6476.0	6476.0
5°	6415.6	6408.0	6408.0	6400.5	6400.5
7.5°	6362.8	6355.2	6347.7	6340.1	6325.0
10°	6287.3	6287.3	6279.7	6242.0	6234.4
12.5°	6166.5	6159.0	6128.8	6075.9	6060.8
15°	6000.5	6000.5	5940.1	5879.7	5857.1
17.5°	5819.3	5811.8	5736.3	5675.9	5645.7
20°	5623.1	5608.0	5532.5	5434.4	5381.5
22.5°	5404.2	5404.2	5313.6	5185.3	5132.5
25°	5200.4	5170.2	5087.2	4906.0	4770.2
27.5°	4966.4	4921.1	4830.6	4573.9	4415.4
30°	4709.8	4687.2	4558.8	4226.7	4106.0
32.5°	4468.3	4430.5	4294.7	3947.5	3849.4
35°	4219.2	4189.0	3985.2	3683.3	3592.7
37.5°	3970.1	3932.4	3675.8	3434.2	3321.0
40°	3721.0	3675.8	3396.5	3177.6	3056.8
42.5°	3487.1	3426.7	3155.0	2921.0	2785.1
45°	3238.0	3170.1	2898.3	2656.8	2551.1
47.5°	2988.9	2928.5	2679.5	2430.4	2309.6
50°	2724.7	2671.9	2445.5	2196.4	2068.1
52.5°	2505.9	2422.8	2203.9	1954.9	1849.2
55°	2249.2	2181.3	1977.5	1743.5	1653.0
57.5°	2015.3	1947.3	1758.6	1539.7	1464.3
60°	1796.4	1698.2	1539.7	1351.0	1290.7
62.5°	1554.8	1479.4	1343.5	1185.0	1260.5
65°	1336.0	1260.5	1139.7	1162.4	966.1
67.5°	1094.4	1056.7	951.0	845.3	815.2
70°	890.6	845.3	807.6	694.4	664.2
72.5°	709.5	664.2	611.4	551.0	528.3
75°	535.9	498.2	468.0	445.3	490.6
77.5°	369.8	354.7	332.1	309.5	301.9
80°	241.5	234.0	226.4	218.9	211.3
82.5°	143.4	143.4	143.4	143.4	143.4
85°	75.5	83.0	90.6	98.1	105.7
87.5°	45.3	45.3	52.8	60.4	67.9
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)