

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: P547417

Luminaire Tested: **FMR-24-4-LD4-4LO-50-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: P547417  
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-LD4-4LO-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

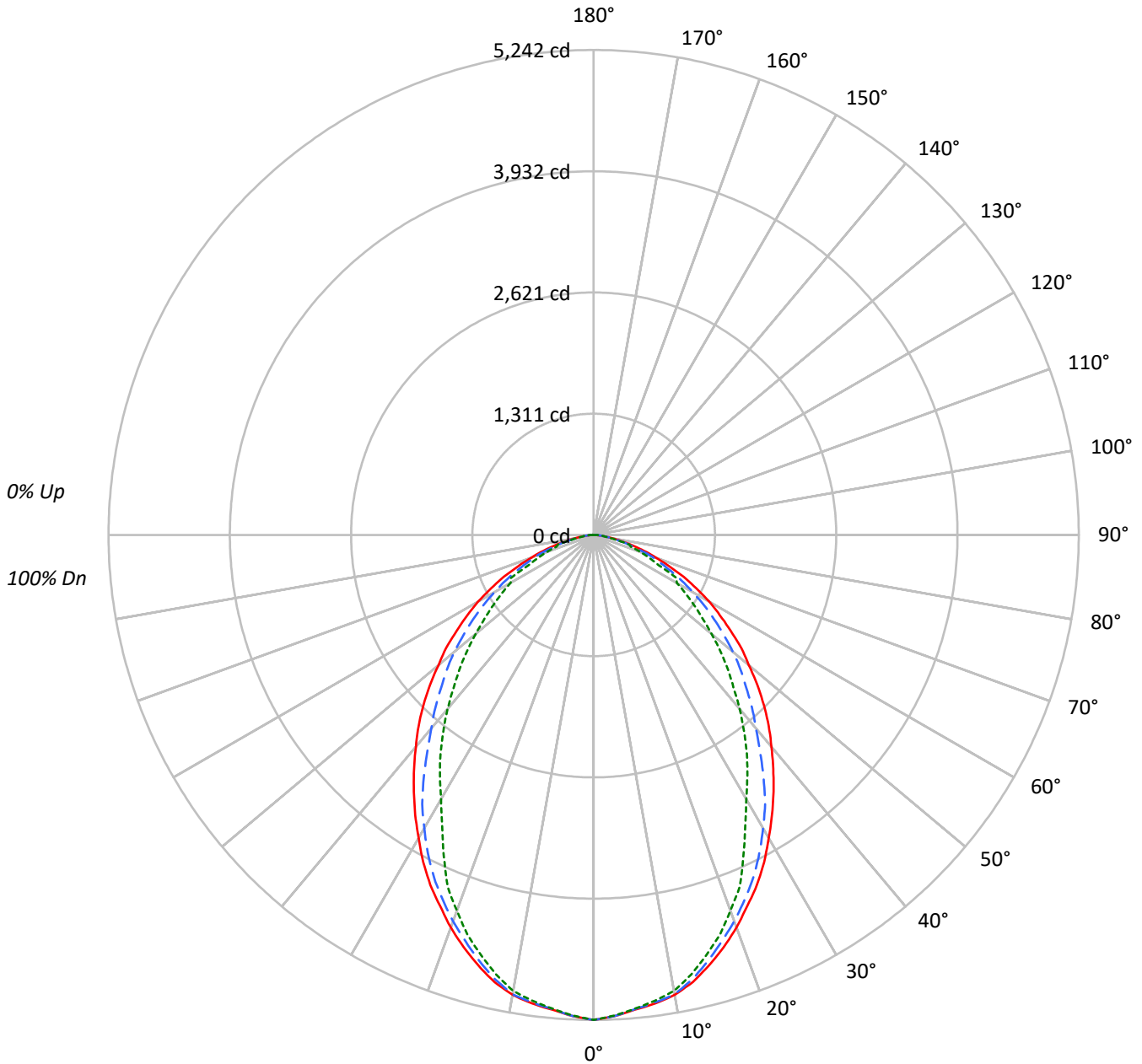
Lumens per Lamp: N/A  
Luminaire Lumens: 10291.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
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				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°	7053	7053	7053
5°	6957	6949	6941
10°	6897	6889	6839
15°	6711	6644	6551
20°	6465	6360	6187
25°	6199	6064	5686
30°	5875	5687	5122
35°	5564	5256	4738
40°	5248	4790	4311
45°	4947	4428	3898
50°	4579	4110	3476
55°	4236	3725	3113
60°	3881	3327	2789
65°	3415	2913	2470
70°	2813	2551	2098
75°	2237	1953	2048
80°	1502	1409	1315
85°	936	1122	1309



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	488.0	4.7
10°-20°	1339.2	13.0
20°-30°	1854.0	18.0
30°-40°	1976.9	19.2
40°-50°	1803.5	17.5
50°-60°	1412.9	13.7
60°-70°	920.9	8.9
70°-80°	408.0	4.0
80°-90°	87.6	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°	3681.2	35.8
0°-40°	5658.1	55.0
0°-60°	8874.5	86.2
0°-90°	10291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10291.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5242	5242	5242	5242	5242	
5°	5151	5145	5145	5139	5139	489
15°	4818	4818	4769	4721	4703	1354
25°	4176	4151	4085	3939	3830	1917
35°	3388	3363	3200	2957	2885	2118
45°	2600	2545	2327	2133	2048	2003
55°	1806	1751	1588	1400	1327	1620
65°	1073	1012	915	933	776	1057
75°	430	400	376	358	394	461
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5242.1	5242.1	5242.1	5242.1	5242.1
2.5°	5205.7	5205.7	5205.7	5199.7	5199.7
5°	5151.2	5145.1	5145.1	5139.1	5139.1
7.5°	5108.8	5102.7	5096.7	5090.6	5078.5
10°	5048.2	5048.2	5042.1	5011.8	5005.7
12.5°	4951.2	4945.1	4920.9	4878.5	4866.4
15°	4817.9	4817.9	4769.4	4720.9	4702.7
17.5°	4672.4	4666.4	4605.8	4557.3	4533.1
20°	4514.9	4502.7	4442.1	4363.4	4320.9
22.5°	4339.1	4339.1	4266.4	4163.4	4121.0
25°	4175.5	4151.3	4084.6	3939.1	3830.1
27.5°	3987.6	3951.3	3878.5	3672.5	3545.2
30°	3781.6	3763.4	3660.4	3393.7	3296.8
32.5°	3587.7	3557.4	3448.3	3169.5	3090.7
35°	3387.7	3363.4	3199.8	2957.4	2884.7
37.5°	3187.7	3157.4	2951.3	2757.4	2666.5
40°	2987.7	2951.3	2727.1	2551.4	2454.4
42.5°	2799.8	2751.3	2533.2	2345.3	2236.2
45°	2599.8	2545.3	2327.1	2133.2	2048.4
47.5°	2399.9	2351.4	2151.4	1951.4	1854.4
50°	2187.7	2145.3	1963.5	1763.5	1660.5
52.5°	2012.0	1945.3	1769.6	1569.6	1484.8
55°	1805.9	1751.4	1587.8	1399.9	1327.2
57.5°	1618.1	1563.5	1412.0	1236.3	1175.7
60°	1442.3	1363.6	1236.3	1084.8	1036.3
62.5°	1248.4	1187.8	1078.7	951.5	1012.1
65°	1072.7	1012.1	915.1	933.3	775.7
67.5°	878.7	848.4	763.6	678.7	654.5
70°	715.1	678.7	648.4	557.5	533.3
72.5°	569.7	533.3	490.9	442.4	424.2
75°	430.3	400.0	375.7	357.6	393.9
77.5°	297.0	284.8	266.7	248.5	242.4
80°	193.9	187.9	181.8	175.7	169.7
82.5°	115.1	115.1	115.1	115.1	115.1
85°	60.6	66.7	72.7	78.8	84.8
87.5°	36.4	36.4	42.4	48.5	54.5
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)