

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: P547452

Luminaire Tested: **FMR-24-4-LD4-4STD-35-UNV-80-94-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: P547452  
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-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

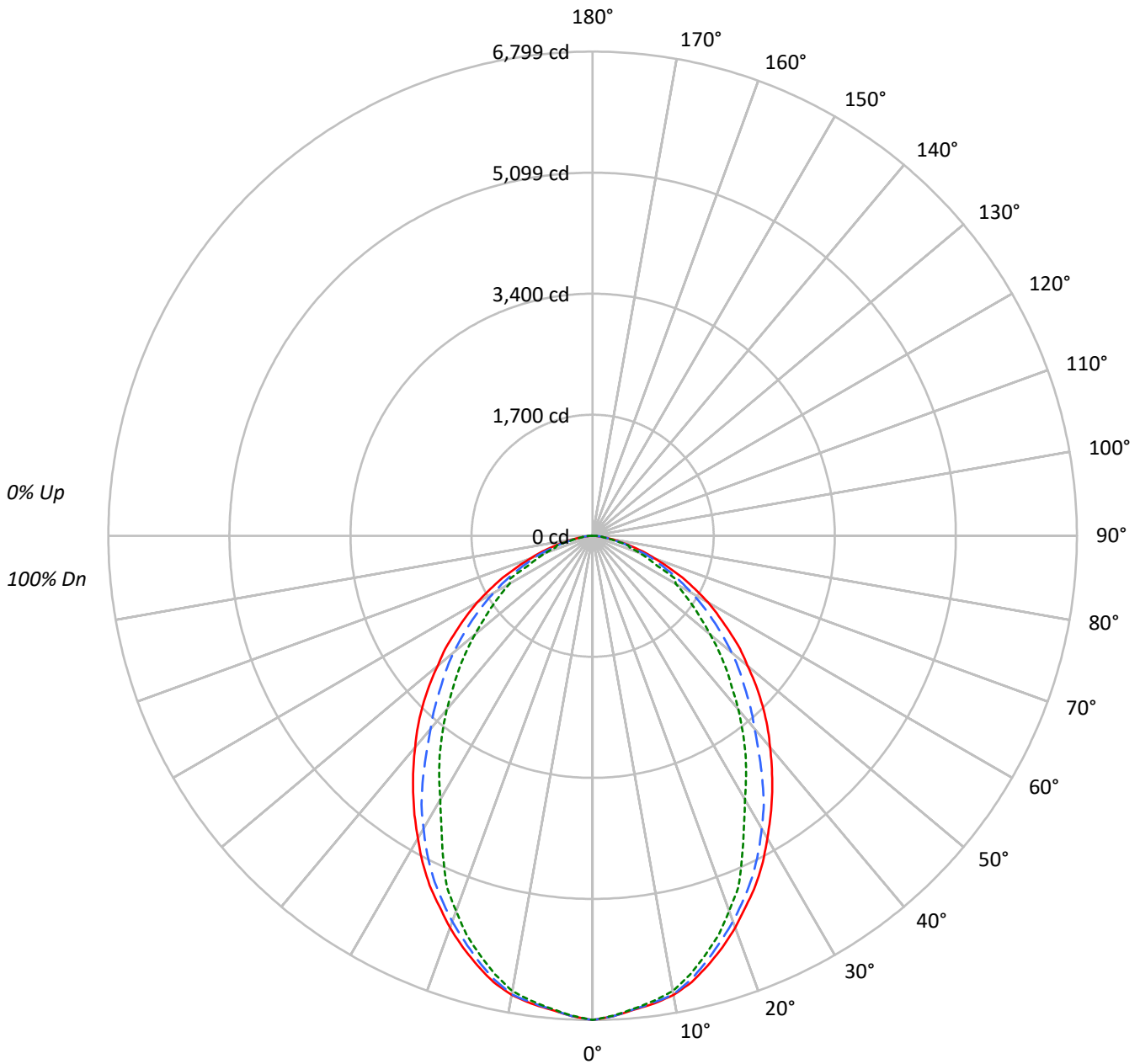
Lumens per Lamp: N/A  
Luminaire Lumens: 13347.0 lumens  
Efficiency: N/A  
Efficacy: 100.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	9148	9148	9148
5°	9023	9013	9002
10°	8945	8934	8870
15°	8704	8616	8496
20°	8384	8249	8024
25°	8040	7865	7375
30°	7620	7376	6643
35°	7217	6817	6145
40°	6806	6212	5591
45°	6416	5743	5055
50°	5939	5331	4508
55°	5494	4831	4038
60°	5034	4315	3617
65°	4429	3778	3203
70°	3649	3308	2721
75°	2901	2533	2656
80°	1949	1827	1705
85°	1213	1456	1698



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	632.9	4.7
10°-20°	1736.9	13.0
20°-30°	2404.6	18.0
30°-40°	2564.0	19.2
40°-50°	2339.1	17.5
50°-60°	1832.5	13.7
60°-70°	1194.3	8.9
70°-80°	529.1	4.0
80°-90°	113.6	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°	4774.3	35.8
0°-40°	7338.3	55.0
0°-60°	11509.9	86.2
0°-90°	13347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13347.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6799	6799	6799	6799	6799	
5°	6681	6673	6673	6665	6665	634
15°	6249	6249	6186	6123	6099	1757
25°	5415	5384	5298	5109	4967	2486
35°	4394	4362	4150	3836	3741	2747
45°	3372	3301	3018	2767	2657	2597
55°	2342	2272	2059	1816	1721	2101
65°	1391	1313	1187	1210	1006	1371
75°	558	519	487	464	511	598
85°	79	86	94	102	110	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6798.8	6798.8	6798.8	6798.8	6798.8
2.5°	6751.6	6751.6	6751.6	6743.8	6743.8
5°	6680.9	6673.0	6673.0	6665.2	6665.2
7.5°	6625.9	6618.0	6610.1	6602.3	6586.6
10°	6547.3	6547.3	6539.4	6500.1	6492.2
12.5°	6421.5	6413.7	6382.2	6327.2	6311.5
15°	6248.6	6248.6	6185.7	6122.8	6099.3
17.5°	6060.0	6052.1	5973.5	5910.6	5879.2
20°	5855.6	5839.9	5761.3	5659.1	5604.1
22.5°	5627.7	5627.7	5533.3	5399.7	5344.7
25°	5415.4	5384.0	5297.5	5108.9	4967.4
27.5°	5171.8	5124.6	5030.3	4763.1	4598.0
30°	4904.6	4881.0	4747.4	4401.5	4275.8
32.5°	4653.0	4613.7	4472.3	4110.7	4008.5
35°	4393.7	4362.2	4150.0	3835.6	3741.3
37.5°	4134.3	4095.0	3827.8	3576.2	3458.3
40°	3874.9	3827.8	3536.9	3309.0	3183.2
42.5°	3631.3	3568.4	3285.4	3041.8	2900.3
45°	3371.9	3301.1	3018.2	2766.7	2656.6
47.5°	3112.5	3049.6	2790.3	2530.9	2405.1
50°	2837.4	2782.4	2546.6	2287.2	2153.6
52.5°	2609.5	2523.0	2295.1	2035.7	1925.7
55°	2342.2	2271.5	2059.3	1815.6	1721.3
57.5°	2098.6	2027.8	1831.3	1603.4	1524.8
60°	1870.6	1768.5	1603.4	1406.9	1344.0
62.5°	1619.1	1540.5	1399.1	1234.0	1312.6
65°	1391.2	1312.6	1186.8	1210.4	1006.1
67.5°	1139.7	1100.4	990.3	880.3	848.9
70°	927.5	880.3	841.0	723.1	691.7
72.5°	738.8	691.7	636.6	573.8	550.2
75°	558.1	518.8	487.3	463.7	510.9
77.5°	385.1	369.4	345.8	322.3	314.4
80°	251.5	243.7	235.8	227.9	220.1
82.5°	149.3	149.3	149.3	149.3	149.3
85°	78.6	86.5	94.3	102.2	110.0
87.5°	47.2	47.2	55.0	62.9	70.7
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)