

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: P547048

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-82-85-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: P547048  
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-LD4-3HI-50-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

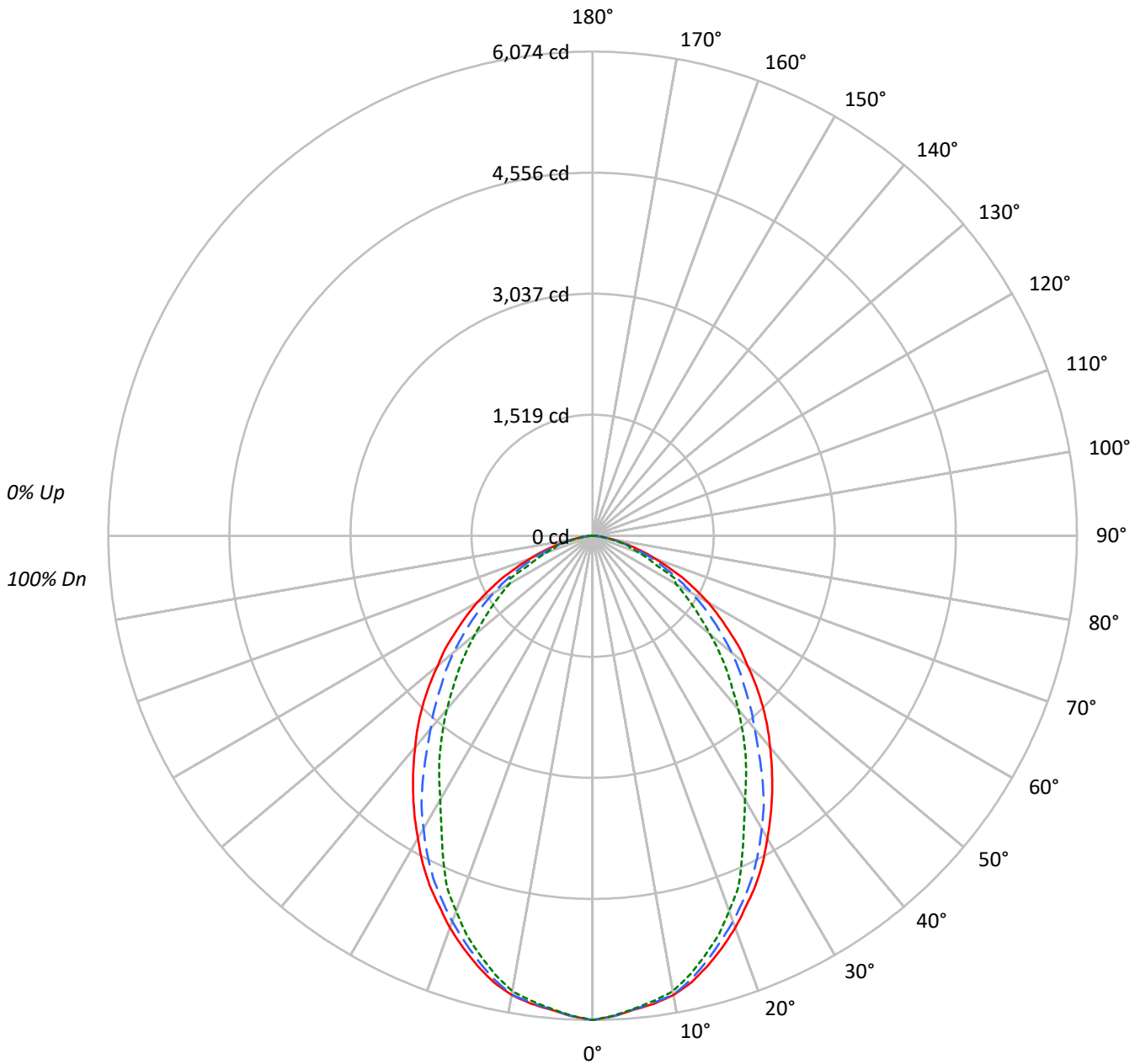
Lumens per Lamp: N/A  
Luminaire Lumens: 11925.0 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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									
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°	8173	8173	8173
5°	8062	8053	8043
10°	7992	7983	7925
15°	7777	7698	7591
20°	7491	7370	7169
25°	7183	7027	6589
30°	6808	6590	5935
35°	6448	6090	5491
40°	6081	5550	4995
45°	5732	5131	4517
50°	5306	4763	4028
55°	4909	4316	3608
60°	4497	3855	3231
65°	3957	3376	2862
70°	3260	2956	2431
75°	2592	2263	2373
80°	1741	1633	1523
85°	1084	1301	1518



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	565.4	4.7
10°-20°	1551.8	13.0
20°-30°	2148.4	18.0
30°-40°	2290.8	19.2
40°-50°	2089.9	17.5
50°-60°	1637.3	13.7
60°-70°	1067.1	8.9
70°-80°	472.8	4.0
80°-90°	101.5	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°	4265.7	35.8
0°-40°	6556.5	55.0
0°-60°	10283.6	86.2
0°-90°	11925.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11925.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6074	6074	6074	6074	6074	
5°	5969	5962	5962	5955	5955	567
15°	5583	5583	5527	5470	5449	1569
25°	4838	4810	4733	4565	4438	2221
35°	3926	3898	3708	3427	3343	2454
45°	3013	2949	2697	2472	2374	2321
55°	2093	2030	1840	1622	1538	1877
65°	1243	1173	1060	1082	899	1225
75°	499	464	435	414	456	534
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6074.4	6074.4	6074.4	6074.4	6074.4
2.5°	6032.3	6032.3	6032.3	6025.3	6025.3
5°	5969.1	5962.1	5962.1	5955.1	5955.1
7.5°	5919.9	5912.9	5905.9	5898.9	5884.8
10°	5849.7	5849.7	5842.7	5807.6	5800.6
12.5°	5737.4	5730.3	5702.2	5653.1	5639.0
15°	5582.9	5582.9	5526.7	5470.5	5449.4
17.5°	5414.3	5407.3	5337.1	5280.9	5252.8
20°	5231.7	5217.7	5147.5	5056.2	5007.0
22.5°	5028.1	5028.1	4943.8	4824.4	4775.3
25°	4838.5	4810.4	4733.1	4564.6	4438.2
27.5°	4620.8	4578.6	4494.4	4255.6	4108.1
30°	4382.0	4361.0	4241.6	3932.6	3820.2
32.5°	4157.3	4122.2	3995.8	3672.8	3581.5
35°	3925.6	3897.5	3707.9	3427.0	3342.7
37.5°	3693.8	3658.7	3419.9	3195.2	3089.9
40°	3462.1	3419.9	3160.1	2956.5	2844.1
42.5°	3244.4	3188.2	2935.4	2717.7	2591.3
45°	3012.6	2949.4	2696.6	2471.9	2373.6
47.5°	2780.9	2724.7	2493.0	2261.2	2148.9
50°	2535.1	2486.0	2275.3	2043.5	1924.2
52.5°	2331.5	2254.2	2050.6	1818.8	1720.5
55°	2092.7	2029.5	1839.9	1622.2	1537.9
57.5°	1875.0	1811.8	1636.2	1432.6	1362.4
60°	1671.3	1580.1	1432.6	1257.0	1200.8
62.5°	1446.6	1376.4	1250.0	1102.5	1172.8
65°	1243.0	1172.8	1060.4	1081.5	898.9
67.5°	1018.3	983.1	884.8	786.5	758.4
70°	828.7	786.5	751.4	646.1	618.0
72.5°	660.1	618.0	568.8	512.6	491.6
75°	498.6	463.5	435.4	414.3	456.5
77.5°	344.1	330.1	309.0	287.9	280.9
80°	224.7	217.7	210.7	203.7	196.6
82.5°	133.4	133.4	133.4	133.4	133.4
85°	70.2	77.2	84.3	91.3	98.3
87.5°	42.1	42.1	49.2	56.2	63.2
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)