

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: P547078

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-81-97-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: P547078  
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-LD4-3LO-35-UNV-81-97-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

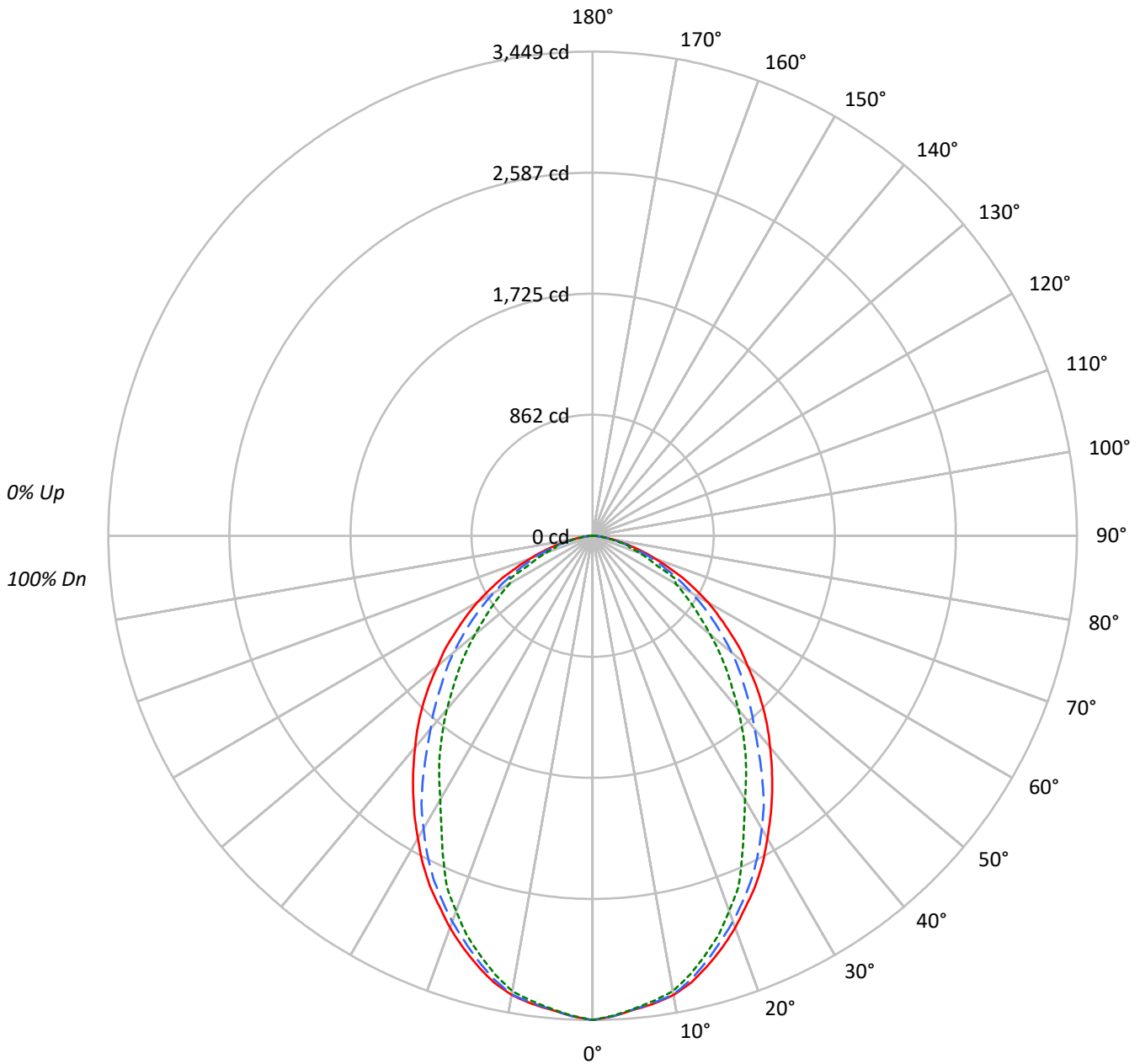
Lumens per Lamp: N/A  
Luminaire Lumens: 6771.0 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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					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								
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°	4641	4641	4641
5°	4578	4572	4567
10°	4538	4533	4500
15°	4416	4371	4310
20°	4253	4185	4071
25°	4079	3990	3741
30°	3866	3742	3370
35°	3661	3458	3118
40°	3453	3152	2836
45°	3255	2913	2564
50°	3013	2704	2287
55°	2787	2451	2048
60°	2554	2189	1835
65°	2247	1917	1625
70°	1851	1678	1380
75°	1472	1285	1347
80°	989	927	865
85°	616	738	861



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	321.1	4.7
10°-20°	881.1	13.0
20°-30°	1219.9	18.0
30°-40°	1300.7	19.2
40°-50°	1186.6	17.5
50°-60°	929.6	13.7
60°-70°	605.9	8.9
70°-80°	268.4	4.0
80°-90°	57.6	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°	2422.0	35.8
0°-40°	3722.8	55.0
0°-60°	5839.0	86.2
0°-90°	6771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6771.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3449	3449	3449	3449	3449	
5°	3389	3385	3385	3381	3381	322
15°	3170	3170	3138	3106	3094	891
25°	2747	2731	2688	2592	2520	1261
35°	2229	2213	2105	1946	1898	1393
45°	1711	1675	1531	1404	1348	1318
55°	1188	1152	1045	921	873	1066
65°	706	666	602	614	510	696
75°	283	263	247	235	259	303
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3449.1	3449.1	3449.1	3449.1	3449.1
2.5°	3425.1	3425.1	3425.1	3421.1	3421.1
5°	3389.2	3385.3	3385.3	3381.3	3381.3
7.5°	3361.3	3357.3	3353.4	3349.4	3341.4
10°	3321.5	3321.5	3317.5	3297.5	3293.6
12.5°	3257.7	3253.7	3237.7	3209.8	3201.8
15°	3169.9	3169.9	3138.0	3106.1	3094.2
17.5°	3074.2	3070.3	3030.4	2998.5	2982.5
20°	2970.6	2962.6	2922.7	2870.9	2843.0
22.5°	2854.9	2854.9	2807.1	2739.3	2711.4
25°	2747.3	2731.3	2687.5	2591.8	2520.0
27.5°	2623.7	2599.8	2551.9	2416.3	2332.6
30°	2488.1	2476.1	2408.4	2232.9	2169.1
32.5°	2360.5	2340.6	2268.8	2085.4	2033.5
35°	2228.9	2213.0	2105.3	1945.8	1898.0
37.5°	2097.3	2077.4	1941.8	1814.2	1754.4
40°	1965.8	1941.8	1794.3	1678.7	1614.9
42.5°	1842.2	1810.3	1666.7	1543.1	1471.3
45°	1710.6	1674.7	1531.1	1403.5	1347.7
47.5°	1579.0	1547.1	1415.5	1283.9	1220.1
50°	1439.4	1411.5	1291.9	1160.3	1092.5
52.5°	1323.8	1279.9	1164.3	1032.7	976.9
55°	1188.2	1152.3	1044.7	921.1	873.2
57.5°	1064.6	1028.7	929.1	813.4	773.5
60°	949.0	897.2	813.4	713.7	681.8
62.5°	821.4	781.5	709.7	626.0	665.9
65°	705.8	665.9	602.1	614.1	510.4
67.5°	578.2	558.2	502.4	446.6	430.6
70°	470.5	446.6	426.6	366.8	350.9
72.5°	374.8	350.9	323.0	291.1	279.1
75°	283.1	263.2	247.2	235.3	259.2
77.5°	195.4	187.4	175.4	163.5	159.5
80°	127.6	123.6	119.6	115.6	111.6
82.5°	75.8	75.8	75.8	75.8	75.8
85°	39.9	43.9	47.8	51.8	55.8
87.5°	23.9	23.9	27.9	31.9	35.9
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)