

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: P546930

Luminaire Tested: **FMR-24-4-LD4-2STD-40-UNV-93-87-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: P546930  
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-LD4-2STD-40-UNV-93-87-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

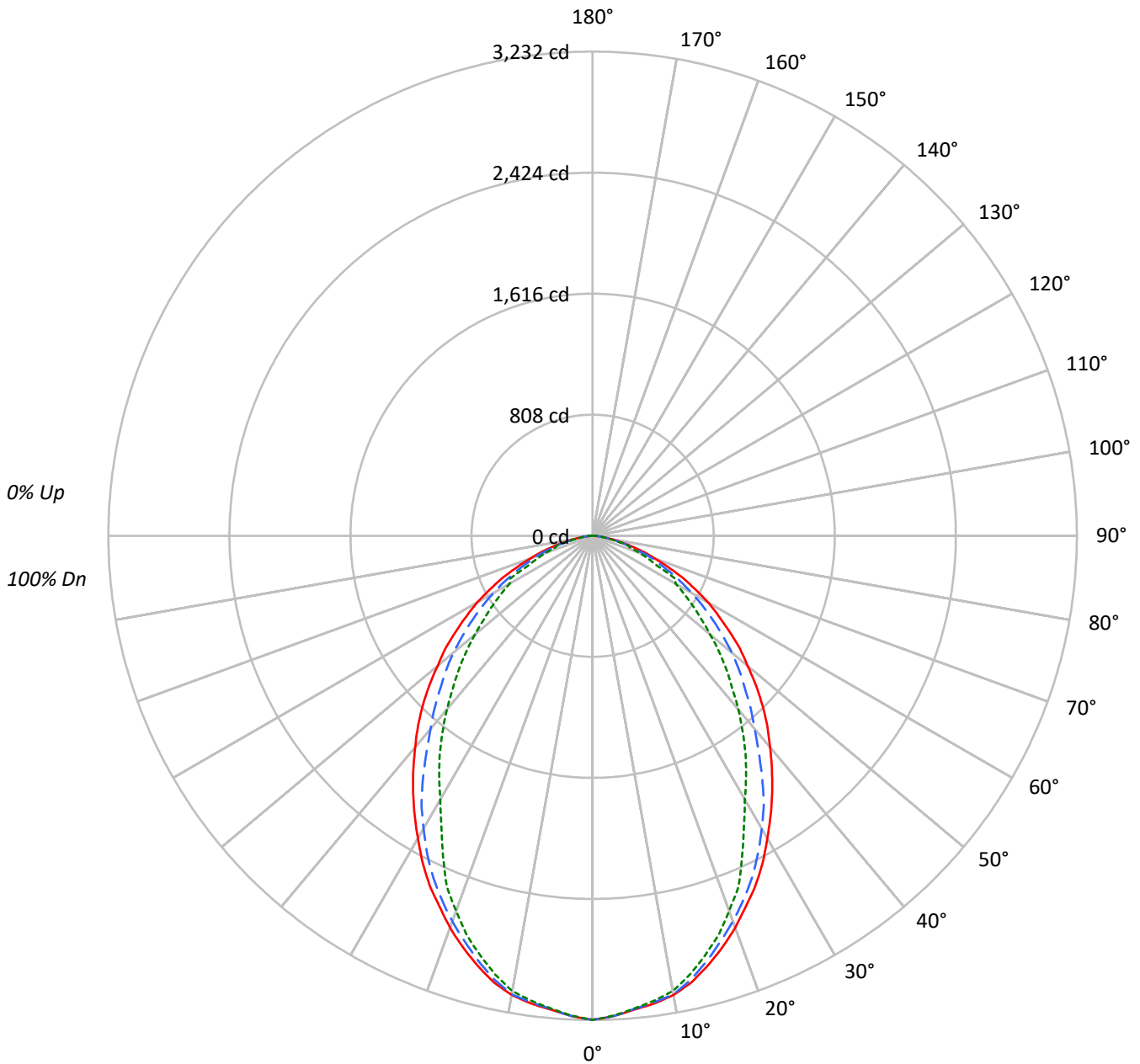
Lumens per Lamp: N/A  
Luminaire Lumens: 6344.0 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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°	4348	4348	4348
5°	4289	4284	4279
10°	4252	4247	4216
15°	4137	4095	4038
20°	3985	3921	3814
25°	3821	3738	3505
30°	3622	3506	3157
35°	3430	3240	2921
40°	3235	2953	2657
45°	3050	2730	2403
50°	2823	2534	2143
55°	2612	2296	1919
60°	2393	2051	1719
65°	2105	1796	1522
70°	1734	1572	1293
75°	1379	1204	1262
80°	926	869	810
85°	577	692	807



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	300.8	4.7
10°-20°	825.6	13.0
20°-30°	1142.9	18.0
30°-40°	1218.7	19.2
40°-50°	1111.8	17.5
50°-60°	871.0	13.7
60°-70°	567.7	8.9
70°-80°	251.5	4.0
80°-90°	54.0	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°	2269.3	35.8
0°-40°	3488.0	55.0
0°-60°	5470.8	86.2
0°-90°	6344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6344.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3232	3232	3232	3232	3232	
5°	3176	3172	3172	3168	3168	301
15°	2970	2970	2940	2910	2899	835
25°	2574	2559	2518	2428	2361	1182
35°	2088	2073	1973	1823	1778	1306
45°	1603	1569	1435	1315	1263	1235
55°	1113	1080	979	863	818	999
65°	661	624	564	575	478	652
75°	265	247	232	220	243	284
85°	37	41	45	49	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3231.5	3231.5	3231.5	3231.5	3231.5
2.5°	3209.1	3209.1	3209.1	3205.4	3205.4
5°	3175.5	3171.8	3171.8	3168.0	3168.0
7.5°	3149.4	3145.6	3141.9	3138.2	3130.7
10°	3112.0	3112.0	3108.3	3089.6	3085.8
12.5°	3052.2	3048.5	3033.5	3007.4	2999.9
15°	2970.0	2970.0	2940.1	2910.3	2899.1
17.5°	2880.4	2876.6	2839.3	2809.4	2794.4
20°	2783.2	2775.8	2738.4	2689.8	2663.7
22.5°	2674.9	2674.9	2630.1	2566.6	2540.4
25°	2574.0	2559.1	2518.0	2428.3	2361.1
27.5°	2458.2	2435.8	2391.0	2264.0	2185.5
30°	2331.2	2320.0	2256.5	2092.1	2032.3
32.5°	2211.6	2193.0	2125.7	1953.9	1905.3
35°	2088.4	2073.4	1972.6	1823.1	1778.3
37.5°	1965.1	1946.4	1819.4	1699.8	1643.8
40°	1841.8	1819.4	1681.2	1572.8	1513.0
42.5°	1726.0	1696.1	1561.6	1445.8	1378.5
45°	1602.7	1569.1	1434.6	1315.0	1262.7
47.5°	1479.4	1449.5	1326.2	1203.0	1143.2
50°	1348.7	1322.5	1210.4	1087.1	1023.6
52.5°	1240.3	1199.2	1090.9	967.6	915.3
55°	1113.3	1079.7	978.8	863.0	818.2
57.5°	997.5	963.9	870.5	762.1	724.8
60°	889.1	840.6	762.1	668.7	638.8
62.5°	769.6	732.2	665.0	586.5	623.9
65°	661.3	623.9	564.1	575.3	478.2
67.5°	541.7	523.0	470.7	418.4	403.5
70°	440.8	418.4	399.7	343.7	328.8
72.5°	351.2	328.8	302.6	272.7	261.5
75°	265.2	246.6	231.6	220.4	242.8
77.5°	183.1	175.6	164.4	153.2	149.4
80°	119.5	115.8	112.1	108.3	104.6
82.5°	71.0	71.0	71.0	71.0	71.0
85°	37.4	41.1	44.8	48.6	52.3
87.5°	22.4	22.4	26.2	29.9	33.6
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)