

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: P546884

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-81-94-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: P546884  
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-35-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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**

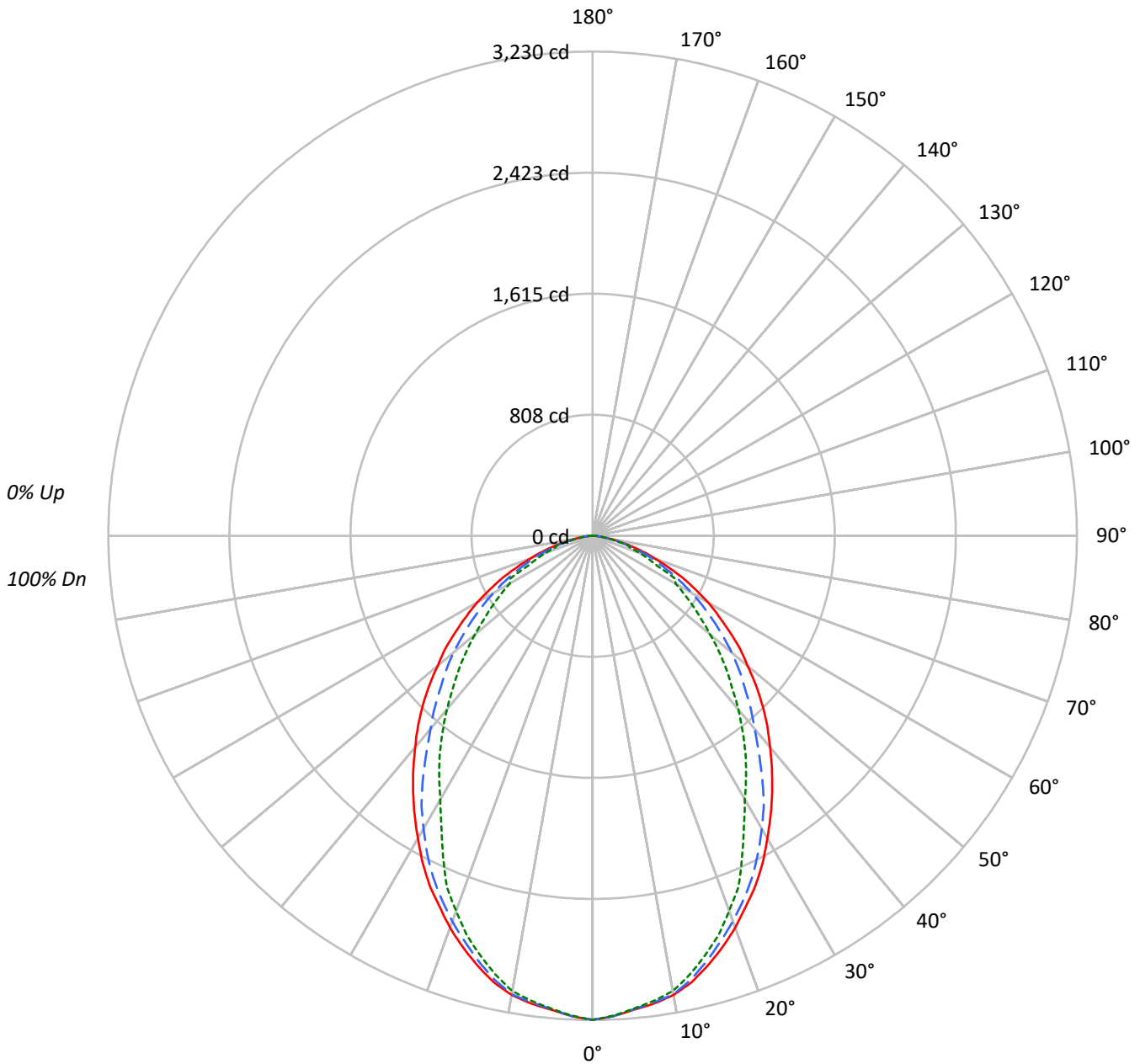
Lumens per Lamp: N/A  
Luminaire Lumens: 6340.0 lumens  
Efficiency: N/A  
Efficacy: 95.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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				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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4345	4345	4345
5°	4286	4281	4276
10°	4249	4244	4213
15°	4135	4093	4036
20°	3983	3919	3812
25°	3819	3736	3503
30°	3620	3504	3155
35°	3428	3238	2919
40°	3233	2951	2656
45°	3048	2728	2401
50°	2821	2532	2141
55°	2610	2295	1918
60°	2391	2049	1718
65°	2104	1795	1521
70°	1733	1572	1293
75°	1378	1203	1262
80°	926	868	810
85°	576	692	807



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	300.6	4.7
10°-20°	825.0	13.0
20°-30°	1142.2	18.0
30°-40°	1217.9	19.2
40°-50°	1111.1	17.5
50°-60°	870.5	13.7
60°-70°	567.3	8.9
70°-80°	251.4	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°	2267.9	35.8
0°-40°	3485.8	55.0
0°-60°	5467.4	86.2
0°-90°	6340.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6340.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3230	3230	3230	3230	3230	
5°	3174	3170	3170	3166	3166	301
15°	2968	2968	2938	2908	2897	834
25°	2572	2558	2516	2427	2360	1181
35°	2087	2072	1971	1822	1777	1305
45°	1602	1568	1434	1314	1262	1234
55°	1113	1079	978	862	818	998
65°	661	624	564	575	478	651
75°	265	246	232	220	243	284
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3229.5	3229.5	3229.5	3229.5	3229.5
2.5°	3207.1	3207.1	3207.1	3203.4	3203.4
5°	3173.5	3169.8	3169.8	3166.0	3166.0
7.5°	3147.4	3143.6	3139.9	3136.2	3128.7
10°	3110.0	3110.0	3106.3	3087.6	3083.9
12.5°	3050.3	3046.6	3031.6	3005.5	2998.0
15°	2968.2	2968.2	2938.3	2908.4	2897.2
17.5°	2878.6	2874.8	2837.5	2807.6	2792.7
20°	2781.5	2774.0	2736.7	2688.1	2662.0
22.5°	2673.2	2673.2	2628.4	2564.9	2538.8
25°	2572.4	2557.5	2516.4	2426.8	2359.6
27.5°	2456.7	2434.3	2389.5	2262.5	2184.1
30°	2329.7	2318.5	2255.1	2090.8	2031.0
32.5°	2210.3	2191.6	2124.4	1952.6	1904.1
35°	2087.0	2072.1	1971.3	1822.0	1777.2
37.5°	1963.8	1945.2	1818.2	1698.8	1642.8
40°	1840.6	1818.2	1680.1	1571.8	1512.1
42.5°	1724.9	1695.0	1560.6	1444.9	1377.7
45°	1601.7	1568.1	1433.7	1314.2	1261.9
47.5°	1478.5	1448.6	1325.4	1202.2	1142.5
50°	1347.8	1321.7	1209.7	1086.5	1023.0
52.5°	1239.5	1198.5	1090.2	967.0	914.7
55°	1112.6	1079.0	978.2	862.4	817.6
57.5°	996.9	963.3	869.9	761.6	724.3
60°	888.6	840.0	761.6	668.3	638.4
62.5°	769.1	731.8	664.6	586.2	623.5
65°	660.8	623.5	563.8	575.0	477.9
67.5°	541.4	522.7	470.4	418.2	403.2
70°	440.6	418.2	399.5	343.5	328.6
72.5°	351.0	328.6	302.4	272.5	261.3
75°	265.1	246.4	231.5	220.3	242.7
77.5°	182.9	175.5	164.3	153.1	149.3
80°	119.5	115.7	112.0	108.3	104.5
82.5°	70.9	70.9	70.9	70.9	70.9
85°	37.3	41.1	44.8	48.5	52.3
87.5°	22.4	22.4	26.1	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)