

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: P546898

Luminaire Tested: **FMR-24-4-LD4-2STD-35-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: P546898  
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-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

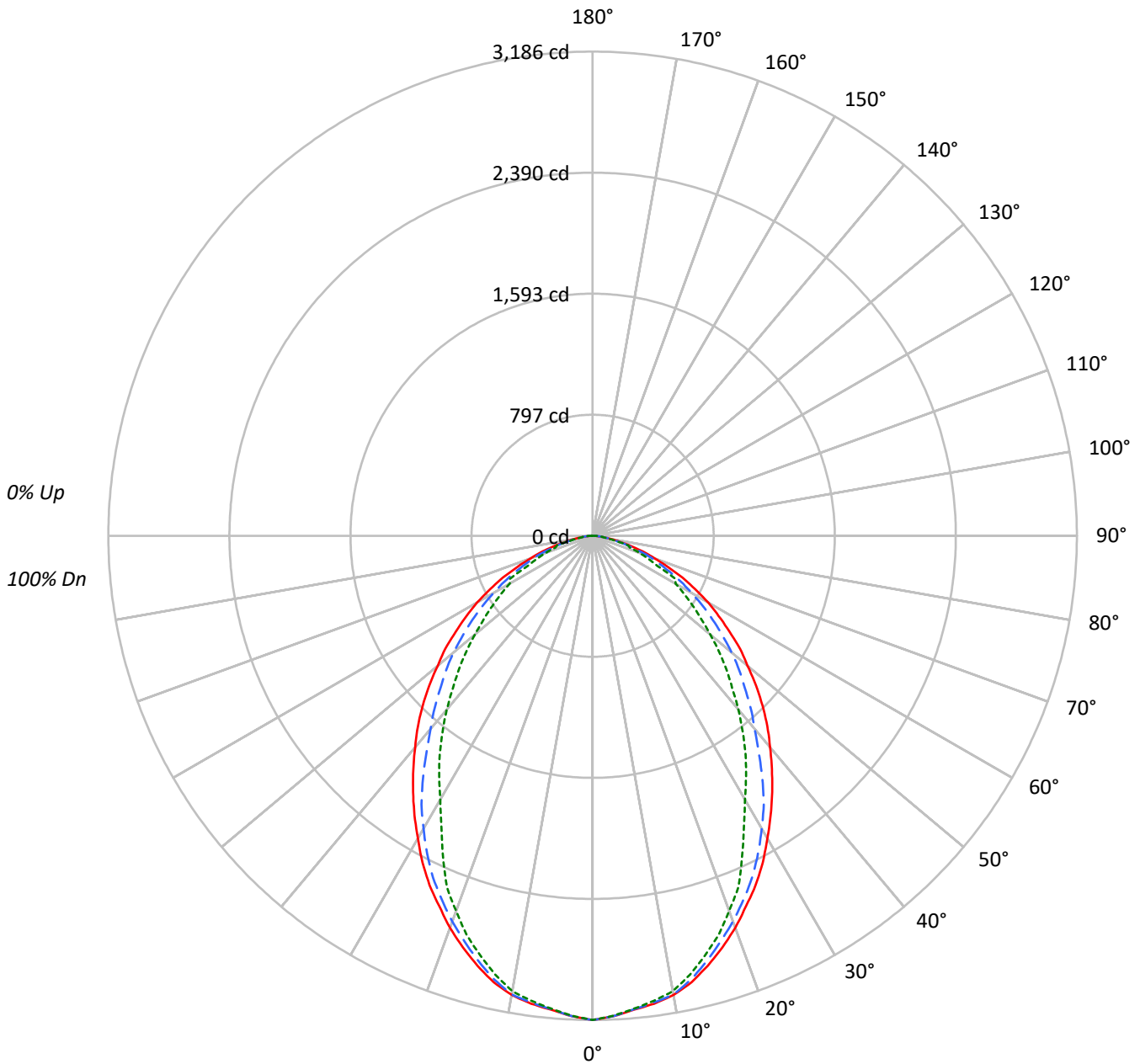
Lumens per Lamp: N/A  
Luminaire Lumens: 6255.0 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	4287	4287	4287
5°	4229	4224	4219
10°	4192	4187	4157
15°	4079	4038	3982
20°	3929	3866	3760
25°	3768	3686	3456
30°	3571	3457	3113
35°	3382	3195	2880
40°	3190	2911	2620
45°	3007	2692	2369
50°	2783	2498	2113
55°	2575	2264	1892
60°	2359	2022	1695
65°	2076	1771	1501
70°	1710	1550	1275
75°	1359	1187	1245
80°	914	856	799
85°	568	682	797



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	296.6	4.7
10°-20°	814.0	13.0
20°-30°	1126.9	18.0
30°-40°	1201.6	19.2
40°-50°	1096.2	17.5
50°-60°	858.8	13.7
60°-70°	559.7	8.9
70°-80°	248.0	4.0
80°-90°	53.2	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°	2237.5	35.8
0°-40°	3439.1	55.0
0°-60°	5394.1	86.2
0°-90°	6255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6255.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3186	3186	3186	3186	3186	
5°	3131	3127	3127	3124	3124	297
15°	2928	2928	2899	2869	2858	823
25°	2538	2523	2483	2394	2328	1165
35°	2059	2044	1945	1798	1753	1287
45°	1580	1547	1414	1297	1245	1217
55°	1098	1064	965	851	807	985
65°	652	615	556	567	472	643
75°	262	243	228	217	239	280
85°	37	40	44	48	52	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3186.2	3186.2	3186.2	3186.2	3186.2
2.5°	3164.1	3164.1	3164.1	3160.4	3160.4
5°	3131.0	3127.3	3127.3	3123.6	3123.6
7.5°	3105.2	3101.5	3097.8	3094.1	3086.8
10°	3068.3	3068.3	3064.7	3046.2	3042.6
12.5°	3009.4	3005.7	2991.0	2965.2	2957.8
15°	2928.4	2928.4	2898.9	2869.4	2858.4
17.5°	2840.0	2836.3	2799.4	2770.0	2755.2
20°	2744.2	2736.8	2700.0	2652.1	2626.3
22.5°	2637.4	2637.4	2593.2	2530.6	2504.8
25°	2537.9	2523.2	2482.7	2394.3	2328.0
27.5°	2423.7	2401.6	2357.4	2232.2	2154.8
30°	2298.5	2287.4	2224.8	2062.8	2003.8
32.5°	2180.6	2162.2	2095.9	1926.5	1878.6
35°	2059.1	2044.3	1944.9	1797.5	1753.3
37.5°	1937.5	1919.1	1793.9	1676.0	1620.7
40°	1816.0	1793.9	1657.6	1550.7	1491.8
42.5°	1701.8	1672.3	1539.7	1425.5	1359.2
45°	1580.2	1547.1	1414.5	1296.6	1245.0
47.5°	1458.7	1429.2	1307.6	1186.1	1127.1
50°	1329.7	1304.0	1193.4	1071.9	1009.3
52.5°	1222.9	1182.4	1075.6	954.0	902.5
55°	1097.7	1064.5	965.1	850.9	806.7
57.5°	983.5	950.3	858.3	751.4	714.6
60°	876.7	828.8	751.4	659.3	629.9
62.5°	758.8	722.0	655.7	578.3	615.1
65°	652.0	615.1	556.2	567.3	471.5
67.5°	534.1	515.7	464.1	412.6	397.8
70°	434.7	412.6	394.1	338.9	324.1
72.5°	346.2	324.1	298.4	268.9	257.8
75°	261.5	243.1	228.4	217.3	239.4
77.5°	180.5	173.1	162.1	151.0	147.3
80°	117.9	114.2	110.5	106.8	103.1
82.5°	70.0	70.0	70.0	70.0	70.0
85°	36.8	40.5	44.2	47.9	51.6
87.5°	22.1	22.1	25.8	29.5	33.2
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)