

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: P546893

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-82-96-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: P546893  
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-82-96-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

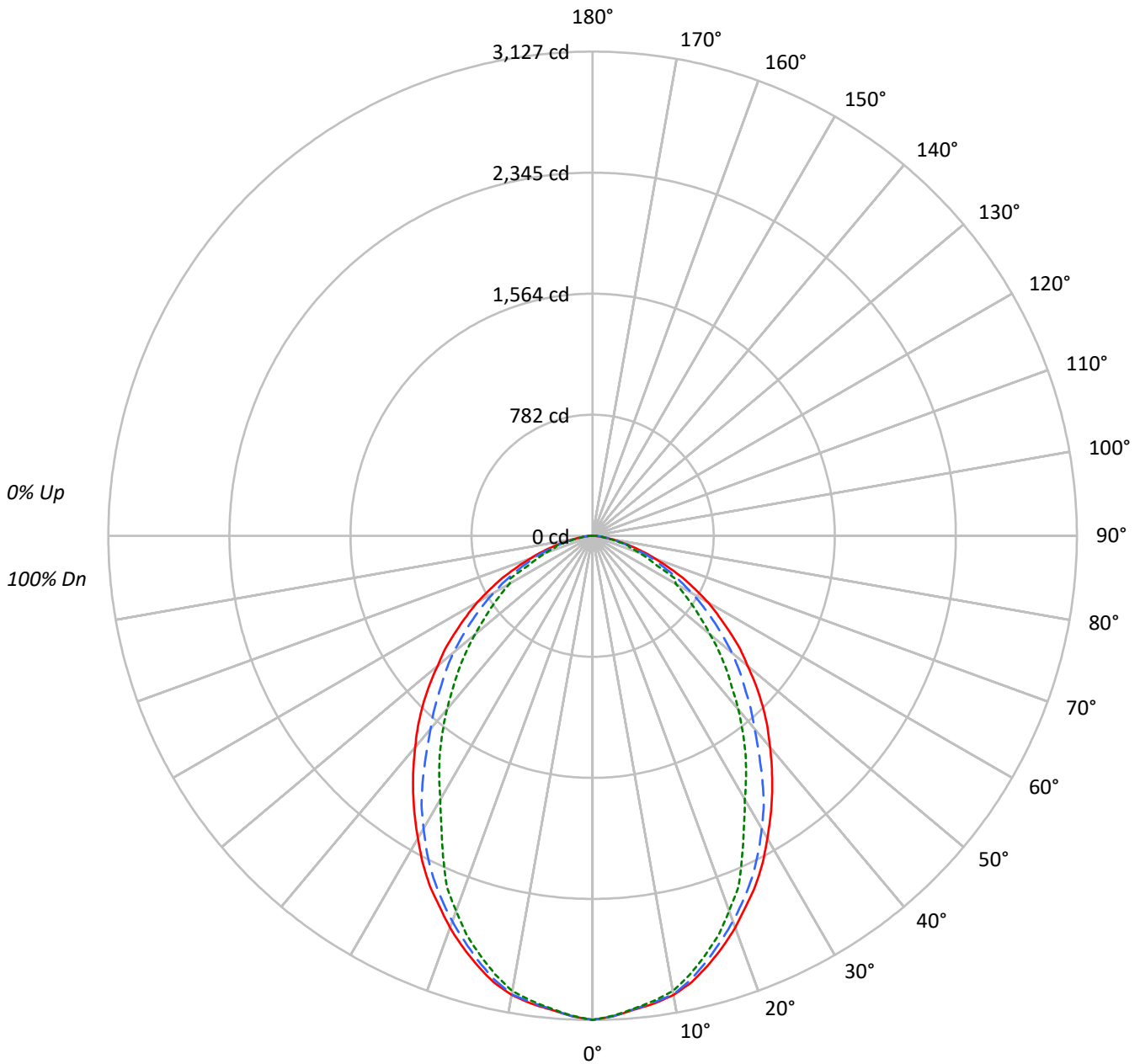
Lumens per Lamp: N/A  
Luminaire Lumens: 6138.0 lumens  
Efficiency: N/A  
Efficacy: 92.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	4207	4207	4207
5°	4150	4145	4140
10°	4114	4109	4079
15°	4003	3963	3907
20°	3856	3794	3690
25°	3697	3617	3391
30°	3504	3392	3055
35°	3319	3135	2826
40°	3130	2857	2571
45°	2951	2641	2325
50°	2731	2451	2073
55°	2527	2221	1857
60°	2315	1984	1663
65°	2037	1738	1473
70°	1678	1522	1251
75°	1334	1165	1221
80°	896	840	784
85°	557	670	781



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.0	4.7
10°-20°	798.7	13.0
20°-30°	1105.8	18.0
30°-40°	1179.1	19.2
40°-50°	1075.7	17.5
50°-60°	842.7	13.7
60°-70°	549.2	8.9
70°-80°	243.3	4.0
80°-90°	52.3	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°	2195.6	35.8
0°-40°	3374.7	55.0
0°-60°	5293.2	86.2
0°-90°	6138.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6138.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3127	3127	3127	3127	3127	
5°	3072	3069	3069	3065	3065	292
15°	2874	2874	2845	2816	2805	808
25°	2490	2476	2436	2350	2284	1143
35°	2021	2006	1908	1764	1720	1263
45°	1551	1518	1388	1272	1222	1194
55°	1077	1045	947	835	792	966
65°	640	604	546	557	463	631
75°	257	239	224	213	235	275
85°	36	40	43	47	51	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3126.6	3126.6	3126.6	3126.6	3126.6
2.5°	3104.9	3104.9	3104.9	3101.3	3101.3
5°	3072.4	3068.8	3068.8	3065.2	3065.2
7.5°	3047.1	3043.5	3039.9	3036.3	3029.0
10°	3010.9	3010.9	3007.3	2989.3	2985.6
12.5°	2953.1	2949.5	2935.0	2909.7	2902.5
15°	2873.6	2873.6	2844.7	2815.8	2804.9
17.5°	2786.8	2783.2	2747.1	2718.2	2703.7
20°	2692.9	2685.6	2649.5	2602.5	2577.2
22.5°	2588.0	2588.0	2544.7	2483.2	2457.9
25°	2490.4	2476.0	2436.2	2349.5	2284.4
27.5°	2378.4	2356.7	2313.3	2190.4	2114.5
30°	2255.5	2244.7	2183.2	2024.2	1966.3
32.5°	2139.8	2121.8	2056.7	1890.4	1843.4
35°	2020.6	2006.1	1908.5	1763.9	1720.5
37.5°	1901.3	1883.2	1760.3	1644.6	1590.4
40°	1782.0	1760.3	1626.6	1521.7	1463.9
42.5°	1669.9	1641.0	1510.9	1398.8	1333.8
45°	1550.7	1518.1	1388.0	1272.3	1221.7
47.5°	1431.4	1402.5	1283.2	1163.9	1106.1
50°	1304.9	1279.6	1171.1	1051.8	990.4
52.5°	1200.0	1160.3	1055.5	936.2	885.6
55°	1077.1	1044.6	947.0	835.0	791.6
57.5°	965.1	932.6	842.2	737.4	701.2
60°	860.3	813.3	737.4	647.0	618.1
62.5°	744.6	708.5	643.4	567.5	603.6
65°	639.8	603.6	545.8	556.6	462.7
67.5°	524.1	506.0	455.4	404.8	390.4
70°	426.5	404.8	386.8	332.5	318.1
72.5°	339.8	318.1	292.8	263.9	253.0
75°	256.6	238.6	224.1	213.3	234.9
77.5°	177.1	169.9	159.0	148.2	144.6
80°	115.7	112.1	108.4	104.8	101.2
82.5°	68.7	68.7	68.7	68.7	68.7
85°	36.1	39.8	43.4	47.0	50.6
87.5°	21.7	21.7	25.3	28.9	32.5
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)