

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: P546952

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-82-85-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: P546952  
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-50-UNV-82-85-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

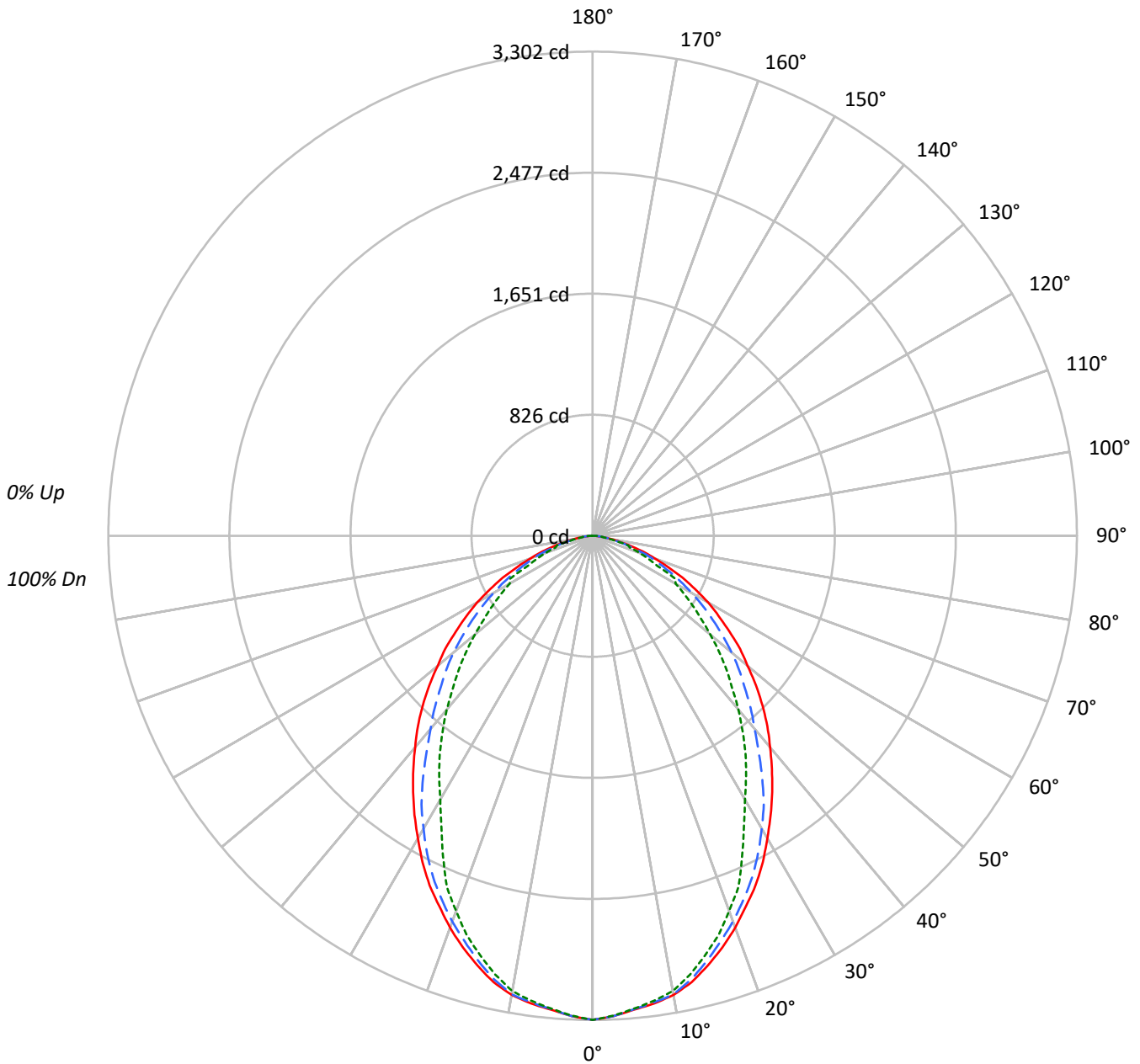
Lumens per Lamp: N/A  
Luminaire Lumens: 6482.0 lumens  
Efficiency: N/A  
Efficacy: 97.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	4443	4443	4443
5°	4382	4377	4372
10°	4344	4339	4308
15°	4227	4185	4126
20°	4072	4006	3897
25°	3904	3820	3581
30°	3701	3582	3226
35°	3505	3311	2984
40°	3305	3017	2715
45°	3116	2789	2455
50°	2884	2589	2189
55°	2668	2346	1961
60°	2445	2095	1756
65°	2151	1835	1556
70°	1772	1607	1321
75°	1409	1231	1290
80°	946	887	828
85°	590	707	824



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	307.4	4.7
10°-20°	843.5	13.0
20°-30°	1167.8	18.0
30°-40°	1245.2	19.2
40°-50°	1136.0	17.5
50°-60°	890.0	13.7
60°-70°	580.0	8.9
70°-80°	257.0	4.0
80°-90°	55.2	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°	2318.7	35.8
0°-40°	3563.9	55.0
0°-60°	5589.8	86.2
0°-90°	6482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6482.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3302	3302	3302	3302	3302	
5°	3245	3241	3241	3237	3237	308
15°	3035	3035	3004	2974	2962	853
25°	2630	2615	2573	2481	2412	1207
35°	2134	2118	2016	1863	1817	1334
45°	1638	1603	1466	1344	1290	1261
55°	1138	1103	1000	882	836	1020
65°	676	638	576	588	489	666
75°	271	252	237	225	248	290
85°	38	42	46	50	53	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3301.8	3301.8	3301.8	3301.8	3301.8
2.5°	3278.9	3278.9	3278.9	3275.1	3275.1
5°	3244.6	3240.8	3240.8	3237.0	3237.0
7.5°	3217.9	3214.0	3210.2	3206.4	3198.8
10°	3179.7	3179.7	3175.9	3156.8	3153.0
12.5°	3118.6	3114.8	3099.5	3072.8	3065.2
15°	3034.6	3034.6	3004.1	2973.6	2962.1
17.5°	2943.0	2939.2	2901.0	2870.5	2855.2
20°	2843.8	2836.2	2798.0	2748.4	2721.6
22.5°	2733.1	2733.1	2687.3	2622.4	2595.7
25°	2630.0	2614.8	2572.8	2481.2	2412.4
27.5°	2511.7	2488.8	2443.0	2313.2	2233.0
30°	2381.9	2370.5	2305.6	2137.6	2076.5
32.5°	2259.8	2240.7	2172.0	1996.4	1946.8
35°	2133.8	2118.5	2015.5	1862.8	1817.0
37.5°	2007.8	1988.7	1859.0	1736.8	1679.6
40°	1881.9	1859.0	1717.7	1607.0	1546.0
42.5°	1763.5	1733.0	1595.6	1477.2	1408.5
45°	1637.6	1603.2	1465.8	1343.6	1290.2
47.5°	1511.6	1481.1	1355.1	1229.1	1168.1
50°	1378.0	1351.3	1236.8	1110.8	1045.9
52.5°	1267.3	1225.3	1114.6	988.6	935.2
55°	1137.5	1103.2	1000.1	881.8	836.0
57.5°	1019.2	984.8	889.4	778.7	740.5
60°	908.5	858.9	778.7	683.3	652.7
62.5°	786.3	748.2	679.5	599.3	637.5
65°	675.6	637.5	576.4	587.8	488.6
67.5°	553.5	534.4	481.0	427.5	412.3
70°	450.4	427.5	408.4	351.2	335.9
72.5°	358.8	335.9	309.2	278.7	267.2
75°	271.0	251.9	236.7	225.2	248.1
77.5°	187.0	179.4	168.0	156.5	152.7
80°	122.1	118.3	114.5	110.7	106.9
82.5°	72.5	72.5	72.5	72.5	72.5
85°	38.2	42.0	45.8	49.6	53.4
87.5°	22.9	22.9	26.7	30.5	34.4
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)