

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: P547179

Luminaire Tested: **FMR-24-4-LD4-3STD-35-UNV-82-88-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: P547179  
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-LD4-3STD-35-UNV-82-88-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

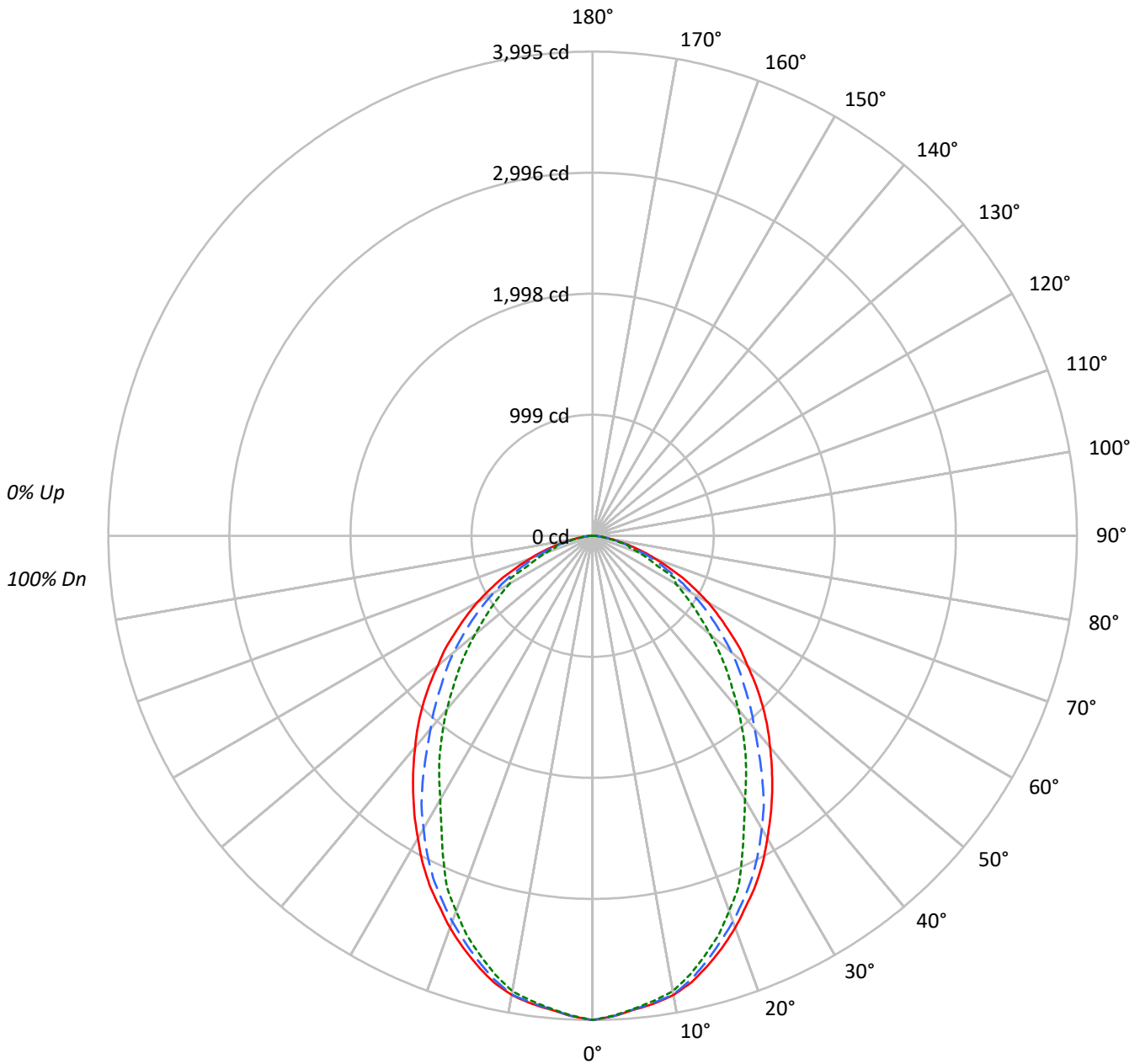
Lumens per Lamp: N/A  
Luminaire Lumens: 7843.0 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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

TEST NUMBER: P547179

CATALOG NUMBER: FMR-24-4-LD4-3STD-35-UNV-82-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547179

CATALOG NUMBER: FMR-24-4-LD4-3STD-35-UNV-82-88-EDD

**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°	5375	5375	5375
5°	5302	5296	5290
10°	5256	5250	5212
15°	5115	5063	4992
20°	4927	4847	4715
25°	4724	4622	4333
30°	4478	4334	3904
35°	4241	4005	3611
40°	3999	3651	3285
45°	3770	3375	2970
50°	3490	3132	2649
55°	3229	2839	2373
60°	2958	2535	2125
65°	2603	2220	1882
70°	2144	1944	1599
75°	1705	1489	1561
80°	1145	1074	1002
85°	713	855	999



TEST NUMBER: P547179

CATALOG NUMBER: FMR-24-4-LD4-3STD-35-UNV-82-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	371.9	4.7
10°-20°	1020.6	13.0
20°-30°	1413.0	18.0
30°-40°	1506.7	19.2
40°-50°	1374.5	17.5
50°-60°	1076.8	13.7
60°-70°	701.8	8.9
70°-80°	310.9	4.0
80°-90°	66.8	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°	2805.5	35.8
0°-40°	4312.2	55.0
0°-60°	6763.5	86.2
0°-90°	7843.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7843.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3995	3995	3995	3995	3995	
5°	3926	3921	3921	3917	3917	373
15°	3672	3672	3635	3598	3584	1032
25°	3182	3164	3113	3002	2919	1461
35°	2582	2563	2439	2254	2198	1614
45°	1981	1940	1774	1626	1561	1526
55°	1376	1335	1210	1067	1012	1235
65°	818	771	697	711	591	806
75°	328	305	286	272	300	351
85°	46	51	55	60	65	64
90°	0	0	0	0	0	



TEST NUMBER: P547179

CATALOG NUMBER: FMR-24-4-LD4-3STD-35-UNV-82-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3995.1	3995.1	3995.1	3995.1	3995.1
2.5°	3967.4	3967.4	3967.4	3962.8	3962.8
5°	3925.8	3921.2	3921.2	3916.6	3916.6
7.5°	3893.5	3888.9	3884.3	3879.7	3870.4
10°	3847.3	3847.3	3842.7	3819.6	3815.0
12.5°	3773.4	3768.8	3750.3	3718.0	3708.8
15°	3671.8	3671.8	3634.9	3597.9	3584.1
17.5°	3561.0	3556.3	3510.2	3473.2	3454.7
20°	3440.9	3431.6	3385.5	3325.4	3293.1
22.5°	3306.9	3306.9	3251.5	3173.0	3140.7
25°	3182.2	3163.8	3113.0	3002.1	2919.0
27.5°	3039.1	3011.4	2955.9	2798.9	2701.9
30°	2882.0	2868.2	2789.7	2586.4	2512.5
32.5°	2734.2	2711.1	2628.0	2415.5	2355.5
35°	2581.8	2563.3	2438.6	2253.9	2198.5
37.5°	2429.4	2406.3	2249.3	2101.5	2032.2
40°	2277.0	2249.3	2078.4	1944.4	1870.5
42.5°	2133.8	2096.9	1930.6	1787.4	1704.3
45°	1981.4	1939.8	1773.6	1625.8	1561.1
47.5°	1829.0	1792.0	1639.6	1487.2	1413.3
50°	1667.3	1635.0	1496.4	1344.0	1265.5
52.5°	1533.4	1482.6	1348.6	1196.2	1131.6
55°	1376.4	1334.8	1210.1	1066.9	1011.5
57.5°	1233.2	1191.6	1076.1	942.2	896.0
60°	1099.2	1039.2	942.2	826.7	789.8
62.5°	951.4	905.3	822.1	725.1	771.3
65°	817.5	771.3	697.4	711.3	591.2
67.5°	669.7	646.6	581.9	517.3	498.8
70°	545.0	517.3	494.2	424.9	406.4
72.5°	434.2	406.4	374.1	337.2	323.3
75°	327.9	304.8	286.4	272.5	300.2
77.5°	226.3	217.1	203.2	189.4	184.7
80°	147.8	143.2	138.6	133.9	129.3
82.5°	87.8	87.8	87.8	87.8	87.8
85°	46.2	50.8	55.4	60.0	64.7
87.5°	27.7	27.7	32.3	36.9	41.6
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)