

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: P547230

Luminaire Tested: **FMR-24-4-LD4-3STD-50-UNV-80-97-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: P547230  
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-50-UNV-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

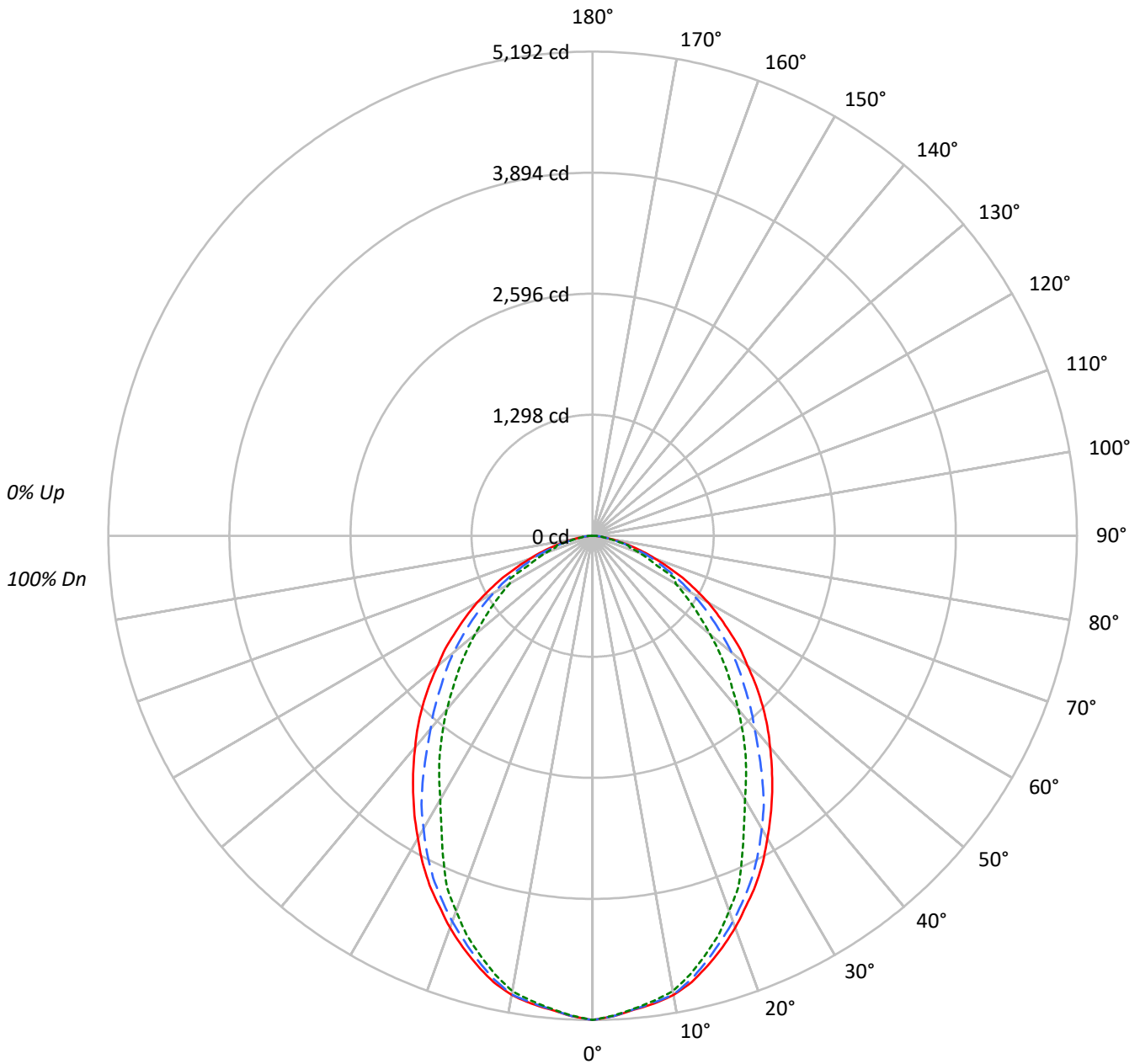
Lumens per Lamp: N/A  
Luminaire Lumens: 10193.0 lumens  
Efficiency: N/A  
Efficacy: 102.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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: P547230

CATALOG NUMBER: FMR-24-4-LD4-3STD-50-UNV-80-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547230

CATALOG NUMBER: FMR-24-4-LD4-3STD-50-UNV-80-97-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°	6986	6986	6986
5°	6891	6883	6875
10°	6831	6823	6774
15°	6647	6580	6488
20°	6403	6300	6128
25°	6140	6006	5632
30°	5819	5633	5073
35°	5511	5206	4693
40°	5198	4744	4270
45°	4900	4386	3861
50°	4536	4071	3443
55°	4196	3689	3084
60°	3844	3295	2762
65°	3382	2886	2446
70°	2786	2527	2078
75°	2216	1935	2028
80°	1488	1395	1303
85°	926	1112	1297



TEST NUMBER: P547230

CATALOG NUMBER: FMR-24-4-LD4-3STD-50-UNV-80-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	483.3	4.7
10°-20°	1326.4	13.0
20°-30°	1836.4	18.0
30°-40°	1958.1	19.2
40°-50°	1786.4	17.5
50°-60°	1399.5	13.7
60°-70°	912.1	8.9
70°-80°	404.1	4.0
80°-90°	86.7	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°	3646.1	35.8
0°-40°	5604.2	55.0
0°-60°	8790.0	86.2
0°-90°	10193.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10193.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5192	5192	5192	5192	5192	
5°	5102	5096	5096	5090	5090	484
15°	4772	4772	4724	4676	4658	1342
25°	4136	4112	4046	3902	3794	1899
35°	3355	3331	3169	2929	2857	2098
45°	2575	2521	2305	2113	2029	1984
55°	1789	1735	1573	1387	1315	1604
65°	1062	1002	906	924	768	1047
75°	426	396	372	354	390	457
85°	60	66	72	78	84	83
90°	0	0	0	0	0	



TEST NUMBER: P547230

CATALOG NUMBER: FMR-24-4-LD4-3STD-50-UNV-80-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5192.2	5192.2	5192.2	5192.2	5192.2
2.5°	5156.2	5156.2	5156.2	5150.2	5150.2
5°	5102.1	5096.1	5096.1	5090.1	5090.1
7.5°	5060.1	5054.1	5048.1	5042.1	5030.1
10°	5000.1	5000.1	4994.1	4964.1	4958.1
12.5°	4904.1	4898.1	4874.0	4832.0	4820.0
15°	4772.0	4772.0	4724.0	4676.0	4658.0
17.5°	4627.9	4621.9	4561.9	4513.9	4489.9
20°	4471.9	4459.9	4399.8	4321.8	4279.8
22.5°	4297.8	4297.8	4225.8	4123.7	4081.7
25°	4135.7	4111.7	4045.7	3901.6	3793.6
27.5°	3949.7	3913.6	3841.6	3637.5	3511.5
30°	3745.6	3727.6	3625.5	3361.4	3265.4
32.5°	3553.5	3523.5	3415.4	3139.3	3061.3
35°	3355.4	3331.4	3169.3	2929.2	2857.2
37.5°	3157.3	3127.3	2923.2	2731.1	2641.1
40°	2959.2	2923.2	2701.1	2527.1	2431.0
42.5°	2773.2	2725.1	2509.1	2323.0	2214.9
45°	2575.1	2521.1	2305.0	2112.9	2028.9
47.5°	2377.0	2329.0	2130.9	1932.8	1836.8
50°	2166.9	2124.9	1944.8	1746.7	1644.7
52.5°	1992.8	1926.8	1752.7	1554.7	1470.6
55°	1788.8	1734.7	1572.7	1386.6	1314.6
57.5°	1602.7	1548.6	1398.6	1224.5	1164.5
60°	1428.6	1350.6	1224.5	1074.5	1026.4
62.5°	1236.5	1176.5	1068.4	942.4	1002.4
65°	1062.4	1002.4	906.4	924.4	768.3
67.5°	870.4	840.4	756.3	672.3	648.3
70°	708.3	672.3	642.3	552.2	528.2
72.5°	564.2	528.2	486.2	438.2	420.2
75°	426.2	396.2	372.2	354.1	390.2
77.5°	294.1	282.1	264.1	246.1	240.1
80°	192.1	186.1	180.1	174.1	168.1
82.5°	114.0	114.0	114.0	114.0	114.0
85°	60.0	66.0	72.0	78.0	84.0
87.5°	36.0	36.0	42.0	48.0	54.0
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)