

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: P547371

Luminaire Tested: **FMR-24-4-LD4-4LO-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: P547371  
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-LD4-4LO-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**

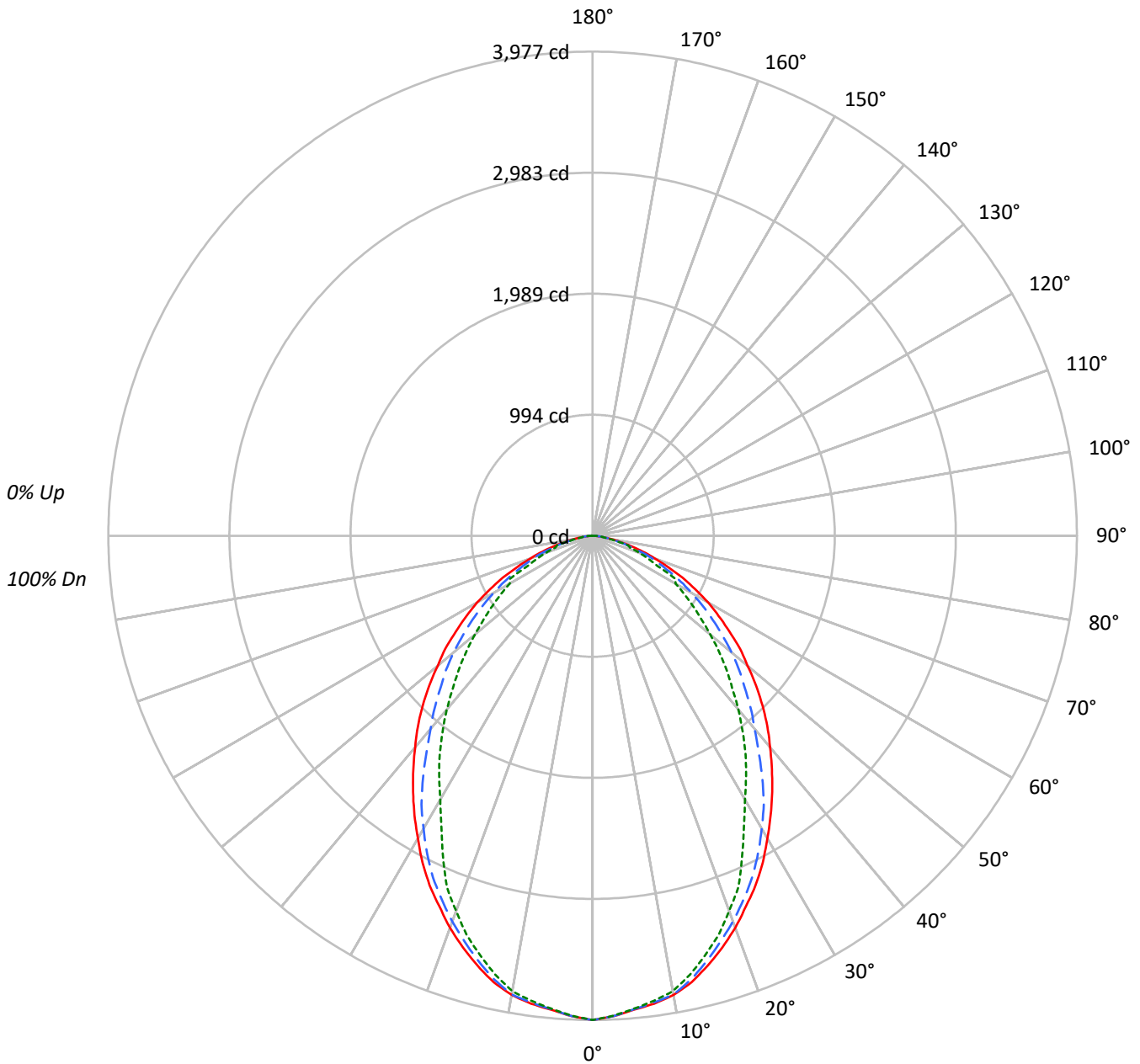
Lumens per Lamp: N/A  
Luminaire Lumens: 7808.0 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
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				20				
RC	80				70				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			100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5351	5351	5351
5°	5279	5272	5266
10°	5233	5227	5189
15°	5092	5041	4970
20°	4905	4826	4694
25°	4703	4601	4314
30°	4458	4315	3886
35°	4222	3988	3595
40°	3981	3634	3271
45°	3753	3360	2957
50°	3475	3118	2637
55°	3214	2826	2362
60°	2945	2524	2116
65°	2591	2210	1874
70°	2135	1936	1592
75°	1697	1482	1554
80°	1140	1068	997
85°	710	852	994



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	370.2	4.7
10°-20°	1016.1	13.0
20°-30°	1406.7	18.0
30°-40°	1499.9	19.2
40°-50°	1368.4	17.5
50°-60°	1072.0	13.7
60°-70°	698.7	8.9
70°-80°	309.5	4.0
80°-90°	66.5	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°	2793.0	35.8
0°-40°	4292.9	55.0
0°-60°	6733.3	86.2
0°-90°	7808.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7808.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3977	3977	3977	3977	3977	
5°	3908	3904	3904	3899	3899	371
15°	3655	3655	3619	3582	3568	1028
25°	3168	3150	3099	2989	2906	1454
35°	2570	2552	2428	2244	2189	1607
45°	1973	1931	1766	1618	1554	1519
55°	1370	1329	1205	1062	1007	1229
65°	814	768	694	708	588	802
75°	326	304	285	271	299	350
85°	46	51	55	60	64	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3977.3	3977.3	3977.3	3977.3	3977.3
2.5°	3949.7	3949.7	3949.7	3945.1	3945.1
5°	3908.3	3903.7	3903.7	3899.1	3899.1
7.5°	3876.1	3871.5	3866.9	3862.3	3853.1
10°	3830.2	3830.2	3825.6	3802.6	3798.0
12.5°	3756.6	3752.0	3733.6	3701.4	3692.2
15°	3655.4	3655.4	3618.6	3581.9	3568.1
17.5°	3545.1	3540.5	3494.5	3457.7	3439.3
20°	3425.5	3416.3	3370.4	3310.6	3278.4
22.5°	3292.2	3292.2	3237.0	3158.8	3126.7
25°	3168.0	3149.6	3099.1	2988.7	2906.0
27.5°	3025.5	2997.9	2942.7	2786.4	2689.8
30°	2869.2	2855.4	2777.2	2574.9	2501.3
32.5°	2722.0	2699.0	2616.3	2404.8	2345.0
35°	2570.3	2551.9	2427.8	2243.8	2188.7
37.5°	2418.6	2395.6	2239.2	2092.1	2023.1
40°	2266.8	2239.2	2069.1	1935.8	1862.2
42.5°	2124.3	2087.5	1922.0	1779.4	1696.7
45°	1972.6	1931.2	1765.6	1618.5	1554.1
47.5°	1820.8	1784.0	1632.3	1480.6	1407.0
50°	1659.9	1627.7	1489.8	1338.0	1259.9
52.5°	1526.5	1476.0	1342.6	1190.9	1126.5
55°	1370.2	1328.8	1204.7	1062.1	1007.0
57.5°	1227.7	1186.3	1071.3	938.0	892.0
60°	1094.3	1034.6	938.0	823.0	786.3
62.5°	947.2	901.2	818.4	721.9	767.9
65°	813.9	767.9	694.3	708.1	588.5
67.5°	666.7	643.7	579.4	515.0	496.6
70°	542.6	515.0	492.0	423.0	404.6
72.5°	432.2	404.6	372.4	335.7	321.9
75°	326.5	303.5	285.1	271.3	298.9
77.5°	225.3	216.1	202.3	188.5	183.9
80°	147.1	142.5	137.9	133.3	128.7
82.5°	87.4	87.4	87.4	87.4	87.4
85°	46.0	50.6	55.2	59.8	64.4
87.5°	27.6	27.6	32.2	36.8	41.4
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)