

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: P547383

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-80-84-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: P547383  
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-40-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

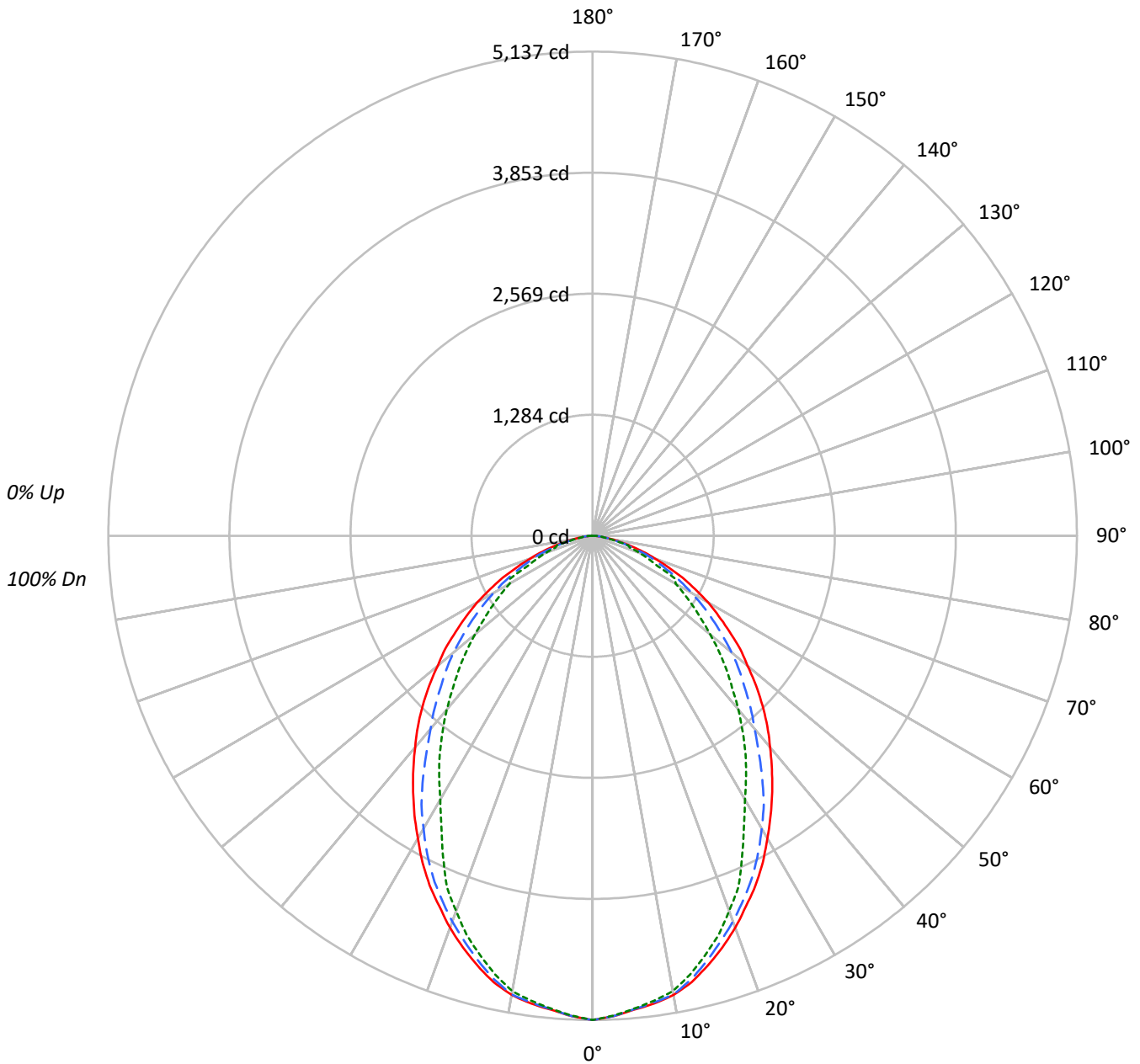
Lumens per Lamp: N/A  
Luminaire Lumens: 10085.0 lumens  
Efficiency: N/A  
Efficacy: 107.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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				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°	6912	6912	6912
5°	6818	6810	6802
10°	6759	6751	6702
15°	6577	6511	6420
20°	6335	6233	6063
25°	6075	5942	5572
30°	5758	5573	5019
35°	5453	5151	4643
40°	5143	4694	4225
45°	4848	4339	3820
50°	4488	4028	3406
55°	4152	3650	3051
60°	3804	3260	2733
65°	3347	2855	2420
70°	2757	2500	2056
75°	2192	1914	2007
80°	1472	1381	1289
85°	917	1101	1283



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	478.2	4.7
10°-20°	1312.4	13.0
20°-30°	1816.9	18.0
30°-40°	1937.3	19.2
40°-50°	1767.4	17.5
50°-60°	1384.6	13.7
60°-70°	902.4	8.9
70°-80°	399.8	4.0
80°-90°	85.8	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°	3607.5	35.8
0°-40°	5544.8	55.0
0°-60°	8696.9	86.2
0°-90°	10085.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10085.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5137	5137	5137	5137	5137	
5°	5048	5042	5042	5036	5036	479
15°	4721	4721	4674	4626	4609	1327
25°	4092	4068	4003	3860	3753	1879
35°	3320	3296	3136	2898	2827	2076
45°	2548	2494	2280	2090	2007	1963
55°	1770	1716	1556	1372	1301	1587
65°	1051	992	897	915	760	1036
75°	422	392	368	350	386	452
85°	59	65	71	77	83	82
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5137.2	5137.2	5137.2	5137.2	5137.2
2.5°	5101.5	5101.5	5101.5	5095.6	5095.6
5°	5048.1	5042.1	5042.1	5036.2	5036.2
7.5°	5006.5	5000.6	4994.6	4988.7	4976.8
10°	4947.1	4947.1	4941.2	4911.5	4905.5
12.5°	4852.1	4846.2	4822.4	4780.8	4769.0
15°	4721.4	4721.4	4673.9	4626.4	4608.6
17.5°	4578.9	4573.0	4513.6	4466.1	4442.3
20°	4424.5	4412.6	4353.2	4276.0	4234.4
22.5°	4252.3	4252.3	4181.0	4080.0	4038.5
25°	4091.9	4068.2	4002.8	3860.3	3753.4
27.5°	3907.8	3872.2	3800.9	3599.0	3474.3
30°	3705.9	3688.1	3587.1	3325.8	3230.8
32.5°	3515.8	3486.1	3379.2	3106.1	3028.8
35°	3319.9	3296.1	3135.7	2898.2	2826.9
37.5°	3123.9	3094.2	2892.3	2702.2	2613.1
40°	2927.9	2892.3	2672.5	2500.3	2405.3
42.5°	2743.8	2696.3	2482.5	2298.4	2191.5
45°	2547.8	2494.3	2280.5	2090.5	2007.4
47.5°	2351.8	2304.3	2108.3	1912.3	1817.3
50°	2143.9	2102.4	1924.2	1728.2	1627.3
52.5°	1971.7	1906.4	1734.2	1538.2	1455.0
55°	1769.8	1716.3	1556.0	1371.9	1300.6
57.5°	1585.7	1532.2	1383.8	1211.5	1152.2
60°	1413.5	1336.3	1211.5	1063.1	1015.6
62.5°	1223.4	1164.0	1057.1	932.4	991.8
65°	1051.2	991.8	896.8	914.6	760.2
67.5°	861.1	831.4	748.3	665.2	641.4
70°	700.8	665.2	635.5	546.4	522.6
72.5°	558.3	522.6	481.1	433.5	415.7
75°	421.7	392.0	368.2	350.4	386.0
77.5°	291.0	279.1	261.3	243.5	237.6
80°	190.0	184.1	178.2	172.2	166.3
82.5°	112.8	112.8	112.8	112.8	112.8
85°	59.4	65.3	71.3	77.2	83.1
87.5°	35.6	35.6	41.6	47.5	53.5
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)