

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: P545929

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-86-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: P545929
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-12-4-LD4-1LO-35-UNV-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

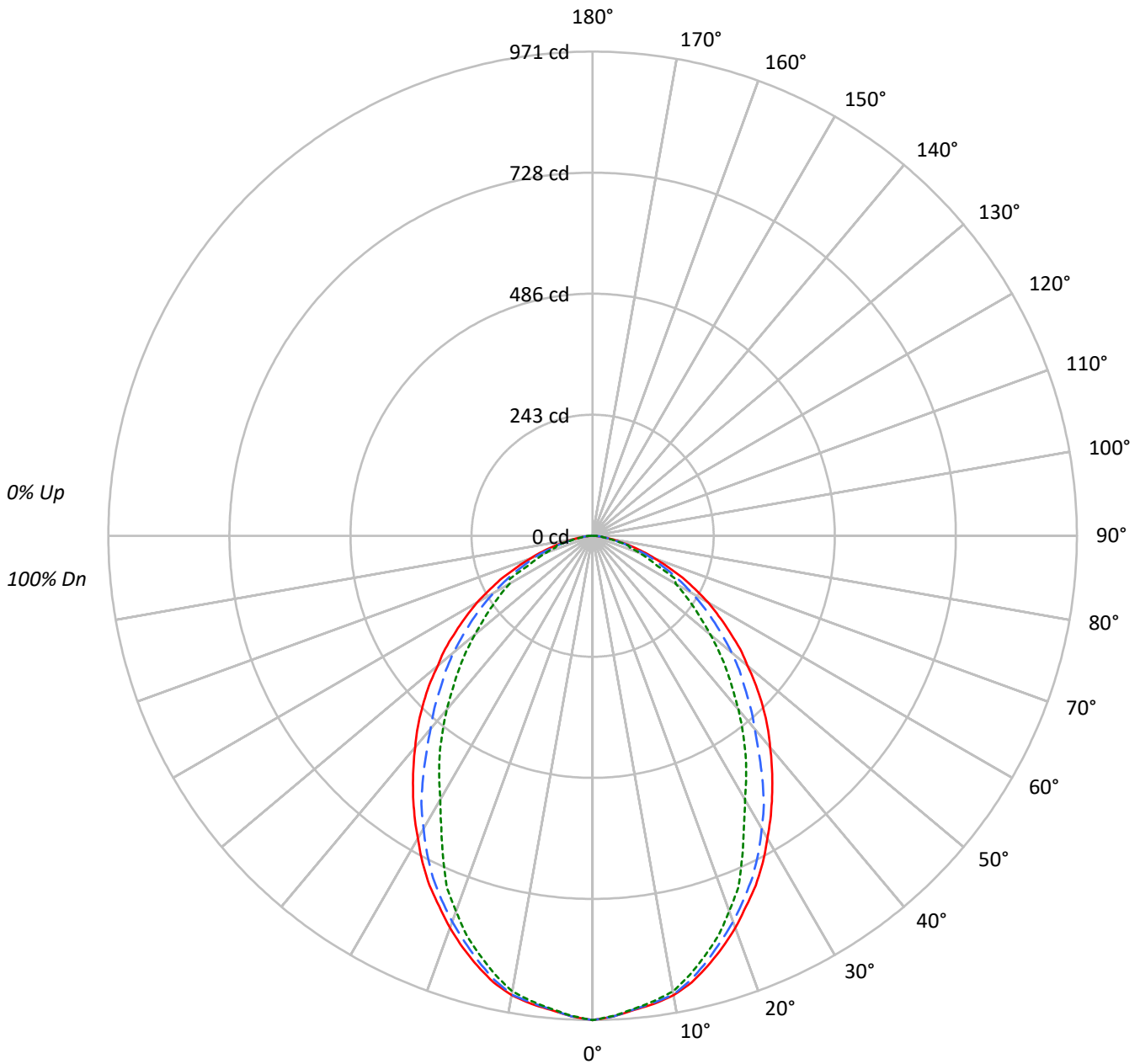
Lumens per Lamp: N/A
Luminaire Lumens: 1907.0 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2614	2614	2614
5°	2579	2575	2572
10°	2556	2553	2535
15°	2487	2462	2428
20°	2396	2357	2293
25°	2298	2247	2107
30°	2178	2108	1898
35°	2062	1948	1756
40°	1945	1775	1598
45°	1834	1641	1445
50°	1697	1523	1288
55°	1570	1380	1154
60°	1439	1233	1033
65°	1266	1080	915
70°	1042	946	777
75°	829	724	759
80°	556	522	487
85°	346	417	485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.4	4.7
10°-20°	248.2	13.0
20°-30°	343.6	18.0
30°-40°	366.3	19.2
40°-50°	334.2	17.5
50°-60°	261.8	13.7
60°-70°	170.6	8.9
70°-80°	75.6	4.0
80°-90°	16.2	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°	682.2	35.8
0°-40°	1048.5	55.0
0°-60°	1644.5	86.2
0°-90°	1907.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1907.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	955	953	953	952	952	91
15°	893	893	884	875	872	251
25°	774	769	757	730	710	355
35°	628	623	593	548	535	392
45°	482	472	431	395	380	371
55°	335	324	294	259	246	300
65°	199	188	170	173	144	196
75°	80	74	70	66	73	85
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	971.4	971.4	971.4	971.4	971.4
2.5°	964.7	964.7	964.7	963.5	963.5
5°	954.6	953.4	953.4	952.3	952.3
7.5°	946.7	945.6	944.4	943.3	941.1
10°	935.5	935.5	934.3	928.7	927.6
12.5°	917.5	916.4	911.9	904.0	901.8
15°	892.8	892.8	883.8	874.8	871.5
17.5°	865.8	864.7	853.5	844.5	840.0
20°	836.6	834.4	823.2	808.6	800.7
22.5°	804.1	804.1	790.6	771.5	763.6
25°	773.8	769.3	756.9	730.0	709.7
27.5°	738.9	732.2	718.7	680.5	657.0
30°	700.8	697.4	678.3	628.9	610.9
32.5°	664.8	659.2	639.0	587.3	572.7
35°	627.8	623.3	592.9	548.0	534.6
37.5°	590.7	585.1	546.9	511.0	494.1
40°	553.6	546.9	505.4	472.8	454.8
42.5°	518.8	509.8	469.4	434.6	414.4
45°	481.8	471.7	431.2	395.3	379.6
47.5°	444.7	435.7	398.7	361.6	343.6
50°	405.4	397.5	363.9	326.8	307.7
52.5°	372.8	360.5	327.9	290.9	275.1
55°	334.7	324.5	294.2	259.4	245.9
57.5°	299.8	289.7	261.7	229.1	217.9
60°	267.3	252.7	229.1	201.0	192.0
62.5°	231.3	220.1	199.9	176.3	187.5
65°	198.8	187.5	169.6	172.9	143.7
67.5°	162.8	157.2	141.5	125.8	121.3
70°	132.5	125.8	120.2	103.3	98.8
72.5°	105.6	98.8	91.0	82.0	78.6
75°	79.7	74.1	69.6	66.3	73.0
77.5°	55.0	52.8	49.4	46.0	44.9
80°	35.9	34.8	33.7	32.6	31.4
82.5°	21.3	21.3	21.3	21.3	21.3
85°	11.2	12.4	13.5	14.6	15.7
87.5°	6.7	6.7	7.9	9.0	10.1
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)