

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: P545957

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-81-96-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: P545957
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-40-UNV-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

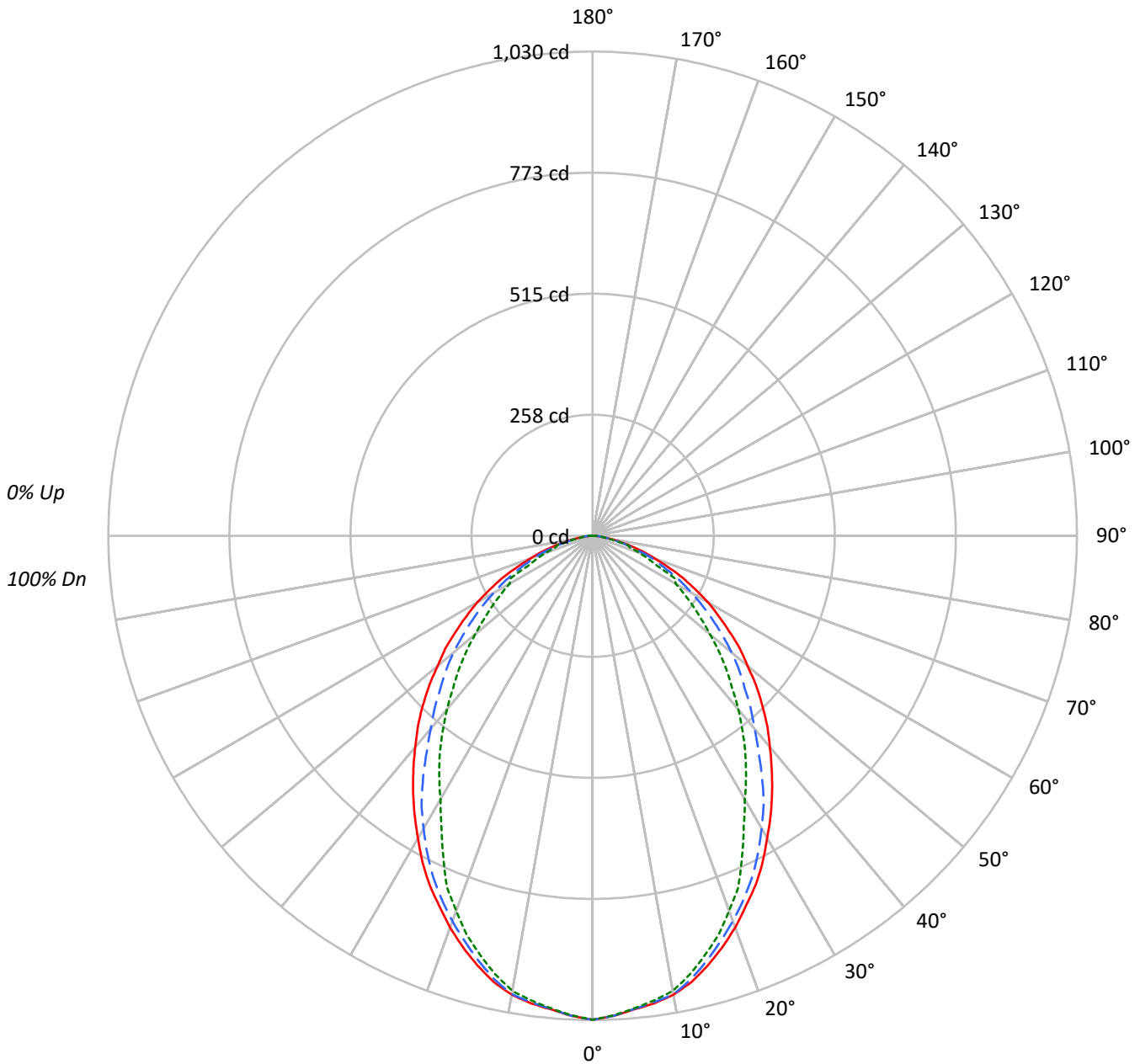
Lumens per Lamp: N/A
Luminaire Lumens: 2021.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2770	2770	2770
5°	2733	2729	2726
10°	2709	2706	2686
15°	2636	2609	2573
20°	2539	2498	2430
25°	2435	2382	2233
30°	2307	2234	2012
35°	2186	2064	1861
40°	2061	1881	1693
45°	1943	1739	1531
50°	1798	1614	1365
55°	1664	1463	1223
60°	1525	1307	1095
65°	1342	1144	970
70°	1105	1002	824
75°	879	767	805
80°	590	553	516
85°	367	442	516



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	4.7
10°-20°	263.0	13.0
20°-30°	364.1	18.0
30°-40°	388.2	19.2
40°-50°	354.2	17.5
50°-60°	277.5	13.7
60°-70°	180.9	8.9
70°-80°	80.1	4.0
80°-90°	17.2	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°	722.9	35.8
0°-40°	1111.2	55.0
0°-60°	1742.8	86.2
0°-90°	2021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2021.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1030	1030	1030	1030	1030	
5°	1012	1010	1010	1009	1009	96
15°	946	946	937	927	924	266
25°	820	815	802	774	752	376
35°	665	660	628	581	566	416
45°	511	500	457	419	402	393
55°	355	344	312	275	261	318
65°	211	199	180	183	152	208
75°	84	78	74	70	77	91
85°	12	13	14	16	17	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1029.5	1029.5	1029.5	1029.5	1029.5
2.5°	1022.3	1022.3	1022.3	1021.1	1021.1
5°	1011.6	1010.4	1010.4	1009.2	1009.2
7.5°	1003.3	1002.1	1000.9	999.7	997.3
10°	991.4	991.4	990.2	984.2	983.1
12.5°	972.3	971.2	966.4	958.1	955.7
15°	946.2	946.2	936.6	927.1	923.5
17.5°	917.6	916.4	904.5	895.0	890.2
20°	886.7	884.3	872.4	856.9	848.6
22.5°	852.1	852.1	837.9	817.6	809.3
25°	820.0	815.2	802.2	773.6	752.2
27.5°	783.1	776.0	761.7	721.2	696.2
30°	742.6	739.1	718.8	666.5	647.4
32.5°	704.6	698.6	677.2	622.4	607.0
35°	665.3	660.5	628.4	580.8	566.5
37.5°	626.0	620.1	579.6	541.5	523.7
40°	586.7	579.6	535.6	501.0	482.0
42.5°	549.8	540.3	497.5	460.6	439.2
45°	510.6	499.9	457.0	418.9	402.3
47.5°	471.3	461.8	422.5	383.2	364.2
50°	429.6	421.3	385.6	346.3	326.1
52.5°	395.1	382.0	347.5	308.2	291.6
55°	354.7	344.0	311.8	274.9	260.6
57.5°	317.8	307.1	277.3	242.8	230.9
60°	283.3	267.8	242.8	213.0	203.5
62.5°	245.2	233.3	211.8	186.9	198.8
65°	210.7	198.8	179.7	183.3	152.3
67.5°	172.6	166.6	150.0	133.3	128.5
70°	140.4	133.3	127.3	109.5	104.7
72.5°	111.9	104.7	96.4	86.9	83.3
75°	84.5	78.5	73.8	70.2	77.4
77.5°	58.3	55.9	52.4	48.8	47.6
80°	38.1	36.9	35.7	34.5	33.3
82.5°	22.6	22.6	22.6	22.6	22.6
85°	11.9	13.1	14.3	15.5	16.7
87.5°	7.1	7.1	8.3	9.5	10.7
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)