

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: P545936

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-93-85-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: P545936
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-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

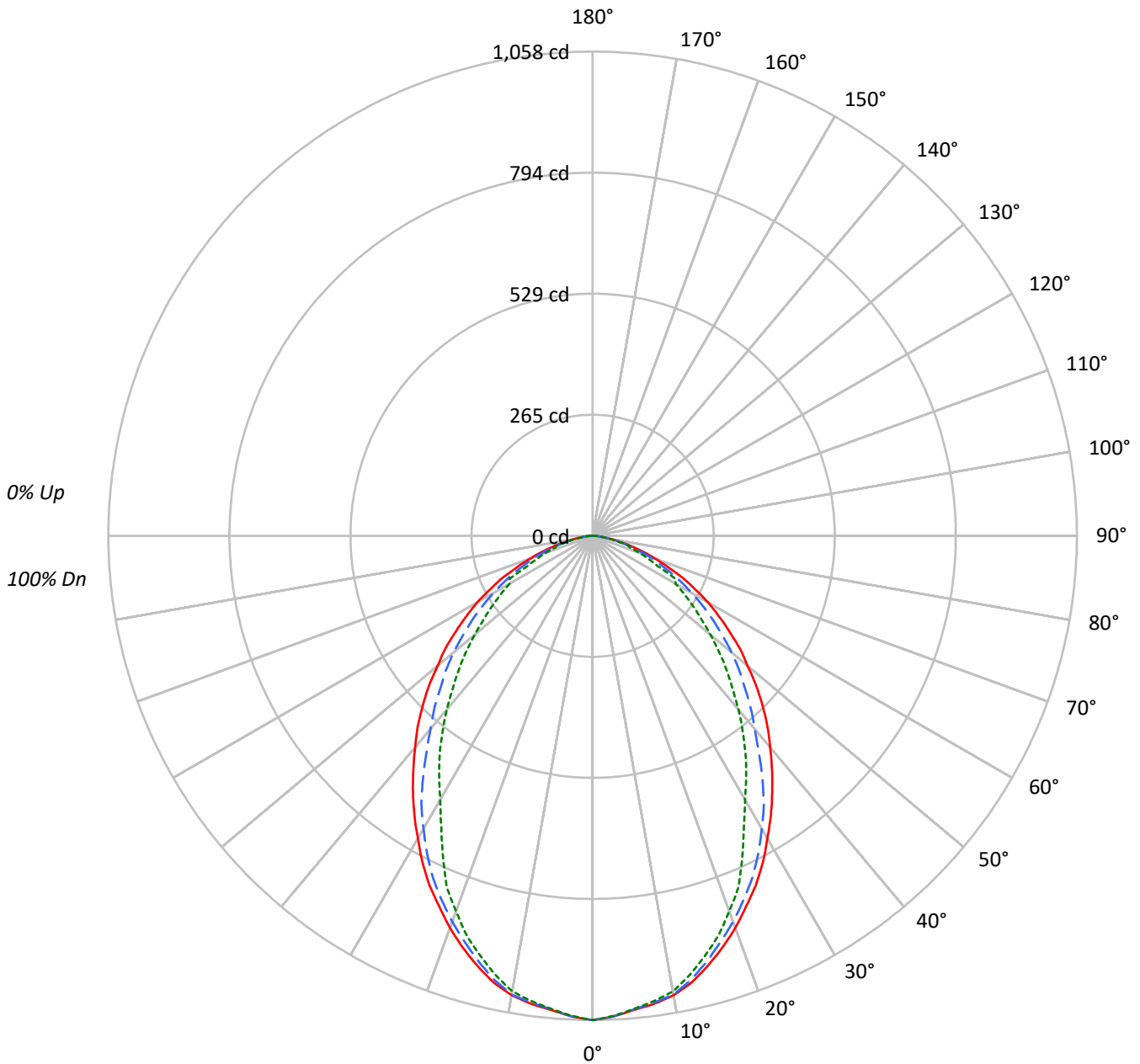
Lumens per Lamp: N/A
Luminaire Lumens: 2078.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2848	2848	2848
5°	2810	2806	2803
10°	2785	2782	2762
15°	2710	2683	2645
20°	2611	2569	2499
25°	2503	2449	2296
30°	2373	2297	2069
35°	2247	2122	1914
40°	2119	1935	1741
45°	1998	1788	1574
50°	1850	1660	1404
55°	1711	1504	1257
60°	1567	1343	1126
65°	1379	1177	997
70°	1136	1030	847
75°	904	789	827
80°	607	569	532
85°	377	454	528



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.5	4.7
10°-20°	270.4	13.0
20°-30°	374.4	18.0
30°-40°	399.2	19.2
40°-50°	364.2	17.5
50°-60°	285.3	13.7
60°-70°	185.9	8.9
70°-80°	82.4	4.0
80°-90°	17.7	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°	743.3	35.8
0°-40°	1142.5	55.0
0°-60°	1792.0	86.2
0°-90°	2078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2078.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1058	1058	1058	1058	1058	
5°	1040	1039	1039	1038	1038	99
15°	973	973	963	953	950	273
25°	843	838	825	795	773	387
35°	684	679	646	597	582	428
45°	525	514	470	431	414	404
55°	365	354	321	283	268	327
65°	217	204	185	188	157	213
75°	87	81	76	72	80	93
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1058.5	1058.5	1058.5	1058.5	1058.5
2.5°	1051.2	1051.2	1051.2	1049.9	1049.9
5°	1040.1	1038.9	1038.9	1037.7	1037.7
7.5°	1031.6	1030.4	1029.1	1027.9	1025.5
10°	1019.3	1019.3	1018.1	1012.0	1010.8
12.5°	999.8	998.5	993.6	985.1	982.6
15°	972.8	972.8	963.1	953.3	949.6
17.5°	943.5	942.3	930.0	920.2	915.3
20°	911.7	909.2	897.0	881.1	872.5
22.5°	876.2	876.2	861.5	840.7	832.1
25°	843.1	838.2	824.8	795.4	773.4
27.5°	805.2	797.9	783.2	741.6	715.9
30°	763.6	759.9	739.1	685.3	665.7
32.5°	724.4	718.3	696.3	640.0	624.1
35°	684.1	679.2	646.1	597.2	582.5
37.5°	643.7	637.6	595.9	556.8	538.4
40°	603.3	595.9	550.7	515.2	495.6
42.5°	565.4	555.6	511.5	473.6	451.5
45°	525.0	514.0	469.9	430.7	413.6
47.5°	484.6	474.8	434.4	394.0	374.5
50°	441.8	433.2	396.5	356.1	335.3
52.5°	406.3	392.8	357.3	316.9	299.8
55°	364.7	353.7	320.6	282.7	268.0
57.5°	326.7	315.7	285.1	249.6	237.4
60°	291.2	275.3	249.6	219.0	209.3
62.5°	252.1	239.8	217.8	192.1	204.4
65°	216.6	204.4	184.8	188.5	156.6
67.5°	177.4	171.3	154.2	137.1	132.2
70°	144.4	137.1	130.9	112.6	107.7
72.5°	115.0	107.7	99.1	89.3	85.7
75°	86.9	80.8	75.9	72.2	79.5
77.5°	60.0	57.5	53.8	50.2	48.9
80°	39.2	37.9	36.7	35.5	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.2	13.5	14.7	15.9	17.1
87.5°	7.3	7.3	8.6	9.8	11.0
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)