

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: P545933

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-96-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: P545933
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

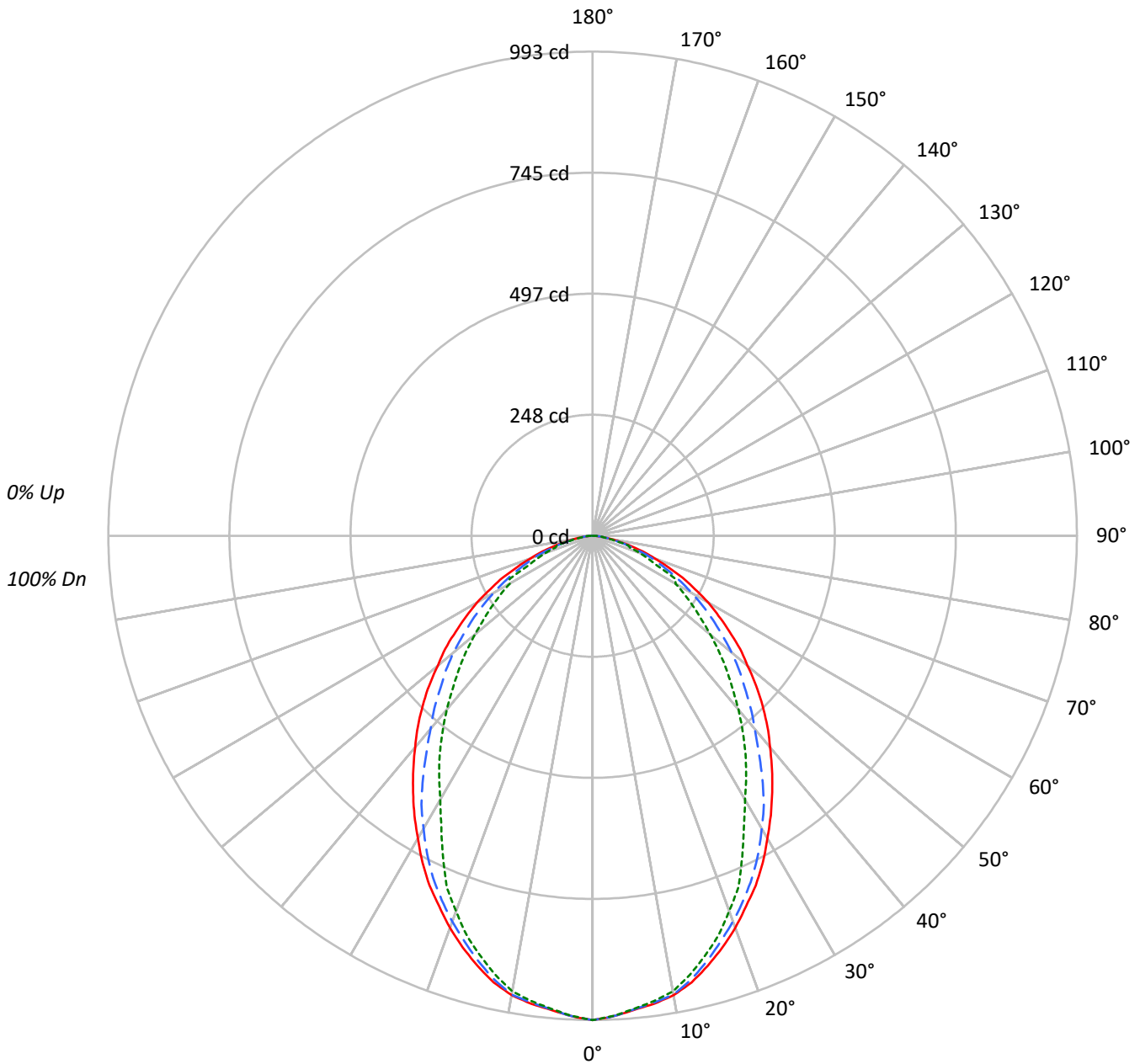
Lumens per Lamp: N/A
Luminaire Lumens: 1950.0 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	2673	2673	2673
5°	2637	2633	2630
10°	2614	2611	2592
15°	2543	2518	2483
20°	2450	2410	2345
25°	2349	2298	2155
30°	2227	2155	1941
35°	2109	1992	1796
40°	1989	1815	1634
45°	1875	1678	1477
50°	1735	1558	1317
55°	1605	1412	1180
60°	1471	1261	1057
65°	1294	1104	936
70°	1066	967	795
75°	847	740	776
80°	569	533	499
85°	355	426	497



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	4.7
10°-20°	253.8	13.0
20°-30°	351.3	18.0
30°-40°	374.6	19.2
40°-50°	341.7	17.5
50°-60°	267.7	13.7
60°-70°	174.5	8.9
70°-80°	77.3	4.0
80°-90°	16.6	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°	697.5	35.8
0°-40°	1072.1	55.0
0°-60°	1681.6	86.2
0°-90°	1950.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1950.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	976	975	975	974	974	93
15°	913	913	904	894	891	257
25°	791	787	774	746	726	363
35°	642	637	606	560	547	401
45°	493	482	441	404	388	379
55°	342	332	301	265	252	307
65°	203	192	173	177	147	200
75°	82	76	71	68	75	87
85°	12	13	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°	993.3	993.3	993.3	993.3	993.3
2.5°	986.4	986.4	986.4	985.3	985.3
5°	976.1	974.9	974.9	973.8	973.8
7.5°	968.0	966.9	965.7	964.6	962.3
10°	956.6	956.6	955.4	949.7	948.5
12.5°	938.2	937.0	932.4	924.4	922.1
15°	912.9	912.9	903.7	894.5	891.1
17.5°	885.4	884.2	872.7	863.5	858.9
20°	855.5	853.2	841.7	826.8	818.8
22.5°	822.2	822.2	808.4	788.9	780.9
25°	791.2	786.6	774.0	746.4	725.7
27.5°	755.6	748.7	734.9	695.9	671.8
30°	716.6	713.1	693.6	643.1	624.7
32.5°	679.8	674.1	653.4	600.6	585.6
35°	641.9	637.3	606.3	560.4	546.6
37.5°	604.0	598.3	559.2	522.5	505.3
40°	566.1	559.2	516.7	483.4	465.1
42.5°	530.5	521.3	480.0	444.4	423.7
45°	492.6	482.3	441.0	404.2	388.1
47.5°	454.7	445.6	407.7	369.8	351.4
50°	414.5	406.5	372.1	334.2	314.6
52.5°	381.2	368.6	335.3	297.4	281.3
55°	342.2	331.9	300.9	265.3	251.5
57.5°	306.6	296.3	267.6	234.3	222.8
60°	273.3	258.4	234.3	205.6	196.4
62.5°	236.6	225.1	204.4	180.3	191.8
65°	203.3	191.8	173.4	176.8	147.0
67.5°	166.5	160.8	144.7	128.6	124.0
70°	135.5	128.6	122.9	105.6	101.1
72.5°	107.9	101.1	93.0	83.8	80.4
75°	81.5	75.8	71.2	67.8	74.6
77.5°	56.3	54.0	50.5	47.1	45.9
80°	36.7	35.6	34.4	33.3	32.2
82.5°	21.8	21.8	21.8	21.8	21.8
85°	11.5	12.6	13.8	14.9	16.1
87.5°	6.9	6.9	8.0	9.2	10.3
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)