

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: P545919

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-81-84-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: P545919
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-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

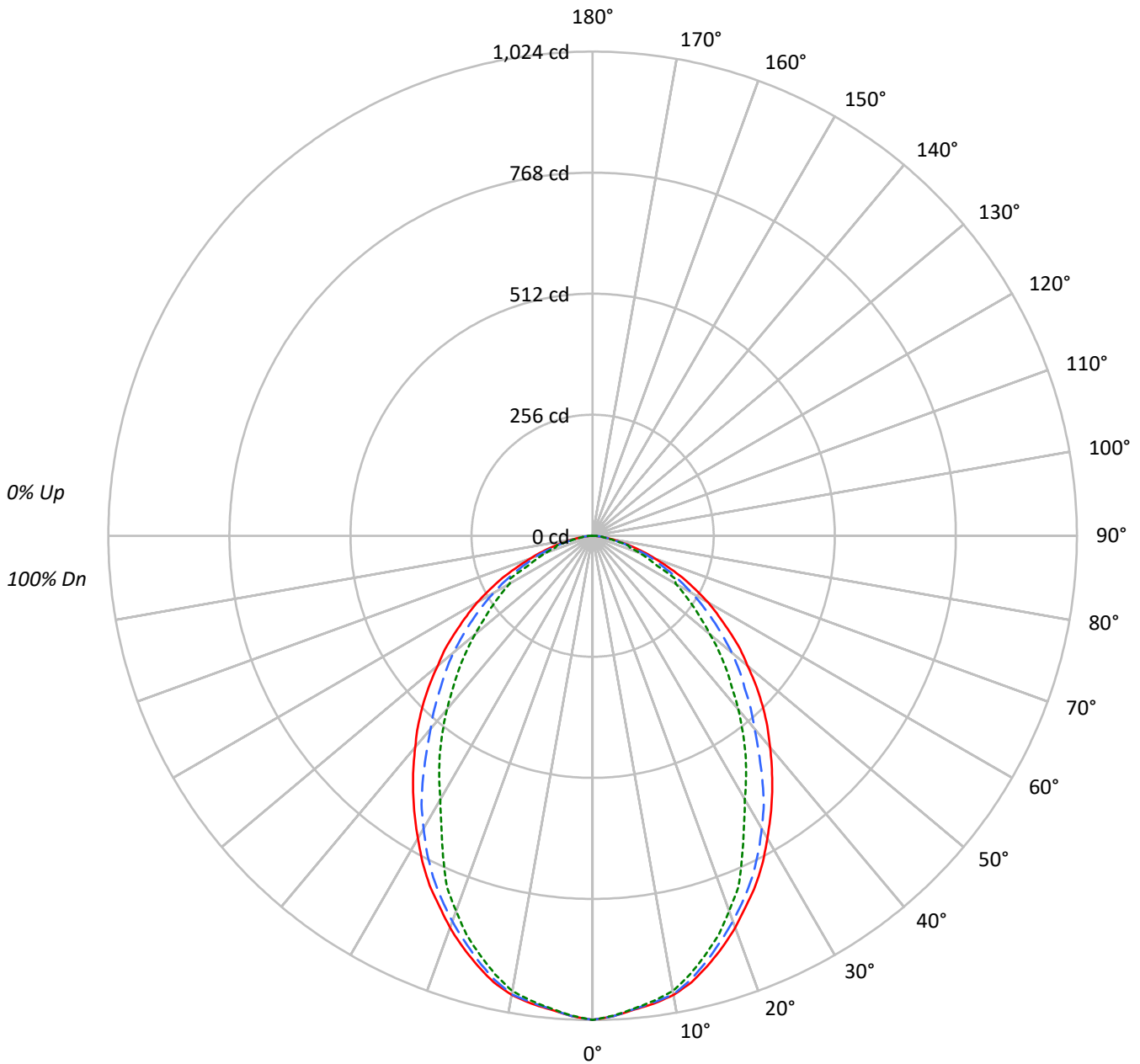
Lumens per Lamp: N/A
Luminaire Lumens: 2010.0 lumens
Efficiency: N/A
Efficacy: 85.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2755	2755	2755
5°	2718	2714	2711
10°	2694	2691	2672
15°	2622	2595	2559
20°	2525	2485	2417
25°	2421	2369	2221
30°	2295	2221	2001
35°	2174	2053	1851
40°	2050	1871	1684
45°	1932	1730	1523
50°	1789	1605	1358
55°	1655	1455	1216
60°	1516	1300	1089
65°	1334	1138	965
70°	1099	997	820
75°	873	763	800
80°	587	550	513
85°	364	438	513



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	4.7
10°-20°	261.6	13.0
20°-30°	362.1	18.0
30°-40°	386.1	19.2
40°-50°	352.3	17.5
50°-60°	276.0	13.7
60°-70°	179.9	8.9
70°-80°	79.7	4.0
80°-90°	17.1	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°	719.0	35.8
0°-40°	1105.1	55.0
0°-60°	1733.3	86.2
0°-90°	2010.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2010.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1024	1024	1024	1024	1024	
5°	1006	1005	1005	1004	1004	96
15°	941	941	932	922	918	265
25°	816	811	798	769	748	374
35°	662	657	625	578	563	414
45°	508	497	454	417	400	391
55°	353	342	310	273	259	316
65°	210	198	179	182	152	206
75°	84	78	73	70	77	90
85°	12	13	14	15	17	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1023.9	1023.9	1023.9	1023.9	1023.9
2.5°	1016.8	1016.8	1016.8	1015.6	1015.6
5°	1006.1	1004.9	1004.9	1003.7	1003.7
7.5°	997.8	996.6	995.5	994.3	991.9
10°	986.0	986.0	984.8	978.9	977.7
12.5°	967.1	965.9	961.1	952.8	950.5
15°	941.0	941.0	931.5	922.1	918.5
17.5°	912.6	911.4	899.6	890.1	885.4
20°	881.8	879.5	867.6	852.2	844.0
22.5°	847.5	847.5	833.3	813.2	804.9
25°	815.5	810.8	797.8	769.4	748.1
27.5°	778.8	771.7	757.5	717.3	692.4
30°	738.6	735.1	714.9	662.9	643.9
32.5°	700.7	694.8	673.5	619.1	603.7
35°	661.7	656.9	625.0	577.6	563.4
37.5°	622.6	616.7	576.4	538.6	520.8
40°	583.5	576.4	532.6	498.3	479.4
42.5°	546.9	537.4	494.8	458.1	436.8
45°	507.8	497.1	454.5	416.6	400.1
47.5°	468.7	459.3	420.2	381.1	362.2
50°	427.3	419.0	383.5	344.4	324.3
52.5°	393.0	380.0	345.6	306.6	290.0
55°	352.7	342.1	310.1	273.4	259.2
57.5°	316.0	305.4	275.8	241.5	229.6
60°	281.7	266.3	241.5	211.9	202.4
62.5°	243.8	232.0	210.7	185.8	197.7
65°	209.5	197.7	178.7	182.3	151.5
67.5°	171.6	165.7	149.1	132.6	127.8
70°	139.7	132.6	126.7	108.9	104.2
72.5°	111.3	104.2	95.9	86.4	82.9
75°	84.0	78.1	73.4	69.8	76.9
77.5°	58.0	55.6	52.1	48.5	47.3
80°	37.9	36.7	35.5	34.3	33.1
82.5°	22.5	22.5	22.5	22.5	22.5
85°	11.8	13.0	14.2	15.4	16.6
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)