

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: P545924

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-81-94-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: P545924
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-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

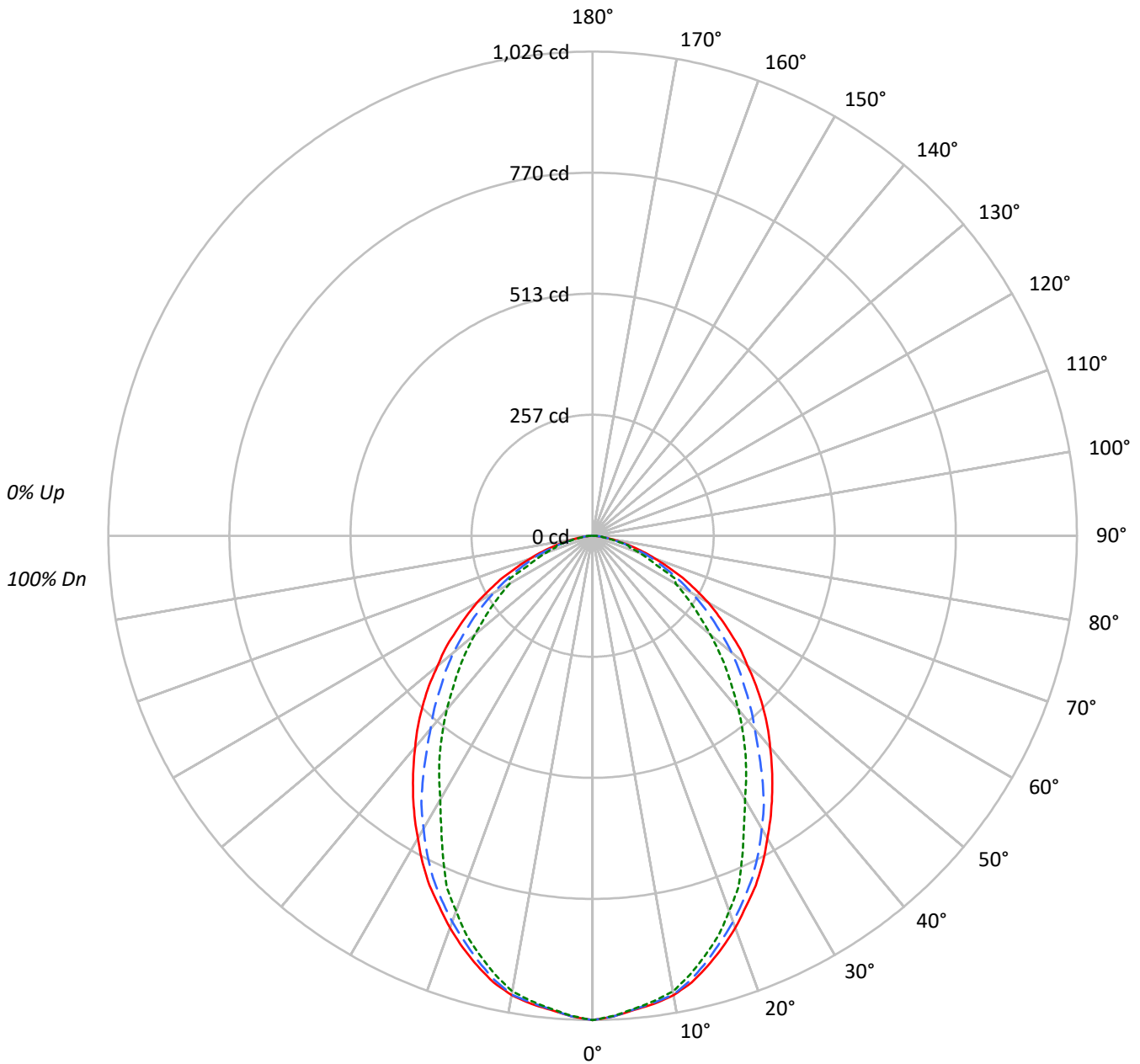
Lumens per Lamp: N/A
Luminaire Lumens: 2015.0 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2762	2762	2762
5°	2724	2721	2718
10°	2701	2698	2678
15°	2628	2602	2565
20°	2531	2491	2423
25°	2428	2375	2227
30°	2301	2227	2006
35°	2179	2058	1855
40°	2055	1876	1688
45°	1937	1734	1526
50°	1793	1610	1361
55°	1659	1459	1219
60°	1520	1303	1092
65°	1337	1141	967
70°	1102	999	821
75°	875	765	802
80°	589	552	514
85°	367	438	513



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.5	4.7
10°-20°	262.2	13.0
20°-30°	363.0	18.0
30°-40°	387.1	19.2
40°-50°	353.1	17.5
50°-60°	276.7	13.7
60°-70°	180.3	8.9
70°-80°	79.9	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°	720.8	35.8
0°-40°	1107.9	55.0
0°-60°	1737.7	86.2
0°-90°	2015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1009	1007	1007	1006	1006	96
15°	943	943	934	924	921	265
25°	818	813	800	771	750	375
35°	663	659	626	579	565	415
45°	509	498	456	418	401	392
55°	354	343	311	274	260	317
65°	210	198	179	183	152	207
75°	84	78	74	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°	1026.4	1026.4	1026.4	1026.4	1026.4
2.5°	1019.3	1019.3	1019.3	1018.1	1018.1
5°	1008.6	1007.4	1007.4	1006.2	1006.2
7.5°	1000.3	999.1	997.9	996.7	994.4
10°	988.4	988.4	987.3	981.3	980.1
12.5°	969.5	968.3	963.5	955.2	952.8
15°	943.4	943.4	933.9	924.4	920.8
17.5°	914.9	913.7	901.8	892.3	887.6
20°	884.0	881.6	869.8	854.4	846.0
22.5°	849.6	849.6	835.4	815.2	806.9
25°	817.6	812.8	799.8	771.3	749.9
27.5°	780.8	773.7	759.4	719.1	694.2
30°	740.4	736.9	716.7	664.5	645.5
32.5°	702.5	696.5	675.2	620.6	605.2
35°	663.3	658.6	626.5	579.1	564.8
37.5°	624.2	618.2	577.9	539.9	522.1
40°	585.0	577.9	534.0	499.6	480.6
42.5°	548.2	538.7	496.0	459.2	437.9
45°	509.1	498.4	455.7	417.7	401.1
47.5°	469.9	460.4	421.2	382.1	363.1
50°	428.4	420.1	384.5	345.3	325.1
52.5°	394.0	380.9	346.5	307.3	290.7
55°	353.6	342.9	310.9	274.1	259.9
57.5°	316.8	306.1	276.5	242.1	230.2
60°	282.4	267.0	242.1	212.4	202.9
62.5°	244.4	232.6	211.2	186.3	198.2
65°	210.0	198.2	179.2	182.7	151.9
67.5°	172.1	166.1	149.5	132.9	128.2
70°	140.0	132.9	127.0	109.2	104.4
72.5°	111.5	104.4	96.1	86.6	83.1
75°	84.2	78.3	73.6	70.0	77.1
77.5°	58.1	55.8	52.2	48.7	47.5
80°	38.0	36.8	35.6	34.4	33.2
82.5°	22.5	22.5	22.5	22.5	22.5
85°	11.9	13.1	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)