

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: P545991

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-82-84-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: P545991
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-50-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

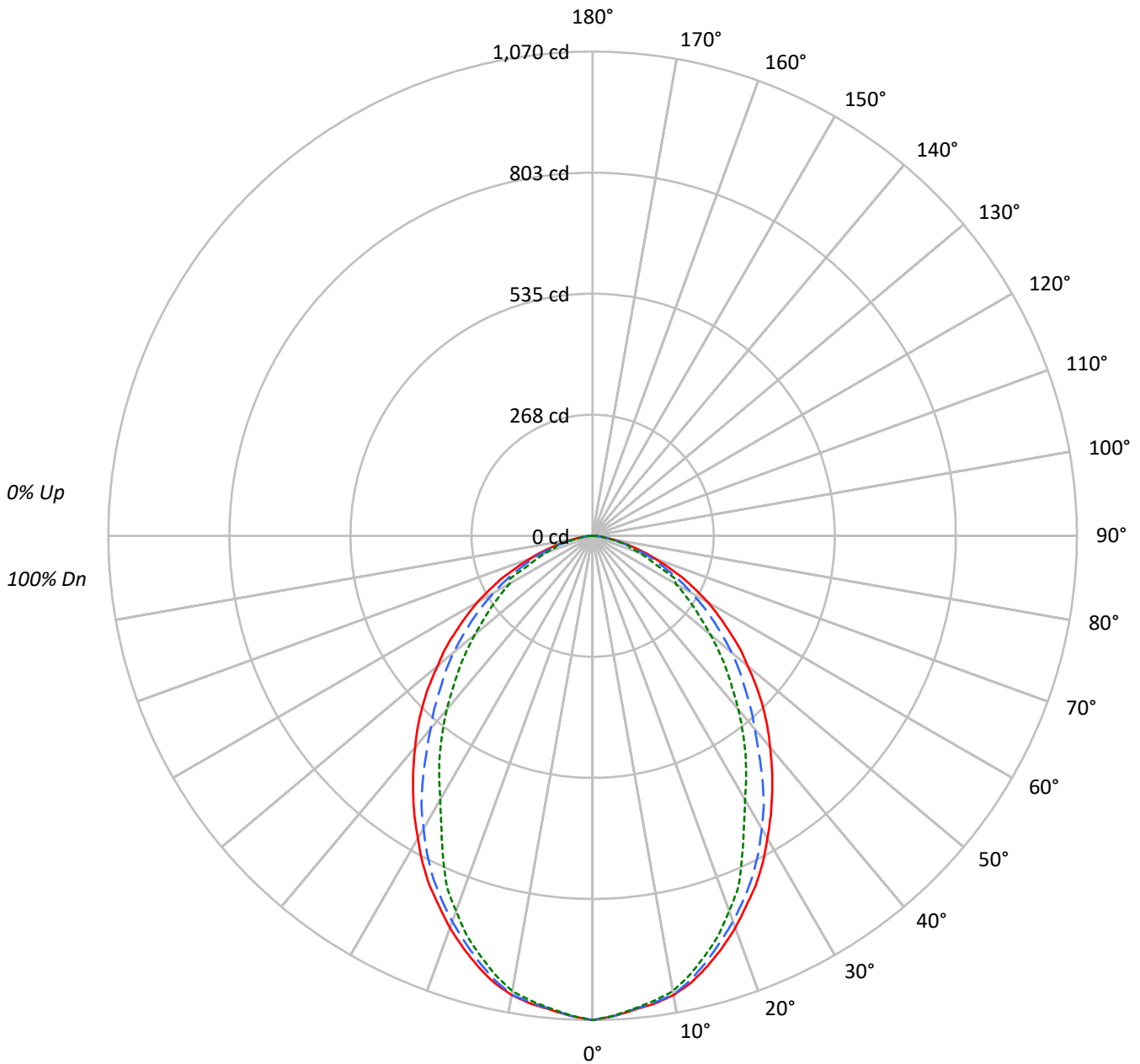
Lumens per Lamp: N/A
Luminaire Lumens: 2101.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2880	2880	2880
5°	2841	2837	2834
10°	2816	2813	2793
15°	2740	2713	2675
20°	2640	2597	2526
25°	2531	2476	2322
30°	2399	2322	2092
35°	2272	2146	1935
40°	2143	1956	1760
45°	2020	1808	1592
50°	1870	1678	1419
55°	1730	1521	1271
60°	1585	1358	1139
65°	1394	1189	1009
70°	1149	1042	857
75°	913	797	836
80°	614	575	536
85°	383	457	534



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.6	4.7
10°-20°	273.4	13.0
20°-30°	378.5	18.0
30°-40°	403.6	19.2
40°-50°	368.2	17.5
50°-60°	288.5	13.7
60°-70°	188.0	8.9
70°-80°	83.3	4.0
80°-90°	17.9	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°	751.5	35.8
0°-40°	1155.2	55.0
0°-60°	1811.8	86.2
0°-90°	2101.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2101.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1070	1070	1070	1070	1070	
5°	1052	1050	1050	1049	1049	100
15°	984	984	974	964	960	277
25°	852	848	834	804	782	391
35°	692	687	653	604	589	432
45°	531	520	475	436	418	409
55°	369	358	324	286	271	331
65°	219	207	187	190	158	216
75°	88	82	77	73	80	94
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°	1070.2	1070.2	1070.2	1070.2	1070.2
2.5°	1062.8	1062.8	1062.8	1061.6	1061.6
5°	1051.7	1050.4	1050.4	1049.2	1049.2
7.5°	1043.0	1041.8	1040.5	1039.3	1036.8
10°	1030.6	1030.6	1029.4	1023.2	1022.0
12.5°	1010.8	1009.6	1004.6	996.0	993.5
15°	983.6	983.6	973.7	963.8	960.1
17.5°	953.9	952.7	940.3	930.4	925.5
20°	921.8	919.3	906.9	890.8	882.2
22.5°	885.9	885.9	871.0	850.0	841.3
25°	852.5	847.5	833.9	804.2	781.9
27.5°	814.1	806.7	791.8	749.8	723.8
30°	772.0	768.3	747.3	692.9	673.1
32.5°	732.5	726.3	704.0	647.1	631.0
35°	691.6	686.7	653.3	603.8	588.9
37.5°	650.8	644.6	602.5	562.9	544.4
40°	610.0	602.5	556.8	520.9	501.1
42.5°	571.6	561.7	517.2	478.8	456.5
45°	530.8	519.6	475.1	435.5	418.2
47.5°	490.0	480.1	439.2	398.4	378.6
50°	446.6	438.0	400.9	360.0	339.0
52.5°	410.8	397.2	361.3	320.4	303.1
55°	368.7	357.6	324.2	285.8	271.0
57.5°	330.3	319.2	288.3	252.4	240.0
60°	294.5	278.4	252.4	221.5	211.6
62.5°	254.9	242.5	220.2	194.2	206.6
65°	219.0	206.6	186.8	190.5	158.4
67.5°	179.4	173.2	155.9	138.6	133.6
70°	146.0	138.6	132.4	113.8	108.9
72.5°	116.3	108.9	100.2	90.3	86.6
75°	87.8	81.7	76.7	73.0	80.4
77.5°	60.6	58.2	54.4	50.7	49.5
80°	39.6	38.4	37.1	35.9	34.6
82.5°	23.5	23.5	23.5	23.5	23.5
85°	12.4	13.6	14.8	16.1	17.3
87.5°	7.4	7.4	8.7	9.9	11.1
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)