

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: P545952

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-81-85-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: P545952
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-40-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

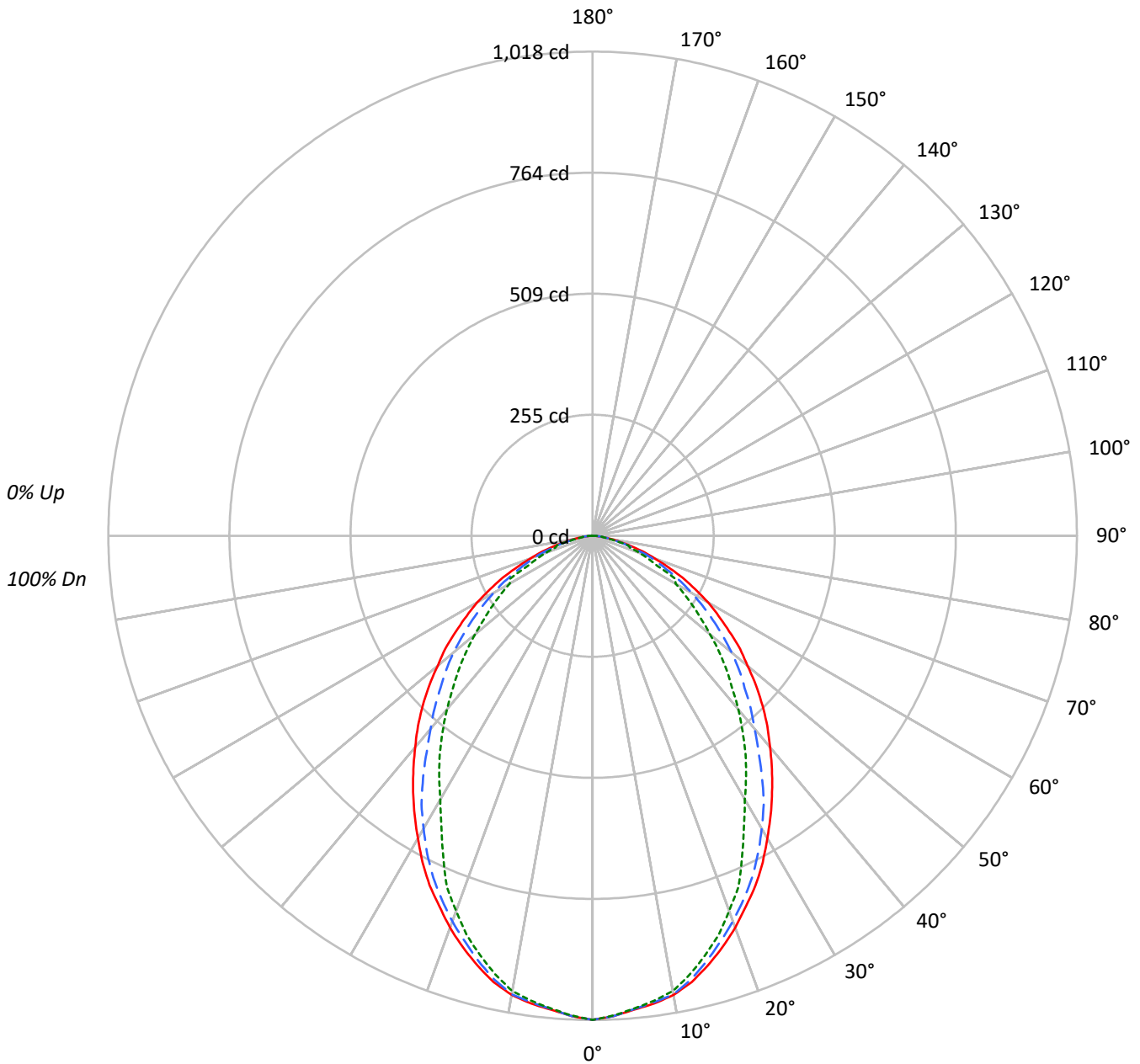
Lumens per Lamp: N/A
Luminaire Lumens: 1998.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2739	2739	2739
5°	2702	2698	2695
10°	2678	2675	2656
15°	2606	2580	2544
20°	2510	2470	2402
25°	2407	2355	2208
30°	2281	2208	1989
35°	2161	2041	1840
40°	2038	1860	1674
45°	1921	1719	1513
50°	1778	1596	1350
55°	1645	1446	1209
60°	1507	1292	1083
65°	1326	1131	959
70°	1092	991	814
75°	868	758	795
80°	584	547	510
85°	364	435	509



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.7	4.7
10°-20°	260.0	13.0
20°-30°	360.0	18.0
30°-40°	383.8	19.2
40°-50°	350.2	17.5
50°-60°	274.3	13.7
60°-70°	178.8	8.9
70°-80°	79.2	4.0
80°-90°	17.0	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°	714.7	35.8
0°-40°	1098.5	55.0
0°-60°	1723.0	86.2
0°-90°	1998.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1998.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1018	1018	1018	1018	1018	
5°	1000	999	999	998	998	95
15°	935	935	926	917	913	263
25°	811	806	793	765	744	372
35°	658	653	621	574	560	411
45°	505	494	452	414	398	389
55°	351	340	308	272	258	314
65°	208	196	178	181	151	205
75°	84	78	73	69	76	90
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°	1017.8	1017.8	1017.8	1017.8	1017.8
2.5°	1010.7	1010.7	1010.7	1009.5	1009.5
5°	1000.1	998.9	998.9	997.8	997.8
7.5°	991.9	990.7	989.5	988.3	986.0
10°	980.1	980.1	978.9	973.0	971.9
12.5°	961.3	960.1	955.4	947.2	944.8
15°	935.4	935.4	926.0	916.6	913.0
17.5°	907.2	906.0	894.2	884.8	880.1
20°	876.6	874.2	862.4	847.1	838.9
22.5°	842.4	842.4	828.3	808.3	800.1
25°	810.7	806.0	793.0	764.8	743.6
27.5°	774.2	767.1	753.0	713.0	688.3
30°	734.2	730.7	710.7	658.9	640.1
32.5°	696.5	690.7	669.5	615.4	600.1
35°	657.7	653.0	621.2	574.2	560.1
37.5°	618.9	613.0	573.0	535.4	517.7
40°	580.1	573.0	529.5	495.3	476.5
42.5°	543.6	534.2	491.8	455.3	434.2
45°	504.8	494.2	451.8	414.2	397.7
47.5°	465.9	456.5	417.7	378.9	360.0
50°	424.8	416.5	381.2	342.4	322.4
52.5°	390.6	377.7	343.6	304.7	288.3
55°	350.6	340.0	308.3	271.8	257.7
57.5°	314.2	303.6	274.1	240.0	228.3
60°	280.0	264.7	240.0	210.6	201.2
62.5°	242.4	230.6	209.4	184.7	196.5
65°	208.3	196.5	177.7	181.2	150.6
67.5°	170.6	164.7	148.3	131.8	127.1
70°	138.8	131.8	125.9	108.2	103.5
72.5°	110.6	103.5	95.3	85.9	82.4
75°	83.5	77.7	72.9	69.4	76.5
77.5°	57.7	55.3	51.8	48.2	47.1
80°	37.7	36.5	35.3	34.1	32.9
82.5°	22.4	22.4	22.4	22.4	22.4
85°	11.8	12.9	14.1	15.3	16.5
87.5°	7.1	7.1	8.2	9.4	10.6
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)