

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: P545959

Luminaire Tested: **FMR-12-4-LD4-1LO-40-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: P545959
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-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

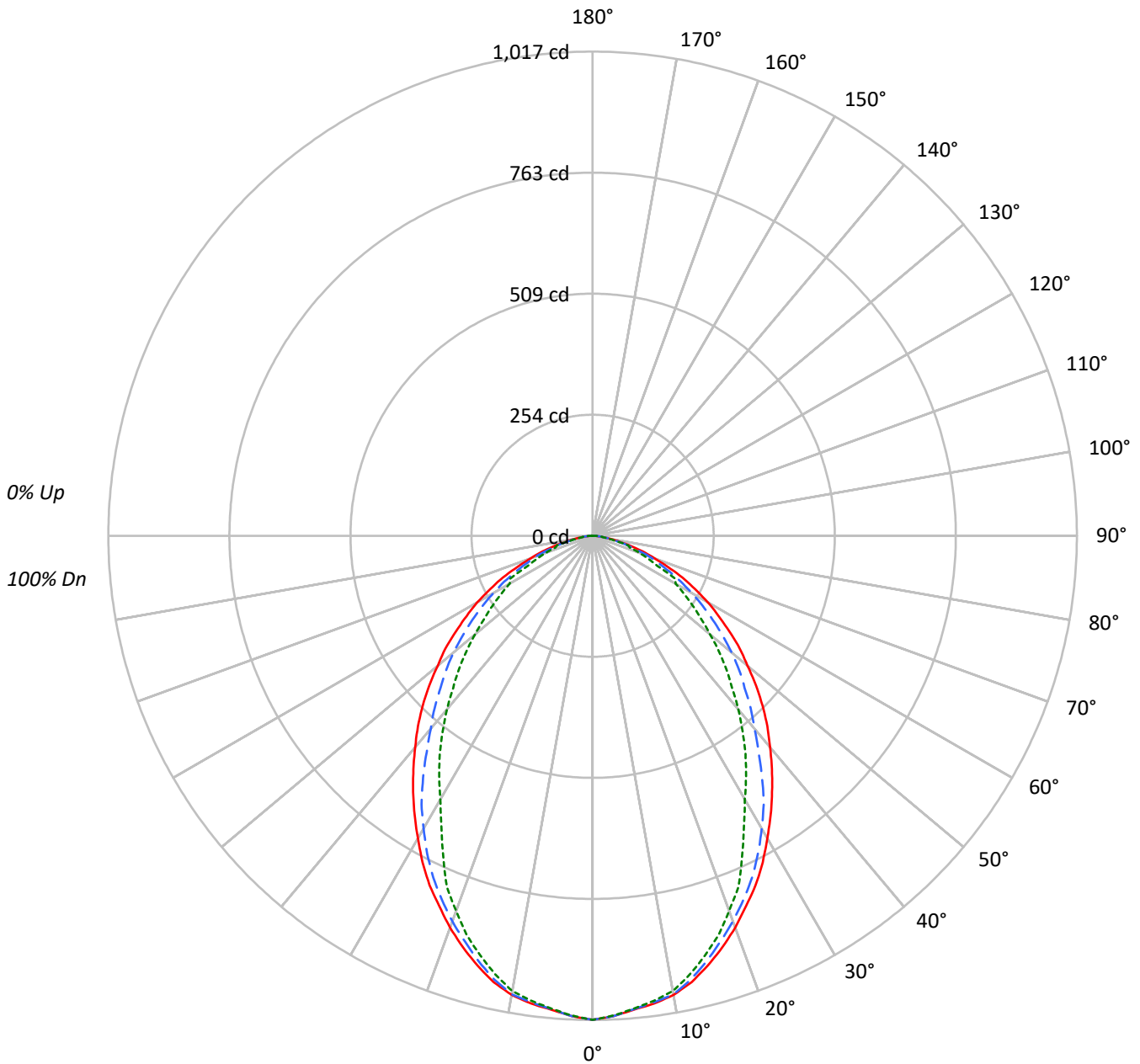
Lumens per Lamp: N/A
Luminaire Lumens: 1996.0 lumens
Efficiency: N/A
Efficacy: 85.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	2736	2736	2736
5°	2699	2696	2693
10°	2675	2672	2653
15°	2603	2577	2541
20°	2508	2467	2400
25°	2405	2352	2206
30°	2279	2206	1987
35°	2159	2039	1838
40°	2036	1858	1672
45°	1919	1718	1512
50°	1776	1594	1348
55°	1643	1445	1208
60°	1505	1291	1082
65°	1324	1130	958
70°	1091	990	814
75°	868	758	794
80°	583	547	510
85°	364	435	509



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	4.7
10°-20°	259.7	13.0
20°-30°	359.6	18.0
30°-40°	383.4	19.2
40°-50°	349.8	17.5
50°-60°	274.0	13.7
60°-70°	178.6	8.9
70°-80°	79.1	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°	714.0	35.8
0°-40°	1097.4	55.0
0°-60°	1721.3	86.2
0°-90°	1996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1996.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1017	1017	1017	1017	1017	
5°	999	998	998	997	997	95
15°	934	934	925	916	912	263
25°	810	805	792	764	743	372
35°	657	652	621	574	560	411
45°	504	494	451	414	397	388
55°	350	340	308	272	257	314
65°	208	196	178	181	150	205
75°	84	78	73	69	76	89
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°	1016.7	1016.7	1016.7	1016.7	1016.7
2.5°	1009.7	1009.7	1009.7	1008.5	1008.5
5°	999.1	997.9	997.9	996.8	996.8
7.5°	990.9	989.7	988.5	987.4	985.0
10°	979.1	979.1	977.9	972.1	970.9
12.5°	960.3	959.1	954.4	946.2	943.9
15°	934.5	934.5	925.1	915.6	912.1
17.5°	906.2	905.1	893.3	883.9	879.2
20°	875.7	873.3	861.6	846.3	838.1
22.5°	841.6	841.6	827.5	807.5	799.3
25°	809.9	805.2	792.2	764.0	742.9
27.5°	773.4	766.4	752.3	712.3	687.6
30°	733.5	729.9	710.0	658.2	639.4
32.5°	695.8	690.0	668.8	614.7	599.5
35°	657.1	652.4	620.6	573.6	559.5
37.5°	618.3	612.4	572.4	534.8	517.2
40°	579.5	572.4	528.9	494.9	476.0
42.5°	543.0	533.6	491.3	454.9	433.7
45°	504.3	493.7	451.4	413.7	397.3
47.5°	465.5	456.1	417.3	378.5	359.7
50°	424.3	416.1	380.8	342.0	322.1
52.5°	390.2	377.3	343.2	304.4	288.0
55°	350.3	339.7	308.0	271.5	257.4
57.5°	313.8	303.3	273.9	239.8	228.0
60°	279.7	264.5	239.8	210.4	201.0
62.5°	242.1	230.4	209.2	184.5	196.3
65°	208.0	196.3	177.5	181.0	150.5
67.5°	170.4	164.6	148.1	131.6	126.9
70°	138.7	131.6	125.8	108.1	103.4
72.5°	110.5	103.4	95.2	85.8	82.3
75°	83.5	77.6	72.9	69.3	76.4
77.5°	57.6	55.2	51.7	48.2	47.0
80°	37.6	36.4	35.3	34.1	32.9
82.5°	22.3	22.3	22.3	22.3	22.3
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)