

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: P547117

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-82-96-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: P547117
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-24-4-LD4-3LO-40-UNV-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

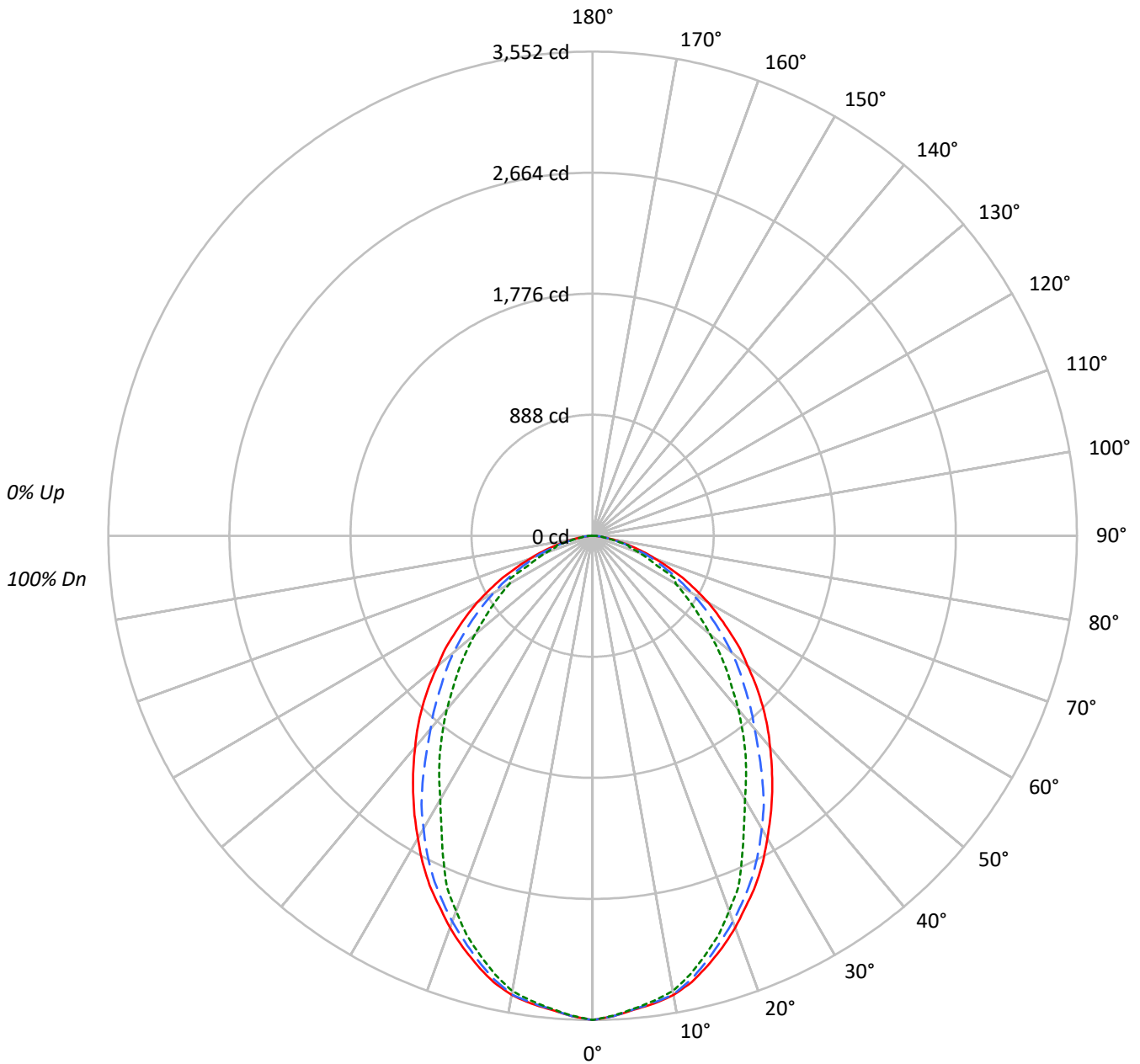
Lumens per Lamp: N/A
Luminaire Lumens: 6973.0 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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°	4779	4779	4779
5°	4714	4709	4703
10°	4673	4668	4634
15°	4547	4502	4439
20°	4380	4310	4192
25°	4200	4109	3853
30°	3981	3853	3471
35°	3770	3561	3211
40°	3556	3245	2921
45°	3352	3000	2641
50°	3103	2785	2355
55°	2871	2524	2110
60°	2630	2254	1890
65°	2314	1974	1673
70°	1906	1729	1422
75°	1515	1324	1387
80°	1018	955	891
85°	634	761	888



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.6	4.7
10°-20°	907.4	13.0
20°-30°	1256.2	18.0
30°-40°	1339.5	19.2
40°-50°	1222.0	17.5
50°-60°	957.4	13.7
60°-70°	624.0	8.9
70°-80°	276.5	4.0
80°-90°	59.4	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°	2494.3	35.8
0°-40°	3833.8	55.0
0°-60°	6013.2	86.2
0°-90°	6973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6973.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3552	3552	3552	3552	3552	
5°	3490	3486	3486	3482	3482	331
15°	3264	3264	3232	3199	3186	918
25°	2829	2813	2768	2669	2595	1299
35°	2295	2279	2168	2004	1955	1435
45°	1762	1725	1577	1445	1388	1357
55°	1224	1187	1076	949	899	1098
65°	727	686	620	632	526	716
75°	292	271	255	242	267	312
85°	41	45	49	53	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3552.0	3552.0	3552.0	3552.0	3552.0
2.5°	3527.3	3527.3	3527.3	3523.2	3523.2
5°	3490.4	3486.3	3486.3	3482.1	3482.1
7.5°	3461.6	3457.5	3453.4	3449.3	3441.1
10°	3420.6	3420.6	3416.4	3395.9	3391.8
12.5°	3354.9	3350.7	3334.3	3305.6	3297.4
15°	3264.5	3264.5	3231.7	3198.8	3186.5
17.5°	3166.0	3161.9	3120.8	3087.9	3071.5
20°	3059.2	3051.0	3009.9	2956.5	2927.8
22.5°	2940.1	2940.1	2890.8	2821.0	2792.3
25°	2829.2	2812.8	2767.6	2669.1	2595.2
27.5°	2701.9	2677.3	2628.0	2488.4	2402.2
30°	2562.3	2550.0	2480.2	2299.5	2233.8
32.5°	2430.9	2410.4	2336.5	2147.6	2094.2
35°	2295.4	2279.0	2168.1	2003.9	1954.6
37.5°	2159.9	2139.4	1999.8	1868.4	1806.8
40°	2024.4	1999.8	1847.8	1728.8	1663.1
42.5°	1897.1	1864.3	1716.4	1589.1	1515.2
45°	1761.6	1724.6	1576.8	1445.4	1387.9
47.5°	1626.1	1593.2	1457.7	1322.2	1256.5
50°	1482.4	1453.6	1330.4	1194.9	1125.1
52.5°	1363.3	1318.1	1199.0	1063.5	1006.0
55°	1223.7	1186.7	1075.9	948.6	899.3
57.5°	1096.4	1059.4	956.8	837.7	796.6
60°	977.3	923.9	837.7	735.0	702.2
62.5°	845.9	804.8	730.9	644.7	685.8
65°	726.8	685.8	620.1	632.4	525.6
67.5°	595.4	574.9	517.4	459.9	443.5
70°	484.5	459.9	439.4	377.8	361.4
72.5°	386.0	361.4	332.6	299.8	287.4
75°	291.5	271.0	254.6	242.3	266.9
77.5°	201.2	193.0	180.7	168.4	164.3
80°	131.4	127.3	123.2	119.1	115.0
82.5°	78.0	78.0	78.0	78.0	78.0
85°	41.1	45.2	49.3	53.4	57.5
87.5°	24.6	24.6	28.7	32.9	37.0
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)