

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: P547310

Luminaire Tested: **FMR-24-4-LD4-4HI-40-UNV-82-97-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: P547310
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-LD4-4HI-40-UNV-82-97-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

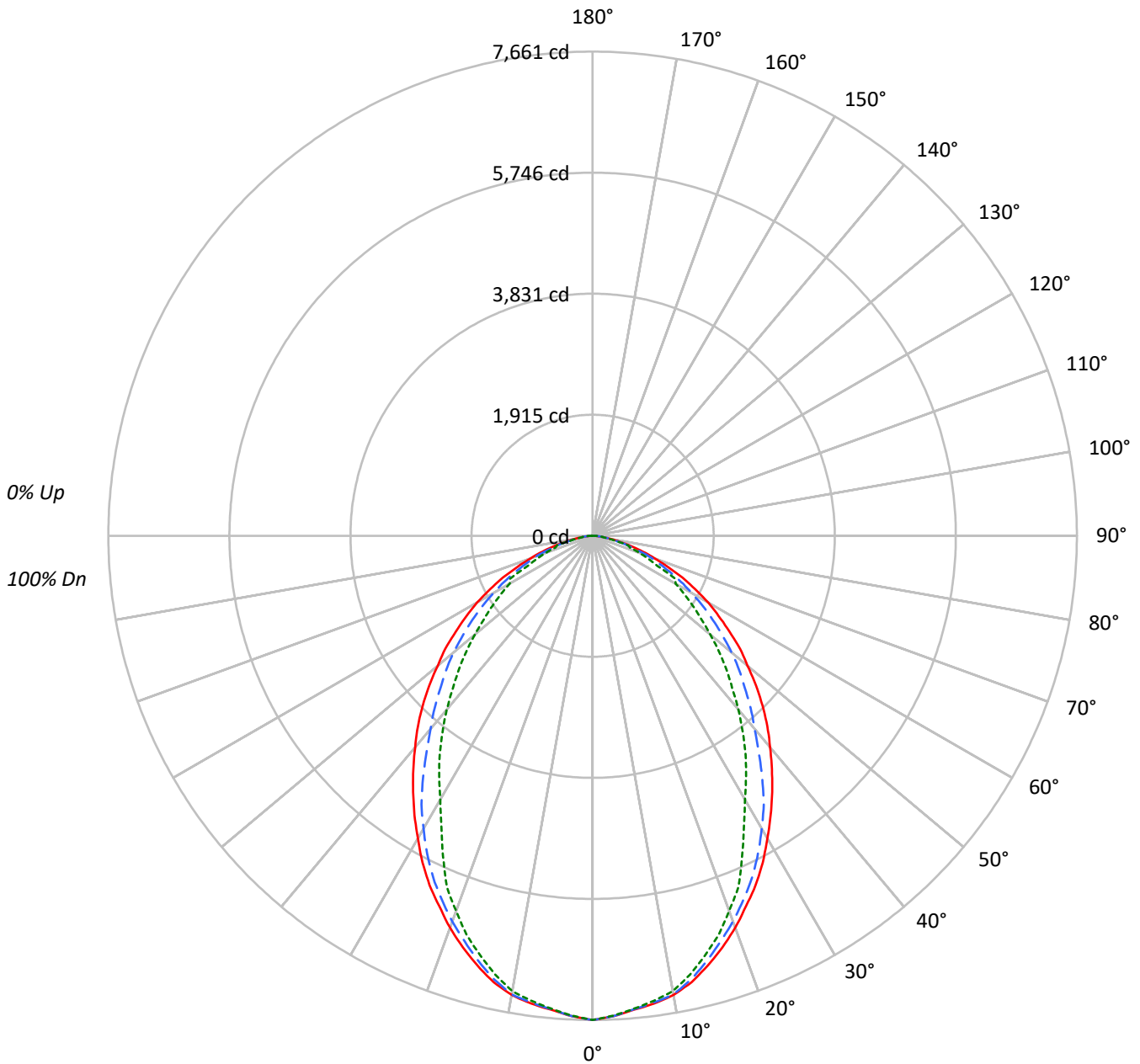
Lumens per Lamp: N/A
Luminaire Lumens: 15040.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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°	10308	10308	10308
5°	10168	10156	10144
10°	10080	10068	9995
15°	9808	9709	9574
20°	9448	9296	9042
25°	9060	8862	8310
30°	8586	8311	7486
35°	8132	7681	6925
40°	7669	7000	6300
45°	7230	6471	5696
50°	6693	6007	5080
55°	6191	5443	4550
60°	5672	4862	4075
65°	4991	4258	3609
70°	4111	3728	3066
75°	3269	2855	2993
80°	2196	2059	1922
85°	1368	1641	1914



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	713.2	4.7
10°-20°	1957.2	13.0
20°-30°	2709.6	18.0
30°-40°	2889.2	19.2
40°-50°	2635.8	17.5
50°-60°	2064.9	13.7
60°-70°	1345.8	8.9
70°-80°	596.3	4.0
80°-90°	128.0	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°	5379.9	35.8
0°-40°	8269.1	55.0
0°-60°	12969.9	86.2
0°-90°	15040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7661	7661	7661	7661	7661	
5°	7528	7520	7520	7511	7511	715
15°	7041	7041	6970	6900	6873	1979
25°	6102	6067	5970	5757	5598	2802
35°	4951	4916	4676	4322	4216	3095
45°	3800	3720	3401	3118	2994	2927
55°	2639	2560	2320	2046	1940	2367
65°	1568	1479	1337	1364	1134	1545
75°	629	585	549	523	576	674
85°	89	97	106	115	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7661.2	7661.2	7661.2	7661.2	7661.2
2.5°	7608.0	7608.0	7608.0	7599.2	7599.2
5°	7528.3	7519.5	7519.5	7510.6	7510.6
7.5°	7466.3	7457.5	7448.6	7439.8	7422.0
10°	7377.8	7377.8	7368.9	7324.6	7315.8
12.5°	7236.0	7227.2	7191.8	7129.8	7112.1
15°	7041.2	7041.2	6970.3	6899.5	6872.9
17.5°	6828.6	6819.8	6731.2	6660.4	6624.9
20°	6598.4	6580.6	6492.1	6376.9	6314.9
22.5°	6341.5	6341.5	6235.2	6084.7	6022.7
25°	6102.4	6066.9	5969.5	5757.0	5597.5
27.5°	5827.8	5774.7	5668.4	5367.3	5181.3
30°	5526.7	5500.1	5349.5	4959.8	4818.1
32.5°	5243.3	5199.0	5039.5	4632.1	4517.0
35°	4951.0	4915.6	4676.4	4322.1	4215.9
37.5°	4658.7	4614.4	4313.3	4029.9	3897.0
40°	4366.4	4313.3	3985.6	3728.7	3587.0
42.5°	4091.9	4021.0	3702.2	3427.6	3268.2
45°	3799.6	3719.9	3401.0	3117.6	2993.6
47.5°	3507.3	3436.5	3144.2	2851.9	2710.2
50°	3197.3	3135.3	2869.6	2577.3	2426.8
52.5°	2940.5	2843.0	2586.2	2293.9	2169.9
55°	2639.3	2559.6	2320.5	2045.9	1939.7
57.5°	2364.8	2285.1	2063.6	1806.8	1718.2
60°	2107.9	1992.8	1806.8	1585.4	1514.5
62.5°	1824.5	1735.9	1576.5	1390.5	1479.1
65°	1567.7	1479.1	1337.4	1364.0	1133.7
67.5°	1284.2	1240.0	1116.0	992.0	956.5
70°	1045.1	992.0	947.7	814.8	779.4
72.5°	832.5	779.4	717.4	646.6	620.0
75°	628.8	584.6	549.1	522.6	575.7
77.5°	434.0	416.3	389.7	363.1	354.3
80°	283.4	274.6	265.7	256.8	248.0
82.5°	168.3	168.3	168.3	168.3	168.3
85°	88.6	97.4	106.3	115.1	124.0
87.5°	53.1	53.1	62.0	70.9	79.7
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)