

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: P547057

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-93-86-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: P547057
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-LD4-3HI-50-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

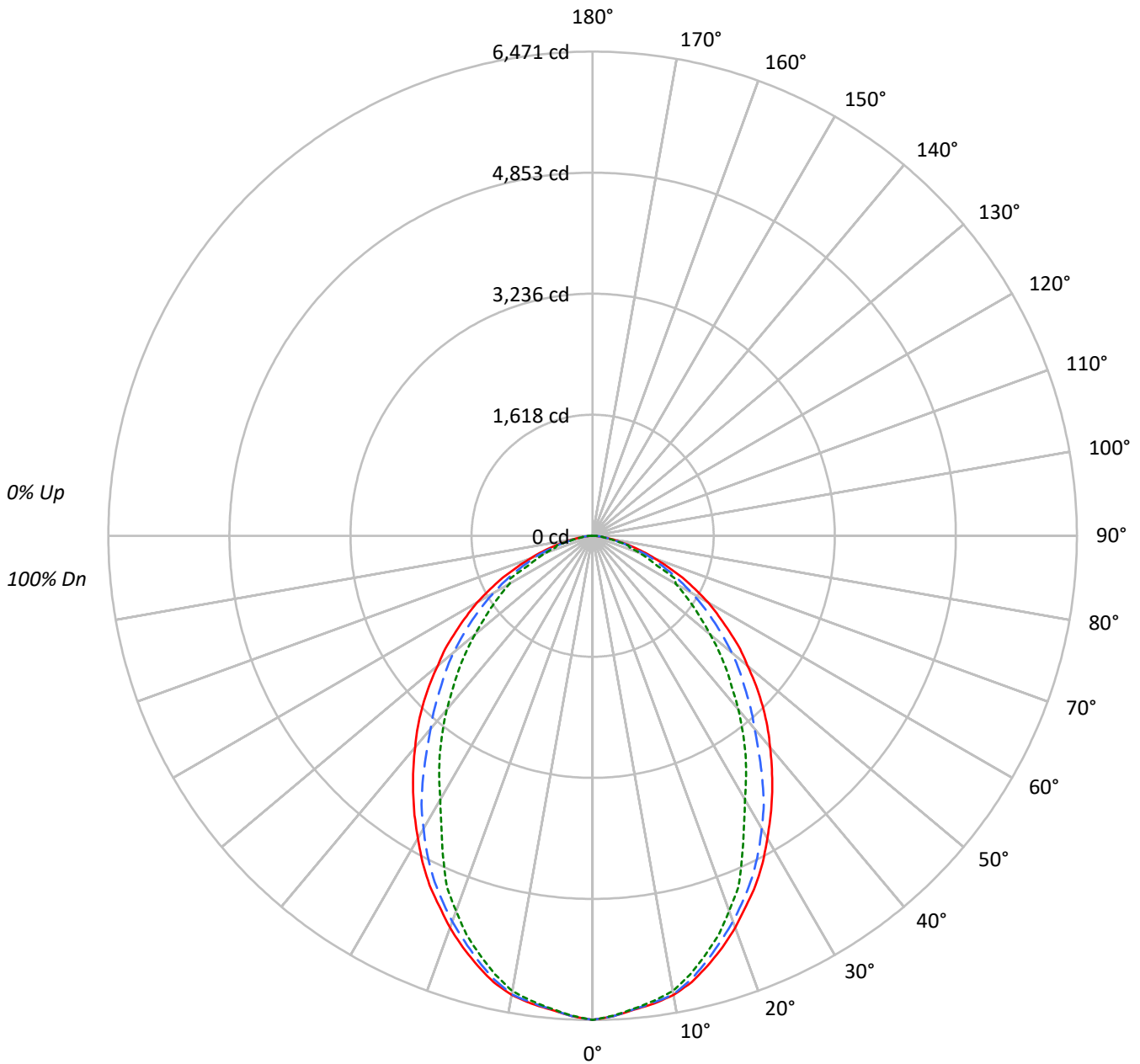
Lumens per Lamp: N/A
Luminaire Lumens: 12703.0 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	8706	8706	8706
5°	8588	8578	8568
10°	8514	8503	8442
15°	8284	8201	8086
20°	7980	7851	7637
25°	7652	7485	7019
30°	7252	7020	6323
35°	6869	6488	5849
40°	6477	5913	5321
45°	6106	5466	4811
50°	5653	5073	4290
55°	5229	4598	3843
60°	4791	4106	3442
65°	4216	3596	3048
70°	3472	3149	2590
75°	2761	2411	2528
80°	1855	1739	1623
85°	1155	1386	1616



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	602.3	4.7
10°-20°	1653.1	13.0
20°-30°	2288.6	18.0
30°-40°	2440.3	19.2
40°-50°	2226.2	17.5
50°-60°	1744.1	13.7
60°-70°	1136.7	8.9
70°-80°	503.6	4.0
80°-90°	108.1	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°	4544.0	35.8
0°-40°	6984.2	55.0
0°-60°	10954.6	86.2
0°-90°	12703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12703.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6471	6471	6471	6471	6471	
5°	6358	6351	6351	6344	6344	604
15°	5947	5947	5887	5827	5805	1672
25°	5154	5124	5042	4862	4728	2366
35°	4182	4152	3950	3650	3561	2614
45°	3209	3142	2873	2633	2528	2472
55°	2229	2162	1960	1728	1638	1999
65°	1324	1249	1130	1152	958	1305
75°	531	494	464	441	486	569
85°	75	82	90	97	105	104
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6470.7	6470.7	6470.7	6470.7	6470.7
2.5°	6425.9	6425.9	6425.9	6418.4	6418.4
5°	6358.5	6351.0	6351.0	6343.6	6343.6
7.5°	6306.2	6298.7	6291.2	6283.7	6268.8
10°	6231.4	6231.4	6223.9	6186.5	6179.0
12.5°	6111.7	6104.2	6074.3	6021.9	6006.9
15°	5947.1	5947.1	5887.2	5827.4	5805.0
17.5°	5767.6	5760.1	5685.3	5625.4	5595.5
20°	5573.1	5558.1	5483.3	5386.0	5333.7
22.5°	5356.1	5356.1	5266.4	5139.2	5086.8
25°	5154.1	5124.2	5041.9	4862.4	4727.8
27.5°	4922.2	4877.4	4787.6	4533.3	4376.2
30°	4667.9	4645.5	4518.3	4189.1	4069.5
32.5°	4428.5	4391.1	4256.5	3912.4	3815.1
35°	4181.7	4151.7	3949.8	3650.5	3560.8
37.5°	3934.8	3897.4	3643.1	3403.7	3291.5
40°	3687.9	3643.1	3366.3	3149.3	3029.7
42.5°	3456.0	3396.2	3126.9	2895.0	2760.3
45°	3209.2	3141.9	2872.6	2633.2	2528.5
47.5°	2962.3	2902.5	2655.6	2408.8	2289.1
50°	2700.5	2648.1	2423.7	2176.9	2049.7
52.5°	2483.6	2401.3	2184.3	1937.5	1832.8
55°	2229.2	2161.9	1959.9	1728.0	1638.3
57.5°	1997.3	1930.0	1743.0	1526.0	1451.2
60°	1780.4	1683.1	1526.0	1339.0	1279.2
62.5°	1541.0	1466.2	1331.6	1174.5	1249.3
65°	1324.1	1249.3	1129.6	1152.0	957.5
67.5°	1084.7	1047.3	942.6	837.8	807.9
70°	882.7	837.8	800.4	688.2	658.3
72.5°	703.2	658.3	605.9	546.1	523.6
75°	531.1	493.7	463.8	441.4	486.2
77.5°	366.6	351.6	329.1	306.7	299.2
80°	239.4	231.9	224.4	216.9	209.5
82.5°	142.1	142.1	142.1	142.1	142.1
85°	74.8	82.3	89.8	97.2	104.7
87.5°	44.9	44.9	52.4	59.8	67.3
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)