

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: P547493

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-81-96-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: P547493
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-LD4-4STD-40-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 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

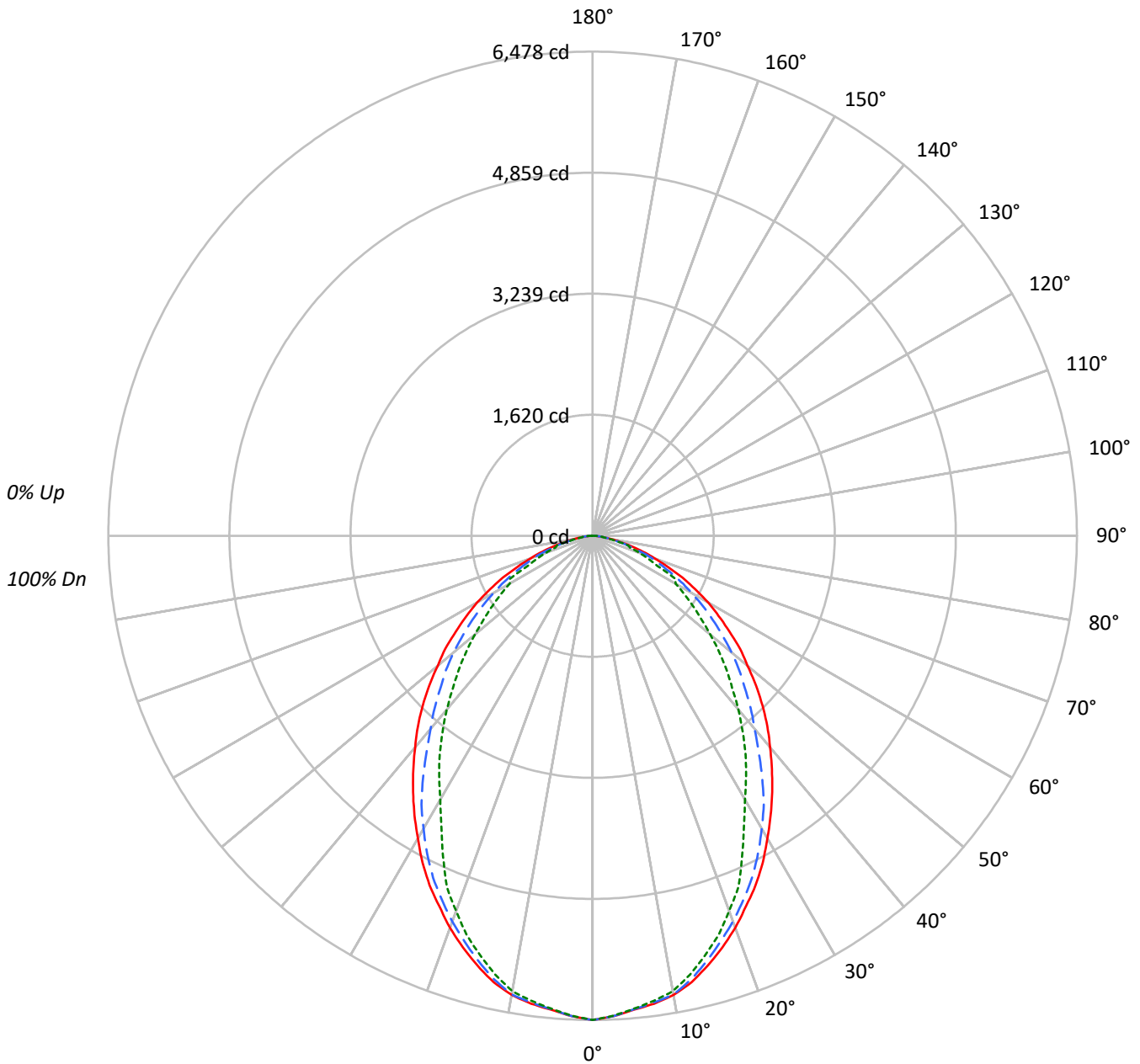
Lumens per Lamp: N/A
Luminaire Lumens: 12718.0 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8717	8717	8717
5°	8598	8588	8578
10°	8524	8513	8452
15°	8294	8210	8096
20°	7989	7861	7646
25°	7661	7494	7027
30°	7261	7028	6330
35°	6877	6495	5856
40°	6485	5920	5328
45°	6114	5472	4817
50°	5659	5079	4295
55°	5236	4603	3848
60°	4797	4111	3446
65°	4220	3600	3052
70°	3477	3153	2593
75°	2765	2414	2531
80°	1857	1741	1625
85°	1156	1388	1619



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	603.0	4.7
10°-20°	1655.0	13.0
20°-30°	2291.3	18.0
30°-40°	2443.2	19.2
40°-50°	2228.9	17.5
50°-60°	1746.1	13.7
60°-70°	1138.0	8.9
70°-80°	504.2	4.0
80°-90°	108.3	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°	4549.3	35.8
0°-40°	6992.5	55.0
0°-60°	10967.5	86.2
0°-90°	12718.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12718.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6478	6478	6478	6478	6478	
5°	6366	6358	6358	6351	6351	604
15°	5954	5954	5894	5834	5812	1674
25°	5160	5130	5048	4868	4733	2369
35°	4187	4157	3954	3655	3565	2617
45°	3213	3146	2876	2636	2531	2475
55°	2232	2164	1962	1730	1640	2002
65°	1326	1251	1131	1153	959	1306
75°	532	494	464	442	487	570
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°	6478.4	6478.4	6478.4	6478.4	6478.4
2.5°	6433.4	6433.4	6433.4	6426.0	6426.0
5°	6366.0	6358.5	6358.5	6351.1	6351.1
7.5°	6313.6	6306.1	6298.6	6291.1	6276.2
10°	6238.7	6238.7	6231.2	6193.8	6186.3
12.5°	6118.9	6111.4	6081.4	6029.0	6014.0
15°	5954.1	5954.1	5894.2	5834.3	5811.8
17.5°	5774.4	5766.9	5692.0	5632.1	5602.1
20°	5579.6	5564.7	5489.8	5392.4	5340.0
22.5°	5362.5	5362.5	5272.6	5145.3	5092.8
25°	5160.2	5130.3	5047.9	4868.1	4733.3
27.5°	4928.1	4883.1	4793.3	4538.6	4381.3
30°	4673.4	4651.0	4523.6	4194.1	4074.3
32.5°	4433.8	4396.3	4261.5	3917.0	3819.6
35°	4186.6	4156.6	3954.4	3654.9	3565.0
37.5°	3939.5	3902.0	3647.4	3407.7	3295.4
40°	3692.3	3647.4	3370.3	3153.1	3033.2
42.5°	3460.1	3400.2	3130.6	2898.4	2763.6
45°	3213.0	3145.6	2876.0	2636.3	2531.4
47.5°	2965.8	2905.9	2658.8	2411.6	2291.8
50°	2703.7	2651.3	2426.6	2179.4	2052.1
52.5°	2486.5	2404.1	2186.9	1939.8	1834.9
55°	2231.9	2164.5	1962.2	1730.1	1640.2
57.5°	1999.7	1932.3	1745.0	1527.8	1453.0
60°	1782.5	1685.1	1527.8	1340.6	1280.7
62.5°	1542.8	1467.9	1333.1	1175.8	1250.7
65°	1325.6	1250.7	1130.9	1153.4	958.7
67.5°	1086.0	1048.5	943.7	838.8	808.9
70°	883.8	838.8	801.4	689.0	659.1
72.5°	704.0	659.1	606.6	546.7	524.3
75°	531.8	494.3	464.3	441.9	486.8
77.5°	367.0	352.0	329.5	307.1	299.6
80°	239.7	232.2	224.7	217.2	209.7
82.5°	142.3	142.3	142.3	142.3	142.3
85°	74.9	82.4	89.9	97.4	104.9
87.5°	44.9	44.9	52.4	59.9	67.4
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)