

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: P547538

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-93-87-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: P547538
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-50-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

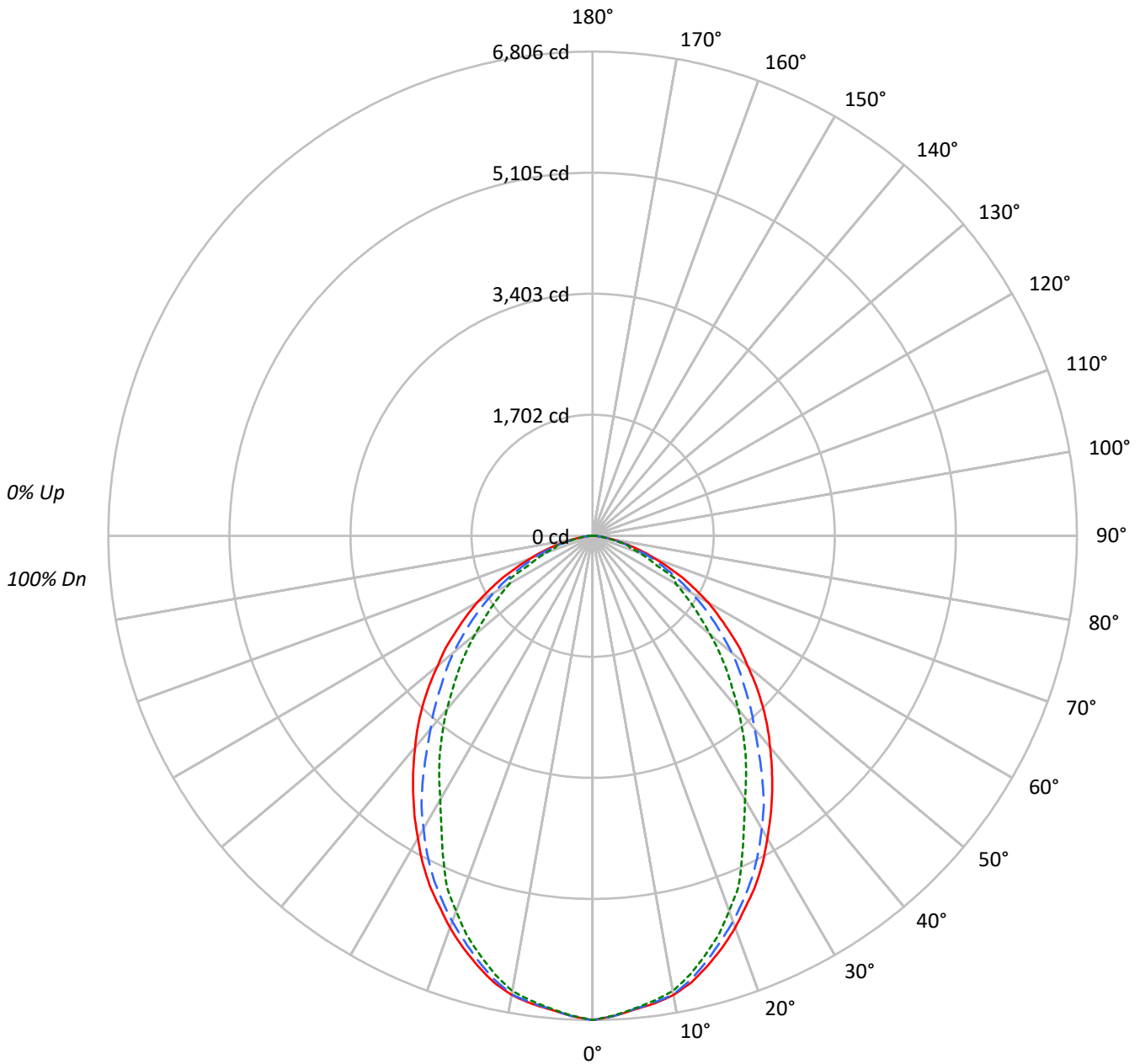
Lumens per Lamp: N/A
Luminaire Lumens: 13361.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	9157	9157	9157
5°	9033	9022	9012
10°	8955	8944	8879
15°	8713	8625	8505
20°	8393	8258	8033
25°	8048	7873	7382
30°	7628	7383	6650
35°	7224	6824	6152
40°	6813	6219	5597
45°	6423	5749	5060
50°	5946	5336	4513
55°	5500	4836	4042
60°	5039	4319	3620
65°	4434	3783	3206
70°	3652	3312	2724
75°	2904	2536	2659
80°	1951	1829	1707
85°	1215	1457	1701



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	633.5	4.7
10°-20°	1738.7	13.0
20°-30°	2407.1	18.0
30°-40°	2566.7	19.2
40°-50°	2341.6	17.5
50°-60°	1834.4	13.7
60°-70°	1195.6	8.9
70°-80°	529.7	4.0
80°-90°	113.7	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°	4779.3	35.8
0°-40°	7346.0	55.0
0°-60°	11522.0	86.2
0°-90°	13361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13361.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6806	6806	6806	6806	6806	
5°	6688	6680	6680	6672	6672	635
15°	6255	6255	6192	6129	6106	1758
25°	5421	5390	5303	5114	4973	2489
35°	4398	4367	4154	3840	3745	2750
45°	3375	3305	3021	2770	2659	2600
55°	2345	2274	2061	1818	1723	2103
65°	1393	1314	1188	1212	1007	1372
75°	559	519	488	464	511	599
85°	79	86	94	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6805.9	6805.9	6805.9	6805.9	6805.9
2.5°	6758.7	6758.7	6758.7	6750.8	6750.8
5°	6687.9	6680.0	6680.0	6672.2	6672.2
7.5°	6632.8	6624.9	6617.1	6609.2	6593.5
10°	6554.1	6554.1	6546.3	6506.9	6499.1
12.5°	6428.2	6420.4	6388.9	6333.8	6318.1
15°	6255.1	6255.1	6192.2	6129.3	6105.7
17.5°	6066.3	6058.4	5979.8	5916.8	5885.3
20°	5861.7	5846.0	5767.3	5665.0	5610.0
22.5°	5633.6	5633.6	5539.1	5405.4	5350.3
25°	5421.1	5389.7	5303.1	5114.3	4972.6
27.5°	5177.2	5130.0	5035.6	4768.1	4602.8
30°	4909.7	4886.1	4752.3	4406.1	4280.3
32.5°	4657.9	4618.6	4477.0	4115.0	4012.7
35°	4398.3	4366.8	4154.4	3839.6	3745.2
37.5°	4138.6	4099.3	3831.8	3580.0	3462.0
40°	3879.0	3831.8	3540.6	3312.5	3186.6
42.5°	3635.1	3572.1	3288.9	3045.0	2903.3
45°	3375.4	3304.6	3021.4	2769.6	2659.4
47.5°	3115.8	3052.8	2793.2	2533.5	2407.6
50°	2840.4	2785.3	2549.3	2289.6	2155.9
52.5°	2612.2	2525.7	2297.5	2037.8	1927.7
55°	2344.7	2273.9	2061.4	1817.5	1723.1
57.5°	2100.8	2030.0	1833.3	1605.1	1526.4
60°	1872.6	1770.3	1605.1	1408.4	1345.4
62.5°	1620.8	1542.1	1400.5	1235.3	1314.0
65°	1392.7	1314.0	1188.1	1211.7	1007.1
67.5°	1140.9	1101.5	991.4	881.2	849.8
70°	928.4	881.2	841.9	723.9	692.4
72.5°	739.6	692.4	637.3	574.4	550.8
75°	558.6	519.3	487.8	464.2	511.4
77.5°	385.5	369.8	346.2	322.6	314.7
80°	251.8	243.9	236.0	228.2	220.3
82.5°	149.5	149.5	149.5	149.5	149.5
85°	78.7	86.5	94.4	102.3	110.2
87.5°	47.2	47.2	55.1	62.9	70.8
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)