

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: P547044

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-81-94-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: P547044
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

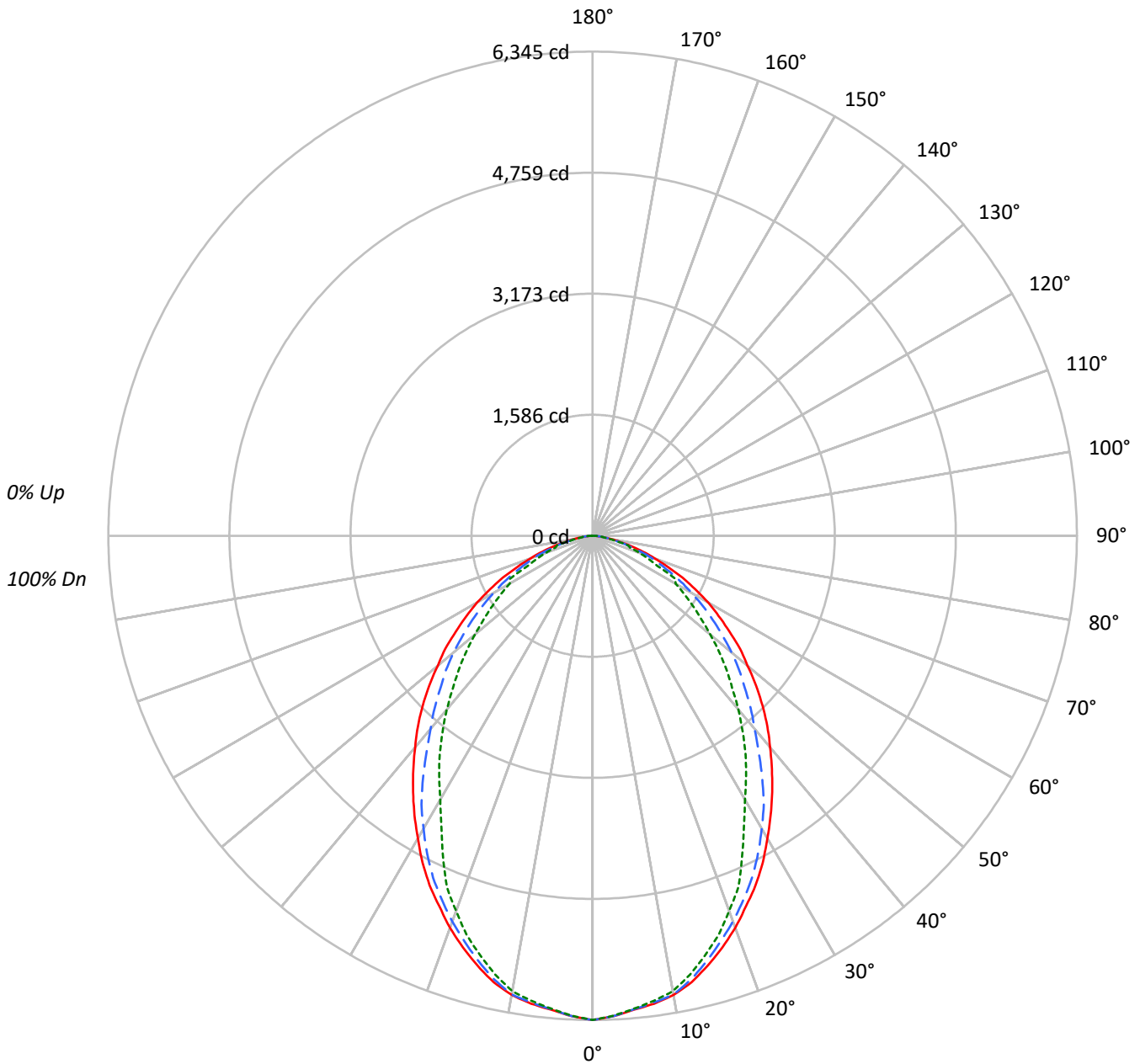
Lumens per Lamp: N/A
Luminaire Lumens: 12457.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P547044

CATALOG NUMBER: FMR-24-4-LD4-3HI-50-UNV-81-94-EDD

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°	8538	8538	8538
5°	8422	8412	8402
10°	8349	8339	8278
15°	8124	8042	7929
20°	7825	7699	7489
25°	7504	7340	6883
30°	7112	6884	6200
35°	6736	6362	5735
40°	6352	5798	5218
45°	5988	5360	4718
50°	5543	4975	4207
55°	5128	4509	3769
60°	4698	4027	3376
65°	4134	3527	2989
70°	3405	3088	2539
75°	2707	2364	2479
80°	1819	1705	1592
85°	1133	1359	1585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	590.7	4.7
10°-20°	1621.1	13.0
20°-30°	2244.2	18.0
30°-40°	2393.0	19.2
40°-50°	2183.1	17.5
50°-60°	1710.3	13.7
60°-70°	1114.7	8.9
70°-80°	493.9	4.0
80°-90°	106.0	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°	4456.0	35.8
0°-40°	6849.0	55.0
0°-60°	10742.4	86.2
0°-90°	12457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6345	6345	6345	6345	6345	
5°	6235	6228	6228	6221	6221	592
15°	5832	5832	5773	5715	5692	1640
25°	5054	5025	4944	4768	4636	2320
35°	4101	4071	3873	3580	3492	2564
45°	3147	3081	2817	2582	2480	2424
55°	2186	2120	1922	1695	1606	1961
65°	1298	1225	1108	1130	939	1280
75°	521	484	455	433	477	558
85°	73	81	88	95	103	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6345.4	6345.4	6345.4	6345.4	6345.4
2.5°	6301.4	6301.4	6301.4	6294.1	6294.1
5°	6235.4	6228.1	6228.1	6220.7	6220.7
7.5°	6184.0	6176.7	6169.4	6162.0	6147.4
10°	6110.7	6110.7	6103.3	6066.7	6059.3
12.5°	5993.3	5986.0	5956.6	5905.3	5890.6
15°	5831.9	5831.9	5773.2	5714.6	5692.5
17.5°	5655.9	5648.5	5575.2	5516.5	5487.1
20°	5465.1	5450.5	5377.1	5281.7	5230.4
22.5°	5252.4	5252.4	5164.4	5039.7	4988.3
25°	5054.3	5025.0	4944.3	4768.2	4636.2
27.5°	4826.9	4782.9	4694.9	4445.5	4291.4
30°	4577.5	4555.5	4430.8	4108.0	3990.7
32.5°	4342.8	4306.1	4174.0	3836.6	3741.2
35°	4100.7	4071.3	3873.3	3579.8	3491.8
37.5°	3858.6	3821.9	3572.5	3337.8	3227.7
40°	3616.5	3572.5	3301.1	3088.4	2971.0
42.5°	3389.1	3330.4	3066.3	2838.9	2706.9
45°	3147.0	3081.0	2816.9	2582.2	2479.5
47.5°	2905.0	2846.3	2604.2	2362.1	2244.7
50°	2648.2	2596.9	2376.8	2134.7	2010.0
52.5°	2435.5	2354.8	2142.0	1900.0	1797.3
55°	2186.1	2120.0	1922.0	1694.6	1606.5
57.5°	1958.6	1892.6	1709.2	1496.5	1423.1
60°	1745.9	1650.5	1496.5	1313.1	1254.4
62.5°	1511.2	1437.8	1305.8	1151.7	1225.1
65°	1298.4	1225.1	1107.7	1129.7	939.0
67.5°	1063.7	1027.0	924.3	821.6	792.3
70°	865.6	821.6	784.9	674.9	645.5
72.5°	689.6	645.5	594.2	535.5	513.5
75°	520.8	484.2	454.8	432.8	476.8
77.5°	359.5	344.8	322.8	300.8	293.4
80°	234.7	227.4	220.1	212.7	205.4
82.5°	139.4	139.4	139.4	139.4	139.4
85°	73.4	80.7	88.0	95.4	102.7
87.5°	44.0	44.0	51.4	58.7	66.0
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)