

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: P547104

Luminaire Tested: **FMR-24-4-LD4-3LO-40-UNV-81-85-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: P547104
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-LD4-3LO-40-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

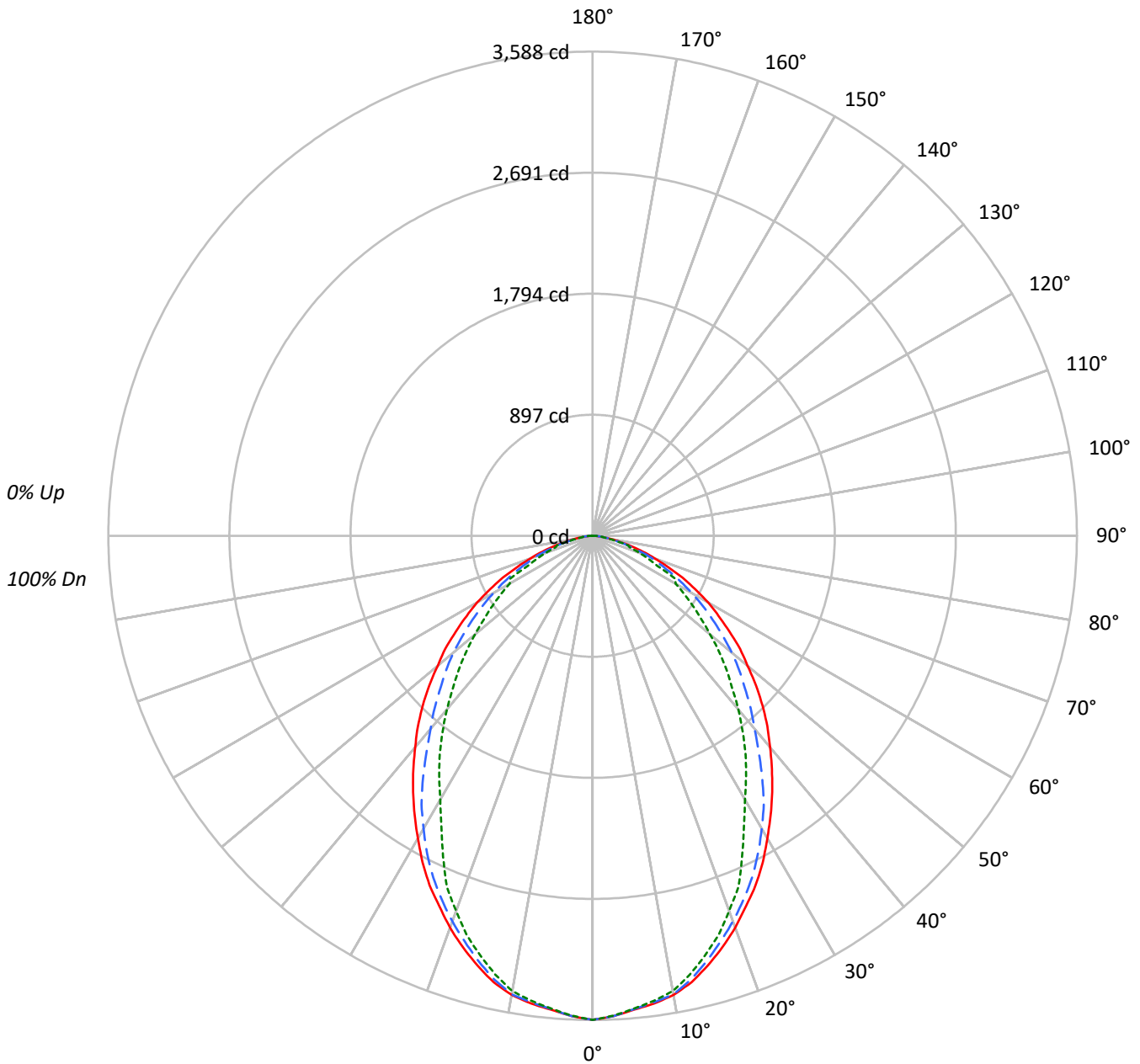
Lumens per Lamp: N/A
Luminaire Lumens: 7043.0 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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°	4827	4827	4827
5°	4762	4756	4750
10°	4720	4715	4681
15°	4593	4547	4483
20°	4424	4353	4234
25°	4242	4150	3891
30°	4021	3892	3505
35°	3808	3597	3243
40°	3591	3278	2950
45°	3386	3031	2668
50°	3134	2813	2379
55°	2899	2549	2131
60°	2656	2277	1908
65°	2337	1994	1690
70°	1925	1746	1436
75°	1531	1337	1402
80°	1028	964	900
85°	641	769	897



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	334.0	4.7
10°-20°	916.5	13.0
20°-30°	1268.9	18.0
30°-40°	1353.0	19.2
40°-50°	1234.3	17.5
50°-60°	967.0	13.7
60°-70°	630.2	8.9
70°-80°	279.2	4.0
80°-90°	59.9	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°	2519.3	35.8
0°-40°	3872.3	55.0
0°-60°	6073.6	86.2
0°-90°	7043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3588	3588	3588	3588	3588	
5°	3525	3521	3521	3517	3517	335
15°	3297	3297	3264	3231	3218	927
25°	2858	2841	2795	2696	2621	1312
35°	2318	2302	2190	2024	1974	1449
45°	1779	1742	1593	1460	1402	1371
55°	1236	1199	1087	958	908	1109
65°	734	693	626	639	531	723
75°	294	274	257	245	270	316
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3587.6	3587.6	3587.6	3587.6	3587.6
2.5°	3562.7	3562.7	3562.7	3558.6	3558.6
5°	3525.4	3521.2	3521.2	3517.1	3517.1
7.5°	3496.4	3492.2	3488.1	3483.9	3475.6
10°	3454.9	3454.9	3450.7	3430.0	3425.9
12.5°	3388.5	3384.4	3367.8	3338.8	3330.5
15°	3297.3	3297.3	3264.1	3230.9	3218.5
17.5°	3197.7	3193.6	3152.1	3118.9	3102.3
20°	3089.9	3081.6	3040.1	2986.2	2957.2
22.5°	2969.6	2969.6	2919.9	2849.4	2820.3
25°	2857.6	2841.1	2795.4	2695.9	2621.2
27.5°	2729.1	2704.2	2654.4	2513.4	2426.3
30°	2588.1	2575.6	2505.1	2322.6	2256.3
32.5°	2455.3	2434.6	2359.9	2169.2	2115.2
35°	2318.5	2301.9	2189.9	2024.0	1974.2
37.5°	2181.6	2160.9	2019.8	1887.1	1824.9
40°	2044.7	2019.8	1866.4	1746.1	1679.7
42.5°	1916.2	1883.0	1733.7	1605.1	1530.4
45°	1779.3	1742.0	1592.7	1459.9	1401.9
47.5°	1642.4	1609.2	1472.4	1335.5	1269.1
50°	1497.3	1468.2	1343.8	1206.9	1136.4
52.5°	1377.0	1331.4	1211.1	1074.2	1016.1
55°	1236.0	1198.6	1086.7	958.1	908.3
57.5°	1107.4	1070.1	966.4	846.1	804.6
60°	987.1	933.2	846.1	742.4	709.2
62.5°	854.4	812.9	738.3	651.2	692.6
65°	734.1	692.6	626.3	638.7	530.9
67.5°	601.4	580.7	522.6	464.5	447.9
70°	489.4	464.5	443.8	381.6	365.0
72.5°	389.9	365.0	335.9	302.8	290.3
75°	294.5	273.7	257.1	244.7	269.6
77.5°	203.2	194.9	182.5	170.0	165.9
80°	132.7	128.6	124.4	120.3	116.1
82.5°	78.8	78.8	78.8	78.8	78.8
85°	41.5	45.6	49.8	53.9	58.1
87.5°	24.9	24.9	29.0	33.2	37.3
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)