

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: P546196

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-93-94-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: P546196
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-12-4-LD4-2HI-50-UNV-93-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

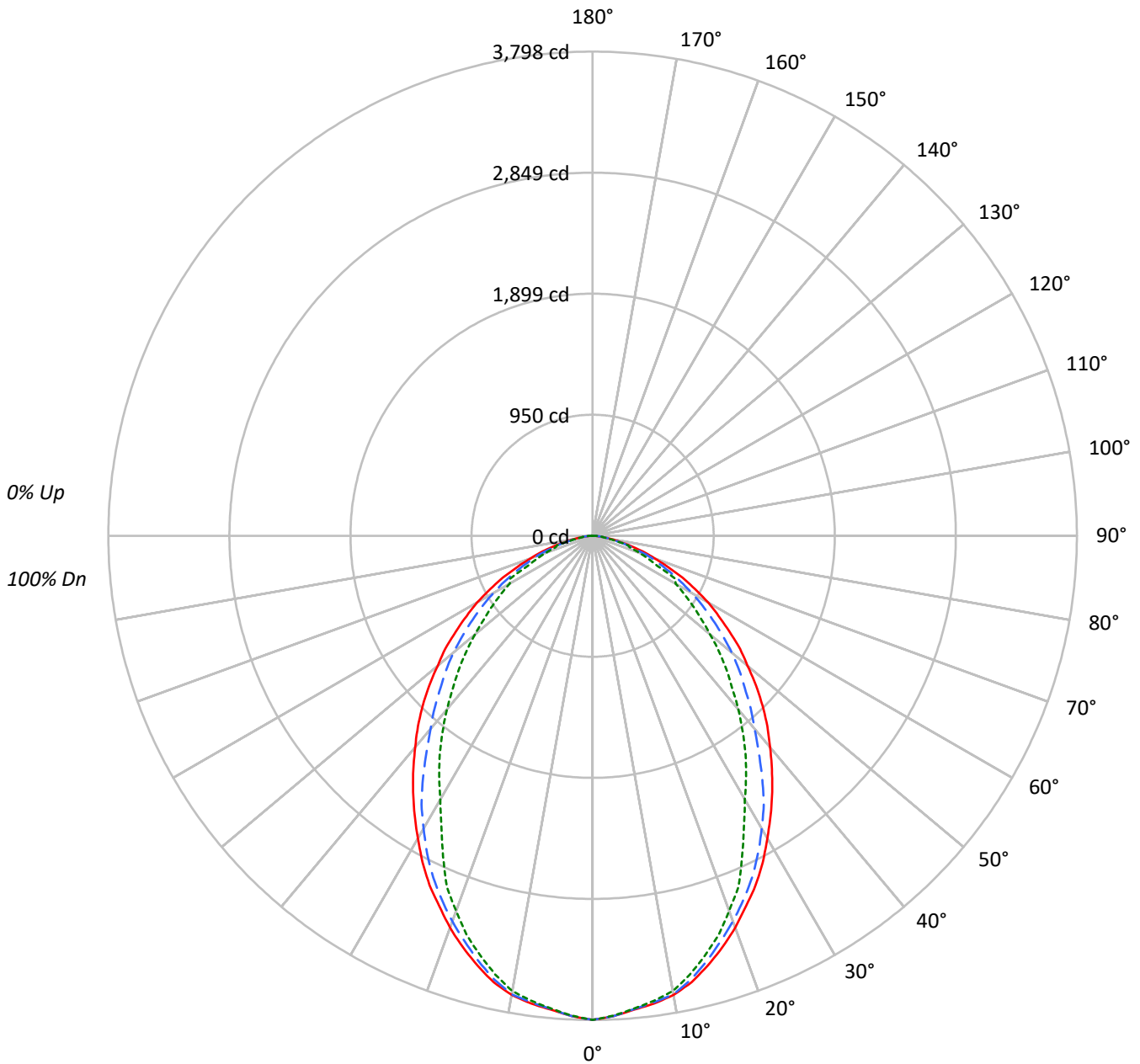
Lumens per Lamp: N/A
Luminaire Lumens: 7455.0 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	10219	10219	10219
5°	10080	10068	10056
10°	9993	9981	9909
15°	9723	9625	9491
20°	9366	9215	8964
25°	8981	8786	8238
30°	8512	8239	7421
35°	8062	7615	6865
40°	7603	6940	6246
45°	7168	6416	5647
50°	6635	5955	5036
55°	6138	5396	4510
60°	5624	4820	4040
65°	4948	4221	3578
70°	4076	3696	3039
75°	3241	2830	2967
80°	2177	2041	1905
85°	1355	1627	1899



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	353.5	4.7
10°-20°	970.1	13.0
20°-30°	1343.1	18.0
30°-40°	1432.1	19.2
40°-50°	1306.5	17.5
50°-60°	1023.5	13.7
60°-70°	667.1	8.9
70°-80°	295.5	4.0
80°-90°	63.4	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°	2666.7	35.8
0°-40°	4098.8	55.0
0°-60°	6428.9	86.2
0°-90°	7455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3798	3798	3798	3798	3798	
5°	3732	3727	3727	3723	3723	354
15°	3490	3490	3455	3420	3407	981
25°	3025	3007	2959	2854	2775	1389
35°	2454	2436	2318	2142	2090	1534
45°	1883	1844	1686	1545	1484	1451
55°	1308	1269	1150	1014	961	1173
65°	777	733	663	676	562	766
75°	312	290	272	259	285	334
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3797.5	3797.5	3797.5	3797.5	3797.5
2.5°	3771.1	3771.1	3771.1	3766.7	3766.7
5°	3731.6	3727.2	3727.2	3722.8	3722.8
7.5°	3700.9	3696.5	3692.1	3687.7	3678.9
10°	3657.0	3657.0	3652.6	3630.7	3626.3
12.5°	3586.8	3582.4	3564.8	3534.1	3525.3
15°	3490.2	3490.2	3455.0	3419.9	3406.8
17.5°	3384.8	3380.4	3336.5	3301.4	3283.8
20°	3270.7	3261.9	3218.0	3160.9	3130.2
22.5°	3143.3	3143.3	3090.7	3016.0	2985.3
25°	3024.8	3007.3	2959.0	2853.6	2774.6
27.5°	2888.7	2862.4	2809.7	2660.4	2568.2
30°	2739.5	2726.3	2651.6	2458.5	2388.2
32.5°	2599.0	2577.0	2498.0	2296.0	2239.0
35°	2454.1	2436.5	2318.0	2142.4	2089.7
37.5°	2309.2	2287.3	2138.0	1997.5	1931.7
40°	2164.3	2138.0	1975.6	1848.3	1778.0
42.5°	2028.2	1993.1	1835.1	1699.0	1620.0
45°	1883.4	1843.9	1685.8	1545.3	1483.9
47.5°	1738.5	1703.4	1558.5	1413.6	1343.4
50°	1584.8	1554.1	1422.4	1277.5	1202.9
52.5°	1457.5	1409.2	1281.9	1137.0	1075.6
55°	1308.3	1268.8	1150.2	1014.1	961.4
57.5°	1172.2	1132.7	1022.9	895.6	851.7
60°	1044.9	987.8	895.6	785.8	750.7
62.5°	904.4	860.5	781.4	689.3	733.2
65°	777.1	733.2	662.9	676.1	561.9
67.5°	636.6	614.6	553.2	491.7	474.1
70°	518.0	491.7	469.7	403.9	386.3
72.5°	412.7	386.3	355.6	320.5	307.3
75°	311.7	289.7	272.2	259.0	285.4
77.5°	215.1	206.3	193.2	180.0	175.6
80°	140.5	136.1	131.7	127.3	122.9
82.5°	83.4	83.4	83.4	83.4	83.4
85°	43.9	48.3	52.7	57.1	61.5
87.5°	26.3	26.3	30.7	35.1	39.5
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)