

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: P546994

Luminaire Tested: **FMR-24-4-LD4-3HI-35-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: P546994
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

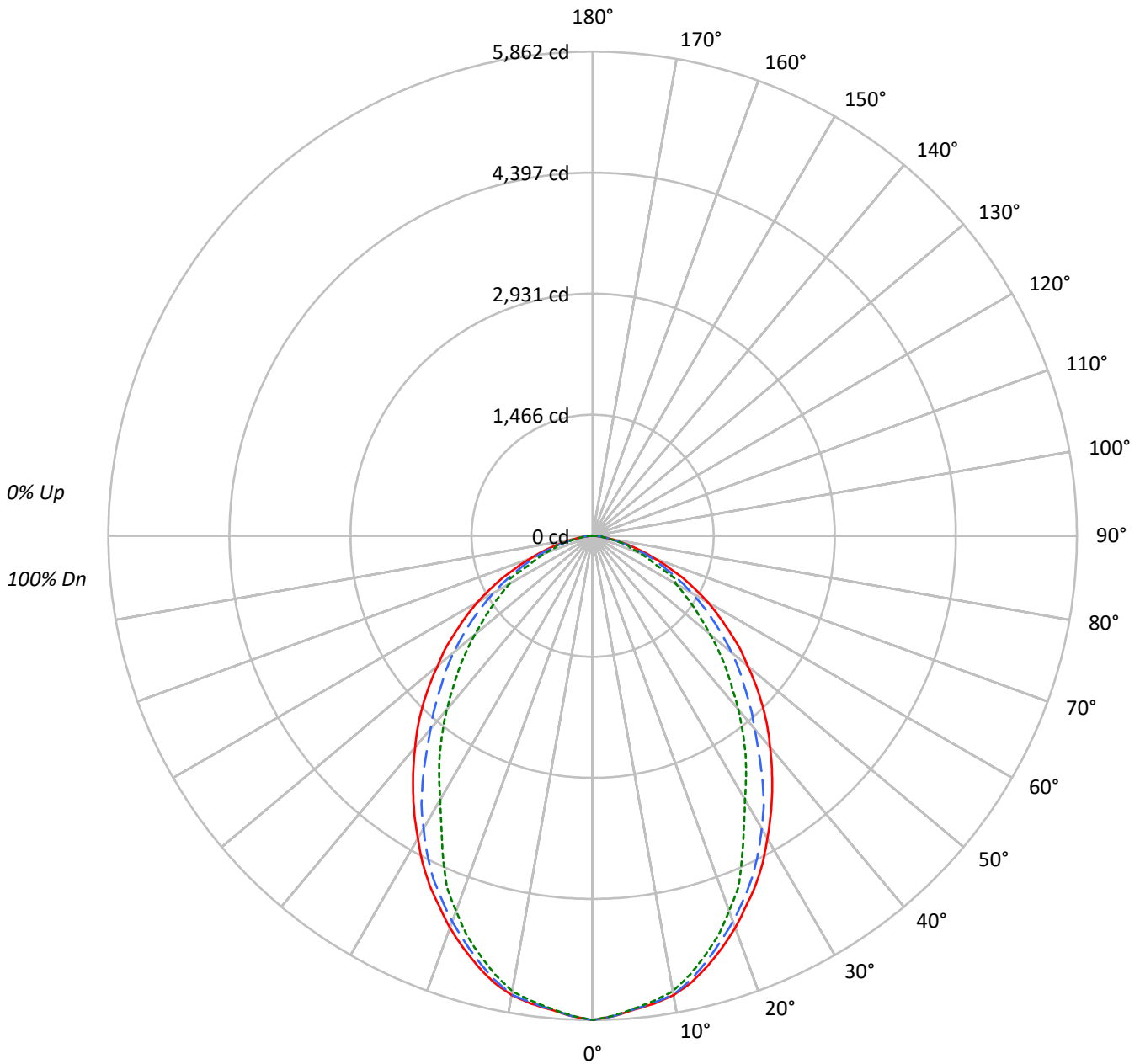
Lumens per Lamp: N/A
Luminaire Lumens: 11509.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	7888	7888	7888
5°	7781	7772	7762
10°	7713	7704	7649
15°	7505	7430	7326
20°	7230	7113	6919
25°	6933	6782	6359
30°	6571	6360	5728
35°	6223	5878	5299
40°	5869	5357	4821
45°	5532	4952	4359
50°	5121	4596	3887
55°	4738	4165	3482
60°	4341	3721	3119
65°	3819	3258	2762
70°	3146	2853	2346
75°	2502	2184	2290
80°	1681	1575	1471
85°	1047	1255	1465



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	545.7	4.7
10°-20°	1497.7	13.0
20°-30°	2073.5	18.0
30°-40°	2210.9	19.2
40°-50°	2017.0	17.5
50°-60°	1580.2	13.7
60°-70°	1029.9	8.9
70°-80°	456.3	4.0
80°-90°	98.0	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°	4116.9	35.8
0°-40°	6327.8	55.0
0°-60°	9924.9	86.2
0°-90°	11509.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11509.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5862	5862	5862	5862	5862	
5°	5761	5754	5754	5747	5747	547
15°	5388	5388	5334	5280	5259	1515
25°	4670	4643	4568	4405	4283	2144
35°	3789	3762	3578	3307	3226	2369
45°	2908	2846	2603	2386	2291	2240
55°	2020	1959	1776	1566	1484	1812
65°	1200	1132	1023	1044	868	1182
75°	481	447	420	400	440	516
85°	68	75	81	88	95	94
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5862.5	5862.5	5862.5	5862.5	5862.5
2.5°	5821.9	5821.9	5821.9	5815.1	5815.1
5°	5760.9	5754.1	5754.1	5747.3	5747.3
7.5°	5713.4	5706.6	5699.9	5693.1	5679.5
10°	5645.7	5645.7	5638.9	5605.0	5598.2
12.5°	5537.2	5530.4	5503.3	5455.9	5442.3
15°	5388.1	5388.1	5333.9	5279.7	5259.3
17.5°	5225.4	5218.7	5150.9	5096.7	5069.6
20°	5049.2	5035.7	4967.9	4879.8	4832.4
22.5°	4852.7	4852.7	4771.4	4656.1	4608.7
25°	4669.7	4642.6	4568.0	4405.4	4283.4
27.5°	4459.6	4418.9	4337.6	4107.2	3964.8
30°	4229.2	4208.8	4093.6	3795.4	3687.0
32.5°	4012.3	3978.4	3856.4	3544.6	3456.5
35°	3788.6	3761.5	3578.5	3307.4	3226.1
37.5°	3565.0	3531.1	3300.6	3083.8	2982.1
40°	3341.3	3300.6	3049.9	2853.3	2744.9
42.5°	3131.2	3077.0	2833.0	2622.9	2500.9
45°	2907.5	2846.5	2602.6	2385.7	2290.8
47.5°	2683.9	2629.7	2406.0	2182.4	2073.9
50°	2446.7	2399.2	2195.9	1972.3	1857.0
52.5°	2250.1	2175.6	1979.0	1755.4	1660.5
55°	2019.7	1958.7	1775.7	1565.6	1484.3
57.5°	1809.6	1748.6	1579.2	1382.6	1314.8
60°	1613.0	1524.9	1382.6	1213.2	1159.0
62.5°	1396.2	1328.4	1206.4	1064.1	1131.8
65°	1199.6	1131.8	1023.4	1043.7	867.5
67.5°	982.7	948.8	854.0	759.1	732.0
70°	799.7	759.1	725.2	623.5	596.4
72.5°	637.1	596.4	549.0	494.8	474.4
75°	481.2	447.3	420.2	399.9	440.5
77.5°	332.1	318.5	298.2	277.9	271.1
80°	216.9	210.1	203.3	196.5	189.8
82.5°	128.8	128.8	128.8	128.8	128.8
85°	67.8	74.6	81.3	88.1	94.9
87.5°	40.7	40.7	47.4	54.2	61.0
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)