

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: P546147

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-81-88-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: P546147
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-40-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

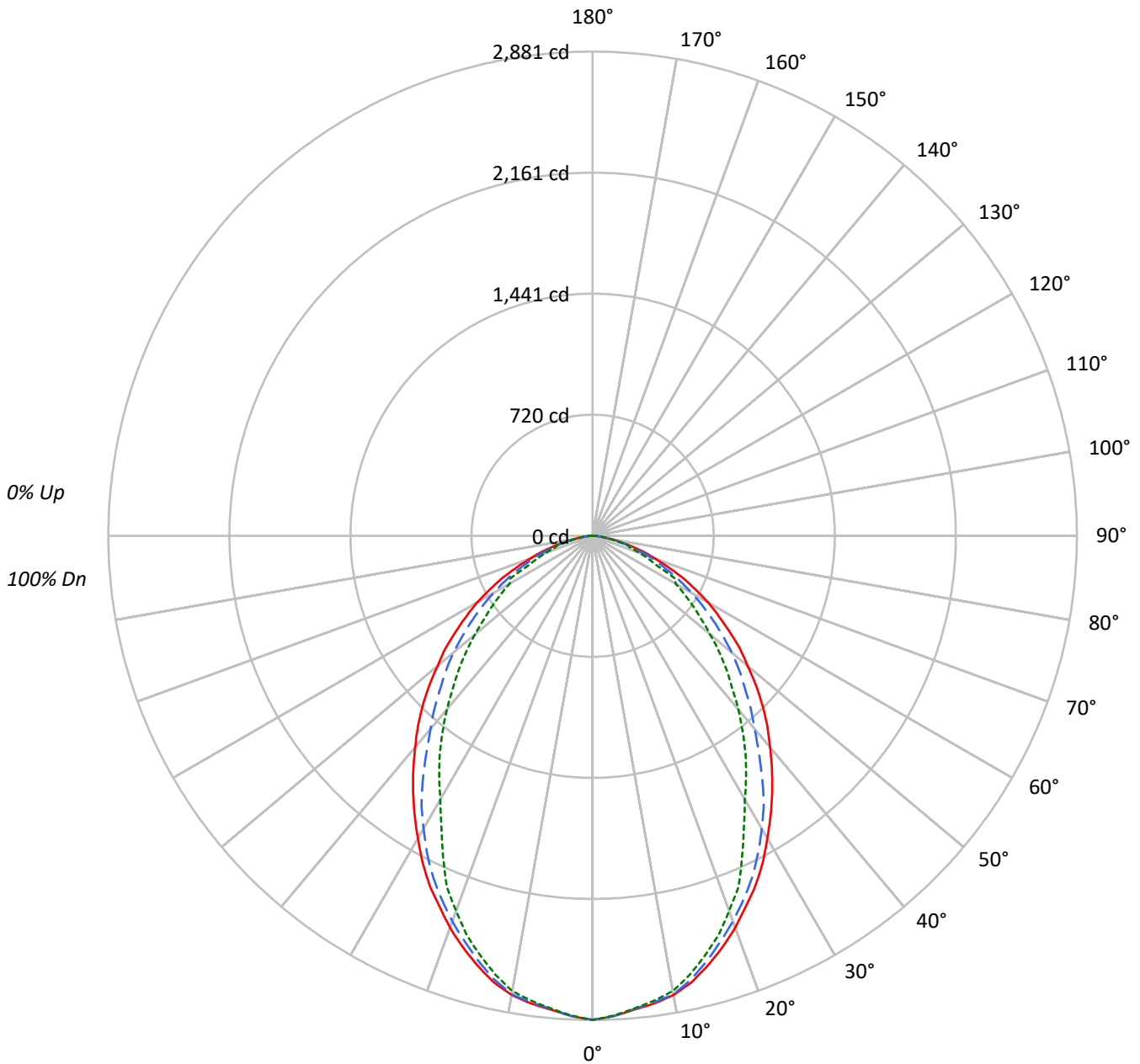
Lumens per Lamp: N/A
Luminaire Lumens: 5655.0 lumens
Efficiency: N/A
Efficacy: 65.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7752	7752	7752
5°	7646	7637	7628
10°	7580	7571	7516
15°	7376	7301	7199
20°	7105	6990	6800
25°	6813	6664	6249
30°	6457	6250	5629
35°	6116	5776	5208
40°	5767	5264	4738
45°	5437	4867	4284
50°	5033	4517	3820
55°	4656	4093	3422
60°	4266	3657	3065
65°	3753	3202	2714
70°	3092	2803	2306
75°	2458	2147	2251
80°	1652	1548	1444
85°	1028	1235	1439



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.1	4.7
10°-20°	735.9	13.0
20°-30°	1018.8	18.0
30°-40°	1086.3	19.2
40°-50°	991.1	17.5
50°-60°	776.4	13.7
60°-70°	506.0	8.9
70°-80°	224.2	4.0
80°-90°	48.1	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°	2022.8	35.8
0°-40°	3109.2	55.0
0°-60°	4876.7	86.2
0°-90°	5655.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5655.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2881	2881	2881	2881	2881	
5°	2831	2827	2827	2824	2824	269
15°	2648	2648	2621	2594	2584	744
25°	2294	2281	2244	2165	2105	1053
35°	1862	1848	1758	1625	1585	1164
45°	1429	1399	1279	1172	1126	1100
55°	992	962	872	769	729	890
65°	589	556	503	513	426	581
75°	236	220	206	196	216	253
85°	33	37	40	43	47	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2880.6	2880.6	2880.6	2880.6	2880.6
2.5°	2860.6	2860.6	2860.6	2857.3	2857.3
5°	2830.6	2827.3	2827.3	2824.0	2824.0
7.5°	2807.3	2804.0	2800.7	2797.3	2790.7
10°	2774.0	2774.0	2770.7	2754.0	2750.7
12.5°	2720.7	2717.4	2704.1	2680.8	2674.1
15°	2647.5	2647.5	2620.8	2594.2	2584.2
17.5°	2567.5	2564.2	2530.9	2504.3	2491.0
20°	2481.0	2474.3	2441.0	2397.7	2374.4
22.5°	2384.4	2384.4	2344.4	2287.8	2264.5
25°	2294.5	2281.2	2244.5	2164.6	2104.7
27.5°	2191.2	2171.3	2131.3	2018.1	1948.1
30°	2078.0	2068.0	2011.4	1864.9	1811.6
32.5°	1971.4	1954.8	1894.9	1741.7	1698.4
35°	1861.6	1848.2	1758.3	1625.1	1585.2
37.5°	1751.7	1735.0	1621.8	1515.2	1465.3
40°	1641.8	1621.8	1498.6	1402.0	1348.7
42.5°	1538.5	1511.9	1392.0	1288.8	1228.8
45°	1428.6	1398.7	1278.8	1172.2	1125.6
47.5°	1318.7	1292.1	1182.2	1072.3	1019.0
50°	1202.2	1178.9	1079.0	969.1	912.5
52.5°	1105.6	1069.0	972.4	862.5	815.9
55°	992.4	962.4	872.5	769.3	729.3
57.5°	889.2	859.2	775.9	679.4	646.0
60°	792.6	749.3	679.4	596.1	569.5
62.5°	686.0	652.7	592.8	522.8	556.1
65°	589.4	556.1	502.9	512.8	426.3
67.5°	482.9	466.2	419.6	373.0	359.7
70°	393.0	373.0	356.3	306.4	293.1
72.5°	313.0	293.1	269.7	243.1	233.1
75°	236.4	219.8	206.5	196.5	216.5
77.5°	163.2	156.5	146.5	136.5	133.2
80°	106.6	103.2	99.9	96.6	93.2
82.5°	63.3	63.3	63.3	63.3	63.3
85°	33.3	36.6	40.0	43.3	46.6
87.5°	20.0	20.0	23.3	26.6	30.0
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)