

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: P545927

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-84-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: P545927
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-LD4-1LO-35-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

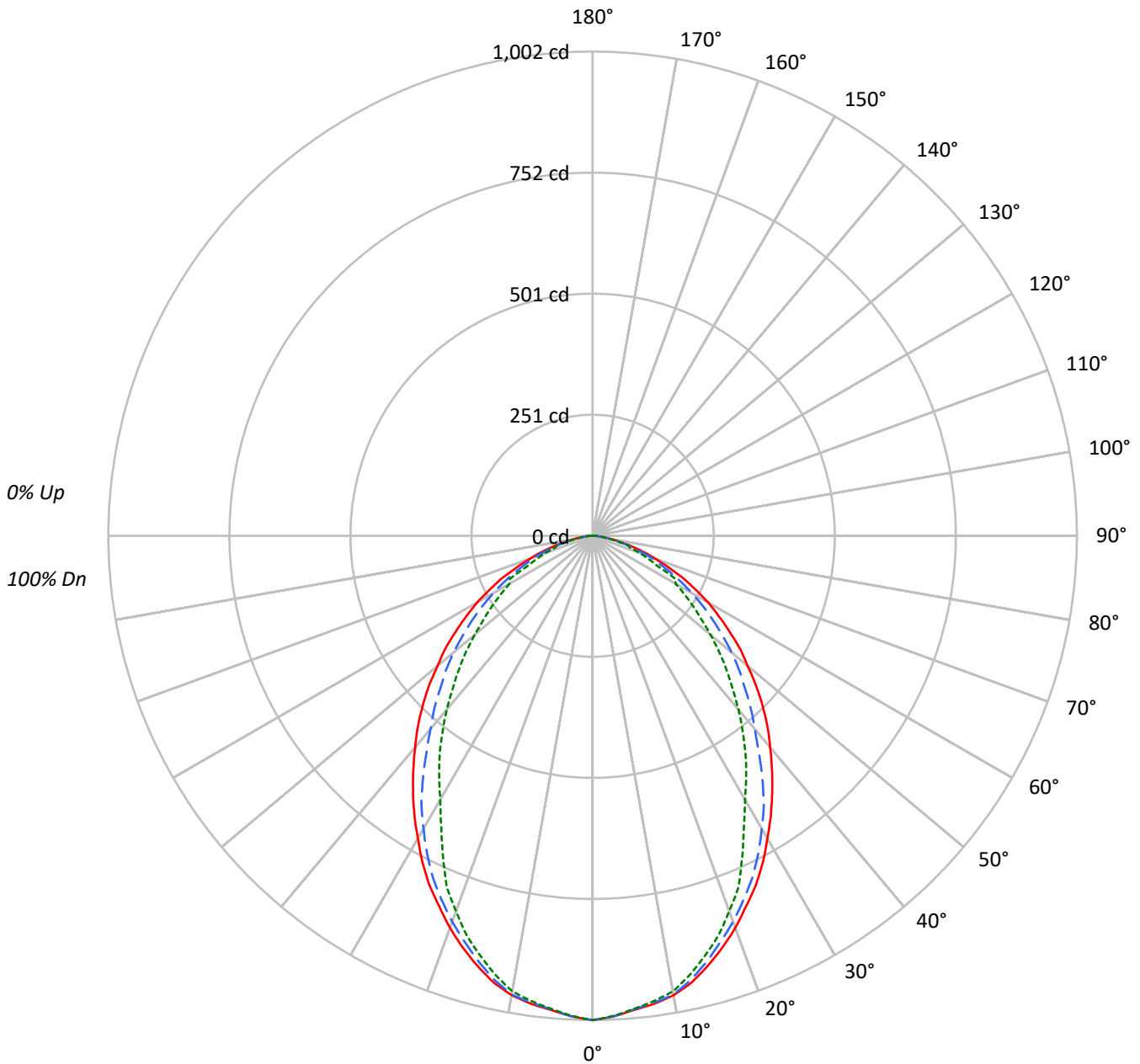
Lumens per Lamp: N/A
Luminaire Lumens: 1968.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2698	2698	2698
5°	2661	2658	2655
10°	2638	2635	2616
15°	2567	2541	2505
20°	2473	2433	2366
25°	2371	2319	2175
30°	2247	2175	1959
35°	2128	2010	1812
40°	2007	1832	1649
45°	1892	1694	1491
50°	1752	1572	1329
55°	1620	1424	1191
60°	1484	1272	1067
65°	1306	1114	944
70°	1076	976	803
75°	856	748	783
80°	575	539	502
85°	358	429	500



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.3	4.7
10°-20°	256.1	13.0
20°-30°	354.6	18.0
30°-40°	378.1	19.2
40°-50°	344.9	17.5
50°-60°	270.2	13.7
60°-70°	176.1	8.9
70°-80°	78.0	4.0
80°-90°	16.7	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°	704.0	35.8
0°-40°	1082.0	55.0
0°-60°	1697.1	86.2
0°-90°	1968.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1968.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1002	1002	1002	1002	1002	
5°	985	984	984	983	983	94
15°	921	921	912	903	899	259
25°	798	794	781	753	732	367
35°	648	643	612	566	552	405
45°	497	487	445	408	392	383
55°	345	335	304	268	254	310
65°	205	194	175	178	148	202
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1002.5	1002.5	1002.5	1002.5	1002.5
2.5°	995.5	995.5	995.5	994.4	994.4
5°	985.1	983.9	983.9	982.8	982.8
7.5°	977.0	975.8	974.7	973.5	971.2
10°	965.4	965.4	964.2	958.4	957.3
12.5°	946.8	945.7	941.0	932.9	930.6
15°	921.3	921.3	912.1	902.8	899.3
17.5°	893.5	892.4	880.8	871.5	866.9
20°	863.4	861.1	849.5	834.4	826.3
22.5°	829.8	829.8	815.9	796.2	788.1
25°	798.5	793.9	781.1	753.3	732.4
27.5°	762.6	755.6	741.7	702.3	678.0
30°	723.2	719.7	700.0	649.0	630.5
32.5°	686.1	680.3	659.4	606.1	591.1
35°	647.8	643.2	611.9	565.6	551.6
37.5°	609.6	603.8	564.4	527.3	509.9
40°	571.4	564.4	521.5	487.9	469.4
42.5°	535.4	526.2	484.4	448.5	427.6
45°	497.2	486.7	445.0	407.9	391.7
47.5°	458.9	449.7	411.4	373.2	354.6
50°	418.4	410.3	375.5	337.2	317.5
52.5°	384.8	372.0	338.4	300.2	283.9
55°	345.4	334.9	303.6	267.7	253.8
57.5°	309.4	299.0	270.0	236.4	224.8
60°	275.8	260.8	236.4	207.4	198.2
62.5°	238.7	227.1	206.3	182.0	193.5
65°	205.1	193.5	175.0	178.5	148.3
67.5°	168.0	162.2	146.0	129.8	125.2
70°	136.8	129.8	124.0	106.6	102.0
72.5°	108.9	102.0	93.9	84.6	81.1
75°	82.3	76.5	71.9	68.4	75.3
77.5°	56.8	54.5	51.0	47.5	46.4
80°	37.1	35.9	34.8	33.6	32.4
82.5°	22.0	22.0	22.0	22.0	22.0
85°	11.6	12.7	13.9	15.1	16.2
87.5°	7.0	7.0	8.1	9.3	10.4
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)