

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: P545925

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-81-96-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: P545925
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-81-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

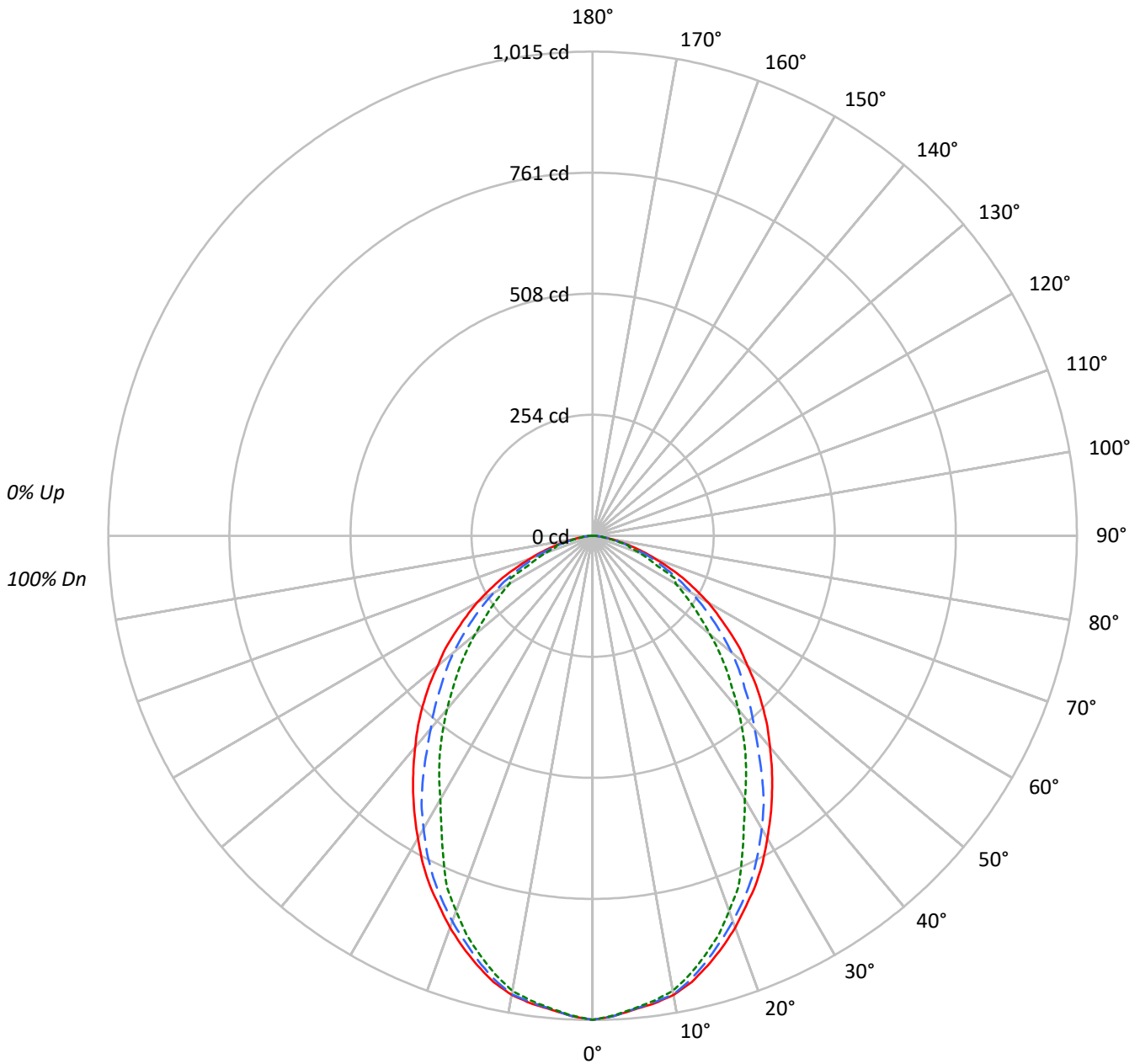
Lumens per Lamp: N/A
Luminaire Lumens: 1992.0 lumens
Efficiency: N/A
Efficacy: 85.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2731	2731	2731
5°	2693	2690	2687
10°	2670	2667	2648
15°	2598	2572	2536
20°	2503	2462	2395
25°	2400	2347	2201
30°	2275	2202	1983
35°	2154	2035	1834
40°	2031	1854	1669
45°	1915	1714	1509
50°	1773	1591	1346
55°	1640	1442	1205
60°	1503	1288	1080
65°	1322	1128	956
70°	1089	987	812
75°	866	756	792
80°	581	545	508
85°	361	435	506



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.5	4.7
10°-20°	259.2	13.0
20°-30°	358.9	18.0
30°-40°	382.7	19.2
40°-50°	349.1	17.5
50°-60°	273.5	13.7
60°-70°	178.3	8.9
70°-80°	79.0	4.0
80°-90°	17.0	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°	712.6	35.8
0°-40°	1095.2	55.0
0°-60°	1717.8	86.2
0°-90°	1992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1992.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1015	1015	1015	1015	1015	
5°	997	996	996	995	995	95
15°	933	933	923	914	910	262
25°	808	804	791	762	741	371
35°	656	651	619	572	558	410
45°	503	493	450	413	396	388
55°	350	339	307	271	257	314
65°	208	196	177	181	150	205
75°	83	77	73	69	76	89
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°	1014.7	1014.7	1014.7	1014.7	1014.7
2.5°	1007.7	1007.7	1007.7	1006.5	1006.5
5°	997.1	995.9	995.9	994.8	994.8
7.5°	988.9	987.7	986.5	985.4	983.0
10°	977.2	977.2	976.0	970.1	968.9
12.5°	958.4	957.2	952.5	944.3	942.0
15°	932.6	932.6	923.2	913.8	910.3
17.5°	904.4	903.3	891.5	882.1	877.4
20°	873.9	871.6	859.9	844.6	836.4
22.5°	839.9	839.9	825.8	805.9	797.7
25°	808.2	803.5	790.6	762.5	741.4
27.5°	771.9	764.8	750.8	710.9	686.2
30°	732.0	728.5	708.5	656.9	638.1
32.5°	694.5	688.6	667.5	613.5	598.3
35°	655.7	651.0	619.4	572.5	558.4
37.5°	617.0	611.2	571.3	533.7	516.1
40°	578.3	571.3	527.9	493.9	475.1
42.5°	542.0	532.6	490.3	454.0	432.9
45°	503.2	492.7	450.5	412.9	396.5
47.5°	464.5	455.1	416.4	377.7	359.0
50°	423.5	415.3	380.1	341.4	321.4
52.5°	389.5	376.6	342.5	303.8	287.4
55°	349.6	339.0	307.3	271.0	256.9
57.5°	313.2	302.6	273.3	239.3	227.6
60°	279.2	263.9	239.3	210.0	200.6
62.5°	241.7	229.9	208.8	184.2	195.9
65°	207.6	195.9	177.1	180.7	150.2
67.5°	170.1	164.2	147.8	131.4	126.7
70°	138.4	131.4	125.5	107.9	103.2
72.5°	110.3	103.2	95.0	85.6	82.1
75°	83.3	77.4	72.7	69.2	76.2
77.5°	57.5	55.1	51.6	48.1	46.9
80°	37.5	36.4	35.2	34.0	32.8
82.5°	22.3	22.3	22.3	22.3	22.3
85°	11.7	12.9	14.1	15.2	16.4
87.5°	7.0	7.0	8.2	9.4	10.6
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)