

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: P545920

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-81-85-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: P545920
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-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

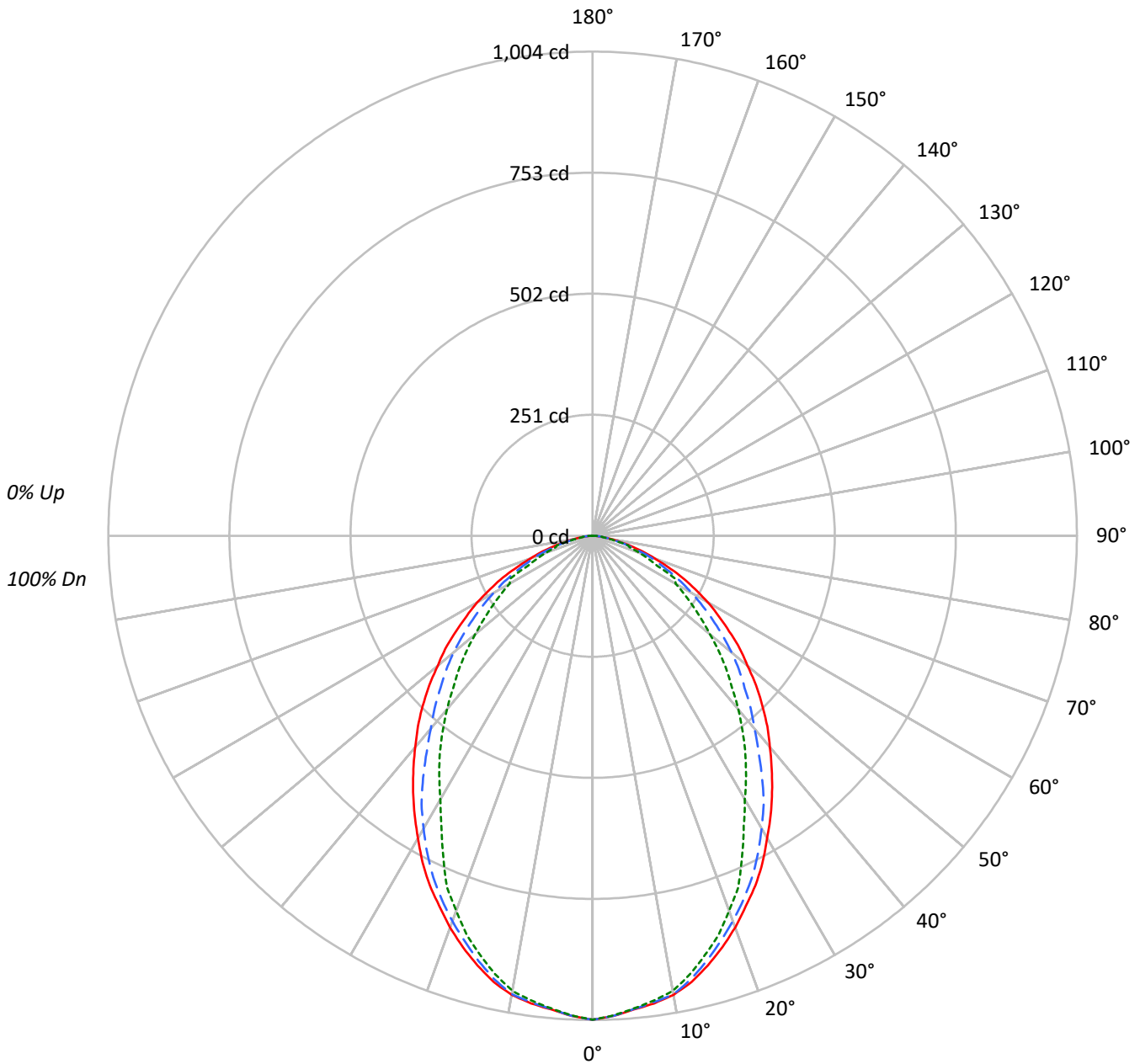
Lumens per Lamp: N/A
Luminaire Lumens: 1970.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2700	2700	2700
5°	2664	2660	2657
10°	2641	2637	2618
15°	2569	2544	2508
20°	2475	2435	2369
25°	2373	2322	2177
30°	2249	2177	1961
35°	2130	2012	1814
40°	2009	1834	1650
45°	1894	1695	1492
50°	1753	1574	1331
55°	1622	1426	1192
60°	1486	1274	1068
65°	1307	1116	946
70°	1077	976	803
75°	857	748	784
80°	575	539	504
85°	358	429	500



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.4	4.7
10°-20°	256.4	13.0
20°-30°	354.9	18.0
30°-40°	378.4	19.2
40°-50°	345.3	17.5
50°-60°	270.5	13.7
60°-70°	176.3	8.9
70°-80°	78.1	4.0
80°-90°	16.8	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°	704.7	35.8
0°-40°	1083.1	55.0
0°-60°	1698.9	86.2
0°-90°	1970.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1970.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1004	1004	1004	1004	1004	
5°	986	985	985	984	984	94
15°	922	922	913	904	900	259
25°	799	795	782	754	733	367
35°	648	644	612	566	552	405
45°	498	487	446	408	392	383
55°	346	335	304	268	254	310
65°	205	194	175	179	148	202
75°	82	77	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°	1003.5	1003.5	1003.5	1003.5	1003.5
2.5°	996.5	996.5	996.5	995.4	995.4
5°	986.1	984.9	984.9	983.8	983.8
7.5°	978.0	976.8	975.6	974.5	972.2
10°	966.4	966.4	965.2	959.4	958.2
12.5°	947.8	946.6	942.0	933.9	931.6
15°	922.3	922.3	913.0	903.7	900.2
17.5°	894.4	893.3	881.7	872.4	867.8
20°	864.3	862.0	850.4	835.3	827.2
22.5°	830.6	830.6	816.7	797.0	788.9
25°	799.3	794.7	781.9	754.1	733.2
27.5°	763.3	756.4	742.5	703.0	678.7
30°	723.9	720.4	700.7	649.7	631.1
32.5°	686.8	681.0	660.1	606.7	591.7
35°	648.5	643.9	612.5	566.1	552.2
37.5°	610.2	604.4	565.0	527.8	510.4
40°	571.9	565.0	522.0	488.4	469.8
42.5°	536.0	526.7	484.9	449.0	428.1
45°	497.7	487.2	445.5	408.4	392.1
47.5°	459.4	450.1	411.8	373.6	355.0
50°	418.8	410.7	375.9	337.6	317.9
52.5°	385.2	372.4	338.8	300.5	284.2
55°	345.7	335.3	303.9	268.0	254.1
57.5°	309.7	299.3	270.3	236.7	225.1
60°	276.1	261.0	236.7	207.7	198.4
62.5°	239.0	227.4	206.5	182.1	193.7
65°	205.3	193.7	175.2	178.7	148.5
67.5°	168.2	162.4	146.2	129.9	125.3
70°	136.9	129.9	124.1	106.7	102.1
72.5°	109.0	102.1	94.0	84.7	81.2
75°	82.4	76.6	71.9	68.4	75.4
77.5°	56.8	54.5	51.0	47.6	46.4
80°	37.1	36.0	34.8	33.6	32.5
82.5°	22.0	22.0	22.0	22.0	22.0
85°	11.6	12.8	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)