

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: P545931

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-88-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: P545931
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-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

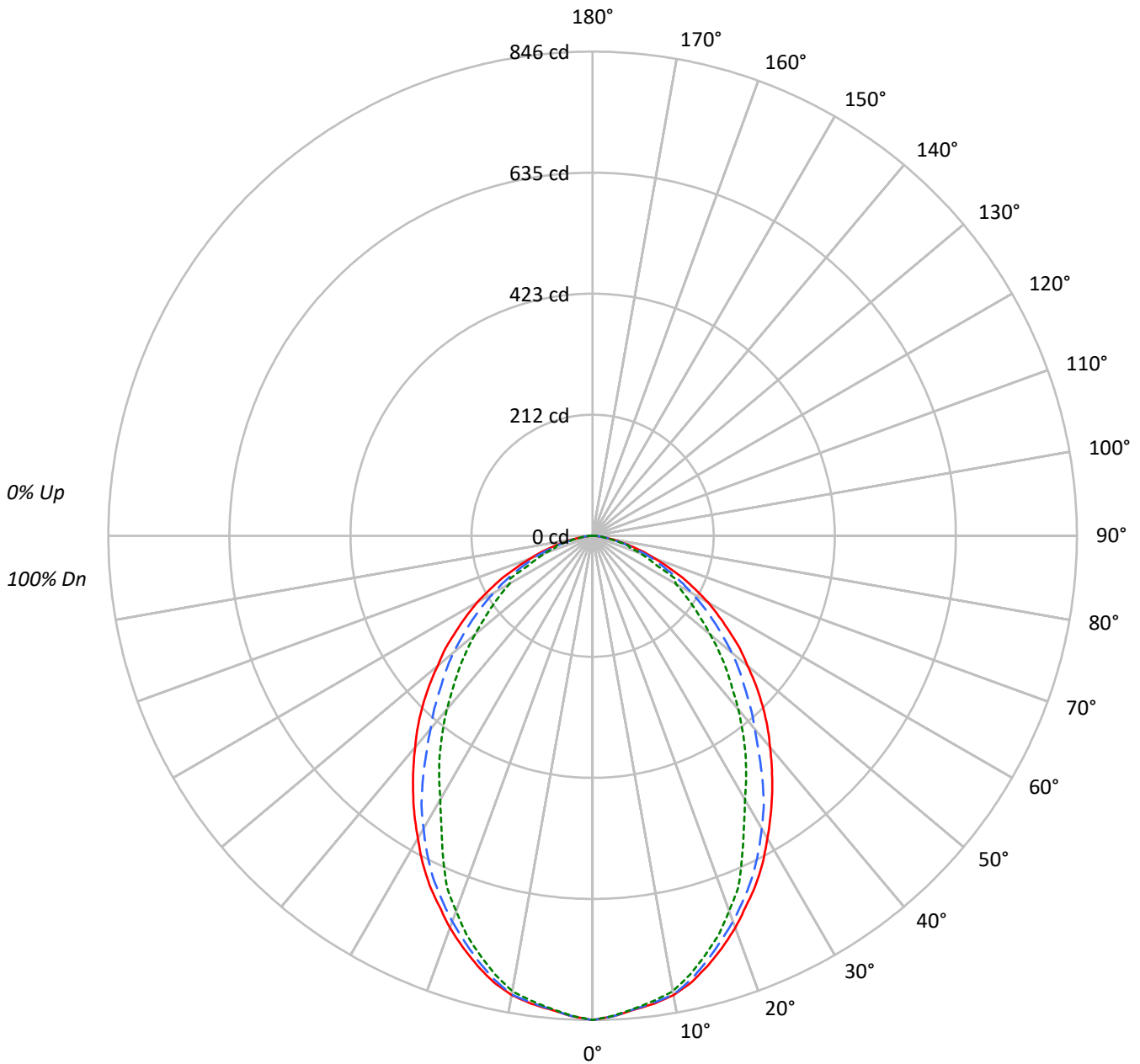
Lumens per Lamp: N/A
Luminaire Lumens: 1661.0 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2277	2277	2277
5°	2246	2243	2241
10°	2226	2224	2208
15°	2166	2145	2115
20°	2087	2053	1997
25°	2001	1958	1836
30°	1897	1836	1653
35°	1796	1697	1530
40°	1694	1546	1391
45°	1597	1429	1258
50°	1478	1327	1122
55°	1368	1202	1005
60°	1253	1074	900
65°	1102	940	797
70°	908	824	677
75°	722	630	661
80°	485	454	425
85°	303	361	423



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.8	4.7
10°-20°	216.1	13.0
20°-30°	299.2	18.0
30°-40°	319.1	19.2
40°-50°	291.1	17.5
50°-60°	228.1	13.7
60°-70°	148.6	8.9
70°-80°	65.8	4.0
80°-90°	14.1	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°	594.2	35.8
0°-40°	913.2	55.0
0°-60°	1432.4	86.2
0°-90°	1661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1661.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	846	846	846	846	846	
5°	831	830	830	830	830	79
15°	778	778	770	762	759	219
25°	674	670	659	636	618	309
35°	547	543	516	477	466	342
45°	420	411	376	344	331	323
55°	292	283	256	226	214	261
65°	173	163	148	151	125	171
75°	69	65	61	58	64	74
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	846.1	846.1	846.1	846.1	846.1
2.5°	840.2	840.2	840.2	839.2	839.2
5°	831.4	830.4	830.4	829.5	829.5
7.5°	824.6	823.6	822.6	821.6	819.7
10°	814.8	814.8	813.8	808.9	807.9
12.5°	799.1	798.2	794.2	787.4	785.4
15°	777.6	777.6	769.8	762.0	759.0
17.5°	754.1	753.2	743.4	735.6	731.6
20°	728.7	726.8	717.0	704.3	697.4
22.5°	700.3	700.3	688.6	672.0	665.1
25°	673.9	670.0	659.3	635.8	618.2
27.5°	643.6	637.7	626.0	592.8	572.2
30°	610.4	607.4	590.8	547.8	532.1
32.5°	579.1	574.2	556.6	511.6	498.9
35°	546.8	542.9	516.5	477.3	465.6
37.5°	514.5	509.6	476.4	445.1	430.4
40°	482.2	476.4	440.2	411.8	396.1
42.5°	451.9	444.1	408.9	378.5	360.9
45°	419.6	410.8	375.6	344.3	330.6
47.5°	387.3	379.5	347.2	315.0	299.3
50°	353.1	346.3	316.9	284.6	268.0
52.5°	324.7	314.0	285.6	253.3	239.6
55°	291.5	282.7	256.3	226.0	214.2
57.5°	261.2	252.4	227.9	199.5	189.8
60°	232.8	220.1	199.5	175.1	167.3
62.5°	201.5	191.7	174.1	153.6	163.3
65°	173.1	163.3	147.7	150.6	125.2
67.5°	141.8	136.9	123.2	109.6	105.6
70°	115.4	109.6	104.7	90.0	86.1
72.5°	91.9	86.1	79.2	71.4	68.5
75°	69.4	64.6	60.6	57.7	63.6
77.5°	47.9	46.0	43.0	40.1	39.1
80°	31.3	30.3	29.3	28.4	27.4
82.5°	18.6	18.6	18.6	18.6	18.6
85°	9.8	10.8	11.7	12.7	13.7
87.5°	5.9	5.9	6.8	7.8	8.8
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)