

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: P545932

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-94-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: P545932
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-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

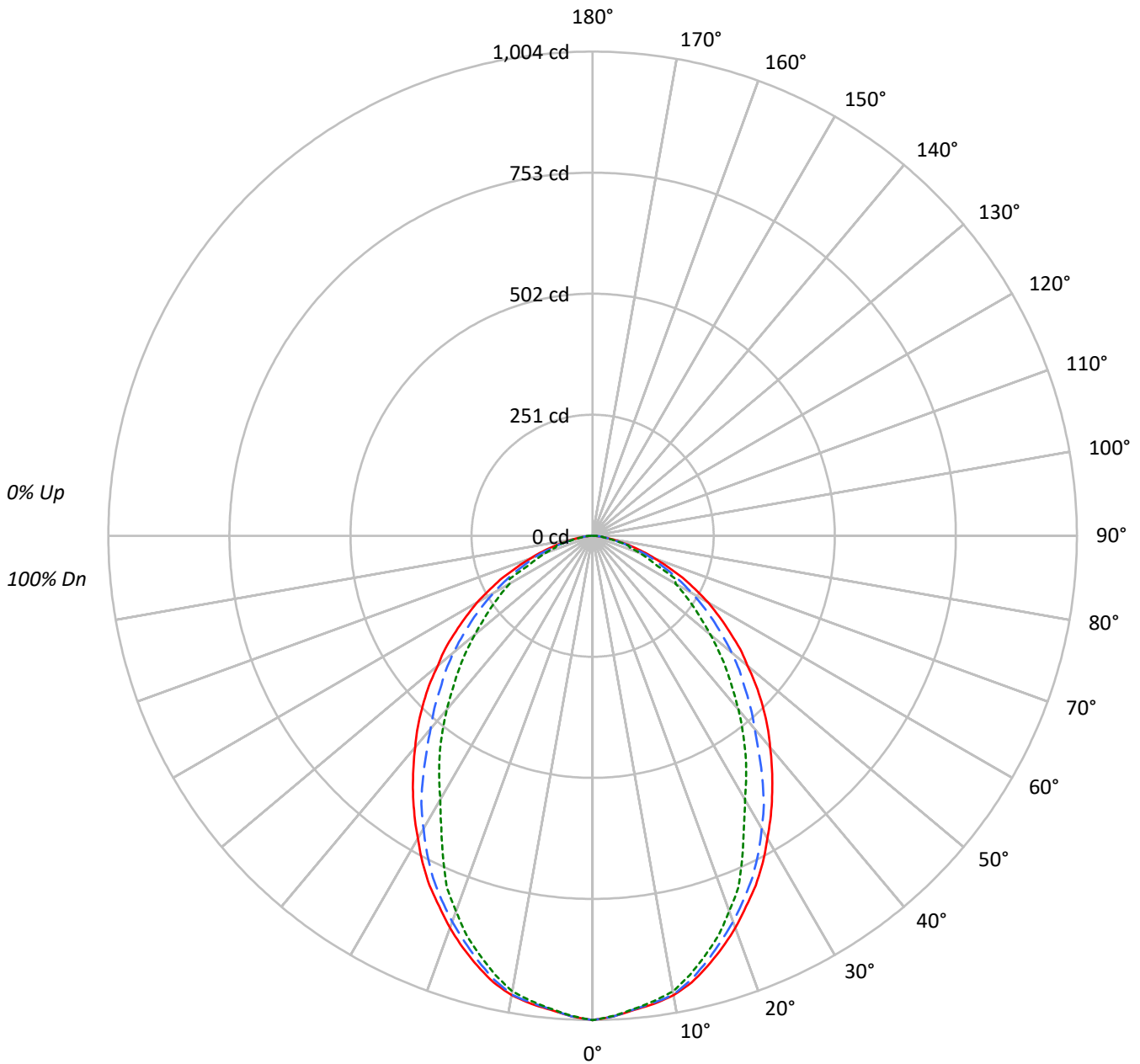
Lumens per Lamp: N/A
Luminaire Lumens: 1972.0 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2703	2703	2703
5°	2666	2663	2660
10°	2643	2640	2621
15°	2572	2546	2511
20°	2478	2438	2371
25°	2376	2324	2179
30°	2252	2179	1963
35°	2133	2014	1816
40°	2011	1836	1652
45°	1896	1697	1494
50°	1755	1575	1332
55°	1624	1428	1193
60°	1488	1275	1069
65°	1309	1117	946
70°	1078	978	804
75°	858	749	785
80°	576	539	504
85°	358	429	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.5	4.7
10°-20°	256.6	13.0
20°-30°	355.3	18.0
30°-40°	378.8	19.2
40°-50°	345.6	17.5
50°-60°	270.8	13.7
60°-70°	176.5	8.9
70°-80°	78.2	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°	705.4	35.8
0°-40°	1084.2	55.0
0°-60°	1700.6	86.2
0°-90°	1972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1004	1004	1004	1004	1004	
5°	987	986	986	985	985	94
15°	923	923	914	905	901	260
25°	800	796	783	755	734	367
35°	649	644	613	567	553	406
45°	498	488	446	409	392	384
55°	346	336	304	268	254	310
65°	206	194	175	179	149	203
75°	82	77	72	68	76	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°	1004.5	1004.5	1004.5	1004.5	1004.5
2.5°	997.5	997.5	997.5	996.4	996.4
5°	987.1	985.9	985.9	984.8	984.8
7.5°	979.0	977.8	976.6	975.5	973.2
10°	967.3	967.3	966.2	960.4	959.2
12.5°	948.8	947.6	943.0	934.8	932.5
15°	923.2	923.2	913.9	904.6	901.2
17.5°	895.3	894.2	882.6	873.3	868.6
20°	865.2	862.8	851.2	836.1	828.0
22.5°	831.5	831.5	817.5	797.8	789.7
25°	800.1	795.5	782.7	754.8	733.9
27.5°	764.1	757.2	743.2	703.7	679.4
30°	724.6	721.2	701.4	650.3	631.7
32.5°	687.5	681.7	660.8	607.4	592.3
35°	649.2	644.5	613.2	566.7	552.8
37.5°	610.8	605.0	565.5	528.4	511.0
40°	572.5	565.5	522.6	488.9	470.3
42.5°	536.5	527.2	485.4	449.4	428.5
45°	498.2	487.7	445.9	408.8	392.5
47.5°	459.9	450.6	412.3	373.9	355.4
50°	419.2	411.1	376.3	337.9	318.2
52.5°	385.5	372.8	339.1	300.8	284.5
55°	346.1	335.6	304.3	268.3	254.3
57.5°	310.1	299.6	270.6	236.9	225.3
60°	276.4	261.3	236.9	207.9	198.6
62.5°	239.2	227.6	206.7	182.3	193.9
65°	205.5	193.9	175.4	178.8	148.6
67.5°	168.4	162.6	146.3	130.1	125.4
70°	137.0	130.1	124.3	106.8	102.2
72.5°	109.2	102.2	94.1	84.8	81.3
75°	82.5	76.6	72.0	68.5	75.5
77.5°	56.9	54.6	51.1	47.6	46.5
80°	37.2	36.0	34.8	33.7	32.5
82.5°	22.1	22.1	22.1	22.1	22.1
85°	11.6	12.8	13.9	15.1	16.3
87.5°	7.0	7.0	8.1	9.3	10.5
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)