

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: P545964

Luminaire Tested: **FMR-12-4-LD4-1LO-40-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: P545964
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

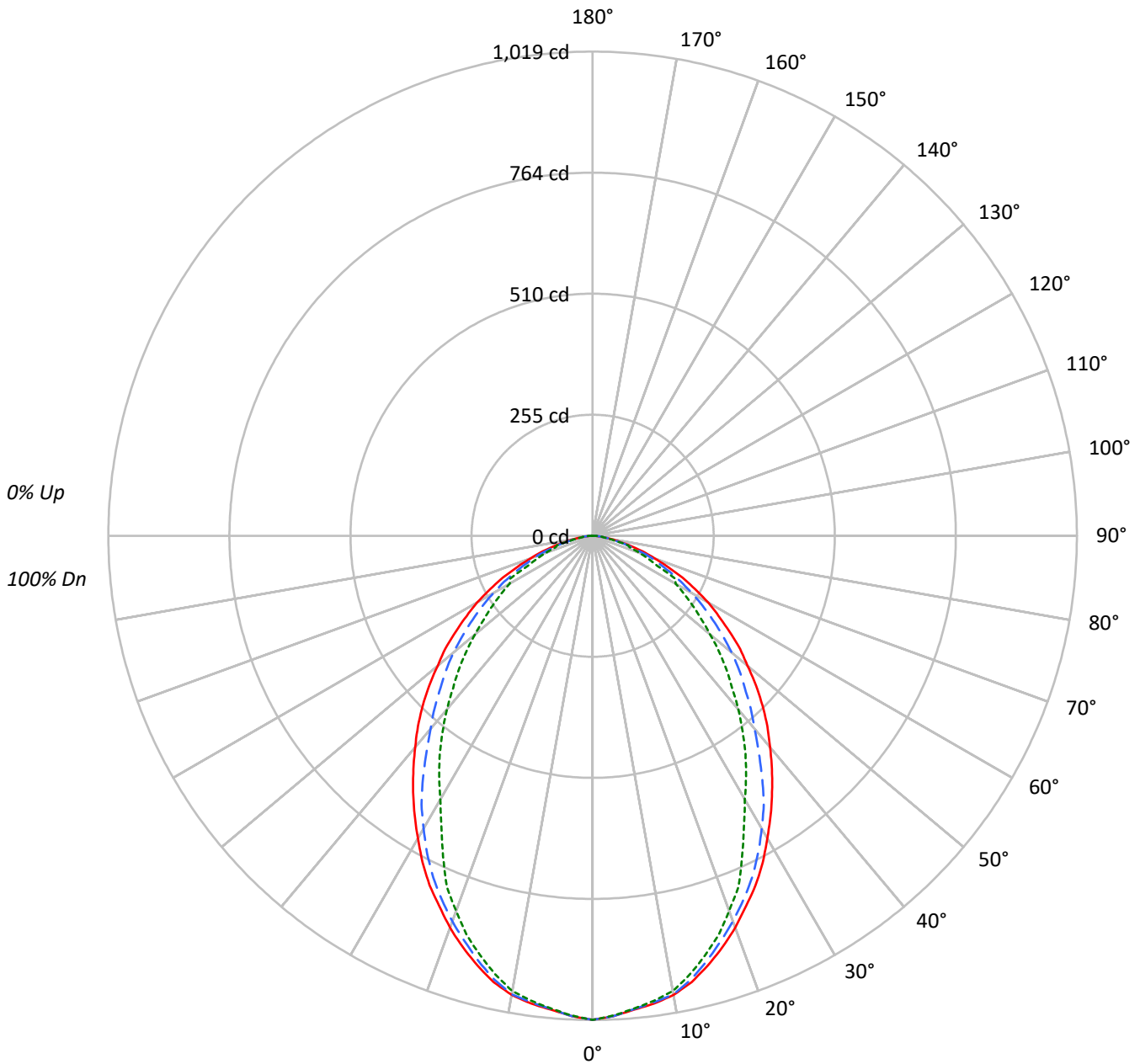
Lumens per Lamp: N/A
Luminaire Lumens: 2000.0 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545964

CATALOG NUMBER: FMR-12-4-LD4-1LO-40-UNV-82-94-EDD

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°	2742	2742	2742
5°	2704	2701	2698
10°	2681	2678	2658
15°	2608	2582	2546
20°	2513	2472	2405
25°	2409	2357	2210
30°	2284	2211	1991
35°	2163	2043	1842
40°	2040	1862	1676
45°	1923	1721	1515
50°	1780	1598	1351
55°	1647	1448	1210
60°	1509	1293	1084
65°	1328	1132	960
70°	1094	991	815
75°	869	759	796
80°	584	547	511
85°	364	435	509



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.8	4.7
10°-20°	260.3	13.0
20°-30°	360.3	18.0
30°-40°	384.2	19.2
40°-50°	350.5	17.5
50°-60°	274.6	13.7
60°-70°	179.0	8.9
70°-80°	79.3	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°	715.4	35.8
0°-40°	1099.6	55.0
0°-60°	1724.7	86.2
0°-90°	2000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2000.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1001	1000	1000	999	999	95
15°	936	936	927	918	914	263
25°	812	807	794	766	744	373
35°	658	654	622	575	561	412
45°	505	495	452	415	398	389
55°	351	340	309	272	258	315
65°	208	197	178	181	151	205
75°	84	78	73	70	77	90
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°	1018.8	1018.8	1018.8	1018.8	1018.8
2.5°	1011.7	1011.7	1011.7	1010.5	1010.5
5°	1001.1	999.9	999.9	998.8	998.8
7.5°	992.9	991.7	990.5	989.3	987.0
10°	981.1	981.1	979.9	974.0	972.8
12.5°	962.2	961.1	956.4	948.1	945.8
15°	936.3	936.3	926.9	917.5	914.0
17.5°	908.1	906.9	895.1	885.7	881.0
20°	877.4	875.1	863.3	848.0	839.8
22.5°	843.3	843.3	829.2	809.1	800.9
25°	811.5	806.8	793.8	765.6	744.4
27.5°	775.0	767.9	753.8	713.7	689.0
30°	734.9	731.4	711.4	659.6	640.7
32.5°	697.2	691.4	670.2	616.0	600.7
35°	658.4	653.7	621.9	574.8	560.6
37.5°	619.5	613.6	573.6	535.9	518.2
40°	580.6	573.6	530.0	495.8	477.0
42.5°	544.1	534.7	492.3	455.8	434.6
45°	505.3	494.7	452.3	414.6	398.1
47.5°	466.4	457.0	418.1	379.2	360.4
50°	425.2	416.9	381.6	342.7	322.7
52.5°	391.0	378.1	343.9	305.0	288.6
55°	351.0	340.4	308.6	272.1	257.9
57.5°	314.5	303.9	274.4	240.3	228.5
60°	280.3	265.0	240.3	210.8	201.4
62.5°	242.6	230.8	209.6	184.9	196.7
65°	208.5	196.7	177.8	181.4	150.8
67.5°	170.8	164.9	148.4	131.9	127.2
70°	139.0	131.9	126.0	108.4	103.6
72.5°	110.7	103.6	95.4	86.0	82.4
75°	83.6	77.7	73.0	69.5	76.6
77.5°	57.7	55.4	51.8	48.3	47.1
80°	37.7	36.5	35.3	34.2	33.0
82.5°	22.4	22.4	22.4	22.4	22.4
85°	11.8	13.0	14.1	15.3	16.5
87.5°	7.1	7.1	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)