

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: P546198

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-93-97-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: P546198
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-LD4-2HI-50-UNV-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

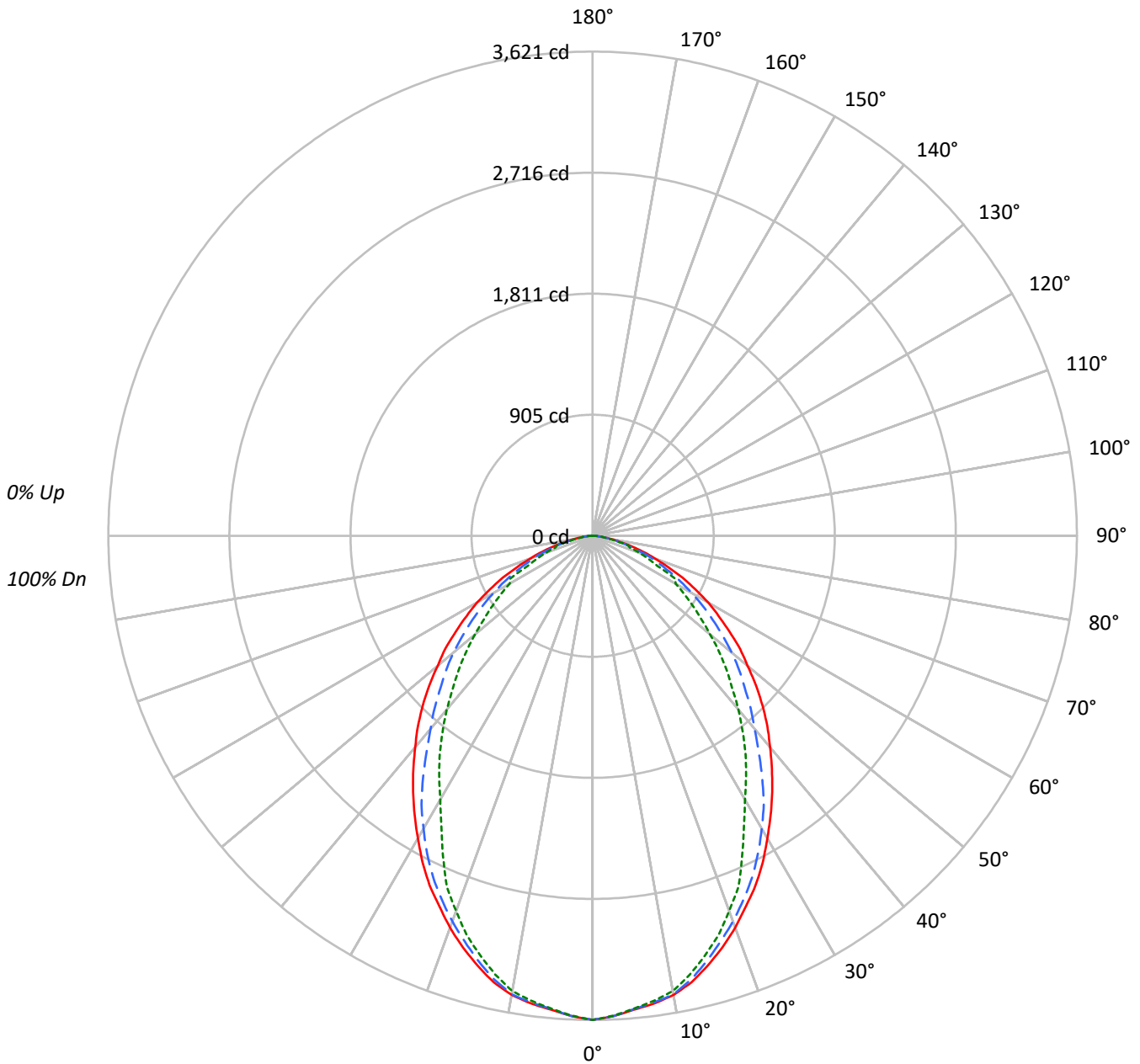
Lumens per Lamp: N/A
Luminaire Lumens: 7108.0 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	9743	9743	9743
5°	9611	9599	9588
10°	9528	9516	9448
15°	9271	9177	9049
20°	8930	8786	8547
25°	8563	8377	7855
30°	8116	7856	7076
35°	7687	7260	6545
40°	7249	6617	5955
45°	6834	6117	5384
50°	6326	5678	4801
55°	5852	5145	4301
60°	5362	4596	3852
65°	4718	4025	3412
70°	3886	3524	2899
75°	3090	2698	2829
80°	2075	1946	1816
85°	1294	1550	1809



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	337.0	4.7
10°-20°	925.0	13.0
20°-30°	1280.6	18.0
30°-40°	1365.5	19.2
40°-50°	1245.7	17.5
50°-60°	975.9	13.7
60°-70°	636.1	8.9
70°-80°	281.8	4.0
80°-90°	60.5	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°	2542.6	35.8
0°-40°	3908.1	55.0
0°-60°	6129.7	86.2
0°-90°	7108.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7108.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3621	3621	3621	3621	3621	
5°	3558	3554	3554	3550	3550	338
15°	3328	3328	3294	3261	3248	936
25°	2884	2867	2821	2721	2645	1324
35°	2340	2323	2210	2043	1992	1463
45°	1796	1758	1607	1473	1415	1383
55°	1247	1210	1097	967	917	1119
65°	741	699	632	645	536	730
75°	297	276	260	247	272	319
85°	42	46	50	54	59	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3620.7	3620.7	3620.7	3620.7	3620.7
2.5°	3595.6	3595.6	3595.6	3591.4	3591.4
5°	3557.9	3553.7	3553.7	3549.6	3549.6
7.5°	3528.6	3524.4	3520.3	3516.1	3507.7
10°	3486.8	3486.8	3482.6	3461.7	3457.5
12.5°	3419.8	3415.6	3398.9	3369.6	3361.2
15°	3327.7	3327.7	3294.2	3260.7	3248.2
17.5°	3227.3	3223.1	3181.2	3147.7	3131.0
20°	3118.4	3110.1	3068.2	3013.8	2984.5
22.5°	2997.0	2997.0	2946.8	2875.6	2846.3
25°	2884.0	2867.3	2821.2	2720.8	2645.4
27.5°	2754.3	2729.1	2678.9	2536.6	2448.7
30°	2611.9	2599.4	2528.2	2344.1	2277.1
32.5°	2478.0	2457.1	2381.7	2189.2	2134.8
35°	2339.9	2323.1	2210.1	2042.7	1992.4
37.5°	2201.7	2180.8	2038.5	1904.5	1841.8
40°	2063.6	2038.5	1883.6	1762.2	1695.3
42.5°	1933.8	1900.4	1749.7	1619.9	1544.6
45°	1795.7	1758.0	1607.3	1473.4	1414.8
47.5°	1657.6	1624.1	1486.0	1347.8	1280.9
50°	1511.1	1481.8	1356.2	1218.1	1146.9
52.5°	1389.7	1343.6	1222.3	1084.1	1025.5
55°	1247.4	1209.7	1096.7	966.9	916.7
57.5°	1117.6	1079.9	975.3	853.9	812.0
60°	996.2	941.8	853.9	749.3	715.8
62.5°	862.3	820.4	745.1	657.2	699.0
65°	740.9	699.0	632.1	644.6	535.8
67.5°	606.9	586.0	527.4	468.8	452.1
70°	493.9	468.8	447.9	385.1	368.4
72.5°	393.5	368.4	339.1	305.6	293.0
75°	297.2	276.3	259.5	247.0	272.1
77.5°	205.1	196.7	184.2	171.6	167.4
80°	133.9	129.8	125.6	121.4	117.2
82.5°	79.5	79.5	79.5	79.5	79.5
85°	41.9	46.0	50.2	54.4	58.6
87.5°	25.1	25.1	29.3	33.5	37.7
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)