

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: P546188

Luminaire Tested: **FMR-12-4-LD4-2HI-50-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: P546188
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-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

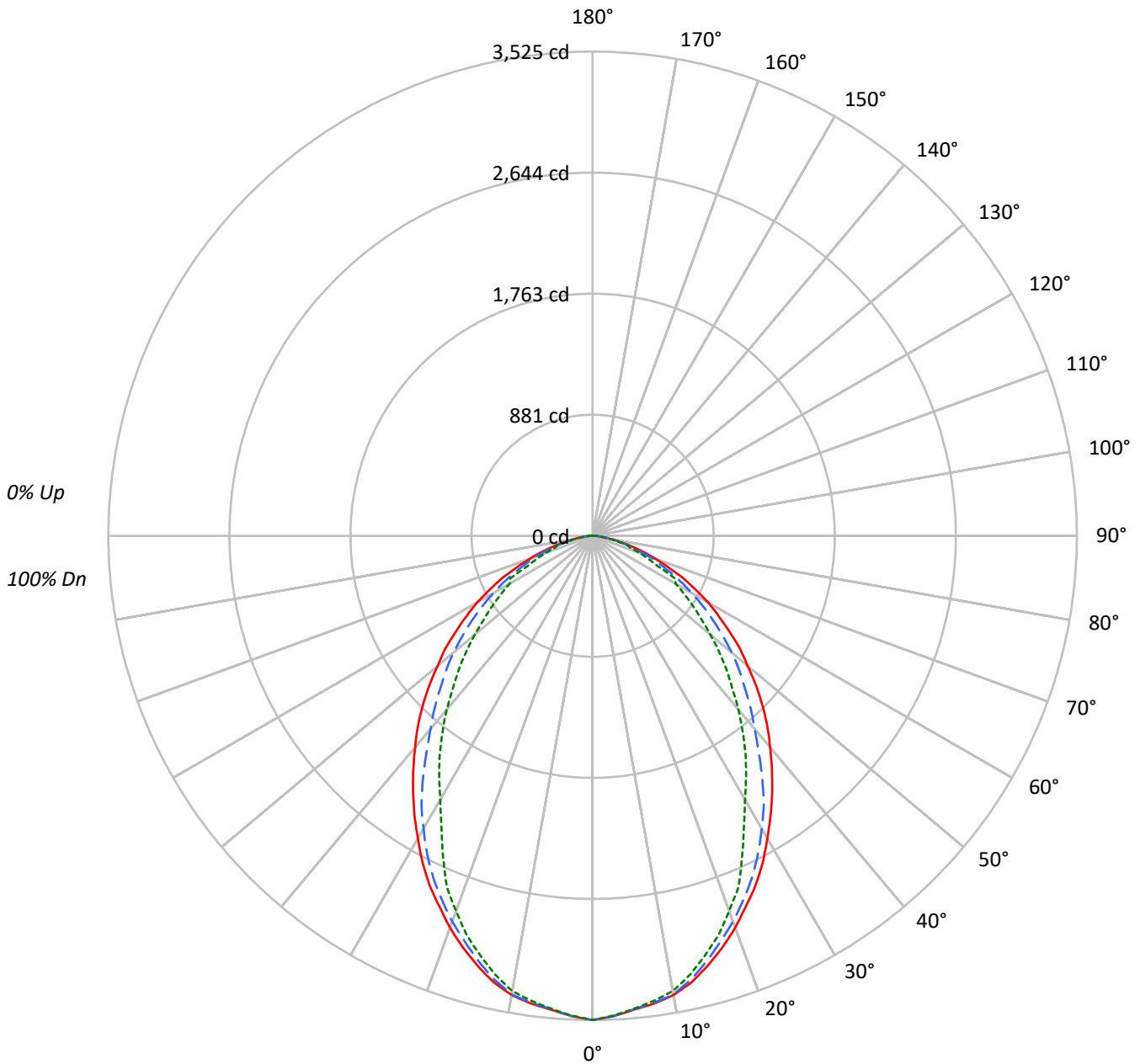
Lumens per Lamp: N/A
Luminaire Lumens: 6920.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9486	9486	9486
5°	9357	9346	9335
10°	9276	9265	9198
15°	9026	8935	8810
20°	8694	8554	8320
25°	8337	8155	7647
30°	7901	7648	6889
35°	7483	7068	6372
40°	7057	6442	5798
45°	6653	5955	5242
50°	6159	5527	4675
55°	5697	5009	4187
60°	5220	4474	3750
65°	4593	3918	3321
70°	3784	3430	2821
75°	3008	2627	2754
80°	2021	1895	1768
85°	1260	1510	1763



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.1	4.7
10°-20°	900.5	13.0
20°-30°	1246.7	18.0
30°-40°	1329.3	19.2
40°-50°	1212.8	17.5
50°-60°	950.1	13.7
60°-70°	619.2	8.9
70°-80°	274.4	4.0
80°-90°	58.9	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°	2475.3	35.8
0°-40°	3804.7	55.0
0°-60°	5967.5	86.2
0°-90°	6920.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6920.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3525	3525	3525	3525	3525	
5°	3464	3460	3460	3456	3456	329
15°	3240	3240	3207	3174	3162	911
25°	2808	2791	2747	2649	2576	1289
35°	2278	2262	2152	1989	1940	1424
45°	1748	1712	1565	1434	1377	1347
55°	1214	1178	1068	941	892	1089
65°	721	680	615	628	522	711
75°	289	269	253	240	265	310
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3525.0	3525.0	3525.0	3525.0	3525.0
2.5°	3500.5	3500.5	3500.5	3496.4	3496.4
5°	3463.8	3459.8	3459.8	3455.7	3455.7
7.5°	3435.3	3431.2	3427.2	3423.1	3414.9
10°	3394.6	3394.6	3390.5	3370.1	3366.0
12.5°	3329.4	3325.3	3309.0	3280.4	3272.3
15°	3239.7	3239.7	3207.1	3174.5	3162.3
17.5°	3141.9	3137.8	3097.1	3064.5	3048.2
20°	3035.9	3027.8	2987.0	2934.1	2905.5
22.5°	2917.8	2917.8	2868.9	2799.6	2771.1
25°	2807.7	2791.4	2746.6	2648.8	2575.5
27.5°	2681.4	2657.0	2608.1	2469.5	2383.9
30°	2542.9	2530.6	2461.4	2282.1	2216.9
32.5°	2412.5	2392.1	2318.7	2131.3	2078.3
35°	2278.0	2261.7	2151.6	1988.6	1939.7
37.5°	2143.5	2123.1	1984.6	1854.2	1793.0
40°	2009.0	1984.6	1833.8	1715.6	1650.4
42.5°	1882.7	1850.1	1703.4	1577.1	1503.7
45°	1748.2	1711.5	1564.8	1434.4	1377.4
47.5°	1613.7	1581.1	1446.7	1312.2	1247.0
50°	1471.1	1442.6	1320.3	1185.9	1116.6
52.5°	1352.9	1308.1	1189.9	1055.4	998.4
55°	1214.4	1177.7	1067.7	941.3	892.4
57.5°	1088.0	1051.4	949.5	831.3	790.6
60°	969.9	916.9	831.3	729.4	696.8
62.5°	839.5	798.7	725.4	639.8	680.5
65°	721.3	680.5	615.3	627.6	521.6
67.5°	590.9	570.5	513.5	456.4	440.1
70°	480.9	456.4	436.0	374.9	358.6
72.5°	383.1	358.6	330.1	297.5	285.3
75°	289.3	269.0	252.7	240.4	264.9
77.5°	199.7	191.5	179.3	167.1	163.0
80°	130.4	126.3	122.3	118.2	114.1
82.5°	77.4	77.4	77.4	77.4	77.4
85°	40.8	44.8	48.9	53.0	57.1
87.5°	24.5	24.5	28.5	32.6	36.7
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)