

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: P546103

Luminaire Tested: **FMR-12-4-LD4-2HI-35-UNV-80-84-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: P546103
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-35-UNV-80-84-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

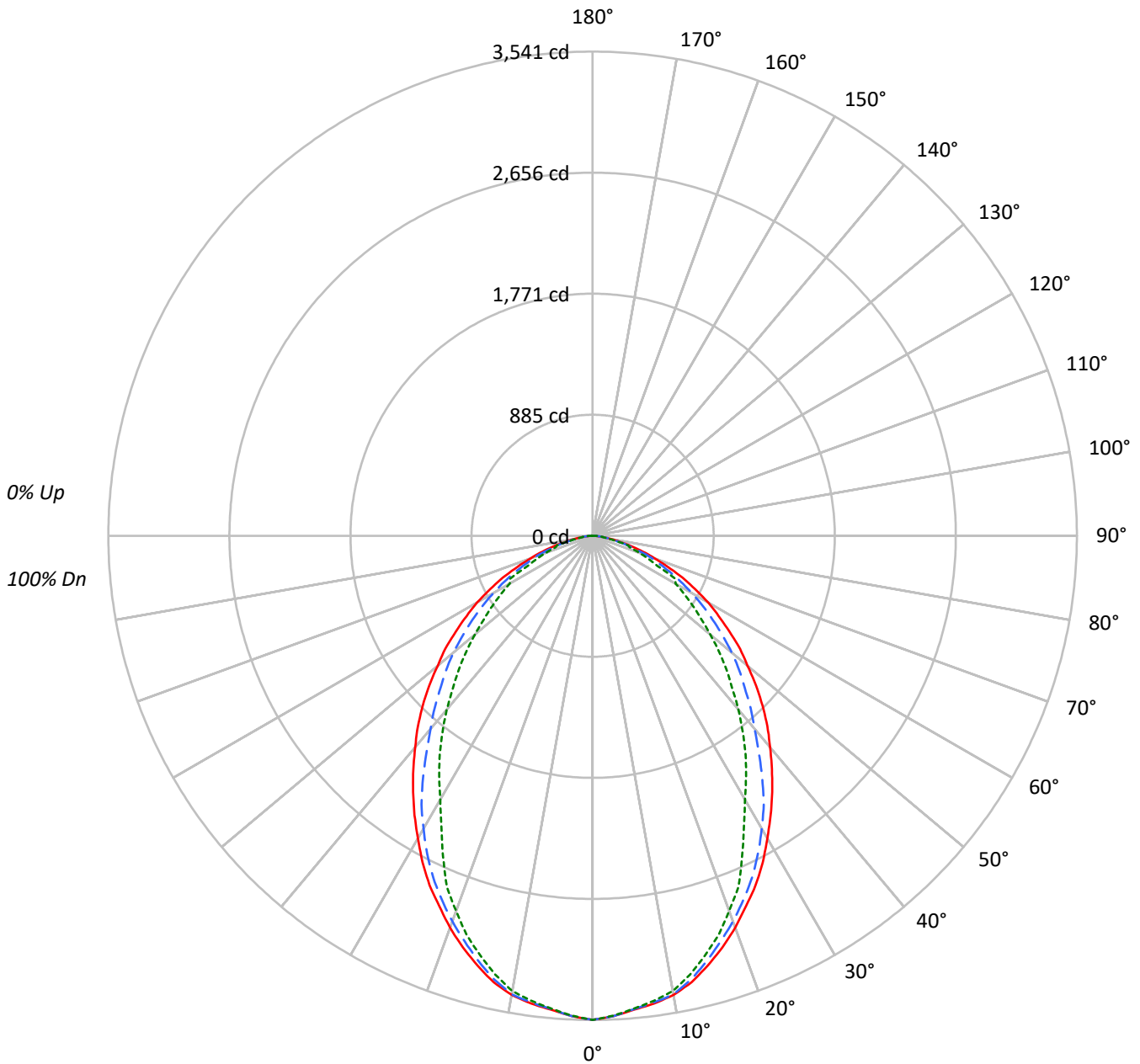
Lumens per Lamp: N/A
Luminaire Lumens: 6951.0 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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°	9528	9528	9528
5°	9398	9388	9377
10°	9317	9306	9239
15°	9066	8975	8849
20°	8733	8592	8358
25°	8374	8192	7681
30°	7937	7682	6919
35°	7517	7100	6401
40°	7089	6471	5824
45°	6683	5982	5265
50°	6186	5552	4695
55°	5723	5032	4206
60°	5243	4494	3767
65°	4613	3936	3336
70°	3800	3446	2834
75°	3021	2639	2767
80°	2030	1903	1776
85°	1263	1516	1769



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.6	4.7
10°-20°	904.5	13.0
20°-30°	1252.3	18.0
30°-40°	1335.3	19.2
40°-50°	1218.2	17.5
50°-60°	954.4	13.7
60°-70°	622.0	8.9
70°-80°	275.6	4.0
80°-90°	59.2	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°	2486.4	35.8
0°-40°	3821.7	55.0
0°-60°	5994.3	86.2
0°-90°	6951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3541	3541	3541	3541	3541	
5°	3479	3475	3475	3471	3471	330
15°	3254	3254	3222	3189	3176	915
25°	2820	2804	2759	2661	2587	1295
35°	2288	2272	2161	1998	1948	1431
45°	1756	1719	1572	1441	1384	1353
55°	1220	1183	1072	946	896	1094
65°	724	684	618	630	524	714
75°	291	270	254	242	266	311
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°	3540.7	3540.7	3540.7	3540.7	3540.7
2.5°	3516.2	3516.2	3516.2	3512.1	3512.1
5°	3479.3	3475.3	3475.3	3471.2	3471.2
7.5°	3450.7	3446.6	3442.5	3438.4	3430.2
10°	3409.8	3409.8	3405.7	3385.2	3381.1
12.5°	3344.3	3340.2	3323.8	3295.1	3287.0
15°	3254.2	3254.2	3221.5	3188.7	3176.4
17.5°	3156.0	3151.9	3110.9	3078.2	3061.8
20°	3049.5	3041.4	3000.4	2947.2	2918.6
22.5°	2930.8	2930.8	2881.7	2812.1	2783.5
25°	2820.3	2803.9	2758.9	2660.7	2587.0
27.5°	2693.4	2668.9	2619.7	2480.6	2394.6
30°	2554.2	2542.0	2472.4	2292.3	2226.8
32.5°	2423.3	2402.8	2329.1	2140.8	2087.6
35°	2288.2	2271.8	2161.3	1997.6	1948.4
37.5°	2153.1	2132.6	1993.5	1862.5	1801.1
40°	2018.0	1993.5	1842.0	1723.3	1657.8
42.5°	1891.1	1858.4	1711.0	1584.1	1510.4
45°	1756.0	1719.2	1571.8	1440.9	1383.6
47.5°	1621.0	1588.2	1453.1	1318.1	1252.6
50°	1477.7	1449.0	1326.2	1191.2	1121.6
52.5°	1359.0	1314.0	1195.3	1060.2	1002.9
55°	1219.8	1183.0	1072.5	945.6	896.4
57.5°	1092.9	1056.1	953.8	835.0	794.1
60°	974.2	921.0	835.0	732.7	700.0
62.5°	843.2	802.3	728.6	642.7	683.6
65°	724.5	683.6	618.1	630.4	523.9
67.5°	593.5	573.1	515.8	458.5	442.1
70°	483.0	458.5	438.0	376.6	360.2
72.5°	384.8	360.2	331.6	298.8	286.5
75°	290.6	270.2	253.8	241.5	266.1
77.5°	200.6	192.4	180.1	167.8	163.7
80°	131.0	126.9	122.8	118.7	114.6
82.5°	77.8	77.8	77.8	77.8	77.8
85°	40.9	45.0	49.1	53.2	57.3
87.5°	24.6	24.6	28.7	32.7	36.8
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)