

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: P546170

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-80-87-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: P546170
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-80-87-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

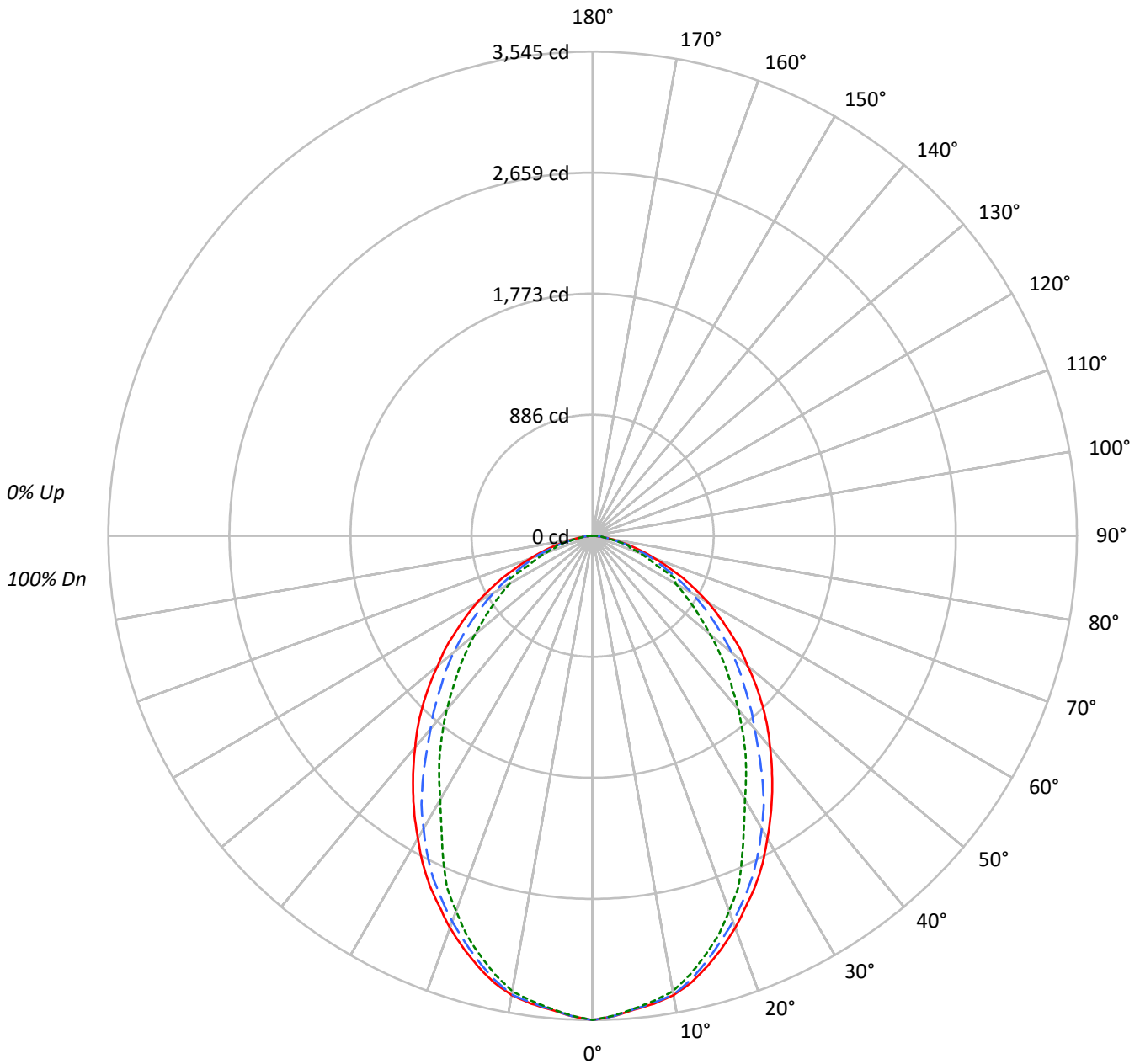
Lumens per Lamp: N/A
Luminaire Lumens: 6960.0 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9540	9540	9540
5°	9411	9400	9389
10°	9329	9318	9251
15°	9078	8986	8861
20°	8744	8603	8369
25°	8385	8202	7691
30°	7947	7692	6928
35°	7526	7109	6409
40°	7098	6479	5831
45°	6691	5990	5272
50°	6194	5560	4701
55°	5730	5038	4211
60°	5250	4500	3772
65°	4620	3941	3340
70°	3805	3451	2838
75°	3026	2642	2770
80°	2033	1906	1779
85°	1266	1519	1772



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.0	4.7
10°-20°	905.7	13.0
20°-30°	1253.9	18.0
30°-40°	1337.0	19.2
40°-50°	1219.8	17.5
50°-60°	955.6	13.7
60°-70°	622.8	8.9
70°-80°	275.9	4.0
80°-90°	59.3	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°	2489.6	35.8
0°-40°	3826.7	55.0
0°-60°	6002.0	86.2
0°-90°	6960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6960.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3545	3545	3545	3545	3545	
5°	3484	3480	3480	3476	3476	331
15°	3258	3258	3226	3193	3181	916
25°	2824	2808	2762	2664	2590	1296
35°	2291	2275	2164	2000	1951	1432
45°	1758	1721	1574	1443	1385	1354
55°	1221	1184	1074	947	898	1096
65°	726	684	619	631	525	715
75°	291	270	254	242	266	312
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°	3545.3	3545.3	3545.3	3545.3	3545.3
2.5°	3520.7	3520.7	3520.7	3516.6	3516.6
5°	3483.9	3479.8	3479.8	3475.7	3475.7
7.5°	3455.2	3451.1	3447.0	3442.9	3434.7
10°	3414.2	3414.2	3410.1	3389.6	3385.5
12.5°	3348.6	3344.5	3328.1	3299.4	3291.2
15°	3258.4	3258.4	3225.6	3192.8	3180.6
17.5°	3160.1	3156.0	3115.0	3082.2	3065.8
20°	3053.5	3045.3	3004.3	2951.0	2922.3
22.5°	2934.6	2934.6	2885.4	2815.8	2787.1
25°	2824.0	2807.6	2762.5	2664.1	2590.3
27.5°	2696.9	2672.3	2623.1	2483.8	2397.7
30°	2557.6	2545.3	2475.6	2295.2	2229.7
32.5°	2426.4	2405.9	2332.1	2143.6	2090.3
35°	2291.1	2274.7	2164.1	2000.1	1951.0
37.5°	2155.9	2135.4	1996.0	1864.9	1803.4
40°	2020.6	1996.0	1844.4	1725.5	1660.0
42.5°	1893.6	1860.8	1713.2	1586.2	1512.4
45°	1758.3	1721.4	1573.9	1442.7	1385.3
47.5°	1623.1	1590.3	1455.0	1319.8	1254.2
50°	1479.6	1450.9	1328.0	1192.7	1123.0
52.5°	1360.8	1315.7	1196.8	1061.5	1004.2
55°	1221.4	1184.5	1073.8	946.8	897.6
57.5°	1094.3	1057.5	955.0	836.1	795.1
60°	975.5	922.2	836.1	733.7	700.9
62.5°	844.3	803.3	729.6	643.5	684.5
65°	725.5	684.5	618.9	631.2	524.6
67.5°	594.3	573.8	516.4	459.0	442.7
70°	483.6	459.0	438.6	377.1	360.7
72.5°	385.3	360.7	332.0	299.2	286.9
75°	291.0	270.5	254.1	241.8	266.4
77.5°	200.8	192.6	180.3	168.0	163.9
80°	131.2	127.1	123.0	118.9	114.8
82.5°	77.9	77.9	77.9	77.9	77.9
85°	41.0	45.1	49.2	53.3	57.4
87.5°	24.6	24.6	28.7	32.8	36.9
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)