

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: P546194

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-93-87-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: P546194
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-93-87-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

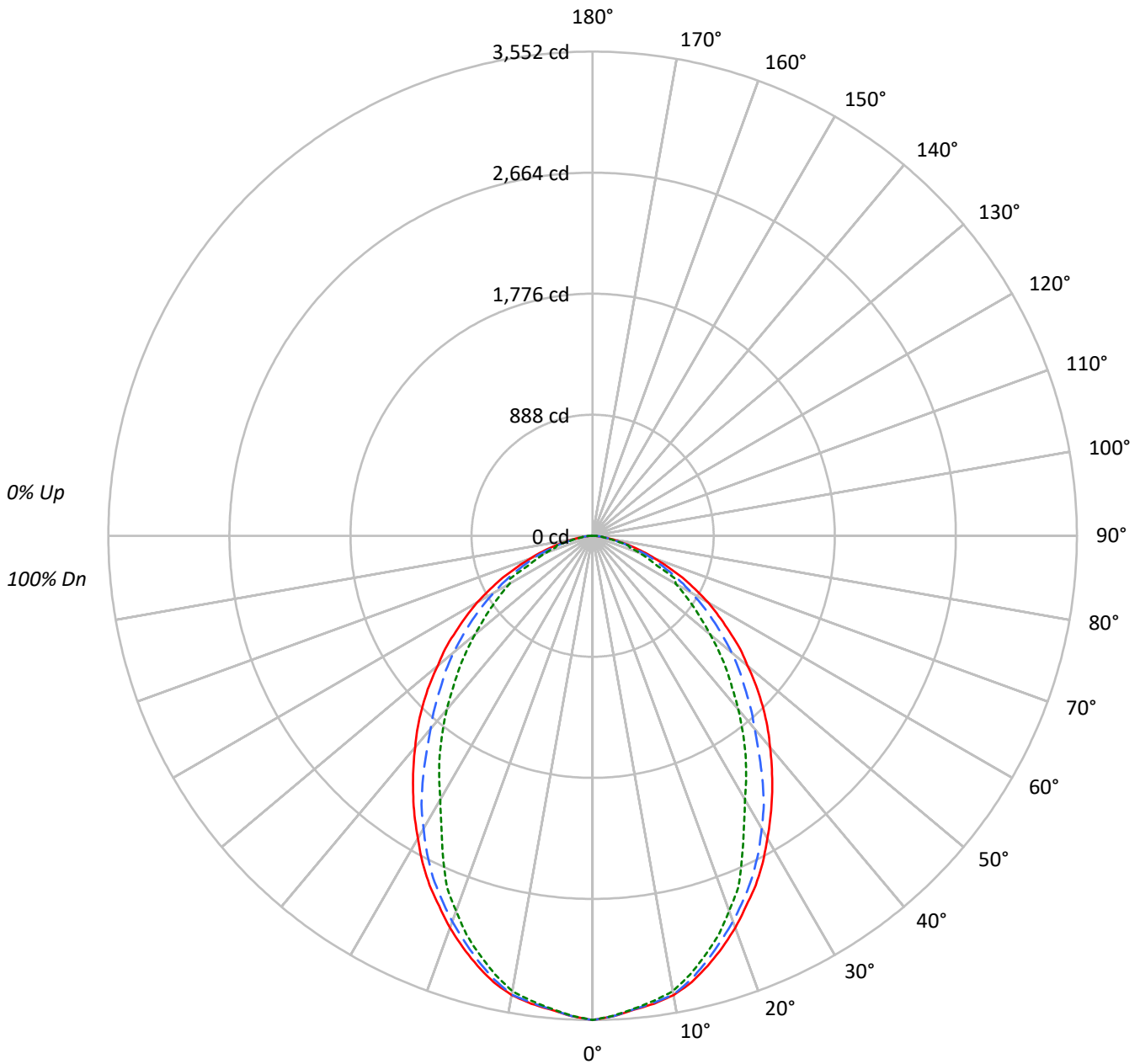
Lumens per Lamp: N/A
Luminaire Lumens: 6974.0 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9560	9560	9560
5°	9430	9419	9407
10°	9348	9337	9269
15°	9096	9004	8878
20°	8762	8621	8385
25°	8402	8219	7707
30°	7963	7708	6942
35°	7542	7123	6422
40°	7112	6492	5843
45°	6705	6001	5283
50°	6207	5570	4711
55°	5742	5048	4220
60°	5260	4509	3780
65°	4628	3948	3347
70°	3813	3457	2843
75°	3032	2647	2775
80°	2036	1909	1782
85°	1269	1522	1775



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.7	4.7
10°-20°	907.5	13.0
20°-30°	1256.4	18.0
30°-40°	1339.7	19.2
40°-50°	1222.2	17.5
50°-60°	957.5	13.7
60°-70°	624.1	8.9
70°-80°	276.5	4.0
80°-90°	59.4	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°	2494.7	35.8
0°-40°	3834.4	55.0
0°-60°	6014.1	86.2
0°-90°	6974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6974.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3552	3552	3552	3552	3552	
5°	3491	3487	3487	3483	3483	331
15°	3265	3265	3232	3199	3187	918
25°	2830	2813	2768	2670	2596	1299
35°	2296	2279	2168	2004	1955	1435
45°	1762	1725	1577	1446	1388	1357
55°	1224	1187	1076	949	899	1098
65°	727	686	620	632	526	716
75°	292	271	255	242	267	312
85°	41	45	49	53	58	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3552.5	3552.5	3552.5	3552.5	3552.5
2.5°	3527.8	3527.8	3527.8	3523.7	3523.7
5°	3490.9	3486.8	3486.8	3482.6	3482.6
7.5°	3462.1	3458.0	3453.9	3449.8	3441.6
10°	3421.0	3421.0	3416.9	3396.4	3392.3
12.5°	3355.3	3351.2	3334.8	3306.0	3297.8
15°	3265.0	3265.0	3232.1	3199.3	3186.9
17.5°	3166.4	3162.3	3121.2	3088.4	3072.0
20°	3059.6	3051.4	3010.4	2957.0	2928.2
22.5°	2940.5	2940.5	2891.3	2821.4	2792.7
25°	2829.6	2813.2	2768.0	2669.5	2595.6
27.5°	2702.3	2677.7	2628.4	2488.8	2402.5
30°	2562.7	2550.4	2480.6	2299.9	2234.1
32.5°	2431.3	2410.7	2336.8	2147.9	2094.5
35°	2295.8	2279.3	2168.4	2004.2	1954.9
37.5°	2160.2	2139.7	2000.1	1868.6	1807.0
40°	2024.7	2000.1	1848.1	1729.0	1663.3
42.5°	1897.4	1864.5	1716.7	1589.4	1515.4
45°	1761.9	1724.9	1577.0	1445.6	1388.1
47.5°	1626.3	1593.5	1457.9	1322.4	1256.7
50°	1482.6	1453.8	1330.6	1195.1	1125.3
52.5°	1363.5	1318.3	1199.2	1063.7	1006.2
55°	1223.9	1186.9	1076.0	948.7	899.4
57.5°	1096.5	1059.6	956.9	837.8	796.7
60°	977.4	924.1	837.8	735.1	702.3
62.5°	846.0	805.0	731.0	644.8	685.9
65°	726.9	685.9	620.1	632.5	525.7
67.5°	595.5	575.0	517.5	460.0	443.5
70°	484.6	460.0	439.4	377.8	361.4
72.5°	386.0	361.4	332.7	299.8	287.5
75°	291.6	271.1	254.6	242.3	266.9
77.5°	201.2	193.0	180.7	168.4	164.3
80°	131.4	127.3	123.2	119.1	115.0
82.5°	78.0	78.0	78.0	78.0	78.0
85°	41.1	45.2	49.3	53.4	57.5
87.5°	24.6	24.6	28.7	32.9	37.0
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)