

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: P546185

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-82-86-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: P546185
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-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

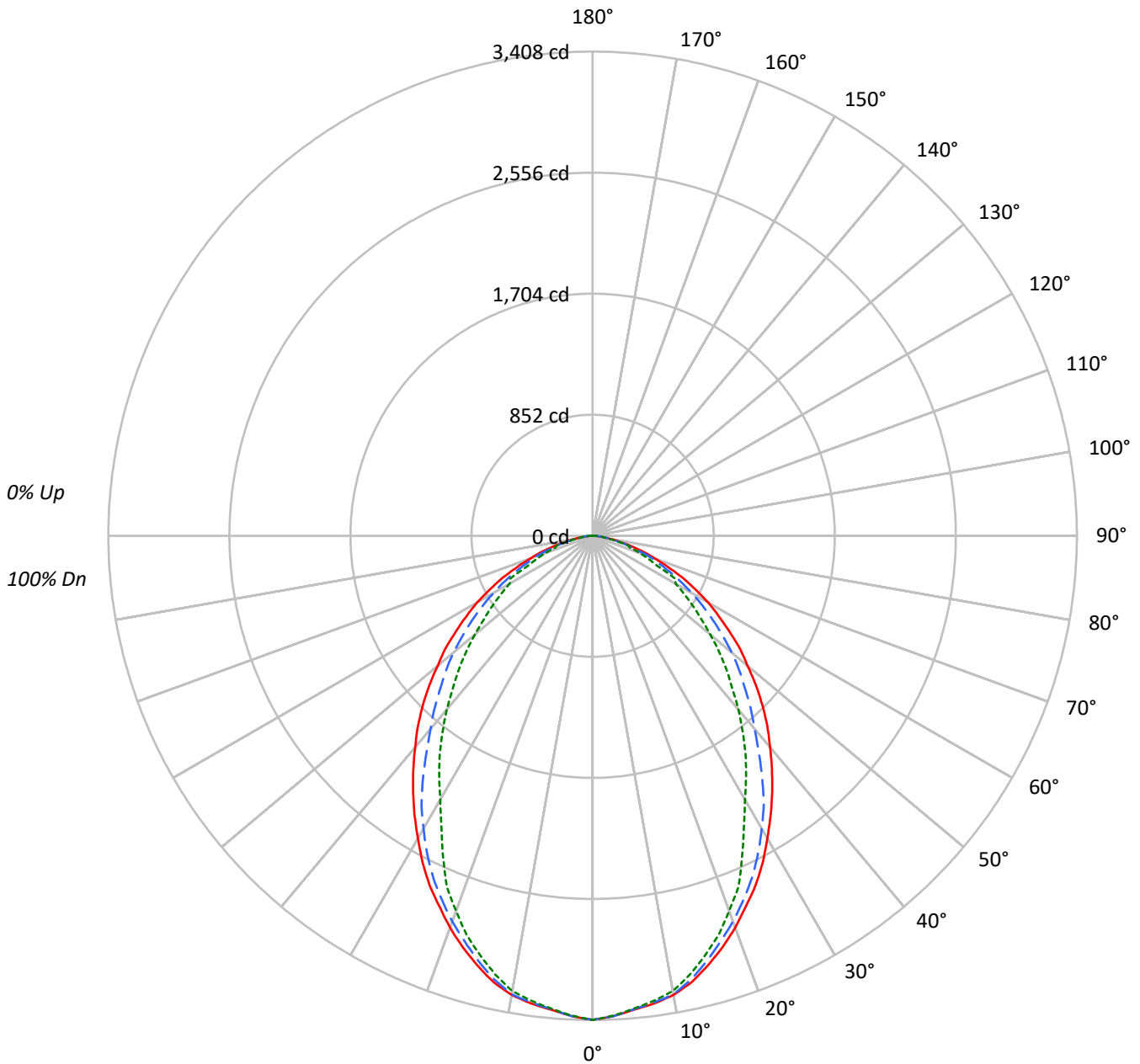
Lumens per Lamp: N/A
Luminaire Lumens: 6690.0 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9170	9170	9170
5°	9046	9035	9024
10°	8967	8957	8892
15°	8725	8638	8517
20°	8405	8270	8044
25°	8060	7884	7393
30°	7639	7394	6660
35°	7235	6833	6161
40°	6823	6228	5605
45°	6432	5757	5068
50°	5954	5344	4519
55°	5508	4843	4048
60°	5046	4325	3626
65°	4440	3788	3211
70°	3658	3316	2728
75°	2908	2540	2663
80°	1954	1832	1709
85°	1216	1460	1704



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.2	4.7
10°-20°	870.6	13.0
20°-30°	1205.3	18.0
30°-40°	1285.2	19.2
40°-50°	1172.4	17.5
50°-60°	918.5	13.7
60°-70°	598.6	8.9
70°-80°	265.2	4.0
80°-90°	57.0	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°	2393.1	35.8
0°-40°	3678.2	55.0
0°-60°	5769.2	86.2
0°-90°	6690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6690.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3408	3408	3408	3408	3408	
5°	3349	3345	3345	3341	3341	318
15°	3132	3132	3100	3069	3057	880
25°	2714	2699	2655	2561	2490	1246
35°	2202	2186	2080	1922	1875	1377
45°	1690	1655	1513	1387	1332	1302
55°	1174	1139	1032	910	863	1053
65°	697	658	595	607	504	687
75°	280	260	244	232	256	300
85°	39	43	47	51	55	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3407.8	3407.8	3407.8	3407.8	3407.8
2.5°	3384.2	3384.2	3384.2	3380.2	3380.2
5°	3348.7	3344.8	3344.8	3340.8	3340.8
7.5°	3321.1	3317.2	3313.2	3309.3	3301.4
10°	3281.7	3281.7	3277.8	3258.1	3254.2
12.5°	3218.7	3214.8	3199.0	3171.4	3163.5
15°	3132.0	3132.0	3100.5	3069.0	3057.2
17.5°	3037.5	3033.5	2994.1	2962.6	2946.9
20°	2935.0	2927.2	2887.8	2836.5	2809.0
22.5°	2820.8	2820.8	2773.5	2706.5	2679.0
25°	2714.4	2698.7	2655.3	2560.8	2489.9
27.5°	2592.3	2568.7	2521.4	2387.4	2304.7
30°	2458.3	2446.5	2379.5	2206.2	2143.2
32.5°	2332.3	2312.6	2241.7	2060.4	2009.2
35°	2202.3	2186.5	2080.1	1922.5	1875.3
37.5°	2072.3	2052.6	1918.6	1792.5	1733.4
40°	1942.2	1918.6	1772.8	1658.6	1595.6
42.5°	1820.1	1788.6	1646.8	1524.6	1453.7
45°	1690.1	1654.7	1512.8	1386.8	1331.6
47.5°	1560.1	1528.6	1398.6	1268.6	1205.5
50°	1422.2	1394.6	1276.4	1146.4	1079.5
52.5°	1308.0	1264.6	1150.4	1020.4	965.2
55°	1174.0	1138.6	1032.2	910.1	862.8
57.5°	1051.9	1016.4	917.9	803.7	764.3
60°	937.6	886.4	803.7	705.2	673.7
62.5°	811.6	772.2	701.3	618.5	657.9
65°	697.3	657.9	594.9	606.7	504.3
67.5°	571.2	551.6	496.4	441.2	425.5
70°	464.9	441.2	421.5	362.4	346.7
72.5°	370.3	346.7	319.1	287.6	275.8
75°	279.7	260.0	244.3	232.4	256.1
77.5°	193.0	185.2	173.3	161.5	157.6
80°	126.1	122.1	118.2	114.2	110.3
82.5°	74.9	74.9	74.9	74.9	74.9
85°	39.4	43.3	47.3	51.2	55.2
87.5°	23.6	23.6	27.6	31.5	35.5
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)