

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: P546182

Luminaire Tested: **FMR-12-4-LD4-2HI-50-UNV-81-97-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: P546182
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-81-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

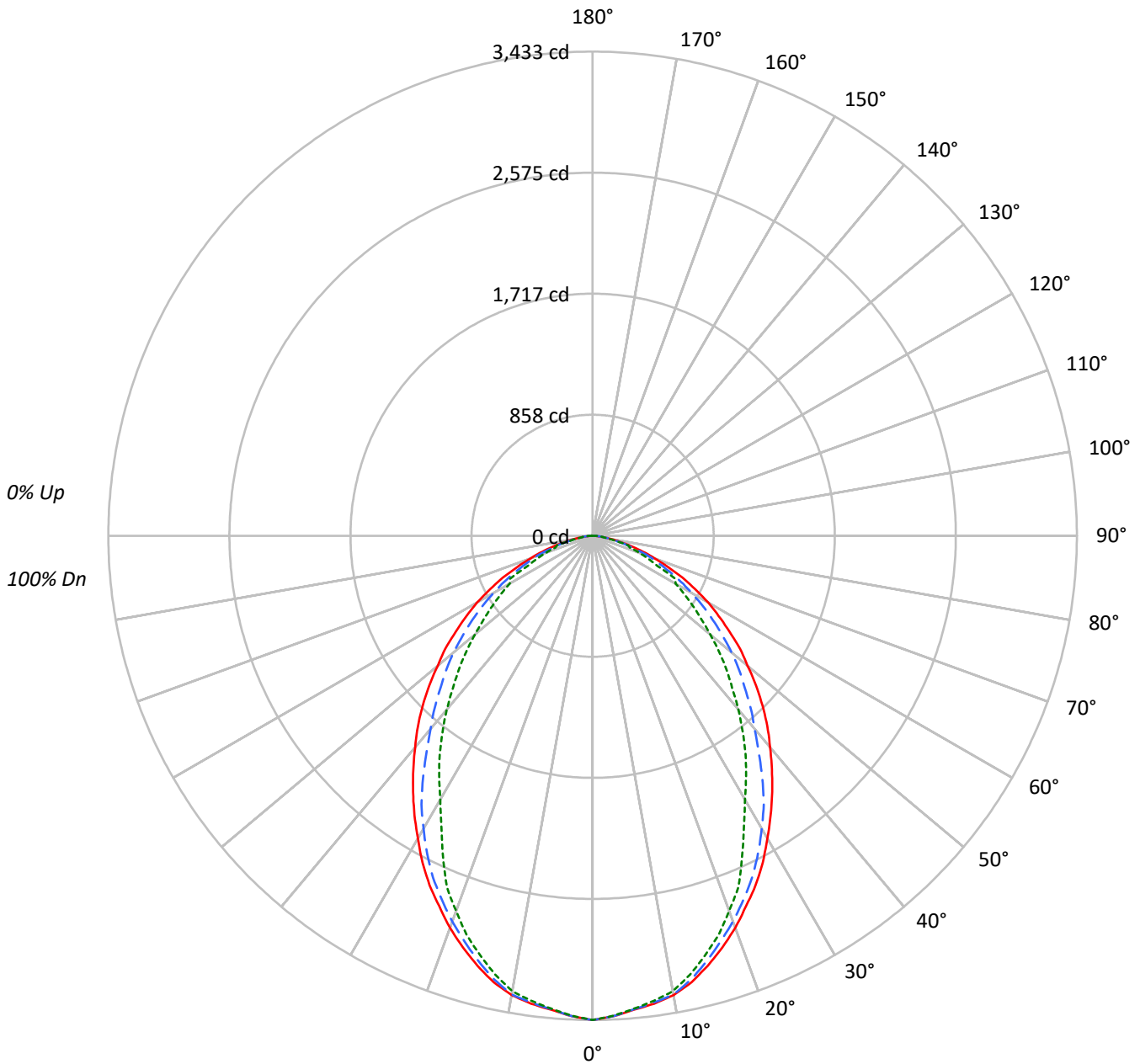
Lumens per Lamp: N/A
Luminaire Lumens: 6740.0 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9239	9239	9239
5°	9113	9103	9092
10°	9034	9024	8958
15°	8791	8702	8581
20°	8468	8331	8104
25°	8120	7943	7448
30°	7696	7449	6709
35°	7289	6885	6206
40°	6874	6274	5647
45°	6480	5800	5106
50°	5998	5384	4553
55°	5549	4879	4078
60°	5084	4358	3653
65°	4473	3816	3235
70°	3685	3341	2748
75°	2930	2559	2682
80°	1968	1846	1722
85°	1226	1470	1717



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.6	4.7
10°-20°	877.1	13.0
20°-30°	1214.3	18.0
30°-40°	1294.8	19.2
40°-50°	1181.2	17.5
50°-60°	925.4	13.7
60°-70°	603.1	8.9
70°-80°	267.2	4.0
80°-90°	57.4	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°	2411.0	35.8
0°-40°	3705.7	55.0
0°-60°	5812.3	86.2
0°-90°	6740.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6740.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3433	3433	3433	3433	3433	
5°	3374	3370	3370	3366	3366	320
15°	3155	3155	3124	3092	3080	887
25°	2735	2719	2675	2580	2508	1256
35°	2219	2203	2096	1937	1889	1387
45°	1703	1667	1524	1397	1342	1312
55°	1183	1147	1040	917	869	1061
65°	702	663	599	611	508	692
75°	282	262	246	234	258	302
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3433.3	3433.3	3433.3	3433.3	3433.3
2.5°	3409.5	3409.5	3409.5	3405.5	3405.5
5°	3373.7	3369.8	3369.8	3365.8	3365.8
7.5°	3345.9	3342.0	3338.0	3334.0	3326.1
10°	3306.3	3306.3	3302.3	3282.4	3278.5
12.5°	3242.7	3238.8	3222.9	3195.1	3187.2
15°	3155.4	3155.4	3123.7	3091.9	3080.0
17.5°	3060.2	3056.2	3016.5	2984.8	2968.9
20°	2957.0	2949.0	2909.3	2857.7	2830.0
22.5°	2841.9	2841.9	2794.2	2726.8	2699.0
25°	2734.7	2718.8	2675.2	2579.9	2508.5
27.5°	2611.7	2587.8	2540.2	2405.3	2321.9
30°	2476.7	2464.8	2397.3	2222.7	2159.2
32.5°	2349.7	2329.9	2258.4	2075.8	2024.2
35°	2218.7	2202.8	2095.7	1936.9	1889.3
37.5°	2087.7	2067.9	1932.9	1805.9	1746.4
40°	1956.8	1932.9	1786.1	1671.0	1607.5
42.5°	1833.7	1802.0	1659.1	1536.0	1464.6
45°	1702.7	1667.0	1524.1	1397.1	1341.6
47.5°	1571.8	1540.0	1409.0	1278.0	1214.5
50°	1432.8	1405.1	1286.0	1155.0	1087.5
52.5°	1317.7	1274.1	1159.0	1028.0	972.4
55°	1182.8	1147.1	1039.9	916.9	869.2
57.5°	1059.7	1024.0	924.8	809.7	770.0
60°	944.6	893.0	809.7	710.5	678.7
62.5°	817.6	777.9	706.5	623.1	662.8
65°	702.5	662.8	599.3	611.2	508.0
67.5°	575.5	555.7	500.1	444.5	428.7
70°	468.4	444.5	424.7	365.2	349.3
72.5°	373.1	349.3	321.5	289.7	277.8
75°	281.8	262.0	246.1	234.2	258.0
77.5°	194.5	186.5	174.6	162.7	158.8
80°	127.0	123.0	119.1	115.1	111.1
82.5°	75.4	75.4	75.4	75.4	75.4
85°	39.7	43.7	47.6	51.6	55.6
87.5°	23.8	23.8	27.8	31.8	35.7
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)