

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: P546166

Luminaire Tested: **FMR-12-4-LD4-2HI-40-UNV-93-97-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: P546166
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-40-UNV-93-97-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

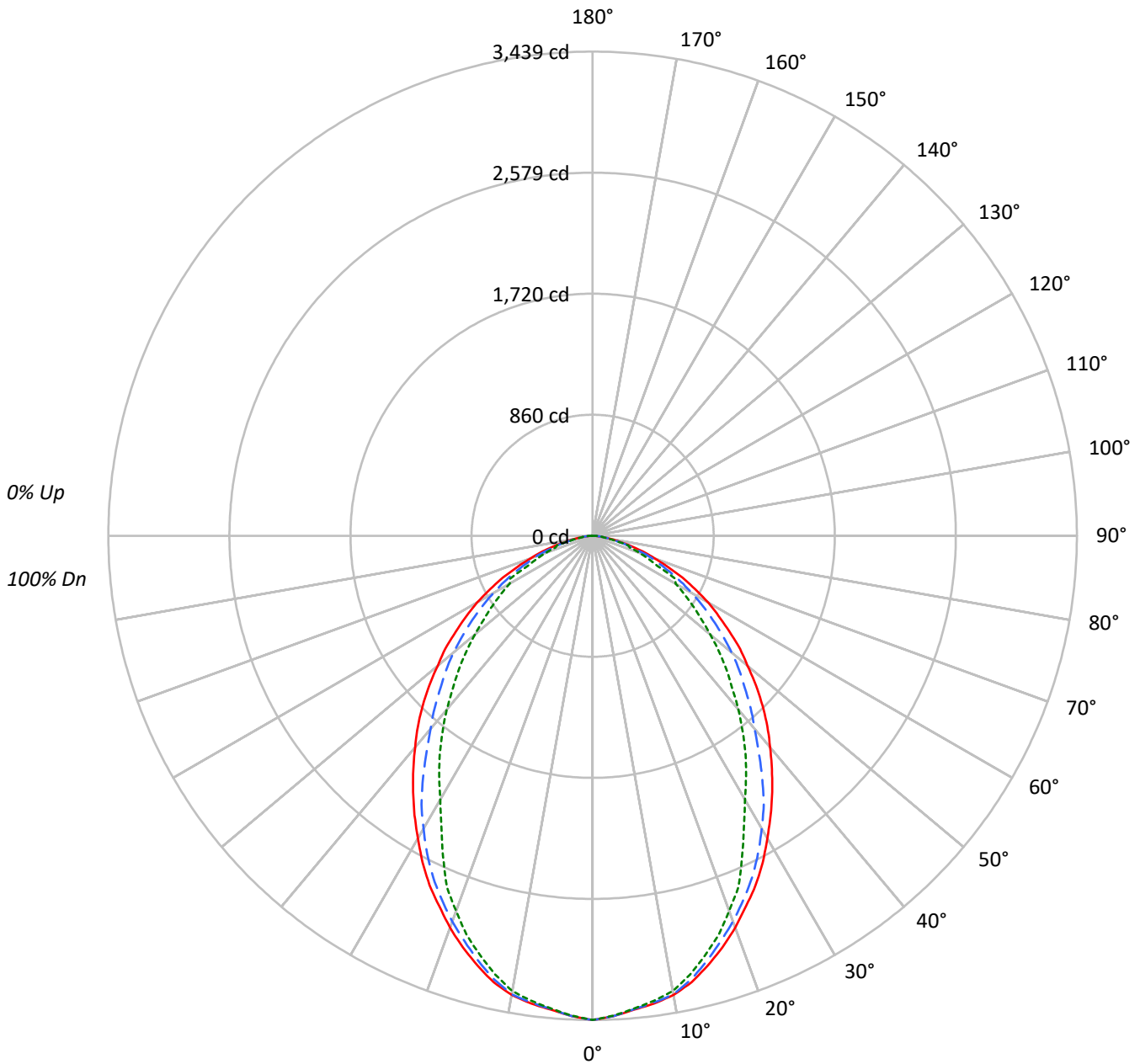
Lumens per Lamp: N/A
Luminaire Lumens: 6751.0 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	9254	9254	9254
5°	9128	9118	9107
10°	9049	9038	8973
15°	8805	8717	8595
20°	8482	8345	8117
25°	8133	7956	7460
30°	7709	7461	6720
35°	7300	6896	6217
40°	6885	6284	5656
45°	6490	5810	5114
50°	6008	5393	4560
55°	5558	4887	4085
60°	5092	4365	3659
65°	4481	3822	3240
70°	3691	3347	2753
75°	2935	2563	2687
80°	1971	1849	1725
85°	1229	1473	1720



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	320.1	4.7
10°-20°	878.5	13.0
20°-30°	1216.3	18.0
30°-40°	1296.9	19.2
40°-50°	1183.1	17.5
50°-60°	926.9	13.7
60°-70°	604.1	8.9
70°-80°	267.7	4.0
80°-90°	57.5	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°	2414.9	35.8
0°-40°	3711.8	55.0
0°-60°	5821.8	86.2
0°-90°	6751.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6751.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3439	3439	3439	3439	3439	
5°	3379	3375	3375	3371	3371	321
15°	3161	3161	3129	3097	3085	889
25°	2739	2723	2680	2584	2513	1258
35°	2222	2206	2099	1940	1892	1389
45°	1706	1670	1527	1399	1344	1314
55°	1185	1149	1042	918	871	1063
65°	704	664	600	612	509	693
75°	282	262	246	235	258	303
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°	3438.9	3438.9	3438.9	3438.9	3438.9
2.5°	3415.0	3415.0	3415.0	3411.0	3411.0
5°	3379.2	3375.3	3375.3	3371.3	3371.3
7.5°	3351.4	3347.4	3343.5	3339.5	3331.5
10°	3311.7	3311.7	3307.7	3287.8	3283.8
12.5°	3248.0	3244.1	3228.2	3200.3	3192.4
15°	3160.6	3160.6	3128.8	3097.0	3085.0
17.5°	3065.2	3061.2	3021.4	2989.6	2973.7
20°	2961.8	2953.8	2914.1	2862.4	2834.6
22.5°	2846.5	2846.5	2798.8	2731.2	2703.4
25°	2739.2	2723.3	2679.5	2584.1	2512.6
27.5°	2615.9	2592.1	2544.4	2409.2	2325.7
30°	2480.8	2468.8	2401.2	2226.3	2162.7
32.5°	2353.5	2333.7	2262.1	2079.2	2027.5
35°	2222.3	2206.4	2099.1	1940.1	1892.4
37.5°	2091.2	2071.3	1936.1	1808.9	1749.3
40°	1960.0	1936.1	1789.0	1673.7	1610.1
42.5°	1836.7	1804.9	1661.8	1538.5	1467.0
45°	1705.5	1669.7	1526.6	1399.4	1343.7
47.5°	1574.3	1542.5	1411.3	1280.1	1216.5
50°	1435.2	1407.4	1288.1	1156.9	1089.3
52.5°	1319.9	1276.2	1160.9	1029.7	974.0
55°	1184.7	1148.9	1041.6	918.4	870.7
57.5°	1061.5	1025.7	926.3	811.0	771.3
60°	946.2	894.5	811.0	711.6	679.8
62.5°	819.0	779.2	707.7	624.2	663.9
65°	703.7	663.9	600.3	612.2	508.9
67.5°	576.5	556.6	500.9	445.3	429.4
70°	469.1	445.3	425.4	365.8	349.9
72.5°	373.7	349.9	322.0	290.2	278.3
75°	282.3	262.4	246.5	234.6	258.4
77.5°	194.8	186.9	174.9	163.0	159.0
80°	127.2	123.2	119.3	115.3	111.3
82.5°	75.5	75.5	75.5	75.5	75.5
85°	39.8	43.7	47.7	51.7	55.7
87.5°	23.9	23.9	27.8	31.8	35.8
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)