

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: P545910

Luminaire Tested: **FMR-12-4-LD4-1HI-50-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: P545910
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-LD4-1HI-50-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 5000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

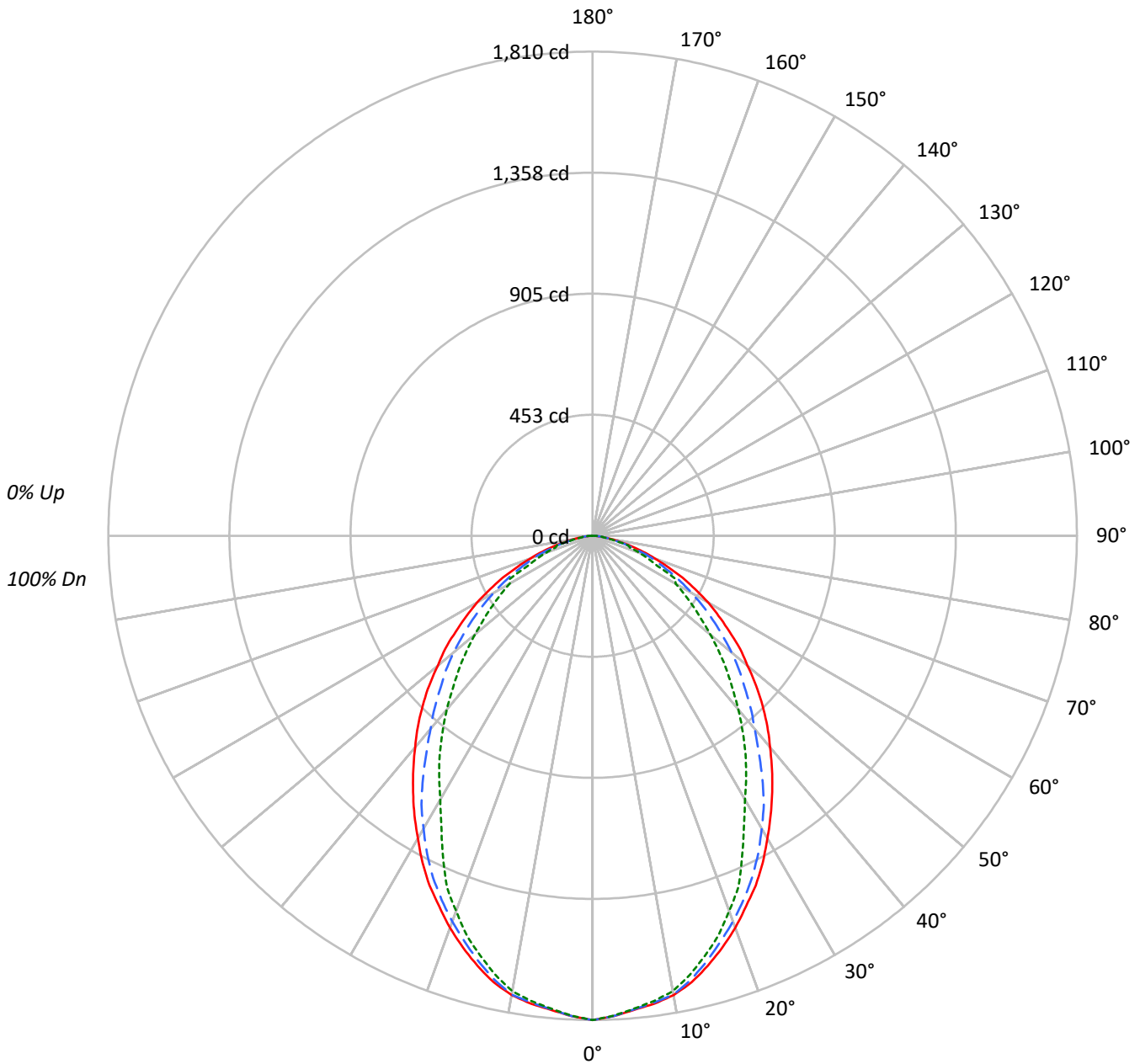
Lumens per Lamp: N/A
Luminaire Lumens: 3554.0 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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

TEST NUMBER: P545910

CATALOG NUMBER: FMR-12-4-LD4-1HI-50-UNV-93-97-EDD

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°	4872	4872	4872
5°	4806	4800	4794
10°	4764	4758	4724
15°	4635	4589	4525
20°	4465	4393	4273
25°	4282	4188	3927
30°	4058	3928	3538
35°	3843	3630	3273
40°	3625	3308	2977
45°	3417	3059	2692
50°	3163	2839	2401
55°	2926	2572	2150
60°	2681	2298	1926
65°	2358	2012	1706
70°	1943	1762	1449
75°	1545	1350	1414
80°	1038	973	908
85°	645	775	905



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.5	4.7
10°-20°	462.5	13.0
20°-30°	640.3	18.0
30°-40°	682.7	19.2
40°-50°	622.8	17.5
50°-60°	487.9	13.7
60°-70°	318.0	8.9
70°-80°	140.9	4.0
80°-90°	30.3	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°	1271.3	35.8
0°-40°	1954.0	55.0
0°-60°	3064.8	86.2
0°-90°	3554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1810	1810	1810	1810	1810	
5°	1779	1777	1777	1775	1775	169
15°	1664	1664	1647	1630	1624	468
25°	1442	1434	1411	1360	1323	662
35°	1170	1162	1105	1021	996	731
45°	898	879	804	737	707	692
55°	624	605	548	484	458	559
65°	370	350	316	322	268	365
75°	149	138	130	124	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1810.4	1810.4	1810.4	1810.4	1810.4
2.5°	1797.8	1797.8	1797.8	1795.7	1795.7
5°	1779.0	1776.9	1776.9	1774.8	1774.8
7.5°	1764.3	1762.2	1760.1	1758.0	1753.9
10°	1743.4	1743.4	1741.3	1730.8	1728.7
12.5°	1709.9	1707.8	1699.4	1684.8	1680.6
15°	1663.9	1663.9	1647.1	1630.4	1624.1
17.5°	1613.6	1611.5	1590.6	1573.9	1565.5
20°	1559.2	1555.0	1534.1	1506.9	1492.2
22.5°	1498.5	1498.5	1473.4	1437.8	1423.2
25°	1442.0	1433.6	1410.6	1360.4	1322.7
27.5°	1377.1	1364.6	1339.5	1268.3	1224.3
30°	1306.0	1299.7	1264.1	1172.0	1138.5
32.5°	1239.0	1228.5	1190.9	1094.6	1067.4
35°	1169.9	1161.6	1105.1	1021.3	996.2
37.5°	1100.9	1090.4	1019.2	952.3	920.9
40°	1031.8	1019.2	941.8	881.1	847.6
42.5°	966.9	950.2	874.8	810.0	772.3
45°	897.9	879.0	803.7	736.7	707.4
47.5°	828.8	812.0	743.0	673.9	640.4
50°	755.5	740.9	678.1	609.0	573.5
52.5°	694.8	671.8	611.1	542.1	512.8
55°	623.7	604.8	548.3	483.5	458.3
57.5°	558.8	540.0	487.6	427.0	406.0
60°	498.1	470.9	427.0	374.6	357.9
62.5°	431.1	410.2	372.5	328.6	349.5
65°	370.4	349.5	316.0	322.3	267.9
67.5°	303.5	293.0	263.7	234.4	226.0
70°	247.0	234.4	223.9	192.5	184.2
72.5°	196.7	184.2	169.5	152.8	146.5
75°	148.6	138.1	129.8	123.5	136.0
77.5°	102.6	98.4	92.1	85.8	83.7
80°	67.0	64.9	62.8	60.7	58.6
82.5°	39.8	39.8	39.8	39.8	39.8
85°	20.9	23.0	25.1	27.2	29.3
87.5°	12.6	12.6	14.7	16.7	18.8
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)