

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: P545621

Luminaire Tested: **FMR-12-2-LD4-2HI-50-UNV-93-96-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: P545621  
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-12-2-LD4-2HI-50-UNV-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

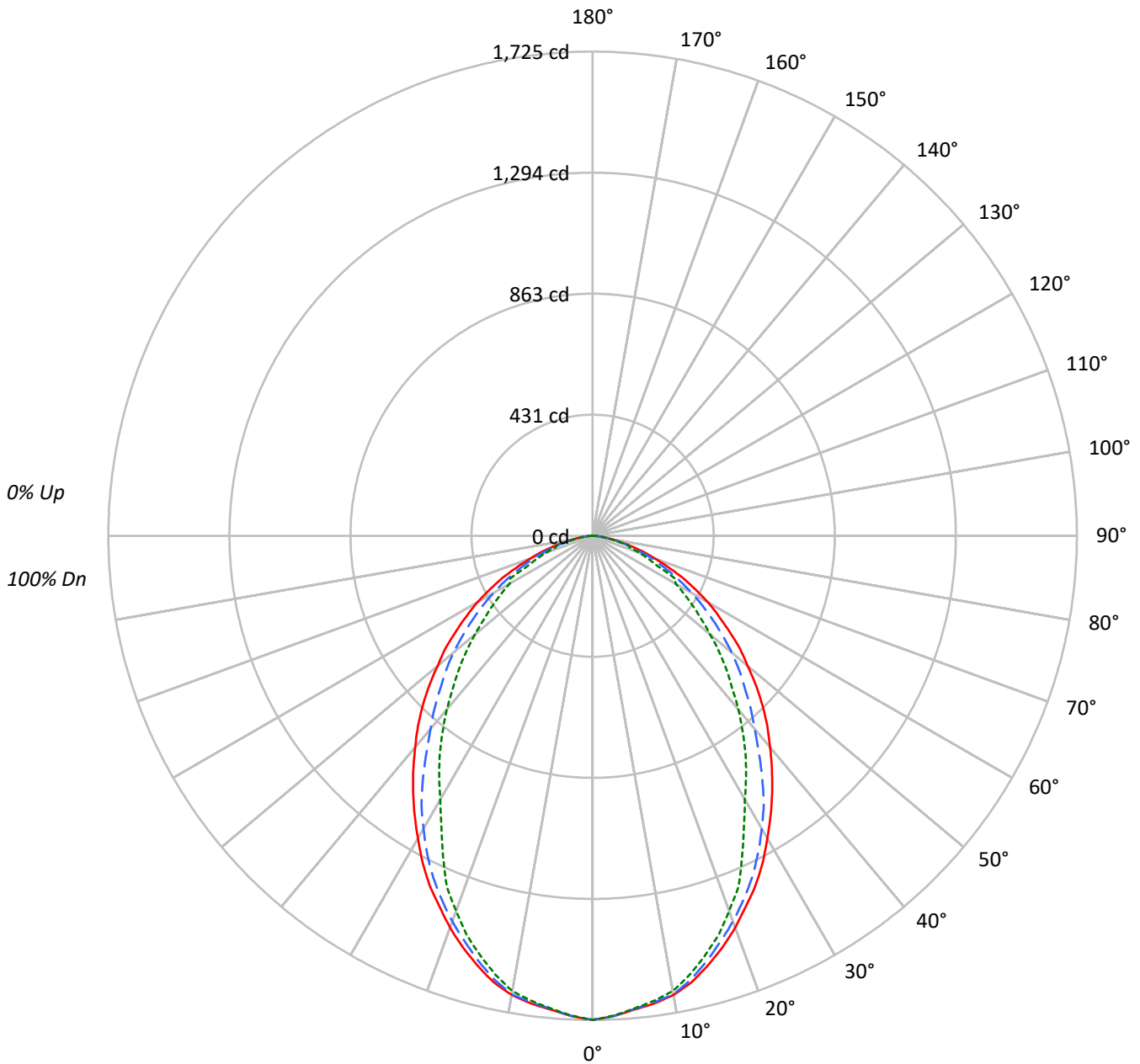
Lumens per Lamp: N/A  
Luminaire Lumens: 3386.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	9283	9283	9283
5°	9157	9146	9135
10°	9077	9066	9001
15°	8832	8744	8621
20°	8508	8371	8143
25°	8158	7981	7483
30°	7732	7485	6741
35°	7323	6917	6236
40°	6906	6304	5674
45°	6511	5828	5130
50°	6027	5409	4574
55°	5575	4902	4098
60°	5109	4379	3670
65°	4494	3834	3250
70°	3703	3358	2762
75°	2944	2570	2695
80°	1977	1853	1729
85°	1229	1476	1723



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.6	4.7
10°-20°	440.6	13.0
20°-30°	610.0	18.0
30°-40°	650.5	19.2
40°-50°	593.4	17.5
50°-60°	464.9	13.7
60°-70°	303.0	8.9
70°-80°	134.2	4.0
80°-90°	28.8	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°	1211.2	35.8
0°-40°	1861.7	55.0
0°-60°	2920.0	86.2
0°-90°	3386.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3386.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1725	1725	1725	1725	1725	
5°	1695	1693	1693	1691	1691	161
15°	1585	1585	1569	1553	1547	446
25°	1374	1366	1344	1296	1260	631
35°	1115	1107	1053	973	949	697
45°	855	838	766	702	674	659
55°	594	576	522	461	437	533
65°	353	333	301	307	255	348
75°	142	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1724.8	1724.8	1724.8	1724.8	1724.8
2.5°	1712.8	1712.8	1712.8	1710.8	1710.8
5°	1694.9	1692.9	1692.9	1690.9	1690.9
7.5°	1680.9	1678.9	1676.9	1674.9	1670.9
10°	1661.0	1661.0	1659.0	1649.0	1647.0
12.5°	1629.1	1627.1	1619.1	1605.1	1601.2
15°	1585.2	1585.2	1569.3	1553.3	1547.3
17.5°	1537.4	1535.4	1515.4	1499.5	1491.5
20°	1485.5	1481.5	1461.6	1435.7	1421.7
22.5°	1427.7	1427.7	1403.8	1369.9	1355.9
25°	1373.8	1365.9	1343.9	1296.1	1260.2
27.5°	1312.0	1300.1	1276.1	1208.3	1166.5
30°	1244.2	1238.3	1204.4	1116.6	1084.7
32.5°	1180.4	1170.5	1134.6	1042.8	1016.9
35°	1114.6	1106.7	1052.8	973.1	949.1
37.5°	1048.8	1038.9	971.1	907.3	877.3
40°	983.0	971.1	897.3	839.5	807.6
42.5°	921.2	905.3	833.5	771.7	735.8
45°	855.4	837.5	765.7	701.9	674.0
47.5°	789.6	773.7	707.9	642.1	610.2
50°	719.8	705.9	646.0	580.2	546.3
52.5°	662.0	640.1	582.2	516.4	488.5
55°	594.2	576.3	522.4	460.6	436.7
57.5°	532.4	514.4	464.6	406.8	386.8
60°	474.6	448.6	406.8	356.9	341.0
62.5°	410.8	390.8	354.9	313.1	333.0
65°	352.9	333.0	301.1	307.1	255.2
67.5°	289.1	279.2	251.2	223.3	215.3
70°	235.3	223.3	213.4	183.4	175.5
72.5°	187.4	175.5	161.5	145.6	139.6
75°	141.6	131.6	123.6	117.6	129.6
77.5°	97.7	93.7	87.7	81.8	79.8
80°	63.8	61.8	59.8	57.8	55.8
82.5°	37.9	37.9	37.9	37.9	37.9
85°	19.9	21.9	23.9	25.9	27.9
87.5°	12.0	12.0	14.0	16.0	17.9
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)