

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: P545615

Luminaire Tested: **FMR-12-2-LD4-2HI-50-UNV-93-84-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: P545615  
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-93-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

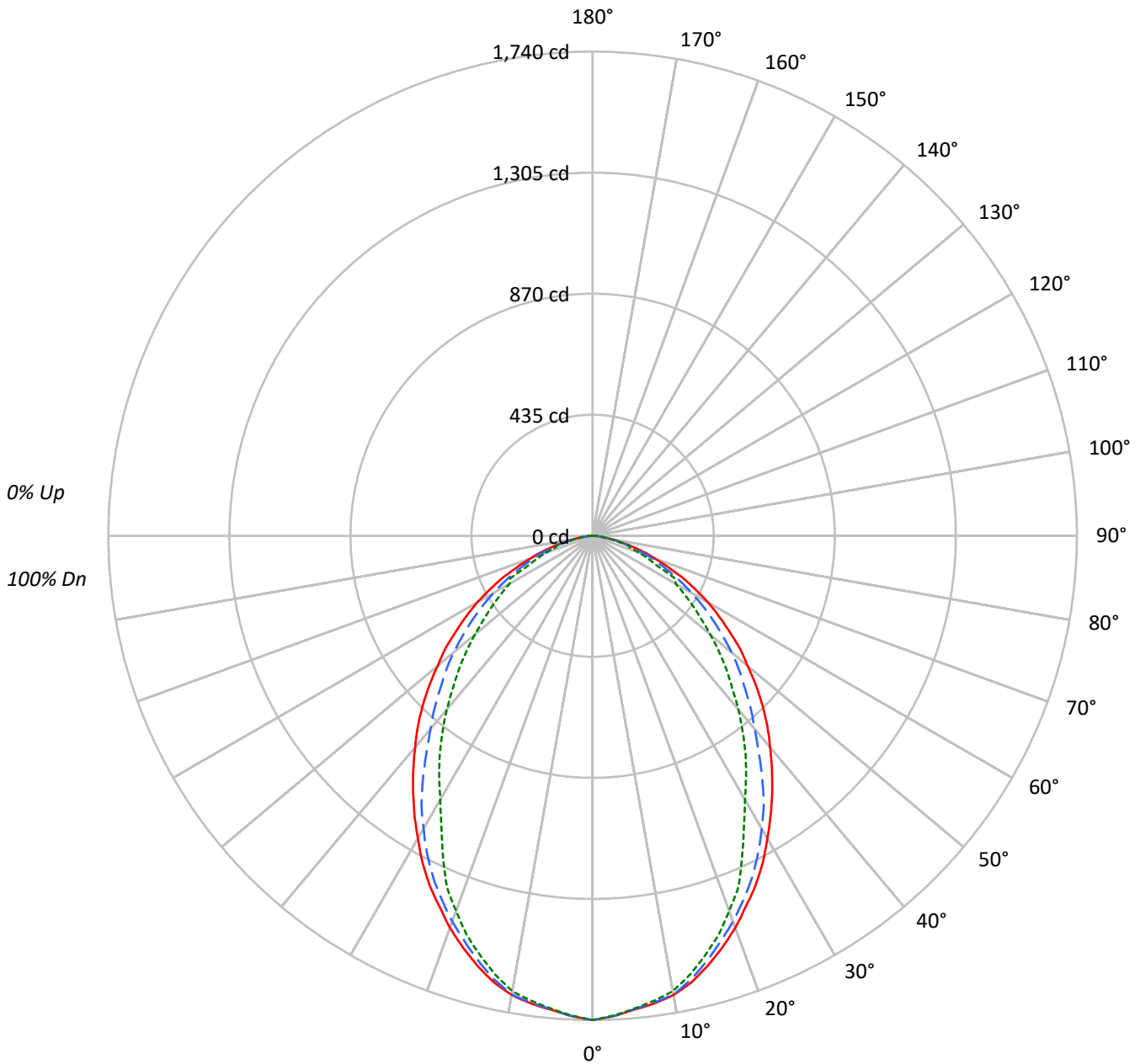
Lumens per Lamp: N/A  
Luminaire Lumens: 3416.0 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
Input Voltage (V): NR  
Input Current (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°	9365	9365	9365
5°	9238	9227	9216
10°	9158	9147	9081
15°	8911	8821	8698
20°	8584	8445	8215
25°	8231	8051	7550
30°	7801	7551	6801
35°	7388	6978	6291
40°	6967	6360	5724
45°	6568	5880	5175
50°	6080	5457	4615
55°	5625	4945	4133
60°	5154	4418	3703
65°	4535	3869	3279
70°	3736	3386	2785
75°	2969	2593	2720
80°	1996	1869	1745
85°	1241	1488	1741



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.0	4.7
10°-20°	444.5	13.0
20°-30°	615.4	18.0
30°-40°	656.2	19.2
40°-50°	598.7	17.5
50°-60°	469.0	13.7
60°-70°	305.7	8.9
70°-80°	135.4	4.0
80°-90°	29.1	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°	1221.9	35.8
0°-40°	1878.2	55.0
0°-60°	2945.8	86.2
0°-90°	3416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1740	1740	1740	1740	1740	
5°	1710	1708	1708	1706	1706	162
15°	1599	1599	1583	1567	1561	450
25°	1386	1378	1356	1308	1271	636
35°	1124	1116	1062	982	958	703
45°	863	845	772	708	680	665
55°	600	581	527	465	440	538
65°	356	336	304	310	258	351
75°	143	133	125	119	131	153
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°	1740.1	1740.1	1740.1	1740.1	1740.1
2.5°	1728.0	1728.0	1728.0	1726.0	1726.0
5°	1709.9	1707.9	1707.9	1705.9	1705.9
7.5°	1695.8	1693.8	1691.8	1689.8	1685.8
10°	1675.7	1675.7	1673.7	1663.6	1661.6
12.5°	1643.5	1641.5	1633.4	1619.4	1615.3
15°	1599.3	1599.3	1583.2	1567.1	1561.0
17.5°	1551.0	1549.0	1528.8	1512.7	1504.7
20°	1498.7	1494.6	1474.5	1448.4	1434.3
22.5°	1440.3	1440.3	1416.2	1382.0	1367.9
25°	1386.0	1378.0	1355.8	1307.6	1271.4
27.5°	1323.7	1311.6	1287.4	1219.1	1176.8
30°	1255.3	1249.2	1215.0	1126.5	1094.3
32.5°	1190.9	1180.8	1144.6	1052.1	1025.9
35°	1124.5	1116.5	1062.1	981.7	957.5
37.5°	1058.1	1048.1	979.7	915.3	885.1
40°	991.7	979.7	905.2	846.9	814.7
42.5°	929.4	913.3	840.9	778.5	742.3
45°	863.0	844.9	772.5	708.1	679.9
47.5°	796.6	780.5	714.1	647.7	615.6
50°	726.2	712.1	651.8	585.4	551.2
52.5°	667.9	645.7	587.4	521.0	492.9
55°	599.5	581.4	527.0	464.7	440.5
57.5°	537.1	519.0	468.7	410.4	390.3
60°	478.8	452.6	410.4	360.1	344.0
62.5°	414.4	394.3	358.1	315.8	335.9
65°	356.1	335.9	303.8	309.8	257.5
67.5°	291.7	281.6	253.5	225.3	217.3
70°	237.4	225.3	215.2	185.1	177.0
72.5°	189.1	177.0	162.9	146.8	140.8
75°	142.8	132.8	124.7	118.7	130.8
77.5°	98.6	94.5	88.5	82.5	80.5
80°	64.4	62.4	60.3	58.3	56.3
82.5°	38.2	38.2	38.2	38.2	38.2
85°	20.1	22.1	24.1	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
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)