

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: P545529

Luminaire Tested: **FMR-12-2-LD4-2HI-35-UNV-80-86-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: P545529  
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-35-UNV-80-86-EDD  
Description: 1X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

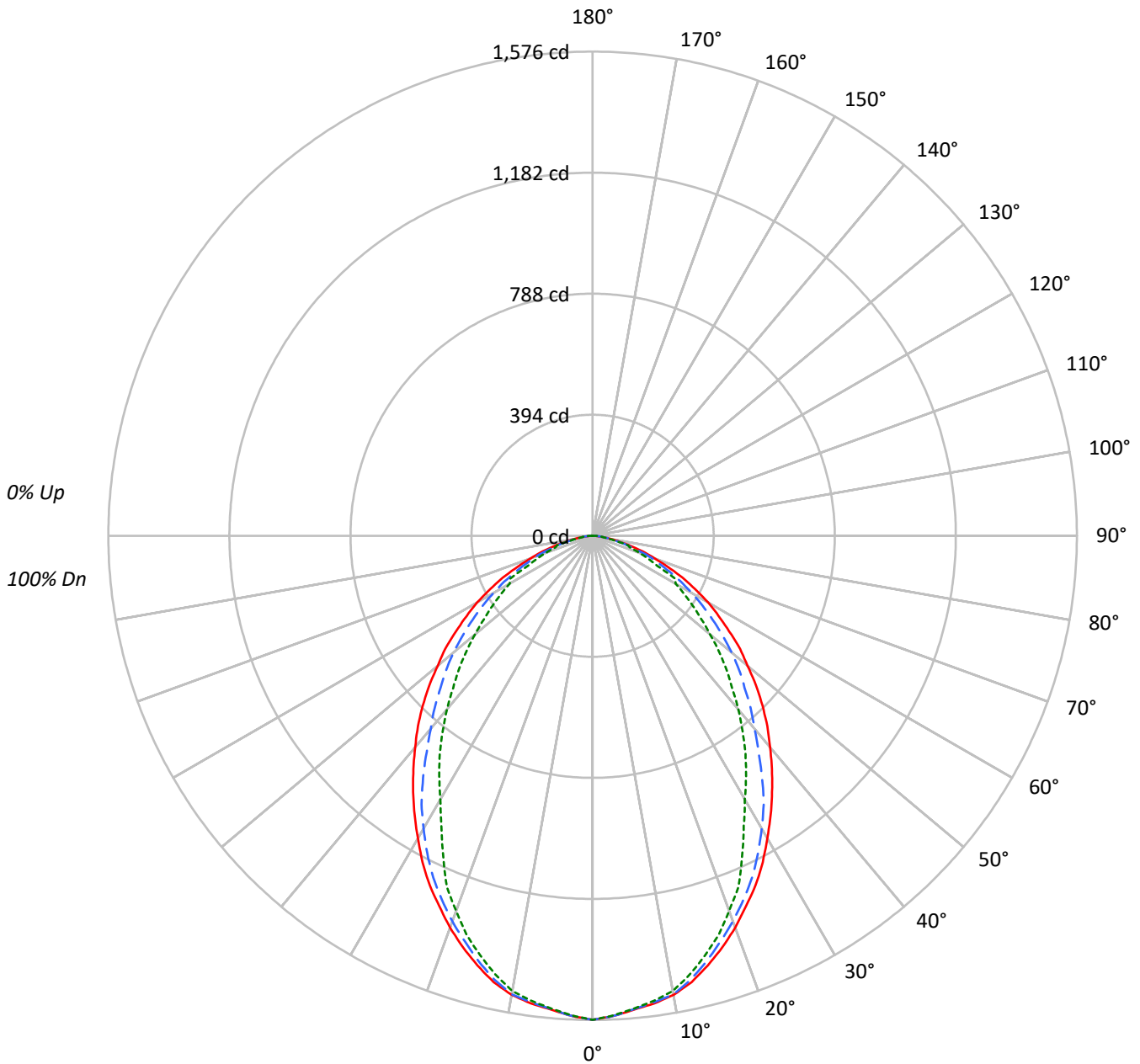
Lumens per Lamp: N/A  
Luminaire Lumens: 3093.0 lumens  
Efficiency: N/A  
Efficacy: 71.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	8479	8479	8479
5°	8364	8354	8345
10°	8291	8282	8222
15°	8068	7987	7875
20°	7772	7647	7438
25°	7453	7290	6836
30°	7063	6837	6158
35°	6690	6319	5696
40°	6309	5758	5183
45°	5947	5323	4685
50°	5505	4941	4179
55°	5093	4478	3743
60°	4666	4000	3353
65°	4106	3502	2968
70°	3382	3067	2522
75°	2689	2348	2462
80°	1807	1692	1581
85°	1124	1352	1575



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	146.7	4.7
10°-20°	402.5	13.0
20°-30°	557.2	18.0
30°-40°	594.2	19.2
40°-50°	542.1	17.5
50°-60°	424.7	13.7
60°-70°	276.8	8.9
70°-80°	122.6	4.0
80°-90°	26.3	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°	1106.4	35.8
0°-40°	1700.6	55.0
0°-60°	2667.3	86.2
0°-90°	3093.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3093.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1576	1576	1576	1576	1576	
5°	1548	1546	1546	1545	1545	147
15°	1448	1448	1434	1419	1413	407
25°	1255	1248	1228	1184	1151	576
35°	1018	1011	962	889	867	637
45°	781	765	699	641	616	602
55°	543	526	477	421	399	487
65°	322	304	275	280	233	318
75°	129	120	113	108	118	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1575.5	1575.5	1575.5	1575.5	1575.5
2.5°	1564.6	1564.6	1564.6	1562.8	1562.8
5°	1548.2	1546.4	1546.4	1544.6	1544.6
7.5°	1535.5	1533.6	1531.8	1530.0	1526.4
10°	1517.2	1517.2	1515.4	1506.3	1504.5
12.5°	1488.1	1486.3	1479.0	1466.2	1462.6
15°	1448.0	1448.0	1433.5	1418.9	1413.4
17.5°	1404.3	1402.5	1384.3	1369.7	1362.4
20°	1357.0	1353.3	1335.1	1311.4	1298.7
22.5°	1304.1	1304.1	1282.3	1251.3	1238.6
25°	1255.0	1247.7	1227.6	1183.9	1151.1
27.5°	1198.5	1187.6	1165.7	1103.8	1065.5
30°	1136.6	1131.1	1100.1	1020.0	990.9
32.5°	1078.3	1069.2	1036.4	952.6	928.9
35°	1018.2	1010.9	961.7	888.9	867.0
37.5°	958.1	949.0	887.0	828.7	801.4
40°	898.0	887.0	819.6	766.8	737.7
42.5°	841.5	826.9	761.4	704.9	672.1
45°	781.4	765.0	699.4	641.1	615.6
47.5°	721.3	706.7	646.6	586.5	557.4
50°	657.5	644.8	590.1	530.0	499.1
52.5°	604.7	584.7	531.9	471.7	446.2
55°	542.8	526.4	477.2	420.7	398.9
57.5°	486.3	469.9	424.4	371.6	353.4
60°	433.5	409.8	371.6	326.0	311.5
62.5°	375.2	357.0	324.2	286.0	304.2
65°	322.4	304.2	275.0	280.5	233.1
67.5°	264.1	255.0	229.5	204.0	196.7
70°	214.9	204.0	194.9	167.6	160.3
72.5°	171.2	160.3	147.5	133.0	127.5
75°	129.3	120.2	112.9	107.5	118.4
77.5°	89.2	85.6	80.1	74.7	72.9
80°	58.3	56.5	54.6	52.8	51.0
82.5°	34.6	34.6	34.6	34.6	34.6
85°	18.2	20.0	21.9	23.7	25.5
87.5°	10.9	10.9	12.7	14.6	16.4
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)