

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: P545541

Luminaire Tested: **FMR-12-2-LD4-2HI-35-UNV-81-96-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: P545541  
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-81-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

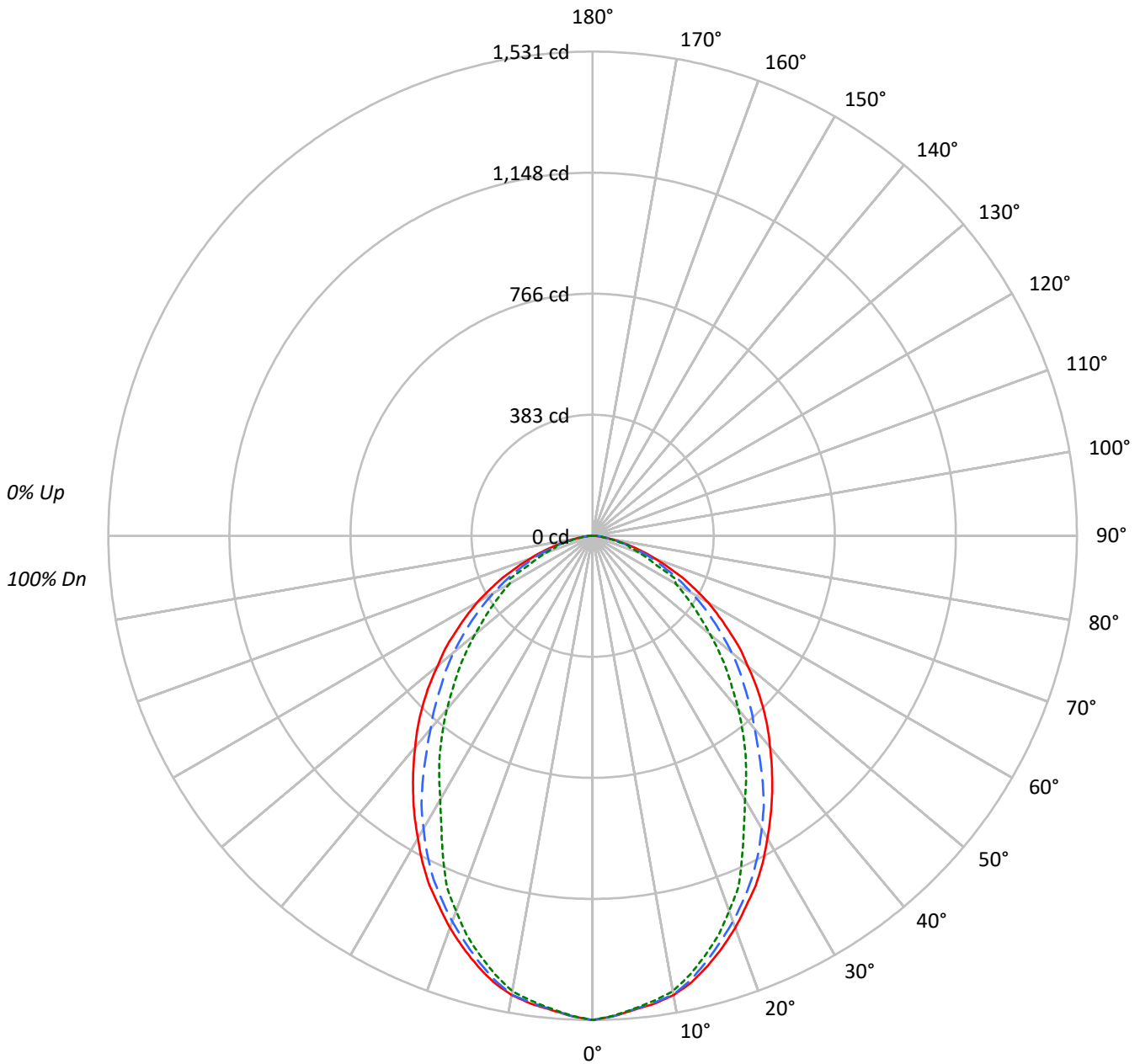
Lumens per Lamp: N/A  
Luminaire Lumens: 3006.0 lumens  
Efficiency: N/A  
Efficacy: 69.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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					20					
RC	80					70					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°	8241	8241	8241
5°	8129	8119	8110
10°	8059	8049	7991
15°	7841	7762	7654
20°	7553	7432	7229
25°	7243	7085	6644
30°	6865	6645	5985
35°	6501	6141	5536
40°	6131	5597	5037
45°	5780	5174	4554
50°	5350	4802	4061
55°	4950	4352	3638
60°	4535	3887	3258
65°	3990	3404	2886
70°	3287	2980	2452
75°	2614	2283	2393
80°	1754	1646	1537
85°	1093	1309	1531



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.5	4.7
10°-20°	391.2	13.0
20°-30°	541.6	18.0
30°-40°	577.5	19.2
40°-50°	526.8	17.5
50°-60°	412.7	13.7
60°-70°	269.0	8.9
70°-80°	119.2	4.0
80°-90°	25.6	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°	1075.3	35.8
0°-40°	1652.7	55.0
0°-60°	2592.3	86.2
0°-90°	3006.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3006.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1531	1531	1531	1531	1531	
5°	1505	1503	1503	1501	1501	143
15°	1407	1407	1393	1379	1374	396
25°	1220	1213	1193	1151	1119	560
35°	990	982	935	864	843	619
45°	759	744	680	623	598	585
55°	528	512	464	409	388	473
65°	313	296	267	273	227	309
75°	126	117	110	104	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1531.2	1531.2	1531.2	1531.2	1531.2
2.5°	1520.6	1520.6	1520.6	1518.8	1518.8
5°	1504.7	1502.9	1502.9	1501.1	1501.1
7.5°	1492.3	1490.5	1488.7	1487.0	1483.4
10°	1474.6	1474.6	1472.8	1463.9	1462.2
12.5°	1446.2	1444.5	1437.4	1425.0	1421.5
15°	1407.3	1407.3	1393.1	1379.0	1373.7
17.5°	1364.8	1363.0	1345.3	1331.2	1324.1
20°	1318.8	1315.3	1297.6	1274.5	1262.1
22.5°	1267.5	1267.5	1246.2	1216.1	1203.7
25°	1219.7	1212.6	1193.1	1150.6	1118.8
27.5°	1164.8	1154.2	1132.9	1072.7	1035.6
30°	1104.6	1099.3	1069.2	991.3	963.0
32.5°	1048.0	1039.1	1007.2	925.8	902.8
35°	989.5	982.5	934.7	863.9	842.6
37.5°	931.1	922.3	862.1	805.4	778.9
40°	872.7	862.1	796.6	745.3	716.9
42.5°	817.8	803.7	739.9	685.1	653.2
45°	759.4	743.5	679.8	623.1	598.3
47.5°	701.0	686.8	628.4	570.0	541.7
50°	639.0	626.6	573.5	515.1	485.0
52.5°	587.7	568.2	516.9	458.5	433.7
55°	527.5	511.6	463.8	408.9	387.7
57.5°	472.6	456.7	412.5	361.1	343.4
60°	421.3	398.3	361.1	316.9	302.7
62.5°	364.7	347.0	315.1	277.9	295.6
65°	313.3	295.6	267.3	272.6	226.6
67.5°	256.7	247.8	223.0	198.3	191.2
70°	208.9	198.3	189.4	162.9	155.8
72.5°	166.4	155.8	143.4	129.2	123.9
75°	125.7	116.8	109.8	104.4	115.1
77.5°	86.7	83.2	77.9	72.6	70.8
80°	56.6	54.9	53.1	51.3	49.6
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.5	21.2	23.0	24.8
87.5°	10.6	10.6	12.4	14.2	15.9
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)