

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: P545664

Luminaire Tested: **FMR-12-2-LD4-2LO-40-UNV-81-85-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: P545664  
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-LD4-2LO-40-UNV-81-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

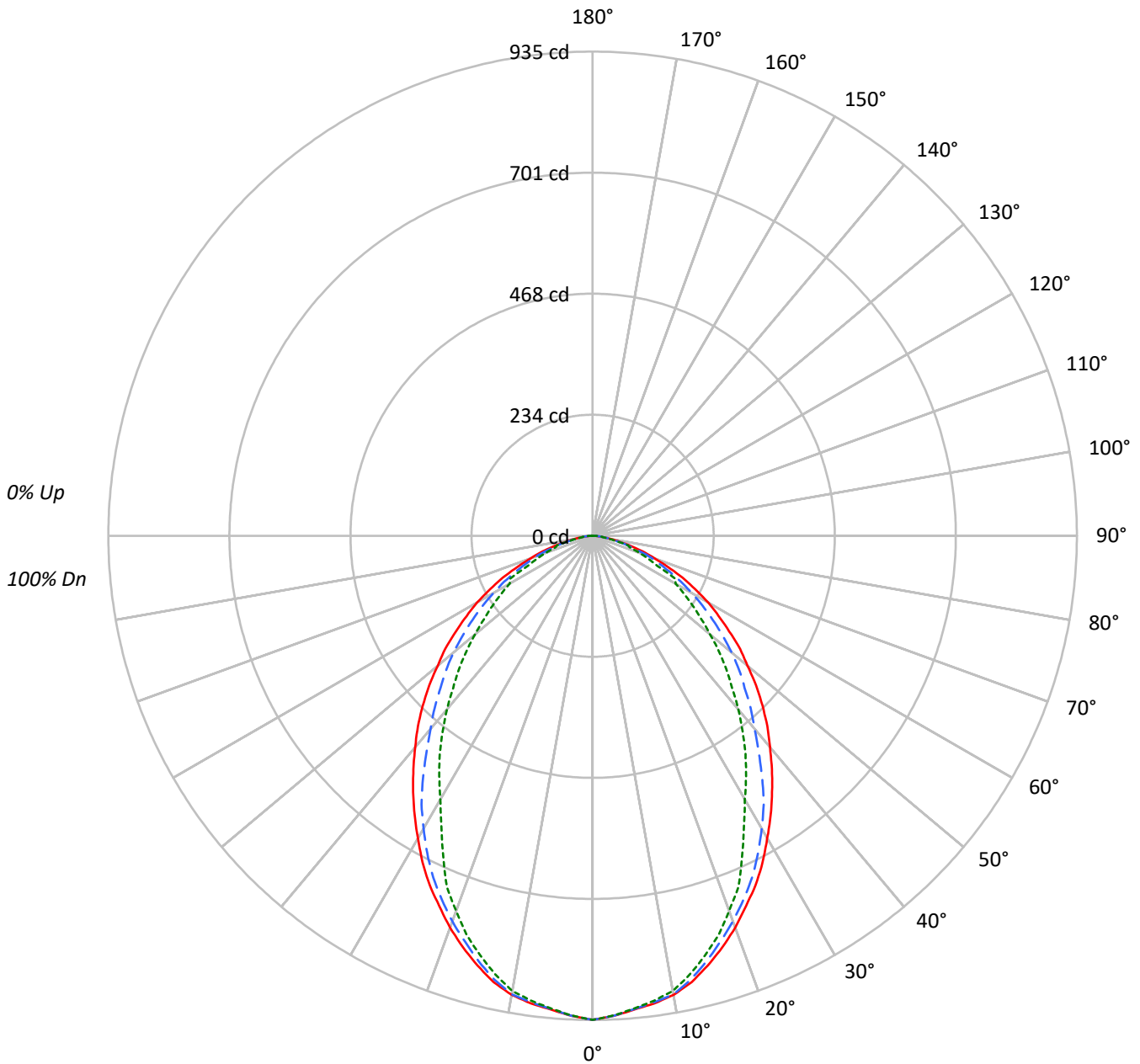
Lumens per Lamp: N/A  
Luminaire Lumens: 1835.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	5031	5031	5031
5°	4962	4956	4951
10°	4919	4914	4878
15°	4787	4738	4673
20°	4611	4537	4413
25°	4421	4325	4055
30°	4190	4056	3653
35°	3969	3749	3380
40°	3743	3417	3074
45°	3529	3159	2780
50°	3266	2931	2479
55°	3021	2656	2221
60°	2768	2372	1989
65°	2436	2078	1761
70°	2006	1819	1496
75°	1595	1393	1460
80°	1072	1004	939
85°	667	803	932



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.0	4.7
10°-20°	238.8	13.0
20°-30°	330.6	18.0
30°-40°	352.5	19.2
40°-50°	321.6	17.5
50°-60°	251.9	13.7
60°-70°	164.2	8.9
70°-80°	72.7	4.0
80°-90°	15.6	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°	656.4	35.8
0°-40°	1008.9	55.0
0°-60°	1582.4	86.2
0°-90°	1835.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1835.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	935	935	935	935	935	
5°	918	917	917	916	916	87
15°	859	859	850	842	839	242
25°	744	740	728	702	683	342
35°	604	600	571	527	514	378
45°	464	454	415	380	365	357
55°	322	312	283	250	237	289
65°	191	180	163	166	138	189
75°	77	71	67	64	70	82
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	934.7	934.7	934.7	934.7	934.7
2.5°	928.2	928.2	928.2	927.2	927.2
5°	918.5	917.4	917.4	916.4	916.4
7.5°	911.0	909.9	908.8	907.7	905.5
10°	900.1	900.1	899.1	893.7	892.6
12.5°	882.9	881.8	877.5	869.9	867.7
15°	859.1	859.1	850.4	841.8	838.6
17.5°	833.1	832.1	821.3	812.6	808.3
20°	805.1	802.9	792.1	778.0	770.5
22.5°	773.7	773.7	760.7	742.4	734.8
25°	744.5	740.2	728.3	702.4	682.9
27.5°	711.0	704.6	691.6	654.8	632.2
30°	674.3	671.1	652.7	605.1	587.8
32.5°	639.7	634.3	614.9	565.2	551.1
35°	604.1	599.7	570.6	527.3	514.4
37.5°	568.4	563.0	526.3	491.7	475.5
40°	532.7	526.3	486.3	454.9	437.6
42.5°	499.2	490.6	451.7	418.2	398.7
45°	463.6	453.9	415.0	380.4	365.2
47.5°	427.9	419.3	383.6	348.0	330.7
50°	390.1	382.5	350.1	314.5	296.1
52.5°	358.8	346.9	315.5	279.9	264.7
55°	322.0	312.3	283.1	249.6	236.7
57.5°	288.5	278.8	251.8	220.4	209.6
60°	257.2	243.1	220.4	193.4	184.8
62.5°	222.6	211.8	192.3	169.7	180.5
65°	191.3	180.5	163.2	166.4	138.3
67.5°	156.7	151.3	136.2	121.0	116.7
70°	127.5	121.0	115.6	99.4	95.1
72.5°	101.6	95.1	87.5	78.9	75.6
75°	76.7	71.3	67.0	63.8	70.2
77.5°	52.9	50.8	47.5	44.3	43.2
80°	34.6	33.5	32.4	31.3	30.3
82.5°	20.5	20.5	20.5	20.5	20.5
85°	10.8	11.9	13.0	14.0	15.1
87.5°	6.5	6.5	7.6	8.6	9.7
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)