

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: P546554

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-80-87-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: P546554  
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-24-4-LD4-1LO-50-UNV-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

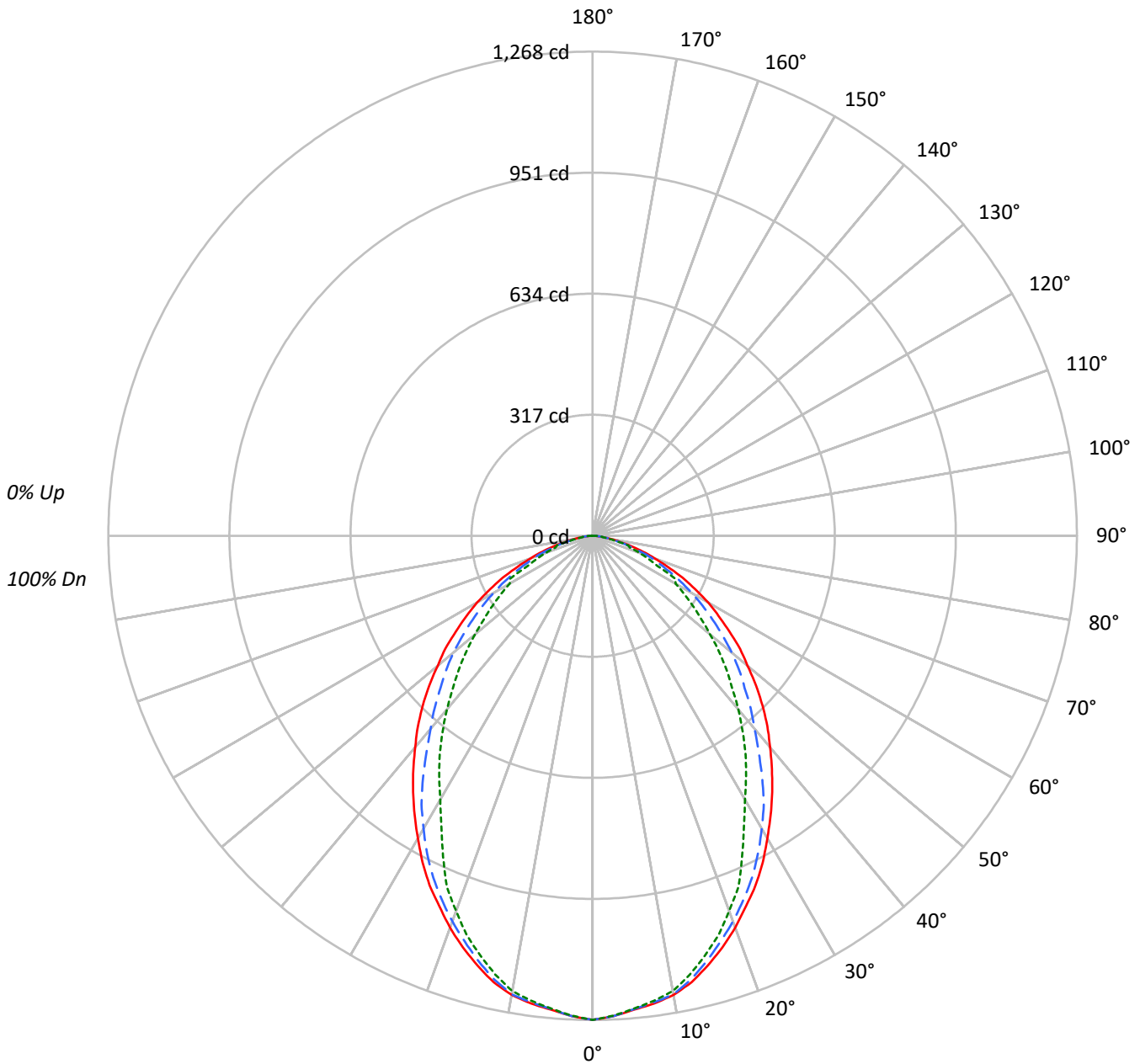
Lumens per Lamp: N/A  
Luminaire Lumens: 2489.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	1706	1706	1706
5°	1683	1681	1679
10°	1668	1666	1654
15°	1623	1607	1584
20°	1564	1538	1496
25°	1499	1467	1375
30°	1421	1375	1239
35°	1346	1271	1146
40°	1269	1159	1043
45°	1196	1071	943
50°	1108	994	841
55°	1025	901	753
60°	939	805	674
65°	826	705	597
70°	681	617	507
75°	541	473	495
80°	363	341	318
85°	227	272	316



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.0	4.7
10°-20°	323.9	13.0
20°-30°	448.4	18.0
30°-40°	478.1	19.2
40°-50°	436.2	17.5
50°-60°	341.7	13.7
60°-70°	222.7	8.9
70°-80°	98.7	4.0
80°-90°	21.2	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°	890.3	35.8
0°-40°	1368.5	55.0
0°-60°	2146.4	86.2
0°-90°	2489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2489.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1246	1244	1244	1243	1243	118
15°	1165	1165	1154	1142	1137	328
25°	1010	1004	988	953	926	464
35°	819	814	774	715	698	512
45°	629	616	563	516	495	484
55°	437	424	384	339	321	392
65°	259	245	221	226	188	256
75°	104	97	91	86	95	112
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1259.1	1259.1	1259.1	1257.6	1257.6
5°	1245.9	1244.4	1244.4	1242.9	1242.9
7.5°	1235.6	1234.2	1232.7	1231.2	1228.3
10°	1221.0	1221.0	1219.5	1212.2	1210.7
12.5°	1197.5	1196.0	1190.2	1179.9	1177.0
15°	1165.3	1165.3	1153.5	1141.8	1137.4
17.5°	1130.1	1128.6	1114.0	1102.2	1096.4
20°	1092.0	1089.0	1074.4	1055.3	1045.1
22.5°	1049.5	1049.5	1031.9	1007.0	996.7
25°	1009.9	1004.0	987.9	952.7	926.3
27.5°	964.5	955.7	938.1	888.2	857.5
30°	914.6	910.2	885.3	820.8	797.4
32.5°	867.7	860.4	834.0	766.6	747.5
35°	819.3	813.5	773.9	715.3	697.7
37.5°	771.0	763.6	713.8	666.9	644.9
40°	722.6	713.8	659.6	617.1	593.6
42.5°	677.2	665.4	612.7	567.2	540.9
45°	628.8	615.6	562.8	515.9	495.4
47.5°	580.4	568.7	520.3	472.0	448.5
50°	529.1	518.9	474.9	426.5	401.6
52.5°	486.6	470.5	428.0	379.6	359.1
55°	436.8	423.6	384.0	338.6	321.0
57.5°	391.4	378.2	341.5	299.0	284.4
60°	348.8	329.8	299.0	262.4	250.6
62.5°	301.9	287.3	260.9	230.1	244.8
65°	259.4	244.8	221.3	225.7	187.6
67.5°	212.5	205.2	184.7	164.2	158.3
70°	173.0	164.2	156.8	134.8	129.0
72.5°	137.8	129.0	118.7	107.0	102.6
75°	104.1	96.7	90.9	86.5	95.3
77.5°	71.8	68.9	64.5	60.1	58.6
80°	46.9	45.4	44.0	42.5	41.0
82.5°	27.8	27.8	27.8	27.8	27.8
85°	14.7	16.1	17.6	19.1	20.5
87.5°	8.8	8.8	10.3	11.7	13.2
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)