

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: P546524

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-80-94-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: P546524  
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-40-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

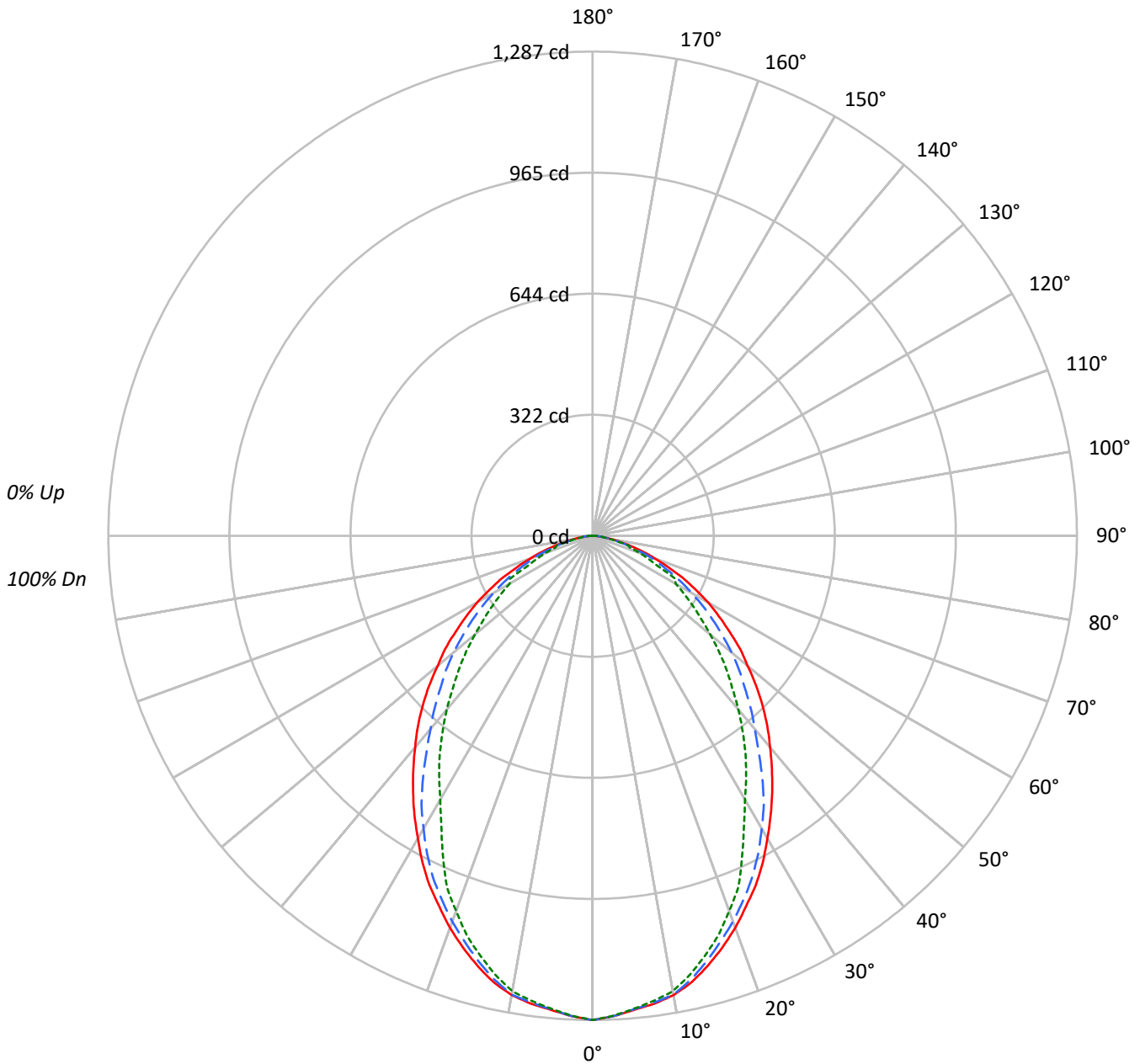
Lumens per Lamp: N/A  
Luminaire Lumens: 2527.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	1732	1732	1732
5°	1708	1706	1704
10°	1694	1692	1679
15°	1648	1631	1609
20°	1587	1562	1519
25°	1522	1489	1396
30°	1443	1396	1258
35°	1366	1291	1163
40°	1289	1176	1059
45°	1215	1087	957
50°	1124	1009	853
55°	1040	915	764
60°	953	817	685
65°	839	715	606
70°	691	626	515
75°	549	480	503
80°	369	346	323
85°	230	276	321



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.8	4.7
10°-20°	328.8	13.0
20°-30°	455.3	18.0
30°-40°	485.4	19.2
40°-50°	442.9	17.5
50°-60°	347.0	13.7
60°-70°	226.1	8.9
70°-80°	100.2	4.0
80°-90°	21.5	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°	903.9	35.8
0°-40°	1389.4	55.0
0°-60°	2179.2	86.2
0°-90°	2527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2527.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1287	1287	1287	1287	1287	
5°	1265	1263	1263	1262	1262	120
15°	1183	1183	1171	1159	1155	333
25°	1025	1019	1003	967	940	471
35°	832	826	786	726	708	520
45°	638	625	571	524	503	492
55°	444	430	390	344	326	398
65°	263	248	225	229	190	260
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1287.2	1287.2	1287.2	1287.2	1287.2
2.5°	1278.3	1278.3	1278.3	1276.8	1276.8
5°	1264.9	1263.4	1263.4	1261.9	1261.9
7.5°	1254.5	1253.0	1251.5	1250.0	1247.0
10°	1239.6	1239.6	1238.1	1230.7	1229.2
12.5°	1215.8	1214.3	1208.3	1197.9	1195.0
15°	1183.1	1183.1	1171.1	1159.2	1154.8
17.5°	1147.3	1145.8	1131.0	1119.1	1113.1
20°	1108.6	1105.7	1090.8	1071.4	1061.0
22.5°	1065.5	1065.5	1047.6	1022.3	1011.9
25°	1025.3	1019.4	1003.0	967.3	940.5
27.5°	979.2	970.3	952.4	901.8	870.5
30°	928.6	924.1	898.8	833.3	809.5
32.5°	881.0	873.5	846.7	778.3	758.9
35°	831.9	825.9	785.7	726.2	708.3
37.5°	782.7	775.3	724.7	677.1	654.8
40°	733.6	724.7	669.7	626.5	602.7
42.5°	687.5	675.6	622.0	575.9	549.1
45°	638.4	625.0	571.4	523.8	503.0
47.5°	589.3	577.4	528.3	479.2	455.4
50°	537.2	526.8	482.1	433.0	407.7
52.5°	494.1	477.7	434.5	385.4	364.6
55°	443.5	430.1	389.9	343.8	325.9
57.5°	397.3	383.9	346.7	303.6	288.7
60°	354.2	334.8	303.6	266.4	254.5
62.5°	306.6	291.7	264.9	233.6	248.5
65°	263.4	248.5	224.7	229.2	190.5
67.5°	215.8	208.3	187.5	166.7	160.7
70°	175.6	166.7	159.2	136.9	131.0
72.5°	139.9	131.0	120.5	108.6	104.2
75°	105.7	98.2	92.3	87.8	96.7
77.5°	72.9	69.9	65.5	61.0	59.5
80°	47.6	46.1	44.6	43.2	41.7
82.5°	28.3	28.3	28.3	28.3	28.3
85°	14.9	16.4	17.9	19.3	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)