

2023–1715

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO., LTD., OBERT, INC.,
Plaintiffs–Appellees

v.

CH LIGHTING TECHNOLOGY CO., LTD., ELLIOTT ELECTRIC SUPPLY, INC.,
SHAOXING RUISING LIGHTING CO., LTD.,
Defendants–Appellants

Appeal from the United States District Court for the Western District of Texas
in No. 6:20-cv-00018, Judge Alan D Albright

RESPONSE BRIEF OF PLAINTIFFS–APPELLEES

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September 26, 2023

REPRESENTATIVE PATENT CLAIMS

U.S. Patent No. 10,295,125

1. An LED tube lamp, comprising:
 - a lamp tube;
 - two end caps, each of the two end caps coupled to a respective end of the lamp tube;
 - a power supply disposed in one or two end caps;
 - an LED light strip disposed on an inner circumferential surface of the lamp tube, the LED light strip comprising a mounting region and a connecting region, the mounting region for mounting a plurality of LED light sources, the connecting region having at least two soldering pads, and the mounting region and the connecting region being electrically connected to the plurality of LED light sources and the power supply, and
 - a protective layer disposed on a surface of the LED light strip, the protective layer having a plurality of first openings to accommodate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads.

U.S. Patent No. 10,352,540

13. An LED tube lamp, comprising:
 - a tube comprising:
 - a main body; and
 - two rear end regions respectively at two ends of the main body;
 - two end caps respectively sleeving the two rear end regions, each of the end caps comprising:
 - a lateral wall substantial coaxial with the tube, the lateral wall sleeving the respective rear end region;
 - an end wall substantially perpendicular to the axial direction of the tube; and
 - two pins on the end wall for receiving an external driving signal;
 - an LED strip disposed on an inner circumferential surface of the main body with a plurality of LED light sources mounted thereon;
 - a power supply comprising a circuit board and configured to drive the plurality of LED light sources, the circuit board disposed inside on of the rear end regions and one of the end caps;

an adhesive disposed between each of the lateral wall and each of the rear end regions;
and
a diffusion film disposed on the glass lamp tube so that light emitted from the LED light sources pass[es] through the inner surface of the glass lamp tube and then pass[es] through the diffusion film on the glass lamp tube.

U.S. Patent No. 9,939,140

1. An installation detection circuit configured in a light-emitting diode (LED) tube lamp configured to receive an external driving signal, the installation detection circuit comprising:

a pulse generating circuit configured to output one or more pulse signals[,] wherein the installation detection circuit is configured to detect during at least one of the one or more pulse signals whether the LED tube is properly installed on a lamp socket, based on detecting a signal generated from the external driving signal; and
a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit;

wherein the installation detection circuit is further configured to:

when it is detected during one of the one or more pulse signals that the LED tube is not properly installed on the lamp socket, control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open; and

when it is detected during one of the one or more pulse signals that the LED tube is properly installed on the lamp socket, control the switch circuit to remain in a conducting state to cause the power loop of the LED tube lamp to maintain a conducting state;

wherein the signal generated from the external driving signal is a sampling signal on the power loop, the installation detection further comprises a detection determining circuit configured to detect the sampling signal for determining whether the LED tube lamp is properly installed on the lamp socket, and the power loop includes the switch circuit and the detection determining circuit, and

wherein the pulse generating circuit is configured to output one or more pulse signals independent of whether the detection determining circuit detects the sampling signal.

CERTIFICATE OF INTEREST

I certify that the information below is complete to the best of my knowledge.

Date: September 26, 2023

Signature: /s/Matthew C. Bernstein

Name: Matthew C. Bernstein

1. Represented Entity	2. Real Party in Interest	3. Parent Corporations and 10% Stockholders
Jiaxing Super Lighting Electric Appliance Co., Ltd.	none	Zhejiang Super Lighting Electric Appliance Co., Ltd.; Oppl Lighting Electronic (Zhongshan) Co., Ltd; Oppl Lighting Co., Ltd.
Obert, Inc.	none	Zhejiang Super Lighting Electric Appliance Co., Ltd.

4. Other Legal Representatives	
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from AT IP Management Corp.:	Cindy Hsinhsian Chou
from Quinn Emanuel Urquhart & Sullivan, LLP:	Scott L. Cole
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5. Related Cases

Jiaxing Super Lighting Electric Appliance Co., Ltd. v. Current Lighting Solutions, LLC d/b/a GE Current, No. 6:22-cv-00535-ADA-DTG (W.D. Tex.)

Re-Examination of U.S. Patent No. 10,295,125, Control No. 90/015,003, USPTO Examination Art Unit 3992

Re-Examination of U.S. Patent No. 10,352,540, Control No. 90/015,002, USPTO Examination Art Unit 3992

Current Lighting Solutions, LLC d/b/a GE Current v. Jiaxing Super Lighting Electric Appliance Co., Ltd., IPR2023-00271 (PTAB)

Current Lighting Solutions, LLC d/b/a GE Current v. Jiaxing Super Lighting Electric Appliance Co., Ltd., IPR2023-00676 (PTAB)

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TABLE OF ABBREVIATIONS AND CONVENTIONS

Appx ____	appendix page ____
CH	defendant CH Lighting Technology Co., Ltd.
Defendants	CH, Ruising, and Elliott collectively
Elliott	defendant Elliott Electric Supply, Inc.
JMOL	judgment as a matter of law
Obert	plaintiff Obert, Inc.
Plaintiffs	Super Lighting and Obert
Ruising	defendant Shaoxing Ruising Lighting Co., Ltd.
Super Lighting	plaintiff Jiaxing Super Lighting Electric Appliance Co., Ltd.
(xx:yy-zz)	column xx, lines yy through zz of a patent
'125 patent	U.S. Patent No. 10,295,125
'140 patent	U.S. Patent No. 9,939,140
'540 patent	U.S. Patent No. 10,352,540

STATEMENT OF RELATED CASES

No other appeal involving this case has been before this Court or any other appellate court. The Court's decision in this appeal may directly affect or be directly affected by the following other proceedings:

Jiaxing Super Lighting Electric Appliance Co., Ltd. v. Current Lighting Solutions, LLC d/b/a GE Current, No. 6:22-cv-00535-ADA-DTG (W.D. Tex.);

Re-Examination of U.S. Patent No. 10,295,125, Control No. 90/015,003, USPTO Examination Art Unit 3992;

Re-Examination of U.S. Patent No. 10,352,540, Control No. 90/015,002, USPTO Examination Art Unit 3992;

Current Lighting Solutions, LLC d/b/a GE Current v. Jiaxing Super Lighting Electric Appliance Co., Ltd., IPR2023-00271 (PTAB); and

Current Lighting Solutions, LLC d/b/a GE Current v. Jiaxing Super Lighting Electric Appliance Co., Ltd., IPR2023-00676 (PTAB).

INTRODUCTION

Defendants complain that they were deprived of a fair trial and that the jury delivered an unsupported verdict. In reality, Defendants' woes were self-inflicted, and the jury's verdict was well warranted.

The district court correctly granted JMOL that Defendants failed to prove invalidity of the '125 and '540 patents by clear and convincing evidence. Defendants relied on purported product art, but they presented no evidence (apart from their expert's unsupported say-so) that those products were publicly available before the critical date. Defendants' failure of proof stemmed from their lack of diligence during discovery and inability to comply with the Federal Rules of Civil Procedure and Evidence. The court did not abuse its discretion in excluding evidence, and its rulings did not alter the result anyway. Defendants also failed to demonstrate that the asserted art practiced a limitation required by each '125 and '540 claim. That failure independently justified JMOL.

In seeking to overturn the verdict that products containing LT2600 chips infringed claim 1 of the '140 patent and that the Ono reference did not anticipate that claim, Defendants mischaracterize Plaintiffs' trial theories. Plaintiffs did *not* construe claims differently for infringement and validity. Instead, they contended—and the jury agreed—that Ono's design did not operate as claimed while the LT2600-based design does. Substantial evidence supported both verdicts.

Finally, Defendants complain about losing a battle of damages experts where the disagreement was fairly narrow. Defendants accuse Plaintiffs' expert of failing to apportion to the claimed inventions, but she simply made different adjustments to the agreed-upon comparable licenses. The award was supported by substantial evidence, and the district court did not abuse its discretion in denying a new trial.

STATEMENT OF ISSUES

As to the '125 and '540 patents:

- Whether the district court's fact-specific evidentiary rulings were within its discretion and whether the court correctly concluded that no reasonable jury could find that the admitted evidence constituted clear and convincing proof that the three allegedly prior-art products were actually prior art.
- Whether JMOL of non-invalidity was warranted on the independent ground that Defendants failed to show that the asserted products had "an LED light strip disposed on an inner circumferential surface of the lamp tube."

As to the '140 patent:

- Whether substantial evidence supported the jury's findings that the Ono reference did not anticipate claim 1 and that Defendants' products with LT2600 chips infringed that claim.

As to damages:

- Whether the district court reasonably concluded that the testimony of Plaintiffs' damages expert supported the jury's award and accordingly denied a new trial on damages.

STATEMENT OF THE CASE

I. The Parties and Patents-in-Suit

A. Super Lighting's Inventive Focus and CH's History of Stealing Intellectual Property from Super Lighting

Plaintiff Super Lighting is a family-owned lighting-products company based near Shanghai, China. Appx10064-10065(61-67). Its founder, Tao Jiang, left the countryside to which his parents had been banished during the Cultural Revolution, obtained two physics degrees, and built the company with a focus on designing LED tube lighting. Appx10064(62-64). Co-plaintiff Obert, run by his nephew, is Super Lighting's U.S. subsidiary. Appx10065(65-66), Appx10086(150). The patents-in-suit arose from Super Lighting's extensive research and development to improve on older, unwieldy, and less safe fluorescent tubes. Appx10065-10068(66-77).

Defendant CH is a competing Chinese lighting-products company. *See, e.g.*, Appx10068(78), Appx10070(87); Appx10104(221-222). In 2014 CH's CEO, Caiying Gan, recruited Super Lighting salesman Qingbo (Jack) Jiang to form a subsidiary, co-defendant Ruising, that sells CH products. Appx10103-10104(219-222); Appx10143(144). Not only did Qingbo Jiang mislead Tao Jiang about his destination

when he departed; he admittedly took proprietary customer lists and hired away Tao Jiang's technical assistant, who had intimate knowledge of Super Lighting's plans. Appx10069(81-83); Appx10103(217-219). CH also obtained confidential Super Lighting design documents. Appx10082-10084(136-143); Appx10278-10287. In return, Caiying Gan rewarded Qingbo Jiang with benefits including a large rent-free house, a free office, and the chairmanship of Ruising. Appx10103-10104(220-221).

This history, along with CH and Ruising's continuing interference with Plaintiffs' customer relationships, led to what the district court aptly labeled "fierce" competition between "archrivals." Appx20-21.

B. Super Lighting's Asserted Patents

1. The '125 Patent

The '125 patent notes that existing LED lamp tubes were "easily damaged ... during manufacturing, transportation, and usage." Appx240 ('125(2:46-49)). Traditional LED tubes supported their circuit boards on aluminum rails and encased them in plastic insulating sleeves. Appx10065-10066(67-71). Not only would the plastic sleeves change color as they aged, altering the tube's lighting quality, but the rails would block transmission of light in certain directions and could cause current leakage. *Id.*

The '125 patent solved these problems using new structural elements arranged in a unique spatial relationship. First, the invention replaced the traditional combina-

tion of a metal rail and rigid circuit board with a flexible printed circuit board that could be mounted directly on the tube's inner surface instead of being disposed within it. Appx10065-10066(67-71). Removing the metal rail eliminated its electrical and safety risks. *Id.* Replacing the plastic sleeve with a protective layer applied directly to the flexible circuit board eliminated the color-changing problem, extending the practical life of the tube while simultaneously improving safety by insulating the LED strip. Appx253 ('125(27:30-46)). By relocating the circuit board to the tube's inner circumference, the invention altered the position of the LEDs, increased the illumination angle, and improved brightness and light quality. *Id.* ('125(28:24-28)). Direct mounting on the interior surface also increased stability and durability.

Claim 1 recites:

1. An LED tube lamp, comprising:
 - a lamp tube;
 - two end caps, each of the two end caps coupled to a respective end of the lamp tube;
 - a power supply disposed in one or two end caps;
 - an LED light strip disposed on an inner circumferential surface of the lamp tube, the LED light strip comprising a mounting region and a connecting region, the mounting region for mounting a plurality of LED light sources, the connecting region having at least two soldering pads, and the mounting region and the connecting region being electrically connected to the plurality of LED light sources and the power supply, and
 - a protective layer disposed on a surface of the LED light strip, the protective layer having a plurality of first openings to accom-

modate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads.

Appx289.

2. The '540 Patent

The '540 patent expanded on the '125 invention and continued to address construction and performance issues. Appx10067(73-74). It further specified the spatial relationship between the tube's internal components, including the circuit board, the end caps, the driver circuit, and the adhesive. The location and relative placement of these parts was refined to improve manufacturing and the tube's overall aesthetic. *Id.*

The '540 patent also solved problems with the light emitted by the tube. Unlike traditional fluorescents, which provide a uniform glow, LEDs are point sources of light. Appx309 ('540(2:1-21)). Without optical manipulation, their iterative pattern was visible. *Id.* Prior art sought to overcome this grainy appearance, but it used techniques that decreased optical efficiency. *Id.* The '540 patent included a diffusion film to soften the pinpoint appearance and provide a more comprehensive, aesthetically pleasing glow. Appx312-313 ('540(7:52-9:10)). This diffusion film could be placed inside or outside the tube in coordination with the patent's other structural improvements. *Id.*

Claim 13 recites:

13. An LED tube lamp, comprising:
a tube comprising:
a main body; and
two rear end regions respectively at two ends of the main body;
two end caps respectively sleeving the two rear end regions, each of the end caps comprising:
a lateral wall substantial coaxial with the tube, the lateral wall sleeving the respective rear end region;
an end wall substantially perpendicular to the axial direction of the tube; and
two pins on the end wall for receiving an external driving signal;
an LED strip disposed on an inner circumferential surface of the main body with a plurality of LED light sources mounted thereon;
a power supply comprising a circuit board and configured to drive the plurality of LED light sources, the circuit board disposed inside on of the rear end regions and one of the end caps;
an adhesive disposed between each of the lateral wall and each of the rear end regions; and
a diffusion film disposed on the glass lamp tube so that light emitted from the LED light sources pass[es] through the inner surface of the glass lamp tube and then pass[es] through the diffusion film on the glass lamp tube.

Appx317.

3. The '140 Patent

LED tube lights are safer and more efficient than their fluorescent predecessors. Some LED tubes, however, have metallic pins at both ends, creating a safety

concern: installers who insert one end into a live outlet while touching the pins on the opposite end may receive a potentially lethal shock. Appx10076(109).

Conventional shock-protection techniques focused on ensuring that no current flowed during installation, but the '140 patent took the opposite tack. Inspired by the way one can flick a finger quickly into running water to test its temperature, the patented system uses a pulse generator to send a small electrical pulse through the lamp. Appx10076(109-112). If a detection circuit senses a high impedance, such as a human touching the lamp during that pulse, it can shut down the entire system to avoid shock. *Id.*

Figure 15B of the '140 patent, annotated below, illustrates the pulse generator, the detection determining circuit, and the switch circuit:

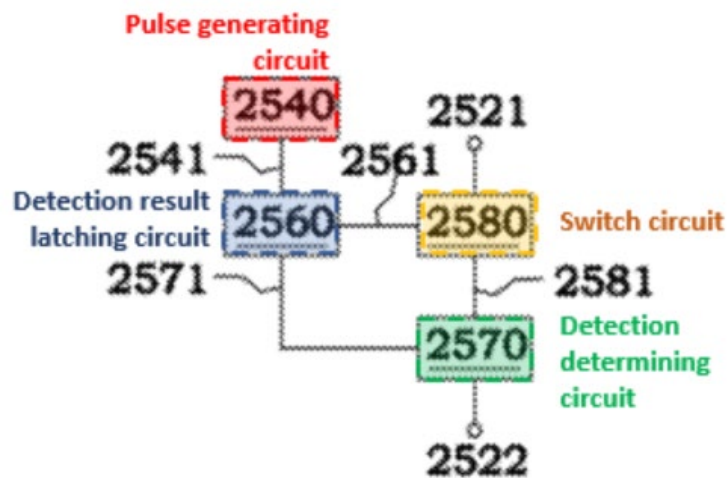


Fig. 15B

The pulse generating and detection determining circuits both output to a detection result latching circuit that in turn controls the switch circuit. The detection

result latching circuit turns the switch on when it receives a pulse signal from the pulse generating circuit, Appx183 ('140(47:16-27)), when the detection determining circuit detects a proper installation, or both, Appx180-181 ('140(42:67-43:15; 43:34-40, 44:7-17)).¹ In practical terms, the pulse generating circuit quickly turns the switch off and on to test for unexpected resistance such as a person touching the pins. If the detection determining circuit finds the installation proper, the switch stays on. Appx10076(111-112).

Claim 1 recites:

1. An installation detection circuit configured in a light-emitting diode (LED) tube lamp configured to receive an external driving signal, the installation detection circuit comprising:

a pulse generating circuit configured to output one or more pulse signals[,] wherein the installation detection circuit is configured to detect during at least one of the one or more pulse signals whether the LED tube is properly installed on a lamp socket, based on detecting a signal generated from the external driving signal; and

a switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit;

wherein the installation detection circuit is further configured to:

when it is detected during one of the one or more pulse signals that the LED tube is not properly installed on the lamp socket,

¹ The “detection result latching circuit,” required by claim 4 but not claim 1, was construed as a “circuit that stores the detected result and outputs a high logic value when either the stored detected result or the pulse signal output terminal (e.g., inputs 2541 or 2741 in Figures 15E and 15I) has a high logic value.” Appx1305-1310.

control the switch circuit to remain in an off state to cause a power loop of the LED tube lamp to be open; and

when it is detected during one of the one or more pulse signals that the LED tube is properly installed on the lamp socket, control the switch circuit to remain in a conducting state to cause the power loop of the LED tube lamp to maintain a conducting state;

wherein the signal generated from the external driving signal is a sampling signal on the power loop, the installation detection further comprises a detection determining circuit configured to detect the sampling signal for determining whether the LED tube lamp is properly installed on the lamp socket, and the power loop includes the switch circuit and the detection determining circuit, and

wherein the pulse generating circuit is configured to output one or more pulse signals independent of whether the detection determining circuit detects the sampling signal.

Appx188-189.

II. Litigation History

A. CH ignored Super Lighting's negotiation efforts, delayed, and deceived the marketplace about the district court's orders

For months before this litigation began, Super Lighting's Tao Jiang sent messages to CH's CEO, Caiying Gan, attempting to address CH's infringement. Appx10069-10070(83-87); Appx10100-10102(207-208); Appx10142-10143(137-138); Appx11269-11278. CH did not respond, and it was already on notice of its infringement problem. Appx10069-10070(83-87); Appx10099-10102(204-208, 212-215); Appx10142-10143(137-138, 141-142); Appx10145-10146(152-156). Tao Jiang's former technical assistant alerted Qingbo Jiang that "[t]he dual mode IC

and leakage current IC of DIOO”—the chips CH ultimately admitted infringed the ’140 patent—“have patent risk.” Appx10099-10100(204-205); Appx10145-10146(152-154); Appx10276. An internal analysis likewise identified “a risk in quality patents for the products sold, which may lead to large claims.” Appx10146(155); Appx10292.

Having received no response, Plaintiffs sued CH, Ruising, and their Texas-based customer Elliott Electric Supply in January 2020. Appx1283-1304. Defendants continued selling infringing products and took no other action until they appeared in the litigation ten months later. Appx10141(134); Appx10236(152).

When Defendants finally answered the complaint, their original counsel, Radulescu LLP, filed over 150 pages of inequitable conduct allegations, claiming everything from deliberate withholding from the PTO to improper inventorship. Appx2115-2264. Ultimately, those allegations proved baseless, and Defendants stipulated to withdraw them before trial, Appx2071.

Before doing so, however, Defendants affirmatively misled the marketplace about those claims. When the district court granted Defendants leave to amend their answer, Qingbo Jiang falsely stated on his WeChat social media account that Defendants had “obtained the judge’s acknowledgement that the other side’s patents were acquired illegally.” Appx21-22; Appx22157. Qingbo Jiang also posted English and Mandarin versions of an article entitled “Lighting Industry Update: Super Lighting’s

TLED Patent Licensing Program in Jeopardy; Radulescu LLP: The Patents Were Obtained Through Misconduct and Fraud.” Appx22160-22161. That piece, authored by Defendants’ original counsel, similarly mischaracterized the court’s grant of leave to amend the answer as an endorsement of the merits of Defendants’ inequitable conduct allegations. *Id.*

B. During discovery, Defendants made repeated missteps while attempting to shore up the flawed case architected by their previous counsel

Defendants’ original counsel withdrew in May 2021, before depositions commenced. Holland & Knight took over and handled the case through trial.

1. Defendants were sanctioned for repeated gamesmanship regarding purported opinions of counsel

Knowing willfulness would be an issue, Plaintiffs directed one of their first interrogatories to how Defendants responded to learning of the asserted patents. Appx11-12; Appx1505-1506. Although Defendants provided a notice date, their original response and later supplements said nothing about any actions they undertook. Appx11-12; Appx1505-1506.

Four days before fact discovery closed, Qingbo Jiang testified in deposition that he had obtained noninfringement and invalidity opinions via Defendants’ original counsel. Appx11-12; Appx1575-1588. When Defendants refused to produce those opinions, Plaintiffs obtained a court order compelling supplemental production and a second deposition. Appx2021-2022, Appx2025-2026, Appx2032-2035. When

that production again proved deficient, Defendants offered to drop their opinion defense rather than face the court. Appx2071-2072. At his second deposition, however, Qingbo Jiang again invoked the purported opinions. Appx1851-1861.

That resulted in evidentiary and financial sanctions. Appx11-12; Appx1908. Defendants were required to draft a remedial jury instruction stating that they had not taken any action upon learning about the patents. Appx11-12; Appx1908; *see* Appx119; Appx10236(152).

2. Defendants' invalidity case focused on purported product art and suffered from glaring factual holes

For the '125 and '540 patents, Defendants made allegedly prior-art products the centerpiece of their invalidity defense. In doing so, Defendants undertook the burden to prove those products were prior art.

Three allegedly prior-art LED tubes are relevant here: (1) the Cree T8-48-21L-40K (asserted against the '125 patent); (2) the Philips InstantFit LED T8 16.5T8/48-3500 IF 10/1 (asserted against the '125 patent); and (3) the MaxLite L18T8DF440-G (asserted against both patents).² Because experts' trial opinions are limited to the opinions expressed in their exchanged expert reports, *see* Fed. R. Civ.

² Defendants' brief blurs distinctions between different LED tubes by referring to manufacturers and product shorthands rather than specific models. But as Defendants' expert admitted at trial, Appx10186(315-316), Appx10187(317), his opinions applied only to specific tube models, so precision is important.

P. 26(a)(2)(B), an inventory of what the report of Defendants' expert Michael Leby said about those three tubes is instructive.

a. The Cree T8-48-21L-40K

Dr. Leby's report addressed the T8-48-21L-40K's public availability in paragraphs 1008-1009, which read, in their entirety:

4. Cree T8 Series tubes

1008. I understand that the Cree T8 Series tubes ("Cree") were in public use, on sale, or otherwise available to the public prior to September 2014. *See, e.g.*, Cree Specification Sheet. I understand that Cree is therefore prior art to claims 1, 2, 29, and 30 of the '125 patent.

1009. The Cree tube discloses a direct replacement LED tube lamp that works with instant start ballasts. *See* Cree Specification Sheet.

Appx11200. The only other portions of the report addressing the T8-48-21L-40K's purported public availability matched this text. Appx10979. These two paragraphs were thus the entire universe of information Dr. Leby presented on whether the T8-48-21L-40K qualified as prior art.

Dr. Leby's report never addressed the public availability of the T8-48-21L-40K specifically, only "Cree T8 series tubes" generally. Appx11200. Dr. Leby did not assert any personal knowledge of any Cree T8 series tubes' availability as prior art. *Id.* He also admitted that he had not spoken with Cree, or anyone other than Defendants' counsel. Appx10187(318-319). The only basis for his opinion was a "Cree Specification Sheet" that had no bates number or other identifier. Appx11200.

Paragraph 1135 presented an image supposedly taken from that sheet:

1135. Specifically, as shown below, the specification sheet for the Cree Tubes discloses that the Cree LEDT8-48-21L-40K product is a T8 LED lamp, which is a an LED tube lamp.

T8 Series
4' Linear LED Lamp

Product Description
The Cree® linear LED T8 lamp delivers up to 2800 lumens of enhanced spectrum 90+ CRI light while achieving up to 110 lumens per watt. The innovative design allows more uplight than standard LED tubes, thereby providing a more uniform light output. The T8 lamp is available in a wide array of color temperatures and operates using existing fluorescent T8 electronic instant start, programmed/rapid start and dimmable fluorescent ballasts. The T8 lamp is easy to install and fits into linear fluorescent fixtures, making it a perfect upgrade solution where energy savings and long life are critical.

Performance Summary

- Upgrades existing T8 fluorescent lamps
- Utilizes Cree TrueWhite® Technology
- Lamp Efficacy:** 90-110 LPW*
- Lamp Delivered Light Output:** 1,700-2,800 lumens per LED lamp*
- Lamp Watts:** As low as 16.5 watts*
- CRI:** 90+
- CCT:** 3500K, 4000K
- Input Voltage:** 120-480 VAC, determined by fluorescent ballast
- Rated Life:** 50,000 hours
- Controls:** Dimmable (ballast dependent)
- Mounting:** Linear fluorescent fixtures with dry or damp rating
- Limited Warranty*:** 5 years
- Must order in multiples of master carton (MC) quantities; MC=10

* See www.cree.com/lighting/products/warranty for warranty terms

4' LED Lamp
MOL- 48" (1219mm)

Appx11240. The image did not refer to the T8-48-21L-40K model. It bore no copyright stamp or other date. Like paragraph 1008, paragraph 1135 (and identical copies elsewhere in the report) provided no bates number or other identifier tying the image to an underlying document. Appx11009; Appx11246.

Dr. Lebby's limitation-by-limitation analysis of the T8-48-21L-40K in paragraphs 1134-1174 parroted the claim language and concluded that each limitation

was present based on annotated photographs embedded in the report. Appx11240-11253. In many instances, these photographs were so zoomed-in that the rest of the tube, including any potential identifiers, was not visible. *See, e.g.*, Appx11242-11243. In one photo, “Cree ©2014” was stamped on one component of a torn-down tube. Appx11242. But it was unclear whether that stamp related to anything more than that component. Moreover, nothing in the photo tied the components in the zoomed-in image to the T8-48-21L-40K, and the report did not cite that copyright notice as evidence of public availability.

Dr. Leby admitted in deposition and at trial that he had not personally disassembled the T8-48-21L-40K or taken the photographs despite his normal practice to do so. Appx10176(276); Appx1466-1476. Dr. Leby also conceded that he did not direct the teardown and did not know who took the photographs. Appx1466-1476; Appx10176-10177(276-277), Appx10187(318-319). He testified that Defendants’ counsel gave him the photographs. Appx1466-1476.

Defendants admitted that Dr. Leby never saw the physical tubes before preparing his report or before his deposition, and that he performed a remote inspection only after his report (shortly before his deposition). Appx10111(14-15).³

³ Defendants suggest (at 14) that this remote arrangement was due to the COVID-19 pandemic, but none of the cited testimony says that and Defendants did not argue that below. Had Defendants made that claim below, Plaintiffs would have
(footnote continued on next page)

Ultimately, none of Dr. Leiby's "understanding" about the T8-48-21L-40K's public availability was based on the physical tube. It all depended on the mysterious, unidentified "Cree Specification Sheet."

b. The Philips InstantFit LED T8 16.5T8/48-3500 IF 10/1

Dr. Leiby's report addressed the Philips T8 16.5T8/48-3500 IF 10/1 similarly. Two paragraphs asserted Dr. Leiby's "understanding" regarding the availability of "T8 InstantFit LED tubes" generally, not the T8 16.5T8/48-3500 IF 10/1 specifically, even though his limitation-by-limitation analysis was limited to that model:

3. Philips InstantFit LED T8

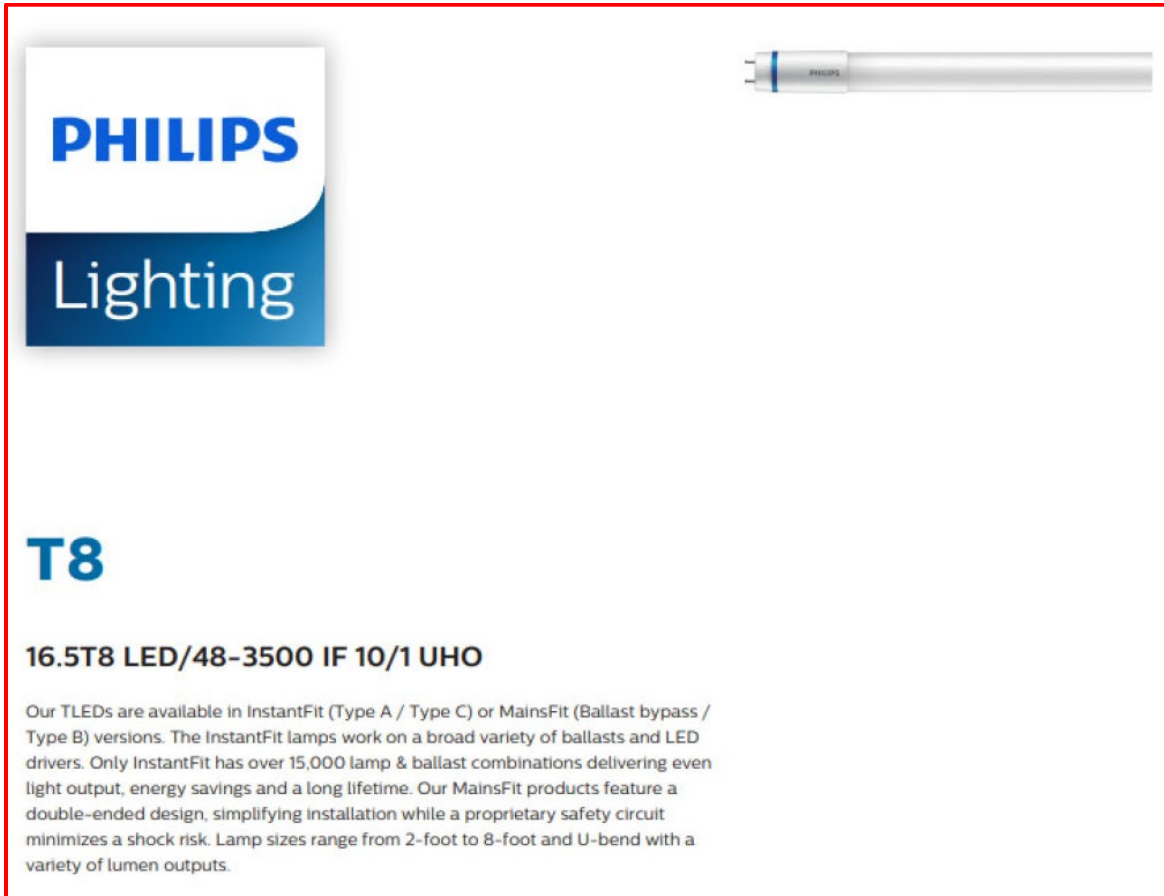
1006. I understand that the Philips InstantFit LED T8 tubes ("Philips") were in public use, on sale, or otherwise available to the public prior to September 2014. *See, e.g.*, Philips Specification Sheet. I understand that Philips is therefore prior art to claims 1, 2, 29, and 30 of the '125 patent.

1007. The Philips tube discloses a direct replacement LED tube lamp that works with instant start ballasts. *See* Philips Specification Sheet.

Appx11200; *see also* Appx10979-10980. Dr. Leiby did not speak to anyone at Philips. Appx10187(319). He generically referred to a "Philips Specification Sheet" with no bates number or other identifier. Appx11200. And while his report later

responded with Dr. Leiby's deposition transcript, in which he testified that inspecting the tubes himself was impractical because he was "on holiday."

presented a picture purportedly from the “Philips Specification Sheet,” the image was undated:



Appx11229; *see also* Appx11021; Appx11234. In paragraph 1097, the report summarily asserted that the “Philips Specification Sheet” was “dated November 28, 2014,” but it provided no citation or other corroboration. Appx11229; *see also* Appx11021; Appx11234.

The report’s limitation-by-limitation analysis of the T8 16.5T8/48-3500 IF 10/1 again relied solely on annotated photographs to which Dr. Leiby had no connection. Appx11228-11239. Dr. Leiby did not inspect that tube before submit-

ting his report, so its appearance did not affect his “understanding” of the tube’s availability or his limitation-by-limitation analysis. Appx10111(14-15).

c. The MaxLite L18T8DF440-G

Dr. Leby’s “understanding” of the purported public availability of the MaxLite L18T8DF440-G likewise appeared in just two paragraphs of his report:

1004. I understand that the MaxLite Direct Fit G Series tubes, including L18T8DF440-G, (“MaxLite Direct Fit G Series”) were in public use, on sale, or otherwise available to the public prior to February 2015. *See, e.g.*, MAXLITE-WDTX-0024323; MAXLITE-WDTX-0024993; MAXLITE-WDTX-0024327; MAXLITE-WDTX-0024330; MAXLITE-WDTX-0024398; MAXLITE-WDTX-0024935; MAXLITE-WDTX-0024326; MAXLITE-WDTX-0024994. I understand that MaxLite Direct Fit G Series is therefore prior art to claims 1, 2, 29, and 30 of the ’125 patent.

1005. The MaxLite Direct Fit G Series tube discloses a direct replacement LED tube lamp. *See* MaxLite Specification Sheet.

Appx11200; *see also* Appx10979. Although this discussion referred to documents by specific bates numbers, Defendants made no offer of proof at trial regarding the contents of any of these documents. The two excerpts discussed in Defendants’ brief did not identify the specific tube (the L18T8DF440-G) that Defendants asserted at trial. Appx1190; *compare* Appx10187(317), Appx10215-10216(68-69); *see also* Appx20215 (screenshot not showing date or model numbers).

The report's limitation-by-limitation analysis included a picture from a purported MaxLite "specification sheet." Appx11214; *see also* Appx10995; Appx11084; Appx11096; Appx11155; Appx11221. But the bates number for that picture did not correspond to the documents cited regarding the L18T8DF440-G's public availability. *Compare* Appx11214 *with* Appx11200. Moreover, like the pictures discussed above, the MaxLite screenshot did not mention the L18T8DF440-G by name, nor did it include any date information. Appx11214.

Although Defendants deposed MaxLite representative Umesh Baheti nearly a month before Dr. Lebby's report, the report did not mention Mr. Baheti or his testimony. Appx10876-11268. Dr. Lebby also confirmed in deposition that he had not spoken to anyone from MaxLite. Appx10187(319). Thus, none of Dr. Lebby's "understanding" came from Mr. Baheti or anyone else at MaxLite.

The report's limitation-by-limitation analysis of the L18T8DF440-G again relied solely on annotated photographs unconnected to Dr. Lebby. Appx11213-11228. Again, Dr. Lebby did not inspect the physical tube before his report, so the tube had no bearing on his "understanding" about its public availability or his limitation-by-limitation analysis. Appx10111(14-15).

3. The district court prevented Defendants from ambushing Plaintiffs with untimely evidence

Recognizing the deficits in their proof, Defendants attempted several last-minute maneuvers to bolster their case as trial loomed. Those gambits failed.

a. Defendants attempted to introduce untimely, unsupported documents from Lumixess

To assert noninfringement of the '140 patent, Defendants procured documents from their LT2600 chip manufacturer, Lumixess, after fact discovery closed. Appx1411-1418. Although those documents bore markings that they had been prepared for counsel rather than kept in the ordinary course of business, the court declined to exclude them on that basis. Appx1113-1114(4-8). But when Defendants failed to procure a sponsoring witness, the court excluded them for failure to comply with Evidence Rules 801 and 901. *Id.*

b. Defendants tried to present a surprise MaxLite witness

Despite their burden to show by clear and convincing evidence that their product art was prior art, Defendants failed to request discovery from their customer MaxLite. Instead, *Plaintiffs* took MaxLite's deposition. Appx1911-1923.⁴

MaxLite's witness, Mr. Baheti, had been with the company only a year, so he had to rely on discussions with other MaxLite employees for information about earlier products. Appx1920-1921. Nevertheless, he refused to answer multiple questions on grounds that he "c[ould]n't comment on before [his] time." *Id.* Although

⁴ Defendants subpoenaed a Philips affiliate, Signify North America Corp., but Signify produced no documents. Defendants also subpoenaed Cree, which produced two pages of documents, but Defendants did not take a deposition and did not present those documents at trial.

Defendants' trial counsel represented Defendants, MaxLite, and Mr. Baheti at the deposition, Defendants asked Mr. Baheti no questions about the L18T8DF440-G's public availability or anything else. Appx1923.

When the parties served trial-witness lists, Defendants identified *both* Mr. Baheti as "May Call by Deposition" *and* an unspecified "MaxLite Representative" as "May Call Live." Appx1926-1927. Because Defendants had not listed anyone from MaxLite in their Rule 26(a) disclosures, Plaintiffs repeatedly asked Defendants for the identity and purpose of the additional unnamed witness. Defendants did not respond. Appx1947-1948; Appx1951-1952.

In September 2021, the court postponed trial by several weeks to November 1, 2021. Appx1955. Although Defendants knew Mr. Baheti would be unavailable due to a religious holiday, Defendants did not mention that conflict until October 13. Appx1968-1971. Defendants then announced, for the first time, that the "MaxLite Representative" would be Eric Marsh and that he would "authenticate and admit DTX-129 through DTX-137." *Id.* Plaintiffs objected to Mr. Marsh, but the court ruled that Defendants could present him "for the sole purpose of authenticating a pre-identified set of documents." Appx1983. When Plaintiffs asked for confirmation that Defendants would accept that limitation, Defendants refused. Appx1981-1982. Defendants later admitted that they intended to have Mr. Marsh sponsor not only DTX-129 through DTX-137, but also other, unspecified documents. Appx1991.

Plaintiffs were forced to seek emergency relief. Appx1179-1185; Appx2001-2006. At the hearing, Defendants (for the first time) cited Mr. Baheti's religious obligations as the justification for Mr. Marsh testifying. Appx1206-1207(4-5). But as Plaintiffs noted, Rule 32 allowed Defendants to offer Mr. Baheti's deposition, and Defendants had already indicated they would be doing so. Appx1207(6-7). Plaintiffs argued that the belated witness identification resulted from Defendants' realization that Mr. Baheti's testimony was insufficient. Appx1206-1208(4-9). Defendants conceded that they had failed to ask Mr. Baheti about the documents they hoped to introduce through Mr. Marsh. Appx1208(10).

With trial just three business days away, the court concluded that it was too late to identify new witnesses for new purposes. Appx1211-1213. The court did, however, invite Defendants to identify where they had disclosed that Mr. Baheti would be authenticating the documents that they were now attempting to introduce through Mr. Marsh. *Id.* The court said it would allow Defendants to substitute Mr. Marsh or re-depose Mr. Baheti if, but only if, Defendants had previously identified admission of the documents as a purpose of Mr. Baheti's testimony. Appx1213. Otherwise, the court ruled, Defendants would be held to their strategic choice not to ask Mr. Baheti any questions. *Id.*

Later that day, Defendants acknowledged that they could not find any such notice to Plaintiffs. Appx2076. The court thus excluded Mr. Marsh but permitted

Defendants to play designations from the Baheti deposition transcript. Appx1212; *see also* Appx2007.

C. Defendants continued their mistakes and misbehavior at trial

Defendants’ tactical blunders continued during trial.

1. Defendants defied the district court’s rulings regarding their abandoned inequitable-conduct defense

Defendants’ original counsel had asserted—indeed trumpeted—an inequitable-conduct defense based on statements pulled out of context from Super Lighting documents. By the time of trial, Defendants had withdrawn that defense. Nevertheless, Defendants continued to try to insert those irrelevant statements into the case to prejudice Plaintiffs.

For example, Defendants attempted to confront Tao Jiang with statements drawn from DTX-98, even though he testified he had never seen the document. Appx10071-10072(89-95). Even after the court ruled the document inadmissible and instructed the jury to ignore the prior questions, Defendants’ counsel read from the document to expose the excluded content. *Id.*⁵

Defendants tried the same tactic with DTX-41, which Defendants’ brief refers to as “Super Lighting’s Internal Presentation.” Even though the court had issued an

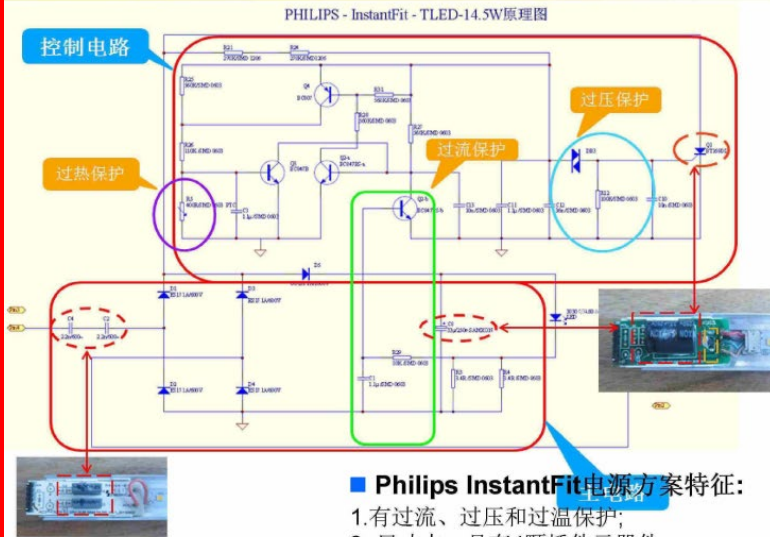
⁵ Defendants quote from that same excluded document in their introduction here (at 3-4) even though it was neither admitted nor subject to an offer of proof.

in limine ruling barring Defendants from using that document in opening statements, Defendants attempted to do so anyway. Appx1906; Appx10049-10050(4-7).⁶ Defendants tried again during Tao Jiang’s cross-examination, and yet again as part of their invalidity case. Appx10071-10072(89-95); Appx10113-10115(22-31).

The court ruled that DTX-41 was relevant only to the abandoned inequitable conduct defense. Appx10049-10050(4-7); Appx10113-10115(22-31). That was so because although the document referred to *a* Cree tube and *a* Philips tube, they were not *the* Cree T8-48-21L-40K and *the* Philips T8 16.5T8/48-3500 IF 10/1 that Defendants asserted were prior art:

⁶ Defendants falsely suggest that the court excluded DTX-41 despite believing it “may invalidate the patent.” The cited discussion did not concern DTX-41 but an argumentative opening-statement slide excerpted from it. Appx10050(5). DTX-41’s admissibility was addressed in a separate conference following Defendants’ eleventh-hour re-do of Dr. Leby’s slides, discussed below. Appx10113-10115(22-31).

2、PHILIPS TLED-14.5W-InstantFit ——驱动原理图



Philips InstantFit电源方案特征:

1. 有过流、过压和过温保护;
2. 尺寸大, 且有4颗插件元器件;
3. 输入侧串联使用薄膜电容, 相对比较可靠;
4. **BF调整率还没测试。**

插件/总元器件:
4/31

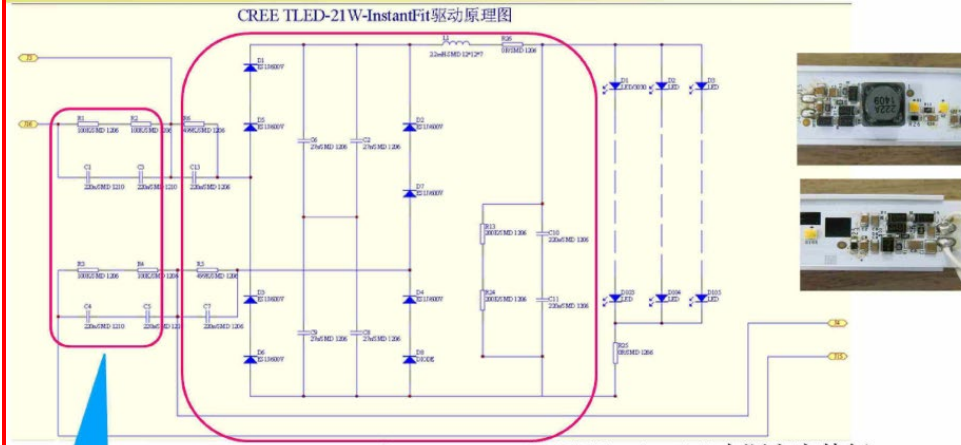
3



HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY
HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

SUPERCDAL-00130784
JSLE-CH-0181018

3、CREE TLED-21W-InstantFit ——驱动原理图



CREE InstantFit电源方案特征:

1. 线路简单, 且插件元器件只有1颗电感;
2. 贴片电容: 需要承受高频、高压大电流, 有开裂的风险;
3. 没有保护电路, 除了与LED串联有1颗00hm起过流保护作用。
4. **BF调整率还没测试过。**

灯丝模拟电路

主电路

插件/总元器件:
1/31

4



HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY
HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

SUPERCDAL-00130785
JSLE-CH-0181019

Appx10113-10115(22-31). In this Court, Defendants claim (at 16) that the tubes mentioned in DTX-41 were “*nearly identical* to those Dr. Leby examined ... confirming they were publicly available before the asserted patents’ priority date” (emphasis added). But Dr. Leby did not examine any tubes for his report (only photographs), and the prior existence of *other* Cree and Philips tubes had no bearing on when the Cree T8-48-21L-40K and Philips T8 16.5T8/48-3500 IF 10/1 were publicly available. Appx10176-10177(276-277); Appx10186(315-316); Appx10187(317).

2. Defendants attempted to ambush Plaintiffs by completely redoing their product-art case the night before Dr. Leby took the stand

Because Defendants lacked public-availability evidence, and because Dr. Leby played no role in creating the photographs that were the centerpiece of Defendants’ limitation-by-limitation analysis, Defendants attempted to overhaul their invalidity case during trial. Appx27-28. At 7 p.m. the evening before Dr. Leby’s testimony, in what the district court referred to as “[m]aybe the most extraordinary example” of Defendants’ conduct, they served the list of Dr. Leby’s proposed exhibits and copies of his proposed demonstratives. *Id.*; Appx10773-10777. The exhibits included documents that were not cited in his expert report, and almost every photograph in the demonstratives had been retaken. Appx27-28;

Appx10773-10777. Plaintiffs' counsel had to spend the next 4½ hours detailing the changes and inconsistencies for the court. Appx27-28; Appx10773-10777.

The next morning, before the jury arrived, the court heard argument on Plaintiffs' objections. Appx10108-10117(3-37). Systematically addressing each category of evidence, the court ruled as follows:

- Because Defendants acknowledged that Dr. Leiby “never had the physical tubes before he did his report,” Defendants could not present the physical tubes to the jury. Appx10109-10112(6-17).⁷
- Defendants could present any datasheets that Dr. Leiby had specifically identified in his report. Appx10112-10113(17-22).
- Defendants could not use DTX-41 to demonstrate public availability of the Cree T8-48-21L-40K or Philips T8 16.5T8/48-3500 IF 10/1 because the document did not address those particular tubes. Appx10113-10115(22-31).
- Defendants could use the original photographs from Dr. Leiby's report. Appx10115-10116(31-33).

When Defendants put Dr. Leiby on the stand, Plaintiffs conducted voir dire and elicited his lack of knowledge about or connection to the photos. Appx10176-

⁷ Defendants' trial counsel blamed Defendants' original counsel for the decision to withhold the tubes. Appx10111(16) (“[W]e took over late.”). The court noted that they “ha[d] to live with the case that [they] got,” but allowed Defendants make an offer of proof before they rested. Appx10111-10112(16-17).

10177(276-277). Based on Defendants' representation that their original counsel had taken the photos, the court allowed them to be published to the jury over Plaintiffs' objection. Appx10177(279).⁸ Although Defendants used the photos as demonstratives to walk Dr. Leby through various limitations, Defendants never sought to admit the photos into evidence. Appx27-28. Dr. Leby never mentioned the data-sheets at all. Appx10175-10190(271-330).

Although Dr. Leby opined that the "Cree tube," the "Philips tube," and the "MaxLite tube" were "on sale in 2014," in each instance he provided only an unsupported conclusion:

Q. What is your opinion as to when the Cree tube was on sale?

A. My opinion about the Cree tube from the evidence I've seen so far in this case was that it was on sale in 2014, which pre-dates the priority date of this patent.

⁸ Defendants claimed to have a "chain of custody affidavit" for the photos. Appx10177(279). In actuality, the affidavit merely said Defendants' original counsel had transferred the *physical tubes* to trial counsel six months earlier. Appx27.

Q. What is your opinion as to when the MaxLite tube was on sale?

A. My opinion, looking at the evidence in this court, what I've seen so far, is the MaxLite tube was on sale in 2014, which pre-dates the priority date of the '125 patent.

Q. What is your opinion about when the Philips tube was on sale?

A. My opinion, looking at the evidence I've seen in this case and which I've also noted in my expert report and also said in testimony at my deposition, that it was on sale in 2014.

Appx10178-10180(282-289). Dr. Leby did not elaborate on what “evidence [he had] seen.” Appx10175-10190(271-330). On cross-examination, he admitted he had no personal knowledge about the tubes’ public availability and had never talked to anyone from the three companies. Appx10187(317-319). Despite having been present throughout trial, he claimed not to remember whether any witness had addressed the tubes’ availability. *Id.* When pressed for documentary evidence of availability before Plaintiffs’ February 12, 2015 priority date, all he could cite was the “2014” copyright date on one internal component of a Cree T8-48-21L-40K. *Id.* Defendants did not ask Dr. Leby about the product art on redirect. Appx10190(329-330).

3. Defendants’ key witness, Qingbo Jiang, opened the door to his own impeachment regarding Defendants’ willfulness

During their case-in-chief, Defendants called Ruising CEO Qingbo Jiang. Among other things, he testified that it had taken twenty months to retain counsel. Appx10141(134-135); Appx10144-10146(145-154). That statement was belied by correspondence with Defendants’ original counsel within days of the complaint. Appx10141-10146(134-154). Plaintiffs impeached him on that issue, using that correspondence—the email encouraging Defendants to “DELAY and AVOID” service—and other inconsistencies. *Id.*; Appx10295-10302. For example, although he testified that he “did not believe [Super Lighting’s patents were] an issue because ... there were prior arts,” CH documents showed that CH engineers feared “large claims” from Super Lighting’s “quality patents,” including those asserted here. Appx10146(155); Appx10288-10293.

4. Defendants limited their offer of proof to the physical tubes and had no response to the district court’s calls for evidence that the product art was publicly available

When Defendants finished their case, the court allowed them to make their offer of proof. Appx10209-10210(44-46). Defendants limited the offer to the physical tubes; they never mentioned the datasheets, photographs, DTX-41, or any excluded witness testimony. *Id.*

Although Defendants claimed each tube was “self-authenticating,” they failed to identify how and did not mention the “©2014” stamp on one component of a Cree

T8-48-21L-40K. *Id.* Although Defendants contended that the tubes themselves demonstrated they were publicly available before February 12, 2015, Defendants did not explain how. *Id.*

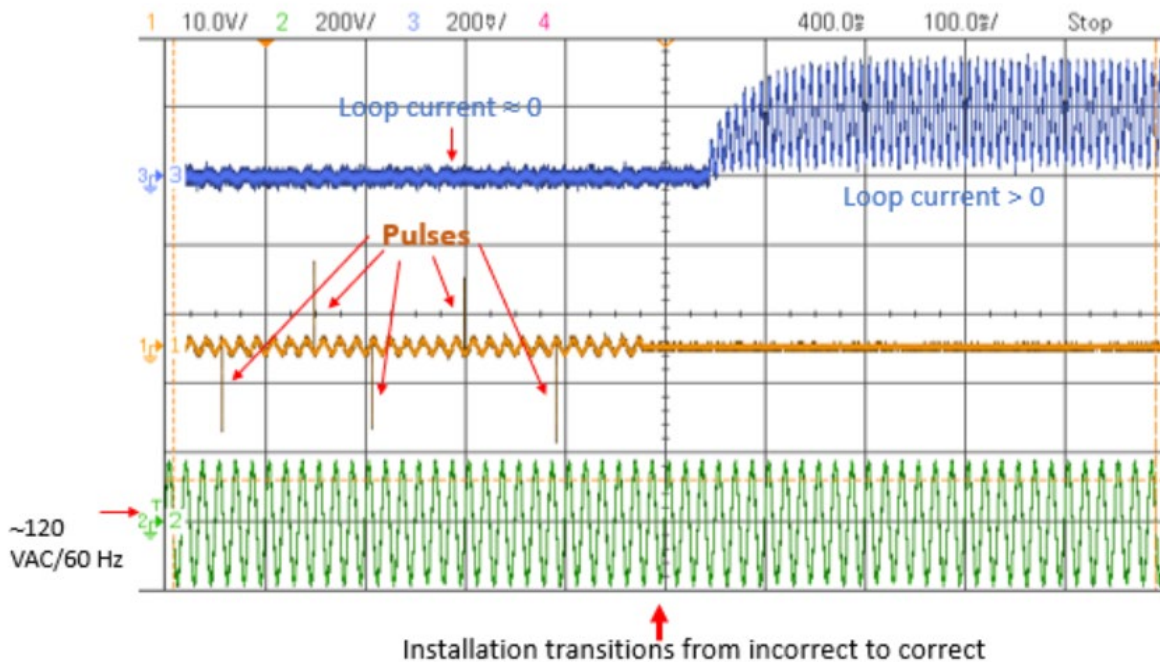
Once Defendants concluded their proffer, the court heard Plaintiffs' JMOL motion. Appx10210-10212(47-53). Plaintiffs emphasized the absence of proof that the asserted products were prior art, and Defendants conceded that the only record evidence was Dr. Lebbby's testimony. *Id.*

After a recess, the court heard Defendants' cross-motion for JMOL and then returned to the product art. Appx10215-10219(67-82). The court pressed Plaintiffs on whether Dr. Lebbby's testimony, standing alone, precluded JMOL. Appx10216-10217(72-75). Plaintiffs stressed that nothing—not Dr. Lebbby, not the photographs, not even the excluded tubes—demonstrated public availability. Appx10216-10218(72-79). Although the court gave Defendants multiple opportunities to identify any evidence to fill that void, Defendants mustered only the excluded presentation regarding different tubes (DTX-41), the mismatched datasheets that Dr. Lebbby did not address at trial, and the “©2014” stamp on one component of a Cree T8-48-21L-40K. Appx10217-10219(73-82). Finding that insufficient to carry Defendants' high burden, the court granted JMOL. *Id.*

D. Plaintiffs showed that Defendants’ accused products practiced the ’140 claims, but the prior art did not

Before trial, Defendants conceded that all accused products infringed the asserted patents except those using Lumixess’s LT2600 chip. Appx5-7.

At trial, Plaintiffs’ infringement expert, Brian D’Andrade, demonstrated that the LT2600 included a pulse generating circuit wired to a semiconductor switch that activated and deactivated the main power loop. Appx10093-10096(177-189). Dr. D’Andrade showed how pulses turning the switch on and off resulted in voltage spikes on the main power loop:



Appx10094(183-184); Appx21650; Appx21691.

Dr. D’Andrade also explained how the accused products used *both* the results of a determination by the detection determining circuit *and* the pulses to turn the switch on or off. Appx10095. That is, *either* the pulse generator *or* the detection result could turn on the switch via the detection result latching circuit, so that the pulses would turn the switch on briefly and a positive detection result would keep it on. Appx10095-10096(187-189).

Ono, the lone reference raised on appeal, lacked a “pulse generator controlling a main power switch,” and Defendants failed to demonstrate that it did. Ono’s component 501, which Defendants contended satisfied this limitation, Appx10016 ¶ 57, did not couple to or control the switch 40 connected to the power supply circuit, Appx10030.

Rather than showing that the pulse generator controlled the main power switch, Defendants’ expert, Regan Zane, contended that Ono’s “pulse generating circuit ... inject[ed] ... pulses into the power loop” and that the *detection circuit* then determined whether the circuit was properly installed and used that output to control the switch. Appx10158(202-203). Plaintiffs’ validity expert, Joshua Phinney, flagged this inconsistency, explaining that in Ono the detection result *alone* controlled the switch and that Ono therefore did not anticipate or obviate the asserted claims. Appx10221(90-92).

E. The comparable licenses, royalty format, and royalty base were undisputed, and the jury heard dueling theories on how to calculate the running-royalty rate

On damages, Plaintiffs' expert, Lauren Kindler, and Defendants' expert, Drew Mooney, agreed on the hypothetical negotiation date, royalty format (a per-unit running royalty), and royalty base. Appx10119(46-48); Appx10126-10127(73-80); Appx10205(28). They disputed the appropriate royalty rate, but even there they agreed on the two comparable real-world licenses would have informed the hypothetical negotiation. Appx10120(52); Appx10193(342). One license, between Super Lighting and TCP in 2021, contained a base rate of 30¢/unit that increased to 60¢/unit under certain circumstances. Appx21341-21346. A second license, between Super Lighting and Lunera in 2016, provided a 5%/unit royalty. Appx21327-21339.

The experts disagreed only about what adjustments to make to those rates. First, although both experts agreed that the Lunera and TCP deals occurred years before and after the hypothetical negotiation, only Ms. Kindler accounted for those differences. Appx10120-10123(52-62); Appx10194-10195(346-347). Because tube prices dropped significantly between 2018 and 2021, she opined that the 2021 TCP rates of 30¢/unit and 60¢/unit understated the rates the parties would have contemplated at the hypothetical 2018 negotiation. Appx10121-10122(55-56). Conversely, because prices were higher when the Lunera agreement was signed in 2016, she

translated the 5% rate to 35¢/unit to 45¢/unit in 2018 dollars. Appx10122-10123(59-61). Mr. Mooney made no temporal adjustments. Appx10194(346-347).

Next, under *Georgia-Pacific* factor 5, Ms. Kindler found that Super Lighting's ongoing customer relationship with TCP outweighed any competition between them, so Super Lighting would have sought to charge its competitor CH far more than its "good, valued customer." Appx10121-10122(55-57). Not only were 89% of CH's sales and 95% of Ruising's sales to Super Lighting customers, but in Defendants' eyes, CH had lured away employees, taken confidential business information, and infringed the patents-in-suit. Appx10123-10125(62-65, 69-71). Ms. Kindler found that competition had a similar upward influence on the Lunera rate. *Id.* Mr. Mooney disregarded the competition between the parties, concluding that Super Lighting would have offered archrival CH the same terms as customers like TCP. Appx10205-10206(28-31).

Those different adjustments put Mr. Mooney and Ms. Kindler on different footing when they apportioned the TCP and Lunera rates to reflect the other patents included in those licenses. Both experts acknowledged the need to apportion, and both testified that they adjusted downward. Appx10121-10123(53-56, 60-61); Appx10203-10204(19-22). Because Mr. Mooney began at a much lower starting point, he finished at a much lower point as well. Appx10203-10204(19-22). But their

differing endpoints were due primarily to Ms. Kindler's counterbalancing increases. Appx10121-10123(53-56, 60-61).

When weighing the additional patents included in TCP's license, Ms. Kindler considered documentary evidence and conversations with Super Lighting personnel and technical experts, all of which indicated that the '140 patent and patents related to the '540 and '125 patents had driven the TCP deal. Appx10121-10123(53-55, 60-61). That fact convinced her to leave her rate constant even when some asserted patents were dropped from the case. Appx10118(41-42). Mr. Mooney also left his rate unchanged when the number of asserted patents was reduced. *Id.*

After apportioning, both experts applied reasonableness checks. Mr. Mooney examined rates charged for Signify's patent portfolio, while Ms. Kindler considered the parties' profitability. Appx10194-10195(347-349); Appx10125-10126(67-73). CH's per-unit profit was \$1.08/unit, nearly twice Super Lighting's 61¢/unit. Appx93; Appx10125-10126(67-73); Appx10304-10589; Appx10590-10599; Appx10600-10620; Appx10621-10770; Appx10771; Appx10772. Ms. Kindler noted that, even if the jury awarded 45¢/unit, CH would be left with 63¢/unit profit—more than Super Lighting's profits. Appx10125-10126(69-73). CH and Ruising sold \$99.8 million of infringing LED tubes before trial, yielding profits of \$33.4 million. Appx10772; Appx10124(67-68); Appx10141-10142(136-37); Appx10144(145-146).

Ultimately, Ms. Kindler calculated damages of \$9,447,551 to \$14,171,326, while Mr. Mooney proposed \$2,094,702. Appx10119(46-47); Appx10191(335).

F. The jury found the patents valid and infringed and awarded damages of \$14,171,326, and the district court upheld the verdict

The jury issued a unanimous verdict for Plaintiffs. It found that the products including the LT2600 chip infringed the '140 patent and that CH and Rusing's infringement of all three patents was willful, but Elliott's was not. Appx135-140. It further found that Defendants had not proven that any asserted claims were invalid. *Id.* As damages, it awarded Plaintiffs \$13,872,872 from CH and Rusing and \$298,454 from Elliott. *Id.*

Defendants filed new trial and JMOL motions. Appx20000; Appx20026. The court requested additional briefing on this Court's decision in *Apple Inc. v. Wi-LAN Inc.*, 25 F.4th 960 (Fed. Cir. 2022). Appx23282-23283.

In a 48-page order, the court considered and denied Defendants' post-trial motions. Appx46-94. It also awarded Plaintiffs damages for Defendants' undisclosed infringing sales before, during, and after trial through the entry of judgment, and an ongoing royalty thereafter. *Id.* The court issued a separate 42-page order addressing Plaintiffs' motions. Appx4-45. In light of the willfulness verdict, the court found Defendants' behavior egregious and doubled damages, but it exempted from the enhancement the period between Defendants' answer and the verdict. Appx22-23. Although the court found that Defendants "conducted themselves in an

unreasonable manner on certain issues and approached exceptional territory,” it declined to award attorneys’ fees. Appx23. The court also denied a permanent injunction, concluding that Plaintiffs had not established a sufficient nexus between their injuries and the asserted patents. Appx34.

SUMMARY OF ARGUMENT

1. The district court correctly granted JMOL that Defendants failed to prove that the asserted ’125 and ’540 claims were invalid.

a. Defendants did not present clear and convincing evidence that the three tubes asserted to be prior art actually *were* prior art. Dr. Lebbly’s report relied entirely on unidentified specification sheets, but those documents said nothing about public availability, and Dr. Lebbly did not rely on them at trial. Given the deficiencies in his report, all he could (and did) offer were naked, unsupported assertions that the tubes were prior art.

Defendants complain that the court excluded other evidence, but those rulings resulted from Defendants’ missteps, and none was an abuse of discretion:

- The court properly barred Dr. Lebbly from discussing the physical tubes because Dr. Lebbly did not address them in his report. Indeed, he had not even inspected them at that point. Anyway, the tubes themselves did not show that they qualified as prior art: two bore no date, and the “Cree ©2014” stamp on one internal component of the third did not

show that the whole tube was publicly available by February 12, 2015.

The court allowed Dr. Lebbly to use photographs of the tubes as demonstratives, and they would not have proven anything about public availability even if fully admitted.

- The court did not exclude any MaxLite documents. It simply and properly limited Mr. Marsh's testimony to authentication of particular MaxLite documents because Defendants did not disclose him or his testimony until just before trial. Moreover, Defendants failed to make an offer of proof of what Mr. Marsh would have said.
- The court reasonably excluded DTX-41 because that document did not refer to the particular Cree and Philips tubes asserted to be prior art and was therefore immaterial to invalidity.

Ultimately, Defendants are forced to argue that Dr. Lebbly's mere assertion that the tubes were prior art was enough, by itself, for a jury to find that the tubes were prior art. But an expert's unsupported say-so does not provide substantial evidence—especially here, where Defendants bore a heightened burden of proof. Federal Rule of Evidence 703 allows experts to rely on inadmissible evidence in some circumstances, but Dr. Lebbly did not identify any supporting evidence, and none of the excluded evidence provided clear and convincing proof that the asserted products were prior art.

b. The judgment can also be affirmed on the alternative ground that Defendants failed to present clear and convincing evidence that the asserted product art included “an LED light strip disposed on an inner circumferential surface of the lamp tube,” as required by the ’125 and ’540 claims. The photographs Dr. Lebbly discussed did not show the spatial relationship between the LED strip and the inner circumferential surface of the lamp tube.

2. Substantial evidence supported the jury’s verdict that ’140 claim 1 was infringed and was not proven invalid.

The jury was entitled to find that Ono did not disclose a “switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit.” Defendants contended that Ono’s switch 40 was the claimed “switch circuit,” but that switch was not coupled to the asserted “pulse generating circuit.” Substantial evidence also showed that the alleged “pulse signals” did not control the claimed switch. Rather than demonstrating how they carried their burden of proof, Defendants attack Plaintiffs’ rebuttal testimony. And that testimony properly established that the alleged “pulses” did not control turning the light switch on and off. Defendants’ arguments about impedance attack a straw-man and confuse distinct claim elements.

The jury was also entitled to find that the products containing LT2600 chips infringed. Plaintiffs did not attempt to twist the claims like a “nose of wax,” as

Defendants charge. Defendants’ argument confuses the functions of the claimed “pulse generating circuit” and “detection determining circuit.” Plaintiffs showed that the accused products included both, whereas Ono lacked pulses that controlled the power switch.

3. Defendants’ attacks on the damages award are misguided.

The jury properly awarded the damages Ms. Kindler estimated. Both experts considered Super Lighting’s previous licenses to TCP and Lunera to be comparable and the most reliable agreements available. Ms. Kindler properly adjusted those rates for distinguishing circumstances—upward based on the fact that the parties were fierce competitors, upward for TCP and downward for Lunera due to different timing, and downward because the TCP and Lunera licenses included additional patents. Defendants argue that Ms. Kindler did not adjust *enough* for the differences in license scope, but Ms. Kindler explained why the asserted patents would have driven the hypothetical negotiation, and Defendants’ own expert did not reduce his rate when other patents were dropped before trial. The jury was entitled to credit Ms. Kindler’s analysis. The cases on which Defendants rely were dissimilar and do not require a new trial in these different circumstances.

ARGUMENT

I. The district court properly granted JMOL on the product art because Defendants failed to show that those products were prior art

Before a defendant can argue the technical merits of asserted product art, it must prove by clear and convincing evidence that the asserted products were *prior* art. Defendants flunked that predicate step. Based on the record Defendants made, no reasonable jury could have found that the Cree T8-48-21L-40K, Philips T8 16.5T8/48-3500 IF 10/1, or MaxLite L18T8DF440-G tubes were publicly available by February 12, 2015. The district court did not abuse its discretion in its evidentiary rulings, and no excluded evidence would have changed the outcome.

A. Dr. Leppy's bald, evidence-free assertions provided no basis for the jury to find that the cited tube products were publicly available

Although Defendants contend (at 9) that Dr. Leppy “testified—*based on the tubes, specification sheets, and documentation*—that the tubes were prior art because they were on sale in 2014, before the patents’ 2015 priority date” (emphasis added), that is simply untrue. Dr. Leppy said no such thing because, given the shortcomings of his report, he could not.

Dr. Leppy’s entire testimony regarding each tube’s public availability was a single, conclusory sentence. Appx10178(282), Appx10179(285), Appx10180(289). His statement regarding the Cree T8-48-21L-40K is representative:

Q. What is your opinion as to when the Cree tube was on sale?

A. My opinion about the Cree tube from the evidence I've seen so far in this case was that it was on sale in 2014, which pre-dates the priority date of this patent.

Appx10178(282). Dr. Leby never identified “the evidence [he had] seen,” e.g., by providing “materials considered” lists like other experts did. *See* Appx10175-10190(271-330), Appx21146-21224; Appx21630-21631. His opaque reference to unidentified “evidence” gave the jury nothing to assess whether his opinion was reasonable and well-supported.

Although Dr. Leby’s report contained screenshots of unidentified “specifications,” Defendants never asked him about those or otherwise attempted to introduce them. Appx10175-10185(172-309), Appx10190(329-330). Dr. Leby never raised them on cross-examination, either. Appx10185-10190(309-329). The hearing on Defendants’ attempt to overhaul Dr. Leby’s report the night before his testimony explains why. As to the Cree T8-48-21L-40K and the Philips T8 16.5T8/48-3500 IF 10/1, Plaintiffs explained that the mysterious screenshots lacked product numbers and date information and that those documents did not match the ones Defendants proposed to use with Dr. Leby. Appx10112(19-20), Appx10115(29-30), Appx20063. Although Dr. Leby’s report listed additional documents for the

MaxLite L18T8DF440-G, those related to the wrong products or had dates that were too late. Appx20063. Thus, although the court ruled that Defendants were free to use any documents cited in Dr. Leby's report that specifically referred the asserted products, Appx10112-Appx10113(20-22), Defendants never tried to do so because there were none.

The jury learned that Dr. Leby had not performed or directed any tube tear-downs himself. Appx10176-10177(276-277). It also heard that Dr. Leby had nothing to do with the tube photographs. Appx10177(277). He had not seen the tubes himself and conceded he had no personal knowledge about their public availability. Appx10187(317-319). He failed to speak with anyone at Cree, Philips, or MaxLite, and he could not direct the jury to any testimony about the tubes' availability. *Id.*

The "Cree ©2014" stamp Dr. Leby mentioned on cross-examination did not cure Defendants' failure to prove public availability by February 12, 2015. Appx10187(318), Appx21156. For starters, that stamp involved only the Cree T8-48-21L-40K. And even there, a single stamp on a single internal component did not provide clear and convincing evidence of when the overall tube was publicly available. Appx10217(73-74). Defendants presented no evidence that components made in, say, late 2014 must have been incorporated into finished products and on sale by February 12, 2015.

Ultimately, Dr. Lebbly's testimony that the asserted product art was publicly available by the critical date consisted of one conclusory sentence per tube. Those bald, baseless conclusions did not satisfy Defendants' burden of proof, and the district court properly granted JMOL for that reason.

B. None of the district court's evidentiary rulings was an abuse of discretion, and none would have established public availability before the critical date

Although Defendants blame "a cascading series of errors" for the exclusion of three categories of evidence regarding the product art, it was Defendants themselves who committed those errors, not the court. At every turn, Defendants committed mistakes or violations that resulted in the proper exclusion of evidence. Moreover, nothing that was excluded would have enabled Defendants to demonstrate that the Cree T8-48-21L-40K, Philips T8 16.5T8/48-3500 IF 10/1, or MaxLite L18T8DF440-G tubes were publicly available by February 12, 2015. Defendants thus are not entitled to a new trial, much less judgment in their favor.⁹

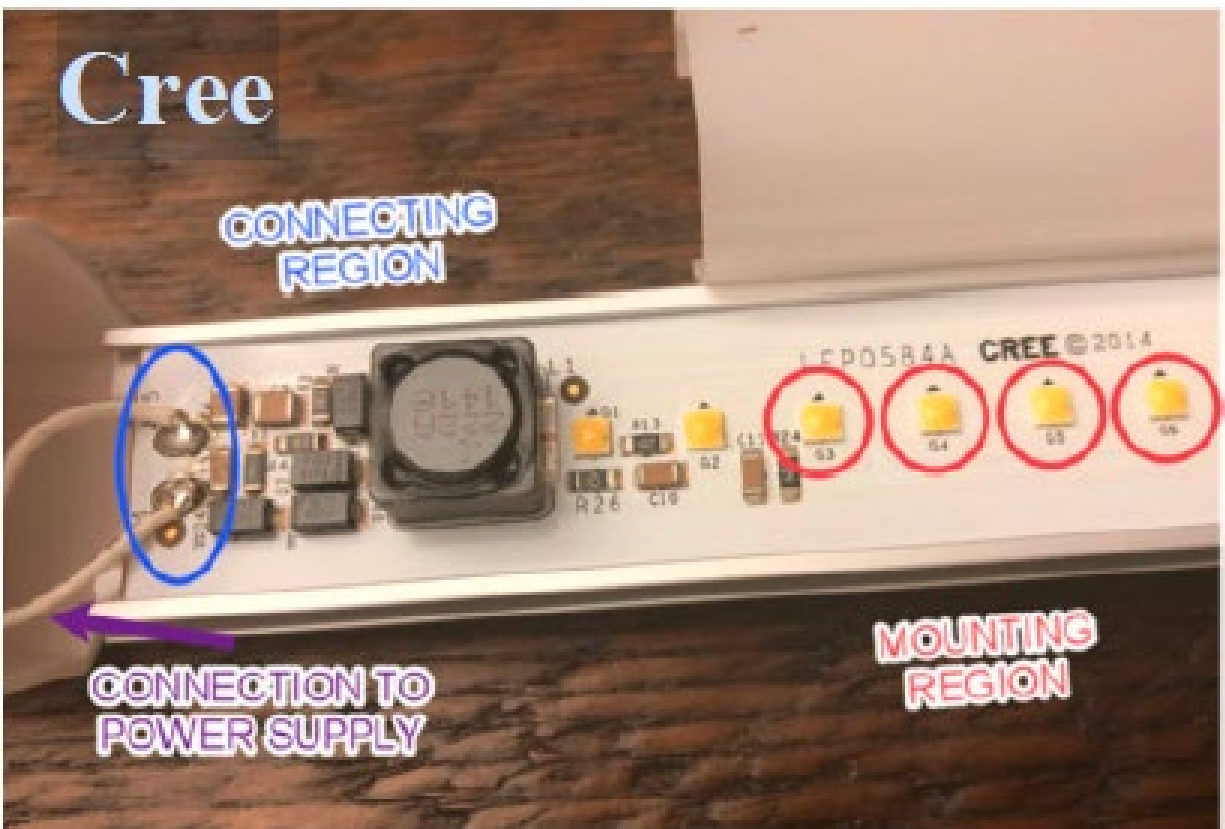
⁹ In passing, Defendants suggest that this Court should ignore their evidentiary failings based on the PTO's initial decisions in subsequent *ex parte* reexaminations. But the art in those reexaminations is different, and the reexaminations remain ongoing. Similarly, as Plaintiffs have explained, Dkt. 22, the amicus brief submitted by the Zhejiang Province Association of Lighting Industry relies on different art, and it is unclear whether the Chinese panel selected by the Association applied U.S. patent law.

1. The physical tubes

Defendants have only themselves to blame for the exclusion of the physical tubes. Defendants' first excuse, that "the pandemic" necessitated Dr. Leby's use of photographs instead of the physical tubes, has no support in the record. *See* n.3 *supra*.

Defendants' second rationale, that no evidentiary rule "renders relevant, authentic objects inadmissible unless an expert touches them before trial," misses the point. The district court repeatedly warned that experts' direct testimony would be limited to their written reports. Appx1115(9-11). That constraint stems not from the Federal Rules of Evidence but the Federal Rules of Civil Procedure: Rule 26(a)(2)(B) requires expert reports to contain "a complete statement of all opinions the witness will express and the basis and reasons for them." Here, Dr. Leby did not have the tubes or do anything with them when preparing his report. Appx27-28; Appx10110-Appx10111(9-15). He admitted as much under oath. Appx10176-10177(276-277), Appx10187(317-319). The "choice" the district court referred to when excluding the tubes was Dr. Leby's decision to base his report on other things (photographs and specification sheet snapshots). Appx10111(15-16). Defendants never addressed that shortfall below, they have not done so here, and they should not be allowed to do so for the first time in their reply brief.

Defendants’ meager offer of proof confirmed that the physical tubes would not have changed the outcome anyway. As part of the proffer, Defendants claimed the tubes were “self-authenticating” through “trade inscriptions,” Appx10115(31), an argument they reiterate here. But the proffer did not identify those supposed “trade inscriptions.” Appx10210(45-46). Defendants’ post-trial briefing was similarly silent. Appx20037. If Defendants meant the “Cree ©2014” stamp on one internal component of the Cree T8-48-21L-40K, that stamp could not self-authenticate the Philips T8 16.5T8/48-3500 IF 10/1 or the MaxLite L18T8DF440-G. It was insufficient for the Cree T8-48-21L-40K, too. The photo showing the stamp was a zoom-in on a circuit board mounted on a metal rail:



Appx20012, Appx21156. The rest of the tube was invisible. Nothing from the photo itself—or from Dr. Leby, who did not take the photo—indicated that the circuit/rail shown belonged to a T8-48-21L-40K. Even if it did, there was no indication that the copyright date applied to the entire tube rather than the component shown, and Defendants provided no reason to conclude that the entire tube was available by February 12, 2015 simply because one component was designed in 2014.

Thus, even if the tubes had been admitted, they could not have established that any of them qualified as prior art.

2. The MaxLite documents and Mr. Marsh’s testimony

Defendants’ next arguments purport to address the “MaxLite documents,” but they actually concern the preclusion of Mr. Marsh’s testimony. The district court never excluded the MaxLite documents themselves, and had Defendants made better tactical choices, those documents might have been admissible.

Once again, Defendants fail to grapple with their own role in causing Mr. Marsh’s exclusion. Defendants could have disclosed MaxLite and/or individual MaxLite employees as witnesses with knowledge regarding the MaxLite documents, but they did not. Appx1200-1202, Appx21286-21287. Defendants could have sought discovery from MaxLite, but they did not. Appx1200-1202. Defendants’ trial counsel could have used their representation of MaxLite to ensure that MaxLite provided a knowledgeable, well-prepared deposition witness, but they did not.

Appx1200-1202. Defendants' lead trial lawyer represented Umesh Baheti at his deposition and could have asked him to authenticate whatever documents Defendants wanted to introduce at trial, but he did not. Appx1200-1202, Appx1923, Appx10147-10149(159-165). Defendants could have responded to Plaintiffs' inquiries about the unnamed MaxLite witness, or flagged Mr. Baheti's scheduling conflict earlier, but they did not. Appx1200-1202. Indeed, if Defendants had simply limited the scope of Mr. Marsh's testimony to authentication of DTX-129 through DTX-137, they would have been allowed to proceed, as the court allowed such testimony over Plaintiffs' objection. Appx1200. Rather than live with that, Defendants tried to ambush Plaintiffs with new, undisclosed testimony. Appx1991-1999. That is what prompted the court to reexamine the dispute and review Defendants' history of misbehavior.

Defendants' other arguments fall flat in the face of the record. Defendants' claims that Plaintiffs faced no prejudice and that the court never addressed prejudice are belied by the hearing transcript. Plaintiffs explained at length how they would be harmed by new testimony by a new witness at the eleventh hour, and the court did not abuse its discretion in recognizing the problems caused by raising new witnesses just days before trial. Appx1185, Appx1207-1208(6-12). Defendants' criticism about "not accommodating Mr. Baheti's religious observance" is baseless: Defendants never planned to substitute Mr. Marsh for Mr. Baheti. Rather, Defendants'

witness list showed that they wanted to have it both ways, playing Mr. Baheti's deposition *and* calling Mr. Marsh live. Appx1926-1927. Defendants' complaints that the witnesses did not need personal knowledge and that it was sufficient to identify a "MaxLite witness" are not only misguided but irrelevant, as the court's rulings were not based on such grounds. Appx1211-1212(24-28), Appx2007-2008.

Finally, Defendants never explained below whether or how the MaxLite documents or Mr. Marsh's testimony would have shown public availability. Defendants could have made an offer of proof about either or both but chose not to do so, leaving the record devoid of information about their contents.

3. DTX-41

The district court also did not abuse its discretion in excluding DTX-41. The Cree and Philips tubes referenced in DTX-41 were not the Cree T8-48-21L-40K and Philips T8 16.5T8/48-3500 IF 10/1 Defendants asserted as prior art. Appx20069-20080. Nothing a Super Lighting document said about having seen *other* Cree or Philips tubes had any probative value regarding whether those particular models were publicly available by the critical date. The screenshots above confirm as much.

Defendants' suggestion that other tube models might be "material to invalidity" rings hollow. If other tubes with different product numbers and different wattages were invalidating prior art, Defendants should have identified them in their

invalidity contentions, Dr. Leby's expert report, and their 35 U.S.C. § 282 notice. Defendants did not and thus cannot rely on other tubes here.

C. Dr. Leby's testimony was not substantial evidence that the asserted products were prior art

As a result of their own missteps, Defendants failed to get evidence of public availability of the asserted product art into the trial record. The physical tubes were properly excluded. The purported photographs of those tubes were offered only as demonstratives. Appx27-28, Appx10177(278-279). The purported specifications of the tubes were never offered. Appx10175-10190. No percipient witness testimony was presented. Appx27-28. And the third-party documents Defendants offered were properly excluded for lack of a sponsoring witness. Defendants were left with Dr. Leby's bare, conclusory assertion that the product art qualified as prior art. The district court correctly held that that supposed "evidence" did not provide the clear and convincing evidence that Defendants needed to prevail.

Defendants suggest that Dr. Leby was free to opine on invalidity absent evidentiary support. Not so. Under controlling regional-circuit law, "[a]n expert's opinion must be supported to provide substantial evidence." *Guile v. United States*, 422 F.3d 221, 227 (5th Cir. 2005) (internal quotations and citations omitted). In the Fifth Circuit, "if an opinion is fundamentally unsupported, then it offers no expert assistance to the jury," and "[a] claim cannot stand or fall on the mere ipse dixit of a credentialed witness." *Id.* Similarly, this Court has held that it is error to deny JMOL

(or appropriate to grant it) when there was no “factual support for an expert’s conclusory opinion.” *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) (citing *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1473 (Fed. Cir. 1997), and *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)).

Defendants twist or alter the language of opinions in an effort to generate authority when there is none. For example, when Defendants claim (at 30) that “[t]his Court and the Fifth Circuit have repeatedly held that ‘expert testi[mony],’ *by itself*, constitutes ‘substantial evidence’” (emphasis added), “by itself” is Defendants’ self-serving addition. See *ActiveVideo Networks, Inc. v. Verizon Comm’cns, Inc.*, 694 F.3d 1312, 1321 (Fed. Cir. 2012). In the portion of *ActiveVideo* Defendants cite, the expert’s testimony was *not* the only evidence in the record. *Id.* The remainder of *ActiveVideo* belies Defendants’ argument: although Verizon’s expert testified about six prior-art references, this Court affirmed JMOL of no invalidity because the expert’s testimony was “conclusory and factually unsupported.” *Id.* at 1327-28. Affirmance is similarly warranted here.

Defendants’ other cases are equally unavailing. In *Fonar Corp. v. Gen. Elec. Co.*, 107 F.3d 1543 (Fed. Cir. 1997), the expert “relied upon the technical literature, specifications, and drawings of the accused ... machines,” and there was no indication that this evidence was absent from the record. *Id.* at 1551. In *Melancon v.*

W. Auto Supply Co., 628 F.2d 395 (5th Cir. 1980), a case about an allegedly defective lawnmower, the expert pointed to the owners’ manual and the lawnmower itself in opining on whether the danger was obvious to consumers. *Id.* at 398-99. In *Bio Tech. Gen. Corp. v. Genentech, Inc.*, 267 F.3d 1325 (Fed. Cir. 2001), the experts “did not differ significantly in their statements concerning the underlying science,” but instead over “the inferences drawn at the edges where there was not sufficient evidence or knowledge for scientific certainty.” *Id.* at 1330. The expert’s opinion rested on an evidentiary foundation, and the expert properly drew inferences from that evidence.

Defendants note that under Federal Rule of Evidence 703 experts may sometimes rely on facts that are otherwise inadmissible, but Rule 702(b) still requires “sufficient facts or data.” Here, Dr. Leby failed to point the jury to the “evidence [he had] seen so far” that supposedly supported his “on sale” conclusion. The photographs, shown as demonstratives, were no help on the public-availability issue. None of the evidence excluded from the record—the tubes, DTX-41, and Mr. Marsh’s testimony—provided support on that issue, either. Nor did the specification screenshots Defendants avoided asking Dr. Leby about.

Defendants’ complaint that Plaintiffs did not file a *Daubert* motion against Dr. Leby is a red herring. Plaintiffs’ issues with Dr. Leby’s opinions concerned his lack of sufficient evidentiary foundation, not his scientific methodology. More-

over, parties do not acquiesce in the opposing experts' conclusions merely by eschewing pre-trial motions to strike. A party presenting an expert must still satisfy its burden of proof.

That is where Defendants failed here. Defendants needed to present clear and convincing evidence that the asserted product art was publicly available by February 12, 2015, and they failed to do so. Simply put, Defendants ended up failing to present substantial evidence that the alleged prior art was actually prior, and the district court correctly granted JMOL of no invalidity as a result.

Defendants' suggestion that *they* are entitled to JMOL of invalidity is even more absurd. A party bearing the burden of proof is entitled to JMOL only in extreme cases, where the only reasonable conclusion is in its favor and the jury could not disbelieve their evidence. *Mentor H/S, Inc. v. Medical Device Alliance, Inc.*, 244 F.3d 1365, 1375 (Fed. Cir. 2001). Moreover, JMOL cannot be granted against a party unless it "has been fully heard on an issue during a jury trial." Fed. R. Civ. P. 50(a)(1). Because the court granted JMOL before Plaintiffs' validity expert took the stand, he had no opportunity to address the product art. Appx10214(64), Appx10219(82).

Thus, even if this Court were to find error, the most Defendants could obtain would be a new trial on invalidity. And, as shown next, even that is unnecessary because Defendants' invalidity evidence had a second fatal flaw.

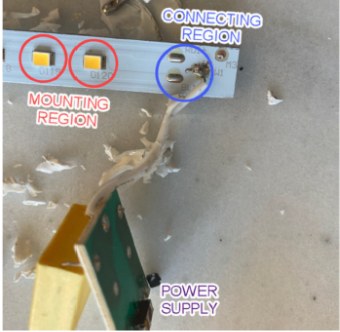
II. Defendants also failed to present clear and convincing evidence that the asserted product art practiced the “disposed on an inner circumferential surface” limitation

Dr. Lebbby fell short not only on whether the Cree T8-48-21L-40K, Philips T8 16.5T8/48-3500 IF 10/1, and MaxLite L18T8DF440-G were prior art; he also failed to establish that any of them disclosed all limitations of the '125 and '540 claims. In particular, his testimony did not sufficiently address the limitation requiring “an LED light strip disposed on an inner circumferential surface of the lamp tube” that appears in all asserted claims of those patents. This provides an independent reason to affirm the judgment.

When attempting to walk the jury through each of the tubes, Dr. Lebbby merely repeated the claim language and pointed to a photograph from his report. Appx10177-10180(278-289). Those photographs did not show the spatial relationship between the LED strip and the tube’s inner circumferential surface. For example, consider the demonstrative photograph of the MaxLite L18T8DF440-G that Dr. Lebbby contended disclosed the “disposed on an inner circumferential surface” limitation of '125 claim 1:

'125 Patent Claim 1 - MaxLite

✓	pre	1. An LED tube lamp, comprising:
✓	a	a lamp tube; two end caps, each of the two end caps coupled to a respective end of the lamp tube; a power supply disposed in one or two end caps;
	b	an LED light strip disposed on an inner circumferential surface of the lamp tube, the LED light strip comprising a mounting region and a connecting region, the mounting region for a mounting a plurality of LED light sources, the connecting region having at least two soldering pads, and the mounting region and the connecting region being electrically connected to the plurality of LED light sources and the power supply; and
	c	a protective layer disposed on a surface of the LED light strip, the protective layer having a plurality of first openings to accommodate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads.



“Prior to disassembly, the LED light strip is disposed on an inner circumferential surface of the lamp tube.”

-¶ 1062

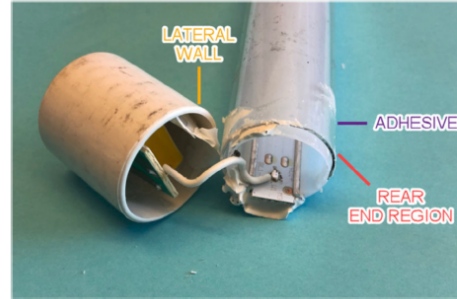
U.S. Patent 10,295,125; Lebbly invalidity report pg. 342 20

Appx21166. That picture depicted a light strip removed from its tube. Annotations on the slide suggested that the light strip was properly positioned “prior to disassembly,” but Defendants provided no evidence of that—demonstrative or otherwise. Defendants’ brief cites the rail and tube “touching” as confirmation of the “disposed on” relationship, but that ignores that the rail had been removed from inside a tube.

Defendants’ other demonstrative photos, presented to address other elements such as the following for ’540 claim 13’s “adhesive” limitation, were taken from angles that obscured the spatial relationship between the LED light strip and the tube’s inner surface:

'540 Patent Claim 13 - MaxLite

✓	pre	13. An LED tube lamp, comprising:
✓	a	a tube, comprising: a main body; and two rear end regions respectively at two ends of the main body;
✓	b	two end caps respectively sleeving the two rear end regions, each of the end caps comprising: a lateral wall substantially coaxial with the tube, the lateral wall sleeving the respective rear end region; an end wall substantially perpendicular to the axial direction of the tube; and two pins on the end wall for receiving an external driving signal;
✓	c	an LED light strip disposed on an inner circumferential surface of the main body with a plurality of LED light sources mounted thereon;
✓	d	a power supply comprising a circuit board and configured to drive the plurality of LED light sources, the circuit board disposed inside one of the rear end regions and one of the end caps;
	e	an adhesive disposed between each of the lateral wall and each of the rear end regions; and
	f	a diffusion film disposed on the glass lamp tube so that light emitted from the LED light sources passing through the inner surface of the glass lamp tube and then passing through the diffusion film on the glass lamp tube.



U.S. Patent 10,352,540; Leiby Invalidation report pgs. 285

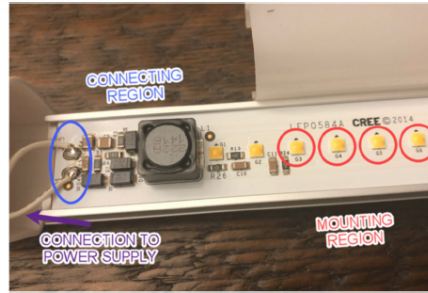
51

Appx21196. If anything, this photograph showed a shadowy gap between the rail and the tube's inner surface. Because Dr. Leiby did not perform the teardowns or take the photographs himself, he could not confirm the spatial relationship. Appx10176-10177(276-277).

The photos of the Cree T8-48-21L-40K and the Philips T8 16.5T8/48-3500 IF 10/1 were equally unhelpful:

'125 Patent Claim 1 - Cree

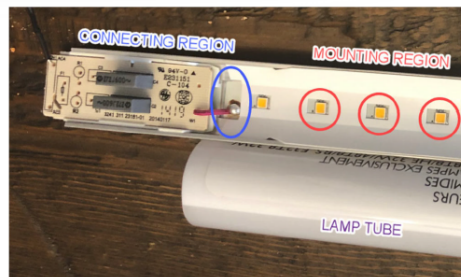
✓	pre	1. An LED tube lamp, comprising:
✓	a	a lamp tube; two end caps, each of the two end caps coupled to a respective end of the lamp tube; a power supply disposed in one or two end caps;
	b	an LED light strip disposed on an inner circumferential surface of the lamp tube , the LED light strip comprising a mounting region and a connecting region, the mounting region for a mounting a plurality of LED light sources, the connecting region having at least two soldering pads, and the mounting region and the connecting region being electrically connected to the plurality of LED light sources and the power supply; and
	c	a protective layer disposed on a surface of the LED light strip, the protective layer having a plurality of first openings to accommodate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads.



“Prior to disassembly, the LED light strip is disposed on an inner circumferential surface of the lamp tube.”
¶ 1142.

'125 Patent Claim 1 - Philips

✓	pre	1. An LED tube lamp, comprising:
✓	a	a lamp tube; two end caps, each of the two end caps coupled to a respective end of the lamp tube; a power supply disposed in one or two end caps;
	b	an LED light strip disposed on an inner circumferential surface of the lamp tube , the LED light strip comprising a mounting region and a connecting region, the mounting region for a mounting a plurality of LED light sources, the connecting region having at least two soldering pads, and the mounting region and the connecting region being electrically connected to the plurality of LED light sources and the power supply; and
	c	a protective layer disposed on a surface of the LED light strip, the protective layer having a plurality of first openings to accommodate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads.



“Prior to disassembly, the LED light strip is disposed in the inner circumferential surface of the lamp tube.”
-¶ 1104

Appx21156; Appx21172. With the rails and LEDs removed from the tubes, these two photographs did not show an LED light strip inside either tube, much less “disposed on an inner circumferential surface.”

Defendants presented no other evidence on this limitation. Nor could they, as Dr. Leiby’s report cited only the photographs as support for his limitation-by-limitation analyses. Given that shortfall, Defendants should not be allowed to suggest that admitting the physical tubes would have rectified this shortcoming. Moreover, their offer of proof did not address the “LED light strip disposed on” limitation. Appx10210(45-46) (making only the generic argument that the physical tubes “tend[ed] to show that the asserted claims of the patents-in-suit are invalid.”).

Given this dearth of proof, no reasonable jury could have found for Defendants on this limitation of the asserted ’125 and ’540 claims, providing an additional ground for affirming JMOL of no invalidity.

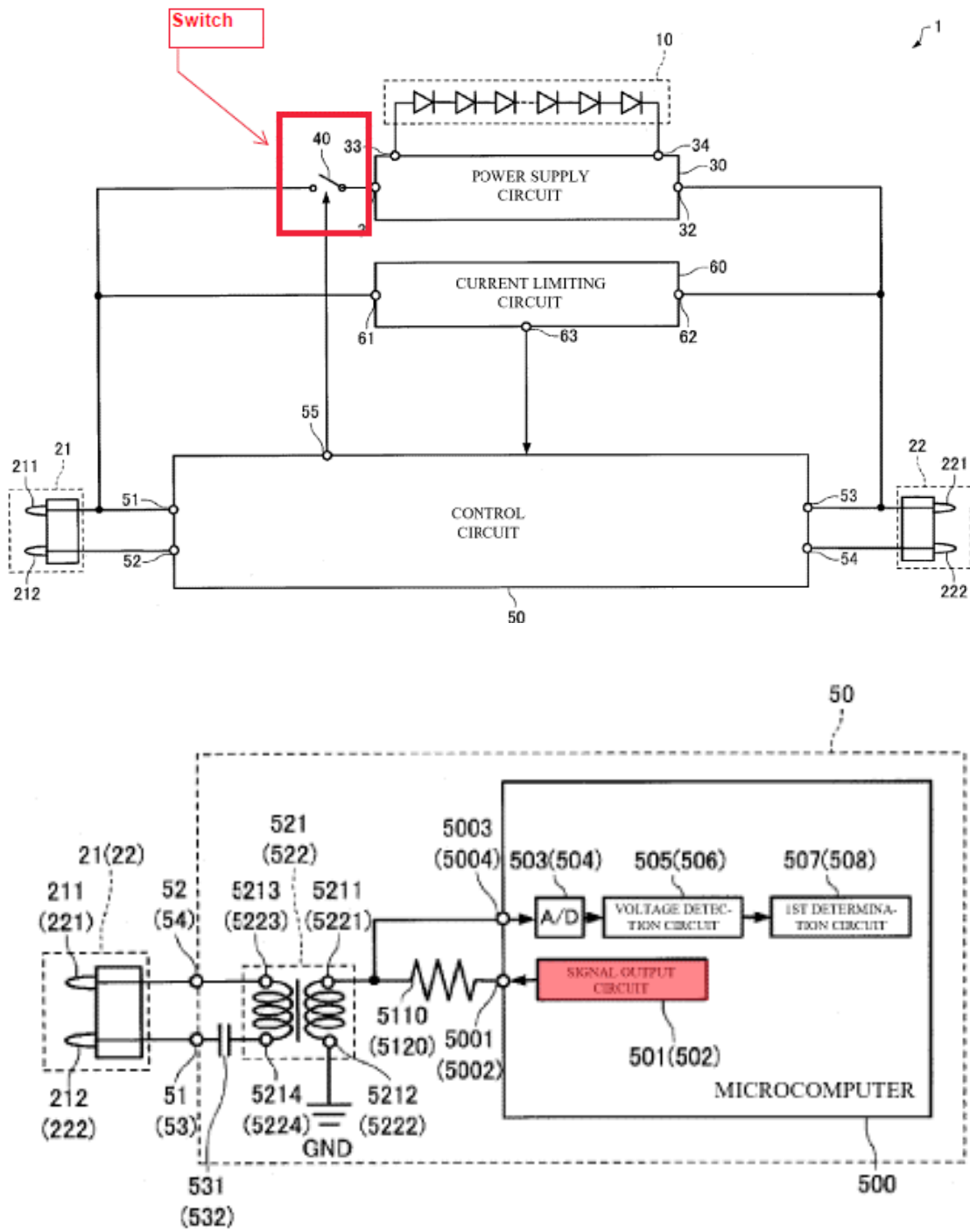
III. Defendants’ “nose of wax” argument regarding the ’140 patent is both forfeited and meritless

Defendants tried their ’140 invalidity case to verdict and lost fair and square. On appeal, they accuse Plaintiffs of treating the claims as a “nose of wax.” But they never made that argument at trial. *See, e.g., Rosedale Missionary Baptist Church v. New Orleans City*, 641 F.3d 86, 90 (5th Cir. 2011) (argument not advanced at trial forfeited). Moreover, even if the argument had been preserved, it is wrong. The sole reference on which Defendants now rely, Ono, worked differently from the ’140

patent and the accused products. Defendants conflate different claim elements and ignore reasons why the jury properly found that they failed to prove invalidity.

A. Ono did not anticipate '140 claim 1

Despite their heightened burden on invalidity, Defendants gloss over how Ono purportedly disclosed the disputed element. Defendants truncate the claim language, which requires a “switch circuit coupled to the pulse generating circuit, wherein the one or more pulse signals control turning on and off of the switch circuit.” Defendants asserted that Ono’s “signal output circuit” 501 was the claimed “pulse generating circuit” and that Ono’s switch 40 was the claimed “switch circuit,” yet in Ono those two elements were *not* coupled:



Appx10021 (Fig. 1), Appx10027 (Fig. 7).

Defendants' expert addressed the "coupled" limitation only cursorily, arguing it went "hand-in-hand" with the distinct requirement that pulse signals control the switch. (Appx10157-10158(200-203)) The jury was not required to accept such a shortcut. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1570 (Fed. Cir. 1986).

In addition, Ono's alleged "pulse signal" did not control the switch as required. Defendants miss the mark (at 48-49) by discussing a different circuit in Ono, the "first determination circuit." The "first determination circuit" performed a "determination process," after which it—rather than the alleged "pulse generating circuit"—turned off the switch. Appx10013-10017 ¶¶ 42, 44, 61. Signals from the signal output circuit did not activate or deactivate the switch—the switch depended entirely on the determination circuit. Appx10221(91-92).

Because Defendants' brief focuses on Ono's *determination* circuit, Defendants fail to explain how the *determination* circuit turning the switch on and off established that the "*signal output circuit*" controlled the switch. Defendants' argument would require "controlling" to cover any involvement in any chain of events leading to the switch being turned on, however indirect, but Defendants never sought such a broad construction, and the jury was not obligated to accept their conclusory assertion.

Defendants’ remaining complaints attack Plaintiffs’ rebuttal testimony rather than explaining how Defendants carried their own evidentiary burden. For example, Defendants attack Dr. Phinney for using jury-friendly language to differentiate the complex circuits (e.g., Ono’s “old way” vs. the ’140 patent’s “new way”), but they did not object to this differentiation at trial, nor did they cross-examine Dr. Phinney about it. Defendants also contend that claim 1 “does not mandate any specific order of operations.” But claim 1 requires that the “pulse signals control turning on and off of the switch circuit” and that the detection of proper or improper installation occur “during the one or more pulse signals” from a “sampling signal on the power loop.” The claimed “pulse signals” thus briefly turn on the switch on the main power loop so that the detection circuit can check whether the lamp is properly installed. Appx10076(109-112). If so, the switch remains closed and the lights come on.¹⁰

Ono’s circuit, by contrast, changed the switch from off to on or vice versa only in response to the determination process. Appx10012-10013 ¶¶ 40-42. That was the “old way” and differed from claim 1 because Ono’s pulse signals did not control

¹⁰ The claim requirement that the switch “remain in an off state” if improper installation is detected does not undermine Plaintiffs’ infringement argument. The detection circuit causes the switch to “remain” in an on or off state based on the detection result *after* the pulse generating circuit turns the switch on briefly during the pulse. Appx183 (’140(48:19-23)). Interpreting this claim language to preclude the switch from first turning on during the pulse—an argument Defendants never raised before the verdict—would read out a preferred embodiment and defeat the central concept of the invention.

the switch. Appx10221(90-92). Dr. Phinney’s explanation that Ono failed to anticipate claim 1 did not rely on Ono’s order of operations; it relied on the fact that Ono’s alleged “pulses” did not control turning the light switch on and off.¹¹

Defendants’ argument that claim 1 “cannot be distinguished from Ono on the ground that Ono detect[ed] impedance” attacks a strawman and confuses distinct elements. Plaintiffs never argued that systems practicing claim 1 may not detect impedance. Plaintiffs point was that claim 1 requires *both* a “pulse generating circuit” and a “detection determining circuit ... for determining whether the [lamp] is properly installed.” The detection determining circuit is what relies on various electrical properties, including impedance, to determine whether the lamp is properly installed. The detection determining circuit may detect impedance, but it does not follow that any system with a detection determining circuit also practices the separate, distinct limitation that pulse signals control turning the switch circuit on and off.

As Dr. Phinney explained, the alleged “pulses” in Ono were used only to test the impedance of the circuit and did not control the switch of the main power loop as required by claim 1. Appx10221(90-92). Ono’s “determination circuit” may have

¹¹ Ono’s paragraph 42, which Defendants cite (at 49) but did not rely on at trial, is not contrary. That paragraph stated that the detection circuit may turn the switch off if an improper installation is detected, e.g., if the tube lamp was installed properly at first but later disturbed. It did not say that a *pulse signal* turned the lamp on initially. Appx10013 ¶42.

satisfied the “detection determining circuit” limitation, but because the “determination circuit” alone controlled the switch, Ono did not satisfy the separate requirement that the pulse signals do so. Defendants misleadingly crop (at 50) a quotation from Plaintiffs’ post-trial JMOL response, which stated that “the claims say nothing about what electrical property needs to be measured *to provide the ‘sampling signal’ to determine proper installation.*” Appx21611 (emphasis added). The full text clarifies that this argument addressed a different limitation, not whether the pulse signal controlled the switch.

B. The LT2600 chips infringe due to functionality Ono lacked

Defendants’ noninfringement arguments rely on the same claim-element confusion, and they are forfeited because Defendants did not compare the accused products to the prior art at trial.

Even if preserved, Defendants’ “nose of wax” arguments fail on their merits because they confuse the “pulse generating circuit” and “detection determining circuit.” The ’140 claims require both the “pulse generating circuit” and the detection result from the “detection determining circuit” to control the switch. The accused LT2600 products included both circuits. The testimony Defendants quote from Plaintiffs’ infringement expert (at 52) related to the “detection determining circuit” and decisions made based on the detection determining result. *See, e.g.*, Appx10095(185-187). Plaintiffs never contended that having a detection-based

result *alone* meant that the pulse generating circuit controlled the switch. For good reason: in the LT2600, the pulses themselves turned on the switch. Appx10093-10094(177-181), Appx21650, Appx21691.

Ono had no such feature. As Dr. Phinney explained, the pulses Defendants identified in Ono did not turn the switch circuit on and off; the detection result alone did that. Appx10221(90-92). The critical distinction between Ono and '140 claim 1 was not that Ono had a determination circuit; it was that Ono did not *also* have pulses that controlled the power switch.

There was no “nose of wax” here. Ono and the LT2600 contained circuits that operated in different ways, and the jury reasonably found that the LT2600 satisfied the limitation while Ono did not. Neither JMOL nor a new trial is warranted.¹²

IV. Defendants’ criticisms of the damages award and the district court’s denial of a new trial are unfounded

The jury properly awarded the damages estimated by Ms. Kindler.

¹² Defendants argue that overturning the verdict on claim 1 would require an entirely new damages trial, but Defendants’ Ono-anticipation argument applied only to claim 1, one of six '140 claims Defendants were found to infringe. Appx136. Defendants cite no authority that invalidating one claim of several found infringed necessarily requires a new damages trial. *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1310 (Fed. Cir. 2007), vacated and remanded on infringement and damages for an entire patent, not a single claim.

A. Ms. Kindler provided ample testimony regarding apportionment

Defendants argue that Ms. Kindler did not adequately apportion damages to the claimed invention because (a) her ultimate rate matched the TCP agreement rate, (b) the TCP agreement included additional patents, and (c) Mr. Mooney's rate was lower. These arguments rest on a false assumption and ignore what the two experts did.

First, the apparent overlap between Ms. Kindler's ultimate rate and the TCP rate does not mean that she failed to undertake the required apportionment analysis, or even that TCP was her only datapoint. Ms. Kindler recognized that the TCP and Lunera agreements conveyed rights to more than the asserted patents, she acknowledged the need to adjust for that, and she proceeded to make that adjustment—from a starting point higher than Mr. Mooney's because of her other adjustments. Appx10121-10123(53-62); *compare* Appx10203-10205(18-25). Defendants' assertion that she made no downward adjustment is wrong.

Defendants also ignore that the TCP agreement contained more than one rate: royalties started at 30¢/unit but potentially rose 60¢/unit. Appx21314-21346. The Lunera rate translated to a range of 30¢/unit to 45¢/unit. Appx21327-21339; Appx10123(61). Ms. Kindler began at 30¢/unit, but she adjusted up and down for the various counterbalancing factors she cited to the jury, ending at a range of 30¢/unit to 45¢/unit. Appx10121-10123(53-62). Those adjustments included

controls for price fluctuations over time and accounted for the fierce competition between these archrivals—factors Mr. Mooney disregarded. *Id.*

Defendants accuse Ms. Kindler of proposing “a higher rate for any one of the asserted patents than plaintiffs ever received for the entire portfolio.” But Mr. Mooney’s rate would have given Plaintiffs less than 3¢/unit per patent while allowing Defendants to pocket over \$30 million in profit from their infringement. Appx10124(67); Appx10141-10142(136-137); Appx10144(146); Appx10772; *see also* Appx93 (given CH’s \$1.08/unit profit, doubling the \$0.45/unit award to \$0.90/unit would still allow it to profit). Moreover, even Mr. Mooney recognized that the asserted patents were key drivers of the comparable licenses: he did not reduce his own rate when other patents dropped out of the case. Appx10118(42). Rhetoric aside, there were only two comparable licenses here, and both were portfolio licenses. Ms. Kindler evaluated whether the patents-in-suit drove those deals and found that they did. Appx10121-10122(54-61). Mr. Mooney gave no contrary testimony.

The fact that Mr. Mooney proposed a lower rate is no reason to question Ms. Kindler’s conclusion. While the directions of the experts’ adjustments differed—Ms. Kindler adjusted both up and down, while Mr. Mooney only applied decreases—they undertook remarkably similar analyses. They relied on the same two licenses. Appx10120(52); Appx10193(342). They agreed on the framework of

the hypothetical license. Appx10119(45-48); Appx10126-10127(73-77); Appx10191-10192(335-337); Appx10205(25). They emphasized similar factors such as profitability and commercial relationship. Appx10120(49-50); Appx10192-10193(340-342). Mr. Mooney did not provide specific calculations for his various reductions: he merely indicated the direction of his adjustment (always downward) and the end result of his analysis. Appx10193-10195(342-350); Appx10203-10205(18-25). Ms. Kindler can hardly be faulted for similarly qualitative steps.

Ultimately, the differences in the experts' analyses left a gap between Ms. Kindler's range (\$9,447,551 to \$14,171,326) and Mr. Mooney's proposed amount (\$2,094,702), but not a massive one. Appx1011(46-47); Appx10191(335). The jury heard both experts' testimony and agreed with Ms. Kindler. Appx138. The \$14,171,326 award was supported by substantial evidence, and no new trial is warranted.

B. Defendants again argue inapposite cases

Defendants' attack on the damages award focuses on three readily distinguishable cases while avoiding more relevant authority.

Apple v. Wi-LAN involved a non-practicing assertion entity that sued Apple for a royalty on every unit of the iPhone. 25 F.4th at 971-72. With over 150 potential benchmarks for the hypothetical negotiation, the two sides' experts chose starkly different agreements that led to radically divergent results. *Id.* Apple's expert

focused on Wi-LAN's licenses with Intel and three large cellphone companies (LG, Kyocera, and Motorola) whose businesses, legal sophistication, and market strength resembled Apple's. Because those licenses were structured as lump sums and Wi-LAN's internal documents acknowledged challenges in obtaining "license amounts ... much above single digit millions," Apple's expert estimated \$5–10 million in damages. *See* Appellant's Opening Brief (Dkt. 17) at 68-75, No. 20-2011 (Fed. Cir. Nov. 20, 2020).

On the other hand, Wi-LAN's expert cherry-picked running-royalty portfolio licenses to three niche cellphone providers, Vertu, Doro, and Unnecto. The expert contended that the bulk of the royalties in those portfolio licenses were attributable to the two patents-in-suit because they had been key to the negotiations. This Court did not doubt that particular patents may drive the royalty rate in a portfolio license. Instead, the problem was that Wi-LAN's expert's opinion was factually baseless. None of the three licenses listed the first patent-in-suit as a key patent, and there was no evidence that the negotiators had discussed it. The second patent-in-suit also played no significant role in two of the licenses, and it was just one of six patents asserted against the third licensee. This Court thus found the expert's opinion unreliable, requiring a new trial on damages. 25 F.4th at 972-74.

This case was vastly different. There was no ready pile of 150 licenses to cull through. Instead, Ms. Kindler and Mr. Mooney reviewed the small universe of real-

world licenses from the relevant industry and *agreed* on the comparables: the TCP and Lunera licenses. Appx10120(52); Appx10193(342). Moreover, unlike Wi-LAN's expert, whose opinion was unfounded and contradicted, Ms. Kindler's analysis of the asserted patents' importance to the comparable licenses was based on un rebutted evidence. Ms. Kindler cited documents and witness interviews—evidence Defendants did not challenge on cross-examination—while Mr. Mooney provided nothing contrary and maintained his rate when patents were dropped from the case, just like Ms. Kindler did. Appx10121-10123(54-61); Appx10118(42).

Omega Patents, LLC v. CalAmp Corp., 13 F.4th 1361, 1381 (Fed. Cir. 2021), is also inapposite. CalAmp sought a new trial on damages based not only on apportionment, but also because the district court had excluded its damages expert. *Id.* at 1373. Consequently, there was no agreement between the experts on the comparable licenses, as there was here. With respect to comparable licenses, Omega's expert relied on its licensing program, under which all licenses were for \$5/unit, regardless of the patents involved. *Id.* at 1379. The eighteen "exemplary" licenses Omega's expert selected contained no tie between the \$5/unit royalty and the asserted patents. This Court rejected that reliance for that reason. *Id.* at 1380-81. Here, Plaintiffs had no such licensing policy, and Ms. Kindler cited evidence that the asserted patents and their family members drove the negotiations. Appx10121-10122(54-61). *Omega* is also distinguishable for another reason. Omega argued that apportionment was

unnecessary because the infringing product's components were co-extensive with the asserted patent. *Id.* at 1377. Plaintiffs made no such argument.

MLC Intell. Prop., LLC v. Micron Tech., Inc., 10 F.4th 1358 (Fed. Cir. 2021), is even further afield. There, this Court concluded that the Hynix and Toshiba agreements were not comparable licenses. *Id.* at 1374. Here, by contrast, Mr. Mooney *agreed* that the TCP and Lunera licenses were comparable. Appx10120(52); Appx10193(342).

The cases Plaintiffs cited to the district court were more pertinent. In *Pavo Sols. LLC v. Kingston Tech. Co.*, 35 F.4th 1367, 1378-80 (Fed. Cir. 2022), this Court affirmed the denial of JMOL on damages where, as here, the parties agreed that the reference license was comparable. And in *Bio-Rad Lab'ys, Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1374 (Fed. Cir. 2020), this Court affirmed the denial of a new trial on damages where the district court concluded that the referenced licenses had “baseline comparability” and the remaining “degree of comparability” was left for the jury. The same logic applies here.

V. Defendants' reassignment request gives away the game

In last line of their brief, Defendants slip in a request not just for a new trial, but for reassignment away from the judge who oversaw this litigation for three years. For the reasons above, the judgment should be fully affirmed, but Defendants' unusual request deserves comment.

Defendants are desperate to avoid the consequences of their own actions and those of their previous counsel. The presiding judge personally witnessed a wide range of misbehavior, including mischaracterization of the court's orders; efforts to deceive the court and the jury; and procedural gamesmanship aimed at handicapping Plaintiffs' legal team. Those actions were improper, and they, along with Defendants' continuing disregard for Plaintiffs' patent rights, led the court to find Defendants' behavior egregious, warranting enhanced damages. That determination was well-founded, as was the court's enforcement of the Federal Rules. But even if this Court finds fault with any of the challenged rulings (it should not), Defendants are not entitled to fresh start in a new court unfamiliar with their history.¹³

CONCLUSION

The judgment should be affirmed.

¹³ Defendants' claim that by incorporating a portion of Plaintiffs' brief distinguishing *Wi-LAN*, the district court committed an affront to the "appearance of justice" demeans the authority on which Defendants rely. *Jefferson v. Upton*, 560 U.S. 284, 287 (2010), criticized a court for asking the state's attorneys, in private conversation, to draft the court's opinion—one the court adopted wholesale against a death-penalty prisoner seeking *habeas corpus* relief. Nothing like that happened here: both parties briefed the issues, and the court concluded that Plaintiffs' distinction of *Wi-LAN* was legally correct and factually well-grounded.

Respectfully submitted,

PERKINS COIE LLP

by /s/Matthew C. Bernstein

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CERTIFICATE OF COMPLIANCE WITH TYPE–VOLUME LIMITATION

1. This brief complies with the type–volume limitation of Federal Circuit Rule 32(b). The brief contains 13,832 words, excluding the portions exempted by Federal Rule of Appellate Procedure 32(f) and Federal Circuit Rule 32(b)(2).

2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type-style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared in a proportionally spaced typeface using Microsoft® Word software and 14-point Times New Roman type.

Dated: September 26, 2023

/s/Matthew C. Bernstein

Matthew C. Bernstein

CERTIFICATE OF AUTHORITY

I certify that I have the authority of my co-counsel Matthew C. Bernstein to file this document with his electronic signature.

Dated: September 26, 2023

/s/Dan L. Bagatell

Dan L. Bagatell