

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

JIAXING SUPER LIGHTING ELECTRIC
APPLIANCE CO., LTD. AND OBERT,
INC.,

Plaintiffs,

v.

CURRENT LIGHTING SOLUTIONS, LLC
d/b/a/ GE CURRENT,

Defendant.

No. 6:22-cv-00534-ADA-DTG

DEFENDANT’S OPENING CLAIM CONSTRUCTION BRIEF

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1	U.S. Patent No. 9,723,662
2	U.S. Patent No. 9,841,174
3	U.S. Patent No. 9,939,140
4	U.S. Patent No. 9,945,520
5	U.S. Patent No. 10,295,125
6	U.S. Patent No. 10,487,991
7	U.S. Patent No. 10,560,989
8	U.S. Patent No. 10,830,397
9	U.S. Patent No. 10,897,801
10	U.S. Patent No. 11,112,068
11	U.S. Patent No. 11,441,742
12	<i>Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.</i> , No. 2:19-cv-04047-PSG-MAA, (C.D. Cal. May 27, 2021), Dkt. No. 117, Minute Order Construing the Disputed Claim Terms
13	<i>Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. CH Lighting Tech. Co.</i> , No. 6:20-cv-00018-ADA, (W.D. Tex. Oct. 24, 2020), Dkt. No. 57, Claim Construction Order
14	Declaration of Dr. Michael Lebby
15	Report of Dr. Brian D'Andrade Regarding Infringement of U.S. Patent Nos. 9,689,536; 9,841,174; and 9,897,265, <i>Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.</i> , No. 2:19-cv-04047-PSG-MAA (C.D. Cal. May 13, 2022)
16	<i>Semiconductor Energy Lab. Co. v. TCL China Star Optoelectronics Tech. Co.</i> , Case No. 8:21-cv-00554, (C.D. Cal. Aug. 5, 2022), Dkt. No. 81, Order Regarding Claim Construction
17	Plaintiffs Jiaxing Super Lighting Electric Appliance Co., Ltd., and Obert, Inc.'s Preliminary Infringement Contentions, Exhibit C (Oct. 19, 2022)

Exhibit Number	Description
18	Excerpt from U.S. Patent No. 9,841,174 File History (September 8, 2017 Response to Office Action)
19	Excerpt from U.S. Patent No. 9,841,174 File History (October 20, 2017 Notice of Allowance)
20	Ron Pilner, <i>Plug-and-play vs. ballast-bypass linear LED</i> , REGENCY LIGHTING'S LIGHTING INSIGHTS BLOG (Sept. 24, 2015), https://web.archive.org/web/20151016070750/http://insights.regencylighting.com/plug-and-play-or-ballast-bypass-linear-led
21	Excerpt from WILEY-IEEE, WILEY ELEC. & ELECS. ENG'G DICTIONARY (Steven M. Kaplan 2004)
22	Excerpt from MCGRAW-HILL, DICTIONARY OF SCI. & TECH. TERMS (Sybil P. Parker, 4th ed. 1989)
23	Plaintiffs Jiaxing Super Lighting Electric Appliance Co., Ltd., and Obert, Inc.'s Preliminary Infringement Contentions, Exhibit A1 (Oct. 19, 2022)
24	Excerpt from AMERICAN HERITAGE COLLEGE DICTIONARY (3rd ed. 1997)
25	Excerpt from U.S. Patent No. 10,487,991 File History (July 25, 2019 Response to Office Action)

Defendant Current Lighting Solutions, LLC (“Defendant” or “Current Lighting”) respectfully submits this Opening Claim Construction Brief for U.S. Patent Nos. 9,723,662 (“the ’662 Patent”) (Ex. 1); 9,841,174 (“the ’174 Patent”) (Ex. 2); 9,939,140 (“the ’140 Patent”) (Ex. 3); 9,945,520 (“the ’520 Patent”) (Ex. 4); 10,295,125 (“the ’125 Patent”) (Ex. 5); 10,487,991 (“the ’991 Patent”) (Ex. 6); 10,560,989 (“the ’989 Patent”) (Ex. 7); 10,830,397 (“the ’397 Patent”) (Ex. 8); 10,897,801 (“the ’801 Patent”) (Ex. 9); 11,112,068 (“the ’068 Patent”) (Ex. 10); and 11,441,742 (“the ’742 Patent”) (Ex. 11) (collectively, the “Asserted Patents”) asserted by Plaintiffs Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc. (collectively, “Plaintiffs” or “Super Lighting”). The parties dispute no terms in the ’520 Patent.

I. INTRODUCTION

Current Lighting’s constructions, which are firmly rooted in the intrinsic record and the plain language of the claims: (1) clarify claim language where necessary to help the jury understand what is covered by the patent claims, or (2) give effect to express definitions set forth in the specifications of the Asserted Patents. Plaintiffs, on the other hand, argue that few of the disputed terms require construction. Current Lighting respectfully requests that this Court address these claim construction disputes and adopt its proposed constructions.

II. OVERVIEW

The Asserted Patents relate to the field of light emitting diode (LED) tube lamps, which are significantly more energy efficient and economic compared to traditional incandescent and fluorescent lamps. Because of their benefits, there has been an enormous commercial move over the past decade to replace both incandescent and fluorescent light fixtures with LED lighting. However, some LED light tubes contain a rigid circuit that allows them to remain straight despite a ruptured tube, posing a risk of an electric shock to an installer. To address this concern, the ’174 and ’140 Patents are directed to determining whether an LED tube lamp is properly installed in a

fixture to prevent an installer from electrocution. For example, below is a schematic diagram of a driving circuit with an electric shock detection function according to some exemplary embodiments:

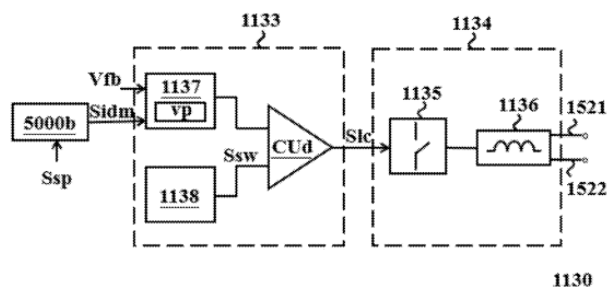
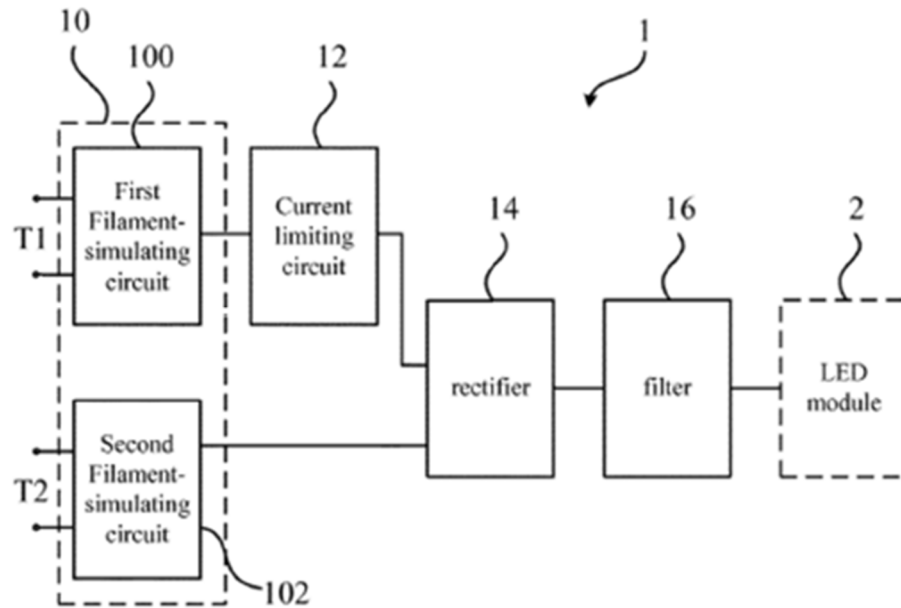


FIG. 26B

'742 Patent at FIG. 26B.

The remaining Asserted Patents (the '662, '174, '520, '125, '991, '989, '397, '801, and '068 Patents) are directed to improving the mechanical and electronic components inside an LED tube lamp. For example, the '989 Patent proposes an LED tube lamp with a power supply that includes rectifying and filtering circuits to help with compatibility with existing light fixtures. *See, e.g.,* '989 Patent at 2:55–3:21. Similarly, the '662 Patent purports to solve the LED replacement compatibility problems by “provid[ing] a power source module for an LED lamp for use in a fluorescent lamp base including a ballast.” '662 Patent at 2:12–14.



Id. at FIG. 1. “[T]he power source module 1 includes a filament-simulating unit 10, a current limiting circuit 12, a rectifier 14, and a filter 16.” *Id.* at 3:14–16. “The filament-simulating unit 10 can simulate a filament of the traditional fluorescent lamp, so as to prevent the ballast from erroneously judging that the filaments are open-circuited or short-circuited during the pre-heating process of the ballast.” *Id.* at 3:57–61.

As another example, the ’125 Patent discusses adding a protective layer on an LED light strip—a flexible circuit board to which LEDs are affixed—to prevent wires from being damaged or broken during manufacturing, transportation, and usage of the LED tube lamp. *See, e.g.,* ’125 Patent at Abstract, 2:39–49. The Asserted Patents use a number of unconventional terms, attempt to coin new terms, and provide specific definitions for other terms used in the claims in an attempt to cover the purported patented technology.

III. PRIOR PROCEEDINGS CONSTRUING TERMS**A. *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.*, No. 2:19-cv-04047-PSG-MAA, (C.D. Cal. May 27, 2021), Dkt. No. 117, Minute Order Construing the Disputed Claim Terms**

In *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.*, the court construed the following relevant terms and phrases:

Term	Asserted Patent & Claim(s)	Construction
“configured to limit a current from the filament-simulating circuit”	’662 Patent Claim 1	No construction necessary
“ballast by-pass light-emitting diode (LED) tube lamp”	’174 Patent Claim 17	“LED tube lamp which is not compatible with a ballast”
“[limits/limiting] a current on the power loop [to] less than 5 MIU”	’174 Patent Claims 17, 18, 26–29	“not allow[ing] the current on the [power loop] to exceed 5 MIU”
“detection result latching circuit”	’174 Patent Claims 17, 27	“circuit that reverses its signal level when the detected result or pulse signal from the detection pulse generating module is applied and maintains its signal level based on the detected result”
“disposed on the LED light strip”	’265 Patent ¹ Claims 5, 6	No construction necessary

Ex. 12, *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.*, No. 2:19-cv-04047-PSG-MAA, (C.D. Cal. May 27, 2021), Dkt. No. 117, Minute Order Construing the Disputed Claim Terms (“*MaxLite* Action”).

B. *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. CH Lighting Tech. Co.*, No. 6:20-cv-00018-ADA, (W.D. Tex. Oct. 24, 2020), Dkt. No. 57, Claim Construction Order

In *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. CH Lighting Tech. Co.*, the court construed the following relevant terms and phrases:

¹ The ’265 Patent is not asserted in this case, but Current Lighting is proposing a construction for a similar term.

Term	Asserted Patent & Claim(s)	Preliminary Construction
“sampling signal”	’140 Patent Claims 1, 3, 4, 21, 22, 24	“a signal that is based on a measurement of the power loop at a specific time”
“means for detecting”	’140 Patent Claim 21	Subject to § 112, ¶ 6 (agreed) Function: “detecting a sampling signal on the power loop during the one or more pulse signals for determining whether the LED tube lamp is properly installed” (largely agreed) Structure: “module 2570 in Fig. 15B, module 2770 in Fig. 15G, Figs. 15D and 15K, and corresponding text, and equivalents thereof.”
“detection result latching circuit”	’140 Patent Claims 4, 5, 23, 24, 31	“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 Figs. 15E and 15I) has a high logic value”

Ex. 13, *Jiaxing Super Lighting Elec. Appliance Co., Ltd. v. CH Lighting Tech. Co.*, No. 6:20-cv-00018-ADA, Dkt. 57 at 1-7 (W.D. Tex. Oct. 24, 2020) (“*CH Lighting Action*”).

IV. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) at or around the relevant time of the alleged inventions would have had at least a Bachelor’s degree in electrical engineering, or an equivalent field, as well as at least 1–2 years of academic or industry experience in lighting design, including knowledge of LEDs and related technology for driving LEDs. A POSITA with a higher level of education may have fewer years of academic or industry experience, or vice versa.

The relevant time of the alleged inventions varies by patent as follows:

- ’662 Patent: October 17, 2014;
- ’174 Patent: August 26, 2015;
- ’140 Patent: August 26, 2015;
- ’125 Patent: September 28, 2014;

- '991 Patent: April 14, 2015;
- '989 Patent: March 10, 2015;
- '397 Patent: May 12, 2015;
- '801 Patent: March 10, 2015;
- '068 Patent: June 26, 2015; and
- '742 Patent: August 26, 2015.

V. AGREED CONSTRUCTIONS

The parties have agreed to the following claim constructions:

Term	Asserted Patent & Claim(s)	Agreed Construction
“detection determining circuit”	'174 Patent Cl. 11, 12, 16, 17, 27 '140 Patent Cl. 1, 3, 4, 24, 31	“a circuit that detects a sampling signal on the power loop and generates a signal based on whether the sampling signal is higher or lower than a reference value”
“properly installed”	'140 Patent Cl. 1, 3, 4, 21, 22, 24	Plain and ordinary meaning
“sampling signal”	'140 Patent Cl. 1, 3, 4, 21, 22, 24	“a signal that is based on a measurement of the power loop at a specific time”
“means for generating” “means for generating one or more pulse signals”	'140 Patent Claim 21	Governed by 35 U.S.C. § 112, ¶ 6 Function: “generating one or more pulse signals” Structure: “module 2540 in Fig. 15B, module 2740 in Fig. 15G, circuits depicted in Figs. 15C and 15H, and corresponding text, and equivalents thereof”

VI. U.S. PATENT NO. 9,723,662

A. “electrically connected” / “electrically connecting” / “electrically connect”²

Term	Defendant's Construction	Plaintiffs' Construction
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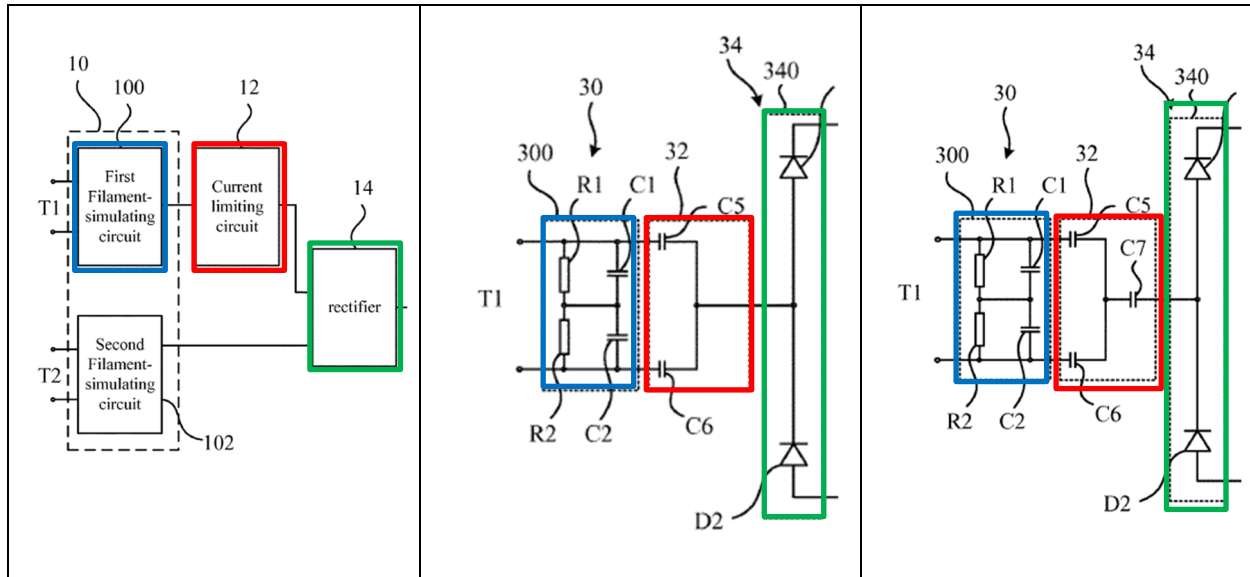
² These terms also appear in the '125 Patent, the '991 Patent, the '989 Patent, the '397 Patent, the '801 Patent, and the '742 Patent. Current Lighting's arguments in this section apply equally to

“electrically connected” ’662 Patent: Cl. 1, 2, 6, 15, 21, 23, 24, 33, 40, 41, 42, 43 ’125 Patent: Cl. 1, 14 ’989 Patent: Cl. 2, 12, 30, 77 ’397 Patent: Cl. 1, 8, 14 ’801 Patent: Cl. 17, 18 ’742 Patent: Cl. 1, 8, 10, 12, 14 “electrically connecting” ’991 Patent: Cl. 1, 16, 30 ’989 Patent: Cl. 1, 30 ’801 Patent: Cl. 13 “electrically connect” ’801 Patent: Cl. 14	“connect [-ed, -ing] through wires or other intervening electrical components”	Plain and ordinary meaning
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“Electrically connected,” “electrically connecting,” and “electrically connect” do not require a direct connection, i.e., with no intervening electrical components or modules, because this interpretation is consistent with the embodiments described in the patents and with the inventors’ express definitions provided in some of the patents.

For example, claim 5 of the ’662 Patent requires that “the first rectifier is electrically connected to the first filament-simulating circuit in series.” *See also* ’662 Patent at 2:22–24 (“[t]he first rectifier is electrically connected to the first bi-pin terminal”), 2:50–55 (“[t]he rectifier [is] electrically connected to the terminals of the LED lamp”). But independent claim 1 describes “a current limiting circuit electrically connected to the filament-simulating circuit” and “a first rectifier electrically connected to the current limiting circuit.” And each of the ’662 Patent’s figures consistently depict the current limiting circuit (red) between the first filament-simulating circuit (blue) and the first rectifier (green).

each of these patents. Several other terms addressed in this brief also appear in multiple patents and are briefed together.



'662 Patent at FIGs. 1–3. Limiting “electrically connected,” “electrically connecting,” and “electrically connect” to require a direct connection would thus exclude all disclosed embodiments—a improper result. *See Nellcor Puritan Bennett, Inc. v. Masimo Corp.*, 402 F.3d 1364, 1368 (Fed. Cir. 2005) (“[A] construction that excludes all of the embodiments of an invention is ‘rarely, if ever, correct.’”).

Further, in the '125, '991, '989, '801, and '742 Patents, the inventors acted as their own lexicographer. *See Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1360 (Fed. Cir. 2002) (“Where, as here, the patentee has clearly defined a claim term, that definition usually . . . is dispositive; it is the single best guide to the meaning of a disputed term.”) (internal quotations omitted). The specification explains that “[a]s used herein, items described as being ‘electrically connected’ are configured such that an electrical signal can be passed from one item to the other.” '742 Patent, 9:58–60; *see also* '125 Patent at 13:5–20; '991 Patent at 13:56–14:4; '989 Patent at 15:19–34; the '801 Patent at 16:13–28. “A POSITA would have recognized that an electrical signal could pass ‘through wires or other intervening electrical components’ from one item to the other.” Ex. 14, Declaration of Dr. Michael Lebby (“Lebby Decl.”) at ¶ 55. The specification subsequently states that “items that are ‘directly electrically connected,’ to each other are electrically connected

through one or more passive elements, such as, for example, wires, pads, internal electrical lines, etc.” but not “through active elements, such as transistors or diodes, or through capacitors.” ’742 Patent, 9:67–10:6; *see also* ’125 Patent at 13:5–20; ’991 Patent at 13:56–14:4; ’989 Patent at 15:19–34; ’801 Patent at 16:13–28. Because “electrically connected” is contrasted with “directly electrically connected,” the former is broad enough to encompass connection through intervening components, such as active elements. *See Parthenon Unified Memory Architecture LLC v. ZTE Corp.*, No. 2:15-cv-00225-JRG-RSP, 2016 WL 310174, at *19 (E.D. Tex. Jan. 25, 2016) (alternative embodiment disclosing “direct coupling” “implies that absent the modifier ‘directly,’ the word ‘coupled’ has a broader meaning than the phrase ‘directly coupled.’”).

The extrinsic evidence also supports Current Lighting’s construction. In the *MaxLite* Action, Plaintiffs served an expert report on infringement of the ’662 Patent. For Limitation 23[a], which recites “a current limiting circuit ***electrically connected*** to a first terminal of the LED lamp,” Plaintiffs’ expert, Dr. D’Andrade, opined that the accused product met this limitation:

[T]he current-limiting circuit is electrically connected with circuit elements which are electrically connected to a first terminal. As a result, the current-limiting circuit is electrically connected to a first terminal of the LED lamp for limiting current from the first terminal.

Ex. 15, Report of Dr. Brian D’Andrade Regarding Infringement of U.S. Patent Nos. 9,689,536; 9,841,174; and 9,897,265, *Jiaying Super Lighting Elec. Appliance Co., Ltd. v. MaxLite, Inc.*, No. 2:19-cv-04047-PSG-MAA (C.D. Cal. May 13, 2022) at ¶ 659; *accord id.* at ¶¶ 711–712. It is proper for the Court to construe these terms consistent with Plaintiffs’ previous positions on the meaning of these terms. *See Fin Control Sys. Pty, Ltd. v. OAM, Inc.*, 265 F.3d 1311, 1321 (Fed. Cir. 2001) (noting that patent owner’s expert statements could “constitute a fatal admission against interest” the patent owner); *Infernal Tech., LLC v. Microsoft Corp.*, No. 2:18-CV-00144-JRG, 2019 WL

5388442, at *2 (E.D. Tex. May 3, 2019) (“Plaintiffs’ prior litigation positions regarding the same claims asserted in this case are relevant to the claims and defenses in this case.”).

Further, other district courts have construed “electrically connected” (and similar terms) to allow for indirect connections. *See, e.g.,* Ex. 13, *Semiconductor Energy Lab. Co. v. TCL China Star Optoelectronics Tech. Co.*, Case No. 8:21-cv-00554, (C.D. Cal. Aug. 5, 2022), Dkt. No. 81, Order Regarding Claim Construction (parties agreed that “plain and ordinary meaning” of “electrically connected” is “an electrical connection of circuit components either directly connected or indirectly connected via intervening circuit components”).

Accordingly, the Court should construe “electrically connected,” “electrically connecting,” and “electrically connect” as “connect [-ed] [-ing] through wires or other intervening electrical components.”

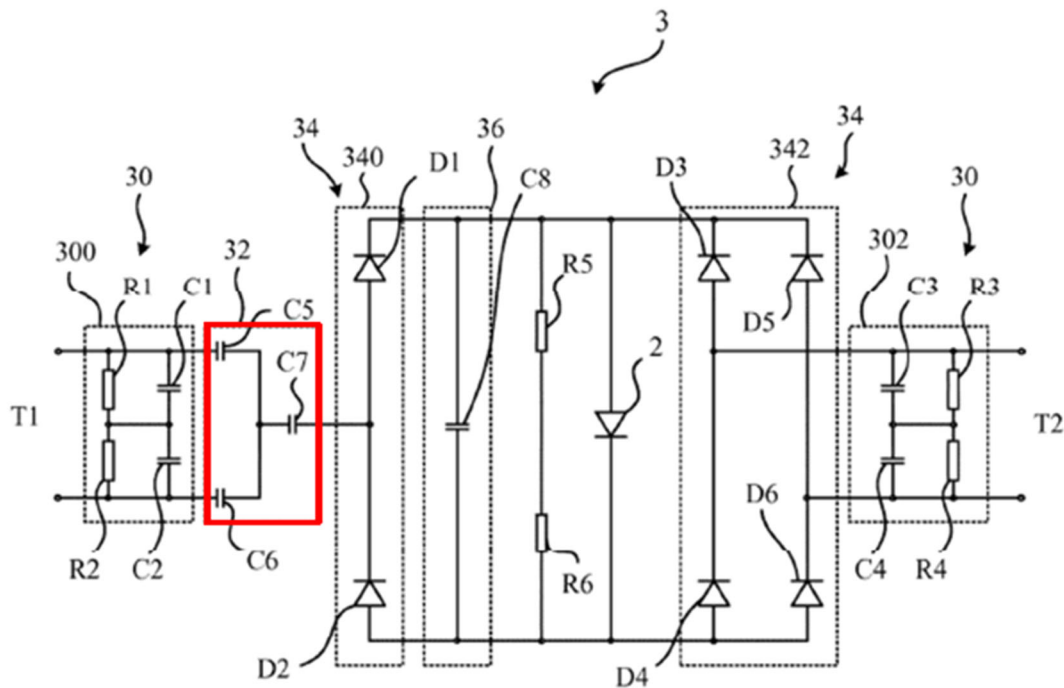
B. “current limiting circuit”

Term	Defendant’s Construction	Plaintiffs’ Construction
“current limiting circuit” ’662 Patent: Cl. 1, 6, 7, 21, 23, 31, 32, 38, 41, 42	“circuit that comprises an impedance element, such as a capacitor”	Plain and ordinary meaning

“Current limiting circuit” should be construed as a “circuit that comprises an impedance element, such as a capacitor” because this construction is consistent with claim interpretation doctrine that a dependent claim is broader than the independent claim from which it depends. Claims 7 and 31 depend from claim 1, and claim 38 depends from claim 23. Independent claims 1 and 23 recite a “current limiting circuit.” Dependent claims 7, 31, and 38 further recite that “the current limiting circuit comprises at least a capacitor.” Because a current limiting circuit consisting of a single capacitor would satisfy claims 7, 31, and 38, a POSITA would have understood that a current limiting circuit merely requires some impedance element, such as a capacitor, but is not limited to just a capacitor. Lebbby Decl. at ¶ 30; *see also Littelfuse, Inc. v. Mersen USA EP Corp.*,

29 F.4th 1376, 1380 (Fed. Cir. 2022) (“By definition, an independent claim is broader than a claim that depends from it . . .”).

The claims do not specify a value of the impedance provided by the current limiting circuit. But the '662 Patent provides the following embodiment of current limiting circuit 32, which “includes the third capacitance C7 connected between the capacitances C5 and C6,” where C7 is connected in series to the parallel combination of C5 and C6. '662 Patent at 5:5–11.



'662 Patent at FIG. 3. The '662 Patent discloses that “the values of the capacitances C5, C6, C7 are in the range of 0.47 nF to 12 nF.” *Id.* at 5:11–15. For the instance in which terminal T1’s pins are shorted together, the total capacitance CT1 provided by capacitors C5, C6, and C7 is $((C5 + C6) * C7) / (C5 + C6 + C7) = 0.31 \text{ nF to } 8 \text{ nF}$. For another instance in which the current all flows through only one of terminal T1’s pins, the total capacitance CT2 provided by capacitors C5 and C7 is $(C5 * C7) / (C5 + C7) = 0.24 \text{ nF to } 6 \text{ nF}$. The formula for impedance of a capacitor is $1/(2\pi fC)$, where f is frequency. The specification discloses that the ballast “outputs an alternating current

with a high frequency, e.g., 45 KHz, to the current limiting circuit 32.” ’662 Patent at 4:46–49. For a 45 kHz frequency, the impedance for current limiting circuit 32 ranged from 442 to 14,737 Ω . Therefore, the specification describes that the current limiting circuit includes an impedance element to introduce this impedance into the circuit.

Plaintiffs’ infringement contentions, which constitute extrinsic evidence,³ also support Current Lighting’s proposed construction. For Limitation 1[c] of the ’662 Patent, which requires “a current limiting circuit electrically connected to the filament-simulating circuit and configured to limit a current from the filament-simulating circuit,” the contentions identify a single capacitor, labeled C5, as “the claimed current limiting circuit” and assert that “capacitor C5 is thus configured to provide an impedance that limits a current from the filament-simulating circuit.” Ex. 17, Plaintiffs Jiaying Super Lighting Electric Appliance Co., Ltd., and Obert, Inc.’s Preliminary Infringement Contentions, Exhibit C at 18–19 (Oct. 19, 2022); *accord id.* at 33, 39.

³ See *Chien-Lu Lin v. Twins Enter., Inc.*, No. CV 01-07390, 2002 WL 34455514, at *15 n.48 (C.D. Cal. Nov. 12, 2002) (holding that a claim construction “chart, which was the work of plaintiffs’ attorney, may be a party admission against interest” that “is a form of extrinsic evidence”).

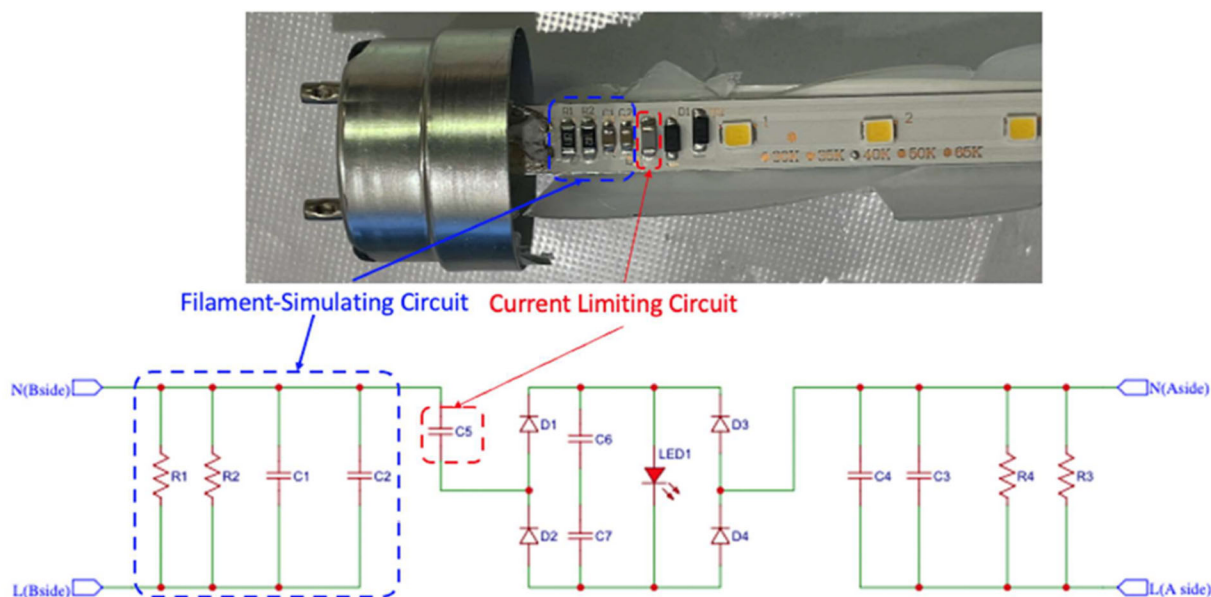


Figure 8. Photo (Top) and circuit schematic (Bottom) for GE LED14ET8/G/4/840 showing a current limiting circuit.

Id. at 9. As such, even Plaintiff understands “current limiting circuit” to require an impedance element and the Court should adopt Current Lighting’s construction.

VII. U.S. PATENT NO. 9,841,174

A. “discharge path”

Term	Defendant’s Construction	Plaintiffs’ Construction
“discharge path” ’174 Patent: Cl. 1, 3	“transistor coupled to a capacitor and a ground, to direct current to ground”	Plain and ordinary meaning

The Court should adopt Current Lighting’s construction—“transistor coupled to a capacitor and a ground, to direct current to ground”—because the claim language and the specification supports this construction. Claim 1 requires “a first circuit, configured to generate a pulse signal, wherein the first circuit comprises a *discharge path*,” “wherein the pulse signal is fed back to the *discharge path* of the first circuit, and *the discharge path is conducted* when the pulse signal is pulled to a high level voltage,” and “wherein the pulse signal is pulled to a low level voltage *after*

*the discharge path has been conducted for a predetermined time period.*⁴ Claim 3 further requires that “*the discharge path is cut off* when the pulse signal is pulled to the low level voltage.” A POSITA would have understood that, in an electrical circuit, a transistor is the electronic component that would be used to selectively allow and disallow current to flow through the discharge path, thus directing the current through the circuit. Lebbey Decl. at ¶ 31; *see, e.g.*, ’174 Patent, 30:3–9 (“the switch 1635 includes a metal-oxide-semiconductor field-effect transistor (MOSFET)”), 44:16–20 (“A switch circuit 2680 includes a transistor . . .”).

By its plain language, a “*discharge path*” provides a path for releasing a stored charge. “A POSITA would have recognized that charge is stored in a capacitor.” Lebbey Decl. at ¶ 32. The ’174 Patent describes that the claimed first circuit includes a capacitor that is charged. *See, e.g.*, ’174 Patent at 54:1–5 (“the capacitor 2743 is charged by the driving signal”).

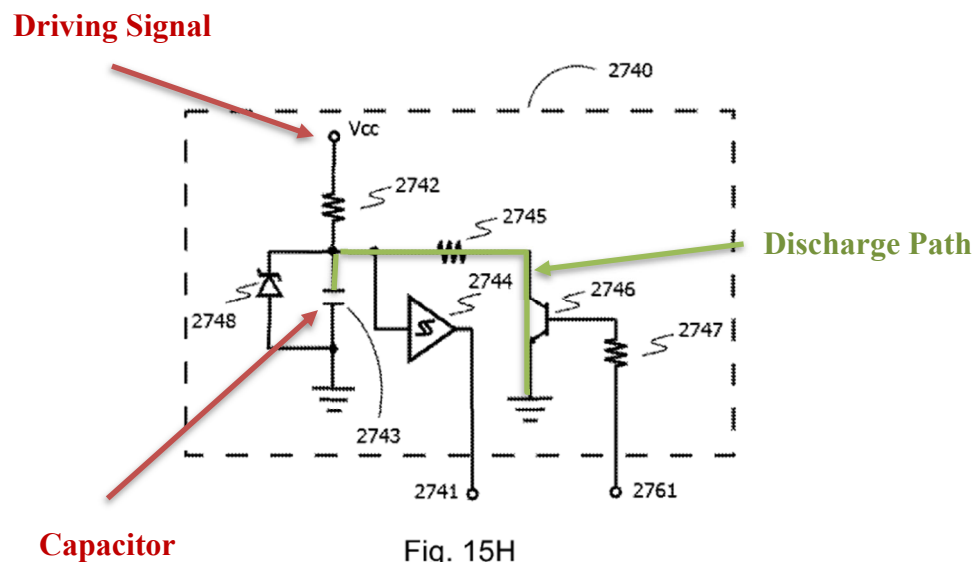


Fig. 15H

⁴ All emphasis added unless otherwise noted.

To discharge that capacitor, a POSITA would have understood that a path would need to provide a connection to ground to allow the capacitor to discharge—otherwise the stored charge cannot be discharged from the capacitor. Lebbly Decl. at ¶ 32. And a POSITA would have further understood that to discharge the capacitor requires a flow of current from the capacitor to ground. *Id.*

Therefore, the Court should adopt Current Lighting’s proposed construction and construe “discharge path” consistent with the only way that a discharge path could work in the claimed first circuit—by using a transistor, coupled to a capacitor and a ground, to direct current to ground.

B. “predetermined time period”

Term	Defendant’s Construction	Plaintiffs’ Construction
“predetermined time period” '174 Patent: Cl. 1, 2	Indefinite	Plain and ordinary meaning

This phrase, “predetermined time period,” renders claims 1 and 2 of the '174 Patent indefinite because a POSITA would not understand the “period” referred to in this phrase. The phrase “predetermined time period” never appears in the '174 Patent except in claims 1 and 2. In fact, the only thing described in the specification as “predetermined” is the “voltage/current level.” '174 Patent at 31:4–13, 32:16–22, 33:22–28, 34:38–44, 38:6–25, 39:56–64, 48:30–41. And the specification describes different types of “time periods,” leaving a POSITA to only speculate as to which type of time period the inventors intended to claim. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (*abrogated on other grounds in Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 907 (2014)) (term indefinite if “completely dependent on a person’s subjective opinion”).

A POSITA would normally understand the term “period” to refer to the time required for a periodic signal to repeat one cycle. Lebbly Decl. at ¶ 34. However, the '174 Patent describes time periods inconsistent with this understanding. Specifically, the specification describes an “initial pulse time period” that refers to the time period during which pulse signals are output. '174 Patent

at 41:54–58. Another portion of the specification describes that “[t]he width for the input pulse signal may be described as equal to one (initial setting) time period.” *Id.* at 41:27–31. In light of these descriptions in the specification, a POSITA would have understood that two different “predetermined time periods” could be claimed in claims 1 and 2. Lebbly Decl. at ¶ 34. The first is a “predetermined time period” that is a “predetermined number of cycles of the pulse signal.” *Id.* at ¶ 37. The second is a “predetermined time period” that is a “predetermined duration of time.” *Id.* A POSITA would not be able to determine which of these time periods is the claimed “predetermined time period.” *Id.* Therefore, claims 1 and 2 are indefinite for failing to “inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 901; *see also Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249–50 (Fed. Cir. 2008) (claims are indefinite when “a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area”).

C. “pulse-on period of the pulse signal”

Term	Defendant’s Construction	Plaintiffs’ Construction
“pulse-on period of the pulse signal” '174 Patent: Cl. 2, 12, 16, 18	Indefinite	Plain and ordinary meaning

Like “predetermined time period,” this phrase, “pulse-on period of the pulse signal,” is open to multiple interpretations, rendering claims 2, 12, 16, and 18 of the '174 Patent indefinite because a POSITA would not understand the “pulse-on period” referred to in this phrase. The phrase “pulse-on period” never appears in the '174 Patent except in the claims. And, as explained above, the specification describes different types of “periods,” including a “time period” as being when pulse signals are output and the width of the pulse signal. *See* Section VII.B, *supra*; '174 Patent at 41:54–58, 41:27–31; Lebbly Decl. at ¶ 37. A POSITA would not be able to determine

which of these time periods—a cycle or a time duration—is the claimed “pulse-on period of the pulse signal.” Lebbby Decl. at ¶ 38 Therefore, claims 2, 12, 16, and 18 are indefinite for failing to “inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 901; *see also Halliburton*, 514 F.3d at 1249–50 (claims are indefinite when “a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area”); *Datamize*, 417 F.3d at 1350 (term indefinite if “completely dependent on a person’s subjective opinion”).

D. “ballast by-pass light-emitting diode (LED) tube lamp”

Term	Defendant’s Construction	Plaintiffs’ Construction
“ballast by-pass light-emitting diode (LED) tube lamp” '174 Patent: Cl. 10	Preamble is limiting. “LED tube lamp which is not compatible with a ballast”	“LED tube lamp capable of operating in the absence of a ballast”

The Court should construe “ballast by-pass light-emitting diode (LED) tube lamp” to mean “LED tube lamp which is not compatible with a ballast” because the specification distinguishes between lamps that can be used with a ballast or not—i.e., “ballast by-pass”—and the applicant amended the preamble during prosecution to clarify the claim scope. Current Lighting’s proposed construction is also consistent with how the term is used in the relevant technical field.

First, the background section of the specification in the '174 Patent defines two types of LED tube lamps—one that *is* compatible with a ballast (“ballast-compatible LED tube lamps”) and one that *is not* compatible with a ballast (“ballast by-pass LED tube lamps”). '174 Patent at 2:60–3:1 (“LED tube lamps used to replace traditional fluorescent lighting devices can be primarily categorized into *two types*. *One* is for *ballast-compatible LED* tube lamps, . . . and the *other one* is for *ballast by-pass LED tube lamps* . . .”). By distinguishing between the two types

of LED tube lamps, the specification makes it clear that a ballast by-pass LED tube lamp is *not* compatible with a ballast, in contrast with a ballast-*compatible* LED tube lamp.

The '174 Patent continues to explain that only the ballast by-pass “LED tube lamps are suitable for the new surroundings in fixtures with *new driving circuits* and LED tube lamps,” an allegedly inventive feature disclosed in the '174 Patent. *Id.* at 3:1–3. These “new driving circuits” are “coupled to the filtering circuits” to “convert[] the filtered signal into a driving signal[.]” *Id.* at 59:6–7. Figures 12B and 12C–F disclose an exemplary driving circuit according to some exemplary embodiments. *Id.* at 8:64–67. The inventors’ characterization of the ballast by-pass tube lamps as being a critical feature for the invention and disparaging ballast-compatible LED tube lamps as not compatible with the new driving circuits described in the specification amounts to a disavowal of ballast-compatible LED tube lamps. *See Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc.*, 450 F.3d 1350, 1354–57 (Fed. Cir. 2006) (limiting claim scope to a particular feature because the specification characterizes it as an important feature and disparages an alternative feature in the prior art).

Moreover, the applicants reinforced that the invention is directed to ballast incompatible LED lamps during prosecution. Specifically, to overcome a rejection based on the PCT Application No. WO 2015/066566 A1 (“Sadwick”), the applicants amended the preamble of claim 10 to recite “[a] *ballast by-pass* light-emitting diode (LED) tube lamp, comprising:” Ex. 18, Response to Office Action (Sept. 8, 2017) at 15. In explaining the amendment, the applicants contended it distinguished claim 10 over the prior art because “Sadwick is directed to a conventional direct replacement type LED lamp, which connects to the LED lamp *powered by ballasts*.” *Id.* Additionally, the applicants explained that the circuits in Sadwick function in ballast compatible LED lamps because the power provided is “high frequency and high voltage” whereas the power provided to a ballast by-pass type lamp, like that claimed in claim 10, is powered by

“commercial electricity having a frequency of 50 Hz or 60 Hz and a voltage below 300 volts.” *Id.* Because of the power difference, the applicants argued that the circuits disclosed in Sadwick would function incorrectly if used in the claimed ballast by-pass LED lamp. *Id.* at 16. The examiner allowed claim 10 after this amendment. Ex. 19, Notice of Allowance (Oct. 20, 2017). Here, the applicant “inform[ed] the meaning of the claim language by demonstrating how the inventor understood the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc). The applicants intended to limit claim 10 to an LED tube lamp that is **not** compatible with a ballast.

Because the applicants amended the preamble, the amendments and arguments further supports that claim scope should be limited to a ballast by-pass LED. “In general, a preamble limits the invention if it recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)); see also *Digital Retail Apps, Inc. v. H-E-B, LP*, No. 6-19-cv-167-ADA, 2020 WL 376664, at *7 (W.D. Tex. Jan. 23, 2020). “Whether to treat a preamble as a limitation is a determination ‘resolved only on review of the entire[] . . . patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.’” *Catalina*, 289 F.3d at 808 (quoting *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989)). Guideposts used by the Federal Circuit to determine whether the preamble is limiting include “[amendments made during prosecution].” *Id.* Here, the body of claim 10 uses “the LED tube lamp” without independently reciting this limitation. Also, as discussed above, the term “by-pass ballast” was added to the preamble to distinguish it over prior art. Thus, the preamble is limiting, and the Court should construe the term to exclude ballast compatible LED tube lamps.

Finally, research of industry vernaculars shows that the ballast by-pass LED tube lamps are well recognized in the field as an alternative to plug-and-play replacements of fluorescent

lightbulbs. Ex. 20, Ron Pilner, *Plug-and-play vs. ballast-bypass linear LED*, REGENCY LIGHTING'S LIGHTING INSIGHTS BLOG (Sept. 24, 2015), <https://web.archive.org/web/20151016070750/http://insights.regencylighting.com/plug-and-play-or-ballast-bypass-linear-led>. Unlike the plug-and play replacement solutions, “[a] ballast-bypass LED lamp differs because the installation involves **disconnecting the ballast** and wiring line voltage directly to the fixture sockets or an external LED driver.” *Id.*

Plaintiffs’ proposed construction of an “LED tube lamp **capable** of operating in the absence of a ballast” implies that the “ballast by-pass light-emitting diode (LED) tube lamp” is able to operate **with or without** a ballast. This construction contradicts the specification, prosecution history, the usage and understanding of this term in the industry, and impermissibly expands the scope of the “ballast by-pass light-emitting diode (LED) tube lamp” to include compatibility with a ballast. Accordingly, the Court should construe “ballast by-pass light-emitting diode (LED) tube lamp” to mean “LED tube lamp which is not compatible with a ballast.”

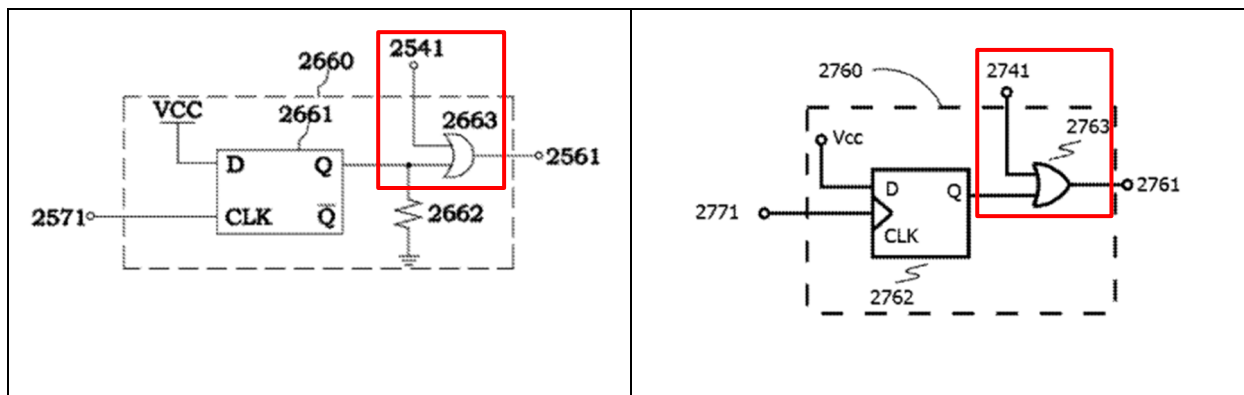
E. “detection result latching circuit”

Term	Defendant’s Construction	Plaintiffs’ Construction
“detection result latching circuit” ’174 Patent: Cl. 17, 27 ’140 Patent: Cl. 4, 5, 23, 24, 31	“circuit that reverses and then maintains the signal level when the detected result is high or low respectively”	“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 Figs. 15E and 15I) has a high logic value”

The term “detection result latching circuit” should be construed as a “circuit that reverses and then maintains the signal level when the detected result is high or low respectively” because, consistent with the specification and the claim language, the “detection result latching circuit” is not required to output a high logic value when the pulse signal has a high logic value, as asserted by Plaintiffs. In the *CH Lighting* Action, this Court construed “detection result latching circuit” 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 Figs. 15E and 15I) has a high logic value.” *CH Lighting* Action at 6. The *MaxLite* Court construed this term as a “circuit that reverses its signal level when the detected result or pulse signal from the detection pulse generating module is applied and maintains its signal level based on the detected result.” *MaxLite* Action at 26. However, the constructions entered in both the *CH Lighting* and *MaxLite* Actions import functionality from specific embodiments that is not required by the language of the claims.

Specifically, the specifications and claims of the '174 and '140 Patents do not require the “detection result latching circuit” to “output a high logic value” or “reverse its signal level” based upon a pulse signal. Figures 15E and 15I do illustrate embodiments in which the pulse signal terminal is fed into the input of an OR gate such that the pulse signals cause the detection result latching circuit to output a high value.



'174 Patent at FIGs. 15E and 15 I; *see also id.* at 43:38–44:14, 49:43–58; '140 Patent, 43:16–58, 49:36–51. However, there are other embodiments that do not include this restriction. *See RF Del. v. Pac. Keystone Techs., Inc.*, 326 F.3d 1255, 1263 (Fed. Cir. 2003) (“[C]laims are not necessarily and not usually limited in scope simply to the preferred embodiment.”). For example, there are embodiments that do not require the detection result latching circuit to output a high value when the pulse signal has a high logic value; instead the “pulse signal [may] inform the detection result

latching circuit 2560 of a time point for latching (storing) the detection result.” ’140 Patent at 38:58–62; ’174 Patent at 39:12–16.

Further, the claim language confirms that the detection latching circuit is not required to output a high value when the pulse signal has a high value. Claim 4 in the ’140 Patent recites that the “detection result latching circuit” “control[s] turning on and off the switch circuit,” *i.e.*, outputs a high or low logic value, “**based on a detection result** from the detection determining circuit.” *See also* ’140 Patent at claims 23 & 31 (“based on a detection result signal”). Likewise, claims 17 and 27 in the ’174 Patent requires that the “a detection result latching circuit” provide “**at least one** of the pulse signal, the high level signal, and the low level signal” such that the claims are satisfied if the detection result latching circuit does not output a high logic value when receiving a pulse signal.

The specification explains that the detection latching circuit reverses and then maintains the signal level when the detected result is high or low respectively. In explaining that the latch maintains the signal level, the specification discloses that “when the detection result terminal 2571 has no high logic level detection result signal, the D flip-flop 2661 keeps a low logic level signal at the Q output terminal to make the detection result latching terminal 2561 also keep a low logic level detection result latching signal in the detection stage.” ’174 Patent at 44:2–7; ’140 Patent at 43:47–52. And the latch reverses the signal level: “once the detection result terminal 2571 has a high logic level detection result signal, the D flip-flop 2661 outputs and keeps a high logic level signal (e.g., based on VCC) at the Q output terminal.” ’174 Patent at 44:7–10; ’140 Patent at 43:52–55.

Extrinsic evidence also confirms that the plain and ordinary meaning of a latch is “[a] circuit which reverses its state or logic condition when an input is applied, and which maintains said state or logic condition until the next input, at which point it reverses again.” Ex. 21, WILEY-

IEEE, WILEY ELEC. & ELECS. ENG'G DICTIONARY, 411 (Steven M. Kaplan 2004); *see also* Ex. 22, MCGRAW-HILL, DICTIONARY OF SCI. & TECH. TERMS, 1052 (Sybil P. Parker, 4th ed. 1989).

Plaintiffs' construction, which does not require reversing, reads "latching" out of the claim term. *See MaxLite* Action at 26 ("According to Plaintiff's construction, the circuit could always output a logic-level one so long as it maintained that state when the detection result was applied. This would eliminate the need for a latch altogether."); *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (holding that "claims are interpreted with an eye toward giving effect to all terms in the claim"). Accordingly, the Court should adopt Current Lighting's proposed construction and not overly narrow "detection result latching circuit" to the preferred embodiments described in the '174 and '140 Patents.

F. "pulse-on time of the pulse signal" / "pulse-on time of each of the pulse signals"

Term	Defendant's Construction	Plaintiffs' Construction
"pulse-on time of the pulse signal" / "pulse-on time of each of the pulse signals" '174 Patent: Cl. 28, 32	Indefinite	Plain and ordinary meaning

The phrases, "pulse-on time of the pulse signal" and "pulse-on time of each of the pulse signals," render claims 28 and 32 indefinite for the same reasons as the phrase "pulse-on period of the pulse signal"—because a person of ordinary skill in the art would not understand the "pulse-on period" referred to in this phrase. *See* Section VII.C, *supra*.

Importantly, the phrase "pulse-on time" never appears in the '174 Patent except in the claims. Adding further confusion, the specification describes different types of "times." First, the specification describes "a time interval between the first and second pulse signals." *See, e.g.*, '174 Patent at 6:8–11, 6:16–18, 7:63–67. Second, the specification describes that "[t]he width for the input pulse signal may be described as equal to one (initial setting) time period." *See, e.g., id.* at 41:25–31. Third, the specification describes "produc[ing] the pulse signal with the initial setting

time period.” *See, e.g., id.* at 41:32–34. Finally, the specification describes a time duration for the pulse signal. *See, e.g., id.* at 46:50–51 (“Since the pulse is for a short time and not for a long time, ...”). Therefore, “pulse-on time” could mean (1) a duration during which a pulse signal is output; (2) a time it takes to complete a cycle of the pulse signal; or (3) a time interval between pulses of the pulse signal. Lebbly Decl. at ¶ 40. A POSITA would not be able to determine which of these interpretations is what the inventors intended to claim when reciting “pulse-on time of the pulse signal.” *Id.* at ¶ 41. Therefore, claims 28 are 32 are indefinite for failing to “inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 901; *see also Halliburton*, 514 F.3d at 1249–50 (claims are indefinite when “a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area”); *Datamize*, 417 F.3d at 1350 (term indefinite if “completely dependent on a person’s subjective opinion”).

VIII. U.S. PATENT NO. 9,939,140

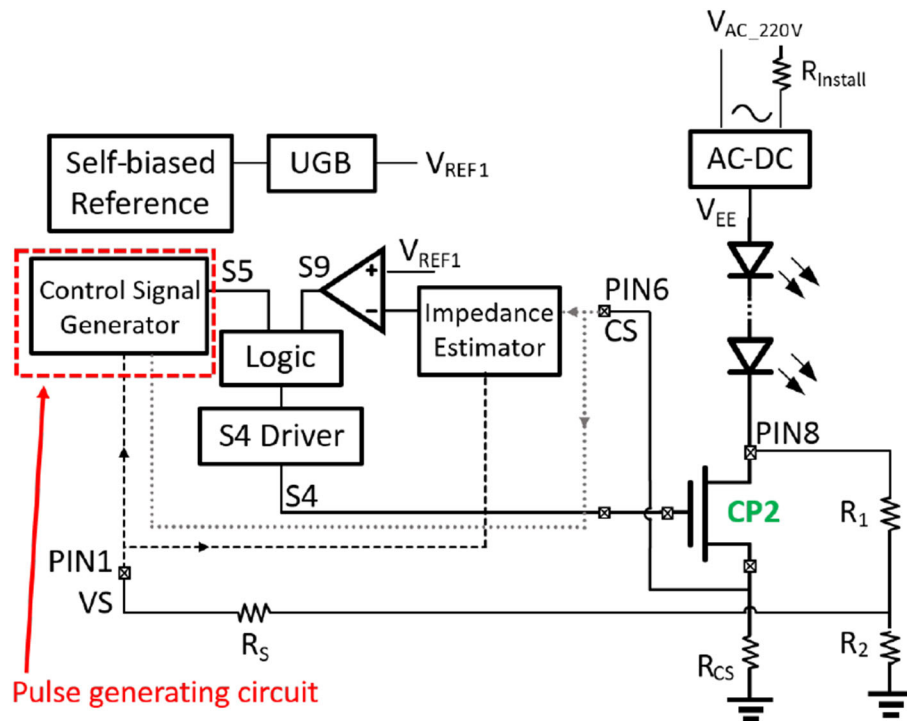
A. “wherein the one or more pulse signals control turning on and off of the switch circuit”

Term	Defendant’s Construction	Plaintiffs’ Construction
“wherein the one or more pulse signals control turning on and off of the switch circuit” ’140 Patent: Cl. 1, 4, 21	“wherein the one or more pulse signals from the pulse generating circuit control turning on and off the switch circuit”	Plain and ordinary meaning

This term should be construed as “wherein the one or more pulse signals *from the pulse generating circuit* control turning on and off the switch circuit” to clarify the required source of the pulse signal due to antecedent basis. Claim 1 explains that the “pulse generating circuit [is] configured to output one or more pulse signals.” Because the antecedent basis of “*the* one or more pulse signals” is “one or more pulse signals” output by the pulse generating circuit, this term should be construed such that it requires “the one or more pulse signals” to be the same pulse signals

output by the pulse generating circuit. *See Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356 (Fed. Cir. 1999) (holding that “the term ‘a discharge rate’ in clause [b] is referring to the same rate as the term ‘the discharge rate’ in clause [d]”); *VLSI Tech. LLC v. Intel Corp.*, No. A-19-CV-00977, 2021 WL 1432705, at *8 (W.D. Tex. Feb. 25, 2021) (relying on antecedent basis to hold that “‘the reduced power supply voltage’ must be the same voltage” as earlier recited “‘decrease the power supply voltage’”).

An explicit construction is necessary because Plaintiffs are interpreting this claim term more broadly than its plain and ordinary meaning. Specifically, Plaintiffs identify the Control Signal Generator in the figure below as the claimed “pulse generating circuit” and the signal labeled “S5” as the claimed “pulse signal.”



Ex. 23, Plaintiffs’ Jiaxing Super Lighting Electric Appliance Co., Ltd., and Obert, Inc.’s Preliminary Infringement Contentions, Exhibit A1 at 13–14 (Oct. 19, 2022) (annotations in the original). Plaintiffs then identify the signal S4 as the claimed “one or more pulse signals [that]

control turning on and off the switch circuit.” *Id.* at 18–19. Signal S4 is output from the S4 driver and is not the pulse signal from the pulse generating circuit. Therefore, Plaintiffs are asserting an infringement read broader than the plain and ordinary meaning of the claim, setting up a dispute between the parties as to the scope of what infringes this claim limitation. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) (“A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.”). Therefore, the Court should adopt Current Lighting’s construction and resolve this dispute.

B. “the time of the one or more pulse signals”

Term	Defendant’s Construction	Plaintiffs’ Construction
“the time of the one or more pulse signals” ’140 Patent : Cl. 5	Indefinite	Plain and ordinary meaning

This term is indefinite because the claim provides no understanding of “the time” referred to in Claim 5. A claim is “indefinite if a [claim] term does not have proper antecedent basis.” *Halliburton*, 514 F.3d at 1249. Claim 5 depends from Claim 4. Claim 4 does not recite any “time” to provide antecedent basis for the time recited in Claim 5. Therefore, it is unclear to which “time” Claim 5 refers.

While “[t]he lack of antecedent basis signals a potential indefiniteness problem [it] does not end the inquiry.” *Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, 813 F. App’x 522, 526 (Fed. Cir. 2020) (citing *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (“Whether [a] claim, despite lack of explicit antecedent basis . . . nonetheless has a reasonably ascertainable meaning must be decided in context.”)). The Federal Circuit has held that a claim limitation lacks antecedent basis “where it would be unclear as to what element the

limitation was making reference.” *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008). Here, the ’140 Patent refers to multiple types of times for the “pulse signal.” For example, the specification describes “an interval with a defined time between the first and second pulse signals.” ’140 Patent at 42:22–27. The specification also refers to “the time difference between the productions of the first and second pulse signals.” *Id.* at 44:26–29. Further, the specification refers to the output time of the pulse signals. *Id.* at 46:43–50 (“the first pulse signal output at a first time and the second pulse signal output at a second time after the first time”). A POSITA would not, based on the claims and the specification, be able to determine whether “the time of the one or more pulse signals,” as recited in Claim 5, refers to the time difference between the signals, the interval between the signals, or the output time of the signals. Lebbby Decl. at ¶ 44. Therefore, Claim 5 is indefinite. *See Nautilus*, 572 U.S. at 901 (“[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.”).

C. “means for detecting” / “means for detecting during one or more pulse signals whether the LED tube lamp is properly installed on a lamp socket”

Term	Defendant’s Construction	Plaintiffs’ Construction
“means for detecting” “means for detecting during one or more pulse signals whether the LED tube lamp is properly installed on a lamp socket” ’140 Patent : Cl. 21, 22, 23	Governed by 35 U.S.C. § 112, ¶ 6 Function (claims 21, 23): detecting a sampling signal on the power loop during the one or more pulse signals for determining whether the LED tube lamp is properly installed Function (claim 22): detecting a sampling signal on the power loop during the one or more pulse signals for determining that the LED tube lamp is properly installed when the sampling signal is greater than or equal to a predefined signal, and that the LED tube	Subject to 35 U.S.C. § 112, ¶ (6) Function: Detecting a sampling signal on the power loop during the one or more pulse signals for determining whether the LED tube lamp is properly installed Structure: Module 2570 in Fig. 15B, module 2770 in Fig. 15G, Figs. 15D and 15K and corresponding

	lamp is not properly installed on the lamp socket when the sampling signal is smaller than a predefined signal Structure: module 2570 in Fig. 15B, module 2770 in Fig. 15G, Figs. 15D and 15K, and corresponding text, and equivalents thereof	text, and equivalents thereof
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The parties agree that “means for detecting” is a means-plus-function term, agree on the function for claims 21 and 23, and agree on the corresponding structure. The only dispute is this term’s function for claim 22. Independent claim 21 introduces the “means for detecting” term and provides the antecedent basis for claim 22’s “*the* means for detecting.” Claim 22 recites additional functionality performed by the means for detecting: “when the means for detecting determines that the sampling signal is greater than or equal to a predefined signal, it is detected that the LED tube lamp is properly installed on the lamp socket; and when the means for detecting determines that the sampling signal is smaller than a predefined signal, it is detected that the LED tube lamp is not properly installed on the lamp socket.”

For claim 22, “means for detecting” should be construed to include the additional, expressly recited functionality. *See Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 324 F.3d 1308, 1319 (Fed. Cir. 2003) (“The function of a means-plus-function claim must be construed to include the limitations contained in the claim language.”). The district court in *Mediatek, Inc. v. Sanyo Elec. Co.* held that ““said frequency domain down mixing means eliminates the audio signal of said at least one channel from targets to be mixed’ language” found in dependent claim 6 “describes an additional function that the down mixing means first claimed in claim 1 performs” and thus construed this means-plus-function term to have different functions for claims 1 and 6. 513 F. Supp. 2d 778, 786, 796 App’x B (E.D. Tex. 2007). Likewise, dependent claim 22 recites

additional functionality not found in claim 21 and thus has a different function and the Court should construe it to include this different, additional function.

D. “period of each of the one or more pulse signals”

Term	Defendant’s Construction	Plaintiffs’ Construction
“period of each of the one or more pulse signals” '140 Patent: Cl. 28, 35	Indefinite	Plain and ordinary meaning

Similar to the discussion above related to “predetermined time period,” “pulse-on period of the pulse signal,” and “pulse-on time of the pulse signal,” Current Lighting contends this term is indefinite because the claim is open to two interpretations and a POSITA would not understand to what “period” refers. A patentee has an affirmative duty to state claims that are understandable to a person of ordinary skill in the art. *Berhkeimer v. HP Inc.*, 881 F.3d 1360, 1363 (Fed. Cir. 2018) (claims “must ‘inform those skilled in the art about the scope of the invention with reasonable certainty’”) (internal quotations omitted). Here, the patentee has failed to satisfy this duty.

The '140 Patent describes different types of time periods for pulse signals. For example, the specification describes an “initial setting time period” for the pulse signal. '140 Patent at 41:11–13. The specification also refers to “a time period between the pulses.” *Id.* at 45:38–42. Further, the specification describes that “the pulse signals can occur at intervals that are different from half of the period of the AC signal.” *Id.* at 45:55–57. The '140 Patent also specifically distinguishes between two types of periods: (1) “the period utilized to determine the cycle of a pulse signal” and (2) “the period utilized to determine the width (or period) of pulse signal).” *Id.* at 52:1–7, 52:21–29.

Therefore, a POSITA would not, reading the claims and the specification, understand whether “period of each of the one or more pulse signals” refers to a time period when the pulse signal begins, a time period between the pulses, or the width of the pulse signal. Lebby Decl. at

¶ 46 When a patentee fails in the basic task of explaining what is claimed, the Court should properly conclude that the claims are invalid under Section 112. *Halliburton*, 514 F.3d at 1249; *Datamize*, 417 F.3d at 1350 (term indefinite if “completely dependent on a person’s subjective opinion”). The fatal inconsistency in how to interpret what period is claimed in claims 28 and 35 of the ’140 Patent renders these claims invalid.

IX. U.S. PATENT NO. 10,295,125

A. “disposed on an inner surface of the lamp tube” / “disposed on an inner surface of an glass lamp tube”

Term	Defendant’s Construction	Plaintiffs’ Construction
“disposed on an inner circumferential surface of the lamp tube” ’125 Patent: Cl. 1 “disposed on an inner surface of an glass lamp tube” ’397 Patent: Cl. 1, 8, 14	“arranged on an inner circumferential surface of the lamp tube either directly or through intervening elements”	Plain and ordinary meaning

The term “disposed on an inner [circumferential] surface of the [glass] lamp tube” should be construed as “arranged on an inner circumferential surface of the lamp tube either directly or through intervening elements” because this construction comports with the specifications and claims of the ’125 and ’397 Patents. Further, the construction resolves a related question regarding the scope of this phrase: the meaning of “disposed” as opposed to the meaning of “attached,” which is used in other of the asserted patents. *See* Section XI.A, *infra*. Therefore, the Court should adopt this construction.

First, the claims support Current Lighting’s proposed construction as it clarifies the meaning of the word “disposed” versus “attached.” The claims of the ’125 Patent illustrate that “disposed” should be understood to mean “arranged,” as distinct from and broader than “attached.” Claim 13 of the ’125 Patent, which depends from claim 1, narrows the meaning of an LED light strip “disposed on an inner circumferential surface of the lamp tube” and recites “wherein the LED

light strip is **attached** to an inner surface of the lamp tube.” ’125 Patent at claim 13.⁵ Based on claim differentiation, independent claim 1 necessarily encompasses a scope greater than its dependent claims. *See* 35 U.S.C § 112(d); *Littelfuse*, 29 F.4th at 1380 (“By definition, an independent claim is broader than a claim that depends from it . . .”). Hence, an LED light strip “disposed” on the inner surface of the lamp tube need not necessarily be “attached” to be “disposed” on the inner tube surface, but an LED light strip “attached” to the lamp tube surface would also be “disposed” on the surface.

As used in claim 13 of the ’125 Patent (and claims 1 and 30 of the ’989, claim 31 of the ’068 Patent, and claim 13 of the ’801 Patent), “attached” connotes an arrangement in which the LED light strip is secured, fixed, or fastened to a surface through some means.⁶ For example, the ’125 Patent states that in one embodiment, “the LED light strip 2 is **attached and secured** to the inner surface of the lamp tube 1.” ’125 Patent at 32:36–38; *cf.* ’989 Patent at 35:1–3; ’068 Patent at 31:63–65; ’801 Patent at 35:63–67 (using the same language). “Disposed,” on the other hand, connotes arranging or placing the LED light strip in or on a location, in this case on the inner surface of the lamp tube, rather than requiring any particular method or means for securing an LED light strip within a tube light. *See, e.g.*, ’125 Patent at Abstract (using “disposed” to show the arrangement of several different elements in, inside, or on other elements); ’397 Patent at 4:24–36 (using “disposed” to similarly refer to component locations).

Second, the ’125 and ’397 Patent specifications support the construction of “disposed on” as meaning “arranged on . . . either directly or through intervening elements.” The ’125 Patent specification recites that “when an element is referred to as being . . . ‘on’ another element it can

⁵ *E.g.*, The American Heritage College Dictionary defines “attach” as “to fasten, secure, or join.” Ex. 24, AMERICAN HERITAGE COLLEGE DICTIONARY, 88 (3rd ed. 1997).

⁶ *Supra* note 7.

be directly . . . on the other element or intervening elements may be present.” ’125 Patent at 12:5–8. The ’125 Patent specification notes, “[i]n contrast, when an element is referred to as being . . . *directly* [on] another element, there are no intervening elements present.” *Id.* at 12:8–17 (stating that other relational terms should be interpreted in like manner). *See Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“Although words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.”); *see also Jack Guttman*, 302 F.3d at 1360 (“Where, as here, the patentee has clearly defined a claim term, that definition usually . . . is dispositive; it is the single best guide to the meaning of a disputed term.”) (internal quotations omitted). The ’397 Patent uses “disposed on” consistently with the language in the ’125 Patent. *See, e.g.,* ’397 Patent at 4:30–33 (“The LED light strip is disposed on an inner surface of the lamp tube” without intervening elements), 11:55–57 (LED light strip is “disposed on the inner surface of the glass lamp tube” when an intervening element (reflective film 12) is present).

To provide clarity and consistency across the patents in this case, the Court should adopt Current Lighting’s construction and construe “disposed on an inner circumferential surface of the lamp tube” as “arranged on an inner circumferential surface of the lamp tube either directly or through intervening elements.”

X. U.S. PATENT NO. 10,487,991

A. “fixing structure”

Term	Defendant’s Construction	Plaintiffs’ Construction
“fixing structure” ’991 Patent: Cl. 1, 9, 10, 16, 23, 24, 30, 36, 37	“a rigid component that physically secures another component”	Plain and ordinary meaning

The term “fixing structure” would be understood by a POSITA, when reading the specification, as “a rigid component that physically secures another component.”

Importantly, the ’991 Patent never uses the terms “fixing” or “fixing structure” except in the claims. *See generally* ’991 Patent. However, an examination of the claims of the ’991 Patent suggests that the claimed “fixing structure” corresponds to the “reinforcing portion” described in the specification. For example, both the claimed fixing structure and the reinforcing portion 107 may include “a curvilinear rib or a vertical rib.” ’991 Patent, 86:55–56, 18:26–34, claim 5. The claimed fixing structure includes a “first end fixedly connected to an inner circumferential surface of the lamp tube and second end fixedly connected to the LED light strip.” *Id.* at claim 1. Similarly, the reinforcing portion 107 is connected to the LED light assembly (via platform 107a of reinforcing portion 107) and is also connected to lamp tube 1. ’991 Patent, 18:26-30, 22:24-26. There is no other structure described in the ’991 Patent that could reasonably be understood as the claimed “fixing structure.”

Confusingly, the applicants took a contrary position during prosecution of the ’991 Patent. The prosecution history of the ’991 Patent includes a single double patenting rejection over U.S. Pat. No. 10,240,725 (“the ’725 Patent,” a parent application to the ’991 Patent) in view of U.S. Pat. App. Pub. No. 2016/0091147. Ex. 25, Response to Office Action (July 25, 2019) at 2. In responding to the rejection, the applicants argued that the “reinforcing portion” of the ’725 Patent “is not the same as the recited fixing structure.” *Id.* However, the applicants did not provide any additional explanation that would inform as to what part—if not the “reinforcing portion”—of the LED tube lamp described in the ’991 Patent “fixing structure” refers. *Id.* The applicants’ statements during prosecution of the ’725 Patent apply equally here. *See Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1333 (Fed. Cir. 2003) (“As long as the same claim limitation is at issue, prosecution disclaimer made on the same limitation in an ancestor application will attach.”).

To mitigate this confusion, the Court should construe the “fixing structure” of the ’991 Patent as “a rigid component that physically secures another component” or decide that this term is indefinite. A claim is indefinite if the claim “viewed in light of the specification and prosecution history, [fails to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 572 U.S. at 910. Here, because the specification and prosecution history are in conflict, without a construction, a POSITA would not be able to determine the scope of the claims of the ’991 Patent with reasonable certainty. This construction is consistent with the usage of “fixing structure” in the claims of the ’991 Patent as well as the description of the reinforcing portion in the specification of the ’991 Patent.

B. “electronic components mounted on”

Term	Defendant’s Construction	Plaintiffs’ Construction
“electronic components mounted on” ’991 Patent: Cl. 1, 16, 30 ’989 Patent: Cl. 1, 30 ’801 Patent: Cl. 13	“electronic components securely attached, affixed, or fastened to, without any intermediate circuit boards”	Plain and ordinary meaning

The phrase “electronic components mounted on” appears in each independent claim of the ’991, ’989, and ’801 Patents. Current Lighting proposes a construction consistent with the way the term is used in the specification—that the electronic components not be mounted on any intermediate circuit boards. As the Federal Circuit has held, “a word describing patented technology takes its definition from the context in which it was used by the inventor” and that a patent owner is “not entitled to a claim construction divorced from the context of the written description.” *Tap Pharm. Prods., Inc. v. Owl Pharm., L.L.C.*, 419 F.3d 1346, 1354 (Fed. Cir. 2005); *accord Nystrom v. Trex Co.*, 424 F.3d 1136, 1144–45 (Fed. Cir. 2005).

The ’991, ’989, and ’801 Patents describes the electronic components as connected either directly to the LED light strip, or installed directly on a circuit board that is directly connected to

the LED light strip. Specifically, the '991 Patent describes that the “distribution of the set of power supply module electronic components in a lamp tube depends on a desired totality of such considerations as heat dissipation, circuit design, easy assembly and form factor of the lamp tube.” '991 Patent at 27:27–31. The specification describes that the power supply’s electronic components are located in any combination of three locations: (1) on the LED light strip, (2) on the end cap, or (3) on the reinforcing portion. *Id.* at 27:15–18; *see also id.* at 27:31–34, 27:57–60., 28:18–21. When the components are “on the end cap,” they are “on a circuit board fixedly attached to an end cap.” *Id.* at 27:23–26. The specification also contemplates that the electronic components may be divided across two power supply circuit boards, each one directly connected to the light strip. *Id.* at 51:37–43. For example, “the first short circuit substrate is disposed in an end cap at an end of the LED tube lamp, and the second short circuit substrate is disposed in another end cap at the opposite end of the LED tube lamp.” *Id.* at 51:57–60. What the '991 Patent does not describe is the electronic components being mounted on intermediate circuit boards that are not directly connected to the LED light strip.

Similarly, the '989 and '801 Patents describe electronic components mounted to the surface of the printed circuit board of the power supply module, on the light strip, or both. *See, e.g.,* '989 Patent at 6:5–16, 53:1–19. In each of these embodiments, the electronic components are directly connected onto either the printed circuit board of the power supply module or the light strip, as shown in the image below of the components (in yellow) mounted to the printed circuit board (in blue).

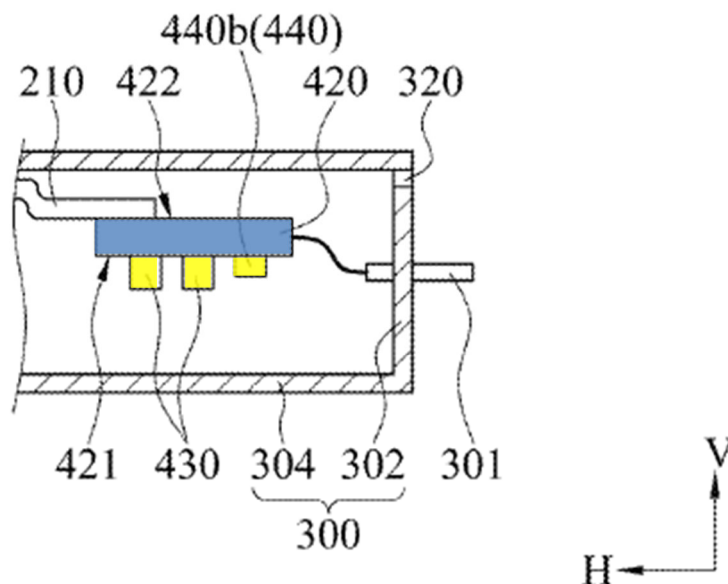


FIG. 83

'989 Patent at FIG. 83, '801 Patent at FIG. 83.

Further, the '991 Patent describes the benefits of disclosed component mounting configurations because it achieves the goals of the invention. *See, e.g., id.* at 3:55–67. Where the specification describes a feature as achieving the invention's goals, and where the described embodiments all disclose the feature, the feature limits the claims. *See Parallel Networks, LLC v. Abercrombie & Fitch Co.*, 704 F.3d 958, 967–68 (Fed. Cir. 2013) (construing a term in accordance with a feature of “the present invention” that “facilitates the invention's key goal”); *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 542 (Fed. Cir. 1998); *Gentry Gallery, Inc. v. The Berkline Corp.*, 134 F.3d 1473, 1478-80 (Fed. Cir. 1998). The Court should construe this term to require that no intermediate circuit boards are used to mount the electronic components.

XI. U.S. PATENT NO. 10,560,989

A. “attached to an inner circumferential surface of the [glass] tube”

Term	Defendant's Construction	Plaintiffs' Construction
“attached to an inner	“secured to an inner	Plain and ordinary

circumferential surface of the tube” ’989 Patent: Cl. 1, 30 ’068 Patent: Cl. 31 “attached to an inner circumferential surface of the glass tube” ’801 Patent: Cl. 13	circumferential surface of the lamp tube, either directly or through intervening elements”	meaning
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As explained above with respect to “disposed on an inner [circumferential] surface of the [glass] lamp tube,” the ’989, ’068, and ’801 Patents distinguish between whether components being *directly* (“attached”) or *indirectly* (“disposed”) connected to one another. Section IX.A, *supra*. As used in claims 1 and 30 of the ’989, claim 31 of the ’068 Patent, and claim 13 of the ’801 Patent, “attached” connotes an arrangement in which the LED light strip is secured, fixed or fastened to a surface through some means. For example, the ’989 Patent teaches that “the LED light strip 2 is *attached and secured* to the inner surface of the lamp tube 1.” ’989 Patent at 35:1–3; *see also* ’068 Patent at 31:63–65 and ’801 Patent at 35:63–67 (using the same language).

Consistent with this description, the American Heritage College Dictionary defines “attach” as “to fasten, secure, or join.” Ex. 24, AMERICAN HERITAGE COLLEGE DICTIONARY, 88 (3rd ed. 1997). Accordingly, the Court should adopt Current Lighting’s construction and construe “attached to an inner circumferential surface of the [glass] tube [lamp]” to mean “secured to an inner circumferential surface of the lamp tube, either directly or through intervening elements.”

B. “positioned closest to the end wall of the first end cap” / “positioned closest to the opening”

Term	Defendant’s Construction	Plaintiffs’ Construction
“positioned closest to the end wall of the first end cap” ’989 Patent: Cl. 1, 30 “positioned closest to the opening” ’989 Patent: Cl. 6	Indefinite	Plain and ordinary meaning

The terms “positioned closest to the end wall of the first end cap” and “positioned closet to the opening” render the claims in which they appear, claims 1, 6, and 30 of the ’989 Patent, indefinite because a POSITA would not understand what is and is not within the scope of these claims. The use of a term of degree does not inherently render a claim indefinite. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014). However, “[w]hen a ‘word of degree’ is used, the court must determine whether the patent provides ‘some standard for measuring that degree.’” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (citing *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010); *Seattle Box Co., Inc. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984)). The ’989 Patent provides no such standard.

The ’989 Patent describes a power supply module disposed in the end cap of an LED light tube. ’989 Patent at 3:43–47. The power supply module includes a printed circuit board 420 with one or more electronic components 430. *Id.* at 4:7–15, 104:44–46. The electronic components include “at least one inductor, transistor, capacitor, resistor, or integrated circuit.” *Id.* at 4:13–15. The specification teaches that these components are “near an edge of the first surface and is closest among the components on the first surface.” *Id.* at 4:16–18. The specification also describes a heat-dissipating element 440 and that the heat-dissipating element 440 is the element closest to the opening in the end wall. *See, e.g., id.* at 106:61–107:20, 105:43–106:10.

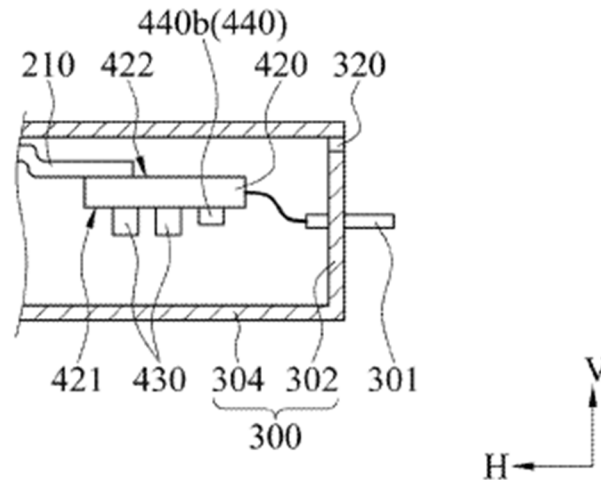


FIG.83

A POSITA would be confused as to what it means to be “positioned closest to the end wall of the first end cap” or “positioned closest to the opening.” *Lebby* Decl. at ¶ 49. The heat-dissipating element 440 is clearly the closest element to both the end wall 302 and opening 320. Therefore, when claim 1 refers to a resistor and claim 30 refers to a capacitor as being “closest to the end wall,” a person of ordinary skill in the art would be left wondering “closest compared to what?” *Id.* Closest to compared to the other electronic components? Closest compared to everything on the circuit board 420 including any heat-dissipating elements 440? Because the patent provides no standard for measuring the closeness of the resistor or capacitor to the end wall, claims 1 and 30 are indefinite. *See Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014) (“As we have explained, a term of degree fails to provide sufficient notice of its scope if it depends ‘on the unpredictable vagaries of any one person’s opinion.’”) (citing *Datamize*, 417 F.3d at 1350).

For the same reasons, claim 6 is also indefinite. The “opening” recited in claim 6 is in the end wall of the end cap. ’989 Patent at claim 5 (“the end wall comprises at least one opening”). The ’989 Patent does not include any separate disclosure regarding a component’s location relative to the opening versus the end wall. Thus, the specification contains no additional clarifying

disclosure that would allow a POSITA to understand the scope of claim 6 any more than a person of ordinary skill in the art would understand the scope of claims 1 and 30. *Lebby Decl.* at ¶ 50.

XII. U.S. PATENT NO. 10,830,397

A. “reflective film” / “reflective layer”

Term	Defendant’s Construction	Plaintiffs’ Construction
“reflective film” ’397 Patent: Cl. 1, 2, 3, 8, 9 “reflective layer” ’397 Patent: Cl. 14, 15	“distinct film/layer that is intended to increase reflectivity”	Plain and ordinary meaning

The ’397 Patent uses “reflective film” and “reflective layer” (hereinafter collectively referred to as “reflective film/layer”) not to refer to *any* film or layer that reflects *some* amount of light, but rather to refer to a film or layer that is *intended* increase reflectivity. Every material has some amount of reflectivity. *Lebby Decl.* at ¶ 52. The meaning of “reflective film/layer” cannot be broad enough that it encompasses any material. Therefore, the Court should adopt Current Lighting’s proposed construction of a “distinct film/layer that is intended to increase reflectivity.”

The ’397 Patent describes an LED tube lamp that includes a reflective film. ’397 Patent, 4:24–26, 4:37–39, 4:54–56. According to the ’397 Patent, light rays emitted from the LED light source in the lamp tube can be *distributed in a more even manner* by the reflective film. ’397 Patent, 5:1–4. Further, reflective films 12 reflect light from LED light sources 202 such that the light is *centralized to a determined direction*. ’397 Patent, 12:6–9; FIG. 30. These features of the reflective film (or films) are *intended to increase reflectivity* within the tube lamp. *See Lebby Decl.* at ¶ 52.

Therefore, it is clear that the reflective film/layer refers not to *any* film or layer that reflects *some* amount of light, but rather to refer to a film or layer that is *intended* increase reflectivity. Therefore, the Court should adopt Current Lighting’s proposed construction of a “distinct film/layer that is intended to increase reflectivity.”

XIII. U.S. PATENT NO. 10,897,801**A. “a resistor which is positioned close to the end wall”**

Term	Defendant’s Construction	Plaintiffs’ Construction
“a resistor which is positioned close to the end wall” ’801 Patent: Cl. 13	Indefinite	Plain and ordinary meaning

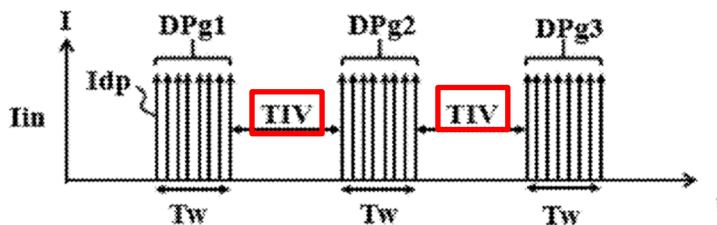
Like the term “closest” recited in claims 1, 6, and 30 of the ’989 Patent, “close” as used in claim 13 of the ’801 Patent is a term of degree that renders claim 13 indefinite if the specification does not provide a standard for measuring the degree. *Biosig Instruments*, 783 F.3d at 1378. The ’801 Patent is a continuation of the ’989 Patent and contains no additional disclosure that would help a person of ordinary skill in the art understand when a resistor is “close” to the end wall. Lebbly Decl. at ¶ 53. Therefore, the phrase “a resistor which is positioned close to the end wall” is indefinite for the same reasons described above. *See* Section XI.B, *supra*.

XIV. U.S. PATENT NO. 11,441,742**A. “the time interval between the first detection period and the second detection period”**

Term	Defendant’s Construction	Plaintiffs’ Construction
“the time interval between the first detection period and the second detection period” ’742 Patent: Cl. 3, 24	“the time interval between the first detection period and the next detection period”	Plain and ordinary meaning

This term should be construed such that first and second detection periods are consecutive.

The time interval, TIV, between detection periods, Tw, is illustrated below:



'742 Patent at FIG. 37F. The specification equates the second detection period to the “next” period immediately following the first period: “After the first detection period T_w , during a set period T_{IV} . . . , the detection pulse generating module 3110 stops generating a pulse signal . . . ; and then the detection pulse generating module 3110 continues to generate again a group of pulse signals for performing installation detection, only upon entering into the *next or a second detection period T_w* .” ’742 Patent at 70:41–49 (emphasis added).

The construction of this term must incorporate the specification’s disclosed method of the time interval to avoid indefiniteness. “The existence of multiple methods” of measuring a variable “leading to different results without guidance in the patent or the prosecution history as to which method should be used renders the claims indefinite.” *Dow Chem. Co. v. Nova Chems. Corp. (Canada)*, 803 F.3d 620, 634 (Fed. Cir. 2015) (holding that “slope of strain hardening coefficient” was indefinite because patent failed to provide guidance as to which of four measurement methods should be used”). In this case, there is the potential for any number of ways of measuring the time interval if the “first” and “second” periods are not consecutive. For example, if the “first” detection period were chosen as DPg1 and the “second” detection period were chosen as DPg3, the time interval would be $2 * T_{IV} + T_w$. At least one other court has incorporated a disclosed measurement method into a claim construction to avoid indefiniteness due to multiple measurement methods providing different results. *See Johnson Matthey Inc. v. Noven Pharms., Inc.*, No. 2:07-CV-260, 2009 WL 2208214, at *9 (E.D. Tex. July 21, 2009) (noting that “the failure of the court to require an instrument method might render the claims indefinite as DSC and capillary instruments yield different melting points”). Therefore, the Court should adopt the measurement method in Current Lighting’s construction that results in “the time interval between the first detection period and the next detection period.”

XV. CONCLUSION

For the foregoing reasons, Current Lighting respectfully requests this Court to adopt its construction for the disputed terms and phrases.

Dated: February 15, 2023

Respectfully submitted,

/s/ Arthur P. Licygiewicz

Arthur P. Licygiewicz
Texas Bar No. 24128778
art.licygiewicz@nortonrosefulbright.com
NORTON ROSE FULBRIGHT US LLP
2200 Ross Avenue, Suite 3600
Dallas, Texas 75201-2784
Telephone: (214) 855-8000
Facsimile: (214) 855-8200

Catherine Garza
Texas Bar No. 24073318
cat.garza@nortonrosefulbright.com
Valerie Barker
Texas Bar No. 24087141
valerie.barker@nortonrosefulbright.com
Gabriel Culver
Texas Bar No. 24116240
gabriel.culver@nortonrosefulbright.com
NORTON ROSE FULBRIGHT US LLP
98 San Jacinto Boulevard, Suite 1100
Austin, Texas 78701
Tel: (512) 474-5201
Fax: (512) 536-4598

Attorneys for Current Lighting Solutions, LLC

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served with a copy of the foregoing document via the Court's CM/ECF system on February 15, 2023.

/s/ Valerie Barker
Valerie Barker