

2024-1194, 2024-1221, 2024-1222, 2024-1223

**United States Court of Appeals
for the Federal Circuit**

CAO LIGHTING, INC.,

Appellant,

– v. –

WOLFSPEED, INC., Cree Lighting USA LLC f/k/a IDEAL INDUSTRIES
LIGHTING LLC, LEDVANCE LLC, GENERAL ELECTRIC COMPANY,
CONSUMER LIGHTING (U.S.), LLC, DBA GE Lighting, CURRENT
LIGHTING SOLUTIONS, LLC, OSRAM SYLVANIA, INC.,
FEIT ELECTRIC COMPANY, INC.,

Cross-Appellants.

CAO LIGHTING, INC.,

Appellant,

– v. –

WOLFSPEED, INC., Cree Lighting USA LLC f/k/a
IDEAL INDUSTRIES LIGHTING LLC,

Cross-Appellants.

*Appeals from the United States Patent and Trademark Office,
Patent Trial and Appeal Board in Nos. IPR2022-00847,
IPR2023-0123, IPR2023-00129 and IPR2022-00848*

**COMBINED PETITION FOR PANEL REHEARING
AND REHEARING *EN BANC***

TODD G. VARE
PAUL B. HUNT
JOSHUA P. LARSEN
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, Indiana 46204
(317) 236-1313
todd.vare@btlaw.com
paul.hunt@btlaw.com
joshua.larsen@btlaw.com

RONALD E. CAHILL
HEATHER B. REPICKY
BARNES & THORNBURG LLP
One Marina Park Drive, Suite 1530
Boston, Massachusetts 02210
(617) 316-5310
rcahill@btlaw.com
hrepicky@btlaw.com

Counsel for Appellant

OCTOBER 6, 2025



FORM 9. Certificate of Interest

Form 9 (p. 1)
March 2023

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

CERTIFICATE OF INTEREST

Case Number 2024-1194, 2024-1221, 2024-1222, 2024-1223

Short Case Caption CAO Lighting, Inc. v. Wolfspeed, Inc.

Filing Party/Entity CAO Lighting, Inc.

Instructions:

1. Complete each section of the form and select none or N/A if appropriate.
2. Please enter only one item per box; attach additional pages as needed, and check the box to indicate such pages are attached.
3. In answering Sections 2 and 3, be specific as to which represented entities the answers apply; lack of specificity may result in non-compliance.
4. Please do not duplicate entries within Section 5.
5. Counsel must file an amended Certificate of Interest within seven days after any information on this form changes. Fed. Cir. R. 47.4(c).

I certify the following information and any attached sheets are accurate and complete to the best of my knowledge.

Date: 10/06/2025

Signature: /s/ Ronald E. Cahill

Name: Ronald E. Cahill

FORM 9. Certificate of Interest

Form 9 (p. 2)
March 2023

1. Represented Entities. Fed. Cir. R. 47.4(a)(1).	2. Real Party in Interest. Fed. Cir. R. 47.4(a)(2).	3. Parent Corporations and Stockholders. Fed. Cir. R. 47.4(a)(3).
Provide the full names of all entities represented by undersigned counsel in this case.	Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities. ☒ None/Not Applicable	Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities. ☐ None/Not Applicable
CAO Lighting, Inc.		CAO Group, Inc.

☐ Additional pages attached

FORM 9. Certificate of Interest

Form 9 (p. 3)
March 2023

4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

☐ None/Not Applicable

☐ Additional pages attached

Adam B. Kauffman Barnes & Thornburg LLP		
Megan M. New Barnes & Thornburg LLP		
Kevin B. Laurence Laurence & Phillips IP Law		

5. Related Cases. Other than the originating case(s) for this case, are there related or prior cases that meet the criteria under Fed. Cir. R. 47.5(a)?

☒ Yes (file separate notice; see below) ☐ No ☐ N/A (amicus/movant)

If yes, concurrently file a separate Notice of Related Case Information that complies with Fed. Cir. R. 47.5(b). **Please do not duplicate information.** This separate Notice must only be filed with the first Certificate of Interest or, subsequently, if information changes during the pendency of the appeal. Fed. Cir. R. 47.5(b).

6. Organizational Victims and Bankruptcy Cases. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

☒ None/Not Applicable

☐ Additional pages attached

TABLE OF CONTENTS

	Page
CERTIFICATE OF INTEREST	i
TABLE OF CONTENTS	iv
TABLE OF AUTHORITIES	v
FEDERAL CIRCUIT RULE 40(C) STATEMENT OF COUNSEL	1
POINTS OF LAW OR FACT OVERLOOKED OR MISAPPREHENDED BY THE COURT.....	4
RELEVANT BACKGROUND	5
ARGUMENT	11
A. The Board’s new claim construction is erroneous and was without notice in violation of the APA and CAO Lighting’s due process rights.	11
B. The Board’s application of its new erroneous claim construction led to factual and legal findings that have no basis and cannot be summarily affirmed under Rule 36.	17
C. The Court’s Rule 36 summary affirmance is contrary to the “opinion” required under 35 U.S.C. § 144.	19
CONCLUSION	21

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Axonics, Inc. v. Medtronic, Inc.</i> , 75 F.4th 1374 (Fed. Cir. 2023).....	15
<i>CAO Lighting, Inc. v. Cree, Inc. et al.</i> , C.A. No. 1:21-cv-00634 (M.D.N.C.).....	3
<i>CAO Lighting, Inc. v. Feit Electric Company, Inc.</i> , Case Nos. 2023-1906, 2023-1908 (Fed. Cir.).....	3
<i>CAO Lighting, Inc. v. General Electric Co.</i> , C.A. No. 20-681-GBW, 20-690-GBW, 2023 WL 1930354 (D. Del. Jan. 30, 2023)	12
<i>CAO Lighting, Inc. v. General Electric Company et al.</i> , C.A. No. 1:20-cv-00681 (D. Del.).....	3
<i>CAO Lighting, Inc. v. OSRAM Sylvania, Inc. et al.</i> , C.A. No. 1:20-cv-00690 (D. Del.).....	3
<i>Dionex Softron GmbH v. Agilent Techs., Inc.</i> , 56 F.4th 1353 (Fed. Cir. 2023).....	16
<i>K-fee Sys. GmbH v. Nespresso USA, Inc.</i> , 89 F.4th 915 (Fed. Cir. 2023).....	1, 14
<i>In re NuVasive, Inc.</i> , 841 F.3d 966 (Fed. Cir. 2016)	16
<i>ParkerVision, Inc. v. Qualcomm Inc.</i> , 903 F.3d 1354 (Fed. Cir. 2018)	13
<i>Phil-Insul Corp. v. Airlite Plastics Co.</i> , 854 F.3d 1344 (Fed. Cir. 2017)	19
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	1, 15

<i>Qualcomm Inc. v. Intel Corp.</i> , 6 F.4th 1256 (Fed. Cir. 2021).....	1, 16
<i>Rovalma, S.A. v. Bohler-Edelstahl GmbH & Co. KG</i> , 856 F.3d 1019 (Fed. Cir. 2017)	15
<i>SAS Inst., Inc. v. ComplementSoft, LLC</i> , 825 F.3d 1341 (Fed. Cir. 2016), <i>rev'd on other grounds sub</i> <i>nom. SAS Inst., Inc. v. Iancu</i> , 584 U.S. 357 (2018)	1, 16
<i>Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.</i> , 520 U.S. 17 (1997)	1, 15
Statutes	
5 U.S.C. § 554(b)(3)	15
35 U.S.C. § 144.....	2, 19

FEDERAL CIRCUIT RULE 40(C) STATEMENT OF COUNSEL

Based on my professional judgment, I believe the Panel decision is contrary to at least the following decisions of the United States Supreme Court or the precedents of this Court: *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (“Each element contained in a patent claim is deemed material to defining the scope of the patented invention.”); *K-fee Sys. GmbH v. Nespresso USA, Inc.*, 89 F.4th 915, 919 (Fed. Cir. 2023) (“We generally give words of a claim their ordinary meaning on the context of the claim and the whole patent document” (quotations and citations omitted)); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (requiring that a claim term be read in the context of the particular claim in which the disputed term appears); *Qualcomm Inc. v. Intel Corp.*, 6 F.4th 1256, 1262–63 (Fed. Cir. 2021) (holding the Board violated the APA when it adopted a construction despite there being no dispute over the term’s meaning); *SAS Inst., Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1351–52 (Fed. Cir. 2016) (holding that, where parties never anticipated the “construction that eventually materialized in the final written decision,” the Board’s adoption of that construction

violated the APA), *rev'd on other grounds sub nom. SAS Inst., Inc. v. Iancu*, 584 U.S. 357 (2018).

Based on my professional judgment, I believe this appeal requires an answer to one or more precedent setting questions of exceptional importance:

1. May the Board adopt and apply a new claim construction for the first time in its Final Written Decisions and may the Court use Circuit Rule 36 to summarily affirm, without opinion, the Board's new claim construction, in violation of the Administrative Procedure Act and Constitutional due process and property protections that require a *de novo* review by the Court?
2. Does the Court's Rule 36 summary affirmance of the foregoing issues contradict the statutory requirement of 35 U.S.C. § 144 that the Court review the Board's decision on appeal and upon determination issue to the Director its mandate and "opinion" that "shall govern further proceedings in the case," where the Court's summary affirmance without opinion here leaves open the question

in further proceedings of the proper scope of claims of the patents in issue that the Board found were not unpatentable.¹

3. When the Board reaches an initial or final decision on a finding of fact or conclusion law that is different from a prior finding of fact or conclusion of law by the USPTO or a district court, must the Board explain in the institution or final written decision why a different outcome is warranted and must the Federal Circuit, on appeal, issue an opinion relating to that explanation, among other issues on appeal.

/s/ Ronald E. Cahill

Ronald E. Cahill

¹ The following pending cases may be affected by the claim construction question left open by the Panel's summary affirmance: *CAO Lighting, Inc. v. Cree, Inc. et al.*, C.A. No. 1:21-cv-00634 (M.D.N.C.); *CAO Lighting, Inc. v. Feit Electric Company, Inc.*, Case Nos. 2023-1906, 2023-1908 (Fed. Cir.); *CAO Lighting, Inc. v. General Electric Company et al.*, C.A. No. 1:20-cv-00681 (D. Del.); and *CAO Lighting, Inc. v. OSRAM Sylvania, Inc. et al.*, C.A. No. 1:20-cv-00690 (D. Del.).

**POINTS OF LAW OR FACT OVERLOOKED OR
MISAPPREHENDED BY THE COURT**

The Panel's Rule 36 summary affirmance fails to address *de novo* the Board's new claim construction in its Final Written Decisions, which violated the Administrative Procedure Act and Constitutional due process and property protections of CAO Lighting.

The Panel's Rule 36 summary affirmance fails to address the Board's erroneous claim construction, which when applied outside the context of the claims as a whole resulted in erroneous factual findings by the Board regarding the motivation to combine International Patent Application Publication No. WO 00/17569 to Begemann ("Begemann") and Krames et al., "High-brightness AlGaInN light emitting diodes" ("Krames 2000").

The Panel's summary affirmance overlooked or misapprehended the factual record before the Board that demonstrated a person of ordinary skill in the art would not be motivated to combine the Krames 2000 chip with the light bulb structure of Begemman and such person of ordinary skill in the art would not have any reasonable expectation of success in such combination for the intended purpose of the claimed light source.

The Panel’s Rule 36 summary affirmance fails to address factually and legally the Board’s improper disregard of CAO Lighting’s evidence of long-felt but unmet need establishing objective evidence of non-obviousness.

RELEVANT BACKGROUND

The lengthy factual and procedural history—spanning nearly 25 years and including *inter partes* and *ex parte* reexaminations, district court claim construction rulings, multiple IPR petitions, and a jury verdict in favor of CAO Lighting rejecting the very same obviousness combination asserted in the IPRs—is set forth in detail in CAO Lighting’s opening brief to this Court.

Relevant to this petition, more than two decades ago, Dr. Densen Cao filed applications that ultimately issued as U.S. Patent Nos. 6,465,961 (the “961 patent”) and 6,634,770 (the “770 patent”). Appx137; Appx168. These patents are directed to solving a problem that the lighting industry struggled with for years: how to replace traditional incandescent, fluorescent, and halogen general-purpose lights (e.g., light bulbs, lamps, and fixtures) with a light source having high-powered semiconductor (e.g., LED) chips. *See* Appx154 (’961 patent, 1:6–31); *id.*

(’961 patent, 1:46–53); Appx185 (’770 patent, 1:5–31); *id.* (’770 patent, 1:46–53). The patents’ shared specification describes how, historically, LEDs were not “successfully and economically used to illuminate physical spaces.” Appx154 (’961 patent, 1:20–22); Appx185 (’770 patent, 1:19–21). Not only did LEDs typically lack the necessary high-intensity light to illuminate residential, commercial, and outdoor spaces, but they “took an excessive amount of physical space and created unmanageable amounts of heat.” Appx154 (’961 patent, 1:27–28); Appx185 (’770 patent, 1:27–28). To solve these issues, the relevant claims of the ’961 and ’770 patents relate to a light source apparatus including: (1) the structure and characteristics of the high powered LEDs used in the light source, *and* (2) the structure and overall components of the light source apparatus including an enclosure with heat sink panels to dissipate the heat from these high powered LEDs.

The ’961 patent issued on October 15, 2002 originally included twenty claims. Appx158–159. Independent claim 1 of the ’961 patent recites the structure of the claimed light source apparatus:

1. A semiconductor light source for emitting light to illuminate a space used by humans, the semiconductor light source comprising:

an enclosure, said enclosure being fabricated from a material substantially transparent to white light,
an interior volume within said enclosure,
a heat sink located in said interior volume,
said heat sink being capable of drawing heat from one or more semiconductor devices,
said heat sink having a plurality of panels on it suitable for mounting semiconductor devices thereon,
said panels on said heat sink being oriented to facilitate emission of light from the semiconductor light source in desired directions around the semiconductor light source,
at least one semiconductor chip being capable of emitting light mounted on one of said panels,
said semiconductor chip being capable of emitting monochromatic light,
said semiconductor chip being selected from the group consisting of light emitting diodes, light emitting diode arrays, laser chips, LED modules, laser modules, and VCSEL chips, and
a coating for converting monochromatic light emitted by said chip to white light.

Appx158.

Ten years after issuance, the patents' original claims were subject to six *inter partes* and *ex parte* reexamination proceedings. *See, e.g.,* Appx6542–6615; Appx7911–8054; Appx9657–9879; Appx16117–16181; Appx16437–16694; Appx17281–17462. In these proceedings, the PTO reexamined the original claims in view of

Begemann in combination with at least one other secondary reference. *See, e.g.*, Appx6103–6117; Appx17199–17214. During the reexamination proceedings, the original claims of the challenged patents were cancelled and new claims were added. *See, e.g.*, Appx14343. The new independent claim 21 of the '961 patent and new independent claim 18 of the '770 patent both cover the structure of light sources containing heat sink configurations on which high-powered LED chips are mounted to emit visible light to illuminate spaces used by humans. *See* Appx14345. Each new independent claim of each patent i) incorporates structure of the light source and semiconductor chip from the original claims, ii) limits the claimed semiconductor chip to a “light emitting diode (LED) chip,” and iii) requires that the LED chip be “configured to output light at greater than about 40 milliwatts.” Appx162–165; Appx199–202.

In May 2020, CAO Lighting filed lawsuits in the District of Delaware for infringement of, among others, claim 21 of the '961 patent. *See* Appx11768; Appx11802. In that litigation, Defendants' invalidity expert, Dr. Krames, opined that Krames 2000 (on which he was the lead author) “discloses a semiconductor device configured to

output light at greater than 40 milliwatts” because “[a] power output of over 170 mW is obtained at a drive current of 1.5 A dC.” Appx11935. Dr. Krames further opined that a POSITA would be motivated to combine his LED chip driven at 1.5 amps with Begemann to achieve the features of the claims. Appx12169–12170. However, in February 2023, a Delaware jury rejected Dr. Krames’s invalidity opinions based on a combination of Begemann with Krames 2000 and returned a verdict finding, among other things, that claims 21, 32, and 36 of the ’961 patent were infringed and not invalid. *See* Appx15722–15724.

Notwithstanding the parallel district court proceeding, the Board instituted the IPRs at issue in this appeal. Appx430–476; Appx1291–1325. In these IPR petitions, Cree’s expert, Dr. Lebby, also relied on the LED chip of Krames 2000 and, as Dr. Krames did in the Delaware trial, asserted a combination of that chip with “[a] power output of over 170 mW . . . at a drive current of 1.5 A dc” with Begemann. Appx10071. Dr. Lebby did not explain how the heat sinks in Begemann could dissipate the heat generated by these LEDs, each producing 170 milliwatts light output at a drive current of 1.5 amps.

In response, CAO Lighting submitted evidence that a POSITA

would not be motivated to combine Begemann with the LED chip from Krames 2000, *see* Appx637–642, because, among other reasons, the combination would “lead to the LEDs overheating and burning out . . . [or] would cause the insulating coating on the wiring to melt and likely catch fire” Appx15321; *see also* Appx15154–15187; 15279–15322. Rather than contest CAO Lighting’s evidence, Cree’s reply to the Board shifted theories *and* experts. With its response, Cree submitted a declaration of Dr. Krames in which he admitted that the combination of Begemann with his LED chip having 170 milliwatts of optical output at 1.5 amps is “quite unreasonable and a POSITA would not have even entertained that in actual product development.” Appx10781. Pushing aside the fact that this admission would have been fatal to the original Petitions, Cree and Dr. Krames turned to a different combination of elements from Begemann and Krames 2000. Appx735–740.

On September 28, 2023, the Board issued its Final Written Decisions in the Cree IPRs, invalidating nearly all the claims in the challenged patents based on a combination of Begemann and Krames 2000. Appx1–136. To reach this obviousness finding (which is

contrary to the jury verdict seven months earlier), the Board construed the limitation of “configured to output light of greater than about 40 milliwatts” to require only that an LED chip have the “*capability*” of emitting light of at least 40 milliwatts. *See Appx40* (emphasis in original). The Board excluded any requirement that “a chip [], when placed in the bulb, actually operates at more than about 40 milliwatts.” *Id.* Based on this construction that ***any*** LED chip “capable of” emitting more than about 40 milliwatts of light meets the limitation of the claim (regardless of whether it has that capability when included within the claimed lighting product structure), the Board swept away CAO Lighting’s un rebutted evidence that Begemann would not be able to dissipate the heat from the LEDs of Krames 2000.

ARGUMENT

A. The Board’s new claim construction is erroneous and was without notice in violation of the APA and CAO Lighting’s due process rights.

In its Final Written Decisions, the Board injected a new claim construction related to the key claim limitation, “[the LED chip] configured to output light at greater than about 40 milliwatts.” The

Board erred by construing this claim limitation in a vacuum—outside the context of the claim as a whole that is directed to a LED light source structure with heat sink panels to dissipate the heat created by the high-power LEDs and oriented “to illuminate spaces used by humans.” The Board’s new claim construction and out-of-context application are contrary to all previous applications of this claim limitation by not only the parties, but also the Delaware district court.

The Delaware district court construed the term as being “capable of” emitting light of at least 40 milliwatts in context of being used to emit light in the claimed light source apparatus. Specifically, in ruling on a pretrial Daubert motion filed by the Delaware defendants (who have also joined in these IPR proceedings), the Delaware district court required CAO Lighting to show that a measurement or calculation of a drive current supplied to the LED chip in the accused light bulbs and fixtures such that the LED chip was capable of emitting light of about 40 milliwatts *in that accused light bulb*. See *CAO Lighting, Inc. v. General Electric Co.*, C.A. No. 20-681-GBW, 20-690-GBW, 2023 WL 1930354 at *11-12 (D. Del. Jan. 30, 2023)).

In direct contrast to the Delaware court’s application of the claim limitation, the Board’s construction requires no capability of emitting 40 milliwatts *in the claimed light source apparatus*. The Board’s construction not only improperly divorces the limitation from the rest of the claim elements but also is scientifically illogical given that an isolated LED chip (i.e., with no drive current) outputs *no* light.

The Board altogether eliminated the “configured to” requirement expressly recited in the challenged patents. It did so by first concluding that neither claim 21 of the ’961 patent nor claim 18 of the ’770 patent “require[s] a chip that, when placed in the bulb, actually operates at more than about 40 milliwatts.” Appx40. Because Krames 2000 “teaches its LED chip achieves ‘[a] power output of over 170 mW . . . ,” the Board then held that the reference shows the “*capability*” of the LED chip, which is all that is required. *Id.* Not only does this holding rely on a capability of the Krames 2000 LED chip that Cree effectively disclaimed, but it violates this Court’s standards on how to construe claim limitations and apply functional capability recited in apparatus claims. *Cf. ParkerVision, Inc. v. Qualcomm Inc.*, 903 F.3d 1354, 1362 (Fed. Cir. 2018) (even claim language reciting

capability demands that only an apparatus that is “reasonably capable” of performing the claimed functions “without significant alterations” can infringe those claims”).

Although the Board contends that it merely accepted the Delaware court’s construction, it in fact dramatically broadened the claim scope by excluding it from the rest of the claim elements. As made clear by the Delaware court and the submissions by Cree’s expert relating to the LEDs of Krames 2000, the output of the claimed LED depends directly on showing a supply of energy (i.e., the drive current) that resulted in the claimed 40 milliwatts or greater light output in the accused light bulbs. However, the Board construed the LED chip being capable of emitting 40 milliwatts of light in isolation, completely removed from the claimed structure of the light source apparatus comprising an enclosure and panels with heat sinks to dissipate the LED heat and direct light to illuminate spaces used by humans. This violates a cardinal rule of claim construction that a claim term must be interpreted in the context of the claim as a whole. *K-fee Sys. GmbH*, 89 F.4th at 919 (“We generally give words of a claim their ordinary meaning on the context of the claim and the whole

patent document” (quotations and citations omitted)); *Phillips*, 415 F.3d at 1312–13 (requiring that a claim term be read in the context of the particular claim in which the disputed term appears); *see also Warner-Jenkinson Co.*, 520 U.S. at 29 (“Each element contained in a patent claim is deemed material to defining the scope of the patented invention.”).

By injecting its new claim construction and application for the first time in its Final Written Decisions, the Board also violated CAO Lighting’s rights under the APA. Post-issuance proceedings, such as IPR proceedings, are formal administrative adjudications and, as such, parties to them are entitled to be “timely informed of . . . the matters of fact and law asserted.” 5 U.S.C. § 554(b)(3); *see Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1381 (Fed. Cir. 2023) (discussing procedural requirements imposed by the APA in IPR proceedings); *Rovalma, S.A. v. Bohler-Edelstahl GmbH & Co. KG*, 856 F.3d 1019, 1029 (Fed. Cir. 2017) (detailing procedural requirements for the conduct of IPR proceedings under the APA).

The Board’s claim construction in its Final Written Decisions failed to provide notice to CAO Lighting, provided no opportunity for

CAO Lighting to respond, and thus deprived CAO Lighting of its due process rights in violation of the APA. *See Qualcomm Inc.*, 6 F.4th at 1262–63 (holding the Board violated the APA when it adopted a construction despite there being no dispute over the term’s meaning); *SAS Inst., Inc.*, 825 F.3d at 1351–52 (holding that, where parties never anticipated the “construction that eventually materialized in the final written decision,” the Board’s adoption of that construction violated APA). The Board’s claim construction error (which included no subsidiary factual findings) should have been reviewed *de novo* by the Panel. *See Dionex Softron GmbH v. Agilent Techs., Inc.*, 56 F.4th 1353, 1358 (Fed. Cir. 2023). The APA violation also required a *de novo* review. *In re NuVasive, Inc.*, 841 F.3d 966, 970 (Fed. Cir. 2016). The Rule 36 summary affirmative, however, fails to provide the required *de novo* review of either the claim construction error or the violation of the APA and CAO Lighting’s due process and property rights. For at least this reason, CAO Lighting submits that rehearing should be granted.

B. The Board's application of its new erroneous claim construction led to factual and legal findings that have no basis and cannot be summarily affirmed under Rule 36.

Based on the new (and erroneous) claim construction, the Board found a motivation to combine that (i) rejected unopposed facts regarding efficiency, (ii) relied on an irrelevant phrase from Krames 2000, and (iii) relied on a hypothetical anchored in hindsight. Consequently, the Board's finding of a motivation to combine Begemann and Krames 2000 with a reasonable expectation of success is without a reasoned basis, without substantial evidence, and contrary to well-established law. The Panel's summary affirmance similarly lacks legal or evidentiary basis.

As discussed above, the claimed LED chip light output cannot be separately evaluated outside the context of the claimed light source apparatus as a whole. This is made clear by the Delaware district court. It also is made clear in the patents' specification, *see, e.g.*, '961 patent at 1:24-31 (Appx154), where the inventor expressly emphasizes the use of high power LED chips in a light source apparatus with structure (i.e., heat sink panels) sufficient to dissipate heat. And this is further made clear by the reexamination of patents before the PTO, where the asserted claims (e.g., claim 21 of the '961 patent) were allowed because it would

not have been obvious to have modified Begemann simply to include one or more LED chips “configured to output light at greater than about 40 milliwatts” *“because the structure of Begemann is not equipped to handle the increase in heat generation that such a modification would necessarily entail.”* Appx5916 (emphasis added).

The domino effect of the Board’s errors led it to a hindsight-based conclusion where it further disregarded CAO Lighting’s evidence of long-felt but unmet need establishing objective evidence of non-obviousness.

In short, the Board’s construction of an LED chip “capable of” 40 milliwatts is meaningless—it improperly focuses on capability in a vacuum with no connection to the claimed light source apparatus. And the Board’s contorted reasoning was imagined for the first time in its Final Written Decisions when CAO Lighting had no chance to challenge the Board’s reasoning. The Board’s obviousness conclusions, based on its claim construction error, thus violates the APA and CAO Lighting’s due process rights. The Panel’s summary affirmance exacerbates this error.

Furthermore, as discussed above, the Board’s claim construction and obviousness findings contradicts those of the Delaware district court and jury verdict. This inconsistency is why the PTO has now realized allowing IPRs and Board decisions to proceed without regard to district court and other proceedings on the same patents is improper. See https://www.uspto.gov/sites/default/files/documents/Memo_re_prior_findings_of_fact_and_conclusions_of_law_9_16_25.pdf (requiring that if a Board reaches an initial or final decision on a finding of fact or conclusion of law that is different from a prior finding of fact or conclusion of law by the USPTO or a district court, the Board “shall explain in the institution or final written decision why a different outcome is warranted.”). That is exactly what happened here—but the Board never provided such an explanation and the Court’s summary affirmance does not either.

C. The Court’s Rule 36 summary affirmance is contrary to the “opinion” required under 35 U.S.C. § 144.

Summary affirmance under Rule 36 is not an “opinion.” *Phil-Insul Corp. v. Airlite Plastics Co.*, 854 F.3d 1344, 1354-55 (Fed. Cir. 2017) (“because there is no opinion,” the use of Rule 36 summary affirmance merely confirms the PTAB “entered the correct judgment”

and “does not endorse or reject any specific part” of the “reasoning” under review). Rule 36 summary affirmance in this case was not proper.

The need for an “opinion” is especially acute here. The Board applied a new claim construction in its Final Written Decisions and, in doing so, ignored how the Delaware district court interpreted the claims as a whole, ignored the intrinsic record from the patent specification and reexamination file history, and ignored the parties’ arguments.

Moreover, claim 41, which depends from claim 21 containing the 40 milliwatt claim limitation construed by the Board, was found *not unpatentable* by the Board. Appx59–61. The lack of any analysis or *de novo* review—i.e., any “opinion”—by this Court leaves open the question of the proper scope of the remaining claim. Because the Panel’s summary affirmance offers no views on the merits or substance of the Board’s claim construction, the answer is unknown. For these reasons as well, there is an important issue regarding the scope of the patents that warrants rehearing.

CONCLUSION

For the reasons above, and those presented in briefing and oral argument, CAO Lighting respectfully requests that the Court grant rehearing to remand for proper consideration and review of the Board's claim construction of "[LED chip] configured to output light of at greater than about 40 milliwatts" and application of a correct claim construction to the factual record regarding motivation to combine, expectation of success, and objective indicia of non-obviousness.

/s/ Ronald E. Cahill

TODD. G. VARE
PAUL B. HUNT
JOSHUA P. LARSEN
BARNES & THORNBURG LLP
11 South Meridian Street
Indianapolis, IN 46204
(317) 236-1313
todd.vare@btlaw.com
paul.hunt@btlaw.com
josh.larsen@btlaw.com

RONALD E. CAHILL
HEATHER B. REPICKY
BARNES & THORNBURG LLP
One Marina Park Drive,
Suite 1530
Boston, MA 02210
(617) 316-5310
rcahill@btlaw.com
hrepicky@btlaw.com

*Counsel for Patent Owner and
Appellant*

OCTOBER 6, 2025

ADDENDUM

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

CAO LIGHTING, INC.,
Appellant

v.

**WOLFSPEED, INC., CREE LIGHTING USA LLC
F/K/A IDEAL INDUSTRIES LIGHTING LLC,
LEDVANCE LLC, GENERAL ELECTRIC
COMPANY, CONSUMER LIGHTING (U.S.), LLC,
DBA GE LIGHTING, CURRENT LIGHTING
SOLUTIONS, LLC, OSRAM SYLVANIA, INC., FEIT
ELECTRIC COMPANY, INC.,**
Cross-Appellants

2024-1194, 2024-1221

Appeals from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. IPR2022-
00847, IPR2023-00123, IPR2023-00129.

CAO LIGHTING, INC.,
Appellant

v.

WOLFSPEED, INC., CREE LIGHTING USA LLC

F/K/A IDEAL INDUSTRIES LIGHTING LLC,
Cross-Appellants

2024-1222, 2024-1223

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2022-00848.

JUDGMENT

RONALD E. CAHILL, Barnes & Thornburg LLP, Boston, MA, argued for appellant. Also represented by HEATHER B. REPICKY; PAUL B. HUNT, JOSHUA PAUL LARSEN, TODD VARE, Indianapolis, IN.

JOHN C. ALEMANNI, Kilpatrick Townsend & Stockton LLP, Raleigh, NC, argued for all cross-appellants. Cross-appellants Cree Lighting USA LLC, Wolfspeed, Inc. also represented by MATIAS FERRARIO, Winston-Salem, NC; ANDREW N. SAUL, Atlanta, GA.

KEVIN P. MARTIN, Goodwin Procter LLP, Boston, MA, for cross-appellants Consumer Lighting (U.S.), LLC, Current Lighting Solutions, LLC, General Electric Company, LEDVANCE LLC, Osram Sylvania, Inc. Also represented by BRIAN DRUMMOND, SRIKANTH K. REDDY; SANJEET DUTTA, Redwood City, CA. Cross-appellants Consumer Lighting (U.S.), LLC, General Electric Company also represented by CATHERINE GARZA, Norton Rose Fulbright US LLP, Austin, TX; ARTHUR P. LICYGIEWICZ, Dallas, TX. Cross-appellant Current Lighting Solutions, LLC also represented by FRANK A. ANGILERI, THOMAS W. CUNNINGHAM, JOHN P. RONDINI, Brooks Kushman PC, Royal Oak, MI.

Cross-appellant Osram Sylvania, Inc. also represented by MARK A. HANNEMANN, Troutman Pepper Locke LLP, New York, NY.

RYAN DYKAL, Boies Schiller Flexner LLP, Washington, DC, for cross-appellant Feit Electric Company, Inc. Also represented by MARK SCHAFER; MAXWELL C. MCGRAW, Shook, Hardy & Bacon, LLP, Kansas City, MO; AMELIA ELIZABETH MURRAY, Chicago, IL.

THIS CAUSE having been heard and considered, it is

ORDERED and ADJUDGED:

PER CURIAM (LOURIE, TARANTO, and CUNNINGHAM,
Circuit Judges).

AFFIRMED. See Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

September 5, 2025
Date


Jarrett B. Perlow
Clerk of Court

FORM 19. Certificate of Compliance with Type-Volume Limitations

Form 19
July 2020

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATIONS

Case Number: 2024-1194, 2024-1221, 2024-1222, 2024-1223

Short Case Caption: CAO Lighting, Inc. v. Wolfsped, Inc.

Instructions: When computing a word, line, or page count, you may exclude any items listed as exempted under Fed. R. App. P. 5(c), Fed. R. App. P. 21(d), Fed. R. App. P. 27(d)(2), Fed. R. App. P. 32(f), or Fed. Cir. R. 32(b)(2).

The foregoing filing complies with the relevant type-volume limitation of the Federal Rules of Appellate Procedure and Federal Circuit Rules because it meets one of the following:

- ☒ the filing has been prepared using a proportionally-spaced typeface and includes 3352 words.
- ☐ the filing has been prepared using a monospaced typeface and includes _____ lines of text.
- ☐ the filing contains _____ pages / _____ words / _____ lines of text, which does not exceed the maximum authorized by this court's order (ECF No. _____).

Date: 10/06/2025

Signature: /s/ Ronald E. Cahill

Name: Ronald E. Cahill