

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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EIKO GLOBAL, LLC,  
Petitioner,

v.

BLACKBIRD TECH LLC D/B/A BLACKBIRD TECHNOLOGIES,  
Patent Owner.

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Case IPR2017-00980  
Patent 7,086,747 B2

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Before KERRY BEGLEY, JASON J. CHUNG, and WILLIAM M. FINK,  
*Administrative Patent Judges.*

BEGLEY, *Administrative Patent Judge.*

DECISION  
Denying Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

EiKO Global, LLC (“Petitioner”)<sup>1</sup> filed a Petition requesting *inter partes* review of claims 1 and 12 of U.S. Patent No. 7,086,747 B2 (Ex. 1001,

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<sup>1</sup> The Petition also lists Halco Lighting Technologies, LLC (“Halco”) as a petitioner. Paper 1, caption. After the filing of the Petition, however, we granted a joint motion, filed by Halco and Patent Owner pursuant to settlement, to terminate the proceeding with respect to Halco. Papers 7, 10.

“’747 patent”). Paper 1 (“Pet.”). Blackbird Tech LLC d/b/a Blackbird Technologies (“Patent Owner”) filed a Preliminary Response. Paper 15 (“Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons given below, we deny institution of an *inter partes* review of claims 1 and 12 of the ’747 patent.

## I. BACKGROUND

### A. RELATED MATTERS

The parties represent that the ’747 patent is the subject of several ongoing and completed actions before the U.S. District Court for the District of Delaware (“District Court”), including an action against Petitioner that was dismissed without prejudice (No. 1-16-cv-00967). Pet. 1; Paper 5, 2–3; Paper 7, 4–5. One of these actions (No. 1-15-cv-00062, “District Court Case”) is on appeal to the U.S. Court of Appeals for the Federal Circuit (No. 17-1703), pursuant to a stipulated judgment of non-infringement following the District Court’s claim construction. Paper 5, 2; Paper 7, 4–5; Ex. 1012.

### B. THE ’747 PATENT

The ’747 patent is directed to energy-efficient lighting apparatuses that use light-emitting diodes (“LEDs”), which “consume significantly less power than fluorescent lights.” Ex. 1001, [57], 2:12–32, 2:65–3:10, 4:62–67. In one embodiment, the ’747 patent discloses a lighting apparatus with fluorescent lights and LEDs, which may be turned on at different times for different purposes. *Id.* at 3:61–64, 4:60–62. For example, the fluorescent lights may be used “during normal business hours,” whereas the LEDs may

be used to satisfy after-hours, emergency, and/or low lighting requirements.

*Id.* This embodiment is depicted in Figure 1, reproduced below.

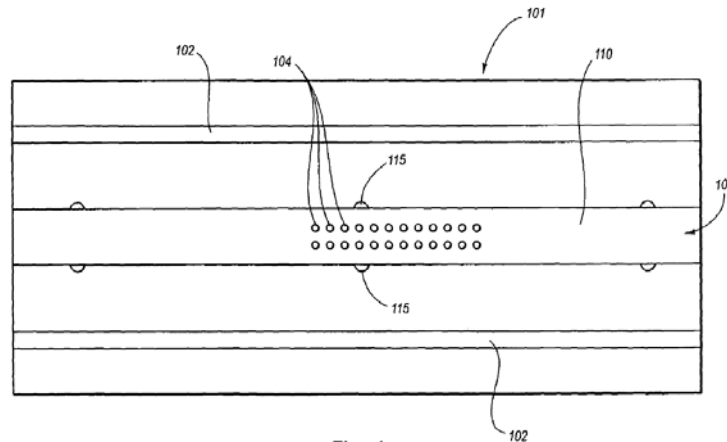


Fig. 1

Figure 1 is a top plan view of lighting apparatus 100 installed in light fixture housing 101. *Id.* at 4:35–36. Lighting apparatus 100 includes ballast cover 110, LEDs 104, and circuit board 211. *Id.* at 4:39–43, 5:24–26. LEDs 104 are coupled to circuit board 211, which is “positioned adjacent the ballast cover 110 so that the LEDs 104 protrude through holes in the ballast cover 110.” *Id.* at 5:24–26; *see id.* at 4:39–43. “[B]allast cover 110 covers the primary wiring to the fixture 101, including the ballast.” *Id.* at 5:2–4.

Fluorescent lights 102 also are installed in light fixture housing 101. *Id.* at 4:44–46. A wall switch “allows individuals to turn the fluorescent lights 102 on and off.” *Id.* at 5:8–10. Specifically, the wall switch couples an AC voltage source to the ballast, which supplies power to fluorescent lights 102. *Id.* at 5:1–4, 5:60–62. “When the wall switch is in a closed position, the AC voltage source supplies AC voltage to the ballast,” which “maintains a desired current through the fluorescent lights 102 so that the fluorescent lights 102 are illuminated.” *Id.* at 5:10–18, 5:62–6:3. LEDs 104, in turn, receive DC voltage from battery 212. *Id.* at 5:35–36.

In another disclosed embodiment, lighting apparatus 500 “may easily and inexpensively be secured to existing light fixtures,” i.e., “existing light

fixtures may be retrofit with the lighting apparatus 500,” to achieve energy savings without significant expense. *Id.* at 9:1–7, 9:60–10:3. Lighting apparatus 500 includes LEDs 504, circuit board 511, battery 512, and housing 528 with attachment surface 530 and illumination surface 532. *Id.* at 9:1–2, 9:11–17, 9:28–31, 9:51–53. Housing 528 “is dimensioned so that it may be installed to an existing ballast cover.” *Id.* at 9:15–16. LEDs 504 are coupled to circuit board 511, which “is positioned adjacent the housing 528 so that the LEDs 504 protrude through a plurality of holes in the illumination surface 532.” *Id.* at 9:31–34, 10:25–28. Battery 512 supplies DC voltage to the LEDs. *Id.* at 9:51–53.

### C. CHALLENGED CLAIMS

Challenged claims 1 and 12 are independent claims:

1. An energy-efficient lighting apparatus, comprising:
  - a ballast cover;
  - a plurality of ballast cover holes in the ballast cover;
  - a circuit board comprising a plurality of light-emitting diodes, wherein the circuit board is positioned adjacent the ballast cover so that the plurality of light-emitting diodes protrude through the plurality of ballast cover holes in the ballast cover, wherein the lighting apparatus is coupled to a wall switch and wherein the illumination of the light-emitting diodes is controllable based upon the position of the wall switch.
12. An energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover, comprising:
  - a housing having an attachment surface and an illumination surface;
  - a plurality of illumination surface holes in the illumination surface;
  - a circuit board comprising a plurality of light-emitting diodes, wherein the circuit board is positioned adjacent the housing so that the plurality of light-emitting diodes protrude through the plurality of illumination surface holes in the illumination surface; and
  - a fastening mechanism for securing the attachment surface of the lighting apparatus to the illumination surface, wherein the

lighting apparatus is coupled to a wall switch and wherein the illumination of the light-emitting diodes is controllable based upon the position of the wall switch.

Ex. 1001, 10:39–49, 11:26–42.

#### D. EVIDENCE OF RECORD

The Petition relies upon the following asserted prior art references:

U.S. Patent No. 4,323,820 (issued Apr. 6, 1982) (Ex. 1005, “Teich”);  
 U.S. Patent No. 5,226,724 (issued July 13, 1993) (Ex. 1008, “Kanarek”);  
 U.S. Patent No. 5,410,453 (issued Apr. 25, 1995) (Ex. 1004, “Ruskouski”);  
 U.S. Patent No. 6,184,628 B1 (issued Feb. 6, 2001) (Ex. 1013, “Ruthenberg”);  
 U.S. Patent No. 6,283,612 B1 (issued Sept. 4, 2001) (Ex. 1007, “Hunter”);  
 U.S. Patent No. 7,049,761 B2 (issued May 23, 2006) (Ex. 1009, “Timmermans”); and  
 U.S. Patent No. 7,204,602 B2 (issued Apr. 17, 2007) (Ex. 1006, “Archer”).  
 In addition, Petitioner supports its contentions with the Declaration of Eric Bretschneider, Ph.D. (Ex. 1003).

#### E. ASSERTED GROUNDS OF UNPATENTABILITY

Petitioner asserts the following grounds of unpatentability. Pet. 3–4.

Challenged Claim(s)	Basis	References
1 and 12	§ 103	Ruskouski and Teich
1 and 12	§ 102	Archer
12	§ 103	Archer and Ruthenberg
12	§ 103	Hunter, Kanarek, and Timmermans

## II. ANALYSIS

### A. CLAIM CONSTRUCTION

The Board interprets claim terms of an unexpired patent using the “broadest reasonable construction in light of the specification of the patent.” 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). We presume a claim term carries its “ordinary and

customary meaning,” which is the meaning “the term would have to a person of ordinary skill in the art” at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (citation omitted).

1. “An energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover” (Claim 12, preamble)

*a. The Preamble As a Claim Limitation*

The parties dispute whether the preamble of claim 12, which recites “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover,” is limiting. Ex. 1001, 11:26–27. Petitioner argues the preamble should not be construed as limiting, because it merely states how the claimed lighting apparatus is intended to be used, i.e., in “an energy-efficient manner” and for “retrofit with an existing light fixture having a ballast cover.” Pet. 12. According to Petitioner, the preamble suggests benefits or features of the claimed invention, without relying on them as patentably significant, given that the patent applicant did not rely on any preamble features to argue for patentability during prosecution. *Id.* Petitioner also contends that the preamble does not provide antecedent basis for any claim limitation, as “all such antecedent basis” was “removed” in an examiner’s amendment of claim 12 that replaced “ballast cover” in the claim body with “illumination surface.” *Id.* at 13 (citing Ex. 1002, 118<sup>2</sup>).

Patent Owner, however, contends that the preamble of claim 12 is limiting, because the term “[a]n energy-efficient lighting apparatus” in the preamble provides antecedent basis for “*the lighting apparatus*” in the claim body. Prelim. Resp. 18–19, 21. In addition, Patent Owner contends that the preamble of claim 12 is necessary to give life, meaning, and vitality to the

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<sup>2</sup> For clarity and ease of reference, we use the page numbers of the pdf of Exhibit 1002, the prosecution history of the ’747 patent.

claim, as the specification makes clear that the claimed lighting apparatus is not merely a general-use lighting apparatus and instead is “specifically for retrofitting a particular type of lighting fixture, a fluorescent lighting fixture, with more energy efficient lighting.” *Id.* at 19–20. In other words, according to Patent Owner, the specification demonstrates that the “retrofit” in the preamble is the “essence of the invention.” *Id.* at 19, 21. Patent Owner also asserts that the preamble language “*for retrofit* with an existing light fixture having a ballast cover” recites an additional structural characteristic that the specification underscores as important, specifically “that the device must work with such light fixtures.” *Id.* at 20–21.

The issue of “whether to treat a preamble as a claim limitation is determined on the facts of each case in light of the claim as a whole and the invention described in the patent.” *Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006). The issue can be “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.” *Poly-Am., L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1309 (Fed. Cir. 2004).

A preamble “has the import that the claim as a whole suggests for it.” *Bell Commc’ns Research, Inc. v. Vitalink Commc’ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995). “In other words,” a preamble is limiting “when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention.” *Id.* (emphasis omitted). Thus, “the preamble may operate as a claim limitation” where it recites “additional structure or steps underscored as important by the specification.” *Poly-Am*, 383 F.3d at 1310. Conversely, a preamble is not limiting where the claim body defines a “structurally complete invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed

invention” and the preamble “only . . . state[s] a purpose or intended use for the invention.” *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808–09 (Fed. Cir. 2002).

Moreover, a preamble is a claim limitation if it is “necessary to give life, meaning, and vitality” to the claim. *Poly-Am.*, 383 F.3d at 1309. “[W]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.” *Pacing Techs., LLC v. Garmin Int’l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015). Also, “clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation.” *Catalina Mktg.*, 289 F.3d at 808.

Here, the District Court, pursuant to the agreement of Patent Owner and the defendants in the District Court Case, construed the preamble of claim 12 as limiting. Ex. 1012, 2; Ex. 1011, 8; Prelim. Resp. 18; *Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015) (explaining that the Board, although “not generally bound by a prior judicial interpretation,” should address a “district court’s previous interpretation” of a claim term). For the reasons given below, we agree with the District Court and Patent Owner that the preamble constitutes a claim limitation.

Beginning with the claim language, we agree with Patent Owner that the preamble of claim 12 provides antecedent basis for the body of the claim, despite Petitioner’s assertion to the contrary. The body of claim 12 recites “a fastening mechanism for securing the attachment surface of *the lighting apparatus* to the illumination surface, wherein *the lighting apparatus* is coupled to a wall switch.” Ex. 1001, 11:26–40 (emphases added). The only antecedence for “*the lighting apparatus*” in the claim body



is “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture” in the preamble. *Id.* (emphasis added); *see NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1306 (Fed. Cir. 2005), *abrogated on other grounds by Zoltek Corp. v. United States*, 672 F.3d 1309, 1323 (Fed. Cir. 2012) (explaining that a claim term using the definite article “the” requires antecedent basis). Accordingly, the positive “lighting apparatus” limitation in the body of claim 12 relies upon and derives its antecedent basis from the preamble, and the preamble is necessary to provide context for and to understand this limitation. *See Pacing Techs.*, 778 F.3d at 1023–24 (holding preamble reciting “[a] repetitive motion pacing system for pacing a user” to be limiting because it provides antecedent basis for “the user” recited in the body of the same claim and “the repetitive motion pacing system” “recited as a positive limitation in the body” of a dependent claim).

In addition, differences in language between the preamble of claim 12 and the preamble of claim 1, the only other independent apparatus claim of the patent, suggest that the inventors intended claim 12’s preamble to define the complete invention and, thus, to be limiting. The doctrine of claim differentiation creates a presumption that “two independent claims have different scope when different words or phrases are used in those claims.” *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1368–69 (Fed. Cir. 2005). The doctrine “takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous.” *Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011). Here, the preamble of claim 1 recites “[a]n energy-efficient lighting apparatus” alone. Ex. 1001, 10:39. Claim 12, however, includes the same “[a]n energy-efficient lighting apparatus” language as well as “for retrofit with an existing light fixture

having a ballast cover.” *Id.* at 11:26–27. Thus, claim 12’s preamble is more detailed than that of claim 1, specifying not only that the recited lighting apparatus is “energy-efficient,” like claim 1, but also that the apparatus is “for retrofit with an existing light fixture having a ballast cover,” unlike claim 1. Construing the preamble of claim 12 as not limiting would discount and render meaningless or superfluous the distinctions between the preamble language in claims 1 and 12—which weighs against such a construction. Construing claim 12’s preamble as limiting, however, properly gives effect to these differences in language between claims 1 and 12.

Moreover, we agree with Patent Owner that the specification demonstrates that retrofitting the lighting apparatus with an existing light fixture, as reflected in the preamble of claim 12, is the focus of the embodiment to which the claim is directed. *See* Prelim. Resp. 19–21. As both parties acknowledge, claim 12 is directed to the embodiment depicted in Figure 5. *Id.* at 5–7, 19–20; Pet. 4–8. In discussing this embodiment, the specification is replete with references to retrofitting lighting apparatus 500 with existing light fixtures, and explains how the lighting apparatus is structured to do so as well as benefits thereof, including cost savings and energy efficiency. Ex. 1001, 2:65–3:10, 9:1–10:28. For example, the specification repeatedly explains that “embodiments of” lighting apparatus 500 “may easily and inexpensively be secured to existing light fixtures,” i.e., “the existing light fixtures may be easily and inexpensively retrofit with the lighting apparatus 500.” *Id.* at 9:1–11, 9:60–10:9. Further, according to the specification, “retrofitting existing light fixtures with the lighting apparatus 500” achieves “energy savings” and avoids “significant expense.” *Id.* at 9:5–7, 10:6–9. Accordingly, we determine that the ability to retrofit the lighting apparatus with existing light fixtures is an important

and fundamental characteristic of this embodiment of the invention—which the inventors “intended [claim 12] to encompass.” *See Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) (holding that preamble reciting “[a]n optical waveguide” is limiting because it “would be divorced from reality,” based on the problem the specification discusses, “[t]o read the claim in light of the specification indiscriminately to cover all types of optical fibers”); *see also* Pet. 4 (stating that claim 12 is “directed at . . . a retrofit of a lighting apparatus”).

This description of the relevant embodiment in the specification also “underscore[s] as important” an “additional structur[al]” feature of the lighting apparatus that is contained in the preamble of claim 12. *See Poly-Am*, 383 F.3d at 1310. Specifically, we agree with Patent Owner that the preamble’s recitation that the lighting apparatus is “for retrofit with an existing light fixture having a ballast cover” brings a structural requirement that the lighting apparatus must fit with an existing light fixture. *See* Prelim. Resp. 21. Otherwise, the lighting apparatus cannot be retrofit with, or installed in, the existing light fixture. For example, the specification explains that lighting apparatus 500 “is configured to be secured to the ballast cover . . . within a light fixture” and specifically, “housing 528 is dimensioned so that it may be installed to an existing ballast cover.” Ex. 1001, 9:7–16; *see id.* at 9:60–10:3. This additional structural feature reflected in the preamble, namely that the lighting apparatus must fit with an existing light fixture, is not otherwise set forth in the body of claim 12. *See id.* at 11:28–42. Therefore, “deletion of the preamble” does impact the structural definition of the claimed invention. *See Catalina Mktg.*, 289 F.3d at 809. Stated differently, the invention recited in the body of claim 12 is not “structurally complete” without the preamble. *See id.* at 808–09.

For the reasons given above, based on our review of the '747 patent specification and prosecution history as well as the parties' arguments and evidence, we determine that the preamble of claim 12 does not merely "state a purpose or intended use" for the claimed lighting apparatus. *See Poly-Am.*, 383 F.3d at 1310. Rather, the preamble language gives "life, meaning, and vitality" to the claim and recites an important structural feature of the complete invention. *See id.* at 1309–10. Accordingly, we conclude that the preamble of claim 12 is a claim limitation.

*b. Construction of the Preamble Language*

Having concluded that the preamble of claim 12 is limiting, we consider the meaning of the preamble language. Petitioner, consistent with its position that the preamble is not limiting, does not offer a construction of the claim language. *See* Pet. 12–13. Patent Owner argues the preamble should be construed as "an LED lighting apparatus for installation in an existing light fixture having a ballast cover," which is the construction entered in the District Court Case pursuant to the agreement of Patent Owner and the defendants in that case. Prelim. Resp. 21–22; Ex. 1012, 2; Ex. 1011, 8. Patent Owner contends this proposed construction reflects that the energy-efficient lighting disclosed in the '747 patent is exclusively LED-based and that the apparatus recited in claim 12 comprises "light-emitting diodes." Prelim. Resp. 22. Patent Owner also argues that its proposal "clarifies that 'for retrofit with' means . . . 'for installation in.'" *Id.*

Patent Owner's proposed construction repeats most of the preamble language, and the minor differences between Patent Owner's proposal and the claim language add nothing of relevance to the issues presented in this case. *Compare* Ex. 1001, 11:26–27, *with* Prelim. Resp. 21–22 (proposed construction replacing only "energy-efficient" and "retrofit with" in the

preamble with “LED” and “installation in,” respectively). For example, because the body of claim 12 recites that the apparatus includes “light-emitting diodes,” the “LED” aspect of Patent Owner’s proposed construction is already captured by the claim body. *See* Ex. 1001, 11:32–41; Prelim. Resp. 21–22. Moreover—with the exception of the term “ballast cover,” which we address and construe below—no disputed or dispositive issue in this case turns on an interpretation of the language in claim 12’s preamble. Thus, other than “ballast cover,” we need not construe expressly the preamble language and instead accord the language its plain meaning. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that only claim terms that “are in controversy” need to be construed and “only to the extent necessary to resolve the controversy”).

## 2. “ballast cover” (*Claims 1 and 12*)

The term “ballast cover” is recited in claims 1 and 12. Ex. 1001, 10:40–46, 11:27.<sup>3</sup> Petitioner contends this term “should be given its plain and ordinary meaning of ‘cover for a ballast.’” Pet. 15. In addition, Petitioner argues that “[t]o the extent a construction beyond the plain and ordinary meaning is required, the claim term ‘ballast cover’ should be construed to mean ‘structure that encloses wiring.’” *Id.* Petitioner argues the ’747 patent specification supports this construction, because it “describes a ‘ballast cover’ as the covering for the ballast, or in other words[,] the enclosure that contains the wiring.” *Id.* (citing Ex. 1001, 5:2–4).

Patent Owner “agrees” with Petitioner that “‘cover for a ballast’ is an appropriate construction . . . and that the Board should apply this construction.” Prelim. Resp. 22, 24. Yet Patent Owner disputes Petitioner’s

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<sup>3</sup> The District Court did not construe the term “ballast cover.” Ex. 1012, 2.

alternative proposed construction, namely “structure that encloses wiring,” arguing that this proposal improperly broadens the claim language and “reads ‘ballast’ out of the term.” *Id.* at 22–23. According to Patent Owner, the term “*ballast cover*” “specifies that the component is not merely a cover” for “any wiring that might be contained in any lighting fixture, whether it contained a ballast or not”—“but a cover for a specific part of a fluorescent light fixture: the ballast.” *Id.* Patent Owner refers to the specification’s explanation that the “ballast” is coupled to and “maintains a desired current through the fluorescent lights.” *Id.* at 23 (quoting Ex. 1001, 5:12–13).

We agree with both Petitioner and Patent Owner that the ordinary and customary meaning of “ballast cover” is “cover for a ballast.” Pet. 15; Prelim. Resp. 22. This meaning accords with the plain language of the claim term as well as the written description, which uses the term consistent with its ordinary meaning. *E.g.*, Ex. 1001, 5:2–4, 10:40–46, 11:27. Specifically, the written description explains that ballast cover 110 covers the ballast, stating “ballast cover 110 covers the primary wiring to the fixture 101, including the ballast.” *Id.* at 5:2–4. Accordingly, we adopt the construction “cover for a ballast”—proposed by both parties—as the broadest reasonable construction of the claim term “ballast cover.”

We turn to Petitioner’s alternative proposal that “[t]o the extent a construction beyond the plain and ordinary meaning is required,” “‘ballast cover’ should be construed to mean ‘structure that encloses wiring.’” Pet. 15. In this alternative proposed construction, Petitioner effectively seeks to define “ballast” to mean any “wiring.” We agree with Patent Owner that this proposed construction is improper, because a “ballast” is not merely any wiring but a specific component of lighting fixtures that was known in the art at the time of the invention of the ’747 patent. *See* Prelim.

Resp. 23. Petitioner’s alternative proposal unreasonably broadens the claim language to read “ballast” out of the claim. *See id.* at 22–24.

In addition to being inconsistent with the plain language of the term “ballast cover,” Petitioner’s alternative proposed construction is not supported by the written description. Instead, the written description makes clear that a “ballast,” rather than being any wiring, is a specific component in a light with specific functionality. In particular, the written description explains that “[t]he ballast is coupled to an AC voltage source” and supplies power from this source to fluorescent lights 102. Ex. 1001, 5:1–6, 5:61–62. As Patent Owner points out, the written description further explains that the function of the ballast is to “maintain[] a desired current through the fluorescent lights 102,” thereby allowing the lights to be illuminated. *Id.* at 5:12–14, 5:65–67; Prelim. Resp. 23.

We also agree with Patent Owner that the sole passage of the written description cited by Petitioner, column 5, lines 2–4, does not support broadening the meaning of the claim language as Petitioner proposes. *See* Pet. 15 (quoting Ex. 1001, 5:2–4); Prelim. Resp. 24. Specifically, this passage states: “The ballast cover 110 covers the primary wiring to the fixture 101, including the ballast.” Ex. 1001, 5:2–4. Although Petitioner urges that this passage supports its alternative proposed construction because the ballast cover contains wiring, *see* Pet. 15, the passage differentiates between the “ballast” and the “wiring,” which makes clear that they are not synonymous, *see* Ex. 1001, 5:2–4. More significantly, the passage explicitly states that the ballast cover, though covering wiring, is covering the “ballast” in particular. *See id.*

Moreover, contemporaneous technical dictionaries confirm that “ballast” is a term of art that refers to a specific known component in

lighting. For example, IEEE 100 – THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS (7th ed. 2000) defines “ballast” as:

(1) (fluorescent lamps or mercury lamps) Devices that by means of inductance, capacitance, or resistance, singly or in combination, *limit the lamp current of fluorescent or mercury lamps to the required value for proper operation*, and also, where necessary, provide the required starting voltage and current and, in the case of ballasts for rapid-start lamps, provide for low-voltage cathode heating.

Ex. 3001, 83 (emphasis added). This IEEE definition accords with the specification’s explanation, discussed above, that the disclosed “ballast” maintains the desired current for fluorescent lights. Ex. 1001, 5:12–14, 5:65–67.

For the reasons given, we construe the term “ballast cover” in claims 1 and 12, pursuant to the parties’ agreement and consistent with its ordinary and customary meaning and usage in the specification, to mean a “cover for a ballast.” Furthermore, we determine that “ballast” is a term of art in lighting whose ordinary and customary meaning, as demonstrated by the specification and extrinsic evidence, is a “device in a light that limits current to the required value.”

### 3. Other Claim Terms

Based on our review of the record and the dispositive issues in our determination of whether to institute *inter partes* review, we determine that no other claim terms require an express construction to resolve the issues presented by the patentability challenges. *See Vivid Techs.*, 200 F.3d at 803.

#### B. ALLEGED OBVIOUSNESS OVER RUSKOUSKI AND TEICH

Petitioner argues, and Patent Owner disputes, that claims 1 and 12 would have been obvious over Ruskouski and Teich. Pet. 28–40; Prelim. Resp. 24–32. Petitioner relies on Ruskouski alone for all limitations except



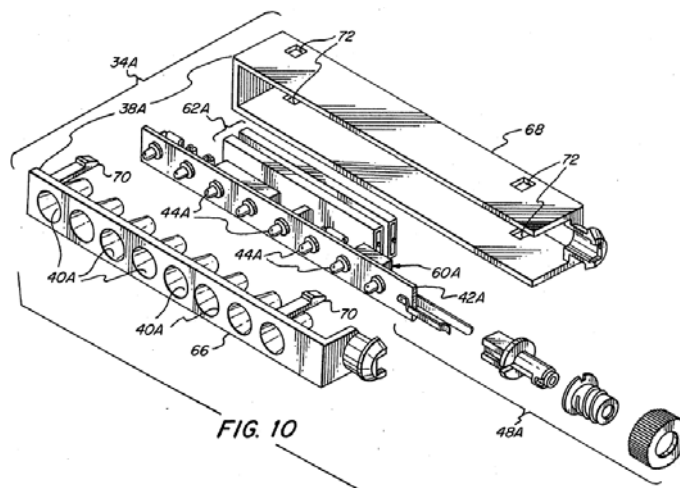
the “wall switch” limitation of claims 1 and 12, for which Petitioner refers to Teich. Pet. 28–40. The deficiencies in Petitioner’s showing, discussed below, relate to limitations for which Petitioner relies solely on Ruskouski.

### 1. Overview of Ruskouski

Ruskouski explains that “traditional exit sign[s]” feature incandescent bulbs, which have “major drawback[s]” in that they have a short life and use large amounts of power. Ex. 1004, 1:26–34. Ruskouski seeks to provide a light emitting diode lighting device, with a plurality of LEDs, for use in an exit-sign lighting fixture. *Id.* at [57], 1:44–46, 1:61–2:6, 6:28–34.

Ruskouski discloses exit sign 10 with enclosure 22 that is divided into wiring compartment 24 and lighting compartment 26. *Id.* at 3:41–45, Fig. 1. Wiring compartment 24 contains wiring harness 30 and battery power pack module 32 “for powering two 1-watt direct current light emitting diode lighting devices 34.” *Id.* at 3:45–49. The light emitting diode lighting devices 34 are “held by standard screw type lamp sockets 36” and “extend[] downwardly into the lighting compartment 26.” *Id.* at 3:49–51, Fig. 1.

Ruskouski provides an exploded perspective view of one embodiment of light emitting diode lighting device 34A in Figure 10, reproduced below. *Id.* at 3:6–8, 5:62–6:1.



As illustrated in Figure 10, light emitting diode lighting device 34A features elongated housing 38A, which includes front portion 66 and rear portion 68. *Id.* at 6:3–4. Front portion 66 features apertures 40A for light emitting diodes 44A. *Id.* at 6:4–6. Rechargeable battery pack 62A is “arranged inside” and circuit board 42A “is mounted inside” elongated housing 38A. *Id.* at 6:8–11, 6:20–22. Circuit board 42A incorporates a battery charger and converter 60A,<sup>4</sup> which “rectif[ies] the alternating current,” “charge[s]” rechargeable battery pack 62A, and “switch[es] between the primary alternating current power supply and the emergency direct power supply provided by the rechargeable battery pack 62A if the alternating current power supply fails” (e.g., in a utility power outage). *Id.* at 6:8–20.

2. *Claim 1 – “ballast cover”*

Claim 1 recites an “[a]n energy efficient lighting apparatus, comprising: a ballast cover.” Ex. 1001, 10:39–40. Petitioner—applying its alternative proposed construction of “ballast cover”—argues that Ruskouski’s elongated housing 38A “is a structure that encloses wiring because it contains the [converter] 60A.” Pet. 29 (citing Ex. 1004, 6:3–26, Figs. 9, 9A, 10); Ex. 1003 ¶¶ 50–51. In his declaration, Dr. Bretschneider further opines that converter 60A “is circuitry, or wiring, used to rectify the alternating current amongst other purposes.” Ex. 1003 ¶ 51 (citing Ex. 1004, 6:3–26). Petitioner also notes that during prosecution of the ’747 patent, the examiner stated that Ruskouski’s element 38A constitutes a “ballast cover.” Pet. 29 (citing Ex. 1002, 69).

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<sup>4</sup> Ruskouski refers to element 60A as both a “converter” and “circuit.” *Id.* at 6:11, 6:24. We refer to the element as converter 60A. Our conclusion would not change if the term “circuit” were used instead.

Patent Owner responds that Petitioner “argues only that th[e ‘ballast cover’] limitation is disclosed under Petitioner’s alternative construction (‘structure that encloses wiring’) and makes no attempt to suggest that Ruskouski discloses a ‘ballast cover’ under” “Petitioner’s proposed plain meaning construction . . . (‘cover for a ballast’).” Prelim. Resp. 25. Thus, Patent Owner argues that Petitioner “effectively concedes that Ruskouski does not disclose a ‘ballast cover’ under” the plain meaning of the term. *Id.* According to Patent Owner, “Petitioner’s concession was required” because Ruskouski “does not disclose a ballast” and, therefore, does not disclose a “ballast cover” as properly construed to mean “cover for a ballast.” *Id.*

We agree with Patent Owner that Petitioner—despite arguing that “‘ballast cover’ should be given its plain and ordinary meaning of ‘cover for a ballast,’” Pet. 15—expressly asserts in both the Petition and Dr. Bretschneider’s declaration that “Ruskouski discloses” the recited “ballast cover” only under Petitioner’s alternative proposed construction of the term, i.e., “structure that encloses wiring,” *id.* at 15, 29; Ex. 1003 ¶¶ 50–51. As explained above, we have adopted Petitioner’s primary proposed construction, “cover for a ballast.” *See supra* § II.A.2. Accordingly, the Petition’s analysis and Dr. Bretschneider’s testimony apply a broader construction of “ballast cover” than the construction we have adopted and, thus, lack persuasive value under the adopted construction.

Even considering the Petition’s assertions and its supporting evidence, including the cited portions of Dr. Bretschneider’s declaration and Ruskouski,<sup>5</sup> Petitioner fails to show sufficiently that Ruskouski’s elongated

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<sup>5</sup> We also have considered the Petition’s reference to an office action, which states that “Ruskouski discloses . . . [a] ballast cover [Figure 10: (38A)].”

housing 38A renders obvious a “ballast cover” within the meaning we have adopted, discussed *supra* in § II.A.2. The only passage of Ruskouski that Petitioner cites for this limitation is column 6, lines 3 through 26. Pet. 29; Ex. 1003 ¶ 51. This passage explains that elongated housing 38A contains circuit board 42A, rechargeable battery pack 62A, a battery charger, and converter 60A, which “rectif[ies] the alternating current,” “charge[s]” rechargeable battery pack 62A, and “switch[es] between the primary alternating current power supply and the emergency direct power supply . . . if the alternating current power supply fails.” Ex. 1004, 6:3–26; *see id.* at Fig. 1.

Petitioner asserts that converter 60A is “wiring” enclosed by elongated housing 38A (Pet. 29; Ex. 1003 ¶ 51), but covering mere wiring is insufficient. Instead, elongated housing 38A must be a cover specifically for a “ballast,” and this cited passage of Ruskouski does not support adequately that converter 60A or any other component within elongated housing 38A teaches, suggests, or otherwise would have conveyed to an ordinarily skilled artisan a “ballast,” i.e., a “device in a light that limits current to the required value.” *See supra* § II.A.2. Nor do cited Figures 9, 9A, and 10 support such a showing. Further, the term “ballast” itself never appears in Ruskouski. Accordingly, the record before us does not support sufficiently that Ruskouski’s elongated housing 38A constitutes or renders obvious a “ballast cover,” or a “cover for a ballast.”

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Ex. 1002, 69; Pet. 29. This unexplained statement during prosecution is insufficient for Petitioner to meet its burden to establish in the Petition a reasonable likelihood of showing that Ruskouski conveys a “ballast cover.”

In sum, Petitioner has not shown adequately for institution that Ruskouski renders obvious the recited “ballast cover.”

3. *Claim 12 – “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover”*

As discussed above, the preamble of claim 12, which recites “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover,” is a claim limitation. Ex. 1001, 11:26–27; *supra* § II.A.1.a. In its obviousness analysis, Petitioner argues: “To the extent the preamble of claim 12 is found to be limiting, Ruskouski discloses an energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover.” Pet. 34 (citing Ex. 1004, 1:26–43, 1:44–46, 3:41–51, 4:24–31, 6:3–26; Ex. 1003 ¶¶ 64–67).<sup>6</sup> Dr. Bretschneider further elaborates with respect to the “ballast cover,” testifying that wiring compartment 24 is a “structure that encloses wiring” based on Ruskouski’s disclosure that it “contains an appropriate wiring harness 30 and battery power pack module 32.” Ex. 1003 ¶ 66 (quoting Ex. 1004, 3:41–51); *see* Ex. 1004, 3:42.

Patent Owner argues that Petitioner’s “terse argument on this issue—amounting to a single sentence—makes it difficult to discern Petitioner’s position.” Prelim. Resp. 30. Yet Patent Owner asserts that Petitioner’s argument “appears to rely on its erroneous alternative construction of ‘ballast cover.’” *Id.* Moreover, Patent Owner contends that none of the passages of Ruskouski cited in the Petition disclose the claimed “energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover,” under the proper construction of “ballast cover” as a

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<sup>6</sup> Before filing the Petition, Petitioner was on notice that the District Court construed claim 12’s preamble as limiting. Ex. 1012, 2; Pet. 14 (citing *id.*).

“cover for a ballast.” *Id.* According to Patent Owner, “[t]o the extent these passages relate to the light fixture at all, rather than the lighting apparatus that is secured into that fixture, they show that the lighting apparatus of Ruskouski was for use with incandescent, rather than fluorescent, fixtures.” *Id.* (citing Ex. 1004, 1:26–43). Patent Owner asserts that ballasts are used in fluorescent fixtures, as the ’747 patent teaches, but they are not used in incandescent fixtures. *Id.* at 30–31.

To start, we determine that the Petition’s analysis of this limitation is deficient under our governing statute and rules. Under 35 U.S.C. § 312(a)(3), a petition must “identif[y], in writing and *with particularity*, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim” (emphasis added). Further, 37 C.F.R. § 42.104(b)(4)–(5) provides that “[t]he petition must specify where each element of the claim is found in the prior art patent[]” and “*the relevance of the evidence to the challenge raised*” (emphases added). Similarly, 37 C.F.R. § 42.22(a)(2) requires a petition to include “[a] *full statement of the reasons* for the relief requested, including a *detailed explanation* of the significance of the evidence” (emphases added).

The Petition’s substantive analysis as to how Ruskouski allegedly discloses the limitation amounts to a single sentence, merely asserting that “[t]o the extent the preamble of claim 12 is found to be limiting, Ruskouski discloses” the limitation, with an unexplained citation to five distinct passages of Ruskouski and four paragraphs of Dr. Bretschneider’s declaration. *See* Pet. 34. This conclusory analysis, which does not identify which elements of Ruskouski allegedly correspond to the claim elements and parrots the claim language with a bare assertion that Ruskouski discloses

the limitation, falls far below the particularity and specificity that our governing statute and rules require of arguments and evidence in a petition.

The Petition also impermissibly incorporates by reference the more detailed analysis in Dr. Bretschneider's declaration. Arguments that are not presented and developed in the Petition, and instead are incorporated by reference to Dr. Bretschneider's declaration, are not entitled to consideration. 37 C.F.R. § 42.6(a)(3) ("Arguments must not be incorporated by reference from one document into another document."); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, Case IPR2014-00454, slip op. at 7–10 (PTAB Aug. 29, 2014) (Paper 12) (informative). Accordingly, we deny institution of claim 12 on this asserted ground for failure to comply with 35 U.S.C. § 312(a)(3), 37 C.F.R. § 42.22(a)(2), and 37 C.F.R. § 42.104(b)(4)–(5).

We further note that given the conclusory proffered analysis of the issue, it is unclear what construction of "ballast cover" the Petition applies, as Patent Owner argues. *See* Prelim. Resp. 30. Dr. Bretschneider's declaration, however, expressly states that Dr. Bretschneider applies a "structure that encloses wiring," which is Petitioner's alternative proposed construction, as opposed to Petitioner's primary proposed construction ("cover for a ballast") that we have adopted. Ex. 1003 ¶ 66; *supra* § II.A.2. Like claim 1, addressed above, Dr. Bretschneider's application of a broader construction of "ballast cover" than the construction we have adopted minimizes the probative value of his testimony.

Nonetheless, even considering the portions of Ruskouski and Dr. Bretschneider's declaration cited in the Petition, we are not persuaded that Petitioner shows sufficiently that Ruskouski teaches or suggests "[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover," under our constructions of "ballast cover" and

ballast.” In particular, although the record evidence demonstrates adequately that Ruskouski teaches or suggests “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture,” there is insufficient argument and evidence to support that Ruskouski would have conveyed to one of ordinary skill that the existing light fixture, to which the apparatus is retrofit, “*ha[s] a ballast cover.*” Ex. 1001, 11:26–27 (emphasis added).

Beginning with cited column 3, lines 41 through 51 of Ruskouski, this passage states, in relevant part, that exit sign 10 includes compartment 24, which “contains an appropriate wiring harness 30 and battery power pack module 32 for powering two 1-watt direct current light emitting diode lighting devices 34 held by standard screw type lamp sockets 36.” Ex. 1004, 3:41–51; Ex. 1003 ¶ 66 (quoting Ex. 1004, 3:41–51). This passage does not demonstrate sufficiently that wiring harness 30 or battery power pack module 32 would have conveyed to an ordinary artisan a “device in a light that limits current to the required value,” i.e., a “ballast.” Therefore, this passage does not provide evidence adequate to support that wiring compartment 24, enclosing wiring harness 30 and battery power pack module 32, renders obvious a “ballast cover,” or “cover for a ballast.”

Moreover, light emitting diode lighting device 34—to which, as this passage explains, wiring harness 30 and battery power pack module 32, supply power—corresponds to the claimed “energy-efficient lighting apparatus”—not the “existing light fixture,” which must have a “ballast cover.” Ex. 1004, 3:41–49; *see* Ex. 1001, 11:26–33; Pet. 36. Also, the passage states that these light emitting diode lighting devices 34 are secured into exit sign 10 “by standard screw type lamp sockets 36,” Ex. 1004, 3:48–49, which Dr. Bretschneider explains are “lamp sockets that accept traditional, standard incandescent light bulbs,” Ex. 1003 ¶ 65. Yet Petitioner



provides no evidence that incandescent bulbs use a “ballast.” Thus, this passage does not support adequately that exit sign 10, including wiring compartment 24, would have conveyed to one of ordinary skill the claimed “existing light fixture having a ballast cover.”

Turning to column 6, lines 3 through 26, this passage explains that elongated housing 38A of light emitting diode lighting device 34A contains circuit board 42A, rechargeable battery pack 62A, a battery charger, and converter 60A, as explained in more detail above in our analysis of claim 1. Ex. 1004, 6:3–26. This passage fails to support Petitioner’s showing that Ruskouski teaches or suggests the claim limitation for two reasons. First, as explained above for claim 1, this passage does not provide sufficient evidence that any components contained in elongated housing 38A teach or suggest a “ballast” under its ordinary meaning in the art and, thus, that elongated housing 38A renders obvious a “ballast cover.” *See id.* Second, even if elongated housing 38A could be considered a “ballast cover,” this passage would not support that Ruskouski teaches or suggests the relevant limitation, because elongated housing 38A is part of Ruskouski’s light emitting diode lighting device 34A, which constitutes the claimed “energy-efficient lighting apparatus”—not the “existing light fixture” that is required to have the “ballast cover.” *See id.* at 3:6–8, 5:62–64, 6:3–6, Fig. 10; Ex. 1001, 11:26–33; Pet. 36; Prelim. Resp. 30. Thus, light emitting diode lighting device 34A, with elongated housing 38A, cannot meet the claimed “existing light fixture having a ballast cover.”

Finally, references in other cited passages of Ruskouski to “incandescent bulbs” in exit signs or specifically, to “screw-type lamp sockets 36” in exit sign 10—which Dr. Bretschneider testifies “accept traditional, standard incandescent light bulbs”—do not enable Petitioner to

meet its burden. Ex. 1004, 1:26–46, 4:24–31; Ex. 1003 ¶ 65. In particular, as explained above, Petitioner proffers no evidence that incandescent lights use “ballasts.” Therefore, these passages fail to support sufficiently that Ruskouski would have conveyed to an ordinary artisan a “ballast cover,” or “cover for a ballast.”

Accordingly, Petitioner has not provided argument and evidence sufficient to show that Ruskouski teaches, suggests, or otherwise renders obvious “[a]n energy-efficient lighting apparatus for retrofit with *an existing light fixture having a ballast cover.*” Ex. 1001, 11:26–27 (emphasis added).

#### 4. Conclusion

For the reasons given, we determine that the Petition does not show a reasonable likelihood that Petitioner would prevail in showing that claims 1 and 12 would have been obvious over Ruskouski and Teich.

#### C. ALLEGED ANTICIPATION BY ARCHER

Petitioner contends that Archer anticipates claims 1 and 12. Pet. 40–48. Patent Owner disputes Petitioner’s arguments. Prelim. Resp. 33–40.

##### 1. Overview of Archer

Archer is directed to LED light assemblies used in swimming pools. Ex. 1006, 1:8–10. Archer explains that pool water typically “is illuminated by an incandescent light that is housed within a” fixture in a cavity or niche in the wall of the pool. *Id.* at 1:11–13. According to Archer, LED assemblies are known in the art, but “providing LED lighting fixtures with brightness to rival incandescent bulbs” remains an issue. *Id.* at 1:42–62.

In one embodiment, Archer discloses a LED light assembly that “is operable to replace an incandescent light in an existing niche pool lighting fixture.” *Id.* at 2:15–18. Figures 1 and 2 of Archer are reproduced below.

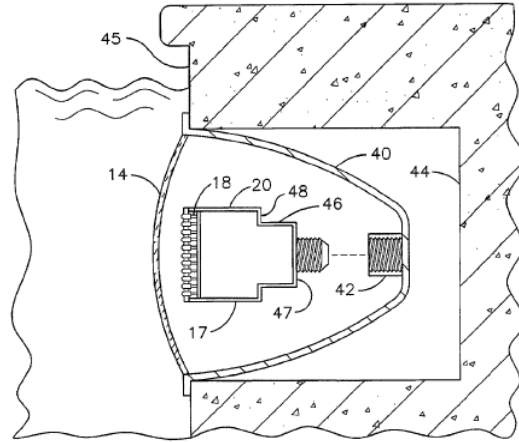
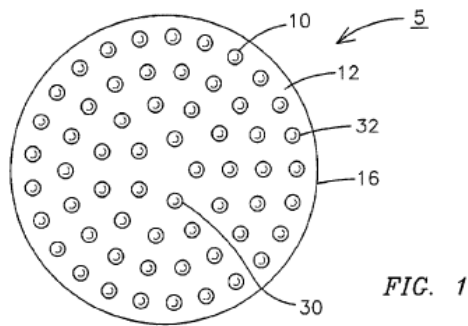


Figure 1 illustrates a front view of an embodiment of the LED light assembly, whereas Figure 2 depicts a side view of an embodiment of the LED light assembly within a pool light cavity. *Id.* at 2:54–58, 4:54–58.

The LED light assembly, as shown in Figure 1, includes a plurality of LED bulbs 10, each of which is “fed through a perforated opening” in white reflective plate 12. *Id.* at 3:17–20, 3:28–33. Plate 12 provides support for leads 18, which connect LED bulbs 10 to circuit 20.<sup>7</sup> Ex. 1006, 3:30–34. “Circuit 20 [is] used to illuminate the LED bulbs 10.” *Id.* at 3:52–53.

An embodiment of the LED light assembly, depicted in Figure 2, features fixture 17 comprising an inverted stair step configuration 46 connected to plate 12. *Id.* at 4:65–5:3. This configuration “provides a level and secure surface 47, 48 to locate the circuit 20,” which is “covered by” plate 12, within the LED light assembly. *Id.* at 5:4–10; *see id.* at 3:53–56.

<sup>7</sup> Archer refers to element 20 by various names, including “circuit,” “electronics,” and “printed circuit board subassembly.” *Id.* at 3:30–34, 3:50–59, 4:51–53, 5:4–17, 5:52–55, 6:19–21; Prelim. Resp. 35–36. To avoid confusion, we employ the term predominately used in Archer, “circuit.” Use of the other names would not alter our conclusion.

Figure 2 illustrates the LED light assembly “designed to retrofit existing pool lighting fixtures 40” in cavity 44 in pool 45. *Id.* at 4:54–61. Existing fixtures “typically use a high wattage incandescent lamp screwed into a standard Edison-style base 42” within fixture 40. *Id.* at 4:57–60. “To retrofit, the existing fixture is removed from its cavity 44,” “the existing incandescent lamp is unscrewed,” and the LED light assembly is “screwed into the Edison-style base 42 to replace the existing lamp.” *Id.* at 4:60–65.

2. *Claim 1 – “ballast cover”*

Petitioner contends that Archer’s fixture 17 corresponds to the “ballast cover” recited in claim 1 of the ’747 patent. Pet. 41 (citing Ex. 1006, Fig. 2, 4:65–5:8, 6:3–26; Ex. 1003 ¶¶ 89–91). Applying Petitioner’s alternative proposed construction of “ballast cover,” i.e., “structure that encloses wiring,” Petitioner argues and Dr. Bretschneider opines that fixture 17 “encloses wiring because the circuit 20 is described as being located within this configuration.” *Id.* at 41–42 (citing Ex. 1006, 4:54–5:17; Ex. 1003 ¶ 90); *see* Ex. 1003 ¶¶ 90–91; *supra* § II.A.2.

Patent Owner asserts that “Petitioner concedes that Archer does not disclose ‘a ballast cover’ under Petitioner’s proposed plain meaning construction of ‘ballast cover’ (‘cover for a ballast’),” given that Petitioner “contend[s] only that this limitation is disclosed under Petitioner’s alternative construction (‘structure that encloses wiring’).” Prelim. Resp. 33. Patent Owner further argues that “Petitioner’s concession was required” because Archer does not disclose a ballast and, therefore, does not disclose a “ballast cover” as properly understood to be a “cover for a ballast.” *Id.*

Like the asserted obviousness ground relying on Ruskouski and Teich, addressed above, we again agree with Patent Owner that Petitioner—despite arguing that “[t]he claim term ‘ballast cover’ should be given its plain and

ordinary meaning of ‘cover for a ballast,’” Pet. 15—explicitly applies only its alternative proposed construction of the term (“structure that encloses wiring”) to assert that Archer discloses the “ballast cover” in both the Petition and Dr. Bretschneider’s declaration, *id.* at 41–42; Ex. 1003 ¶¶ 89–90. We, however, have adopted Petitioner’s primary proposed construction of the term, namely “cover for a ballast.” *See supra* § II.A.2. Thus, the Petition’s analysis and Dr. Bretschneider’s supporting testimony lack persuasive value under the narrower construction that we have adopted.

Nevertheless, even considering the Petition’s assertions and cited evidence, Petitioner fails to show sufficiently that Archer discloses a “ballast cover” as properly understood to be a “cover for a ballast.” Archer never uses the term “ballast,” and Petitioner does not demonstrate adequately that any component in Archer constitutes a “ballast,” i.e., a “device in a light that limits current to the required value.” *See supra* § II.A.2.

In particular, the relevant portion of cited column 4, line 54 through column 5, line 17 of Archer explains, and cited Figure 2 depicts, that fixture 17 of the LED light assembly “provides a level and secure surface 47, 48 to locate the circuit 20,” which is “covered by” plate 12. Ex. 1006, 4:65–5:8; *see id.* at 3:53–54. This passage further states that “circuit 20 may be located within the LED bulb fixture.” *Id.* at 5:8–10. Archer elsewhere explains that “circuit 20 [is] used to illuminate the LED bulbs 10.” *Id.* at 3:52–53; *see* Ex. 1003 ¶ 90 (citing Ex. 1006, 3:53–59).<sup>8</sup>

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<sup>8</sup> The Petition also cites column 6, lines 3 through 26 of Archer, Pet. 41, but this passage does not support Petitioner’s assertions. Rather, this passage refers to a different embodiment than the one described in cited column 4, line 54 through column 5, line 17; does not refer to fixture 17, the alleged “ballast cover”; and refers only to circuit 20 being “located at a remote

The Petition argues and Dr. Bretschneider opines that fixture 17 constitutes the recited “ballast cover,” because it encloses circuit 20, which is “wiring.” Merely covering wiring, however, is not sufficient. Rather, fixture 17 must be a “cover for a ballast,” where a “ballast” means a “device in a light that limits current to the required value.” *See supra* § II.A.2. Yet the cited passages and figure of Archer do not support sufficiently that circuit 20 or any other component within fixture 17 is such a device. Accordingly, Petitioner has not provided argument and evidence sufficient to show that Archer’s fixture 17 constitutes a “ballast cover.”

3. *Claim 12 – “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover”*

Petitioner argues that Archer discloses “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover,” as recited in claim 12, based on Archer’s disclosures that its LED light apparatus “‘is designed to retrofit existing pool lighting fixtures 40’ and that the ‘existing fixtures . . . typically use a high wattage incandescent lamp screwed into a standard Edison-style base 52 housed within the fixture 40.’” Pet. 43–44 (quoting Ex. 1006, 4:54–5:6; citing Ex. 1006, 3:38–49, 5:43–55; Ex. 1003 ¶¶ 100–102).

Patent Owner responds, arguing that “Archer does disclose a lighting apparatus that is for retrofit with a light fixture, but it does not disclose retrofit with ‘an existing light fixture having a ballast cover’” where “ballast

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location outside of the pool,” rather than within fixture 17 in pool 45. Ex. 1006, 2:56–67, 4:54–5:17, 6:3–26; Pet. 41–42; Ex. 1003 ¶ 90. Thus, this citation appears to be an error, particularly given that in the asserted ground relying on Ruskouski, Petitioner relies on column 6, lines 3 through 26 of Ruskouski for the same limitation. Pet. 29 (citing Ex. 1004, 6:3–26).

cover” is construed to mean “cover for a ballast.” Prelim. Resp. 39.

According to Patent Owner, ballasts are used in fluorescent fixtures, as the ’747 patent teaches, but they are not used in incandescent fixtures and the “light fixture disclosed in Archer is an incandescent . . . fixture.” *Id.* (quoting Ex. 1006, 2:15–18; citing Ex. 1001, 5:1–14).

We are persuaded by Petitioner’s showing that Archer’s LED light assembly constitutes “[a]n energy-efficient lighting apparatus for retrofit with an existing light fixture”—but, as Patent Owner argues, Petitioner does not demonstrate adequately that Archer discloses that the assembly is “for retrofit with an existing light fixture *having a ballast cover*” under the constructions of “ballast cover” and “ballast” that we have adopted. Ex. 1001, 11:26–27 (emphasis added); *see supra* § II.A.2.

To start, the analysis in the Petition, as well as Dr. Bretschneider’s supporting declaration, suffers from a number of deficiencies. The Petition itself does not address or explain how Archer allegedly discloses a “ballast cover” specifically. *See* Pet. 43–44; 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(4)–(5). Also, the Petition does not state clearly what construction of “ballast cover” it is applying. Pet. 43–44. Yet in Dr. Bretschneider’s declaration, he expressly states that he is applying the construction “a structure that encloses wiring,” which is Petitioner’s alternative proposed construction that we have not adopted. Ex. 1003 ¶ 101; *supra* § II.A.2. Again, Dr. Bretschneider’s application of a broader construction than the construction we have adopted undermines his opinion that Archer discloses the claim language.

We, nonetheless, consider the passages of Archer cited by the parties to determine if Petitioner has made a sufficient showing that Archer discloses “[a]n energy-efficient lighting apparatus for retrofit with an

existing light fixture having a ballast cover” under the constructions of “ballast cover” and “ballast” that we have adopted. Archer’s column 2, lines 15 through 18, cited by Patent Owner, explains that “the LED light assembly is operable to replace an incandescent light in an existing niche pool lighting fixture.” Ex. 1006, 2:15–18; Prelim. Resp. 39. Similarly, column 4, line 54 through column 6, line 6 of Archer, cited by Petitioner, discloses, in relevant part, that the LED light assembly “is designed to retrofit with existing pool fixtures 40,” which “typically use a high wattage incandescent lamp screwed into a standard Edison-style base 42.” Ex. 1006, 4:54–60; Pet. 43–44; Ex. 1003 ¶ 101. The passage further explains that “[t]o retrofit, the existing fixture is removed from its cavity 44,” “the existing incandescent lamp is unscrewed,” and the LED light assembly is “screwed into the Edison-style base 42 to replace the existing lamp.” Ex. 1006, 4:60–65. Likewise, column 5, lines 43 through 55, to which Petitioner cites, refers in relevant part to connecting the LED light assembly to a “traditional incandescent lamp fixture.” *Id.* at 5:43–48; Pet. 43.<sup>9</sup>

In these passages, Archer discloses an “existing light fixture,” specifically an incandescent lamp. Yet Archer does not use the term “ballast,” and does not disclose that the existing light fixtures have a “ballast” or a “ballast cover.” Further, Petitioner proffers no evidence that incandescent lamps have a “ballast,” as understood in the art at the relevant time, i.e., a “device in a light that limits current to the required value.” *See*

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<sup>9</sup> Petitioner does not explain the relevance of cited column 3, lines 38 through 49 of Archer. Pet. 43. Based on our review, this passage is not relevant to the “existing light fixture having a ballast cover,” and instead relates to the “energy-efficient lighting apparatus.” Ex. 1006, 3:38–49.



*supra* § II.A.2. Thus, the record before us does not support sufficiently that Archer discloses a “ballast cover,” or a “cover for a ballast.”

We also consider Dr. Bretschneider’s supporting declaration testimony, in which he opines that “element 17,” i.e., fixture 17, of Archer “is ‘a structure that encloses wiring’” “because element 17 has inside of it ‘electronics’ which are ‘under the white plate 12.’” Ex. 1003 ¶ 101 (quoting Ex. 1006, 3:53–59). This testimony is deficient for several reasons. First, the Petition does not identify fixture 17 as the “ballast cover” recited in claim 12. *See* Pet. 43–44. Accordingly, this assertion of Dr. Bretschneider, which is not presented in the Petition, is not entitled to consideration. *See* 37 C.F.R. § 42.6(a)(3); *Cisco Sys.*, Case IPR2014-00454, slip op. at 7–10 (Paper 12) (informative). Moreover, even considering the testimony, it fails to support Petitioner’s position. Fixture 17 is part of Archer’s LED light assembly, which is placed in existing light fixture 40—i.e., it is part of the recited “energy-efficient lighting apparatus,” not the recited “existing light fixture,” which must have a “ballast cover” to meet the claim language. *See* Ex. 1006, 3:54–5:6, Fig. 2; Ex. 1001, 11:26–33. Additionally, even if fixture 17 were part of the “existing light fixture,” it still would fail to meet the “ballast cover” claim language, as properly understood, for the reasons explained above in our analysis of claim 1, namely that Dr. Bretschneider applies an improperly broad construction of “ballast cover” and there is insufficient evidence in the record that fixture 17 encloses a “ballast,” as opposed to merely wiring. *See* Ex. 1003 ¶ 101.

In sum, based on our review of the arguments and evidence of record, Petitioner fails to show adequately that Archer’s existing incandescent light fixture, with which the LED light assembly is retrofit, has a “ballast cover.” Thus, Petitioner does not show sufficiently that Archer discloses “[a]n

energy-efficient lighting apparatus for retrofit with an existing light fixture *having a ballast cover.*” Ex. 1001, 11:26–27 (emphasis added).

#### 4. Conclusion

For the reasons given, we conclude that Petitioner has not shown a reasonable likelihood of establishing that Archer anticipates claims 1 and 12.

##### D. ALLEGED OBVIOUSNESS OVER ARCHER AND RUTHENBERG

Petitioner argues, and Patent Owner disputes, that claim 12 would have been obvious over Archer and Ruthenberg. Pet. 48–52; Prelim. Resp. 40–41. In this asserted ground, Petitioner relies on Ruthenberg only for the “fastening mechanism” of claim 12. Pet. 48–52. For all other limitations, the Petition refers back to its analysis of the asserted ground of anticipation by Archer and, thus, relies on Archer alone. *Id.* at 48.

Accordingly, for the reasons given above in our analysis of the asserted ground of anticipation by Archer that Petitioner fails to show sufficiently that Archer discloses the “[e]nergy-efficient lighting apparatus for retrofit with an existing light fixture having a ballast cover” of claim 12, we likewise are not persuaded that Petitioner has demonstrated adequately that Archer teaches, suggests, or otherwise would have conveyed this limitation to one of ordinary skill. Thus, we determine that Petitioner does not demonstrate a reasonable likelihood that it would prevail in establishing that Archer and Ruthenberg render obvious claim 12 of the ’747 patent.

##### E. ALLEGED OBVIOUSNESS OVER HUNTER, KANAREK, AND TIMMERMANS

Petitioner contends that claim 12 of the ’747 patent would have been obvious over Hunter, Kanarek, and Timmermans. Pet. 52–66. Patent Owner contests Petitioner’s assertions of obviousness. Prelim. Resp. 41–57.

Claim 12 recites a “housing having an attachment surface and an illumination surface.” Ex. 1001, 11:28–29. In the claim construction

section of the Petition, Petitioner proposes a construction of the claim term “housing,” arguing that the term “should be construed to mean ‘structure that encloses other components’” (“First Proposed Construction”). Pet. 13; *see* Ex. 1003 ¶ 23. Petitioner contends that the “[s]pecification of the ’747 patent supports this construction” and explains that the District Court adopted this construction in the District Court Case. Pet. 13–14; *see* Ex. 1012, 2. Next, Petitioner refers to Patent Owner’s “compromise construction” of “housing” in the District Court Case, specifically “an enclosure that covers or protects other components” (“Second Construction”). Pet. 14; Ex. 1011, 16–17 n.2; *see* Ex. 1003 ¶ 24. Petitioner states that it “do[es] not dispute” that this construction “may be appropriate under the broadest reasonable construction standard.” Pet. 14–15.

Then, in the analysis of claim 12 in this asserted ground, Petitioner refers to Patent Owner’s proffered construction of “housing” in the District Court Case—namely, “portion of lighting apparatus that covers or protects other components” (“Third Construction”). *Id.* at 59; Ex. 1011, 9. After identifying alleged components of the “housing” in Hunter, Petitioner contends that the components “are a ‘portion of lighting apparatus that covers or protects other components’ and meet the Patent Owner’s construction.” Pet. 60. The Petition does not mention the First Proposed Construction or the Second Construction in its analysis of the “housing” limitation. *Id.* at 59–60. Similarly, in his declaration, Dr. Bretschneider expressly applies only the Third Construction in opining that the asserted prior art renders obvious the recited “housing.” Ex. 1003 ¶¶ 139–140.

Under 37 C.F.R. § 42.104(b)(3)–(b)(4), the Petition “must set forth . . . [h]ow the challenged claim is to be construed” (§ 42.104(b)(3)) and “[h]ow the construed claim is unpatentable under the [asserted] grounds” of

unpatentability (§ 42.104(b)(4)). Here, the Petition makes the proper construction and application of the claim term “housing” a moving target, and, therefore, runs afoul of the requirements of these rules.

In particular, the Petition endorses and supports the First Proposed Construction as the proper construction of “housing”—but does not apply this construction in arguing how the asserted prior art renders claim 12 unpatentable, thereby failing to comply with § 42.104(b)(4) for this construction. Pet. 13–14, 59–60. In contrast, the Petition argues that claim 12 is unpatentable under the Third Construction—but does not endorse or support this construction as a proper construction of “housing,” thereby failing to comply with § 42.104(b)(3) for this construction. *Id.* at 13–15, 59–60. Finally, for the Second Construction, the Petition merely “do[es] not dispute” that this construction “may be appropriate,” without endorsing or supporting the construction, and does not apply this construction in arguing that claim 12 is unpatentable based on the asserted prior art. *Id.* at 14–15, 59–60. Therefore, the Petition does not satisfy either § 42.104(b)(3) or § 42.104(b)(4) for this construction.

Accordingly, for the reasons given, we deny institution of claim 12 on the asserted ground of obviousness over Hunter, Kanarek, and Timmermans based on the Petition’s failure to comply with 37 C.F.R. § 42.104(b)(3)–(b)(4) for the claim term “housing.”

### III. ORDER

For the reasons given, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), the Petition is *denied*, and no trial is instituted as to any claim of U.S. Patent No. 7,086,747 B2.

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Patent 7,086,747 B2  
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