

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAVANT TECHNOLOGIES LLC d/b/a GE LIGHTING and
LEDVANCE LLC,
Petitioners,

v.

FEIT ELECTRIC COMPANY, INC.,
Patent Owner.

Case IPR2024-01357
U.S. Patent No. 8,604,678

SAVANT TECHNOLOGIES LLC d/b/a GE LIGHTING,
ELONG INTERNATIONAL USA INC., and
XIAMEN LONGSTAR LIGHTING CO. LTD.,
Petitioners,

v.

FEIT ELECTRIC COMPANY, INC.,
Patent Owner.

Case IPR2025-00260
U.S. Patent No. 8,604,678

PATENT OWNER'S SUPPLEMENTAL MOTION TO AMEND

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TABLE OF AUTHORITIES

Cases

Lectrosonics, Inc. v. Zaxcom, Inc.,
IPR2018-01129, -01130, Paper 15 (Feb. 25, 2019) 3, 6, 7

Statutes

35 U.S.C. § 316 2, 3, 4, 6

Regulations

37 C.F.R. § 42.121 passim

EXHIBITS

Exhibit	Description
2001	Declaration of E. Fred Schubert, Ph.D.
2002	<i>Curriculum vitae</i> for E. Fred Schubert, Ph.D.
2003	U.S. Patent Publication 2002/0180351 (“McNulty”)
2004	U.S. Patent Publication 2001/0000622 (“Reeh”)
2005	Scheduling Order (Dkt. 37), <i>Feit Electric Co., Inc. v. Elong International USA Inc.</i> , No. 3:24-cv-1089 (N.D. Tex.)
2006	June 2024 United States District Courts — Federal Court Management Statistics for N.D. Tex., E.D. Ky., and N.D. Ohio (https://www.uscourts.gov/statistics-reports/federal-courtmanagement-statistics-june-2024)
2007	Case Management Order (Dkt. 19), <i>Feit Electric Co., Inc. v. Savant Technologies LLC d/b/a GE Lighting</i> , No. 1:24-cv-473 (N.D. Ohio)
2008	Scheduling Order (Dkt. 33), <i>Feit Electric Co., Inc. v. Ledvance, LLC</i> , No. 5:24-cv-31 (E.D. Ky.)
2009	Savant’s Initial Invalidity and Unenforceability Contentions, <i>Feit Electric Co., Inc. v. Savant Technologies LLC d/b/a GE Lighting</i> , No. 1:24-cv-473 (N.D. Ohio), served on September 5, 2024
2010	Ledvance’s Initial Invalidity and Unenforceability Contentions, <i>Feit Electric Co., Inc. v. Ledvance, LLC</i> , No. 5:24-cv-31 (E.D. Ky.), served on September 24, 2024
2011	Elong’s Initial Invalidity and Unenforceability Contentions, <i>Feit Electric Co., Inc. v. Elong International USA Inc.</i> , No. 3:24-cv-1089 (N.D. Tex.), served on December 9, 2024
2012	Comparison of Petition and Expert Testimony Analysis
2013	Mike Krames, <i>Light-Emitting Diode Technology for Solid-State Lighting</i> , in <i>Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2009 Symposium</i> , 67 (2009)
2014	E. Fred Schubert, <i>Light-Emitting Diodes</i> (2nd ed. 2006)
2015	Matthew G. Bevan & Bruce M. Romenesko, <i>Modern Electronic Packaging Technology</i> , 20 JOHNS HOPKINS APL TECH. DIGEST 22 (1999)
2016	X. A. Cao & S. D. Arthur, <i>High-power and reliable operation of vertical light-emitting diodes on bulk GaN</i> , 85 Applied Physics Letters 3971 (2004).

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Exhibit	Description
2017	Michael R. Krames et al., <i>Status and Future of High-Power Light-Emitting Diodes for Solid-State Lighting</i> , 3 J. Display Tech. 160 (2007)
2018	Mehmet Arik et al., <i>Thermal Management of LEDs: Package to System</i> , 5187 Proc. SPIE 64 (2004)
2019	U.S. Dep’t Energy, <i>Critical Materials Strategy</i> (Dec. 2010)
2020	Zongyuan Liu et al., <i>Measurement and numerical studies of optical properties of YAG:Ce phosphor for white light-emitting diode packaging</i> , 49 Applied Optics 247 (2010)
2021	March 2024 United States District Courts — Federal Court Management Statistics for N.D. Tex., E.D. Ky., and N.D. Ohio (https://www.uscourts.gov/data-news/reports/statisticalreports/federal-court-management-statistics/federal-courtmanagement-statistics-march-2024)
2022	September 2024 United States District Courts — Federal Court Management Statistics for N.D. Tex., E.D. Ky., and N.D. Ohio (https://www.uscourts.gov/data-news/reports/statisticalreports/federal-court-management-statistics/federal-courtmanagement-statistics-september-2024)
2023	Declaration of William A. Doolittle, Ph.D., dated November 6, 2024, <i>Feit Electric Company, Inc. v. Savant Technologies, d/b/a GE Lighting</i> , Case No. 24-cv-00473
2024	Rebuttal Declaration of William A. Doolittle, Ph.D., dated November 20, 2024, <i>Feit Electric Company, Inc. v. Savant Technologies, d/b/a GE Lighting</i> , Case No. 24-cv-00473
2025	Deposition Transcript of William A. Doolittle, Ph.D., dated June 10, 2025
2026	Declaration of E. Fred Schubert, Ph.D., dated June 25, 2025
2027	U.S. Provisional App. No. 61/427,411, filed on December 21, 2010
2028	U.S. Provisional App. No. 61/390,091, filed on October 5, 2010
2029	Home Depot - Feit Electric White Filament LED Light Bulbs listing
2030	Candle Power Forums article: Feit LED filament bulb with white filaments
2031	The Home Depot Announces 2024 Innovation Award Winners

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Exhibit	Description
2032	Feit Electric Lighting Instagram consumer comments regarding filaments
2033	Feit Electric Lighting Instagram consumer comments regarding yellow filaments
2034	Feit Electric Lighting Instagram consumer comments: Regular Yellow Filament vs. White Filament
2035	Home Depot White Filament price point of \$29.97
2036	Home Depot Yellow Filament price point of \$21.97
2037	Reddit: Do white filament LED edison bulbs exist?
2038	Deposition Transcript of William A. Doolittle, Ph.D., dated July 17, 2025
2039	Declaration of E. Fred Schubert, Ph.D., dated July 25, 2025

I. INTRODUCTION

Patent Owner Feit Electric Company (“Feit Electric”) submits this Contingent Motion to Amend claims 11-14 of U.S. Patent No. 8,604,678 (the “’678 patent”). In the event any of those claims are found to be unpatentable, Feit Electric respectfully requests amendment of such claims. The ’678 patent is directed to light emitting devices utilizing a wavelength conversion component containing a light diffusion layer. This Motion proposes contingent substitute claims that further patentably distinguish the references underlying the grounds for challenging claims 11-14 of the ’678 patent proposed by Petitioners.

On June 23, 2025, the Board instituted IPR2025-00260 and consolidated the proceeding with IPR2024-01357 (which challenges claims 1-3, 6, 7, 9, 10, 16-21, 25, 26, and 29 of the ’678 patent). Paper 25. On June 25, 2025, Patent Owner submitted a contingent motion to amend claims 1-3, 6, 7, 9, 10, 16-21, 25, 26, and 29 based on the grounds presented in IPR2024-01357. Paper 27. The instant motion to amend supplements Patent Owner’s June 25, 2025 Motion to Amend to address those additional claims challenged in IPR2025-00260.

II. STATEMENT OF REQUESTED RELIEF

Feit Electric requests preliminary guidance from the Board concerning this Contingent Motion in accordance with 37 C.F.R. §§ 42.121(a)(1)(ii) and 42.121(e).

To the extent the Board finds any of original claims 11-14 (the “challenged claims”) unpatentable in this proceeding, Feit Electric requests that the Board consider this Contingent Motion and grant entry of the corresponding substitute claims. The substitute claims are proposed on a contingent basis and should only be entered as to any corresponding original claims found to be unpatentable. The proposed amendments are detailed in the claim listing at Appendix A (*see* 37 C.F.R. § 42.121(b)), and a table of the proposed amendments is shown below:

Original '678 Patent Claim	Contingent Substitute Claim
11	46
12	47
13	48
14	49

III. THE SUBSTITUTE CLAIMS MEET ALL STATUTORY AND REGULATORY REQUIREMENTS OF 35 U.S.C. § 316 AND 37 C.F.R. § 42.121

As explained below, the proposed contingent amendments meet the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121.

A. Patent Owner Submits a Reasonable Number of Substitute Claims
(35 U.S.C. § 316(d)(1)(B) and 37 C.F.R. § 42.121(a)(3))

Feit Electric proposes one contingent substitute claim for each challenged claim. Because Feit Electric proposes no more than one substitute claim for each original challenged claim, this is a reasonable number. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, -01130, Paper 15 at 4-5 (Feb. 25, 2019) (“There is a rebuttable presumption that a reasonable number of substitute claims per challenged claim is one (1) substitute claim.”); 37 C.F.R. § 42.121(a)(3); *see also* 35 U.S.C. § 316(d)(1)(B).

B. The Amendments are Responsive to the Grounds of Unpatentability
(37 C.F.R. § 42.121(a)(2)(i))

The substitute claims are responsive to one or more grounds of unpatentability at issue in this proceeding because Petitioner has asserted that the prior art discloses the elements of independent claims 11-14 (*see* IPR2025-00260 Petition at 1), which this Motion seeks to amend. The proposed substitute claims narrow the challenged claims by incorporating additional limitations that are not disclosed in the prior art.

**C. The Substitute Claims Have Written Description Support and Do Not Introduce New Matter
(35 U.S.C. § 316(d)(3) and 37 C.F.R. §§ 42.121(a)(2)(ii) and 42.121(b))**

The originally filed disclosure of the '678 patent supports each proposed substitute claim. *See* 37 C.F.R. § 42.121(b)(1)-(2). The '678 patent issued from U.S. App. No. 13/273,212, filed on October 13, 2011 (Exhibit 1004), which is a continuation-in-part of U.S. App. No. 13/253,031, filed on October 4, 2011 and which claims priority to U.S. Provisional App. No. 61/427,411, filed on December 21, 2010 (Exhibit 2027) and U.S. Provisional App. No. 61/390,091, filed on October 5, 2010 (Exhibit 2028). Patent Owner respectfully submits that the proposed substitute claims 46-49 are entitled to at least the priority date of October 13, 2011. Supporting citations for the new claim limitations (found in substitute claims 46-49) are provided below¹. Support for all remaining limitations is found in the original claims.

Claim Element	Support
46[pre] The component of claim <u>30</u> ,	Original Claim 11, <i>inter alia</i>

¹ The remaining claim limitations of claims 46-49, which are found in original claims 11-14, respectively, are also included for reference purposes.

Claim Element	Support
46[a] wherein the light scattering material has an average particle size that is selected such that the light scattering material will scatter the excitation light relatively more than the light scattering material will scatter light generated by the at least one photoluminescence material, <u>and</u>	Original Claim 11, <i>inter alia</i>
46[b] <u>wherein the wavelength conversion component comprises a three-dimensional elongated shape.</u>	U.S. Patent No. 8,604,678 • FIGs. 23A, 23B • 23:59-24:5
47[pre] The component of claim <u>46</u> ,	Original Claim 12, <i>inter alia</i>
47[a] wherein the light scattering material scatters the excitation light at least twice as much as light generated by the at least one photoluminescence material.	Original Claim 12, <i>inter alia</i>
48[pre] The component of claim <u>46</u> ,	Original Claim 13, <i>inter alia</i>
48[a] wherein the excitation light comprises blue light, <u>and</u>	Original Claim 13, <i>inter alia</i>

Claim Element	Support
48[b] <u>wherein the final visible emission product comprises a luminous flux above 250 lumens.</u>	U.S. Patent No. 8,604,678 • FIGs. 1, 9 • 4:65-67 • 5:30-32 • 6:55-61 • 7:14-26 • 20:27-51 U.S. App. No. 61/427,411 • FIGs. 1, 9 • ¶ [0027] • ¶ [0035] • ¶ [0038] • ¶ [0064]
49[pre] The component of claim <u>48</u> ,	Original Claim 14, <i>inter alia</i>
49[a] wherein the light scattering material has an average particle size that is less than about 150 nm.	Original Claim 14, <i>inter alia</i>

**D. The Amendments Do Not Enlarge the Scope of the Claims
(35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2)(ii))**

The proposed amended claims do not broaden the claim scope. Every limitation of each original claim is present in the corresponding proposed substitute claim. These amendments are non-broadening because they add novel and nonobvious features that further distinguish over the prior art underlying the grounds advanced in this proceeding. *See Lectrosonics*, Paper 15 at 7.

Furthermore, because the substitute independent claim is narrower than the original independent claim, the dependent claims are necessarily narrower than the corresponding original dependent claims.

E. Patentability of Substitute Claims

“A Patent Owner does not bear the burden of persuasion to demonstrate the patentability of substitute claims presented in a motion to amend.” *Lectrosonics*, Paper 15 at 4. Rather, “the burden of persuasion ordinarily will lie with the petitioner to show that any proposed substitute claims are unpatentable by a preponderance of the evidence.” *Id.* Here, the additional claim elements of proposed amended claims 46-49 are not taught by the prior art combinations used by Petitioner to challenge the original claims, and no prior art of record known to Patent Owner anticipates or renders obvious proposed substitute claims 46-49.

1. Patentability of Substitute Dependent Claims 46 and 48

In this contingent motion, Patent Owner proposes amended claim 46 which mirrors original claim 11 with the additional limitation that “the wavelength conversion component comprises a three-dimensional elongated shape” and dependent claim 48, which mirrors original claim 13 with the additional limitation that “wherein the final visible emission product comprises a luminous flux above 250 lumens.”

The IPR2025-00260 Petition, which contains the only grounds challenging claims 11-14 of the '678 Patent, lists five prior art references: Basin-2007 (Pub. No. US2009/0057699; EX1005), Basin-2005 (Pub. No. US2007/0045761; EX1006), Stokes (Patent No. 6,791,259, EX1008), Shimizu (Patent No. 6,069,440, EX1010), and Krummacher (Pub. No. US2008/0079015; EX1007). IPR2025-00260, Paper No. 1 at 20.

None of the references cited in the Petition disclose the added limitation of a wavelength conversion component having a three-dimensional elongated shape. Petitioners rely on Basin-2007 and Krummacher for disclosure of the wavelength conversion component. *See* IPR2025-00260 Pet. at 29-32, 48-53. Neither of these references teach three-dimensional elongated wavelength conversion components. Basin-2007 is directed to semiconductor LEDs at the chip level that are used in flash bulbs and each of the figures in Basin-2007 show either cross sections of the LED chip, charted properties of the Basin-2007 light characteristics, or the camera/flash bulb. *See* EX1005, ¶¶1-3; *see generally id.* at FIGs. 1-8. Krummacher is similar in that it focuses on the “optoelectric component” level (*see* EX1007 at Abst., ¶2) and all figures show cross sections of the LED-chip level component (*see* EX1007 at FIGs. 1-3). No reference is made to the claimed shape of the alleged wavelength conversion component.

Furthermore, none of the references cited in the Petition disclose the added limitation of a luminous flux above 250 lumens. Petitioners' expert, Professor Doolittle confirmed that none of the prior art references cited in the IPR2025-00260 Petition disclose a device emitting a specific amount of luminous flux or a luminous flux above 250 lumens. EX2038 at 25:4-27:3. While Professor Doolittle suggested that there may be references to luminous *intensity* in the cited art, he confirmed that luminous *flux* is not the same as luminous *intensity*. EX2038 at 28:3-25. Disclosure of luminous intensity does not teach luminous flux—more information is needed. EX2038 at 28:22-25.

Because none of the cited references disclosed or suggested the new features of proposed amended claim 46, that claim is patentable over the prior art presented in the Petition.

2. Patentability of Substitute Dependent Claims 47 and 49

Dependent claims 47 and 49 are identical to original dependent claims 12 and 14, respectively, except that they correct dependencies based on this contingent motion. As such, each amended claim is patentable for the same reasons as original dependent claims 12 and 14.

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IV. CONCLUSION

For the reasons set forth herein, Patent Owner asserts that the proposed amended claims meet all statutory requirements and respectfully requests that the Board allow proposed amended claims 46-49 in the event that it finds any of the corresponding original claims to be unpatentable.

Date: July 25, 2025

Respectfully submitted,

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APPENDIX A

Proposed Amended Claim 46 (Substitute for Original Claim 11)

46. The component of claim [[1]]30, wherein the light scattering material has an average particle size that is selected such that the light scattering material will scatter the excitation light relatively more than the light scattering material will scatter light generated by the at least one photoluminescence material, and
wherein the wavelength conversion component comprises a three-dimensional elongated shape.

Proposed Amended Claim 47 (Substitute for Original Claim 12)

47. The component of claim [[11]]46, wherein the light scattering material scatters the excitation light at least twice as much as light generated by the at least one photoluminescence material.

Proposed Amended Claim 48 (Substitute for Original Claim 13)

48. The component of claim [[11]]46, wherein the excitation light comprises blue light, and
wherein the final visible emission product comprises a luminous flux above
250 lumens.

Proposed Amended Claim 49 (Substitute for Original Claim 14)

49. The component of claim ~~[[13]]~~48, wherein the light scattering material has an average particle size that is less than about 150 nm.

CERTIFICATE OF PAGE COUNT UNDER 37 C.F.R. § 42.24(a)(vi)

I, the undersigned, do hereby certify that the foregoing Patent Owner's Motion to Amend contains under 25 pages, as specified by 37 C.F.R. § 42.24(a)(vi).

/Charles M. McMahon/

Charles M. McMahon

CERTIFICATE OF SERVICE

I hereby certify that on July 25, 2025, a true and correct copy of the foregoing was served by electronic mail upon the following counsel of record for

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