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

JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO., LTD. AND OBERT, INC.,	§	
Plaintiff,	§	
v.	§	Case. No. 6:22-CV-534-ADA-DTG
CURRENT LIGHTING SOLUTIONS, LLC d/b/a GE CURRENT,	§	
Defendants.	§	

DEFENDANT CURRENT LIGHTING SOLUTIONS, LLC d/b/a GE CURRENT'S PRELIMINARY INVALIDITY CONTENTIONS

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I. INTRODUCTION

Pursuant to the Court's Scheduling Order (Dkt. 31) and Standing Order Governing Proceedings 4.2 ("OGP"), Defendant Current Lighting Solutions, LLC d/b/a GE Current ("Defendant") hereby provides its Preliminary Invalidity Contentions. Defendant contends that each of the Asserted Claims (as defined below) is invalid and/or patent-ineligible under at least 35 U.S.C. §§ 102, 103, and/or 112.

A. Asserted Claims

Plaintiffs Jiaxing Super Lighting Electric Appliance Co., Ltd. and Obert, Inc., ("Super Lighting") alleges in its Preliminary Infringement Contentions ("Infringement Contentions") that Defendant infringes the following patents and claims (collectively, the "Asserted Patents" and "Asserted Claims"):

- U.S. Patent No. 10,295,125 (the "'125 Patent"): Claims 1, 2, 10, 14, 15
- U.S. Patent No. 11,112,068 (the "'068 Patent"): Claims 31, 32, 35, 36
- U.S. Patent No. 9,945,520 (the "'520 Patent"): Claims 1, 2, 3, 10, 11, 29, 33, 37, 59
- U.S. Patent No. 10,487,991 (the "'991 Patent"): Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 35, 36, 37, 38, 39, 40, 41
- U.S. Patent No. 10,830,397 (the "'397 Patent"): Claims 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18
- U.S. Patent No. 10,560,989 (the "'989 Patent"): Claims 1, 2, 5, 6, 12, 13, 88, 30, 31, 37, 77, 84, 85, 86, 90
- U.S. Patent No. 10,897,801 (the "'801 Patent"): Claims 13, 14, 15, 16, 17, 18

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- U.S. Patent No. 9,939,140 (the "'140 Patent"): Claims 1, 3, 4, 5, 21, 22, 23, 24, 28, 31, 35
- U.S. Patent No. 9,841,174 (the "'174 Patent"): Claims 1, 2, 3, 5, 10, 11 ,12, 16, 17, 18, 23, 24, 25, 26, 27, 28, 29, 32
- U.S. Patent No. 9,723,662 (the "'662 Patent"): Claims 1, 2, 6, 7, 9, 15, 21, 23, 24, 31, 32, 33, 38, 39, 40, 41, 42, 43
- U.S. Patent No. 11,441,742 (the "'742 Patent"): Claims 1, 2, 3, 4, 5, 8, 9, 10, 12, 13, 14, 15, 16, 18, 19, 20, 23, 24, 25, 26

Defendant's Preliminary Invalidity Contentions (collectively, "Contentions") address only the Asserted Claims specifically set forth in Super Lighting's Infringement Contentions, which are the only claims asserted against Defendant.

B. Ongoing Discovery and Disclosures

Defendant's Contentions are based on Defendant's current knowledge and understanding of the Asserted Claims and review of prior art items as of the date of service, and are made without the benefit of discovery regarding the parties' claim construction contentions, any expert discovery, any third-party discovery, and any claim construction opinion or order by the Court. Accordingly, Defendant's Contentions are provided without prejudice to Defendant's right to revise, amend, correct, supplement, modify, or clarify the same. Defendant also reserves the right to complete its investigation and discovery of the facts, to produce subsequently discovered information, and to introduce such subsequently discovered information at the time of any hearing or trial in this action.

Defendant's Contentions are also based on Defendant's current understanding of the Asserted Claims in view of Super Lighting's Infringement Contentions, which are deficient both

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facially and substantively. Among other things, the Infringement Contentions lack the specificity required by the Court's OGP, fail to properly identify accused products, and fail to explain adequately Super Lighting's infringement theories for numerous limitations. Super Lighting has prejudiced Defendant's ability to understand, for purposes of preparing these Contentions, what Super Lighting alleges to be the scope of the Asserted Claims. In the event Super Lighting amends its Infringement Contentions (either to cure these deficiencies or for any other reason) or otherwise responds to address any deficiency therein, Defendant reserves the right to amend or supplement its Contentions.

Defendant incorporates by reference all other bases for invalidity identified in Defendant's Answers, Initial Disclosures, and interrogatory responses in this matter, and any bases of invalidity identified during the prosecution of the Asserted Patents, as well as all related patents and/or patent applications. Defendant incorporates by reference all bases for invalidity identified in any i*nter partes* review proceeding or reexamination proceeding regarding the Asserted Patents. Defendant further incorporates by reference all admissions regarding the Asserted Patents including, but not limited to, admissions in the specification of the Asserted Patents and the prosecution of the Asserted Patents and related patents and/or patent applications. Defendant moreover incorporates contentions and expert reports regarding invalidity previously served or subsequently served in any related litigations, and any invalidity contentions served by any defendants in the actions below:

- *Jiaxing Super Lighting Electric Appliance Co., Ltd. v. MaxLite, Inc.*, No. 2:19-cv-04047 (C.D. Cal.);
- *Jiaxing Super Lighting Electric Appliance Co., Ltd. v. Ch Lighting Tech. Co., Ltd.*, No. 6:20-cv-00018 (W.D. Tex.).

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C. Claim Construction

The Court has not construed the Asserted Claims. Defendant maps the prior art references to the Asserted Claims based on Super Lighting's apparent constructions, to the extent understood, of the Asserted Claims as advanced in Super Lighting's Infringement Contentions. However, nothing stated in this document or the accompanying claim charts should be treated as an admission or suggestion that Super Lighting's apparent claim constructions are correct, or that any claim terms of the Asserted Claims are not invalid under 35 U.S.C. § 112 for being indefinite, failing to satisfy the written description requirement, or failing to satisfy the enablement requirement. In fact, Defendant specifically denies that Super Lighting's apparent claim constructions are proper.

Depending on the Court's construction of the Asserted Claims of the Asserted Patents, and/or positions that Super Lighting or its expert witness(es) may take concerning claim interpretation, infringement, invalidity issues, and/or subject matter eligibility issues, the asserted prior art references may be of greater or lesser relevance. Given this uncertainty, the charts may reflect alternative applications of the prior art against the Asserted Claims. Thus, no chart or position taken by Defendant should be construed as an admission or a waiver of any particular construction of any claim term. Defendant also reserves the right to challenge any of the claim terms under 35 U.S.C. § 112, including by arguing that they are indefinite, not supported by the written description, and/or not enabled.

D. Effective Date

Super Lighting asserted in its Infringement Contentions the following priority dates for the Asserted Claims:

- '125 Patent:
    - Claim 1: Sept. 28, 2014; CN201410507660.9

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- Claims 2, 10, 14, 15: Feb. 12, 2015; CN201510075925.7

- ’068 Patent: Claims 31, 32, 35, 36: June 26, 2015; CN201510373492.3
- ’520 Patent:
  - Claims 1-33: Feb. 12, 2015; CN201510075925.7
  - Claims 10, 29 33, 37, 59: Nov. 6, 2014; CN201410623355.6
  - Claim 11: Oct. 29, 2015; CN201510716899.1
- ’991 Patent:
  - Claims 1-4, 6-10, 16-19, 21-24, 30-33, 35-37: April 14, 2015; CN201510173861.4
  - Claims 11-14, 25-28, 38-41: May 19, 2015; CN201510259151.3
- ’397 Patent:
  - Claims 1-3, 8-12, 14-18: May 12, 2015; CN201510075925.7
  - Claims 4-6: Oct. 29, 2015; CN201510716899.1
- • ’989 Patent:
  - Claims 1, 2, 5, 6, 30, 31, 37, 77, 84-86, 88, 90: Mar. 10, 2015; CN201510104823.3
  - Claims 12, 13: Apr. 14, 2015; CN201510173861.4
- ’801 Patent: Claims 13-18: Mar. 10, 2015; CN201510104823.3
- ’140 Patent:
  - Claims 1, 3, 4, 21-24, 28, 31, 35: Aug. 26, 2015, CN201510530110.3
  - Claims 5, 28, 35: June 20, 2016, CN201610452437.8
- ’174 Patent:
  - Claims 1-3, 5, 28, 29, 32: June 20, 2016, CN201610452437.8

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    - Claims 10-12, 16-18, 23, 25-27: Aug. 26, 2015, CN201510530110.3
    - Claim 24: Nov. 11, 2015, CN201510848766.X
- ’662 Patent: Claims 1, 2, 6, 7, 9, 15, 21, 23, 24, 31-33, 38-43: Oct. 17, 2014, CN201420602526.2
- ’742 Patent:
    - Claims 1, 8-10, 12, 13: Jan. 26, 2016; CN201610050944.9
    - Claims 2, 23: July 10, 2018; CN201810752429.4
    - Claims 3, 24-26: March 13, 2018; CN201810205729.0
    - Claims 4, 5, 19, 20: Sept. 27, 2017; CN201710888946.X
    - Claims 14, 16: Aug. 26, 2015; CN201510530110.3
    - Claim 15: June 20, 2016; CN201610452437.8
    - Claim 18: Aug. 9, 2019; CN201910732298.8

Defendant does not agree that Super Lighting is entitled to the above-listed priority date for each of the Asserted Claims, as Super Lighting has failed to prove it is entitled to this priority date. For example, the '742 patent claims domestic priority through, inter alia, three continuations-in-part to U.S. Patent No. 9,689,536 and foreign priority to December 9, 2015 via 44 Chinese applications. Super Lighting has not sufficiently shown which, if any, of the 44 Chinese applications contains a written description that demonstrates the alleged inventors were in possession of all the limitations for each asserted claim. Nonetheless, Defendant has utilized Super Lighting’s claimed priority date for purposes of these Contentions. Defendant’s use of Super Lighting’s asserted priority date for purposes of these Contentions should not be interpreted as a concession that any Asserted Claim is entitled to Super Lighting’s asserted priority date. To the extent Super Lighting in the future seeks and is granted leave to amend its

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disclosures in an attempt to establish an earlier effective date, Defendant reserves the right to amend these Contentions in response, including by disclosing additional prior art or earlier versions or evidence of the prior art disclosed herein.

E. Prior Art Identification and Citation

The accompanying invalidity claim charts (Appendices A-K) cite to particular teachings and disclosures of the prior art references as applied to features of the Asserted Claims. However, persons having ordinary skill in the art ("POSITA") may view an item of prior art generally in the context of other publications, literature, products, and understanding. Accordingly, the cited portions are only exemplary and are intended to put Super Lighting on notice of the basis for Defendant's contentions. Defendant has endeavored to identify the most relevant portions of the references, but the references may contain additional support for particular claim limitations. Defendant reserves the right to rely on uncited portions of the prior art references, other documents, and/or operational systems, as well as fact and expert testimony, to provide context or to aid in understanding the cited portions of the references and interpreting the teachings of the prior art and to establish bases for combinations of certain cited references that render the Asserted Claims obvious. Defendant also reserves the right to rely on any prior art system referenced, embodied, or described in any of the prior art references identified herein, or which embodies any of the prior art references identified herein.

Moreover, Defendant reserves the right to rely on inventor admissions concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the prosecution histories of the Asserted Patents or related patents and/or patent applications, any testimony or declarations of the named inventors concerning the Asserted Patents or related patents, and any papers or evidence submitted by Super Lighting in connection with this litigation, any other pending, prior, or future litigation brought by Super Lighting involving the Asserted Patents or related patents, or

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inter partes review proceedings involving the Asserted Patents or related patents. Defendant also may establish what was known to a POSITA through treatises, published industry standards other publications, products, and/or testimony.

Where the invalidity claim charts (Appendices A-K) cite to a particular figure in a reference, the citation should be understood to encompass the caption of the figure and other text relating to and/or describing the figure. Similarly, where the invalidity claim charts cite to particular text referring to a figure, the citation should be understood to include the figure and related figures as well.

The prior art references listed herein and in the accompanying invalidity claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently. The prior art references are also relevant for its showing of the state of the art and reasons and motivations for making improvements, additions, and combinations. The suggested obviousness combinations are provided in the alternative to Defendant's anticipation contentions and are not to be construed to suggest that any reference is not itself anticipatory.

Further, the combinations of prior art references contained herein demonstrating the obviousness of the Asserted Patents under 35 U.S.C. § 103 are merely exemplary and are not intended to be exhaustive. All such combinations are intended to include and be in view of the knowledge of a POSITA. Additional obviousness combinations of the identified prior art references are possible, and Defendant reserves the right to use any such combination(s) in this Action. In particular, Defendant is currently unaware of the extent, if any, to which Super Lighting will contend that limitations of any particular claim(s) are not disclosed in the art that Defendant has identified as anticipatory. To the extent that Super Lighting does so, Defendant reserves the

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right to identify other evidence or references that anticipate or render obvious the particular claim(s).

Nothing in these Contentions should be treated as an admission that any of Defendant's accused products meet any limitation of the Asserted Claims. Defendant denies infringing the Asserted Claims. To the extent that any prior art references identified by Defendant contains a claim element that is the same as or similar to an element in an accused product, based on a claim construction inferred from Super Lighting's Infringement Contentions, inclusion of that reference in Defendant's Contentions is not a waiver by Defendant of any claim construction or non-infringement position, nor is it an admission or suggestion by Defendant that any accused product satisfies the limitations of the Asserted Claims under a proper construction of those claims.

F. Additional Reservation of Rights

Defendant reserves all rights to further supplement or modify these Contentions, including the prior art disclosed and stated grounds of invalidity. In addition, Defendant reserves the right to prove invalidity of the Asserted Claims on bases other than those required to be disclosed in these Contentions.

Defendant's identification in the prior art of claim elements recited in the preamble of any claims is not intended to indicate that any such preamble is limiting. All such disclosures are made only to the extent the preamble is determined to be limiting.

Defendant also intends to diligently seek discovery from third parties to demonstrate the alleged inventions were patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention under 35 U.S.C. § 102(a)(1), and/or described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date

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of the claimed invention under 35 U.S.C. § 102(a)(2). Defendant may therefore modify, amend, and/or supplement these Contentions if and when further information becomes available.

Additionally, Defendant incorporates by reference into these Contentions every claim element cross-referenced in Super Lighting's Infringement Contentions. For any element in Super Lighting's Infringement Contentions for which Super Lighting refers to the information from one or more other elements (whether in the same or a different patent), Defendant incorporates by reference the same cross-reference for these contentions.

Subject to the foregoing statements and qualifications, Defendant provides the following:

II. PRIOR ART DISCLOSURES AND CONTENTIONS

The following appendices include claim charts of prior art references that, alone and/or in combination with other references, render the Asserted Claims of the Asserted Patents invalid under §§ 102 or 103, and further include secondary references that would have been obvious to combine with the charted prior art references and motivations for making such combinations.

Appendix A	'140 Patent
Appendix B	'174 Patent
Appendix C	'662 Patent
Appendix D	'742 Patent
Appendix E	'520 Patent
Appendix F	'125 Patent
Appendix G	'991 Patent
Appendix H	'989 Patent
Appendix I	'397 Patent
Appendix J	'801 Patent
Appendix K	'068 Patent

A. Identification of Items of Prior Art That Anticipate or Render Obvious Asserted Claims

Defendant contends that the following prior art patents, printed publications, and systems/devices, alone and/or in combination, anticipate and/or render obvious the Asserted Claims of the Asserted Patents. As noted above, however, discovery is ongoing, and Defendant's

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prior art investigation and third-party discovery are therefore not yet complete. Accordingly, Defendant reserves the right to present additional items of prior art under 35 U.S.C. § 102 and/or § 103 that are located during the course of discovery or further investigation. For example, Defendant expects to issue subpoenas to third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed in these Contentions and/or additional prior art. These third parties include, without limitation, the authors, inventors, or assignees of the references listed in these Contentions.

1. Prior Art Patents, Published Patent Applications, and Non-Patent Publications

Defendant discloses the following prior art patents, published patent application, and non-patent publications:

a. <u>'140 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
A-01	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345
A-02	US 5925983	US	Toda	04/03/1997	Toda
A-03	US 8596813	US	Ivey	07/11/2011	Ivey 813
A-04	US 9438165	US	Powell	10/08/2014	Powell
A-05	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
A-06	US 2014/0111089	US	Guleria	10/23/2012	Guleria
A-07	US 20150181661	US	Hsia	08/21/2014	Hsia 661
A-08	CN 202059618U / US 2012/0249014	CN US	Mei	03/29/2011	Mei
A-09	WO2012/066822A1	WO	Ono	05/24/2012	Ono 822
A-10	US 9496795	US	Morota	02/20/2013	Morota
A-11	US 8872437	US	Esaki	12/03/2012	Esaki
A-16	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
A-16	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
A-16	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
A-16	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
A-12	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
A-12	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
A-12	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
A-12	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
A-12	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
A-13	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
A-13	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
A-13	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
A-14	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
A-14	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
A-14	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
A-14	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
A-15	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	Tubes with LED technology				
A-15	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
A-15	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
A-15	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
A-15	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	CN 203691724U	CN	Lang	07/02/2014	Lang
	US 9942955 / CN 106465503A	US CN	Han	04/10/2015	
	EP 2477456	EP	Röer	07/18/2012	
	US 9426861	US	Toa	06/26/2013	
	US 8400076	US	Chan	10/07/2010	
	US 9277612	US	Imanaka	10/03/2014	
	US 2017/0184294	US	Tao	07/06/2015	
	CN 102625525A	CN	Kubota	08/01/2012	
	EP 2602544	EP	Yang	06/12/2013	
	US 2008/0122548	US	Jeong	11/17/2007	
	US 2009/0315530	US	Baranwal	06/18/2008	
	US 2012/0217894	US	Chang	02/09/2012	
	US 4153850	US	Boyer	05/08/1979	
	US 4513258	US	Jamiolkowski	04/23/1985	
	US 8624509	US	Hartikka	01/07/2014	
	US 8680788	US	Esaki	03/25/2014	
	US 8693700	US	Bakalos	04/08/2014	
	US 9277603	US	Hsia	03/01/2016	
	CMOS: Circuit Design, Layout, and Simulation, R. Jacob Baker (3rd ed. 2010)	N/A	Baker	2010	
	Linear Technology	N/A	N/A	2008	

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	LT1017/LT1018 Micropower Dual Comparator (2008)				
	Microchip AN895, Oscillator Circuits for RTD Temperature Sensors (2004)	N/A	N/A	2004	
	Texas Instruments LM555 Timer Datasheet (Jan. 2015)	N/A	N/A	01/2015	
	Texas Instruments Window Comparator Reference Design	N/A	N/A	2015	
	UL 101, Leakage Current for Appliances	N/A	N/A	1/24/2012	
	UL 1993, Self-Ballasted Lamps and Lamp Adapters	N/A	N/A	12/04/2012	
	UL 935, Fluorescent-Lamp Ballasts	N/A	N/A	08/07/2014	
	Product Index, Discrete Semiconductor Products, FETs – Arrays	N/A	Digi-Key	04/10/2014	Digi-Key
	FDG6303N Dual N-Channel, Digital FET	N/A	Fairchild Semiconductor	03/08/2014	
	Ring Oscillators: Characteristics and Applications	N/A	Mandal	2010	Mandal
	Voltage Smoothing with a Capacitor	N/A	Copello	2014	Copello
	High Power LED and DC/DC-Driver Applications	N/A	RECOM	01/06/2015	RECOM
	US 9320106	US	Naruo	10/01/2013	Naruo
	US 8669721	US	Watanabe	03/23/2011	Watanabe
	TTL NOR and OR gates, Chapter 3 - Logic Gates	N/A	All About Circuits	06/14/2015	AAC-Ch3

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	What are "Series" and "Parallel" Circuits?, Chapter 5 – Series And Parallel Circuits	N/A	All About Circuits	06/10/2015	AAC-Ch5
	Practical Considerations of ADC Circuits, Chapter 13 - Digital-Analog Conversion	N/A	All About Circuits	06/17/2015	AAC-Ch13
	Relaxation Oscillator Concept	N/A	Nave	05/01/2001	Nave

b. <u>'174 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
B-01	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345
B-02	US 5925983	US	Toda	04/03/1997	Toda
B-03	US 8596813	US	Ivey	07/11/2011	Ivey 813
B-04	US 9438165	US	Powell	10/08/2014	Powell
B-05	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
B-06	US 2014/0111089	US	Guleria	10/23/2012	Guleria
B-07	US 20150181661	US	Hsia	08/21/2014	Hsia 661
B-08	CN 202059618U / US 2012/0249014	CN US	Mei	03/29/2011	Mei
B-09	WO2012/066822A1	WO	Ono	05/24/2012	Ono 822
B-10	US 9496795	US	Morota	02/20/2013	Morota
B-11	US 8872437	US	Esaki	12/03/2012	Esaki
B-16	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
B-16	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
B-16	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
B-16	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
B-16	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
B-12	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
B-12	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
B-12	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
B-13	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
B-13	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
B-13	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
B-13	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
B-14	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
B-14	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
B-14	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
B-14	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
B-15	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
B-15	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
B-15	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
B-15	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
B-15	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	US 8872437	US	Esaki	12/03/2012	Esaki
	CN 203691724U	CN	Lang	07/02/2014	Lang
	US 9942955 / CN 106465503A	US CN	Han	04/10/2015	Han
	EP 2477456	EP	Röer	07/18/2012	Röer
	US 9426861	US	Toa	06/26/2013	
	US 2017/0184294	US	Tao	07/06/2015	
	CN 102625525A	CN	Kubota	08/01/2012	
	EP 2602544	EP	Yang	06/12/2013	
	US 2008/0122548	US	Jeong	11/17/2007	
	US 2009/0315530	US	Baranwal	06/18/2008	
	US 2012/0217894	US	Chang	02/09/2012	
	US 4153850	US	Boyer	05/08/1979	
	US 4513258	US	Jamiolkowski	04/23/1985	
	US 8624509	US	Hartikka	01/07/2014	
	US 8680788	US	Esaki	03/25/2014	
	US 8693700	US	Bakalos	04/08/2014	
	US 9277603	US	Hsia	03/01/2016	
	CMOS: Circuit Design, Layout, and Simulation, R. Jacob	N/A	Baker	2010	

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	Baker (3rd ed. 2010)				
	Linear Technology LT1017/LT1018 Micropower Dual Comparator (2008)	N/A	N/A	2008	
	Microchip AN895, Oscillator Circuits for RTD Temperature Sensors (2004)	N/A	N/A	2004	
	Texas Instruments LM555 Timer Datasheet (Jan. 2015)	N/A	N/A	01/2015	
	Texas Instruments Window Comparator Reference Design	N/A	N/A	2015	
	UL 101, Leakage Current for Appliances	N/A	N/A	1/24/2012	
	UL 1993, Self-Ballasted Lamps and Lamp Adapters	N/A	N/A	12/04/2012	
	UL 935, Fluorescent-Lamp Ballasts	N/A	N/A	08/07/2014	
	CN 203773018	CN	Shangqian	08/13/2014	
	US 8400076	US	Chan	10/07/2010	
	US 8610361	US	Hartikka	04/22/2011	
	Product Index, Discrete Semiconductor Products, FETs – Arrays	N/A	Digi-Key	04/10/2014	Digi-Key
	FDG6303N Dual N-Channel, Digital FET	N/A	Fairchild Semiconductor	03/08/2014	
	Ring Oscillators: Characteristics and Applications	N/A	Mandal	2010	Mandal
	Voltage Smoothing with a Capacitor	N/A	Copello	2014	Copello

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	High Power LED and DC/DC-Driver Applications	N/A	RECOM	01/06/2015	RECOM
	US 9320106	US	Naruo	10/01/2013	Naruo
	US 8669721	US	Watanabe	03/23/2011	Watanabe
	TTL NOR and OR gates, Chapter 3 - Logic Gates		All About Circuits	06/14/2015	AAC-Ch3
	What are "Series" and "Parallel" Circuits?, Chapter 5 – Series And Parallel Circuits		All About Circuits	06/10/2015	AAC-Ch5
	Practical Considerations of ADC Circuits, Chapter 13 - Digital-Analog Conversion		All About Circuits	06/17/2015	AAC-Ch13
	Relaxation Oscillator Concept		Nave	05/01/2001	Nave

c. <u>'662 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
C-01	US 10045406	US	Zhang	10/16/2013	Zhang 406
C-02	US 2016/0174307	US	Tao	07/04/2014	Tao
C-03	US 8330381	US	Langovsky	05/10/2010	Langovsky
C-04	US 8896207	US	Thomas	11/19/2010	Thomas
C-05	US 8779679	US	Miyamichi	10/25/2012	Miyamichi
C-06	CN 102932997	CN	Zengxi	03/13/2013	Zengxi
C-07	CN 103945592	CN	Zhenghong	07/23/2014	Zhenghong
C-08	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
C-08	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
C-08	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
C-08	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
C-09	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
C-09	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
C-09	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
C-09	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
C-09	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
C-10	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
C-10	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
C-10	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
C-11	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
C-11	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
C-11	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
C-11	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
C-12	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	Tubes with LED technology				
C-12	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
C-12	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014	EDN
C-12	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
C-12	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	US 9338853	US	Guang	09/17/2014	Guang
	US 5616990	US	Garbowicz	08/23/1995	
	US 8888976	US	Zhang	01/04/2010	
	US 8441824	US	Elberbaum	11/12/2010	
	US 7256505	US	Arms	06/31/2004	
	US 7557521	US	Lys	03/14/2005	
	US 9148922	US	Shteynberg	05/01/2014	
	US 4937719	US	Yamada	08/29/1989	
	US 2006/0289475	US	Tung	04/24/2006	
	US 8841897	US	Williams	06/19/2012	
	US 8792253	US	Wang	10/03/2011	
	US 8134297	US	Busse	08/30/2006	
	US 3731148	US	Fournis	03/15/1971	
	US 2016/0345394	US	Warren	05/20/2015	
	US 7966075	US	Johnson	11/03/2010	
	US 2012/0256551	US	Kim	11/03/2011	
	US 2012/0038289	US	Jee	04/01/2011	
	US 2015/0173138	US	Roberts	12/18/2013	
	US 2013/0076255	US	Kang	09/24/2012	

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	US 9237610	US	Neser	08/17/2012	
	US 2013/0234620	US	Wang	03/09/2012	
	US 2012/0206433	US	Suzuki	02/13/2012	
	US 2014/0009076	US	Tsuda	03/19/2012	
	CN 202979375	CN	Zengxi	06/05/2013	
	DE 102012215786	DE	Reiser	03/06/2014	
	DE 202013000880	DE		02/14/2013	
	US 9398650	US	Choi	04/07/2014	
	US 2014/0084701	US	Bae	09/26/2013	
	US 2012/0300501	US	Kojima	05/25/2012	
	US 2012/0147564	US	Russell	09/20/2011	
	US 9066403	US	Neser	09/21/2012	

d. <u>'742 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
D-01	US 9055648	US	Kondo	12/13/2010	Kondo
D-02	US 2017/0269146	US	Regau	07/16/2015	Regau
D-03	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345
D-04	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
D-05	US 2018/0103524	US	Hsia	12/08/2017	Hsia 524
D-06	US 2018/0241195	US	Zhang	02/17/2017	Zhang 195
D-07	WO 2019/033237	WO	Li	08/14/2017	Li 237
D-08	US 2019/0170336	US	Sun	12/01/2017	Sun
D-09	US 2014/0031895	US	Rahimi	07/26/2013	Rahimi
D-10	US 9616229	US	Bennett	07/21/2014	Bennett
D-11	UL 1993, Self-Ballasted Lamps and Lamp Adapters	N/A	N/A	12/04/2012	UL 1993
D-12	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
D-12	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
D-12	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
D-12	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
D-13	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
D-13	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
D-13	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
D-13	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
D-13	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
D-14	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
D-14	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
D-14	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
D-15	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
D-15	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
D-15	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
D-15	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
D-16	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR
D-16	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
D-16	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014	EDN
D-16	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
D-16	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	UL 101, Leakage Current for Appliances	N/A	N/A	1/24/2012	
	UL 935, Fluorescent-Lamp Ballasts	N/A	N/A	08/07/2014	
	KR 20150117621	KR	Nawonsan	10/20/2015	
	EP 2362717	EP	Hamamote	08/31/2011	
	CN 202059618U / US 2012/0249014	CN US	Mei	03/29/2011	

e. <u>'520 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
E-01	US 9338853	US	Guang	09/17/2014	Guang
E-02	CN 103899939	US	Li	07/24/2014	Li 939
E-03	CN 203375312	CN	Yang	01/01/2014	Yang
E-04	CN 103672530	CN	Yitian	03/26/2014	Yitian
E-05	JP 2014154479	JP	Shimizu	02/13/2013	Shimizu
E-06	CN 203797412	CN	Deng	08/27/2014	Deng

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
E-07	WO 2013/152485	WO	Foo	10/17/2013	Foo
E-08	CN 203036295	CN	Jing	07/03/2013	Jing
E-09	US 9726330	US	Wilcox	03/25/2014	Wilcox
E-10	US 2008/0290814	US	Leong	02/07/2006	Leong
E-11	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
E-11	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
E-11	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
E-11	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
E-12	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
E-12	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
E-12	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
E-12	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
E-12	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
E-13	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
E-13	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
E-13	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
E-14	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
E-14	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
E-14	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
E-14	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
E-15	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR
E-15	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
E-15	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
E-15	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
E-15	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	

f. <u>'125 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
F-01	US 9271354	US	Takahashi	08/13/2014	Takahashi
F-02	US 8833965	US	Shimasaki	09/11/2012	Shimasaki
F-03	US 9338853	US	Guang	09/17/2014	Guang
F-04	US 2014/0218908	US	Kawashima	07/29/2011	Kawashima
F-05	CN 203375312	CN	Yang	01/01/2014	Yang
F-06	CN 103672530	CN	Yitian	03/26/2014	Yitian
F-07	KR 20130030712	KR	Lee	03/27/2013	Lee 712

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
F-08	US 9206970	US	Halliwell	02/13/2013	Halliwell
F-09	US 20130155669	US	Lee	08/29/2012	Lee 669
F-10	US 9277603	US	Hsia	08/21/2014	Hsia 603
F-11	CN 203500909U	CN	Wang	03/26/2014	Wang
F-12	CN 203585866U	CN	Akihito	05/07/2014	Akihito
F-13	US 8360599	US	Ivey	01/29/2013	Ivey 599
F-14	US 9970640	US	Zhao	01/29/2013	Zhao
F-15	US 6365841	US	Takigami	07/17/1998	Takigami
F-16	CN203036295U	CN	Jing	07/03/2013	Jing
F-17	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
F-17	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
F-17	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
F-17	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
F-18	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
F-18	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
F-18	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
F-18	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
F-18	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
F-19	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
F-19	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
F-19	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
F-20	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
F-20	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
F-20	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
F-20	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
F-21	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR
F-21	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
F-21	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
F-21	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
F-21	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	US 9942955	US	Na	4/10/2018	Na

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	CN 101482255	CN	Junwei	03/16/2011	
	CN 102155641	CN	Changgui	08/17/2011	
	CN 201344497	CN	Junwei	11/11/2009	
	CN 201345763	CN	Junwei	11/11/2009	
	US 8729809	US	Kit	12/22/2009	
	US 9526133	US	Tao	02/22/2013	
	US 9726330	US	Wilcox	03/25/2014	
	US 20140265900	US	Sadwick	03/18/2014	
	US 7114830	US	Robertson	02/28/2005	
	US 9146017	US	Van Der Wel	04/23/2010	
	US 6846094	US	Luk	08/26/2002	
	US 9328874	US	Demuynck	06/30/2014	
	US 7948001	US	Kamada	09/20/2006	
	US 8558255	US	Bisberg	12/18/2012	
	US 6331891	US	Nakamura	04/05/1999	
	US 8591057	US	Kawabata	11/19/2009	
	US 8461602	US	Lerman	01/31/2011	
	KR 20110041957	KR	Ki-Yong	04/22/2011	
	EP 2565951	EP	Urano	03/06/2013	Urano
	US 2015/0022114	US	Kim	07/17/2013	Kim
	US 9151475	US	Huang	12/27/2012	Huang

g. <u>'991 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
G-01	US 8833965	US	Shimasaki	09/11/2012	Shimasaki
G-02	CN 203375312	CN	Yang	01/01/2014	Yang
G-03	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
G-04	US 5925983	US	Toda	04/03/1997	Toda
G-05	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
G-06	US 2014/0111089	US	Guleria	10/23/2012	Guleria
G-07	US 20150181661	US	Hsia	08/21/2014	Hsia 661
G-08	WO2012/066822A1	WO	Ono	05/24/2012	Ono 822
G-09	US 9271354	US	Takahashi	08/13/2014	Takahashi
G-10	US 9338853	US	Guang	09/17/2014	Guang
G-11	US 2014/0218908	US	Kawashima	07/29/2011	Kawashima
G-12	CN 203500909U	CN	Wang	03/26/2014	Wang
G-13	US 2016/0174307	US	Tao	07/04/2014	Tao
G-14	US 9970640	US	Zhao	01/29/2013	Zhao
G-15	US 8872437	US	Esaki	12/03/2012	Esaki
G-16	US 2008/0290814	US	Leong	02/07/2006	Leong
G-17	CN 101715265	CN	Mingjie	05/26/2010	Mingjie
G-18	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
G-18	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
G-18	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
G-18	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
G-19	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
G-19	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
G-19	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
G-19	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM

Super Lighting Exhibit 2010

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
G-19	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
G-20	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
G-20	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
G-20	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
G-21	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
G-21	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
G-21	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
G-21	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
G-22	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR
G-22	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
G-22	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
G-22	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
G-22	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	CN 203797412	CN	Deng	08/27/2014	

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h. **'989 Patent**

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
H-01	CN 103857138	CN	Yijun	06/11/2014	Yijun
H-02	US 9338853	US	Guang	09/17/2014	Guang
H-03	US 8698420	US	Maruyama	03/02/2010	Maruyama
H-04	JP 2014103000	JP	Ono	06/05/2014	Ono 000
H-05	CN 103899939	CN	Li	07/02/2014	Li 939
H-06	US 9288867	US	Hsia	06/15/2012	Hsia 867
H-07	CN 203859899U	CN	Xiuhong	10/01/2014	Xiuhong
H-08	US 9095023	US	Deppe	10/11/2011	Deppe
H-09	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345
H-10	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
H-11	US 8773031	US	Sadwick	11/18/2011	Sadwick 031
H-12	CN 280292Y	CN	Xu	08/01/2006	Xu
H-13	US 10104723	US	Zhang	10/16/2013	Zhang 723
H-14	CN 202059618U / US 2012/0249014	CN US	Mei	11/30/2011	Mei
H-15	US 9970640	US	Zhao	01/29/2013	Zhao
H-16	WO 2013/114485A1	WO	Kazushige	08/08/2013	Kazushige
H-17	CN 203500909U	CN	Wang	3/26/2014	Wang
H-18	US 9206970	US	Halliwell	02/13/2013	Halliwell
H-19	CN 203036295	CN	Jing	07/03/2013	Jing
H-20	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
H-20	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
H-20	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
H-20	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
H-21	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
H-21	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
H-21	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
H-21	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
H-21	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
H-22	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
H-22	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
H-22	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
H-23	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
H-23	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
H-23	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
H-23	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
H-24	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	Tubes with LED technology				
H-24	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
H-24	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
H-24	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
H-24	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	US 9288867	US	Hsia	3/15/2016	
	US 5616990	US	Garbowicz	08/23/1995	

i. <u>'397 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
I-01	CN 203036295	CN	Jing	07/03/2013	Jing
I-02	US 9151475	US	Huang	12/27/2012	Huang
I-03	WO 2013/152485	WO	Foo	10/17/2013	Foo
I-04	CN 203797412	CN	Deng	08/27/2014	Deng
I-05	US 9970640	US	Zhao	01/29/2013	Zhao
I-06	US 9338853	US	Guang	09/17/2014	Guang
I-07	US 9206970	US	Halliwell	02/13/2013	Halliwell
I-08	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
I-08	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
I-08	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
I-08	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
I-09	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
I-09	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
I-09	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
I-09	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
I-09	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
I-10	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
I-10	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
I-10	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
I-11	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
I-11	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
I-11	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
I-11	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
I-12	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	Tubes with LED technology				
I-12	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
I-12	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
I-12	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
I-12	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	JP 2013114923	JP	Takashi	06/10/2013	
	US 2012/0155072	US	Chang	05/27/2011	
	US 2015/0022114	US	Kim	07/17/2014	
	US 9788421	US	Choi	12/14/2012	
	US 9726330	US	Wilcox	03/25/2014	
	US 9146017	US	Van Der Wel	04/23/2010	
	US 6846094	US	Luk	08/26/2002	
	US 9328874	US	Demuynck	06/30/2014	
	US 8558255	US	Bisberg	12/18/2012	
	US 6331891	US	Nakamura	04/05/1999	
	LED Packaging for Lighting Applications – Design, Manufacturing and Testing,	NA	Liu	2011	
	US 8833965	US	Shimasaki	09/11/2012	Shimasaki
	Light-Emitting Diodes, Second edition,	NA	Schubert	2006	

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j. **<u>'801 Patent</u>**

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
J-01	CN 103857138	CN	Yijun	06/11/2014	Yijun
J-02	US 9338853	US	Guang	09/17/2014	Guang
J-03	US 8698420	US	Maruyama	03/02/2010	Maruyama
J-04	JP 2014103000	JP	Ono	06/05/2014	Ono 000
J-05	CN 103899939	CN	Li	07/02/2014	Li 939
J-06	US 9288867	US	Hsia	06/15/2012	Hsia 867
J-07	CN 203859899U	CN	Xiuhong	10/01/2014	Xiuhong
J-08	US 9095023	US	Deppe	10/11/2011	Deppe
J-09	US 2014/0015345	US	Ivey	07/10/2013	Ivey 345
J-10	US 2017/0311396 WO 2015/066566	US WO	Sadwick	05/20/2014	Sadwick 396
J-11	US 8773031	US	Sadwick	11/18/2011	Sadwick 031
J-12	CN 280292Y	CN	Xu	08/01/2006	Xu
J-13	US 10104723	US	Zhang	10/16/2013	Zhang 723
J-14	CN 202059618U / US 2012/0249014	CN US	Mei	11/30/2011	Mei
J-15	US 9970640	US	Zhao	01/29/2013	Zhao
J-16	WO 2013/114485A1	WO	Kazushige	08/08/2013	Kazushige
J-17	CN 203500909U	CN	Wang	3/26/2014	Wang
J-18	US 9206970	US	Halliwell	02/13/2013	Halliwell
J-19	US 9271354	US	Takahashi	08/13/2014	Takahashi
J-20	US 8833965	US	Shimasaki	09/11/2012	Shimasaki
J-21	CN 203036295	CN	Jing	07/03/2013	Jing
J-22	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
J-22	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia
J-22	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
J-22	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
J-23	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
J-23	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
J-23	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
J-23	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
J-23	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
J-24	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
J-24	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
J-24	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
J-25	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
J-25	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
J-25	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
J-25	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
J-26	New InstantFit LED T8 from Philips Slashes Cost and time to replace Fluorescent Tubes with LED technology	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
J-26	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
J-26	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014	EDN
J-26	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
J-26	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	CN 203731127	CN	Jianguo	07/23/2014	

k. <u>'068 Patent</u>

App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
K-01	US 9271354	US	Takahashi	08/13/2014	Takahashi
K-02	US 9338853	US	Guang	09/17/2014	Guang
K-03	US 8833965	US	Shimasaki	09/11/2012	Shimasaki
K-04	US 2014/0218908	US	Kawashima	08/07/2014	Kawashima
K-05	CN 203375312	CN	Yang	01/01/2014	Yang
K-06	CN 103672530	CN	Yitian	03/26/2014	Yitian
K-07	KR 20130030712	KR	Lee	03/27/2013	Lee 712
K-08	US 9206970	US	Halliwell	02/13/2013	Halliwell
K-09	US 9970640	US	Zhao	01/29/2013	Zhao
K-10	US 6365841	US	Takigami	07/17/1998	Takigami
K-11	CN203036295U	CN	Jing	07/03/2013	Jing
K-12	US 9726330	US	Wilcox	03/25/2014	
K-13	CN 203500909U	CN	Wang	3/26/2014	Wang
K-17	Toledo+ Tube Leaflet	NA	Havells Sylvania	2013	Toledo+
K-17	Toledo Superia T8 Tube	NA	Havells Sylvania	04/2015	Superia

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
K-17	Toledo+ T8 Tube Leaflet	NA	Havells Sylvania	04/2015	Toledo+ T8
K-17	Toledo T8 Range Selling Sheet	NA	Feilo Sylvania	10/2016	Range
K-14	Keystone Direct Drive Dimmable T8 LED Lamp Datasheet	NA	Keystone Techs.	6/2017	Dimmable
K-14	Keystone Direct Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	3/2017	T8 DS
K-14	Keystone Direct Drive T8 LED Lamp Wiring Diagrams	NA	Keystone Techs.	12/2017	Wiring
K-14	Keystone Direct Drive T8 LED Lamp FDIM Datasheet	NA	Keystone Techs.	08/2015	FDIM
K-14	Keystone Smart Drive T8 LED Lamp Datasheet	NA	Keystone Techs.	04/2017	Smart
K-15	MaxLite LED T8 DirectFit Datasheet	NA	MaxLite Techs.	1/2018	DirectFit
K-15	MaxLite LED T8 Linear Replacement Lamp Coated Glass Datasheet	NA	MaxLite Techs.	3/2017	Coated
K-15	MaxLite LED T8 Linear Replacement Lamp Datasheet	NA	MaxLite Techs.	3/2017	Linear
K-16	Cree LED Technical Specs	NA	Cree Lighting	05/05/2014	
K-16	Cree T8 Series Brochure	NA	Cree Lighting	9/2015	Brochure
K-15	Cree LEDT8 Installation Instructions	NA	Cree Lighting		Installation
K-15	Cree T8 Series Specifications	NA	Cree Lighting	11/2015	Specifications
K-18	New InstantFit LED T8 from Philips Slashes Cost and time	NA	Philips Lighting	01/08/2014	InstantFit PR

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	to replace Fluorescent Tubes with LED technology				
K-18	Philips InstantFit LED T8 Lamps	NA	LEDinside	02/21/2014	LEDinside
K-18	The New Philips InstantFit LED T8 is Now Available at Bulbs.com.	NA	EDN	02/27/2014)	EDN
K-18	Philips InstantFit TLED General Infographic	NA	Philips Lighting	01/2014	Infographic
K-18	Philips InstantFit TLED Customer Infographic	NA	Philips Lighting	01/2014	
	US 9526133	US	Tao	02/22/2013	Tao 133
	US 20130155669	US	Lee	08/29/2012	Lee 669
	US 9277603	US	Hsia	08/21/2014	Hsia 603
	CN 203585866U	CN	Akihito	05/07/2014	Akihito
	US 8360599	US	Ivey	01/29/2013	Ivey 599
	CN 102155641	CN	Changgui	08/17/2011	
	KR 2011004195	KR	Park	04/22/2011	
	US 8729809	US	Kit	12/22/2009	
	US 9942955	US	Na	4/10/2018	
	CN 101482255	CN	Junwei	03/16/2011	
	CN 201344497	CN	Junwei	11/11/2009	
	CN 201345763	CN	Junwei	11/11/2009	
	US 20140265900	US	Sadwick	03/18/2014	
	US 7114830	US	Robertson	02/28/2005	
	US 9146017	US	Van Der Wel	04/23/2010	
	US 6846094	US	Luk	08/26/2002	
	US 9328874	US	Demuynck	06/30/2014	
	US 7948001	US	Kamada	09/20/2006	
	US 8558255	US	Bisberg	12/18/2012	
	US 6331891	US	Nakamura	04/05/1999	

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App.	Patent or Publication	Country of Origin	Inventor/ Author	Relevant Date	Short Title
	US 8591057	US	Kawabata	11/19/2009	
	US 8461602	US	Lerman	01/31/2011	
	KR20110041957	KR	Ki-Yong	04/22/2011	

2. Prior Art Devices

In addition to the printed publications identified above, Defendant discloses the following prior art devices. The descriptions of the systems and events relating to the devices are stated on information and belief, and are supported by documents that will be produced by Defendant and/or third parties. As discovery is ongoing, Defendant continues to investigate these devices.

Defendant reserves the right to rely upon any device, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed below, alone or in combination. Defendant further reserves the right to rely upon any other documents or references describing any such device, knowledge, or use. By way of example, and without limitation, Defendant reserves the right to rely upon any system implementing the standards, requirements documents, or specifications disclosed herein or in Super Lighting's Infringement Contentions and reserves the right to rely upon the standards, specifications, and other documents describing the devices to establish the operation of the devices. By way of example and not limitation, the LED tubes listed below are each prior art to the Asserted Patents under 35 U.S.C. § 102(a)(1) because each was in public use, on sale, or otherwise available to the public before the effective filing date of the alleged invention in each Asserted Claim. For each of the above reasons, each of these prior art LED tubes are also prior art under 35 U.S.C. § 103.

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Device	Date of Sale/Use[1]
Sylvania/LEDVANCE/OSRAM LED Tubes	No later than 2013
Cree. Inc. LED Tubes	No later than 2014
Keystone LED Tubes	No later than 2014
MaxLite LED Tubes	No later than 2014
Philips Lighting LED Tubes	No later than 2014
Sunpark LED Tubes	No later than 2015
Energy Focus Inc. LED Tubes	No later than 2014
Halco Lighting Techs. LED Tubes	No later than 2014
EIKO Global, LLC LED Tubes	No later than 2014
Fusion Lamps LED Tubes	No later than 2014
Ushio America, Inc. LED Tubes	No later than 2014
naturaLED LED Tubes	No later than 2015
James Industry Group (China) Co. Ltd. LED Tubes	No later than 2015
Leif LED Tubes	No later than 2015
Truly Green Solutions LED Tubes	No later than 2015
Turolight LED Tubes	No later than 2015
Shenzhen Victory Lighting Co., Ltd. LED Tubes	No later than 2015
3M Company LED Tubes	No later than 2015
Alset LED NuWave LED Tubes	No later than 2015
Archipelago Lighting LED Tubes	No later than 2015

Defendant's contentions regarding certain of these prior art LED tubes are included in the attached Appendices. Upon information and belief, and subject to Defendant's present understanding of the Asserted Claims, its current construction of the claims, and/or Super Lighting's apparent construction of the claims in its Infringement Contentions, each of the LED tubes identified above, alone or in combination, satisfies each and every element of the Asserted

[1] These dates are provided upon information and belief. Defendant reserves the right to seek further information regarding these systems during discovery.

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Claims. Defendant reserves the right to seek further information regarding each of the above prior art LED tubes during discovery and supplement these Contentions accordingly. Defendant expects to prove its contentions regarding each of the above prior art LED tubes with additional evidence, such as testimony of percipient witnesses and other contemporaneous documents regarding the development and commercialization of each of the above prior art LED tubes.

B. Obviousness Combinations and Motivations

Based on presently known information and the apparent constructions Super Lighting is asserting in its Infringement Contentions, the prior art references identified above anticipate the Asserted Claims or, alone or in combination with the knowledge in the art, render the Asserted Claims obvious. To the extent Super Lighting asserts that any of the prior art references charted in Appendices A-K fail to explicitly or inherently disclose any element of the Asserted Claims, Defendant contends that it would have been obvious to modify such reference to include the allegedly missing element, in view of the knowledge of a POSITA, the admitted prior art of the Asserted Patents, and/or in combination with any of the other prior art references identified in the Appendices for that respective Asserted Patent. For each element of the Asserted Claims, the following Appendices identify the prior art that discloses that element:

Appendix	Asserted Patent
A-Combination	’140 Patent
B- Combination	’174 Patent
C- Combination	’662 Patent
D- Combination	’742 Patent
E- Combination	’520 Patent
F- Combination	’125 Patent
G- Combination	’991 Patent
H- Combination	’989 Patent
I- Combination	’397 Patent

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Appendix	Asserted Patent
J- Combination	’801 Patent
K- Combination	’068 Patent

In addition to the prior art listed herein, additional prior art references may be referenced to show the state and evolution of technology at the time of the alleged invention and may be relevant to the validity of the Asserted Claims depending on the claim construction, infringement, and other positions taken by Super Lighting.

C. Charts Identifying Where in Each Item of Prior Art Each Element of the Asserted Claim Is Found

Appendices A-K of these Contentions include charts that specifically identify where each element of each Asserted Claim is found in the prior art.

To the extent limitations of any of the Asserted Claims are construed to have a similar meaning, or to encompass similar feature(s) and function(s), as apparently contended by Super Lighting in its Infringement Contentions, or later determined by the Court, Defendant incorporates by reference their contentions with respect to one such limitation into all other similarly construed claim limitations.

III. INVALIDITY UNDER 35 U.S.C. § 112

Defendant contends that certain claims of the Asserted Patents are invalid under 35 U.S.C. § 112 because: (1) the claims are indefinite; (2) the claims are not enabled; and/or (3) the claims lack adequate written description. Defendant’s contentions that certain of the Asserted Claims are invalid under 35 U.S.C. § 112 are made in the alternative, and do not constitute, and should not be interpreted as, admissions regarding the construction or scope of the Asserted Claims, or an admission that any of the Asserted Claims are not anticipated or rendered obvious by any prior art.

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These contentions are based on Defendant's current understanding of Super Lighting's Infringement Contentions. To the extent Super Lighting contends that the prior art references identified above would not enable a person of ordinary skill to make or use the elements of the Asserted Claims against which they are cited, and to the extent Super Lighting contends that the Asserted Claims cover something different from what Defendant understand them to cover, the Asserted Claims may not comply with the enablement, written description, and/or definiteness requirements of 35 U.S.C. § 112(a) and (b). Because compliance with the requirements of 35 U.S.C. § 112(a) and (b) depends on the construction of those phrases—and no claim construction order issued and no expert discovery undertaken—Defendant's positions on written description, enablement, and/or indefiniteness re necessarily preliminary at this early stage of the case. Defendant reserves all rights to amend or further revise these contentions based on further developments in the case in accordance with the Court's Rules or as otherwise authorized by the Court.

The written description and enablement requirements are analyzed by comparing the claims with the disclosure in the specification. If the claimed invention does not appear in the specification, the claim fails regardless of whether a POSITA could make or use the claimed invention. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1348 (Fed. Cir. 2010). To satisfy the written description requirement, the patentee must convey to those skilled in the art that, as of the filing date, the applicant was in possession of the invention, and demonstrate that possession by disclosing the invention in the specification. *Id.* at 1352. To satisfy the enablement requirement, a patentee must "describe the manner and process of making and using the invention so as to enable a POSITA to make and use the full scope of the invention without undue experimentation." *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1344-45 (Fed.

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Cir. 2005). A patent must also be precise enough to afford clear notice to what is claimed. *Nautilus, Inc. v. Biosig Instruments, Inc*., 572 U.S. 898, 899 (2014). A patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. *Id*. at 898-99. The standard for assessing if a patent claim is sufficiently definite to satisfy the statutory requirement is whether "one skilled in the art would understand the bounds of the claim when read in light of the specification." *Novo Indus., L.P. v. Micro Molds Corp*., 350 F.3d 1348, 1358 (Fed. Cir. 2003).

A claim term can be indefinite based on multiple grounds ranging from the substantive concerns to unresolvable drafting errors, each of which can be fatal to the validity of the claims as a matter of law. In *Nautilus, Inc. v. Biosig Instruments, Inc*., the Supreme Court clarified that a patent is invalid "for indefiniteness if its claims read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." 572 U.S. at 898-99. "It cannot be sufficient that a court can ascribe *some* meaning to a patent's claim; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*." *Id*. at 911 (emphasis in original).

The Asserted Claims fail to satisfy the enablement, written description, and/or definiteness requirements as set forth by 35 U.S.C. § 112. For example, the Asserted Claims fail to satisfy the definiteness requirements set forth by 35 U.S.C. § 112 for at least the following reasons:

- use of terms that lack an ordinary meaning in the art and are undefined in the specification;

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- use of terms that are used in the specification in a manner which is internally inconsistent, as well as inconsistent with their ordinary meaning, but are not specifically defined in the specification;
- use of such excessive disclaimers of specificity of a term that the term becomes meaningless;
- inconsistent uses of a term within a single specification and/or within the specifications of related patents;
- inconsistent uses of a term between a specification and something allegedly incorporated into that specification;
- inconsistencies within the language of a given claim;
- inconsistent use of terms that may be synonyms for one another.

The indefiniteness of the Asserted Claims is exacerbated by Super Lighting' s attempt to apply the Asserted Claims to very different structures and techniques than those described in the Asserted Patents.

The Asserted Patents also fail to provide an adequate written description as required under 35 U.S.C. § 112. For example, the Asserted Claims are invalid under 35 U.S.C. § 112 to the extent they are construed to contradict and/or fail to require the essential, non-optional attributes of the alleged "inventions" identified in the specifications of the Asserted Patents (and any specification allegedly incorporated by reference) and the applications from which the Asserted Patents issued. The Asserted Claims also fail to comply with the written description requirement to the extent the scope of any Asserted Claim exceeds the scope of the alleged "invention" as set forth in the specifications of the Asserted Patents (and any specification allegedly incorporated by reference).

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Additionally, the Asserted Claims fail the enablement, written description, and/or definiteness requirements for at least the following claim terms and phrases:

Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’140 Patent, Claims 1, 4, 21, 24;	“configured to detect during at least one of the one or more pulse signals” “detecting during the one or more pulse signals” “to detect during the one or more pulse signals”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 3, 4, 21, 22, 24	“whether the [other end of the] LED tube [lamp] is properly installed on [a/the] lamp socket”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 4	“a signal generated from the external driving signal”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 4, 21	“remain in a conducting state” / “maintain a conducting state”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 4, 21, 24	“remain in [an/the] off state”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 4, 21, 24	“power loop”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’140 Patent, Claims 1, 4, 21, 24	“a sampling signal on the power loop”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claims 1, 4, 21	“power loop includes the switch circuit and the [detection determining circuit/means for detecting]”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claim 24	“the switch circuit is on the power loop”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claim 21	“coupled between the rectifying circuit and the filtering circuit”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claim 24	“preventing a user from electric shock”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’140 Patent, Claim 5	“control the time of the one or more pulse signals”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’174 Patent, Claims 1, 5, 10, 12, 18, 23, 26, 28, 32	“power loop”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’174 Patent, Claims 5, 18, 26, 28, 32	“a sampling signal on the power loop”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’174 Patent, Claim 18	“preventing a user from electric shock”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention. The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’125 Patent, Claims 1, 2	“protective layer”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’125 Patent, Claim 1	“the protective layer having a plurality of first openings to accommodate the plurality of LED light sources and at least two second openings to accommodate the at least two soldering pads”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’125 Patent, Claim 2	“the protective layer further comprises a third opening adjacent to the two second openings”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’125 Patent, Claim 10	“diffusion film coated on a surface of the lamp tube”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’068 Patent, Claims 31, 32	“protective layer”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’068 Patent, Claim 31	“the protective layer comprising at least two first opening to expose the two first soldering pads”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’068 Patent, Claim 32	“the protective layer further comprises a plurality of second openings thereon for disposing the plurality of LED light sources”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’397 Patent, claims 1, 8, 14	“length longer than a length”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 5, 11, 17	“insulating end wall”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 14, 5	“reflective layer”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’397 Patent, claims 14, 15	“rough layer”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 5, 11, 17	“arranged on”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’397 Patent, claims 1-4, 8, 9	“rough surface”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1, 4, 8, 14	“roughness”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1, 8, 14	“higher than that of the outer surface of the glass lamp tube”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1, 5-12, 14-18	“end caps”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1, 8, 14	“disposed on”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1, 6-8, 12-14, 18, 19	“main body region”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 5, 11, 17	“substantially perpendicular	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 6, 12, 18	“substantially the same as”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 1-3, 8-10, 14-16	“inner surface”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’397 Patent, claims 1, 8, 10, 14, 16	“outer surface”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’397 Patent, claims 6, 7, 12, 13, 18, 19	“outer diameter”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, (claims 9, 10, 16, 23, 24, 30, 36, 37)	“adjacently stacked”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 6, 7, 9, 10, 16, 21, 23, 24, 30, 36, 37	“connecting region”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’991 Patent, claims 1, 16, 30	“mounting region”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’991 Patent, claims 1, 5, 9, 10, 16, 20, 23, 24, 30, 34, 36, 37	“fixing structure”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 10, 24, 37	“radial direction”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’991 Patent, claims 1, 16, 30	“external signal”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 14, 28, 41	“installation detection circuit”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims.
’991 Patent, (claim 6)	“disposed on each other”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 16, 30	“disposed inside”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 7, 16, 21, 30	“arranged on”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 16, 30	“extending along”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 16, 30	“fixedly connected”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent,(claims 1, 5, 16, 20, 30, 34)	“inner circumferential surface” / “inner surface”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’991 Patent, claims 1, 16, 30	“end caps”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 3, 4, 18, 19, 32, 33	“disposed on”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’991 Patent, claims 1, 11, 14, 15, 16, 25, 28, 29, 30, 38, 41, 42	“module”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’520 Patent, claims 1, 10, 20	“freely extending end portion”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’520 Patent, claim 11	“substantially from 0.1 to 40 µm”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’520 Patent, claims 2, 29 29	“at least two openings on the end wall symmetric to each other with respect to a plane passing through the middle of a line connecting the two pins and perpendicular to the line connecting the two pins”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
‘989 Patent, claims 1, 6, 30	“positioned closest”“	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
‘989 Patent, claims 1	“a resistor which is positioned closest to the end wall of the first end cap”	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
'989 Patent, claim 6	"the resistor is positioned closest to the opening"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'989 Patent, claims 1, 30	"substantially parallel"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'989 Patent, claims 1, 30	"the end wall substantially being perpendicular to an axial direction of the lateral wall and connecting to an end of the lateral wall away from the tube"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'989 Patent, claim 12	"causes a delay"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'801 Patent, claim 13	"substantially being coaxial"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'801 Patent, claim 13	"substantially being perpendicular"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'801 Patent, claim 13	"substantially parallel"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
'801 Patent, claim 13	"a resistor which is positioned closest to the end wall of the first end cap"	The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’662 Patent, claim 5	“the first rectifier comprises two diodes electrically connected in series, and the first rectifier is electrically connected to the first filament-simulating circuit in series.”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’662 Patent, claim 32	“the current limiting circuit comprises at least a capacitor connected to the first filament-simulating circuit, and at least a capacitor connected to the second filament-simulating circuit.”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’742 Patent, claims 1, 15:	“limits the operating current of the LED tube lamp to not exceed 5 MIU in root-mean-square (RMS)”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’742 Patent, claims 1, 15:	“wherein a duration of each transient variation does not exceed 1 millisecond”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’742 Patent, claims 3, 24	“wherein the time interval between the first detection period and the second detection period is in a range of 0.5 seconds to 2 seconds”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

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Asserted Claim(s)	Claim Term/Phrase	Invalidity Under 35 U.S.C. § 112
’742 Patent, claims 4, 5, 19, 20	“during a [the] falling time of the external driving signal”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’742 Patent, claim 13	“the ballast detection circuit bypasses at least one component of the impedance detection controller to block the impedance detection”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.
’742 Patent, Claim 14	“power loop”	The claims are invalid under 35 U.S.C. § 112(a) because the specification fails to describe or enable the full breadth of the claims. The claims are invalid under 35 U.S.C. § 112(b) because the claim limitation fails to inform, with reasonable certainty, those skilled in the art about the scope of the invention.

These examples are merely exemplary and are not intended to be limiting. Defendant reserves all rights to amend its Contentions under 35 U.S.C. § 112, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in Super Lighting’s infringement positions, and/or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112. Defendant additionally reserves the right to provide additional explanation and/or argument for their Contentions under § 112, including, for example, based on expert testimony.

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IV. PRODUCTIONS

A. Prior Art Production

Defendant is producing a single set of all prior art references identified in these Contentions. Defendant is also producing prior art references concerning prior art systems and methods. Any prior art references not in English are produced with an English translation of the portion(s) relied upon. These prior art references are cited herein and support the contentions presented. Defendant's search for prior art references, additional documentation, and/or corroborating evidence concerning prior art apparatuses and methods is ongoing. Accordingly, Defendant reserves the right to supplement its production, as provided by the local rules, as additional prior art references, additional documentation, and/or corroborating evidence concerning prior art documents/apparatuses, and methods are obtained during the course of discovery.

B. Technical Document Production

Defendant is separately producing representative technical documentation that shows the operation of aspects or elements of any accused product identified by Super Lighting in its Infringement Contentions. Additional technical documents will be forthcoming. Defendant reserves the right to supplement these disclosures with additional documentation.

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December 22, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on December 22, 2022 the foregoing document, as well as all associated Appendices, were served via e-mail upon all counsel of record in this case.

/s/ Catherine Garza

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