



### **JURISDICTION AND VENUE**

3. This action arises under the patent laws of the United States, Title 35, United States Code. This court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1338(a) and 1331.

4. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400 (b), because Plaintiff Cathode Lighting Systems, Inc. has its principal place of business and developed the invention at issue here, and because Defendant is a corporation deemed to “reside” here because it advertises and sells its infringing products in this district, and is subject to personal jurisdiction here.

5. Defendant is subject to personal jurisdiction in the District of Maryland. Osram advertises and sells its products throughout the State of Maryland. It has numerous contractual and business relationships with lighting businesses and retail stores throughout Maryland, and has a registered corporate agent here.

### **FACTUAL ALLEGATIONS**

6. Shortly after graduating from college, Steven H. Grossman started a business in his parents’ garage, which would eventually become Cathode Lighting Systems, Inc. Grossman began the business manufacturing neon signs, but soon shifted his focus to providing specification-grade linear lighting systems for commercial and residential applications.

7. As the lighting side of the business evolved, Grossman found that when it came to providing seamless linear lighting effects, the different types of available lamps and fixtures each have drawbacks.

a. Tubular fluorescent lamps are sealed glass tubes, filled with gasses and coated internally with a phosphorescent material. Internal electrodes at the ends of the lamps

conduct electricity, which flows through the tubes, exciting the gasses and phosphorescent coatings, creating light. Fluorescent lamps require special power supplies, which convert household or commercial electricity into a different configuration required to light the lamps properly. Tubular fluorescent lamps have a typical maximum length of eight feet due to the physical and mechanical limitations of the glass tubing, and the difficulties in transporting, storing, or installing lengths longer than eight feet. To create longer lengths of linear lighting, designers must arrange multiple lamps end-to-end to provide lighting over the length of a wall, or the perimeter of a room or space. Lamps also require components or fixtures to connect them electrically and support their weight, allowing lamps to be attached to walls or ceilings, and to other lamps or fixtures. Because they are standardized and mass-produced, tubular fluorescent lamps are less expensive. The fixtures housing fluorescent lamps are also standardized, constructed as modular metal channels that contained the lamps' special power supplies, wiring, and lampholders. These self-contained packages allow for easy installation. However, because the ends of standard tubular fluorescent lamps have a prominent un-illuminated area, they are not an effective seamless linear light source when installed end-to-end, because they produce noticeable shadows where lamp ends abut each other. Attempts to eliminate shadowing by staggering and overlapping the lamp ends still produce uneven lighting effects.

b. Neon and cold cathode lamps are alternatives to standard fluorescent lamps. They are typically fully illuminated to the very ends of the lamps, making them ideal for seamless lighting effects. They both use a different, more rugged electrode than standard fluorescent lamps, and are easily dimmable. However, neon lamps are thinner, very fragile, produce less light than standard fluorescent lamps, and require high operating voltages, making them less attractive for many interior lighting applications. Cold cathode lamps are the same

diameter as standard fluorescent lamps, as bright as fluorescent lamps, and use much lower voltages than neon. They last five times or more longer than standard fluorescent lamps, and generally have electrodes attaching at right angles to the undersides of the lamp ends, allowing the fully illuminated lamp ends to abut one another, creating seamless lighting. As a result, designers and architects generally prefer cold cathode over standard fluorescent lamps for seamless linear lighting effects, such as cove lighting. However, when Grossman started his business, cold cathode components, lamps, and power supplies were antiquated, having changed very little since their introduction in the late 1930s. There were no standardized, mass-produced, cold cathode lamps or fixtures for seamless linear lighting. Cold cathode lamps were custom manufactured, using parts that were bulky by contemporary standards. Once manufactured, these custom lamps, components, and power supplies were assembled and installed on-site in a laborious process. The lamps were prone to breakage during installation.

c. Grossman realized that architects, lighting designers, and electrical contractors needed a lighting tool that produced the best effects of seamless linear lighting sources like cold cathode, with the smaller physical size, ease of installation, and modularity of standardized fluorescent lamps and fixtures.

8. With the help of his father, Richard E. Grossman, who had joined the business after retiring from IBM, Steven Grossman invented a novel lamp and specialized lamp base design that provided seamless, end-to-end lighting, allowing lamps to be easily snapped in and out of modular fixtures, greatly reducing the incidence of improper installation and breakage associated with custom-designed cold cathode systems.

9. Steven Grossman and his father had the idea of creating a lamp that was fully illuminated to the very ends, and in which the un-illuminated parts that contained the lamp's

electrodes were located underneath the lamp ends and parallel to the lamp body. This created a tubular lamp in which the last several inches of each end formed a modified hook shape. At each end, the lamp consisted of a first illuminated tube with a small second tube protruding from its underside, and a third tube attached to the second tube that doubled back a short distance parallel to the first tube, with all three tubes open to each other internally (or “in fluid connection”), and with electrodes in the third tubes. The third tubes attached physically and electrically to a specialized lamp base, which allowed the lamp to be snapped in and out of a lampholder. The lampholder connected electrically to a power source. The specialized lamp base also supported the weight of the lamp body, allowing insertion of the lamp into the lampholder without creating undue stress on the lamp's end. This design kept the light along the entire length of the lamp body uniform, avoiding dead spots at the ends. It also allowed the creation of a modular, self-contained lighting fixture that could easily be laid end-to-end in physical and electrical connection to adjoining units.

10. Believing that they had invented a novel solution for a long felt need, the Grossmans retained patent counsel and applied for a patent. The United States Patent and Trademark Office granted Steven Grossman and his father Patent 6,454,431 (“the ‘431 Patent”), issued September 24, 2002.

11. By virtue of their employment with Cathode Lighting Systems, Steven Grossman and his father assigned the ‘431 Patent to Cathode Lighting Systems. Cathode Lighting Systems has, and continues to maintain, all right, title, and interest in the ‘431 Patent.

12. The claims of the ‘431 Patent relevant to this Complaint are:

1) A lamp base for use with a lamp having a first tube illuminated along its entire length, a second tube connected to the first tube and a third tube connected to the second tube, the first, second, and third tubes being in fluid communication, the third

tube being disposed in parallel spaced-apart relation with the first tube and enclosing an electrode, the lamp base comprising a first portion for supporting the first tube and a second portion for supporting the third tube, such that said electrode is located between the second tube and said lamp base, the first and second portions cooperating to retain the first and third tubes in spaced-apart relation.

2) The lamp base of Claim 1, wherein the second portion includes a pair of electrical contacts for electrically coupling the lamp to a lighting fixture, the electrical contacts being configured to receive a pair of electrode leads from the third tube.

3) A method of making an end-to-end illuminated lamp for use with a lampholder, the method comprising the steps of:

forming a first tube and a third tube, said third tube being shorter than the first tube;

forming a second tube to connect the first and third tubes;  
and

providing a lamp base.

5) A method of using a lampholder with an end-to-end illuminated lamp, the method comprising the steps of:

providing a lamp having a first tube, a third tube disposed in a parallel relation to the first tube, and a second tube connecting the first and third tubes;

providing an electrode in said third tube;

providing a lamp base configured to receive the first tube and prevent torque stress from being applied to the lamp as electrode leads connected to said electrode are installed or removed from the lampholder; and

locating said electrode between said lamp base and said second tube.

6) The method of claim 5 wherein the lamp base includes a first portion coupled to the first tube and a second portion surrounding a portion of the third tube.

**INFRINGEMENT BY OSRAM**

13. Defendant Osram advertises products for sale in the United States that are essentially identical copies of the Grossmans' novel, patented design. Osram advertises products called Lumilux® T5 HE Seamless and Lumilux ® T5 HO Seamless Lamps ("the infringing products"). The infringing Osram products incorporate the features of the Grossmans' invention. Specifically, the infringing products have a first illuminated tube, a second small tube connected to the first tube, a third tube connected to the second tube and doubling back parallel to the first tube, with an electrode in the third tube, and a lamp base supporting the first and third tubes.

14. Cathode Lighting Systems has consistently marketed and sold products based on its invention since 2002, when the U.S. Patent and Trademark Office duly and lawfully issued the '431 patent. Cathode Lighting Systems has consistently shown products based on the '431 patent on its website and catalog sheets. Cathode Lighting Systems has sales representatives in every state in the U.S. and in several other countries, who have promoted products based on the '431 patent throughout the lighting design and architectural community. Cathode Lighting Systems stamps each of these products with a reference to the '431 patent. Cathode Lighting Systems displays products based on the '431 patent at lighting trade shows attended by Osram representatives. Upon information and belief, for years Defendant has been aware of the '431 patent and Cathode Lighting Systems' products based on the '431 patent.

**CLAIM ONE**

**Infringement of U.S. Patent No. 6,454,431**

15. Paragraphs 1 through 14 are realleged as though fully set forth herein.

16. Defendant Osram, with actual notice of United States Patent No. 6,454,431, and without the permission of Cathode Lighting Systems, has infringed and continues to infringe

claims 1, 3, and 5 of the '431 Patent within the meaning of 35 U.S.C. § 271, by, inter alia, making, having made, using, selling, importing and/or offering for sale products covered by one or more of claims 1, 3, and 5 of the '431 Patent and/or performing methods covered by one or more of those claims, and/or importing, offering to sell, selling or using within the United States a product which has been manufactured by a process set forth in claims 1, 3, and 5 of the '431 Patent. Such infringement has occurred without the authority of Cathode Lighting Systems.

17. Defendant Osram's infringement of claims 1, 3, and 5 of the '431 Patent has been, and continues to be, willful and deliberate.

18. Defendants' infringement has caused Cathode Lighting Systems damages.

WHEREFORE, Plaintiff prays that:

1. Defendant Osram be adjudged and decreed to have infringed claims 1, 3, and 5 of the '431 Patent;

2. Defendant Osram be ordered to pay damages adequate to compensate Cathode Lighting Systems for its infringement of Cathode Lighting Systems' '431 Patent;

3. Defendant Osram be ordered to account for and pay to Cathode Lighting Systems three times Cathode Lighting Systems' actual damages by reason of Defendants' willful and deliberate infringement of the '431 Patent, together with interest thereon;

4. This action be decreed an "exceptional case" within the meaning of 35 U.S.C. § 285 and reasonable attorneys' fees be awarded to Cathode Lighting Systems;

5. Costs and pre- and post-judgment interest be awarded to Cathode Lighting Systems; and

6. Cathode Lighting Systems be granted such other and further relief as may be proper under the circumstances.



**JURY TRIAL DEMANDED**

Plaintiff requests a jury trial on all claims.

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Respectfully submitted,

/s/

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