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**IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION**

NEUROPTICS, INC.,)	CASE NO. 1:19-cv-4832
)	
Plaintiff,)	
)	DEMAND FOR JURY TRIAL
v.)	
)	
BRIGHTLAMP, INC.,)	
)	
Defendant.)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff NeurOptics, Inc., (“NeurOptics” or “Plaintiff”) hereby complains and alleges against Defendant Brightlamp, Inc. (“Brightlamp” or “Defendant”) as follows:

PARTIES

1. Plaintiff NeurOptics is a California corporation having its headquarters located at 23041 Avenida de la Carlota, Suite 100, Laguna Hills, CA 92653.
2. Plaintiff is informed and believes that Defendant Brightlamp is a medical technology manufacturer having its principal place of business at 200 South Meridian Street, Suite #410, Indianapolis, IN 46225.

NATURE OF THE ACTION

3. This is an action for patent infringement arising under the patent laws of the United States 35 U.S.C. §§ 1 *et seq.*, including 35 U.S.C. § 271.
4. Plaintiff is informed and believes that Defendant has infringed, contributed to the infringement of, and/or actively induced others to infringe at least U.S. Patent No. 6,820,979(the “979 Patent”) and U.S. Pat. No. 9,402,542 (“542 Patent”) (collectively, the “Asserted Patents.”)

JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338.

6. This Court has personal jurisdiction over Defendant because – as Plaintiff is informed and believes – Defendant does and has done substantial business in this judicial District, including: (i) committing acts of patent infringement and/or contributing to or inducing acts of patent infringement by others in this judicial District and elsewhere in this State; (ii) regularly conducting business in this State and judicial District; (iii) directing advertising to or soliciting business from persons residing in this State and judicial District through at least in-person sales efforts; and (iv) engaging in other persistent courses of conduct, and/or deriving substantial revenue from products and/or services provided to persons in this District and State.

7. Under 28 U.S.C. § 1400(b), venue is proper in this District because Defendant Brightlamp has committed acts of infringement within this District and has a regular and established place of business within this District.

FACTUAL BACKGROUND

8. Plaintiff NeurOptics is a pioneer and industry leader in the design, manufacture, marketing and sale of pupillometer products.

9. NeurOptics is the owner of the Asserted Patents, both entitled “Pupillometer with pupil irregularity detection, pupil tracking, and pupil response detection capability, glaucoma screening capability, intracranial pressure detection capability, and ocular aberration measurement capability.”

10. The '979 Patent issued on November 23, 2004 and the '542 Patent issued on August 2, 2016. Pursuant to 35 U.S.C. Sec. 287, the Asserted Patents are presumed to be both valid and enforceable.

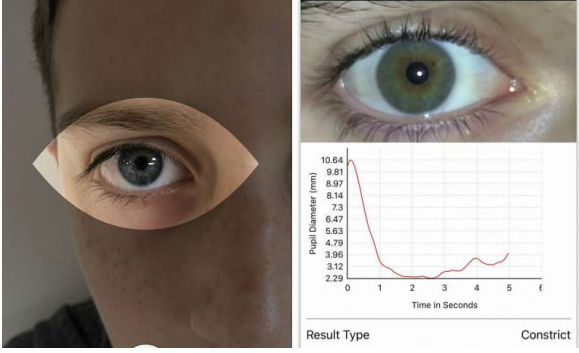
11. Defendant Brightlamp manufactures and distributes pupillometer products during the effective term of the Asserted Patents that Plaintiff alleges infringes those patents. These infringing products include Brightlamp's "Reflex" Mobile Pupillometer Application. According to Brightlamp, the "Reflex" Mobile Pupillometer Application has been available for download by certified medical professionals from at least the iOS application store. The Brightlamp "Reflex" Mobile Pupillometer Application has in fact been so downloaded during the effective term of each of the Asserted Patents and – at the instruction of Brightlamp – installed as an application on users' smartphones and utilized by those users in a manner that infringes the Asserted Patents during the effective term of those patents. Brightlamp provides instructions for download of the "Reflex" Mobile Pupillometer Application onto a smartphone and subsequent use of that combination in a manner that results in direct infringement of the Asserted Patents. Additionally, Brightlamp has itself downloaded the "Reflex" Mobile Pupillometer Application onto a smartphone and subsequently used that combination in a manner that results in direct infringement of the Asserted Patents.

12. Brightlamp contends that the "Reflex" application allows a medical professional to utilize a typical smartphone to measure a patient's eye reaction to light to accurately and consistently determine the neurological condition of the patient. This smartphone/application combination is hereafter referred to as the "Accused Product" or "Reflex."

13. The charts below compare Reflex's function and operation against representative claims of the Asserted Patents.

INFRINGEMENT OF U.S. PAT. NO. 9,402,542:

<u>'542 Patent Claim Limitation</u>	<u>"Reflex" Mobile Pupillometer</u>
72. A pupilometer for taking measurements of a pupil of a subject's eye, the pupilometer comprising:	Reflex is a pupilometer for taking measurements of a pupil of a user's eye, i.e., "Brightlamp has created the world's first mobile pupillometer, Reflex, that measures the pupillary light reflex (PLR) in just a few seconds." www.brightlamp.org
a digital camera for continuously imaging the pupil over a period of time;	Reflex uses a smartphone digital camera to image a user's pupil over a period of time. Specifically, Reflex "is a mobile application that will display relevant pupillometric data ...[and] only requires a camera and flash to measure the reaction of the iris. This product is lightning fast with measurements taking just 5 seconds." https://www.17000credits.com/startup/startup-review-brightlamp The data collected comprises pupillary light reflex (PLR) data indicative of the pupil response of the user. https://medium.com/@brightlamp/quantitative-pupillometry-in-the-clinic-3313c941c44d
a microprocessor that comprises an algorithm that converts image data representative of the measurements of the pupil into numerical or graphical data representative of the measurements of the pupil taken over time; and	Reflex uses an algorithm to convert the image data taken from the user's pupil into graphical data. As noted in the, "Out of the Box: Diagnosing Concussions with a Smartphone," the Reflex includes an "algorithm [that] utilizes a statistical computer vision method and a neural network to classify head trauma in individuals."
a screen that displays an output, wherein the output comprises a graph or a scalar value, wherein the graph or Scalar value is an indicator of the neurological condition of the subject.	Reflex displays on the phone screen graphical data that is representative of the measurements of the pupil taken over time, with the measured result being indicative of the neurological condition of the user.

<u>'542 Patent Claim Limitation</u>	<u>"Reflex" Mobile Pupillometer</u>
	 <p data-bbox="753 625 1349 680">https://medicalxpress.com/news/2019-01-brightlamp-smartphone-app-rapidly-brain.html</p>

INFRINGEMENT OF U.S. PAT. NO. 6,820,979

<u>'979 Patent Claim Limitation</u>	<u>"Reflex" Mobile Pupillometer</u>
<p data-bbox="186 919 656 1024">172. A system for use in diagnosing pathological conditions, said system comprising:</p>	<p data-bbox="691 919 1292 1205">Reflex comprises a pupilometer for taking measurements of a pupil of a user' eye, i.e., "Brightlamp has created the world's first mobile pupillometer, Reflex, that measures the pupillary light reflex (PLR) in just a few seconds." www.brightlamp.org. Reflex is intended to diagnose pathological conditions, including concussions. <i>Id.</i></p>
<p data-bbox="186 1215 667 1352">A pupilometer for obtaining a first set of data descriptive of one or more pupillary characteristics from a patient;</p>	<p data-bbox="691 1215 1292 1499">Reflex uses a smart phone digital camera to image a user's pupil over a period of time. Specifically, Reflex "is a mobile application that will display relevant pupillometric data ...[and] only requires a camera and flash to measure the reaction of the iris. This product is lightning fast with measurements taking just 5 seconds."</p> <p data-bbox="691 1499 1292 1717">https://www.17000credits.com/startup/startup-review-brightlamp. The data collected comprises pupillary light reflex (PLR) data indicative of the pupil response of the user. https://medium.com/@brightlamp/quantitative-pupillometry-in-the-clinic-3313c941c44d</p>
<p data-bbox="186 1728 662 1864">a database for storing a second set of data descriptive of a plurality of pupillary characteristics and associated physical conditions, and</p>	<p data-bbox="691 1728 1292 1892">Reflex uses a baseline comparison to diagnose potential trauma, i.e., a "baseline" data set is collected from healthy individuals and the user's results are then compared against that healthy "baseline" data. Reflex includes "a</p>

<u>'979 Patent Claim Limitation</u>	<u>"Reflex" Mobile Pupillometer</u>
	<p>deep learning algorithm" and "measures the changes in pupil size across ... frames, enabling it to differ between the usual response of a healthy person and that of a person with a brain injury." To accomplish this, Reflex relied "first on healthy volunteers to develop a baseline of [pupillary] responses." Data from these healthy individuals comprises a second set of PLR data, which is stored in a database for use by the Reflex app.</p> <p>https://www.newsweek.com/new-app-detects-concussions-just-looking-your-eyes-663218.</p> <p>Brightlamp's own patent filing further describes this "baseline" comparison:</p> <p style="padding-left: 40px;">There may be a known "normal" baseline rate of constriction and/or dilation for a patient with no impairment or brain trauma (as discussed in the below attached article entitled Pupillary Light Reflex as an Objective Biomarker for Early Identification of Blast-Induced mTBI) and a known rate of constriction and/or dilation for a patient with high risk of impairment brain trauma. After comparing the optical response of patient's eye 10 against the databases or models, and after brain trauma detection device 100 calculates or determines the regularity or abnormality of the optical response, brain trauma detection device 100 indicates to user 4 and/or patient 6 whether, and to what extent, patient 6 has suffered brain trauma.</p> <p><i>See U.S. Pat. No. 10,034,605.</i></p>
<p>a central processing unit in communication with said pupilometer and said database for comparing said first set of data with said second set of data such that a pathological condition of said patient may be diagnosed based on said comparison.</p>	<p>As noted above, Reflex "determines, from the series of images and the relative size of the patient's pupil in each image, one or more rates of change of the size of the patient's pupil, and compares the rates of change of the size of the patient's pupil to one or more baseline rates of change to determine a risk level of brain trauma to the patient based on</p>

<u>'979 Patent Claim Limitation</u>	<u>"Reflex" Mobile Pupillometer</u>
	<p>the deviation of the rates of change of the size of the patient's pupil from the one or more baseline rates of change. The device then indicates the risk level of brain trauma."</p> <p><i>See</i> U.S. Pat. No. 10,034,605 (comparison is accomplished using a standard central processo).</p>

14. The chart above is only exemplary and is not intended to be an exhaustive explanation of the infringed patents or claims. NeuroOptics in fact believes that the Reflex pupillometer has likely infringed additional claims from both the '542 and '979 patents and may have infringed various claims from additional NeuroOptics patents, including potentially U.S. Pat. No. 6,116,736, U.S. Pat. No. 6,260,968, U.S. Pat. No. 7,147,327, U.S. Pat. No. 7,670,002, and U.S. Pat. No. 8,235,526. As NeuroOptics completes its investigation, it expects to amend this complaint to identify any additional infringed patents.

15. Importantly, this Complaint is not Defendant's first notice of either the Asserted Patents or of Plaintiff's allegations regarding Defendant's infringement of those patents. To the contrary, Plaintiff explicitly notified Defendant months ago in writing regarding its infringement of the Asserted Patents and demanded that Defendant immediately cease its willful and knowing violation of Plaintiff's intellectual property rights. Despite this, Defendant's infringement of the Asserted Patents has continued unabated.

FIRST CLAIM FOR RELIEF

(Infringement of the '542 Patent—35 U.S.C. §§ 271 *et seq.*)

16. Plaintiff realleges and incorporates by reference the foregoing paragraphs, as though fully set forth herein.

17. On information and belief, Defendant has had actual knowledge of the '542 Patent for many years and has in fact cited Plaintiff's '542 patent family during prosecution of Defendant's own corresponding patent application related to the Reflex pupillometer.

18. But despite having full knowledge of the '542 Patent, Defendant (including its agents, employees, subsidiaries, and others working at its direction or control) has directly infringed the '542 Patent under at least 35 U.S.C § 271(a) by developing, making, using, offering to sell, selling, and/or importing, in this District, elsewhere in the United States, and internationally, the Accused Product. In particular, the Accused Product meets each and every limitation of at least independent claim 72 of the '542 Patent, as detailed above.

19. Defendant has also contributed to the infringement of and continues to contributorily infringe at least independent claim 72 of the '542 Patent by developing, making, using, offering to sell, selling, and/or importing, in this District, elsewhere in the United States, and internationally the Accused Product. Defendant has manufactured and sold components of the Accused Product that end users had to assemble together to create the Accused Product. Plaintiff is informed and believes that Defendant knew that the components that it manufactured and sold were for an infringing combination, i.e., the Accused Product. The components so manufactured have no substantial non-infringing use except as part of the infringing combination. Each component is a material part of the combination as all the components are necessary to build the Accused Product.

20. Plaintiff is informed and believes that Defendant has induced infringement of and continues to induce infringement of at least independent claim 72 of the '542 Patent by developing, making, using, offering to sell, selling, and/or importing, in this District and elsewhere in the United States, the Accused Product. Defendant has actual knowledge of the

‘542 Patent. Despite this, Defendant has caused third parties, such as retailers and end users, to infringe the ‘542 Patent, all the while knowing that such actions amount to infringement of the ‘542 patent. Further, Plaintiff is informed and believes that Defendant also specifically instructs purchasers of the Accused Product—via instructional packaging and marketing literature and/or customer service—to configure and/or use the Accused Product in a manner that Defendant knows infringes at least independent claim 72 of the ‘542 Patent.

21. Defendant’s actions constitute direct infringement, contributory infringement, and/or active inducement of infringement of one or more claims of the ‘542 Patent in violation of 35 U.S.C. § 271.

22. Plaintiff has sustained damages and will continue to sustain damages as a result of Defendant’s aforesaid acts of infringement.

23. Plaintiff is entitled to recover damages sustained as a result of Defendant’s wrongful acts in an amount to be proven at trial.

24. Defendant’s infringement of Plaintiff’s patent rights under the ‘542 Patent will continue to damage Plaintiff’s business, causing irreparable harm, for which there is no adequate remedy at law, unless it is enjoined by this Court.

25. In addition, Defendant has infringed the ‘542 Patent—directly, contributorily, and/or by inducement—with full knowledge of the ‘542 Patent and despite having full knowledge that its actions constitute infringement of the ‘542 Patent. For at least this reason, Defendant has willfully infringed the ‘542 Patent, entitling Plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys’ fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

SECOND CLAIM FOR RELIEF

(Infringement of the ‘979 Patent—35 U.S.C. §§ 271 *et seq.*)

26. Plaintiff realleges and incorporates by reference the foregoing paragraphs, as though fully set forth herein.

27. On information and belief, Defendant has had actual knowledge of the ‘979 Patent for many years and has in fact cited Plaintiff’s ‘979 patent family during prosecution of Defendant’s own corresponding patent application related to the Reflex pupillometer.

28. But despite having full knowledge of the ‘979 Patent, Defendant (including its agents, employees, subsidiaries, and others working at its direction or control) has directly infringed the ‘979 Patent under at least 35 U.S.C § 271(a) by developing, making, using, offering to sell, selling, and/or importing, in this District, elsewhere in the United States, and internationally, the Accused Product. In particular, the Accused Product meets each and every limitation of at least independent claim 172 of the ‘979 Patent, as detailed above.

29. Defendant has also contributed to the infringement of and continues to contributorily infringe at least independent claim 172 of the ‘979 Patent by developing, making, using, offering to sell, selling, and/or importing, in this District, elsewhere in the United States, and internationally the Accused Product. Defendant has manufactured and sold components of the Accused Product that end users had to assemble together to create the Accused Product. Plaintiff is informed and believes that Defendant knew that the components that it manufactured and sold were for an infringing combination, i.e., the Accused Product. The components so manufactured have no substantial non-infringing use except as part of the infringing combination. Each component is a material part of the combination as all the components are necessary to build the Accused Product.

30. Plaintiff is informed and believes that Defendant has induced infringement of and continues to induce infringement of at least independent claim 172 of the '979 Patent by developing, making, using, offering to sell, selling, and/or importing, in this District and elsewhere in the United States, the Accused Product. Defendant has actual knowledge of the '979 Patent. Despite this, Defendant has caused third parties, such as retailers and end users, to infringe the '979 Patent, all the while knowing that such actions amount to infringement of the '979 patent. Further, Plaintiff is informed and believes that Defendant also specifically instructs purchasers of the Accused Product—via instructional packaging and marketing literature and/or customer service—to configure and/or use the Accused Product in a manner that Defendant knows infringes at least independent claim 172 of the '979 Patent.

31. Defendant's actions constitute direct infringement, contributory infringement, and/or active inducement of infringement of one or more claims of the '979 Patent in violation of 35 U.S.C. § 271.

32. Plaintiff has sustained damages and will continue to sustain damages as a result of Defendant's aforesaid acts of infringement.

33. Plaintiff is entitled to recover damages sustained as a result of Defendant's wrongful acts in an amount to be proven at trial.

34. Defendant's infringement of Plaintiff's patent rights under the '979 Patent will continue to damage Plaintiff's business, causing irreparable harm, for which there is no adequate remedy at law, unless it is enjoined by this Court.

35. In addition, Defendant has infringed the '979 Patent—directly, contributorily, and/or by inducement—with full knowledge of the '979 Patent and despite having full knowledge that its actions constitute infringement of the '979 Patent. For at least this reason,

Defendant has willfully infringed the '979 Patent, entitling Plaintiff to increased damages under 35 U.S.C. § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff asks this Court to enter judgment in its favor and against Defendant and grant the following relief:

- A. An adjudication that Defendant has willfully infringed and continues to infringe the '542 Patent and '979 Patent;
- B. Orders of this Court temporarily, preliminarily, and permanently enjoining Defendant, its agents, servants, and any and all parties acting in concert with it, from directly or indirectly infringing in any manner any of the claims of '542 Patent and '979 Patent pursuant to at least 35 U.S.C. § 283;
- C. An award of damages adequate to compensate Plaintiff for Defendant's infringement of the '542 Patent and '979 Patent in an amount to be proven at trial;
- D. A finding that this is an exceptional case and an award of Plaintiff's costs and attorneys' fees;
- E. A trebling of the damage awarded to Plaintiff;
- F. An assessment and award of pre- and post-judgment interest on all damages awarded; and
- I. Any further relief that this Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a trial by jury as to all claims and all issues properly triable.

December 6, 2019

By: /s/ Kandi Kilkelly Hidde

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