

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION**

<b>totes ISOTONER CORPORATION, and</b>	)	
<b>EDWARD HANLEY,</b>	)	
	)	
<b>Plaintiffs,</b>	)	
	)	
<b>v.</b>	)	<b>No. 09 C 1604</b>
	)	
<b>PANTHER VISION, LLC,</b>	)	<b>Judge Rebecca R. Pallmeyer</b>
	)	
<b>Defendant.</b>	)	

**MEMORANDUM OPINION AND ORDER**

Plaintiff Edward Hanley is the inventor and owner of United States Patent No. 7,234,831 (“the ‘831 patent”), entitled “Headgear with Forward Illumination.” Hanley’s invention is headgear equipped with powered light emitting diodes (“LEDs”) inside the brim that can be turned on to illuminate the wearer’s line of vision. Plaintiff totes Isotoner Corp. (“totes”), is an exclusive licensee under the ‘831 patent. Plaintiffs accuse Defendant Panther Vision LLC (“Panther Vision”) of infringing the patent. The parties have presented competing interpretations for several terms in the claims of the ‘831 patent. The court’s construction of those terms follows.

**BACKGROUND**

**A. The Patented Invention**

The patented invention is headgear—depicted in the ‘831 patent embodiments as including ball caps, helmets, brimmed hats, headbands, and diving masks—with an array of LEDs mounted inside the brim or front of the headgear. (‘831 patent, Fig. 9-18.) When turned on, the LEDs direct a beam of light ahead of the wearer to illuminate the wearer’s line of vision.

The patented invention is not the first to affix a light source to headgear. As the background of the ‘831 patent acknowledged, the prior art included “a wide variety of illuminated headgear and illumination sources that can be mounted on headgear worn by the user.” (‘831 patent, Col. 1, ll. 19-12.) According to the patent, however, those prior art devices are bulky, lack the general

aesthetics of normal headgear, use filament bulbs that required replacement, and have detachable light sources that can be inadvertently left behind. ('831 patent, Col 1, ll. 62-67.) The invention and method set forth in the '831 patent purport to improve upon the prior art by providing a lightweight, visually inconspicuous, durable and reliable mounted light source that does not alter the functionality or aesthetics of traditional headgear and does not require replacement of filament bulbs. ('831 patent, Col 2. ll. 6-11.)

**B. The Disputed Claims of the '831 Patent**

The '831 patent sets forth 16 claims. The disputed terms, emphasized below, are found in independent claims 1 and 12, and dependent claims 2, 3, 4, 11, 13, and 15:

1. An illumination headgear for viewing objects comprising:
  - a crown having a lower edge;
  - a brim disposed on said crown proximate to said lower edge, said brim having a rim disposed along the perimeter of said brim distal from said lower edge; and
  - an **array of light emitting diodes** integral within said brim and proximate to said rim, **said array of light emitting diodes focused to form a contiguous beam.**
2. The illumination of headgear of claim 1, wherein said light emitting diodes are coupled to a power source through a switch, said power source **coupled to said crown.**
3. The illumination headgear of claim 1, wherein said array of light emitting diodes is **disposed within a void of a main panel of said brim.**
4. The illumination headgear of claim 1, wherein said brim includes a main panel and a top covering disposed over an upper surface thereof and a lower covering disposed over a lower surface thereof and said array of light emitting diodes is **disposed between said lower covering and said main panel at said rim.**
- ...
11. The illumination headgear of claim 1, wherein a first light emitting diode of said array of light emitting diodes is **adjacent** a second light emitting diode of said array of light emitting diodes.
12. A method of using an illumination headgear comprising:
  - disposing the illumination headgear upon a wearer's head, the illumination headgear comprising a crown having a lower edge, a brim disposed on said crown proximate to said lower edge, said brim having a rim

disposed along the perimeter of said brim distal from said lower edge, and an **array of light emitting diodes** integral within said brim and proximate to said rim, **said array of light emitting diodes configured to form a contiguous beam of light;**  
activating at least one light emitting diode of said array of light emitting diodes; and  
directing **said beam of light towards an object.**

13. The method of claim 12, wherein said at least one light emitting diodes is coupled to a power source through a switch, said power source **coupled to said crown.**

...

15. The method of claim 12, wherein **said beam of light** from said at least one light emitting diode is selected from the group consisting of white light, red light, blue light, green light, yellow light, infrared light and ultraviolet light.

### C. Prosecution History

The '831 patent is related to two earlier Hanley patents, U.S. Patent Nos. 6,733,150 and 7,086,749. Both prior related patents are in the record. ('150 Patent, Apx. 5; '749 Patent, Apx. 3.) Like the '831 patent, those patents describe lighted headgear that consists of a crown, a brim, an array of LEDs, a switch, and a power source. (Office Action Summary, Apx. 2, 076-77.) In April 2006, Hanley filed an application for the '831 patent as a continuation of his two previous patents. The '831 application included 30 proposed claims. The Patent Office initially rejected all but eight as either duplicative or obvious in light of the prior Hanley patents. (*Id.*) In the patent examiner's view, the duplicative terms constituted improper "double patenting," violating the doctrine that patent holders may not extend protection for their inventions by obtaining later redundant patents.

The Patent Office also rejected aspects of the '831 patent as unpatentable over U.S. Patent No. 5,510,961 (Peng 1996), which discloses a cap equipped with warning lights to alert others to the wearer's presence, and U.S. Patent No. 6,056,413 (Urso 2000), which details the use of a power source coupled to the crown of a cap. (*Id.* at 078-79.) The patent examiner also found that the '831 patent's claim and design to illuminate objects for viewing had been anticipated by U.S. Patent 5,741,060 (Johnson 1998). (*Id.* at 081-82.) The Johnson patent discloses a cap with two

lamp sockets affixed to a visor above the wearer's eyes. (*Id.*) The patent examiner also noted that U.S. Patent 6,390,640 (Wong et al. 2002) uses a mounted "essentially contiguous placement" of multiple LEDs to emit and project a light ahead of the wearer. (*Id.*)

Hanley responded by withdrawing 13 of the rejected claims and submitting a disclaimer that addressed the patent office's concern about "double patenting." (Response, Apx. 2, 100). Hanley also distinguished the prior art in general terms, asserting that it "comprise[d] general information that [did] not render the present application anticipated or obvious." (*Id.* at 8.) The patent office accepted Hanley's modified application in April 2007. (Notice of Allowability, Apx. 2, 111.) Explaining the reason for allowance, the patent examiner distinguished the '831 patent from the prior art on the basis that "the prior art(s) taken as a whole does not show nor suggest the details of headgear with an array of LEDS integral within the brim to form a contiguous beam. . ." (*Id.* at 113.)<sup>1</sup>

## **DISCUSSION**

### **A. Legal Standards Governing Claim Construction**

Because an invention is defined by the claims of the patent, claim construction—the process of giving meaning to the claim language—defines the scope of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1311-12 (Fed. Cir. 2005) (en banc) (citing 35 U.S.C. § 112). Claim construction is a matter of law for the court to determine. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996). As the Federal Circuit clarified in *Phillips*, the court begins the claim construction analysis with the words of the claims themselves, giving those words their ordinary and customary meaning, that is, the "meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Phillips*, 415 F.3d at 1312-13. And that person is

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<sup>1</sup> The examiner specifically noted that the Johnson patent and other prior art disclosed "separately mounted" light sources, while the '831 patent utilized "an array of [LEDs] integral within the brim" to form a "contiguous beam." (Notice of Allowability, Apx. 2, 112-13.)

assumed to read the claim terms “in the context of the entire patent, including the specification.”

*Id.*

In addition to reading the claim terms in the context of the specification, the court may also consider the record of the patent’s prosecution, as the record is evidence of how both the inventor and the Patent and Trademark Office understood the patent. *Id.* at 1317. The court must, however, be mindful that the prosecution history represents an “ongoing negotiation,” so it “often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* Finally, in some cases, the court must go beyond the claim, the specification, and the prosecution history—the so-called intrinsic evidence—to consider extrinsic evidence such as technical dictionaries, treatises, and expert testimony. *Id.* at 1317-18. Extrinsic evidence is deemed less reliable than the intrinsic evidence for several reasons outlined by the Federal Circuit in *Phillips*. *Id.* at 1318-19.

With these standards of construction in mind, the court turns to the disputed language in claims 1, 2, 3, 4, 11, 12, 13, and 15.

#### **B. Array of Light Emitting Diodes**

<b>Claim Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
array of light emitting diodes	a spatial arrangement of two or more light emitting diodes that are not necessarily touching	a group of at least two light emitting diodes that function as a single light source

The term “array of light emitting diodes” is first mentioned in claim 1, which describes an “array of light emitting diodes integral within said brim and proximate to said rim.” The term is subsequently mentioned reflexively in several claims, i.e., “said array of light emitting diodes [is] focused to form a contiguous beam.” (‘831 patent, claim 1.)

Defendant proposes construing “array of light emitting diodes” as “a group of at least two

light emitting diodes that function as a single light source.” (Def’s Br. at 3.) While Plaintiffs agree that “array” denotes two or more LEDs, they disagree as to what the term means for the physical placement of the LEDs in relation to one another. Plaintiffs would construe the term to emphasize that the claim does not require the LEDs to physically touch one another. (Pl’s Br. at 16.)

In the court’s view, neither party’s construction is fully accurate. Defendant’s construction seeks to build its preferred construction of “contiguous beam” (as a single light source) into the meaning of “array.” Such a construction would result in an unnecessary redundancy, and the court sees no purpose in injecting a duplicative construction of “contiguous beam” into a term that it construes separately. *See Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1307 (Fed. Cir. 2005)(holding that rules of construction disfavor redundant interpretation of claims).

Plaintiffs, in contrast, seek to insert a connotation of distance between LED components into the meaning of “array.” Plaintiffs’ proposed reference to “not necessarily touching” fails to add any clarity to the term. The term “array” neither intrinsically requires nor precludes any arrangement in which LEDs touch one another. One could imagine a variety of arrangements in which proximate and distant LEDs are still “arrayed” for an illuminating purpose. Plaintiffs’ proffered emphasis on the distance between LEDs is not intrinsic in the ordinary meaning of “array” and finds no support in the contextual use of the term.

The ordinary meaning of the word array is “[a] regular grouping or arrangement.” MERRIAM WEBSTER COLLEGIATE DICTIONARY at 64 (10th ed. 1997). The word connotes a group of items that are organized in some orderly manner. (*Id.*) The patent employs this ordinary meaning of the word. The embodiments of the patent depict a group of LEDs aligned in straight parallel rows in close proximity to one another (“831 Patent, Fig. 19.; Col. 13, ll. 58-61)(“In this example LEDs are two white LEDs electrically parallel to each other, and LEDs are two red LEDs electrically parallel to each other.”) The LED grouping that is depicted and described in the patent is an orderly

arrangement. Accordingly, the court adopts the following construction for “array of light emitting diodes:” “an orderly arrangement of at least two light emitting diodes.”

### C. Contiguous Beam

Claim Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Said array of light emitting diodes focused/configured to form a contiguous beam	the array of light emitting diodes are arranged to create a pool of light that illuminates objects	the array of light emitting diodes is designed to form a single beam that projects from the array forward and has no dark areas

The next disputed term in claim 1, “said array of light emitting diodes focused to form a contiguous beam,” describes the purpose and arrangement of the LEDs in the patented invention. A substantially similar term, “said array of light emitting diodes configured to form a contiguous beam of light,” appears in claim 12. The construction of both of these terms turns on the meaning of “contiguous beam,” which the court presumes maintains the same meaning in both claims. See *Paragon Solutions, LLC v. Timex Corp.*, 566 F.3d 1075, 1087 (Fed. Cir. 2009)(holding identical terms to have the same meaning when appearing elsewhere in the patent).

Essentially, the parties’ constructions differ in how they would require the light emitted from the various LEDs to overlap. Plaintiffs’ construction as “creat[ing] a pool of light that illuminates objects,” would require only that the light overlap at a single point, namely, the point at which a hypothetical object is in the wearer’s view. Plaintiffs’ construction would render the location of the light source or sources under the patent irrelevant; their proposed language would seem to encompass any arrangement of LEDs so long as the separate beams of each were directed to eventually converge at some point.

Neither the language of the claim, the context of the specification, nor the prosecution history supports Plaintiffs’ reading. In allowing the ‘831 patent, the patent examiner found the

production of a “contiguous beam” to be a novel achievement as compared to the prior art. (Notice of Allowability, Apx. 2, 113.) The Johnson patent, which involves distal light sources that are “separately mounted” such that their “axes converge at an acute angle . . . setting the focal point of the lamps at a predetermined location out from . . . the wearer’s eyes,” did not achieve a “contiguous beam” in the eyes of the patent examiner. (*Id.*) Yet, Plaintiff’s proffered construction of “contiguous beam” would seemingly embrace even the separate distal headlamps of the preexisting Johnson patent. The court does not read the ‘831 patent to endow the term “contiguous beam” with the capacious meaning urged by Plaintiffs.

Defendant construes “contiguous beam” to require that light from adjacent LEDs join to form “a single beam” with “no dark areas.” Though Defendant’s reference to “no dark areas” is unnecessary surplusage, the court concludes that Defendant’s construction is closer to the way a person of ordinary skill in the art would understand the term “contiguous beam.”

The ordinary meaning of “contiguous” connotes objects that are “touching along a boundary or connected throughout in an unbroken sequence.” WEBSTER COLLEGIATE DICTIONARY at 250 (10th ed. 1997). Specifically when describing two angles, “contiguous” means “having the vertex and one side in common.” *Id.* at 250 (“*of angles: ADJACENT 2*”); *Id.* at 15. This ordinary meaning appears to be the usage employed in the patent. The patent specification describes each individual LED as “emitting a cone of light that spreads out at angles to about 20 degrees to each side of a central axis of the cone.” (‘831 Patent, Col. 4, ll. 3-5). “If there are at least two LEDs aligned, then the LEDs can emit light fanned out to about 40 degrees from each other and maintain a beam with a continuous pool of light.” (*Id.* Col. 4, ll. 5-8). The specification describes an LED array in which angled cones of light fully share one common side and appear, therefore, to create a single, unbroken beam of light. Thus, the specification’s reference to a “continuous pool of light” describes a wholly continuous light along the entire length of the beam, rather than, as Plaintiffs would suggest, a single overlap of light at some distant point.



The patent describes an arrangement, by which multiple LEDs are “focused” and “configured” to form “a contiguous beam.” This is one instance that necessitates a departure from the general rule of patent construction that a noun preceded by the article “a” or “an” may refer to either the singular or plural form of the noun. See *Tivo Inc. v. Echostar Comm. Corp.*, 516 F.3d 1290, 1303 (Fed Cir. 2008)(holding that the a patent’s reference to two “components” combined into a “stream” clearly evidenced the singular form of the word “stream”). The language of the claim here refers to a single beam.

This interpretation is bolstered by consideration of the various embodiments of the patent. All depict a tight LED grouping, which (when the beam is depicted) is shown to project a single beam of light. While limiting a patent to a preferred embodiment is improper, the embodiments taken as a whole may be an important indication of how a person of ordinary skill in the art would understand the claims. See *Phillips*, 415 F.3d at 1323-24. In the court’s view, the most illustrative example of a “contiguous beam” is found in Figure 22, which depicts a single, unbroken, conical beam of light emanating from a tight grouping of LEDs on the brim of the headgear. (’831 patent, Fig. 22.) This depiction of a single, continuous, unbroken beam is reinforced by descriptive language in the specification:

The light emitting diodes can be aligned relative to each other in such a way as to project a beam of light. The beam of light can be contiguous, non-segmented or in a substantially conical shape either fanned out or oval shaped and the like. The beam has no dark areas. The LEDs can be parallel to each other or aligned such that the light emitted forms a contiguous pool of light that washes the objects that are illuminated by the beam.

(’831 patent, Col. 3-4, ll. 61-1.) The specification clearly refers to a single beam, described as containing “no dark areas” and forming a “contiguous pool of light.” Though the specification contemplates a beam with either an oval or fanned out shape, in both cases it describes a unified, continuous beam. The modification of “contiguous” with the related term “non-segmented” is also telling, as it suggests that the patent’s use of “contiguous” is consistent with the term’s ordinary

meaning of “connected throughout in unbroken sequence” and, specifically with regard to angles, “having a vertex and one side in common.”

Accordingly, the court adopts the following construction of “Said array of light emitting diodes focused/configured to form a contiguous beam:” “The array of light emitting diodes is arranged to project what appears to be single, unbroken beam of light.”

**D. Coupled to Said Crown**

Claim Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
coupled to said crown	connected to the crown of the headgear	attached to the generally dome-shaped portion that extends upward from the lower edge of the headgear to cover the top of the head

The phrase “coupled to said crown” appears in claims 2 and 13 of the patent and describes the location at which the power source is attached to the headgear. The parties do not appear to seriously dispute the meaning of “coupled.” Their proffered terms, “connected” and “attached,” can be used interchangeably. The court prefers “attached” because it adequately reflects the “fastening” and “link” connoted by the term “couple.” MERRIAM WEBSTER COLLEGIATE DICTIONARY at 267 (10th ed. 1997).

The parties’ main dispute focuses on how to construe or limit “crown.” Plaintiffs contend that the word speaks for itself. Defendant offers a lengthy definition: “the generally dome-shaped portion that extends upward from the lower edge of the headgear to cover the top of the head.” Independent claims 1 and 12 identify the “crown” as an integral structural component of headgear, distinct from the “brim.” The specification demonstrates that the patent’s references to the “brim” and “crown,” maintain the same meaning in the patent that they have in ordinary usage. “[A] ball cap generally comprises a crown contoured for covering part of the user’s head when worn, [and]

a brim disposed exteriorly of and attached to the crown at a lower edge such that the brim extends outwardly from the crown.” (’831 Patent, Col. 3, ll. 33-37.) The ordinary and undisputed meaning of the term “crown,” as distinct from the brim, is apparent enough to anyone who has either worn or seen a baseball cap. There is nothing to be gained by weighing down the term with excess verbiage.

Defendant’s wordy construction is apparently aimed at distinguishing the “crown” of the headgear from another structural component of many ball caps: the “sweatband.”<sup>2</sup> There is substantial support in the patent for this distinction. The ’831 patent specification explicitly distinguishes the “crown” from the “sweatband” as a wholly separate structural component. “The electrical conducting path passes *between the sweatband and the crown* where it is terminated by an electrical connector . . .” (’831 Patent, Col. 5, ll. 1-4)(emphasis added.) From this context, a person skilled in the art would understand the term “crown” to identify a structural component that is distinct from both the “brim” and the “sweatband.”

Because the court can resolve the parties’ dispute merely by distinguishing the “crown” from other structural components of headgear, further construction of the term is unnecessary. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). The court adopts the following construction for the phrase “coupled to said crown”: “attached to the crown, as distinct from the brim or the sweatband, of the headgear.”

#### **E. Disposed Within a Void of a Main Panel of Said Brim**

<b>Claim Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
disposed within a void of a main panel of said brim	located within a cut-out, groove, or other opening of the main panel of the brim	located within one cut-out, groove, or other opening in the main panel of the brim

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<sup>2</sup> Defendant contends that its device attaches its power source at the “sweatband” rather than the “crown” and therefore does not infringe the ’831 patent.

The next term appears in claim 3, which states: “The illumination headgear of claim 1, wherein said array of light emitting diodes is disposed within a void of a main panel of said brim.” The parties agree that “void” means “cut-out, groove, or other opening” and that “disposed” means “located.” They dispute whether the claim should be construed to refer to a single void or to several possible voids. Plaintiff relies on the general rule of patent construction that a noun following the article “a” or “an” indicates both the singular and plural form of the noun. See *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008). As demonstrated by the court’s discussion of “contiguous beam,” however, the general rule alone does not end the inquiry. The court must still look at the context of the term to determine whether the specific usage is more naturally understood to refer to one particular object. *Tivo Inc.*, 516 F.3d at 1303; *Norian Corp. v. Stryker Corp.*, 432 F.3d 1356, 1359 (Fed. Cir. 2005). Here, the context of the term “a void” does not warrant departure from the general rule.

The patent specification clearly contemplates the possibility of multiple “voids.” “Alternatively, the light source and the electrical conducting path are mounted to a preexisting main panel within voids such as cutouts, grooves, or the like (not shown) and secured with stitching, adhesive, or the like.” (‘831 patent, Col. 5, ll. 24-27)(emphasis added.) The use of the plural in the specification supports Plaintiffs’ construction. Further, there is nothing in the context of the claim itself to suggest that “a void” could not also encompass multiple, proximate voids. Use of the singular form of the noun “array” in the claim does not preclude the possibility of multiple voids because an “array” is an arrangement comprised of several lesser components. An “array” of LEDs could easily be situated in multiple, proximate voids, and yet still be configured to produce what appears to be a “contiguous beam” of light.

As nothing in the claims, specification, or prosecution history necessitates a departure from the general rule, the court finds that claim 3’s reference to “a void” may mean one or more voids. Accordingly, the court adopts Plaintiffs’ construction of “disposed within a void of a main panel of

said brim” as: “located within a cut-out, groove, or other opening of the main panel of the brim.”

**F. Between Said Lower Covering and Said Rim**

<b>Claim Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
disposed between said lower covering and said main panel at said rim	located above the lowering covering and within the main panel or within a void in the main panel and located integral to the outer edge of the brim	positioned entirely within the space above the lower covering and below the main panel of the rim

While claim 3 describes the location of the LED array as being within a void in the main panel, claim 4 appears to recite an alternate possible location of the LED array as being “between said lower covering and said main panel.” The ‘831 patent’s location of the LED array within the brim was a key innovation over the prior art, as it permitted the light source to remain “visually inconspicuous” when unlit. (‘831 patent, Col. 2, ll. 7.; Notice of Allowability, Apx. 2, 112-13) To that end, the patent specification repeatedly describes the light source as “integrally disposed within the main panel or fitted into a void in the main panel. . .” (‘831 patent, Col. 4-5, ll. 63-1.) While the language of claim 3, the patent specification, and the prosecution history all contemplate locating the light source wholly or partially *within* the main panel itself, claim 4 alone appears to introduce the possibility of locating the LED array “between” the lower covering of the brim and the main panel.

Plaintiffs urge the court to construe claim 4’s reference to a location “between said lower covering and said main panel” to include a location “within the main panel or within a void in the main panel.” Plaintiffs’ proposed construction ignores any difference in the terms “between” and “within” and would, in the court’s view, functionally render claim 3 indistinct from claim 4. “The concept of claim differentiation . . . states that claims should be presumed to cover different inventions. This means that an interpretation of a claim should be avoided if it would make the

claim read like another one.” *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991)(quoting *Autogiro Co. of America v. United States*, 384 F.2d 391, 404 (Fed. Cir. 1967)(emphasis omitted).

While the arrangement set forth in claim 4 is not found in the specifications or embodiments, “[t]he claim language itself governs the meaning of the claim.” *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed. Cir. 2000). In its ordinary usage, “between” means “in the time, space, or interval that separates” objects. WEBSTER COLLEGIATE DICTIONARY at 109 (10th ed. 1997.) An object cannot simultaneously be “between” Point A and Point B while being located “within” Point B. Plaintiffs’ construction violates the ordinary meaning of between and would render two distinct claims redundant.

The court thus concludes that Defendant’s construction more accurately captures the meaning of “between,” though Defendant adds undue emphasis by unnecessarily including the word “entirely.” The court construes the term “disposed between said lower covering and said main panel at said rim,” as: “located within the space above the lower covering and below the main panel at the rim.”

### **G. Adjacent**

<b>Claim Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
Adjacent	next to, near, but not necessarily touching	in contact, adjoining, abutting

The parties next offer competing constructions for the term “adjacent,” which appears in claim 11 to describe the arrangement of LEDs. “[A] first light emitting diode . . . is adjacent a second light emitting diode.” (’831 patent, claim 11.) The parties dispute whether the term requires

actual physical contact between the LEDs. The dictionary definition does not resolve the dispute, but it does aid the court in distinguishing between the meaning of “adjacent” and “contiguous” as used in the patent. “Adjacent may or may not imply contact but always implies the absence of anything of the same kind in between. . . . Contiguous implies having contact on all or most of one side.” WEBSTER COLLEGIATE DICTIONARY at 14 (10th ed. 1997). As thoroughly described in Part C, the patent and specification employ the term “contiguous” to indicate objects that adjoin one another in constant contact (i.e. “contiguous beam,” “contiguous pool of light”). In light of that fact, claim 11's use of the term “adjacent,” which has a lesser connotation of contact, appears to represent a deliberate departure. In context, the term adjacent is best understood as requiring a close proximity, while remaining silent as to contact.

Defendant challenges this conclusion, urging that in light of the meaning of “contiguous beam,” as a single, unbroken beam of light, “adjacent” must mean touching. Only adjoining (touching) LEDs, Defendant urges, could form the single light source necessary to project a “contiguous beam.” The court agrees that, to create a beam that “*appears* to be a single unbroken beam of light,” LEDs would need to be in very close proximity such that they *appeared* to form one light source. This requirement does not, however, necessarily require the LEDs be in physical contact with one another. A millimeter could separate two focused LEDs and yet they would still be “adjacent” and project a “contiguous beam.” Plaintiff’s construction of “adjacent” as “not necessarily touching” is technically accurate, but unnecessary. In the court’s view, the ordinary meaning of “adjacent,” as “being in close proximity,” is the best reading here. *Id.*

Accordingly, the court adopt the following construction of “adjacent:” “closely proximate.”

#### H. Said Beam of Light

Claim Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
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said beam of light	the contiguous beam of light from at least one activated light emitting diode.	The single beam of light projecting forward of the array
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The term “said beam of light” appears in claims 12 and 15, and in both instances the term refers reflexively to the “contiguous beam” that the court has already construed. As already stated, “contiguous beam” refers to a light emitted from the array of LEDs that appears to be a single, unbroken beam. While the use of “contiguous beam” in claims 1 and 12 suggests multiple LEDs “configured” to project a single beam, claim 15 makes clear that a “beam” may also come from a single activated LED. The claim describes: “The method of claim 12, wherein said beam of light *from said at least one emitting diode* is selected from the group consisting of [various colors of light].” (‘831 patent, claim 15)(emphasis added.) In context, the language of the claim suggests that either the entire array, acting in concert, or any single activated LED may produce a “beam.” Accordingly, the court adopts the following construction for “said beam of light:” “the contiguous beam projected from the array of light emitting diodes or from one light emitting diode.”



**CONCLUSION**

The claim terms in the '831 patent are construed in accordance with the foregoing.

ENTER:

A handwritten signature in black ink, appearing to read "Rebecca R. Pallmeyer", written over a horizontal line.

Dated: Jan. 4, 2010

REBECCA R. PALLMEYER  
United States District Judge