United States District Court,
D. Arizona.

SPORTLITE, INC,
Plaintiff.
v.
GENLYTE THOMAS GROUP, LLC. and Day-Brite Lighting,
Defendants.

No. CV04-2146-PHX-MHM

Sept. 13, 2006.

Victoria Gruver Curtin, Victoria Gruver Curtin PLC, Scottsdale, AZ, for Plaintiff.

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REPORT AND RECOMMENDATIONS OF THE SPECIAL MASTER

THOMAS G. WATKINS III, Court-Appointed Special Master.

1. Background

Pursuant to the parties' agreement, the Court has appointed patent attorney Thomas G. Watkins III of Phoenix, Arizona to act as a Special Master for the purpose of issuing a *Markman*-related report and recommendations interpreting the asserted claims of U.S. Patent No. Re.36,414 entitled "Lighting Apparatus." Prior to holding an evidentiary hearing, the Court requested and received memoranda from the parties. On February 22 and 23, 2006, the Court and Special Master Watkins jointly conducted a one and one half day evidentiary hearing involving presentation of both fact witness and expert witness testimony combined with extensive argument of counsel. The present report is issued on the basis of those proceedings. The Special Master has considered the objections submitted by the parties on August 11, 2006 and has modified his report as deemed appropriate.

2. The Claim Interpretation Issues

U.S. Patent No. Re.36,414 (hereafter the '414 patent) was issued on November 30, 1999 to inventor Jerold A. Tickner and was assigned to Sportlite, Inc., the plaintiff in the present case. The present case involves a patent infringement action by Sportlite against accused Infringer Genlyte Thomas Group, LLC, and Day-Brite Lighting.

The Tickner '414 patent was based on a reissue of previously issued U.S. Patent No. 5,377,086 which issued on December 27, 1994.

The reissue patent includes original Claims 1-23. In connection with the reissue proceedings, dependent Claims 10 and 13 were amended to become a stand alone independent claims. A typographical error was corrected in Claim 15. During the reissue proceedings, new Claims 24-44 were added.

In the present litigation, Sportlite has asserted reissue patent Claims 1, 8-10 and 35-37. Claims 1 and 37 are independent claims.

Based on the evidentiary record identified above, the Special Master will interpret the limitations of those asserted claims based on the extensive rules and guidelines set forth in numerous relevant Federal Circuit authority including Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995) *in banc, aff'd,* 116 S.Ct. 1384 (1996); 517 U.S. 370 (1996) and Phillips v.. AWH Corp., 415 F.3d 1303, (Fed.Cir.2005) *in banc*. Since asserted independent Claims 1 and 10 of the Tickner patent each include three claim limitations including the term "means," the initial part of the present Report will focus on extensive Federal Circuit case law setting forth the complex rules and procedures for interpreting claim limitations including the term "means." For organizational purposes, Claim 1 of the '414 patent has been rewritten as follows:

1. Lighting apparatus including in combination:

(a) reflector means having a base end of a first size and a light-emitting end of a second size larger than said first size and having a center line extending from the center of the base end to the center of the light-emitting end thereof;

(b.1) lamp support means located within said reflector means at the base end thereof for supporting a plurality of compact fluorescent lamps substantially equally angularly displaced about said center line within said reflector means between the base end and the light-emitting end thereof,

(b.2) said lamp support means including at least two lamp support surfaces on said lamp support means on opposite sides thereof and angled toward the base end of said reflector means for causing compact fluorescent lamps supported thereby to extend outwardly at an angle from said center line toward the light-emitting end of said reflector means to substantially parallel said reflector means; and

(c) means for supplying operating electric power to lamps supported by said lamp support means.

3. *Claim 1(a); Reflector Means*

3.1 The Claim Language

(a) reflector means having a base end of a first size and a light-emitting end of a second size larger than said first size and having a center line extending from the center of the base end to the center of the light-emitting end thereof;

3.2 Claim Interpretation Analysis

The parties agree that the provisions of 35 U.S.C. s. 112, para. 6 do not apply to the "reflector means" limitation. The Federal Circuit has noted, however, that such a concession does not relieve a court of its responsibility to interpret the claims as a matter of law. To interpret this claim limitation, the Court must decide a subsidiary question of whether the "reflector means" claim element invokes s. 112, para. 6 in the first instance. Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302 (Fed.Cir.1999). In *Rodime,* the

Federal Circuit ruled that a claim element that uses the word "means" but recites no function corresponding to the means does not invoke s. 112, para. 6. *Id*. at 1302.

Since the "reflector means" claim limitation recites no function, the Special Master agrees that the provisions of s. 112, para. 6 do not apply to the interpretation of this claim limitation.

3.3 Interpretation of the "Reflector Means" Claim Limitation

Genlyte argues that the "reflector means" claim limitation limits the scope of that claim element to a one hundred percent reflectivity reflector as opposed to a partially reflective reflector or a partially transmissive reflector. Genlyte further contends that the "reflector means" claim limitation excludes from its scope a reflector which provides uplighting or upwardly directed light rays.

Before addressing the intrinsic evidence relevant to the interpretation of this claim term, it is important to note that Federal Circuit precedent states that an interpretation of a claim limitation in a way that would exclude an inventor's preferred embodiment disclosed in a patent represents an "... interpretation [which] is rarely, if ever correct, and would require highly persuasive evidentiary support." Vitronics Corp. v. Conceptronics, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996). *See also,* Modine Mfg. Co. v. Int'l Trade Comm'n, 75 F.3d 1545, 1550 (Fed.Cir.1996).

The Tickner '414 patent discloses three distinct preferred embodiments. Tickner's first preferred embodiment is illustrated in Figs. 2-8 of the '414 patent where the reflector is identified by Reference Nos. 14A and 14B. Tickner's second preferred embodiment is disclosed in Figs. 9-15 where the reflector is designated by Reference No. 100. Tickner's third embodiment is illustrated in Fig. 16 where the reflector is designated by Reference No. 200.

The written description of the Tickner '414 patent recites a detailed explanation of design features implemented to provide for the circulation of cooling air through various openings in the second and third embodiments. At Column 8, lines 28-48, Tickner describes open spaces 112, central aperture 130 and smaller apertures 136 which provide openings designed to circulate cooling air-and inherently the radiation of light through those holes-literally through the reflector itself. At Column 9, lines 15-22, Tickner further describes how his structural ribs 121 cooperate with openings 130 and 136 to provide air circulation-and necessarily for radiation of light through the reflector itself.

At Column 9, lines 56-61, Ticker describes his Fig. 16 third reflector embodiment which includes a plurality of elongated vertically oriented slots designated by Reference No. 215. Those slots similarly provide for both the circulation of cooling air through the reflector as well as the radiation of light through the reflector.

This intrinsic evidence in the form of Tickner's patent drawings and the written description clearly teaches the incorporation of numerous apertures, or open spaces and slots all representing holes in the reflector in two of his three preferred embodiments to provide cooling flow air,-and inherently for the escape compact fluorescent light radiation through the reflector itself. The light passing through these numerous holes in the reflectors radiates both laterally to the side as well as vertically upwardly.

With Genlyte's proposed claim interpretation requiring total containment of all compact fluorescent light radiation within the reflector with one hundred percent reflectivity, two of Tickner's three embodiments would be excluded from the scope of the "reflector means" claim limitation. In view of *Vitronics* and the

intrinsic evidence, however, the Special Master interprets the "reflector means" limitation as encompassing either a totally reflective reflector, a partially reflective reflector, as well as a partially light transmissive reflector, with or without apertures or openings in the reflector itself, where the reflector is capable of radiating light through or out of the reflector in all directions, including both laterally and upwardly. This interpretation expressly encompasses a reflector providing uplighting. This interpretation is consistent with and is, in fact, required by the claim interpretation guidelines stated in the *Vitronics* case which requires that a claim limitation be interpreted to encompass the preferred embodiments disclosed in the intrinsic evidence. In the present case, the intrinsic evidence does not stand in the way of such a broad interpretation. To the contrary, it requires it.

This interpretation is consistent with a lighting industry publication which was jointly submitted to the Court by the parties which defines the term "reflection" as the process by which a part of the light falling on a medium leaves that medium from the incident side. Lighting Handbook Reference & Application (8th ed. 1993) (Illuminating Engineering Society of North America). That definition is consistent with the Special Master's interpretation of the "reflector means" claim limitation.

4. ***Claim 1(b.1); Lamp Support Means***

4.1 The Claim Language of Claim 1(b.1)

(b.1) lamp support means located within said reflector means at the base end thereof for supporting a plurality of compact fluorescent lamps substantially equally angularly displaced about said center line within said reflector means between the base end and the light-emitting end thereof,

4.2 Claim Interpretation Analysis: Applicability of s. 112***. para. 6***

A claim limitation may be expressed in means-plus-function format in accordance with 35 U.S.C. s. 112, paragraph 6, which reads as follows:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The use of the word "means" "triggers a presumption that the inventor used this term advisedly to invoke the statutory mandate for means-plus-function clauses." York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1574, 40 USPQ2d 1619, 1623 (Fed.Cir.1996). This presumption may be overcome in two ways. First, "a claim element that uses the word 'means' but recites no function corresponding to the means does not invoke s. 112, para. 6." Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302, 50 USPQ2d 1429, 1434 (Fed.Cir.1999). Second, "even if the claim element specifies a function, if it also recites sufficient structure or material for performing that function, s. 112, para. 6 does not apply." *Id.; see* Cole v. Kimberly-Clark Corp., 102 F.3d 524, 531, 41 USPQ2d 1001, 1006 (Fed.Cir.1996) ("To invoke [s. 112, paragraph 6], the alleged means-plus-function claim element must not recite a definite structure which performs the described function."). A claim term recites sufficient structure if "the 'term, as the name for structure, has a reasonably well understood meaning in the art.' " Watts v. XL Sys., Inc., 232 F.3d 877, 880-81, 56 USPQ2d 1836, 1838 (Fed.Cir.2000) (quoting Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583, 39 USPQ2d 1783, 1786 (Fed.Cir.1996)). The mere use of the word "means" after a limitation, without more, does not suffice to make that limitation a means-plus-function limitation. Cole, 102 F.3d at 531, 41 USPQ2d at 1006.

In the present case, the "lamp support means" of Claim 1(b) uses the word "means" and thereby presumptively implicates s. 112, para. 6. In addition, the "lamp support means" claim limitation recites a function (for supporting ...), an additional requirement to support the application of s. 112, para. 6. The question then becomes whether this claim element also recites sufficient structure or material for performing that function such that s. 112, para. 6 does not apply. Rodime v. Seagate, supra, 174 F.3d 1294, 1302. These presumptions can be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant. See, e.g., Cole v. Kimberly-Clark Corp., 102 F.3d at 524, 531, 41 USPQ2d 1001, 1006 (Fed.Cir.1996) (noting that whether s. 112, para. 6 is invoked involves an analysis of the "patent and the prosecution history," and consulting a dictionary definition of "perforation" to understand if one of skill in the art would understand this term to connote structure). Personalized Media Communications v. International Trade Commission, 161 F.3d 696, 703 (Fed.Cir.1998).

When evaluating whether sufficiently definite structure has been recited in this "lamp support means" claim limitation, the Special Master must determine whether the structure recited in that claim limitation is capable of performing entirely the recited function. Sage Products Inc. v. Devon Industries Inc., 126 F.3d 1420, 1427-1428; 44 USPQ2d 1103 (Fed.Cir.1997). The Special Master will initially evaluate the "lamp support means" claim language to identify the function being performed by the "lamp support means" itself.

As indicated in Claim 1(b) quoted above, the "lamp support means" support limitations includes two elements: The first element (b.1) recites the "means" while the second element (b.2) specifies the structural characteristics of the "lamp support surfaces" which is defined as "being includ[ed] within the scope of said lamp support means." The functions performed by the non means-plus-function structural element identified as the "lamp support surfaces" are not relevant to an interpretation of the separately defined element b.1 "lamp support means."

As to the element b.1 "lamp support means" claim limitation, two separately identifiable functions are recited as: 1) supporting a plurality of compact fluorescent lamps substantially equally angularly displaced about said center line [i.e., the centerline of the reflector means defined in the reflector means claim limitation]; and 2) supporting a lamp within said reflector means between the base end and the light-emitting end thereof.

Element 1) of the b.1 "lamp support means" claim limitation states that it supports "a plurality of compact fluorescent lamps." The term "plurality" is a term frequently used and well understood by patent attorneys to mean "two or more" of something. In claim element (b.2), "at least two" lamp support surfaces are specified. Since the two element b.2 lamp support surfaces perform only the function of supporting two lamps, the non-means "lamp support surfaces" perform only the second function of supporting those lamps within the reflector. The fact that the two lamp support surfaces are defined as supporting lamps "on opposite sides" of the "lamp support means" defines a 180 (deg.) angle between the two "opposite" FN1 lamps. The lamp support surfaces therefore also perform the first function of supporting at least two lamps. So the non-means "lamp support surfaces" define structure performing both functions required to be formed by the "lamp support means." That result rebuts the presumption that s. 112, para. 6 applies to this "means" claim limitation.

FN1. **Opposite:** 1. Placed or located directly across from something else or from each other. The American Heritage(R) Dictionary of the English Language, Fourth Edition. Copyright (C) 2000 by Houghton Mifflin Company. Published by the Houghton Mifflin Company. http://www.bartleby.com/ 61/86/O0098600.html

The placement of the two words "lamp support" to the left of the word "means" virtually by itself specifies readily understood physical structure capable of supporting a lamp, i.e., a compact fluorescent lamp. This conclusion is demonstrated by the written description of the '414 patent itself. At Column 4, In. 65, the written description defines the relevant structure itself as a "lamp support." That intrinsic evidence demonstrates that the words "lamp support" define specific structure. See also, Col. 5, In. 13. At Column 10, line 3, where the written description alternatively refers to the same structure depicted in the patent drawings as "lamp support means."

In Allen Engineering Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1343 (Fed.Cir.2002), the Federal Circuit was presented with virtually the same category of claims where clearly structural and readily understood words such as "seat," "rigid frame," "motor," "blade," and "gear box" were juxtaposed with the term "means," virtually exactly as done by the patent owner in the present case by juxtaposing the well understood structural term "lamp support" with the term "means." In *Allen Engineering,* the Federal Circuit observed that Allen Engineering's patent attorney was clearly enamored of the word "means." The same is true with the '414 Tickner patent as was demonstrated above in connection with use of the term "reflector means" which merely specifies a reflector.

In *Allen Engineering,* the Court ruled that because "[m]ost of these putative meansplus-function limitations contain far too much structure to claim the benefit of s. 112, s. 6," the original presumption that s. 112, para. 6 applied raised by the use of the word "means" was overcome by the recitation of sufficient structure to preclude s. 112, para. 6 treatment.

As was the case in the *Allen Engineering* and *Cole v. Kimberly Clark* cases, Tickner's detailed recitations in claim element b.2 of the structure which performs both of the two recited functions rebuts the that presumption and precludes the application s. 112, para. 6 to the interpretation the "lamp support means." The dictionary meaning of the term "support" as meaning "to bear the weight of" or "to hold in position so as to keep from falling, sinking or slipping" FN2 is fully consistent with the conclusion that s. 112, para. 6 does not apply here.

FN2. The American Heritage(R) Dictionary of the English Language, Fourth Edition. Copyright (C) 2000 by Houghton Mifflin Company. http:// www.bartleby.com /61/66/S0906600.html; The American Heritage Dictionary of the English Language, New College Edition, (C)1969, 1970, 1971, 1973, 1975 and 1976.

The "lamp support means" shall therefore be interpreted as a structural support for a lamp located inside the reflector near the base end which performs the function of supporting two or more compact fluorescent lamps at an elevation between the base end of the reflector and the light emitting end of the reflector. The "lamp support means" also supports the two or more compact fluorescent lamps to maintain substantially equal angular spacing between adjacent lamps within a horizontal plane passing through the centerline of the reflector, the term "substantially equal" means "approximately equal" or "more or less equal."

The phrase "about said centerline" further characterizes the "lamp support means" as extending around the reflector center line and supporting the compact fluorescent lamps laterally spaced away from the centerline.

5. Claim 1(b.2): Lamp Support Surfaces

5.1 The Claim Language of Claim 1(b.2)

(b.2) said lamp support means including at least two lamp support surfaces on said lamp support means on opposite sides thereof and angled toward the base end of said reflector means for causing compact fluorescent lamps supported thereby to extend outwardly at an angle from said center line toward the light-emitting end of said reflector means to substantially parallel said reflector means; and

5.2 Claim Interpretation Analysis: Applicability of s. 112*, para. 6*

The "lamp support means" includes two or more "lamp support surfaces" which form a part of the lamp support means itself as indicated by the statement that they are mounted "on said lamp support means."

The description that each "lamp support surface" is "angled toward the base end of said reflector means" means that the "surface" is angled upward relative to a horizontal plane relative to the "side" of the "lamp support means" to which the "lamp support surface" is connected.

The phrase "for causing compact fluorescent lamps supported thereby to extend outwardly at an angle from said center line toward the light-emitting end of said reflector means" means that the compact fluorescent lamps supported by each angled lamp support surface extend outwardly at an angle spaced apart from the reflector centerline as the lamps extend in a downward direction away from the lamp support surface toward the light emitting end of the reflector means. This is precisely the type of angular deflection of the compact fluorescent lamps relative to the reflector centerline as illustrated in the cross sectional views shown in Figs. 3 and 15. The lamp support means mounts the compact fluorescent lamps at locations both laterally spaced away from the reflector centerline and angled away from the reflector centerline.

Interpretation of the Claim 1(b.2) phrase "to substantially parallel said reflector means" limitation requires careful consideration of the Federal Circuit's *Vitronics* guideline that a claim be interpreted to encompass the preferred embodiments disclosed in the patent in the absence of convincing evidence to the contrary.

The intrinsic evidence, which is far more significant than one might initially realize, dictates in a very subtle way how this claim limitation should be interpreted.

First, as to the written description, very little guidance as to the interpretation of this "substantially parallel" claim limitation is provided. In the Abstract, Tickner states that his inventive design functions to orient the compact fluorescent lamps such that they "follow the outwardly-flared inside surface of the reflector." At Column 5, lines 28-33, Tickner states the following:

As illustrated in FIGS. 3, 4 and 5, the plate 26 is octagonal in shape, and includes, on each of its outer edges, an extension tab or lamp mounting surface 28 onto which a conventional socket 40 is attached for receiving a commercially available push-in compact flourescent lamp 45. As illustrated most clearly in FIG. 3, the tabs 28 are bent upwardly (as viewed in FIG. 3) approximately 20 degrees to 30 degrees from the plane of the plate 26 *to cause the lamps 45 to extend along a line generally following the curvature of the inside of the reflector portion 14B.*

At Column 8, lines 57-63, Tickner describes the intended relationship as follows:

As shown most clearly in FIGS. 14 and 15, the mounting surfaces 125 are sloped from the edge located nearest the central axis of the fixture, upwardly toward the base end of the fixture, to cause lamps 40/45 located within the fixture and mounted on the lamp support surfaces 125 to be mounted at an angle extending outwardly from the base end, *generally parallel the interior surface of the reflector 100*.

At Column 10, lines 56-60, Tickner describes the intended relationship as follows:

The off-center location of the lamps and their *orientation substantially parallel to the interior of the reflectors* produces light emanating from the reflectors at significantly greater angles than is possible from a single lamp centered in the reflector.

Federal Circuit authority provides some additional claim interpretation guidelines relevant to this claim limitation. In Anchor Wall Systems, Inc. v. Rockwood Retaining Walls, Inc., et al, 340 F.3d 1298, 1311 (Fed.Cir.2003), the Court commented on the interpretation of a claim limitation expressed as "generally parallel." After noting that the claim language "generally parallel" was mathematically imprecise, the Court explained that

words of approximation, such as "generally" and "substantially," are descriptive 18 terms "commonly used in patent claims 'to avoid a strict numerical boundary to the specified parameter.' "

The Federal Circuit cited Andrew Corp v. Gabriel Elecs. Inc., 847 F.2d 819, 821-22 (Fed.Cir.1988) for the proposition that

terms such as "approach each other," "close to," "substantially equal," and "closely approximate" are "ubiquitously used in patent claims and that such usages, when serving reasonably to describe the claimed subject matter to those of skill in the field of the invention and to distinguish the claimed subject matter from the prior art, have been accepted in patent examination and upheld by the courts).

The Federal Circuit stated that in the world of patents and patent law, "while ideally, all terms in a disputed claim would be definitively bounded and clear, such is rarely the case in the art of claim drafting." 847 F.2d 1311.

It is clear from the examination of the Tickner '414 patent written description that not a great deal of specific information was said about the generalized "substantially parallel" relationship between the linear compact fluorescent lamps elements and the obviously curved reflector. In fact, as illustrated in the Fig. 3 cross sectional view of Tickner's first preferred embodiment, the relative angle between the upper or higher level set of compact fluorescent lights and the reflector appears to be fairly parallel to the reflector while the second or lower second set of compact fluorescent lights may be considered to be parallel with a small portion of the upper part of the reflector, but certainly not parallel to the lower portion of the reflector. As to Tickner's second preferred embodiment illustrated in the Fig. 15 cross sectional view, most of the length of the linear compact fluorescent lights is not parallel to any portion of the reflector except potentially the lower extremity of the lamp itself. So how is this apparent claim interpretation dilemma to be resolved?

An historical evaluation of how the intrinsic evidence was created by the patent attorney and then subsequently reviewed by the patent examiner answers this initially puzzling claim interpretation question with great clarity. When the patent attorney wrote the patent application text and drafted the "substantially parallel said reflector means" claim limitation, he would have already received his preliminary version of

the patent drawings from his patent draftsman and would have been looking at the pictures of the invention, specifically at the Fig. 3 and Fig 15 cross sectional views-the only views showing the relationship between the compact linear fluorescent lamps and two different reflector configurations. The patent attorney chose to define *the relationship that he observed in those two cross sectional views* as defining a special and distinct relationship between the linear compact fluorescent lamps and the illustrated reflector configurations. He defined that visual relationship as representing a lamp-relative-to-reflector orientation which is "substantially parallel to the interior of the reflectors" as plainly stated in the written description and as set forth in the claims. In a sense, the inventor acting through his patent attorney thereby functioned as a lexicographer by defining that "substantially parallel" claim language to generally represent the relationship illustrated in the patent drawing Figs. 3 and 15 which illustrate at least three different examples of that angular relationship. Phillips v. AWH Corp., 415 F.3d 1303, at p. 1319 (an inventor may function as his own lexicographer to specially define his own terms). In other words, this particular claim limitation was defined originally by the patent attorney and the inventor based on a general relationship observed in the patent drawings.

When the Patent Examiner subsequently evaluated the claims for patentability, the Examiner reviewed the same drawings, reviewed the same written description and understood how this "generally parallel" claim limitation had been defined by the patent attorney and the inventor. Based on his understanding and approval, the Examiner passed the claims to issuance.

The most important intrinsic evidence in the Tickner patent takes the form of the Fig. 3 and Fig. 15 drawings, supplemented only slightly by the written description. The appropriate interpretation of "substantially parallel" neither rests on concepts of geometry nor concepts of parallelism, nor the application of a ruler to a scaled drawing. Instead, the "generally parallel" relationship between a linear compact fluorescent lamp and a curved reflector represents a visual relationship which is both defined in terms of what the language means as well as what is illustrated in the drawings. That specified visual relationship may be applied to an accused structure by viewing a cross sectional view of an accused structure in the form illustrated in Figs. 3 and 15, which presents a scaled relationship between specific compact fluorescent lamps and a vertical section of the reflector lying in a plane defined by two lines: 1) the reflector center line, and 2) the linear axis of the compact fluorescent lamp being evaluated. This is exactly the relationship illustrated Tickner's Fig. 3 and Fig. 15 sectional views.

So, in the context of the present case, because Tickner's patent attorney assisted Tickner to act as his own lexicographer to define almost solely by visual means (rather than by words) the meaning of the "substantially parallel" relationship between the compact fluorescent lamp and an adjacent section of the reflector, the "substantially parallel" relationship represents an "eyeball" definition rather than a textual definition.

This conclusion is both fair and appropriate because, after the Tickner patent issued, the public had access to precisely the same intrinsic evidence originally created by Tickner and his patent attorney. That same intrinsic evidence was subsequently reviewed and understood by the Patent Examiner. After patent issuance, the accused infringer and the public in general was provided access to the same intrinsic evidence. The answer to the claim interpretation puzzle thus lies not in the dictionary, but in the Fig. 3 and Fig. 15 drawings. The resulting visual interpretation fully meets the Federal Circuit's *Vitronics* dictates that a claim limitation be interpreted to encompass disclosed the preferred embodiments.

That visual or "eyeball" interpretation can be expressed in words as follows:

The "substantially parallel" claim limitation describes the orientation of the compact fluorescent lamp relative to a nearby portion of the reflector.

The portion of the reflector to compare the relative alignment between the reflector and the compact fluorescent lamp can best be visualized by mentally slicing the reflector in half in a slicing direction in alignment with the compact fluorescent lamp.

Fig. 15 of the Tickner patent is referred to as a "cross-sectional view" and illustrates how the appropriate slicing and angular comparing process should be visualized.

A compact fluorescent lamp (such as lamp 45 shown in Fig. 15 of the Tickner patent) is a linear or straight line device that defines one of the two lines to be compared to evaluate whether the compact fluorescent lamp is substantially parallel to the sliced reflector.

The curved exposed edge of the sliced reflector (as illustrated in Fig. 15) from the top of the slice to the bottom of the slice can be thought of as many short, straight reflector segments joined end to end.

If any one of those numerous straight reflector segments located anywhere between the top of the bottom of the reflector slice is "more or less," or "about" or "generally" parallel to the compact fluorescent lamp, then you may find that the compact fluorescent lamp is substantially parallel to the reflector.

The functional limitation for the "at least two lamp support means" relating to "causing compact fluorescent lamps supported thereby to extend outwardly at an angle from said center line toward the light-emitting end of the reflector means to *substantially parallel said reflector means* " means that, in additional to the various other limitations of the lamp support means previously defined above, a lighting apparatus should include at least two compact fluorescent lamps supported by at least two lamp support surfaces where the compact fluorescent lamps are both 1) laterally spaced away from the reflector center line, and 2) outwardly angled as illustrated in Tickner's patent drawing such that the linear light emitting portion of the at least two compact fluorescent lamps are "substantially parallel" to an adjacent section of the reflector where that "substantially parallel" relationship is defined by Tickner's Fig. 3 and Fig. 15 cross sectional views. The utilization of the modifier "substantially" contemplates meaningful variations from the specific angular relationships illustrated in Tickner's patent drawings as long as the overall "eyeball" impression is one of "general parallelism" as articulated by Tickner's Figs. 3 and 15. Again, that "substantially parallel" relationship can be expressed in words as set forth above.

This relative angular relationship cannot be, as suggested by Sportlite, based on any concept of uniformity of light intensity since Claim 1 nowhere utilizes that term or invokes that concept.

6. Claim 1(c): Power Supply Means

6.1 The Claim Language of Claim 1(c)

(c) means for supplying operating electric power to lamps supported by said lamp support means.

6.2 Claim Interpretation Analysis: Applicability of s. 112*, para. 6*

Based on the prior analysis of the relevant Federal Circuit authority, this claim limitation clearly invokes s.

112, para. 6 and must be interpreted to cover the corresponding structure described in the Tickner '414 patent specification and equivalents thereof.

Tickner discloses "corresponding structure" both in his Fig. 7 electrical schematic diagram as well as in his written description at Column 6, lines 25 through Column 7, line 43. Tickner's extensive disclosure contemplates numerous ways to apply electric operating power to the compact fluorescent lamps. His disclosure essentially boils down to "corresponding structure" including the following basic elements: 1) a source of single phase alternating current (AC) power, 2) some type of electric switching device to connect the recited two or more lamps to the power source, and 3) at least one ballast coupled between the electrical switching mechanism and the lamps to assist with the initial lamp ignition. Tickner discloses providing one ballast for each compact fluorescent lamp or for sharing a single ballast with two lamps. He further contemplates various different switching mechanisms involving "any suitable technique currently known," including remote control, direct control, relay or digitally activated switches and so forth.

Based on that "corresponding structure," the "power supply means" is interpreted as encompassing 1) a source of AC power, 2) wiring connecting the AC power to the compact fluorescent lamps, 3) one or more switching devices, and 4) one or more ballasts connected in series with the wiring.

7. The Claim 1 Disclaimer Issue

In the Background of the Invention section of his patent, Tickner discloses as relevant prior art U.K. Patent No. 878,534 to Schmidt and U.S. Patent No. 4,520,436 to McNair. At Column 2, lines 63-64, Tickner explains that the lamp sockets disclosed in the Schmidt patent "extend outwardly at angles of approximately 45 (deg.) relative to the vertical." During prosecution of the predecessor to the Tickner reissue patent, the Examiner cited the Schmidt and McNair references to support a rejection of Tickner's claims as obvious under 35 U.S.C. s. 103. Genlyte asserts the existence of a disclaimer of claim scope of Tickner's reissue patent claims 1) based on the 45 (deg.) angle statement regarding Schmidt's lamp sockets included in his written description, and 2) based on Tickner's claim-based arguments which distinguished the claims of his prior patent from the combined teachings of Schdmit and McNair.

The Federal Circuit has explained the disclaimer theory asserted by Genlyte as follows:

"When the patentee makes clear and unmistakable prosecution arguments limiting the meaning of a claim term in order to overcome a rejection, the courts limit the relevant claim term to exclude the disclaimed matter. SanDisk Corp. v. Memorex Prods., Inc., 415 F .3d 1278, 1286 (Fed.Cir.2005).

In Scimed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1347 (Fed.Cir.2001), the written description of the patent in suit expressly stated that *all embodiments of the invention* encompassed a specified configuration. When the accused infringer adopted a different configuration, the Federal Circuit ruled that the different configuration did not infringe the claims due to the unequivocal disclaimer in the written description of the patent which expressly limited the scope of both the invention and the claims to one specific product configuration. That is not what happened in the present case.

The Schmidt patent discloses a specific configuration of a constellation of three mercury vapor discharge lamps, (lamps very different from fluorescent lamps), where each of the three lamps is separately powered by a different phase of a three phase alternating current power source. The glass envelop of each lamp depicted in the Schmidt patent is configured as a semi-spherical, egg-shaped configuration. The unique

configuration of the Schmidt light fixture was intended to null out and thereby eliminate flickering caused by the three phrase alternating energy pulses directed at different time intervals to each of the three lamps by the three phase AC power supply. The Schmidt patent taken by itself bears little relationship to the invention defined by Tickner's claims which is energized by a single phase AC power source. To the contrary, Tickner's invention addressed and resolved entirely different problems than those addressed by Schmidt, a fact readily recognized by Tickner's patent attorney and by the Patent Examiner.

Tickner's accurate statement in his patent that Schmidt's lamp sockets are oriented at a 45 (deg.) angle did not disclaim any scope of his claims and is in fact irrelevant to any disclaimer or claim interpretation issue.

The McNair patent does disclose a reflector utilizing compact fluorescent lamps, but the lamps are mounted outside of the reflector in a laterally offset manner as illustrated in Fig. 5. In addition, McNair's lamps extend through the reflector and across the reflector center line and cross each other. McNair's light fixture bears little relationship to the invention defined by Ticker's claims.

When, during the prosecution of his prior patent, Tickner paraphrased the language of the claims being prosecuted in that case and asserted that the combined teachings of Schmidt and McNair, whether taken singly or in combination, did not teach or suggest the invention defined by his claims, that was a correct and accurate statement which did not in any way surrender or disclaim coverage of the claims in that case, nor in the present reissue patent. Tickner's argument did not limit the meaning of a claim term to overcome a rejection. Instead, his arguments merely pointed out the very evident structural differences between his claim and the teachings of the quite different light fixtures disclosed in the Schmidt and McNair patents. The Special Master therefore rejects Sportlite's disclaimer contentions.

8. The 35 U.S.C. 112 s. 2 ***Indefiniteness Claim Interpretation Issue***

Genlyte asserts that the "substantially parallel" limitation recited in Tickner's reissue claim renders those claims indefinite under 35 U.S.C. s. 112, para. 2-the statutory provision which requires that claims "particularly point out and distinctly claim" a patented invention. Genlyte asserts that indefiniteness represents a patent validity defense outside the scope of the present claim interpretation proceedings. Genlyte is mistaken. In Howmedica Osteonics Corp. v. Tranquil Prospects, Ltd., 401 F.3d 1367, 1371 (Fed.Cir.2005), the Federal Circuit explained that resolution of the indefiniteness issue was encompassed within claim interpretation proceedings:

Patent claims must particularly point[ ] out and distinctly claim [ ] the subject matter which the applicant regards as his invention. 35 U.S.C. s. 112, para. 2 (1982). A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." Personalized Media Communications, 161 F.3d at 705. The perspective of a person of ordinary skill in the art at the time of the patent application governs the defmiteness analysis. W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1556-57 (Fed .Cir.1983). The defmiteness of a patent claim depends on whether one skilled in the art would understand the bounds of the claim when read in light of the specification. *Union Pac. Res.,* 236 F.3d at 692 (citing Orthokinetics, Inc. v. Safety Travel Chairs, Inc. 806 F.2d 1565, 1576 (Fed.Cir.1986)). "A claim is indefinite if its legal scope is not clear enough that a person of ordinary skill in the art could determine whether a particular [product or method] infringes or not." Geneva Pharms., Inc. v. GlaxoSmithKline PLC, 349 F.3d 1373, 1384 (Fed.Cir.2003).

As an inherent part of the present claim interpretation proceedings, the Special Master has definitively and

completely interpreted the allegedly indefinite "substantially parallel" claim limitation. As a result, Genlyte's indefiniteness affirmative defense has both been resolved and rejected by the present proceedings.

9. Claim 8: The Circular Configuration

9.1 The Claim Language of Claim 8

8. The combination according to claim 1 wherein said reflector means has substantially circular cross sections in planes perpendicular to said center line.

9.2 Claim Interpretation Analysis

The Court must construe a claim to the extent possible to encompass an inventor's preferred embodiments. *Vitronics, supra*. That guideline does not necessarily apply to an interpretation that relates to a narrower dependent claim such as Claim 8. Nevertheless, the utilization of the broadening adjective "substantially" in connection with the structural limitation "circular" should be interpreted to accommodate minor variations from a pure circular configuration. *Anchor Wall, supra*. In view of the minor fluting depicted in Tickner's second and third embodiments, the Special Master interprets this claim limitation to encompass a reflector having a generally circular cross section which may include minor flute-like indentations or non-circular variations of the type disclosed in Tickner's second and third embodiments.

10. Claim 9; Circular Configuration Which Increases In Diameter

10.1 The Claim Language of Claim 8

9. The combination according to claim 8 wherein said substantially circular cross sections increase in diameter from the base end of said reflector means to the lightemitting end thereof.

10.2 Claim Interpretation Analysis

Claim 9 further limits dependent Claim 8 by reciting that the substantially circular cross sections increase in diameter from the top end to the bottom end. This is precisely the reflector configuration shown in Tickner's patent drawing Figs. 2-16, all of which include a circular cross which increases in diameter. Those drawing figures illustrate the appropriate interpretation for this dependent claim.

11. Claim 10; Eight Equally-spaced Lamp Support Surfaces

11.1 The Claim Language of Claim 10

10. [The combination according to claim 1] *Lighting apparatus including in combination:*
reflector means having a base end of first size and a light-emitting end of a second size larger than said first size and having a center line extending from the center of the base end to the center of the light-emitting end thereof;

lamp support means located within said reflector means at the base end thereof for supporting a plurality of compact fluorescent lamps substantially equally angularly displaced about said center line within said reflector means between the base end and the light-emitting end thereof, said lamp support means including at least two lamp support surfaces on said lamp support means on opposite sides thereof and angled toward the base end of said reflector means for causing compact fluorescent lamps supported thereby to extend outwardly at an angle from said center line toward the light emitting end of said reflector means to substantially parallel said reflector means;

means for supplying operating electric power to lamps supported by said lamp support means; and wherein said lamp support means includes eight equally-spaced lamp support surfaces thereon.

11.2 Claim Interpretation Analysis

Claim 10 is identical to Claim 1 except for the following additional limitation: "wherein said lamp support means includes eight equally-spaced lamp support surfaces thereon." Claim 10 should therefore be interpreted identically to Claim 1 except that it includes a further limitation requiring the presence of eight lamp support surfaces which are equally spaced relative to one another. "Equally spaced" means spacing which is equal and requires equal spacing between all eight lamp support surfaces.

12. Claim 34; Directing Light Towards A Surface

12.1 The Claim Language of Claim 34

34. The lighting apparatus of claim 1 wherein the light-emitting end directs light towards a surface to be illuminated.

12.2 Claim Interpretation Analysis

The Special Master interprets this limitation as merely specifying that the light emitting end of the reflector is oriented or directed such that the reflector directs light towards a surface to be illuminated.

13. Claim 35; Power Selection Circuit

13.1 The Claim Language of Claim 35

35. The lighting apparatus of claim 34 wherein the means for supplying operating electric power includes a power selection circuit coupled to and selectively applying power to different numbers of the compact fluorescent lamps.

13.2 Claim Interpretation Analysis

The Special Master interprets the "power selection circuit" as circuitry applied to a lighting apparatus as defined in Claim 1 and (not significantly limited by the intervening dependent Claim 34) having at least two compact fluorescent lamps. The power selection circuit therefore must have the capability of "selectively" energizing either one or both lamps. In other words, this additional claimed feature would only require that a power selection circuit possess a selection capability exceeding the ability to either turn "on" all or turn "off" all lamps within a lighting apparatus. Selectively turning "on" or "off" one lamp independent of a second lamp would be encompassed by this claim.

14. Claim 36: Plurality of Remote Ballasts

14.1 The Claim Language of Claim 36

36. The lighting apparatus of claim 35 wherein the means for supplying operating electric power includes a plurality of remote ballasts, each ballast being coupled to at least one of the compact fluorescent lamps.

14.2 Claim Interpretation Analysis

The "power supply means" of Claim 1 has already been interpreted as requiring the presence of at least one ballast. The further limitation that the ballast is "remote" means simply that a remote ballast represents a ballast located outside the reflector. In Tickner's preferred embodiment, the ballast devices are located in ballast housing 19, a location outside the reflector and as such represents "remote" ballasts.

15. Claim 37: The Illumination System

15.1 The Claim Language of Claim 37

37. An illumination system having a plurality of outwardly flared fixtures located a predetermined distance from a surface to be illuminated, and spaced apart in a predetermined grid pattern above the surface to be illuminated in which each of the fixtures has a base end of a first size and a light-emitting end of a second size larger than the first size, and having a center line extending from the center of the base end to the center of the light-emitting end thereof, the system including;

a plurality of linear light sources, each source including a perceptible lightgenerating portion that is at least twice as long as its width; a plurality of supports, each located within a different one of the fixtures at the base end thereof configured to support the plurality of linear light sources angularly displaced about the center line within each of the fixtures between the base end and the light-emitting end thereof, each support including a plurality of support surfaces, each support surface configured to support the linear light sources so that the length of the light-generating portions extend outwardly at an angle from the center line toward the fight-emitting end of the fixture to substantially parallel the fixture;

a power supply circuit coupled to and supplying operating electric power to linear light sources supported by the supports; and

the predetermined spacing between the fixtures being such that light emanating from the light-emitting end of each of the fixtures and received at a plurality of work

plane heights, located from zero to at least four feet above the surface to be illuminated, overlaps light emitted from others of the fixtures in the pattern, beyond the next nearest fixture, in such a manner as to provide a substantially uniform distribution of light at and between each work plane height

15.2 Claim Interpretation Analysis

Claim 37 represents a claim newly added in the reissue patent. None of the claim limitations set forth in Claim 37 fall within the scope of s. 112, para. 6 since no limitation recites the term "means." *Rodime, supra*.

The light sources in Claim 37 are described as "linear light sources" which means a light source having a straight line element or segment where the light-generating portion of the light source has a length at least twice as long as the width of the light-generating portion of the light source. A compact fluorescent lamp falls within the scope of this claim limitation, although this claim limitation would encompass other light sources.

The "supports" limitation is to be interpreted in an identical manner to the interpretation applied to the "light support means" as set forth in Claim 1, with a few exceptions. First, Claim 37 recites the utilization of a

plurality of outwardly flared "fixtures," a term broader than the "reflector means" recited in Claim 1. Second, the "supports" support "linear light sources" rather than compact fluorescent lamps. With those two exceptions, the "supports" limitation of Claim 37 shall be interpreted the same as the "support means" of Claim 1. For the visual or "eyeball" interpretation of the "substantially parallel" claim limitation expressed in words as set forth in s. 5.2 above the Claim 37 term "fixture" should be substituted for the Claim 1 term "reflector."

The "power supply circuit" limitation of Claim 37 merely encompasses any device which is coupled to and capable of supplying operating electrical power to the linear light sources. The contemplated power supply circuit could supply direct current or alternating current, could be supplied by a commercial mains or by battery power.

The system contemplated by Claim 37 is partially defined by the preamble which, in the present case is to an extent limiting. The preamble recites the utilization of a plurality of "fixtures," all of which are located a predetermined distance from the surface to be illuminated. The fixtures are then defined as being spaced apart in a predetermined grid pattern. The final limitation of Claim 37 specifies the "predetermined spacing" between the fixtures as specified by the distribution of light at various elevations designated as "work plane heights."

The spacing is defined functionally in terms of an evaluation of the light distribution at work plane heights located from zero to at least four feet above the surface to be illuminated. The key limitation reads as follows: "in such a manner as to provide a *substantially uniform distribution of light* at and between each work plane height."

Tickner's Table 1 at Columns 11-14 of the '414 patent evaluates the light intensity at a zero elevation representing the surface to be illuminated. Table 1 illustrates that for very minor variations in height, or for very minor variations in lateral position, the light intensity variations are in fact relatively minor. When illumination intensities at substantially spaced apart locations are compared at the same elevation, the illumination intensity variations become substantially more significant. The same is true for minor variations in vertical height as opposed to major variations in vertical height.

In construing this important portion of Claim 37, the Special Master remains mindful of the *Vitronics* case guideline that claims should normally be interpreted to read on the inventor's disclosed preferred embodiments. The chart below summarizes what the Special Master regards as the key findings and conclusions set forth in Table 1and in Table 2 appearing at Columns 11-15 of the Tickner '414 patent.

Table	Max Intensity	Minimum Intensity	Average Intensity	*Max Intensity* Min Intensity	Max to Min Charge	*Max Charge* Avg Over Level (%)
Table 1 (0 feet)	29.4	24.1	27.1	1.2	5.3	19.5%
Table 2 (4 Feet)	29.5	25.4	27.9	1.3	6.1	21.9%

Tickner's measurements and tabulations regarding illumination intensity variations between 0 and 4 feet as set forth in the chart above illustrate the relatively significant intensity variations which may arise over an illuminated area at a fixed height, as well as the variation in illumination intensity when moving from the zero height surface to an elevation four feet above that surface. The summary chart above demonstrates

variations in illumination intensity of from twenty to thirty percent and illustrate similar variations from the lower elevation to the higher elevation. Once again, the modifier "substantially" expands the scope of the term "uniform" and should be interpreted to at least encompass Tickner's preferred embodiment as to uniformity. One must also bear in mind the fact that Tickner's preferred embodiment may very well represent his best performing embodiment and that data derived from that best embodiment should not be relied on to limit Claim 37 to cover only the best or most optimized version of Tickner's own invention. With these considerations in mind, the Special Master therefore interprets the claim language "substantially uniform distribution of light at and between each work plane height" as encompassing relatively wide variations in the extremes of maximum intensity and minimum intensity over wide variations in either lateral or vertical positions, while at the same time substantially preserving uniformity with respect to relatively minor positional displacements, either vertical or lateral.

So the quantification of "uniform distribution" depends on the relative spacing between two measurements, a concept clearly demonstrated by the detailed test data disclosed in the '414 patent. In other words, the definition of the term "uniform distribution" depends on how the measurements are made. In either case, however, the concept of "substantial" uniformity allows for significant variation and is not subject to any exact quantification other than as stated herein.

16. Summary and Conclusion

This concludes the Special Master's report and recommendations.

D.Ariz.,2006.
Sportlite, Inc. v. Genlyte Thomas Group, LLC

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