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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

ENPLAS DISPLAY DEVICE CORP., and
others,

Plaintiffs and
Counterdefendants,

v.

SEOUL SEMICONDUCTOR CO., LTD.,

Defendant and
Counterclaimant.

Case No. 13-cv-05038 NC

**ORDER CONSTRUING TERMS OF
U.S. PATENT NOS. 6,473,554 AND
6,007,209**

Re: Dkt. Nos. 70, 74, 75

The parties in this declaratory judgment action dispute the construction of nine key terms in two patents covering technology for backlighting a display. The Court adopts the parties' stipulated constructions and further construes all except one of the disputed terms.

I. BACKGROUND

Defendant Seoul Semiconductor Co., Ltd. ("SSC"), manufactures light-emitting diode ("LED") products and asserts that it owns more than 10,000 LED patents worldwide, including the two patents at issue in this case, U.S. Patents Nos. 6,473,554 (the "'554 patent") for "Lighting Apparatus Having Low Profile" and 6,007,209 (the "'209 patent") for "Light Source For Backlighting." Dkt. No. 11. The '554 patent relates to a lighting apparatus that is useful as a backlight for illuminating a display, such as a liquid crystal

1 display (“LCD”). Dkt. No. 70-1. The ’209 patent relates to an apparatus and methods for
2 backlighting a display panel. Dkt. No. 70-2.

3 SSC asserts that plaintiffs Enplas Display Device Corporation (“EDD”), Enplas Tech
4 Solutions, Inc. (“ETS”), and Enplas (U.S.A.) Inc. (“EUSA”) (collectively, “Enplas”)
5 infringe the ’554 and ’209 patents by manufacturing and supplying lenses for use with
6 LEDs, including lenses for use in LED backlights for LCD televisions and monitors. Dkt.
7 No. 11.

8 Enplas filed its complaint on October 29, 2013, seeking a declaratory judgment that
9 the ’554 and ’209 patents are not infringed and are invalid. Dkt. No. 1. On January 16,
10 2014, Enplas filed a first amended complaint. Dkt. No. 7. On April 21, 2014, SSC filed its
11 answer and counterclaims, alleging infringement of the ’554 and ’209 patents against EDD,
12 ETS, and EUSA. Dkt. No. 11. Based on a declaration provided by ETS that it has had no
13 relevant involvement with the products accused of infringement, the Court dismissed with
14 prejudice SSC’s patent infringement counterclaims against ETS as stipulated by the parties.
15 Dkt. No. 62.

16 In their Joint Claim Construction Statement, Dkt. No. 69, the parties identified nine
17 claim terms as being the most significant to the resolution of this case or claim dispositive.
18 The parties have each submitted claim construction briefing in accordance with the Patent
19 Local Rules, which outlines each party’s proposed construction. Dkt. Nos. 70, 74, 75. The
20 Court held a claim construction hearing, aided by a tutorial presented by both parties. Dkt.
21 No. 80.

22 The Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C.
23 §§ 1331, 1338(a), 2201, and 2202. All parties have consented to the jurisdiction of a
24 magistrate judge. Dkt. Nos. 10, 24.

25 **II. LEGAL STANDARD**

26 The construction of terms found in patent claims is a question of law to be
27 determined by the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.
28 Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). “[T]he interpretation to be given a term

1 can only be determined and confirmed with a full understanding of what the inventors
2 actually invented and intended to envelop with the claim.” *Phillips v. AWH Corp.*, 415 F.3d
3 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158
4 F.3d 1243, 1250 (Fed. Cir. 1998)). Consequently, courts construe claims in the manner that
5 “most naturally aligns with the patent’s description of the invention.” *Id.*

6 The first step in claim construction is to look to the language of the claims
7 themselves. *See generally Breville Pty Ltd. v. Storebound LLC*, No. 12-cv-01783 JST, 2013
8 WL 3153383 (N.D. Cal. June 19, 2013). “It is a ‘bedrock principle’ of patent law that ‘the
9 claims of a patent define the invention to which the patentee is entitled the right to
10 exclude.’” *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water*
11 *Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). A disputed claim term should
12 be construed in light of its “ordinary and customary meaning,” which is “the meaning that
13 the term would have to a person of ordinary skill in the art in question at the time of the
14 invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at
15 1312. In some cases, the ordinary meaning of a disputed term to a person of skill in the art
16 is readily apparent, and claim construction involves “little more than the application of the
17 widely accepted meaning of commonly understood words.” *Id.* at 1314. Claim
18 construction may deviate from the ordinary and customary meaning of a disputed term only
19 if (1) a patentee sets out a definition and acts as his own lexicographer, or (2) the patentee
20 disavows the full scope of a claim term either in the specification or during prosecution.
21 *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

22 Ordinary and customary meaning is not the same as a dictionary definition.
23 “Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary
24 artisan after reading the entire patent. Yet heavy reliance on the dictionary divorced from
25 the intrinsic evidence risks transforming the meaning of the claim term to the artisan into
26 the meaning of the term in the abstract, out of its particular context, which is the
27 specification.” *Phillips*, 415 F.3d at 1321. Typically, the specification “is the single best
28 guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d

1 1576, 1582 (Fed. Cir. 1996). It is therefore “entirely appropriate for a court, when
2 conducting claim construction, to rely heavily on the written description for guidance as to
3 the meaning of claims.” *Phillips*, 415 F.3d at 1315. However, while the specification may
4 describe a preferred embodiment, the claims are not necessarily limited only to that
5 embodiment. *Id.*

6 Finally, courts may consider extrinsic evidence in construing claims, such as “expert
7 and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980.
8 Expert testimony may be useful to “provide background on the technology at issue, to
9 explain how an invention works, to ensure that the court’s understanding of the technical
10 aspects of the patent is consistent with that of a person of skill in the art, or to establish that
11 a particular term in the patent or the prior art has a particular meaning in the pertinent
12 field.” *Phillips*, 415 F.3d at 1318. However, extrinsic evidence is “less reliable than the
13 patent and its prosecution history in determining how to read claim terms.” *Id.* If intrinsic
14 evidence mandates the definition of a term that is at odds with extrinsic evidence, courts
15 must defer to the definition supplied by the intrinsic evidence. *Id.*

16 The Court “has an independent obligation to determine the meaning of the claims,
17 notwithstanding the views asserted by the adversary parties.” *Exxon Chem. Patents, Inc. v.*
18 *Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995). “In light of this, courts have
19 recognized that in determining the scope and construction of a given claim, ‘the Court is not
20 required to adopt a construction of a term, even if the parties have stipulated to it.’” *Lam*
21 *Research Corp. v. Schunk Semiconductor*, No. 03-cv-1335 EMC, 2014 WL 4180935, at *6
22 (N.D. Cal. Aug. 22, 2014) (quoting *Boston Scientific Corp. v. Micrus Corp.*, 556 F. Supp.
23 2d 1045, 1051 (N.D. Cal. 2008)).

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III. CLAIM CONSTRUCTION

The parties have agreed to the constructions of the following four terms:

Patent	Claim Terms	Stipulated Construction
'554 patent	“total internal reflection”	“The total reflection that occurs when light strikes an interface at angles of incidence (with respect to the normal) greater than the critical angle”
'554 patent	“the critical angle of total internal reflection”	“the angle of incidence (with respect to the normal) above which total internal reflection occurs”
'554 patent	“within a boundary defined by said waveguide”	“partially or fully within a surface of said waveguide”
'209 patent	“said housing further comprising shielding elements”	“said housing further including shielding elements”

Dkt. No. 70-3.

The Court finds that a construction of the four terms will help clarify and explain the meaning of those terms to the jury. Further, the Court finds that the parties' stipulated constructions are supported by the claims and specifications of the respective patent, and therefore adopts those constructions.

Additionally, the parties identified nine disputed terms whose construction would be the most significant to the resolution of this case. Dkt. No. 69 at 3. Six of these disputes involve claim terms from the '554 patent while the remaining three disputes involve claim terms from the '209 patent.

Beyond the nine key claim construction disputes, there are sixteen additional terms that the parties dispute. Consistent with Patent Local Rule 4-3(c), the Court will limit its review at this juncture to the nine key disputed terms set forth in the chart below. *See, e.g., Adobe Sys. Inc. v. Wowza Media Sys. LLC*, No. 11-cv-02243 JST, 2013 WL 9541126, at *1 (N.D. Cal. May 6, 2013) (limiting the number of claims that the court will construe to ten);

1 *Finisar Corp. v. Oplink Commc'ns, Inc.*, No. 10-cv-05617 RS, 2011 WL 7102553, at *1
2 (N.D. Cal. Nov. 17, 2011) (same).

3 **A. '554 Patent Disputed Terms**

4 The '554 patent, entitled "Lighting Apparatus Having Low Profile," describes an
5 invention related to a low profile lighting apparatus for use as a backlight for illuminating a
6 display. Dkt. No. 70-1 ('554 patent, Abstract). The lighting apparatus includes a
7 waveguide coupled to a light source for injecting light into the waveguide. *Id.* The
8 waveguide includes a plurality of elongate structures for ejecting light propagating within
9 the waveguide through a predetermined surface of the waveguide. *Id.* Another
10 embodiment of the waveguide includes a central region of reduced thickness that redirects
11 light propagating within the waveguide. *Id.*

12 **1. "Cusp"**

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Term	SSC's Construction	Enplas's Construction
"cusp"	"a pointed, contoured, or rounded area where two curves meet"	"pointed end or part where two curves meet"

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17 The parties agree that a cusp is "where two curves meet." This is consistent with the
18 plain and ordinary meaning of the term. The dispute is whether a "cusp" should be defined
19 as "pointed, contoured, or rounded," as SSC contends, or if it must always be "pointed," as
20 Enplas contends.

21 The term "cusp" appears in several claims. Claim 7 recites an "illumination device"
22 comprising in part "*a surface on the waveguide curving toward the LED to receive*
23 *impingement of light from the LED, . . . said surface defining a cusp directed toward the*
24 *LED, said LED having an end terminating in alignment with said cusp to direct*
25 *substantially all light from the LED directly toward and adjacent the cusp.*" ('554 patent,
26 claim 7) (emphasis added). Dependent claim 12 recites the device of claim 7 wherein "said
27 surface defines an axis directed toward the LED" and "said surface defines an axis that
28 intersects said cusp and said LED." (*Id.*, claim 12).

1 Claim 28 recites in part an “optical apparatus” comprising in part a “TIR [total
2 internal reflection] surface spaced from said one opposing side and extending from a point
3 adjacent the predetermined location of the LED outwardly towards said edges . . . , said TIR
4 surface *curving in the vicinity of the LED so as to form a cusp adjacent the LED . . .*” (*Id.*,
5 claim 28) (emphasis added). Dependent claim 29 recites “[t]he apparatus of claim 28,
6 wherein the cusp is in the form of an equiangular spiral.” (*Id.*, claim 29).

7 Claim 30 recites an “optical apparatus” comprising in part a “TIR surface positioned
8 to receive light emitted by the LED, said TIR surface *curving towards the LED so as to*
9 *form a cusp above the LED*, the curving TIR surface totally internally reflecting light rays
10 such that reflected light rays propagate from the TIR surface towards the edge of the optical
11 element.” (*Id.*, claim 30) (emphasis added). Dependent claim 41 recites “[t]he optical
12 apparatus of claim 38, wherein said refractive interface surface *converges to form a cusp*
13 *which terminates at said location.*” (*Id.*, claim 41) (emphasis added). Several claims that
14 are dependent on claims 30 and 38 recite “cusps” that are “contoured” or “rounded.” (*Id.*,
15 claims 34, 42 (“wherein said cusp is contoured to permit leakage of light”); claims 35, 43
16 (“wherein said cusp is rounded to permit leakage of light”).

17 Consistent with the claims, the specification describes a “cusp” as being formed by a
18 pair of symmetric curved surfaces. (*Id.*, 2:53-61). The specification further describes an
19 embodiment where the waveguide includes a TIR region that “[p]referably, . . . has the
20 shape of an equiangular spiral that forms into a cusp.” (*Id.*, 13:33-35). The specification
21 states that the curved surface of the TIR region has a “geometric contour” that “is selected
22 so that the TIR cusp region 76 formed thereby totally internally reflects substantially all
23 light rays directly emitted by the light source.” (*Id.*, 14:1-4). “Toward this end,” the curved
24 surface of the TIR region is “contoured such that substantially all light rays emitted from
25 the light source 44 are incident on the surface 80 at an angle at least equal to the critical
26 angle.” (*Id.*, 14:4-7). The specification also describes an alternative embodiment of the
27 TIR cusp region where said region “is elongated so as to define an elongated cusp 82a that
28 extends along an axis.” (*Id.*, 14:28-31). In this embodiment, a “symmetric pair of curved

1 surfaces” is “joined at the elongated cusp 82a provide total internal reflection (TIR).” (*Id.*,
2 14:52-55). The specification states that “[t]he tip of the elongated cusp 82 may be rounded
3 to provide controlled leakage of light from the light source.” (*Id.*, 14:44-47).

4 Enplas contends that a “cusp” must always be “pointed.” But the ’554 patent never
5 uses the word “pointed” to describe a “cusp.” Nonetheless Enplas urges the Court to adopt
6 such a construction because (1) the specification discloses embodiments of the “cusp” that
7 have a shape such as “equiangular spiral” that could be described as “pointed”; (2) the
8 illustrations of a “cusp” in the ’554 patent depict a pointed end where the two curves meet
9 (*see, e.g.*, ’554 patent, Figures 16, 16A, 17, 18, and 24); and (3) the dictionary definition is
10 in agreement, Dkt. No. 74-1 at 45 (defining “cusp” as “a pointed end of part where two
11 curves meet”).

12 The Court declines to limit the term “cusp” to the specific embodiments described in
13 the specification. Although a patent’s written description may assist construction of a claim
14 term, the Federal Circuit has warned against importing into the claims limitations,
15 examples, or embodiments appearing only in the written description. *See Comark*
16 *Comm’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998); *Phillips*, 415 F.3d at
17 1323 (“[A]lthough the specification often describes very specific embodiments of the
18 invention, we have repeatedly warned against confining the claims to those
19 embodiments. . . . In particular, we have expressly rejected the contention that if a patent
20 describes only a single embodiment, the claims of the patent must be construed as being
21 limited to that embodiment.”). Here, the claims and specification describe “cusp” as the
22 area formed where two symmetric curved surfaces meet and do not state the “cusp” must be
23 pointed. The construction of “cusp” as a “pointed end or part” is inconsistent with the
24 intrinsic evidence given that the ’554 patent claims and specification explicitly allow the
25 “cusp” to be “contoured” or “rounded.” Enplas argues that there is no inconsistency
26 because the cusp need not be a “precise, infinitesimally small point” and that the “tip of the
27 cusp” could be rounded or contoured. However, the claims allow the entire “cusp” to be
28 rounded or contoured, not just the tip. (*See* ’554 patent, claims 34-35,42-43). The

1 dictionary definition provided by Enplas is not consistent with the intrinsic evidence and
2 cannot be used to transform the meaning of a claim term to the ordinary artisan into the
3 meaning of the term in the abstract, out of the context of the specification. *See Phillips*, 415
4 F.3d at 1321.

5 Enplas criticizes SSC’s construction by arguing that it encompasses “circles and ovals
6 since they too can be formed by joining two curves” but are “not properly within the scope
7 of the claimed subject matter.” However, such a construction is not reasonable in the
8 context of the patent as the “cusp” is described as being formed from surfaces curving
9 towards the LED. (*See* ’554 patent, claims 7, 30).

10 Finally, the Court is also not convinced that it is appropriate to construe the term
11 “cusp” as being limited to the specific examples of “pointed, contoured, or rounded” areas
12 as SSC proposes. The Court finds that the proper construction of “cusp” in light of the
13 specification and claims is “an area where two curves meet.”

14 2. “Totally Internally Reflecting”

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20 The Court has adopted the parties’ stipulated construction of the claim term “total
21 internal reflection” as “[t]he total reflection that occurs when light strikes an interface at
22 angles of incidence (with respect to the normal) greater than the critical angle.” The dispute
23 here is whether the term “totally internally reflecting” refers to reflection occurring through
24 the phenomenon of total internal reflection, which is SSC’s position, or to all light being
25 reflected, as Enplas contends.

26 The disputed claim term appears in claim 30 which recites an “optical apparatus”
27 comprising in part a “TIR surface curving towards the LED so as to form a cusp above the
28 LED, the curving TIR surface *totally internally reflecting light rays* such that reflected light

1 rays propagate from the TIR surface towards the edge of the optical element.” (’554 patent,
2 claim 30) (emphasis added). Dependent claim 33 recites “[t]he optical apparatus of claim
3 30, wherein said TIR surface is leaky such that some light emitted by the LED is
4 transmitted therethrough.” (*Id.*, claim 33). The Court agrees with SSC that Enplas’s
5 proposed construction of “totally internally reflecting” as reflecting all light is inconsistent
6 with claim 33 which permits some light to “leak” through.

7 The conclusion that the TIR surface does not necessarily reflect all light incident
8 upon it is supported by the specification. The specification uses the related terms “totally
9 internally reflected” and “totally internally reflects” to refer to the reflection of some but not
10 all of incident light rays. The specification states that “[i]t will be appreciated that light rays
11 incident on the top surface 56 at an angle of incidence (i.e., the angle of the ray relative to a
12 line normal to the surface) at least equal to a critical angle will be totally internally reflected
13 toward the bottom surface 58. That is, the top surface 56 will reflect *all of such light* back
14 into the waveguide 42.” (*Id.*, 7:39-44) (emphasis added). But the specification also makes
15 clear that “[l]ight rays having an angle of incidence less than the critical angle are
16 transmitted through the top surface 56.” (*Id.*, 7:44-46).

17 The specification also describes an embodiment where the curved surface of the TIR
18 region has a “geometric contour” that “is selected so that the TIR cusp region 76 formed
19 thereby totally internally reflects *substantially all light rays* directly emitted by the light
20 source.” (*Id.*, 14:1-4) (emphasis added). “Toward this end,” the curved surface of the TIR
21 region is “contoured such that *substantially all light rays* emitted from the light source 44
22 are incident on the surface 80 at an angle at least equal to the critical angle.” (*Id.*, 14:4-7)
23 (emphasis added); (*see also* 14:61-64 (the curved surface of the TIR region “should be
24 contoured to be a less than perfect internal reflector so that a significant portion of the
25 incident light leaks through the surface 80”)).

26 In support of its position, Enplas relies on a definition provided by the United States
27 Patent and Trademark Office (“USPTO”) which describes “total internal reflection” as “[a]
28 principle based upon Snell’s Law, which defines the relationship between incident and

1 refracted light rays,” according to which “at angles of incidence greater than [the critical
2 angle], the light is reflected from the boundary.” Dkt. No. 74-1 at 42-43. Enplas argues
3 that the TIR surface “cannot be totally internally reflecting some of the light” as that would
4 violate Snell’s law and be contrary to the USPTO’s definition.

5 In response, SSC asserts that the USPTO’s classification system is an administrative
6 convenience, not a dictionary of accepted meanings of terms as used by those of skill in the
7 art, and that the parties have not been able to find a single claim construction order that has
8 ever relied on the definitions for terms found in the USPTO’s Manual of Patent
9 Classification to define a claim term. The Court need not decide if reliance on the
10 USPTO’s definition is ever appropriate because here it is unnecessary. The claims and
11 specification provide that the TIR surface reflects some but not necessarily all of the light
12 incident upon it. The USPTO’s definition is not contrary to this finding because the curving
13 TIR surface can totally internally reflect some light (all light that strikes the TIR surface at
14 angles of incidence greater than the critical angle) while not reflecting other light (light that
15 strikes the TIR surface at angles of incidence less than the critical angle). For this reason,
16 Enplas is also incorrect in arguing that SSC’s construction reads out “totally” in “totally
17 internally reflecting.” SSC’s construction is consistent with the claims, specification, and
18 Snell’s law, and the parties’ stipulated construction of the claim term “total internal
19 reflection.”

20 The Court finds that the proper construction of “totally internally reflecting” is
21 “reflecting by total internal reflection.”

22 **3. “Illumination Coupler Embedded In An Interior Region of Said**
23 **Waveguide”**

Term	SSC’s Construction	Enplas’s Construction
“illumination coupler embedded in an interior region of said waveguide”	“the illumination coupler is in a central region of said waveguide”	“the illumination coupler is located on the inside of the waveguide (i.e., interior region) and is completely enveloped by (i.e., embedded in) the waveguide”

1 The dispute here is whether the “illumination coupler” is in a central region of the
2 waveguide, as SSC contends, or whether it is completely enveloped by the waveguide,
3 which is Enplas’s position.

4 The disputed claim term appears in claim 1 which recites an “illumination device”
5 comprising in part “a waveguide having *an illumination coupler embedded in an interior*
6 *region of said waveguide*, said illumination coupler adapted to receive light from a point
7 source *within said interior region*, and to direct light between generally parallel top and
8 bottom surfaces outside *said interior region*.” (’554 patent, claim 1) (emphasis added).

9 In support of its proposed construction, SSC argues that the specification uses
10 “interior region” synonymously with “central region” to describe the center of an object
11 when looking from above. (*See id.*, 15:57-59 (“a single LED could be located in the interior
12 region of a circular waveguide”)). However, an “interior region” does not have to be
13 necessarily a “central region.” To the extent SSC is arguing that the patentee acted as a
14 lexicographer in defining the term “interior region” as a “central region,” this argument
15 fails. The patentee here has not exhibited a clear intent, either expressly or by implication,
16 to define the term as SSC contends. *See Thorner*, 669 F.3d at 1368 (to act as its own
17 lexicographer, a patentee must “clearly express an intent” to redefine the term; an “implied”
18 redefinition must be so clear that it equates to an explicit one).

19 Furthermore, “the use of different terms implies that they have different meanings”
20 though that implication is overcome where “the evidence indicates that the patentee used
21 the two terms interchangeably.” *Baran v. Med. Device Technologies, Inc.*, 616 F.3d 1309,
22 1316 (Fed. Cir. 2010). Here, claim 1 and the specification consistently refer to “an
23 illumination coupler embedded in an *interior region* of the waveguiding layer.” (’554
24 patent, 2:50-51; 2:66-67; 3:7-8) (emphasis added). Furthermore, both the terms “interior”
25 and “central/ly” appear in the claims and specification, which is an indication that the
26 patentee intended that they have different meanings. SSC has not demonstrated that the
27 specification or claims use the terms interchangeably. In fact, there is evidence to the
28 contrary. (*Compare id.*, 15:39-43 (describing an exit sign illustrated in Figure 21 where “an

1 illumination coupling element 136 is centrally located”), *with* 18:19-22 (describing an exit
2 sign illustrated in Figure 29 where “[a]n illumination coupling means 318 is positioned in
3 the interior of the waveguide,” where the illumination coupling means appears off-center)).

4 SSC further argues that the specification and claims consistently describe and show
5 the illumination coupler as being in a central region of an optical device. SSC’s citations,
6 however, are to parts of the patent that do not contain the claim term “illumination coupler.”
7 (*See id.*, Abstract (“Another embodiment of the waveguide includes a central region of
8 reduced thickness that redirects light propagating within the waveguide.”); 10:50-51 (“[t]he
9 dimple 74 is preferably centrally located with respect to the periphery of the waveguide”);
10 15:40-43 (“an illumination coupling element 136 is centrally located”); claim 38 (the
11 refractive index interface “converges to a location in a central portion of the optical
12 element”). In any event, it is improper to limit the construction of the term “interior
13 region” to embodiments where the illumination coupler is embedded in a central region of
14 the waveguide.

15 The Court is also not convinced that the construction proposed by Enplas is
16 appropriate. First, Enplas argues that the Court should construe the term “embedded in” the
17 waveguide as “completely enveloped by” the waveguide. The only support for this
18 argument offered by Enplas are dictionary definitions in which “to embed” is defined as “to
19 fix into a surrounding mass” and “to surround tightly or firmly; envelop or enclose.” Dkt.
20 No. 74-1 at 47. However, even these definitions do not support Enplas’s position because
21 they do not always require something to be “completely enveloped” but instead allow
22 something to be fixed into a surrounding mass such that some portion is still exposed.
23 Enplas offers no intrinsic evidence in support of its position that the illumination coupler
24 must necessarily be “completely enveloped by” the waveguide. Therefore, the Court
25 declines to adopt such a construction.

26 Finally, Enplas’s proposed construction includes replacing the term “interior region”
27 with “on the inside of.” The Court finds that the words “embedded in an interior region”
28 are commonly understood and no construction is necessary. Terms do not need to be

1 construed where they are neither unfamiliar to the jury, confusing to the jury, nor affected
2 by the specification or prosecution history. *Bd. of Trustees of Leland Stanford Junior Univ.*
3 *v. Roche Molecular Sys., Inc.*, 528 F. Supp. 2d 967, 976 (N.D. Cal. 2007); *see also United*
4 *States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim
5 construction is a matter of resolution of disputed meanings and technical scope, to clarify
6 and when necessary to explain what the patentee covered by the claims, for use in the
7 determination of infringement. It is not an obligatory exercise in redundancy.”). On the
8 other hand, even if a claim term has a plain and ordinary meaning, the court should construe
9 the term if construction is required to resolve a dispute about the scope of the asserted
10 claims. *02 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir.
11 2008). Here, the parties have not identified any dispute or ambiguity that requires that the
12 Court construe the terms “embedded in an interior region.”

13 The Court finds that it is not necessary to construe the term “illumination coupler
14 embedded in an interior region of said waveguide.”

15 4. “TIR Surface”

16 Term	17 SSC’s Construction	18 Enplas’s Construction
19 “TIR surface”	20 “a surface angled with respect to a light source to increase total internal reflection within a device”	21 “a surface configured for total internal reflection”

22 The dispute here is between SSC’s construction that describes how the “TIR surface”
23 produces total internal reflection and the construction proposed by Enplas that uses instead
24 the term “configured for total internal reflection.”

25 Claim 28 recites an “optical apparatus” comprising in part a “TIR surface having a
26 curvature which totally internally reflects light rays incident on said TIR surface.” (’554
27 patent, claim 28). Claim 30 recites an “optical apparatus” comprising in part a “curving
28 TIR surface totally internally reflecting light rays.” (*Id.*, claim 30). The specification states
that “the top surface of the waveguide 42 includes a total internal reflection (TIR) region 76

1 having a smoothly curved surface 80.” (*Id.*, 13:30-33). This surface “may be either a
2 nonplanar, curved surface, or a nonplanar surface comprising of a plurality of flat surfaces
3 approximating a curve *that produces total internal reflection (TIR).*” (*Id.*, 13:52-55)
4 (emphasis added). The specification further explains that the shape of the surface could be
5 in a variety of geometric shapes “provided that such shapes are analytically shown *to*
6 *produce total internal reflection.*” (*Id.*, 13:55-61) (emphasis added). The specification
7 further states that the curved surface of the TIR region has a “geometric contour” that “is
8 selected so that the TIR cusp region 76 formed thereby totally internally reflects
9 substantially all light rays directly emitted by the light source.” (*Id.*, 14:1-4). “Toward this
10 end,” the curved surface of the TIR region is “contoured such that substantially all light rays
11 emitted from the light source 44 are incident on the surface 80 at an angle at least equal to
12 the critical angle.” (*Id.*, 14:4-7). The specification also describes “TIR surfaces” as those
13 surfaces of a TIR region that “curve toward the LED 140 to receive impingement of light
14 from the LED.” (*Id.*, 16:17-20).

15 The Court finds that SSC’s proposed construction would be more helpful to a jury
16 because it describes how the “TIR surface” produces total internal reflection compared to
17 Enplas’s proposed construction which uses the more general term “configured” for total
18 internal reflection. Further, the Court finds that the claims and specification support SSC’s
19 proposed construction of “TIR surface” as “a surface angled with respect to a light source”
20 to produce “total internal reflection within a device.” However, SSC has not provided
21 support in the intrinsic evidence that the “TIR surface” should be construed as “increasing”
22 as opposed to “producing” total internal reflection. SSC argues that the use of the term
23 “increase” is necessary because otherwise the jury could mistakenly conclude that all light
24 must be totally internally reflected from the TIR surface. However, the term “increase” is
25 confusing and unnecessary given that the Court has already construed “totally internally
26 reflecting” as “reflecting by total internal reflection” and not as “reflecting all light.”

27 The Court finds that the proper construction of “TIR surface” is “a surface angled
28 with respect to a light source to produce total internal reflection within a device.”

1 **5. “Substantially Flat Light Travel Channel”**

2

Term	SSC’s Construction	Enplas’s Construction
“substantially flat light travel channel”	“a portion of the waveguide that has some deviation from complete flatness and through which light may propagate”	“a channel through which light propagates that may have some deviation from complete flatness”

3
4
5
6
7

8 As a threshold matter, the parties dispute whether they had an agreement about this
9 term. It is unnecessary for the Court to determine whether such an agreement existed
10 because it is immaterial. The Court is not bound to accept the parties’ stipulated
11 constructions. *Lam Research*, 2014 WL 4180935, at *6.

12 The parties agree that the “substantially flat light travel channel” “has some deviation
13 from complete flatness” and that light propagates through it. The dispute is that the
14 construction proposed by Enplas includes the word “channel” while SSC’s proposed
15 construction replaces “channel” with “a portion of the waveguide.”

16 The disputed term appears in claim 7 which recites an “illumination device”
17 comprising in part “a waveguide for light, and defining a substantially flat light travel
18 channel.” (’554 patent, claim 7). Claim 7 goes on to recite a “surface on the waveguide
19 curving toward the LED” and “defining a cusp directed toward the LED.” (*Id.*). SSC
20 argues that the curving surface defining a “cusp” must be a different portion of the
21 waveguide than the “substantially flat light travel channel.” SSC further points out that
22 claims dependent on claim 7 also indicate that the waveguide has portions other than the
23 “substantially flat light travel channel.” (*See id.*, claim 9 (“said waveguide has a body and
24 said surface is concave adjacent the waveguide body”); claim 10 (“said surface is concave
25 toward said channel”)). The Court agrees that the intrinsic evidence supports the
26 conclusion that the “substantially flat light travel channel” is a portion of the waveguide.
27 Enplas does not dispute this conclusion. The Court finds that SSC’s proposed construction
28 would be helpful to a jury in clarifying that the “substantially flat light travel channel” is a

1 portion of the waveguide, but the proposed construction improperly omits the term
2 “channel.”

3 Enplas argues that SSC’s “admission that a waveguide propagates light” is
4 inconsistent with SSC’s position that a “waveguide” is “an optical device that redirects
5 light.” But there is no such inconsistency. As explained below, the waveguide disclosed in
6 the ’554 patent redirects light propagated between its surfaces.

7 The Court finds that the proper construction of “substantially flat light travel channel”
8 is “a channel that is a portion of the waveguide, that has some deviation from complete
9 flatness, and through which light propagates.”

10 6. “Waveguide”

Term	SSC’s Construction	Enplas’s Construction
“waveguide”	“an optical device that redirects light”	“a structure capable of guiding electromagnetic radiation (e.g., light) in a direction parallel to the waveguide’s longitudinal axis, while substantially confining the light to a region within its surfaces”

16
17 The parties dispute whether the term “waveguide” should be construed as an “optical
18 device that redirects light,” which is SSC’s position, or if the construction should be based
19 on a definition provided by the USPTO that includes the function of confining light, as
20 Enplas contends.

21 The claims consistently describe the “waveguide” as being involved in directing light.
22 (’554 patent, claim 1 (“waveguide” has an “illumination coupler” adapted to “direct light
23 between generally parallel top and bottom surfaces”); claim 7 (“a surface on the waveguide
24 curving toward the LED to receive impingement of light from the LED . . . for re-directing
25 such light to travel along said light travel channel”); claim 28 (“the curving TIR surface
26 having a curvature which . . . redirects such light rays through said optical element.”)).

27 The specification also describes features of the waveguide as redirecting light. (*See*
28 *id.*, Abstract (“the waveguide includes a central region of reduced thickness that redirects

1 light propagating within the waveguide”); 1:60-63 (“The waveguide further comprises a
2 light ejector on one of the top or bottom surface configured to redirect light propagating
3 between the surfaces towards the top surface for transmission therethrough.”); 2:22-27
4 (“substantial variation in the thickness of the waveguide . . . follows a geometric contour
5 selected to redirect light propagating between the surfaces of the waveguide so that the
6 redirected light exits the top surface of the waveguide.”); 10:37-40 (“The top surface 56 of
7 the waveguide 42b includes a depressed region or dimple 74 that redirects light rays
8 propagating in the waveguide 42b”); *see also id.*, 6:50-53 (“a plurality of display elements
9 comprising elongate structures 54 extend across the waveguide 42 for redirecting light
10 propagating within the waveguide 42.”); 11:1-6 (“According to an advantageous feature of
11 the waveguide 42b, the surface 75 of the dimple 74 . . . redirects light propagating between
12 the top surface 56 and the bottom surface 58, so that the redirected light more readily and
13 uniformly exits the top surface 56 of the waveguide 42b.”)).

14 Enplas argues that SSC’s construction of “waveguide” is erroneous because a
15 waveguide is not something that simply redirects light. Enplas argues that the fact that
16 specific structures are required to allow the light to exit from the waveguide indicates that
17 the light is necessarily confined within the waveguide. (*See, e.g., id.*, 2:61-63 (“Display
18 elements are formed on surfaces of the waveguiding layer to cause light to be emitted from
19 the waveguiding layer.”); claim 4 (“display elements . . . for ejecting light from said
20 waveguide”)). For this reason, Enplas contends that it is essential to the definition of
21 “waveguide” that the structure “guide” light that is “substantially confined” within its
22 surfaces. However, the specification describes the waveguide as redirecting light
23 propagating between its surfaces. Enplas provides no reason to rewrite that description by
24 using the words “guide” and “confine.”

25 Enplas also relies on a definition of “waveguide” provided by the USPTO.
26 According to that definition, “[a] waveguide is . . . any structure capable of guiding
27 electromagnetic radiation in a direction parallel to its axis, while substantially confining the
28 radiation to a region within and adjacent to its surfaces.” Dkt. No. 74-1 at 43. The Court

1 declines to adopt this definition because it is not consistent with the use of “waveguide” in
2 the intrinsic evidence here, as it does not include the essential function of the waveguide for
3 redirecting light so that the light exits the waveguide. Allowing the light to exit is
4 consistent with the purpose of the technology disclosed in the ’554 patent to be “use[d] as a
5 backlight for illuminating a display.” (’554 patent, Abstract).

6 The Court finds that the proper construction of “waveguide” is “an optical device that
7 redirects light propagating between its surfaces.”

8 **B. ’209 Patent Disputed Terms**

9 The ’209 patent, entitled “Light Source for Backlighting,” describes an invention
10 related to a light source for a display panel, such an LCD, used in notebook computers.
11 Dkt. No. 70-2 (’209 patent, Abstract; 1:3-15). The light source of the invention backlights a
12 rear surface of a display panel, and includes a housing having a cavity. (*Id.*, 1:45-47).
13 Illumination is provided by light emitting devices that are shielded by shielding elements.
14 (*Id.*, 1:50-51). The emitting devices and shielding elements are positioned such that the
15 emitted light is substantially uniformly distributed throughout the cavity, thereby
16 eliminating bright spots in the display panel. (*Id.*, 1:51-55).

17 **1. “About a Perimeter of the Cavity”**

18 Term	19 SSC’s Construction	20 Enplas’s Construction
21 “about a 22 perimeter of the 23 cavity”	24 “in the vicinity of the 25 border area of the cavity”	26 This term is indefinite. In the 27 alternative: 28 “within the cavity around the perimeter of the aperture and outside the viewing aperture portion”

23 The disputed claim term appears in claim 1 which claims an “apparatus for
24 backlighting a display panel,” comprising in part:

25 a housing having a cavity formed by diffusively reflective bottom and side surfaces,
26 said housing having an aperture which opens into said cavity, said aperture
27 configured to provide illumination to a rear surface of said display panel;

28 a first series of light-emitting devices, *mounted about a perimeter of the cavity*; [and]

1 a second series of light-emitting devices, mounted in a predetermined pattern on said
2 bottom surface of said cavity

3 ('209 patent, claim 1) (emphasis added).

4 Enplas asserts that the term “about a perimeter of the cavity” is indefinite. Enplas
5 argues that a cavity is a three-dimensional space and does not have a “perimeter,” and that
6 even if the term “perimeter” could be applied to a three-dimensional space, the words
7 “about a perimeter” do not indicate whether the “first series” of lights are outside, inside, or
8 near that perimeter. In response, SSC contends that the term “about” is a “word of degree”
9 and is not indefinite because the patent provides a standard for measuring that degree.

10 As the Supreme Court recently explained, “a patent is invalid for indefiniteness if its
11 claims, read in light of the specification delineating the patent, and the prosecution history,
12 fail to inform, with reasonable certainty, those skilled in the art about the scope of the
13 invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). This
14 definiteness requirement “mandates clarity, while recognizing that absolute precision is
15 unattainable.” *Id.* at 2129. As interpreted by the Federal Circuit, *Nautilus* does not hold
16 that terms of degree are inherently indefinite. *Interval Licensing LLC v. AOL, Inc.*, 766
17 F.3d 1364, 1370 (Fed. Cir. 2014). “Claim language employing terms of degree has long
18 been found definite where it provided enough certainty to one of skill in the art when read
19 in the context of the invention.” *Id.* However, “[a]lthough absolute or mathematical
20 precision is not required, it is not enough . . . to identify ‘some standard for measuring the
21 scope of the phrase.’” *Id.* at 1370-71. “The claims, when read in light of the specification
22 and the prosecution history, must provide objective boundaries for those of skill in the art.”
23 *Id.* at 1371.

24 Read in light of the specification here, the phrase “about a perimeter of the cavity” is
25 not indefinite. The Court agrees with SSC that the term “perimeter” refers to the border
26 area of the cavity. However, the Court finds that “perimeter” does not need construction
27 because it is a commonly understood word and the parties do not dispute its meaning or
28 scope. Contrary to Enplas’s argument, the term “perimeter” is commonly used to describe

1 three-dimensional objects, such as buildings, as having a “perimeter.”

2 As to the term “about,” here it serves both as a term of degree and to describe the
3 location of the first series of LEDs. In the context of the claims and specification, the
4 ordinary and customary meaning of “about a perimeter,” as referring to the first series of
5 LEDs, is “around and near the perimeter.” The dictionary definition offered by SSC is in
6 accord with this construction. *See* Dkt. No. 70-4 at 4. This construction is also consistent
7 with the illustration of the location of the first series of LEDs in the patent. (’209 patent,
8 Figures 3, 4, 5). Further, as explained by the specification, the “first series of LEDs is
9 mounted within the cavity around the perimeter of the aperture.” (*Id.*, Abstract). In
10 describing a preferred embodiment, the specification states that a first series of LEDs “is
11 mounted about the periphery of the aperture” and preferably “illuminates the perimeter
12 portion of the aperture and thereby provides a backlighting for the perimeter area of the
13 display panel.” (*Id.*, 1:56-60). The specification further describes a preferred embodiment
14 where the first series of LEDs “are mounted around the periphery of the aperture 18 within
15 a channel 70 that extends around the entire perimeter of the aperture 18.” (*Id.*, 4:10-12). In
16 the preferred embodiment, the first series of LEDs are shielded by baffles that are spaced
17 from respective cavity walls “to permit light from the LEDs to diffusively reflect and
18 illuminate the aperture . . . inward from its perimeter.” (*Id.*, 4:22-26). In contrast, the
19 second series of LEDs function “to illuminate the interior portion of the aperture that is not
20 illuminated by the perimeter LEDs.” (*Id.*, 4:63-64). Read in light of the specification, the
21 claim term “about a perimeter of the cavity” provides objective boundaries and informs,
22 with reasonable certainty, those skilled in the art about the scope of the invention.

23 As an alternative to its indefiniteness argument, Enplas contends that the Court should
24 construe the term “about a perimeter of the cavity” as “within the cavity around the
25 perimeter of the aperture and outside the viewing aperture portion.” The term “viewing
26 aperture portion” is used in the specification to describe the location of the second series of
27 LEDs in a preferred embodiment. (*See id.*, 4:52-57 (the second series of LEDs are
28 “mounted on the bottom wall 15 of the cavity such that the LEDs 13 are directly within the

1 viewing aperture portion (as used herein, the term ‘viewing aperture portion’ refers to the
 2 portion of the cavity that lies directly beneath the aperture 18’’). In the illustrations of the
 3 preferred embodiment, the housing includes a partial top wall around the periphery that
 4 forms the “viewing aperture portion.” However, claim 1 does not mention a partial top wall
 5 when it describes “a housing having a cavity formed by . . . bottom and side surfaces, said
 6 housing having an aperture which opens into said cavity.” (*Id.*, claim 1; *see also id.*, 1:45-
 7 48 (“a housing having a cavity formed by diffusely reflective bottom and side interior
 8 surfaces. The mouth of the cavity forms an aperture.”)). The Court agrees with SSC that
 9 the intrinsic evidence does not justify importing the “viewing aperture portion” from the
 10 preferred embodiment as a claim limitation.

11 The Court finds that the proper construction of “about a perimeter of the cavity” is
 12 “around and near a perimeter of the cavity.”

13 **2. “Shielding Elements”**

Term	SSC’s Construction	Enplas’s Construction
“shielding elements”	“structures that direct light”	§ 112 ¶ 6. In the alternative: “baffles that prevent light emitted by the light emitting devices from directly illuminating the aperture by reflecting such light before it exits the cavity”

19 Enplas contends that the disputed term “shielding elements” should be construed
 20 pursuant to 35 U.S.C. § 112 ¶ 6 (now § 112(f)) as a means-plus-function term. Section 112
 21 ¶ 6 allows a patentee to express a claim element “as a means or step for performing a
 22 specified function without the recital of structure, material, or acts in support thereof” but
 23 such claim must be construed “to cover the corresponding structure, material, or acts
 24 described in the specification and equivalents thereof.”

25 The means-plus-function analysis is a two-step process consisting of two related but
 26 distinct steps. *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1296 (Fed. Cir. 2014). In the
 27 first step, the court must determine if the claim limitation is drafted in means-plus-function
 28 format. *Id.* As part of this step, the court must construe the claim limitation to decide if it

1 connotes “sufficiently definite structure” to a person of ordinary skill in the art, which
2 requires the court to consider the specification (among other evidence). *Id.* In the second
3 step, if the limitation is in means-plus-function format, the court must specifically review
4 the specification for “corresponding structure.”

5 When a claim limitation lacks the term “means,” it creates a strong presumption that
6 § 112 ¶ 6 does not apply. *Id.* at 1297. This presumption may be overcome if the claim fails
7 to recite “sufficiently definite structure” or merely recites a “function without reciting
8 sufficient structure for performing that function.” *Id.* (quoting *Linear Tech. Corp. v. Impala*
9 *Linear Corp.*, 379 F.3d 1311, 1319 (Fed. Cir. 2004)). “A limitation has sufficient structure
10 when it recites a claim term with a structural definition that is either provided in the
11 specification or generally known in the art.” *Id.* at 1299. “Structure may also be provided
12 by describing the claim limitation’s operation, such as its input, output, or connections.” *Id.*
13 Thus, “if a limitation recites a term with a known structural meaning, or recites either a
14 known or generic term with a sufficient description of its operation, the presumption against
15 means-plus-function claiming remains intact.” *Id.* at 1300.

16 Here, the disputed term “shielding elements” appears in claim 1 which recites an
17 “apparatus for backlighting a display panel,” comprising in part “shielding elements
18 positioned relative to at least some of said light emitting devices of said first and second
19 series such that light emitted by the shielded emitting devices is substantially uniformly
20 distributed throughout said cavity, whereby hot spots in said display panel are effectively
21 eliminated.” (’209 patent, claim 1). Because this limitation does not use the word “means,”
22 there is a presumption against construing “shielding elements” as a means-plus-function
23 term. The question then becomes whether the claim term, in light of the specification and
24 any other evidence, recites a sufficiently definite structure that can perform the claimed
25 functions. The Court finds that it does not.

26 SSC argues that the claim recites sufficient structure because the term “element” is
27 “by definition, a constituent part of a structure.” However, the Federal Circuit has held that
28 the generic term “element” typically does not connote a sufficiently definite structure.

1 *Apple*, 757 F.3d at 1299; *Massachusetts Inst. of Tech. v. Abacus Software*, 462 F.3d 1344,
2 1354 (Fed. Cir. 2006); *see also Mas-Hamilton Grp. v. LaGard, Inc.*, 156 F.3d 1206, 1213-
3 14 (Fed. Cir. 1998) (holding that where “lever moving element” was described in terms of
4 its function not its mechanical structure, and was not shown to have a generally understood
5 structural meaning in the relevant art, the district court was correct in applying § 112 ¶ 6
6 despite the lack of the term “means”).

7 SSC has made no showing that “shielding elements” has a generally understood
8 structural meaning in the art. Furthermore, the claims and specification describe the
9 “shielding elements” by their function, not their structure. The claimed “shielding
10 elements” are “positioned relative to at least some of said light emitting devices of said first
11 and second series such that light emitted by the shielded emitting devices is substantially
12 uniformly distributed throughout said cavity.” (’209 patent, claim 1). The specification
13 states that the “light emitting devices” are “shielded by shielding elements.” (*Id.*, 1:50-51).
14 The specification further describes that “[t]he emitting devices and shielding elements are
15 positioned such that the emitted light is substantially uniformly distributed throughout the
16 cavity, thereby eliminating bright spots.” (*Id.*, 1:50-55). Because the term “shielding
17 elements” does not have a structure defined in the specification and it is not shown to have a
18 generally understood meaning in the art, it is a means-plus-function term that must be
19 limited to the corresponding structure described in the specification and equivalents thereof.
20 35 U.S.C. § 112 ¶ 6.

21 The first step in construing such a means-plus-function limitation is a determination
22 of its function. *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311
23 (Fed. Cir. 2001). “The next step is to determine the corresponding structure described in
24 the specification and equivalents thereof.” *Id.* “[S]tructure disclosed in the specification is
25 ‘corresponding’ structure only if the specification or prosecution history clearly links or
26 associates that structure to the function recited in the claim.” *B. Braun Med., Inc. v. Abbott
27 Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997).

28 The function of the claimed “shielding elements” here is “to shield the light emitting

1 devices such that the emitted light is substantially uniformly distributed throughout said
2 cavity, whereby hot spots in said display panel are effectively eliminated.” The
3 specification states that a first series of LEDs are “shielded from the aperture by perimeter
4 baffles that extend around the periphery of the aperture” and that a “series of baffles is
5 interposed between the second series of LEDs and the aperture.” (’209 patent, Abstract).
6 The specification describes a preferred embodiment where “the shielding elements
7 comprise peripheral baffles that extend from the edge of the aperture a short distance into
8 the cavity to prevent the LEDs from being viewed through the aperture.” (*Id.*, 1:60-64).
9 The baffles prevent “the first series of LEDs from directly illuminating the aperture, thereby
10 preventing the LEDs from creating ‘hot spots’ in the display.” (*Id.*, 1:64-67). As to the
11 second series of LEDs, the “shielding elements preferably further comprise a series of
12 baffles mounted on the bottom wall such that a baffle portion extends between each LED
13 and the aperture.” (*Id.*, 2:6-9). These baffles “prevent the second series of LEDs from
14 directly illuminating the aperture (or being directly viewed through the aperture) and
15 thereby prevent the second series of LEDs from creating ‘hot spots’ in the display panel.”
16 (*Id.*, 2:9-13). The specification further explains that the baffles that are interposed between
17 the second series of LEDs and the aperture “prevent the LEDs 13 from directly illuminating
18 the aperture 18, while reflecting light incident thereon, such as any rays reflected back
19 toward the aperture from the diffuser 20 and the BEF 22.” (*Id.*, 5:39-44). The baffles thus
20 preserve the uniformity of the light distribution and to prevent the LEDs from creating
21 individual spots of relatively high intensity light on the display. (*Id.*, 5:44-48). Therefore,
22 the structures that perform the claimed function of the “shielding elements” here are baffles.

23 SSC argues that a construction limiting the “shielding elements” to “baffles” is
24 contrary to the intrinsic evidence. Specifically, SSC points out that independent claim 1
25 recites “shielding elements,” while there are dependent claims that limit those “shielding
26 elements” to baffles. (*See id.*, claims 2-4). SSC contends that, under the doctrine of claim
27 differentiation, the independent claim must not be limited to baffles as otherwise the
28 dependent claims would be made redundant. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358

1 F.3d 898, 910 (Fed. Cir. 2004) (“[T]he presence of a dependent claim that adds a particular
2 limitation raises a presumption that the limitation in question is not found in the
3 independent claim.”). “It is settled law, however, that independent claims containing
4 means-plus-function limitations do not have the same literal scope as dependent claims
5 reciting specifically the structure that performs the stated function.” *Medtronic*, 248 F.3d at
6 1313; *see also Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991) (“A
7 means-plus-function limitation is not made open-ended by the presence of another claim
8 specifically claiming the disclosed structure which underlies the means clause or an
9 equivalent of that structure. . . . “[O]ne cannot escape th[e] mandate [of § 112 ¶ 6] by
10 merely adding a claim or claims specifically reciting such structure or structures.”).

11 The parties also dispute whether the “shielding elements” must be “opaque baffles”
12 (baffles that reflect all light and do not let any light through) as Enplas contends, or whether
13 the baffles could be semi-translucent or semi-transparent (reflecting some light while letting
14 some light pass through), which is SSC’s position. SSC asserts that “baffles” is a broad
15 generic term and should not be limited to such baffles that are opaque. SSC correctly points
16 out that the term “opaque baffle” appears only once in the patent, in describing a preferred
17 embodiment. (’209 patent, 5:20-23). But the baffles that are disclosed in the specification
18 must prevent the light emitting devices from directly illuminating the aperture or being
19 directly viewed through the aperture. The baffles would not perform this function if they
20 were semi-translucent or semi-transparent.

21 SSC disagrees with this conclusion, arguing that, if the baffles were semi-translucent,
22 some light would be permitted to pass through, but the shielded emitting devices would
23 nonetheless not be directly viewed through the aperture. As an example, SSC refers to
24 translucent materials, such as frosted glass found on showers or the walls of conference
25 rooms, that prevent the viewing of objects on the other side of the translucent material.
26 However, SSC’s argument and related example fail. If the baffles permit some light to pass
27 through, that light will directly illuminate the aperture, contrary to the function of the
28 baffles described in the specification. Thus, while materials such as frosted glass might

1 prevent an object such as a body on the other side from being viewed, they would not
2 prevent a light emitting object to be viewed as at least some of the light would pass through.

3 SSC also argues that Enplas’s proposed construction is erroneous because it requires
4 all emitted light to be reflected. SSC contends that this is inconsistent with claim 22 which
5 recites as a limitation “shielding the light emitters so that *substantially all* light emitted by
6 said light emitters is reflected at least once before exiting said cavity.” (*Id.*, claim 22)
7 (emphasis added). However, Enplas’s construction requires that all light bound for the
8 aperture is reflected, not that all emitted light be reflected.

9 The Court finds that, as a means-plus-function term, “shielding elements” is limited
10 to “baffles that prevent light emitted by the light emitting devices from directly illuminating
11 the aperture by reflecting such light before it exits the cavity.”

12 3. “Shielding the Light Emitters”

Term	SSC’s Construction	Enplas’s Construction
“shielding the light emitters”	“positioning structures that direct light from the light emitters”	“interposing baffles that prevent light emitted by the light emitters from directly illuminating the aperture by reflecting such light before it exits the cavity”

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18 The disputed term “shielding the light emitters” appears in claim 22 which recites a
19 “method of manufacturing a backlight for a flat panel display” comprising in part “shielding
20 the light emitters so that substantially all light emitted by said light emitters is reflected at
21 least once before exiting said cavity.” (’209 patent, claim 22). The Court agrees with
22 Enplas that this claim term should be construed consistently with “shielding elements.” The
23 Court also agrees that the step of “interposing” the baffles defines the “shielding” step. (*See*
24 *id.*, Abstract; 5:39-44).

25 The Court finds that the proper construction of “shielding the light emitters” is
26 “interposing baffles that prevent light emitted by the light emitters from directly
27 illuminating the aperture by reflecting such light before it exits the cavity.”
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IV. CONCLUSION

For the foregoing reasons, the Court construes the disputed terms in U.S. Patents Nos. 6,473,554 and 6,007,209 as follows:

Term	Construction
“cusp”	“an area where two curves meet”
“totally internally reflecting”	“reflecting by total internal reflection”
“illumination coupler embedded in an interior region of said waveguide”	No construction necessary
“TIR surface”	“a surface angled with respect to a light source to produce total internal reflection within a device”
“substantially flat light travel channel”	“a channel that is a portion of the waveguide, that has some deviation from complete flatness, and through which light propagates”
“waveguide”	“an optical device that redirects light propagating between its surfaces”
“about a perimeter of the cavity”	“around and near a perimeter of the cavity”
“shielding element”	As a means-plus-function term, “shielding elements” is limited to “baffles that prevent light emitted by the light emitting devices from directly illuminating the aperture by reflecting such light before it exits the cavity”
“shielding the light emitters”	“interposing baffles that prevent light emitted by the light emitters from directly illuminating the aperture by reflecting such light before it exits the cavity”

IT IS SO ORDERED.

Date: March 11, 2015



Nathanael M. Cousins
United States Magistrate Judge