

2. Nontechnical Description of the Patent

124. The '421 Patent relates to light-emitting diode assemblies. Generally, LED packages emit visible light efficiently and are used in many products, including light bulbs, indoor light fixtures, outdoor light fixtures, roadway lights, automotive light assemblies, and consumer electronics. The '421 Patent describes various novel LED assemblies, including embodiments that have an LED die disposed within a surface cavity overlying a planar portion of a thermally conducting base, a thermally conductive region in solderable thermal contact with the thermally conducting base for spreading heat transmitted to the base from the LED die, and an LED assembly mount.

125. The independent Asserted Claims of the '421 Patent cover an LED assembly, including without limitation one or more LED packages, that includes either an electrically insulated fastener or a solderable bonding pad, which assembly is made of a combination of insulating and thermally conductive materials, with one or more LED die disposed within a surface cavity defined by the insulating material and overlying a thermally conducting base, where the LED die are in thermal contact with a substantially planar portion of the thermally conducting base and are electrically connected to one or more terminals included within the insulating material, where the bottom surface of the LED assembly includes a thermally conductive region in solderable thermal contact with the thermally conducting base. The claimed LED assemblies are useful for high temperature operation.

3. Foreign Counterparts of the Patent

126. The following foreign patents and patent applications correspond to the '421 Patent: (a) European Patent Application No. EP20040750631 (published as EP1620896(A2); withdrawn September 22, 2010); (b) Japanese Patent Application No. JP20060513307 (published as JP2006525679(A); granted December 26, 2011; published as Japanese Patent No. JP4912876(B2))

on April 11, 2012); (c) Korean Patent Application No. KR20057020831 (published as KR20060026015(A); granted September 19, 2011; published as Korean Patent No. KR101095291(B1) on December 16, 2011); and (d) Taiwanese Patent Application No. TW20060125507 (published as TW200742122(A); abandoned October 27, 2009).

127. To the best of LSG's knowledge, information, and belief, there are no other foreign patents issued or foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '421 Patent.

4. Licensees

128. All licensees to the '421 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '421 Patent.

D. U.S. Patent No. 8,506,118

1. Identification of the Patent and Ownership

129. The '118 Patent, titled "Light Fixture and Associated LED Board and Monolithic Optic," issued on August 13, 2013, naming Fredric S. Maxik, Zach Gibler, Eric Bretschneider, David Henderson, and Addy Widjaja as the inventors. Ex. 4 ('118 Patent) at 1. The '118 Patent is based on U.S. Patent Application No. 13/421,910, filed March 16, 2012. U.S. Patent Application No. 13/421,910 is a continuation of U.S. Patent Application No. 12/687,710 (now U.S. Patent No. 8,157,413), filed January 14, 2010, which claims priority to U.S. Provisional Application No. 61/147,389, filed January 26, 2009. *Id.* at 1; 1:7-12. The expiration date of the '118 Patent is January 14, 2030. A certified copy of the '118 Patent is attached as Exhibit 4. This complaint is accompanied by a certified copy of the prosecution history for the '118 Patent, three additional copies of the prosecution history, and four copies of each patent and applicable pages of each technical reference mentioned in the prosecution history for the '118 Patent. *See* Appx. D1, D2.

130. LSG owns by assignment all rights, title, and interest in the '118 Patent. *See* Exs. 22-23, 25, 28-30.

2. Nontechnical Description of the Patent

131. The '118 Patent generally relates to light-emitting diode lighting components and fixtures. One of the independent Asserted Claims recites a light fixture with a monolithic substrate with two or more groups of LEDs arranged on one side of the monolithic substrate, where each group of LEDs includes a plurality of LEDs electrically coupled in series, and where the two or more groups of LEDs are electrically coupled in parallel. Another independent Asserted Claims recites an LED light fixture having a housing, an LED light emission module disposed in the housing and having LEDs, and a plurality of convex lenses where each lens is associated with one of the LEDs.

3. Foreign Counterparts of the Patent

132. The following foreign patent application corresponds to the '118 Patent: European Patent Application No. EP20100151159 (published as EP2211085(A1); withdrawn December 11, 2015).

133. To the best of LSG's knowledge, information, and belief, there are no foreign patents issued or other foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '118 Patent.

4. Licensees

134. All licensees to the '118 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '118 Patent.

E. U.S. Patent No. 8,674,608

1. Identification of the Patent and Ownership

135. The '608 Patent, titled "Configurable Environmental Condition Sensing Luminaire, System and Associated Methods," issued on March 18, 2014, naming Eric Holland, Mark P. Boomgaarden, and Eric Thosteson as the inventors. Ex. 5 ('608 Patent) at 1. The '608 Patent is based on U.S. Patent Application No. 13/403,531, filed February 23, 2012, which claims priority to U.S. Provisional Application Nos. 61/486,316 (filed May 15, 2011), 61/486,314 (filed May 15, 2011), and 61/486,322 (filed May 15, 2011). *Id.* at 1; 1:7-8. The expiration date of the '608 Patent is April 23, 2032. A certified copy of the '608 Patent is attached as Exhibit 5. This complaint is accompanied by a certified copy of the prosecution history for the '608 Patent, three additional copies of the prosecution history, and four copies of each patent and applicable pages of each technical reference mentioned in the prosecution history for the '608 Patent. *See* Appx. E1, E2.

136. LSG owns by assignment all rights, title, and interest in the '608 Patent. *See* Exs. 18, 22-23, 25, 28-29.

2. Nontechnical Description of the Patent

137. The '608 Patent generally relates to luminaires (e.g., light fixtures, lighting systems) that operate under different modes based on sensed environmental conditions. The '608 Patent describes various novel luminaires and related "smart" lighting systems. One independent Asserted Claim recites, among other things, a luminaire with a controller, a processor, and memory to analyze data and control a light source, sensors in communication with the controller to detect environmental conditions, and a light source that can operate in different modes based on data from the sensors, pre-defined parameters, and signals from an interface that can be manipulated. Another independent Asserted Claim recites a system for controlling a luminaire that includes, among other things, a controller, processor, and memory, a manipulable interface in

communication with the controller from which modes can be selected to affect the operation of the luminaire, and sensors generating data regarding the environment of the luminaire for analysis by the controller.

3. Foreign Counterparts of the Patent

138. The following patent application corresponds to the '608 Patent: European Patent Application No. EP20130722608 (published as EP2818029(A1); prosecution pending as of December 26, 2018).

139. To the best of LSG's knowledge, information, and belief, there are no foreign patents issued or other foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '608 Patent.

4. Licensees

140. All licensees to the '608 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '608 Patent.

F. U.S. Patent No. 8,201,968

1. Identification of the Patent and Ownership

141. The '968 Patent, titled "Low Profile Light," issued on June 19, 2012, naming Fredric S. Maxik, Raymond A. Reynolds, Addy S. Widjaja, Mark Penley Boomgaarden, Robert Rafael Soler, and James L. Schellack as the inventors. Ex. 6 ('968 Patent) at 1. The '968 Patent is based on U.S. Patent Application No. 12/775,310, filed May 6, 2010. U.S. Patent Application No. 12/775,310 claims priority to U.S. Provisional Application No. 61/248,665, filed October 5, 2009. *Id.* at 1; 1:6-8. The expiration date of the '968 Patent is August 12, 2030. A certified copy of the '968 Patent is attached as Exhibit 6. This complaint is accompanied by a certified copy of the prosecution history for the '968 Patent, three additional copies of the prosecution history, and four

copies of each patent and applicable pages of each technical reference mentioned in the prosecution history for the '968 Patent. *See* Appx. F1, F2.

142. LSG owns by assignment all rights, title, and interest in the '968 Patent. *See* Exs. 15-17, 20-23, 25, 28-29.

2. Nontechnical Description of the Patent

143. The '968 Patent generally relates to luminaires for low-profile lighting applications. The '968 Patent describes various novel low-profile luminaire designs. The Asserted Claims cover certain low-profile LED downlights lights meeting certain dimensional requirements and using phosphors to provide lighting at a color temperature of 2700 degrees Kelvin, or alternatively including a mounting bracket and power conditioner meeting certain requirements.

3. Foreign Counterparts of the Patent

144. The following foreign patents and patent applications correspond to the '968 Patent:

- (a) European Patent Application No. EP20100174449 (published as EP2306072(A1); granted March 3, 2016; published as European Patent No. EP2306072(B1) on March 30, 2016); and
- (b) Spanish Patent Application No. ES20100174449T (granted August 17, 2016, as Spanish Patent No. ES2579956(T3)).

145. To the best of LSG's knowledge, information, and belief, there are no other foreign patents issued or foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '968 Patent.

4. Licensees

146. All licensees to the '968 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '968 Patent.

G. U.S. Patent No. 8,967,844

1. Identification of the Patent and Ownership

147. The '844 Patent, titled "Low Profile Light and Accessory Kit for the Same," issued on March 3, 2015, naming Mark Penley Boomgaarden, Michael Balestracci, Rick LeClair, Wei Sun, David Henderson, and Shane Sullivan as the inventors. Ex. 7 ('844 Patent) at 1. The '844 Patent is based on U.S. Patent Application No. 14/134,884, filed December 19, 2013. U.S. Patent Application No. 14/134,884 is a continuation of U.S. Patent Application No. 13/476,388 (now U.S. Patent No. 8,672,518), filed May 21, 2012, which is a continuation-in-part of U.S. Patent Application No. 12/775,310 (now U.S. Patent No. 8,201,968), filed May 6, 2010. U.S. Patent Application No. 12/775,310 (now U.S. Patent No. 8,201,968) claims priority to U.S. Provisional Application No. 61/248,665, filed October 5, 2009. *Id.* at 1; 1:7-12. The expiration date of the '844 Patent is May 6, 2030. A certified copy of the '844 Patent is attached as Exhibit 7. This complaint is accompanied by a certified copy of the prosecution history for the '844 Patent, three additional copies of the prosecution history, and four copies of each patent and applicable pages of each technical reference mentioned in the prosecution history for the '844 Patent. *See* Appx. G1, G2.

148. LSG owns by assignment all rights, title, and interest in the '844 Patent. *See* Exs. 24, 26-27.

2. Nontechnical Description of the Patent

149. The '844 Patent generally relates to luminaires for low-profile lighting applications. The '844 Patent describes various novel low-profile luminaire designs. By way of example, one of the Asserted Claims recites a low-profile LED downlight light meeting, among other things, certain dimensional requirements, including a height of 1.5 inches or less.

3. Foreign Counterparts of the Patent

150. The following foreign patents and patent applications correspond to the '844 Patent:

- (a) European Patent Application No. EP20100174449 (published as EP2306072(A1); granted March 3, 2016; published as European Patent No. EP2306072(B1) on March 30, 2016); and
- (b) Spanish Patent Application No. ES20100174449T (granted August 17, 2016, as Spanish Patent No. ES2579956(T3)).

151. To the best of LSG's knowledge, information, and belief, there are no other foreign patents issued or foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '844 Patent.

4. Licensees

152. All licensees to the '844 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '844 Patent.

H. U.S. Patent No. 8,672,518

1. Identification of the Patent and Ownership

153. The '518 Patent, titled "Low Profile Light and Accessory Kit for the Same," issued on March 18, 2014, naming Mark Penley Boomgaarden, Michael Balestracci, Rick LeClair, Wei Sun, David Henderson, and Shane Sullivan as the inventors. Ex. 8 ('518 Patent) at 1. The '518 Patent is based on U.S. Patent Application No. 13/476,388, filed May 21, 2012. U.S. Patent Application No. 13/476,388 is a continuation-in-part of U.S. Patent Application No. 12/775,310 (now U.S. Patent No. 8,201,968), filed May 6, 2010. U.S. Patent Application No. 12/775,310 (now U.S. Patent No. 8,201,968) claims priority to U.S. Provisional Application No. 61/248,665, filed October 5, 2009. *Id.* at 1; 1:7-10. The expiration date of the '518 Patent is June 19, 2030. A certified copy of the '518 Patent is attached as Exhibit 8. This complaint is accompanied by a certified copy of the prosecution history for the '518 Patent, three additional copies of the prosecution history,

and four copies of each patent and applicable pages of each technical reference mentioned in the prosecution history for the '518 Patent. *See* Appx. H1 and H2.

154. LSG owns by assignment all rights, title, and interest in the '518 Patent. *See* Exs. 19, 22-23, 25, 28-29.

2. Nontechnical Description of the Patent

155. The '518 Patent generally relates to luminaires for low-profile lighting applications. The '518 Patent describes various novel luminaire and accessory kit designs. By way of example, one of the Asserted Claims recites, among other things, an LED downlight retrofit luminaire and accessory kit with an optic that is secured to a base using a snap-fit mechanism.

3. Foreign Counterparts of the Patent

156. The following foreign patents and patent applications correspond to the '518 Patent:

- (a) European Patent Application No. EP20100174449 (published as EP2306072(A1); granted March 3, 2016; published as European Patent No. EP2306072(B1) on March 30, 2016); and
- (b) Spanish Patent Application No. ES20100174449T (granted August 17, 2016, as Spanish Patent No. ES2579956(T3)).

157. To the best of LSG's knowledge, information, and belief, there are no other foreign patents issued or foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the '518 Patent.

4. Licensees

158. All licensees to the '518 Patent are identified in Confidential Exhibit 35C (Noroozi Licensee Declaration and Exhibits). There are no other known licenses relating to the '518 Patent.

VI. The Energy Star Program

159. The Energy Star program was established by the Environmental Protection Agency ("EPA") in 1992 under Section 103(g) of the Clean Air Act. The EPA later established a

certification program for lighting products that requires demonstrating that the products pass rigorous tests in an EPA-certified laboratory and requires that the products be certified by an EPA-recognized certification body before they can carry the Energy Star® label. The certification program ensures that LED bulbs are energy efficient while providing consumers with long-lasting, high-quality substitutes for incandescent light bulbs.

160. The Energy Star® logo is recognized by consumers as a symbol for energy-efficient, high-quality products that can be substituted for the less energy-efficient products that consumers have come to rely upon. *See* Ex. 31 (Maxik Energy Star Decl.) ¶ 23.

161. Many of Complainants' LED luminaires qualify for Energy Star certification, and as a result, are sold with the Energy Star® logo. In fact, a substantial majority of Complainants' sales have historically been of Energy Star certified products. *Id.* at ¶ 26.

162. Energy Star requirements for LED bulbs are found in the ENERGY STAR® Program Requirements Product Specification for Lamps (Light Bulbs) Eligibility Criteria, Version 2.1 ("Specification").⁸³ These criteria address energy efficiency and quality standards for the performance of LED bulbs, including luminous efficacy, total light output, and correlated color temperature. Ex. 31 (Maxik Energy Star Decl.) ¶ 4.

163. Section 9.1 of the Specification covers luminous efficacy—the amount of light each bulb is required to emit per watt of energy it uses. *Id.* ¶ 5. Section 9.1 requires that directional bulbs, such as BR-shaped bulbs, emit at least 70 lumens per watt if those bulbs have a color rendering index of less than 90. *Id.* The Specification requires that of ten tested products, "eight or more units individually shall meet the requirement." *Id.* Additionally, the Energy Star

⁸³ Ex. 31 (Maxik Energy Star Decl., Ex. A ("ENERGY STAR® Program Requirements for Lamps (Light Bulbs), Eligibility Criteria, Version 2.1" Energy Star, https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Lamps%20V2.1%20Final%20Specification_1.pdf)).

Specification requires that the average of ten bulbs tested meet the 70 lumens per watt requirement.

Id.

164. Section 9.2 of the Specification requires that omnidirectional LED bulbs, such as A-shaped bulbs, must output at least 800 lumens of light if those bulbs are advertised as “60 watt equivalent.” *Id.* ¶ 6. Section 9.2 requires that BR-shaped bulbs advertised as “100 watt equivalent” must output at least 1,400 lumens of light. *Id.* The Energy Star Specification requires that of ten tested products “8 or more units individually shall meet the requirement.” *Id.* In addition, the Specification requires that the average of the light output of the ten tested lamps be above the required lumen output. *Id.*

165. Section 9.6 of the Specification requires that that 9 out of 10 tested products emit light within the chromaticity range corresponding to a bulb’s advertised color temperature. *Id.* ¶ 7. The corresponding chromaticity ranges for each color temperature are published by the American National Standards Institute (“ANSI”). *Id.* For instance, for a bulb that advertises a color temperature of 2700K, its measured chromaticity must fall within the standard range for a 2700K color temperature published by ANSI. *Id.*

166. As discussed in Section VII(G)(2) below, GE Respondents falsely advertise at least their GE 11W (60W Replacement) Dimmable A19 LED Light Bulb (Soft White) (25037) (“GE 25037 LED A19 Bulb”) and the GE 10W (60W Replacement) Dimmable A19 LED Light Bulb (Soft White) (67591) (“GE 67591 LED A19 Bulb”) as meeting the Energy Star specifications described above by using the Energy Star® logo on their packaging. In fact, their GE 25037 LED A19 Bulbs and GE 67591 LED A19 Bulbs do not meet the Energy Star specifications.

167. As discussed in Section VII(J)(2) below, Leedarsen Respondents falsely advertise at least their LEDi2 19.5W (100W Equivalent) Dimmable BR40 LED Light Bulb (Warm White)

(i2-LBR40D19.5-27K BR40)⁸⁴ (“i2-LBR40D19.5-27K LED BR40 Bulb”) as meeting the Energy Star specifications described above by using the Energy Star® logo on their packaging. In fact, their i2-LBR40D19.5-27K LED BR40 Bulb does not meet the Energy Star specifications.

168. Using the Energy Star® logo signifies quality, consistency, and energy efficiency, and provides a valuable government endorsement. A 2016 survey found that 91% of households recognized the Energy Star® label, and 84% had a high-level or general understanding of the label’s meaning.⁸⁵

169. Energy Star certification also enables products to obtain subsidies from local utility companies. Often these utility subsidies can be obtained at the point of sale, reducing the price a consumer pays at checkout. *See* Ex. 31 (Maxik Energy Star Decl.) ¶ 25. These subsidies can drastically reduce the price of an Energy Star certified bulb. For example, a set of four Energy Star certified bulbs sells at The Home Depot for \$9.86 without subsidies, but the same set of bulbs at a Home Depot in Washington, D.C. is available for \$4.86 with the instant \$5.00 rebate offered by the local utility. *Id.* ¶ 29. Such subsidies provide a competitive advantage over non-Energy Star certified products via their enormous effect on end-user price and demand. *Id.* ¶¶ 25-26. They also allow a product to better compete with other Energy Star certified products. *Id.* ¶¶ 28-31.

170. As described in Sections VII(G)(2), VII(J)(2), and XII below, GE and Leedarson Respondents’ wrongful use of the Energy Star® logo, and their receipt of undeserved subsidies, has caused and threatens to cause substantial injury to Complainants’ domestic industry.

⁸⁴ Upon information and belief, this product was manufactured by or for the Leedarson Respondents. Ex. 34 (Stonedale Importation Decl.) ¶ 41; *id.* at Stonedale Importation Decl. Ex. 39.

⁸⁵ *See* Ex. 131 (EPA’s “National Awareness of Energy Star® for 2016, Analysis of CEE Household Survey”) at 5, 12.

VII. Unlawful and Unfair Acts of the Respondents⁸⁶

A. Nichia Respondents

1. Patent Infringement

a. Infringement of the '483 Patent

171. On information and belief, the Nichia Respondents import, sell for importation, offer to sell for importation, and/or sell after importation into the United States certain Accused Products (the "Nichia Accused Products") that infringe the '483 Patent.

172. The Nichia Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 11 and 14-16 of the '483 Patent, in violation of 35 U.S.C. § 271(a). The Nichia Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the Nichia Accused Products. The Nichia Accused Products satisfy all claim limitations of claims 11 and 14-16 of the '483 Patent at the time of importation into the United States.

173. Moreover, on information and belief, one or more of the Nichia Respondents knowingly and intentionally induces infringement of the '483 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Nichia Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Nichia Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Nichia Respondents sells the Nichia Accused Products

⁸⁶ Throughout this complaint certain products are identified as infringing products or falsely advertised products. The identification of these products in the complaint is in no way limiting or meant to be exhaustive of the full set of infringing or falsely advertised products. Any remedy should extend to all of Respondents' present and future infringing and/or falsely advertised products, including products made by or on behalf of any Respondent for third parties and sold under third-party brand names, regardless of model number or type of product.

or otherwise provides the Nichia Accused Products to distributors knowing that these distributors intend to import and/or sell the Nichia Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Nichia Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Nichia Accused Products.

174. A claim chart comparing claims 11 and 14-16 of the '483 Patent to a representative Nichia Accused Product, the Nichia NVSW219CT LED Package, is attached here as Confidential Exhibit 36C. The Nichia NVSW219CT LED Package is also submitted with this Complaint as Physical Exhibit P1. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Nichia Accused Products that infringe the '483 Patent for the reasons set forth above:

- Nichia NVSL219CT LED Package
- Nichia NVSW219BT LED Package
- Nichia NVSW319AT LED Package

b. Infringement of the '053 Patent

175. On information and belief, the Nichia Respondents import, sell for importation, offer to sell for importation, and/or sell after importation into the United States certain Nichia Accused Products that infringe the '053 Patent.

176. The Nichia Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 1, 2, 4-5, 7, 11-12, 14, 16-17, 19-20, 22, 26-27, and 29 of the '053 Patent, in violation of 35 U.S.C. § 271(a). The Nichia Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the Nichia Accused Products. The Nichia Accused Products satisfy all claim limitations of claims 1, 2, 4-5, 7, 11-12, 14, 16-17, 19-20, 22, 26-27, and 29 of the '053 Patent at the time of importation into the United States.

177. Moreover, on information and belief, one or more of the Nichia Respondents knowingly and intentionally induces infringement of the '053 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Nichia Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Nichia Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Nichia Respondents sells the Nichia Accused Products or otherwise provides the Nichia Accused Products to distributors knowing that these distributors intend to import and/or sell the Nichia Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Nichia Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Nichia Accused Products.

178. A claim chart comparing claims 1, 2, 4-5, 7, 11-12, 14, 16-17, 19-20, 22, 26-27, and 29 of the '053 Patent to a representative Nichia Accused Product, the Nichia NVSW219CT, is attached here as Confidential Exhibit 37C. The Nichia NVSW219CT is also submitted with this Complaint as Physical Exhibit P1.

179. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Nichia Accused Products that infringe the '053 Patent for the reasons set forth above:

- Nichia NVSL219CT LED Package
- Nichia NVSW219BT LED Package
- Nichia NVSW319AT LED Package

c. Infringement of the '421 Patent

180. On information and belief, the Nichia Respondents import, sell for importation, and/or sell after importation into the United States certain Nichia Accused Products that infringe the '421 Patent.

181. The Nichia Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 1-2, 6, and 10 of the '421 Patent, in violation of 35 U.S.C. § 271(a). The Nichia Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the Nichia Accused Products. The Nichia Accused Products satisfy all claim limitations of claims 1-2, 6, and 10 of the '421 Patent at the time of importation into the United States.

182. Moreover, on information and belief, one or more of the Nichia Respondents knowingly and intentionally induces infringement of the '421 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Nichia Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Nichia Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Nichia Respondents sells the Nichia Accused Products or otherwise provides the Nichia Accused Products to distributors knowing that these distributors intend to import and/or sell the Nichia Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Nichia Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Nichia Accused Products.

183. A claim chart comparing claims 1-2, 6, and 10 of the '421 Patent to a representative Nichia Accused Product, the Nichia NFSW757GT LED Package, is attached here as Confidential

Exhibit 38C. The Nichia NFSW757GT LED Package is also submitted with this Complaint as Physical Exhibit P2.

184. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Nichia Accused Products that infringe the '421 Patent for the reasons set forth above:

- Nichia NFSL757GT LED Package
- Nichia NF2E757GRT LED Package
- Nichia NE2G757GT LED Package

B. Cree Respondents

1. Patent Infringement

a. Infringement of the '483 Patent

185. On information and belief, Cree imports, sells for importation, and/or sells after importation into the United States certain Accused Products (the "Cree Accused Products") that infringe the '483 Patent.

186. The Cree Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 11 and 16 of the '483 Patent, in violation of 35 U.S.C. § 271(a). Cree directly infringes at least these claims by importing, selling for importation, and/or selling after importation into the United States the Cree Accused Products. The Cree Accused Products satisfy all claim limitations of claims 11 and 16 of the '483 Patent at the time of importation into the United States.

187. Moreover, on information and belief, one or more of the Cree Respondents knowingly and intentionally induces infringement of the '483 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Cree Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the

Cree Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Cree Respondents sells the Cree Accused Products or otherwise provides the Cree Accused Products to distributors knowing that these distributors intend to import and/or sell the Cree Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Cree Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Cree Accused Products.

188. A claim chart comparing claims 11 and 16 of the '483 Patent to a representative Cree Accused Product, the Cree XLamp® MK-R (MKRAWT-00-0000-0B00H4051) LED Package, is attached here as Confidential Exhibit 39C. The Cree XLamp® MK-R (MKRAWT-00-0000-0B00H4051) LED Package is also submitted with this Complaint as Physical Exhibit P3

189. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Cree Accused Products that infringe the '483 Patent for the reasons set forth above:

- Cree XLamp® XT-E (XTEAWT-00-0000-000000KE1) LED Package
- Cree XLamp® XM-L™ Color (XMLCTW-A0-0000-00C3ACC02) LED Package
- Cree XLamp® MHD-G (MHDGWT-0000-000N0HK427G) LED Package
- Cree XLamp® XP-G (XPGWHT-L1-0000-00G51) LED Package
- Cree XLamp® MT-G2 EasyWhite® (MTGBEZ-00-0000-0N00M030H) LED Package
- Cree XLamp® XB-D (XBDAWT-00-0000-000000LBE7) LED Package
- Cree XLamp® XP-E2 LEDs (XPEBTT-01-0000-00Y80) LED Package
- Cree XLamp® XHP70 (XHP70A-00-0000-0D0BM40E5) LED Package
- Cree XLamp® XM-L2 (XMLBWT-00-0000-0000U20E2) LED Package
- Cree XLamp® XP-G2 (XPGBWT-H1-0000-00DZ7) LED Package
- Cree XLamp® MT-G EasyWhite® (MTGEZW-01-0000-0N00G040F) LED Package
- Cree XLamp® MHB-A (MHBAWT-0000-000N0HC227G) LED Package
- Cree XLamp® XP-E High-Efficiency White (XPEHEW-H1-0000-00AE8) LED Package
- Cree XLamp® MHB-B (MHBBWT-0000-000C0BE250E) LED Package
- Cree XLamp® MHD-E (MHDEWT-0000-000N0HG227G) LED Package
- Cree XLamp® MK-R2 (MKRBWT-02-0000-0N0HG230F) LED Package

- Cree XLamp® MT-G EasyWhite® (MTGEZW-00-0000-0N00G030H) LED Package
- Cree XLamp® XB-H (XBHAWT-00-0000-000LT50E1) LED Package
- Cree XLamp® XHP35 (XHP35A-01-0000-0D0HC40E7) LED Package
- Cree XLamp® XM-L (XMLAWT-00-0000-000LT50E4) LED Package
- Cree XLamp® XM-L® EasyWhite® (XMLEZW-02-0000-0B00T627F) LED Package
- Cree XLamp® XM-L HVW (XMLHVW-Q2-0000-0000LS3E7) LED Package
- Cree XLamp® XP-C (XPCWHT-L1-0000-008E7) LED Package
- Cree XLamp® XP-L (XPLAWT-00-0000-0000V5051) LED Package
- Cree XLamp® XP-L2 (XPLBWT-00-0000-000BV50E2) LED Package
- Cree XLamp® XT-E (XTEAWT-00-0000-000000HE4) LED Package
- Cree XLamp® XT-E (XTEHVW-H0-0000-00000LDE4) LED Package
- Cree Connected™ 11W (60W Replacement) A19 LED Light Bulb (Daylight) (Product Model No.: BA19-08050OMF-12CE26-1C100)

b. Infringement of the '053 Patent

190. On information and belief, Cree imports, sells for importation, and/or sells after importation into the United States certain Cree Accused Products that infringe the '053 Patent.

191. The Cree Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent, in violation of 35 U.S.C. § 271(a). Cree directly infringes at least these claims by importing, selling for importation, and/or selling after importation into the United States the Cree Accused Products. The Cree Accused Products satisfy all claim limitations of claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent at the time of importation into the United States.

192. Moreover, on information and belief, one or more of the Cree Respondents knowingly and intentionally induces infringement of the '053 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Cree Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Cree Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Cree Respondents sells the Cree Accused Products or

otherwise provides the Cree Accused Products to distributors knowing that these distributors intend to import and/or sell the Cree Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Cree Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Cree Accused Products.

193. A claim chart comparing claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent to a representative Cree Accused Product, the Cree XLamp® MK-R (MKRAWT-00-0000-0B00H4051) LED Package, is attached here as Confidential Exhibit 40C. The Cree XLamp® MK-R (MKRAWT-00-0000-0B00H4051) LED Package is also submitted with this Complaint as Physical Exhibit P3.

194. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Cree Accused Products that infringe the '053 Patent for the reasons set forth above:

- Cree XLamp® XT-E (XTEAWT-00-0000-000000KE1) LED Package
- Cree XLamp® XM-L™ Color (XMLCTW-A0-0000-00C3ACC02) LED Package
- Cree XLamp® MHD-G (MHDGWT-0000-000N0HK427G) LED Package
- Cree XLamp® XP-G (XPGWHT-L1-0000-00G51) LED Package
- Cree XLamp® MT-G2 EasyWhite® (MTGBEZ-00-0000-0N00M030H) LED Package
- Cree XLamp® XB-D (XBDAWT-00-0000-00000LBE7) LED Package
- Cree XLamp® XP-E2 Torch (XPEBTT-01-0000-00Y80) LED Package
- Cree XLamp® XHP70 (XHP70A-00-0000-0D0BM40E5) LED Package
- Cree XLamp® XM-L2 (XMLBWT-00-0000-0000U20E2) LED Package
- Cree XLamp® XP-G2 (XPGBWT-H1-0000-00DZ7) LED Package
- Cree XLamp® MT-G EasyWhite® (MTGEZW-01-0000-0N00G040F) LED Package
- Cree XLamp® MHB-A (MHBAWT-0000-000N0HC227G) LED Package
- Cree XLamp® XP-E High-Efficiency White (XPEHEW-H1-0000-00AE8) LED Package
- Cree XLamp® MHB-B (MHBBWT-0000-000C0BE250E) LED Package
- Cree XLamp® MHD-E (MHDEWT-0000-000N0HG227G) LED Package
- Cree XLamp® MK-R2 (MKRBWT-02-0000-0N0HG230F) LED Package

- Cree XLamp® MT-G EasyWhite® (MTGEZW-00-0000-0N00G030H) LED Package
- Cree XLamp® XB-H (XBHAWT-00-0000-000LT50E1) LED Package
- Cree XLamp® XHP35 (XHP35A-01-0000-0D0HC40E7) LED Package
- Cree XLamp® XM-L (XMLAWT-00-0000-000LT50E4) LED Package
- Cree XLamp® XM-L® EasyWhite® (XMLEZW-02-0000-0B00T627F) LED Package
- Cree XLamp® XM-L HVW (XMLHVW-Q2-0000-0000LS3E7) LED Package
- Cree XLamp® XP-C (XPCWHT-L1-0000-008E7) LED Package
- Cree XLamp® XP-L (XPLAWT-00-0000-0000V5051) LED Package
- Cree XLamp® XP-L2 (XPLBWT-00-0000-000BV50E2) LED Package
- Cree XLamp® XT-E (XTEAWT-00-0000-000000HE4) LED Package
- Cree XLamp® XT-E (XTEHVW-H0-0000-00000LDE4) LED Package
- Cree Connected™ 11W (60W Replacement) A19 LED Light Bulb (Daylight) (BA19-08050OMF-12CE26-1C100)

c. Infringement of the '421 Patent

195. On information and belief, Cree imports, sells for importation, and/or sells after importation into the United States certain Cree Accused Products that infringe the '421 Patent.

196. The Cree Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 1-2, 6, and 10 of the '421 Patent, in violation of 35 U.S.C. § 271(a). Cree directly infringes at least these claims by importing, selling for importation, and/or selling after importation into the United States the Cree Accused Products. The Cree Accused Products satisfy all claim limitations of claims 1-2, 6, and 10 of the '421 Patent at the time of importation into the United States.

197. Moreover, on information and belief, one or more of the Cree Respondents knowingly and intentionally induces infringement of the '421 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Cree Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Cree Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Cree Respondents sells the Cree Accused Products or

otherwise provides the Cree Accused Products to distributors knowing that these distributors intend to import and/or sell the Cree Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Cree Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Cree Accused Products.

198. A claim chart comparing claims 1-2, 6, and 10 of the '421 Patent to a representative Cree Accused Product, the Cree 8.5W (60W Replacement) Dimmable A19 LED Light Bulb (Daylight) (SA19-08150MDFD-12DE26-1-14), is attached here as Confidential Exhibit 41C. The Cree 8.5W (60W Replacement) Dimmable A19 LED Light Bulb (Daylight) (SA19-08150MDFD-12DE26-1-14) is also submitted with this Complaint as Physical Exhibit P4.

199. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute Cree Accused Products that infringe the '421 Patent for the reasons set forth above:

- Cree 13W (75W Replacement) Dimmable R20 Flood LED Light Bulb (R20-75W-27K-U1)
- Cree 8W (65W Replacement) Dimmable BR30 Flood LED Light Bulb (Soft White) (SBR30-06527FLFD-12DE26-1-13)
- Cree 5.5W (40W Replacement) Dimmable A19 LED Light Bulb (Soft White) (SA19-04627MDFD-12DE26-1-14)
- Cree 8W (65W Replacement) Dimmable BR30 Flood LED Light Bulb (Soft White) (SBR30-06527FLFD-12DE26-1-1)
- Cree 9.5W (60W Replacement) Dimmable A19 LED Light Bulb (Soft White) (SA19-08127MDFD-12DE26-1-14)
- Cree® J Series™ 2835 LEDs (JE2835AWT-00-0000-000A0HG940E)
- Cree 10W (60W Replacement) Dimmable A19 LED Light Bulb (Soft White) (TA19-08027MDFH25-12DE26-1-12)
- Cree 10W (60W Replacement) Dimmable A19 LED Light Bulb (Daylight) (TA19-08050MDFH25-12DE26-1-12)
- Cree 17W (100W Replacement) Dimmable A21 LED Light Bulb (Daylight) (TA21-16050MDFH25-12DE26-1-11)
- Cree 8.5W (65W Replacement) Dimmable BR30 Flood LED Light Bulb (Soft White) (TBR30-06527FLFH25-12DE26-1-12)
- Cree 19W (150W Replacement) Dimmable Par38 40-Degree Flood LED Light Bulb (Bright White) (TPAR38-1803040FH25-12DE26-1-11)

C. OSRAM Respondents

1. Patent Infringement

a. Infringement of the '483 Patent

200. On information and belief, the OSRAM Respondents import, sell for importation, offer to sell for importation, and/or sell after importation into the United States certain Accused Products (the "OSRAM Accused Products") that infringe the '483 Patent.

201. The OSRAM Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 11 and 16 of the '483 Patent, in violation of 35 U.S.C. § 271(a). The OSRAM Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the OSRAM Accused Products. The OSRAM Accused Products satisfy all claim limitations of claims 11 and 16 of the '483 Patent at the time of importation into the United States.

202. Moreover, on information and belief, one or more of the OSRAM Respondents knowingly and intentionally induces infringement of the '483 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import OSRAM Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the OSRAM Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the OSRAM Respondents sells the OSRAM Accused Products or otherwise provides the OSRAM Accused Products to distributors knowing that these distributors intend to import and/or sell the OSRAM Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the OSRAM Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement

of the Asserted Patents by making, using, selling, offering to sell, and/or importing the OSRAM Accused Products.

203. A claim chart comparing claims 11 and 16 of the '483 Patent to a representative Osram Accused Product, the Osram OSTAR® Stage (LE RTDCY S2WN) LED Package, is attached here as Confidential Exhibit 42C. The Osram OSTAR® Stage (LE RTDCY S2WN) LED Package is also submitted with this Complaint as Physical Exhibit P5.

204. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following products also constitute OSRAM Accused Products that infringe the '483 Patent for the reasons set forth above:

- Osram OSLON® SX (LA CN5M-FBGB-24-1) LED Package
- Osram OSTAR® Projection Compact (KW CSLNM1.TG-8M7N-ebvF46fcbB46-15B5) LED Package
- Osram OSLON® SSL 120 (GD CSSPM1.14-UOVJ-W4-1) LED Package
- Osram OSLON® Square (GD CSSRM2.14-ARAT-24-1) LED Package
- Osram OSLON® LX ECE (LUW CVBP.CE-5L8L-GMKM-8E8G) LED Package
- Osram OSLON® SSL 80 (GW CS8PM1.PM-LSLU-XX53-1-350-R18) LED Package
- Osram OSLON® Signal (LUW CRBP-LXLZ-G4J4-1-350-R18-Z) LED Package
- Osram OSLON® Square (LUW CQAR-MUNQ-HPJR-1) LED Package
- Osram OSLON® SSL 150 (GW CSHPM1.PM-LSLU-XX53-1) LED Package
- Osram OSLON® SSL 80 (GA CS8PM1.23-KQKS-W3-0) LED Package
- Osram OSLON® SSL 120 (GA CSSPM1.23-KSKU-W3-0) LED Package
- Osram OSLON® Square (GD CSSRM2.14-ARAT-24-1) LED Package
- Osram OSLON® Square (GW CSSRM3.PM-N5N7-XX51-1-700-R18) LED Package
- Osram OSLON® Signal (LB CRBP-HXJX-46-8E8G) LED Package
- Osram OSLON® Signal (LJ CKBP-JZKZ-25-1) LED Package
- Osram OSLON® SSL 150 (LUW CRDP-LRLT-HPJR-1) LED Package

b. Infringement of the '053 Patent

205. On information and belief, the OSRAM Respondents import, sell for importation, and/or sell after importation into the United States certain OSRAM Accused Products that infringe the '053 Patent.

206. The OSRAM Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent, in violation of 35 U.S.C. § 271(a). The OSRAM Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the OSRAM Accused Products. The OSRAM Accused Products satisfy all claim limitations of claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent at the time of importation into the United States.

207. Moreover, on information and belief, one or more of the OSRAM Respondents knowingly and intentionally induces infringement of the '053 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import OSRAM Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the OSRAM Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the OSRAM Respondents sells the OSRAM Accused Products or otherwise provides the OSRAM Accused Products to distributors knowing that these distributors intend to import and/or sell the OSRAM Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the OSRAM Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the OSRAM Accused Products.

208. A claim chart comparing claims 7, 11, 13-15, 22, 26, and 28-30 of the '053 Patent to a representative Accused Product, the Osram OSTAR® Stage (LE RTDCY S2WN) LED Package, is attached here as Confidential Exhibit 43C. The Osram OSTAR® Stage (LE RTDCY S2WN) LED Package is also submitted with this Complaint as Physical Exhibit P5.

209. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute OSRAM Accused Products that infringe the '053 Patent for the reasons set forth above:

- Osram OSLON® SX (LA CN5M-FBGB-24-1)
- Osram OSTAR® Projection Compact (KW CSLNM1.TG-8M7N-ebvF46fcbB46-15B5)
- Osram OSLON® SSL 120 (GD CSSPM1.14-UOVJ-W4-1)
- Osram OSLON® Square (GD CSSRM2.14-ARAT-24-1)
- Osram OSLON® LX ECE (LUW CVBP.CE-5L8L-GMKM-8E8G)
- Osram OSLON® SSL 80 (GW CS8PM1.PM-LSLU-XX53-1-350-R18)
- Osram OSLON® Signal (LUW CRBP-LXLZ-G4J4-1-350-R18-Z)
- Osram OSLON® Square (LUW CQAR-MUNQ-HPJR-1)
- Osram OSLON® SSL 150 (GW CSHPM1.PM-LSLU-XX53-1)
- Osram OSLON® SSL 80 (GA CS8PM1.23-KQKS-W3-0)
- Osram OSLON® SSL 120 (GA CSSPM1.23-KSKU-W3-0)
- Osram OSLON® Square (GD CSSRM2.14-ARAT-24-1)
- Osram OSLON® Square (GW CSSRM3.PM-N5N7-XX51-1-700-R18)
- Osram OSLON® Signal (LB CRBP-HXJX-46-8E8G)
- Osram OSLON® Signal (LJ CKBP-JZKZ-25-1)
- Osram OSLON® SSL 150 (LUW CRDP-LRLT-HPJR-1)

c. Infringement of the '421 Patent

210. On information and belief, the OSRAM Respondents import, sell for importation, and/or sell after importation into the United States certain OSRAM Accused Products that infringe the '421 Patent.

211. The OSRAM Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 1-2, 6, and 10 of the '421 Patent, in violation of 35 U.S.C. §271(a). The OSRAM Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the OSRAM Accused Products. The OSRAM Accused Products satisfy all claim limitations of claims 1-2, 6, and 10 of the '421 Patent at the time of importation into the United States.

212. Moreover, on information and belief, one or more of the OSRAM Respondents knowingly and intentionally induces infringement of the '421 Patent in violation of 35 U.S.C. §

271(b) by actively encouraging others to offer to sell, sell, use, and/or import OSRAM Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the OSRAM Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the OSRAM Respondents sells the OSRAM Accused Products or otherwise provides the OSRAM Accused Products to distributors knowing that these distributors intend to import and/or sell the OSRAM Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the OSRAM Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing the OSRAM Accused Products.

213. A claim chart comparing claims 1-2, 6, and 10 of the '421 Patent to a representative Osram Accused Product, the Osram OSCONIQ® P 3737 (2W) (GW PUSRA1.EM-M9N1-A232-1) LED Package is attached here as Confidential Exhibit 44C. The Osram OSCONIQ® P 3737 (2W) (GW PUSRA1.EM-M9N1-A232-1) LED Package is also submitted with this Complaint as Physical Exhibit P6.

214. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following additional products constitute OSRAM Accused Products that infringe the '421 Patent for the reasons set forth above:

- Osram OSLON® Black (LUW H9GP-KYLY-4C8E-1-350-R18-Z) LED Package
- Osram OSLON® Black Flat (LUW HWQP-8M7N-EBVF46FCBB46-8E8H) LED Package
- Osram DURIS® S 5 (GW PSLR31.EM-LR-XX51-1-150-R18) LED Package
- Osram SYNIOS E4014 (KW DPLS31.SB-5H5J-E5P7-EG-1-120-R18) LED Package
- Osram OSLON® Black Flat (LA H9PP-JXKX-24-1) LED Package
- Osram OSLON® Black (SFH 4713A) LED Package

D. Lumileds Respondents

1. Patent Infringement

a. Infringement of the '483 Patent

215. On information and belief, the Lumileds Respondents import, sell for importation, offer to sell for importation, and/or sell after importation into the United States certain Accused Products (the "Lumileds Accused Products") that infringe the '483 Patent.

216. The Lumileds Accused Products directly infringe, literally and/or under the doctrine of equivalents, at least claims 11 and 14-16 of the '483 Patent, in violation of 35 U.S.C. § 271(a). The Lumileds Respondents directly infringe at least these claims by importing, selling for importation, and/or selling after importation into the United States the OSRAM Accused Products. The Lumileds Accused Products satisfy all claim limitations of claims 11 and 14-16 of the '483 Patent at the time of importation into the United States.

217. Moreover, on information and belief, one or more of the Lumileds Respondents knowingly and intentionally induces infringement of the '483 Patent in violation of 35 U.S.C. § 271(b) by actively encouraging others to offer to sell, sell, use, and/or import Lumileds Accused Products into the United States (i.e., by actively encouraging others to directly infringe). On information and belief, with knowledge and intent, or with willful blindness, one or more of the Lumileds Respondents is encouraging and facilitating infringement by others. For example, on information and belief, one or more of the Lumileds Respondents sells the Lumileds Accused Products or otherwise provides the Lumileds Accused Products to distributors knowing that these distributors intend to import and/or sell the Lumileds Accused Products in the United States. On information and belief, as of the filing of this Complaint or earlier, the Lumileds Respondents have had knowledge of, or have been willfully blind toward, the Asserted Patents and the infringement

of the Asserted Patents by making, using, selling, offering to sell, and/or importing the Lumileds Accused Products.

218. A claim chart comparing claims 11 and 14-16 of the '483 Patent to a representative Lumileds Accused Product, the Lumileds LUXEON C Color (L1C1-5790000000000) LED Package, is attached here as Confidential Exhibit 45C. The Lumileds LUXEON C Color (L1C1-5790000000000) LED Package is also submitted with this Complaint as Physical Exhibit P7.

219. Additionally, on information and belief, including based on teardown analyses and imaging, at least the following products also constitute Lumileds Accused Products that infringe the '483 Patent for the reasons set forth above:

- Lumileds LUXEON Rebel (LXMA-PL02-0100) LED Package
- Lumileds LUXEON F ES (LFXH-C2B-0200) LED Package
- Lumileds LUXEON IR Domed (L1I0-0850060000000) LED Package
- Lumileds LUXEON Rebel (LXML-PWC1-0100) LED Package
- Lumileds LUXEON CZ Color (L1CU-5070000000000) LED Package
- Lumileds LUXEON V2 (L1V2-5770000000000) LED Package
- Lumileds LUXEON Rebel PLUS (LX18-P150-3) LED Package
- Lumileds LUXEON Rebel ES (LXML-PWC2) LED Package
- Lumileds LUXEON V (L1V1-407003V500000) LED Package
- Lumileds LUXEON MX (L1MX-407012V500000) LED Package
- Lumileds LUXEON M (LXR7-SW40) LED Package
- Lumileds Z ES (LXZ2-3580-3) LED Package
- Lumileds LUXEON MZ (LMZ7-RW65) LED Package
- Lumileds LUXEON TX (L1T2-3070000000000) LED Package
- Lumileds LUXEON IR Domed (L1I0-0940060000000) LED Package
- Lumileds LUXEON MX (L1MX-407012V500000) LED Package
- Lumileds LUXEON TX (L1T2-5080000000000) LED Package
- Lumileds LUXEON V (L1V1-657003V500000) LED Package
- Lumileds LUXEON V2 (L1V2-6570000000000) LED Package
- Lumileds LUXEON F PC Amber (LFMH-L1A-0070) LED Package
- Lumileds LUXEON MZ (LMZ7-RW40) LED Package
- Lumileds LUXEON Rebel PLUS (LX18-P127-3) LED Package
- Lumileds LUXEON R (LXA7-PW50) LED Package
- Lumileds LUXEON Rebel, White & PC Amber (LXMA-PW01-0120) LED Package
- Lumileds LUXEON Rebel (LXML-PWC1-0120) LED Package
- Lumileds LUXEON Rebel ES (LXML-PWN2) LED Package
- Lumileds LUXEON M (LXR7-SW30) LED Package