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 13 Document Security Systems, Inc.

14 **UNITED STATES DISTRICT COURT**
 15 **CENTRAL DISTRICT OF CALIFORNIA**

16 DOCUMENT SECURITY SYSTEMS,
 17 INC.,

18 *Plaintiff,*

19 v.

20 CREE, INC.,

21 *Defendant.*

22 Case No. 2:17-cv-04263-JVS-JCG

23 **SECOND AMENDED COMPLAINT**
 24 **FOR PATENT INFRINGEMENT**

25 JURY TRIAL DEMANDED

1 This is an action for patent infringement arising under the Patent Laws of the
2 United States of America, 35 U.S.C. § 1 *et seq.* in which Document Security Systems,
3 Inc. (“DSS” or “Plaintiff”) makes the following allegations against Defendant Cree, Inc.
4 (“Cree” or “Defendant”).

5 **PARTIES**

6 1. Document Security Systems, Inc. is a publicly-traded New York
7 corporation. Founded in 1984, DSS is a global leader in brand protection, digital
8 security solutions and anti-counterfeiting technologies.

9 2. In November 2016, DSS acquired a portfolio of patents covering
10 technologies used in Light-Emitting Diode (“LED”) lighting products, including the
11 patents-in-suit. The patents in this portfolio were originally assigned to Agilent
12 Technologies, Inc. and/or the successors of its LED business. Since its recent
13 acquisition of these patents, DSS has worked to expand its business efforts regarding
14 LED technology. DSS is pursuing both licensing and commercialization of this
15 technology acquisition, and is establishing those activities within its Plano location.

16 3. On information and belief, Cree, Inc. is a North Carolina corporation with its
17 principal place of business at 4600 Silicon Drive, Durham, North Carolina 27703-
18 8475. Defendant Cree, Inc. can be served through its registered agent, CT
19 Corporation System, 818 W 7th St. Suite 930, Los Angeles, CA 90017.

20 **JURISDICTION AND VENUE**

21 4. This action arises under the patent laws of the United States, Title 35 of the
22 United States Code. Accordingly, this Court has subject matter jurisdiction under 28
23 U.S.C. §§ 1331 and 1338(a).

24 5. This Court has personal jurisdiction over Defendant in this action because,
25 among other reasons, Defendant has committed acts within the Central District of
26 California giving rise to this action and has established minimum contacts with the
27 forum state of California. Defendant directly and/or through subsidiaries or
28 intermediaries (including distributors, retailers, and others), has committed and

1 continues to commit acts of infringement in this District by, among other things,
2 making, using, importing, offering for sale, and/or selling products and/or services
3 that infringe the patents-in-suit. Thus, Defendant purposefully availed itself of the
4 benefits of doing business in the State of California and the exercise of jurisdiction
5 over Defendant would not offend traditional notions of fair play and substantial
6 justice. Cree is registered to do business in the State of California, and has an office
7 and regular and established place of business at 340 Storke Road, Goleta, California
8 93117.

9 6. Venue is proper in this District under 28 U.S.C. §§ 1391 (b)-(c) and 1400(b)
10 because Defendant has a regular and established place of business in this District and
11 has committed acts of patent infringement in this District. Defendant, for example,
12 has a regular and established place of business at 340 Storke Road, Goleta, California
13 93117.

14 **BACKGROUND**

15 7. DSS is the owner by assignment of United States Patent No. 6,949,771 (“the
16 ’771 Patent”) entitled “Light Source.” The ’771 Patent was duly and legally issued by
17 the United States Patent and Trademark Office on September 27, 2005. A true and
18 correct copy of the ’771 Patent is included as Exhibit A.

19 8. DSS is the owner by assignment of United States Patent No. 7,256,486 (“the
20 ’486 Patent”) entitled “Packing Device for Semiconductor Die, Semiconductor Device
21 Incorporating Same and Method of Making Same.” The ’486 Patent was duly and
22 legally issued by the United States Patent and Trademark Office on August 14, 2007.
23 A true and correct copy of the ’486 Patent is included as Exhibit B.

24 9. DSS is the owner by assignment of United States Patent No. 7,524,087
25 (“the ’087 Patent”) entitled “Optical Device.” The ’087 Patent was duly and legally
26 issued by the United States Patent and Trademark Office on April 28, 2009. A true
27 and correct copy of the ’087 Patent is included as Exhibit C.

28 10. DSS is the owner by assignment of United States Patent No. 7,919,787

1 (“the ’787 Patent”) entitled “Semiconductor Device with a Light Emitting
2 Semiconductor Die.” The ’787 Patent was duly and legally issued by the United
3 States Patent and Trademark Office on April 5, 2011. A true and correct copy of the
4 ’787 Patent is included as Exhibit D.

5 11. DSS owns all rights, title, and interest in and to the ’771, ’486, ’087, and
6 ’787 Patents (collectively, “asserted patents” or “patents-in-suit”), including all rights
7 to sue and recover for past and future infringement.

8 **COUNT I**

9 **INFRINGEMENT OF THE ’771 PATENT**

10 12. DSS references and incorporates by reference paragraphs 1 through 10 of
11 this Complaint.

12 13. On information and belief, Defendant makes, uses, offers for sale, sells,
13 and/or imports in the United States products and/or services that infringe various
14 claims of the ’771 Patent, and continues to do so. By way of illustrative example,
15 Defendant’s infringing products include without limitation, all versions and variations,
16 including predecessor and successor models, of its XLamp ML-B, XLamp ML-C,
17 XLamp ML-E, Xlamp MX-3S, XLamp XR-C, XLamp XR-E, XLamp MC-E, CLM1
18 Series Color, CLM2 Series, CLM3 Series Color, CLM4 Series, CLP6 Series White,
19 CLP6 Series Color, SMD Full Color, and SMD Full Color Side-View LED products.
20 Defendant’s infringing products also include products, e.g., light bulbs, displays and
21 fixtures that contain at least one infringing LED product. Defendant’s infringing
22 products are collectively referred to hereinafter as “’771 Accused Instrumentalities.”

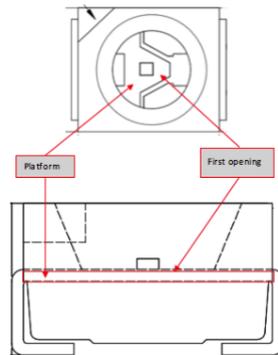
23 14. On information and belief, Defendant has directly infringed and
24 continues to directly infringe the ’771 Patent by, among other things, making, using,
25 offering for sale, selling, and/or importing the ’771 Accused Instrumentalities. On
26 information and belief, such products and/or services are covered by one or more
27 claims of the ’771 Patent’s including at least claims 1 through 8 because they contain
28 each element of those claims.

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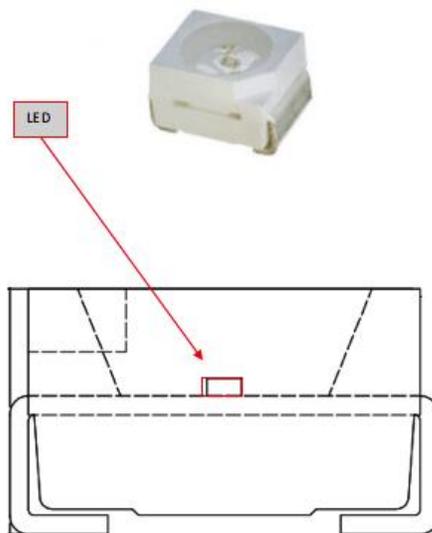
15. As an illustrative example, Defendant imports, sells and offers to sell its CLM1 Series Color LED products. Defendant’s CLM1 Series Color infringes, for example, Claim 3 of the ‘771 patent because it is a light source comprising a substrate having opposing first and second surfaces, the substrate defining an aperture extending from the first surface to the second surface, said aperture having a first opening in the first surface and second opening in said second surface:



1 16. Defendant's CLM1 Series Color also includes a platform covering said
2 first opening, said platform being located outside said aperture:



11 17. Defendant's CLM1 Series Color also includes a light emitting diode
12 mounted on the platform within the aperture, and a transparent encapsulant material
13 encapsulating the light emitting diode in the aperture:



24 18. Defendant's CLM1 Series Color's "platform" is made from thermally
25 conductive material for conducting heat away from the light emitting diode because
26 the "platform" comprises a metal lead frame that conducts heat away from the light
27 emitting diode.
28

1 19. By making, using, offering for sale, selling, and/or importing the '771
2 Accused Instrumentalities infringing the '771 Patent, Defendant has injured DSS and
3 is liable to DSS for infringement of the '771 Patent pursuant to 35 U.S.C. § 271(a)
4 directly and/or under the doctrine of equivalents.

5 20. In addition, Defendant is actively inducing others, such as its affiliates,
6 customers, and end users of Accused Instrumentalities, services based thereupon, and
7 related products and/or processes, to directly infringe—and/or to combine outside of
8 the United States in a manner that would infringe if such combination occurred within
9 the United States—each and every claim limitation, including without limitation
10 claims 1 through 8 of the '771 Patent, in violation of 35 U.S.C. §§ 271(b) and/or
11 271(f). Upon information and belief, Defendant's customers and/or end users have
12 directly infringed and are directly infringing—and/or combining outside of the United
13 States in a manner that would infringe if such combination occurred within the United
14 States—each and every claim limitation, including without limitation claims 1 through
15 8 of the '771 Patent. Defendant has had actual knowledge of the '771 Patent at least
16 as of service of this Complaint. Defendant is knowingly inducing its customers and/or
17 end users to directly infringe—and/or to combine outside of the United States in a
18 manner that would infringe if such combination occurred within the United States—
19 the '771 Patent, with the specific intent to encourage such infringement, and knowing
20 that the induced acts constitute patent infringement. Defendant's inducement
21 includes, for example, providing technical guides, product data sheets,
22 demonstrations, software and hardware specifications, installation guides, and other
23 forms of support that induce its customers and/or end users to directly infringe—
24 and/or to combine outside of the United States in a manner that would infringe if such
25 combination occurred within the United States—the '771 Patent. The '771 Accused
26 Instrumentalities are designed in such a way that when they are used for their intended
27 purpose, the user infringes the '771 Patent. Defendant knows and intends that
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1 customers that purchase the '771 Accused Instrumentalities will use those products for
2 their intended purpose.

3 21. Defendant specifically intends its United States customers infringe the
4 '771 patent through use of the '771 Accused Instrumentalities in this country by at
5 least advertising and promoting the use (e.g., hyperlinked "Application" below) of the
6 '771 Accused Instrumentalities on its United States website: See, e.g.,
7 <http://www.cree.com/led-components/products/smd-color/clm1-series-color>.

CLM1 Series Color

SMD Color LEDs

SMD LEDs are packaged in the industry-standard package. These LEDs have high-reliability performance and are designed to work under a wide range of environmental conditions. This high-reliability feature makes them ideally suited to be used under illumination-application conditions.



The wide viewing angle makes these LEDs ideally suited for channel-letter, or general backlighting and illumination applications. The flat top emitting surface makes it easy for these LEDs to mate with light pipes.

Application

- Channel Letters
- Single-Color Signs

15 22. Defendant also specifically intends its customers infringe the '771 Patent
16 through use of the '771 Accused Instrumentalities through trade show presentations,
17 customer visits, direct customer contacts and application guides. Defendant also
18 specifically intends its customers to infringe the '771 Patent through selling '771
19 Accused Instrumentalities overseas with the specific intent that the customer import,
20 offer to sell, and/or sell the '771 Accused Instrumentalities in order to develop and
21 serve the United States market for Defendant's LED products, either alone or used in
22 products such as bulbs, displays and/or fixtures. Such customers include Defendant's
23 LED distributors, consumer products companies and retailers that serve the United
24 States market. See <http://www.cree.com/led-components/where-to-buy>, naming
25 Arrow Americas, Avnet, Digi-Key, Mouser Electronics, and WPG Americas as
26 United States "Distributor[s]."

27 23. Defendant has been aware of the '771 Patent and of its infringement as of
28 a date no later than March 24, 2014, when during the prosecution of Defendant's

1 patent that issued as US 8,860,043, the USPTO examiner cited and rejected claims of
2 Defendant's patent application in view of the '771 Patent. Thereafter, Defendant cited
3 the '771 Patent in many of its patent applications, including during prosecution of
4 patents that issued to US 8,866,166 (cited in Defendant's Information Disclosure
5 Statement on April 17, 2014); US 8,878,217 (cited in Defendant's Information
6 Disclosure Statement on April 17, 2014); US 9,111,778 (cited in Defendant's
7 Information Disclosure Statement on May 5, 2014); US 9,123,874 (cited in
8 Defendant's Information Disclosure Statement on April 17, 2014). Defendant also
9 had knowledge of the '771 Patent at least as of the date it was served with the
10 Complaint in case 2:17-cv-309, which was filed on April 13, 2017. Since that date,
11 Defendant has failed to investigate and remedy its infringement of the '771 Patent and
12 thus willfully and egregiously continues to infringe the '771 Patent. On information
13 and belief, Defendant continues to offer infringing products without having modified
14 or altered those products in a manner that would not infringe the '771 patent.
15 Defendant, at the very least, has been egregiously and willfully blind to infringement
16 of the '771 Patent. Further evidence of Defendant's egregious and willful
17 infringement are the acts of active inducement described in this Complaint.
18 Defendant actively induces and encourages customers to make, use, sell, offer to sell
19 and/or import the '771 Accused Instrumentalities with knowledge that these acts
20 constitute infringement of the '771 Patent, with the purpose of, *inter alia*, developing
21 and serving the United States market for Defendant's LED products and consumer
22 devices that include Defendant's products.

23 24. As a result of Defendant's infringement of the '771 Patent, DSS has
24 suffered monetary damages in an amount adequate to compensate for Defendant's
25 infringement, but in no event less than a reasonable royalty for the use made of the
26 invention by Defendant, together with interest and costs as fixed by the Court.

COUNT II

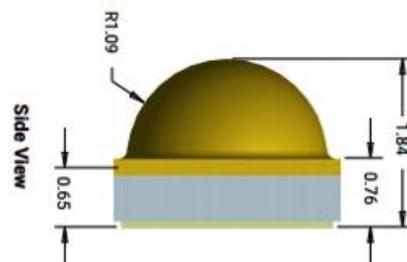
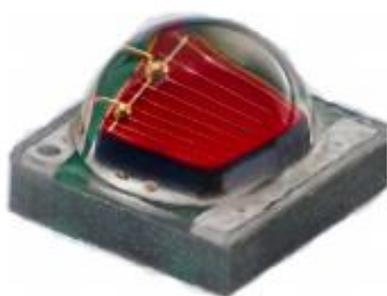
INFRINGEMENT OF THE '486 PATENT

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3 25. DSS references and incorporates by reference paragraphs 1 through 24 of
4 this Complaint.

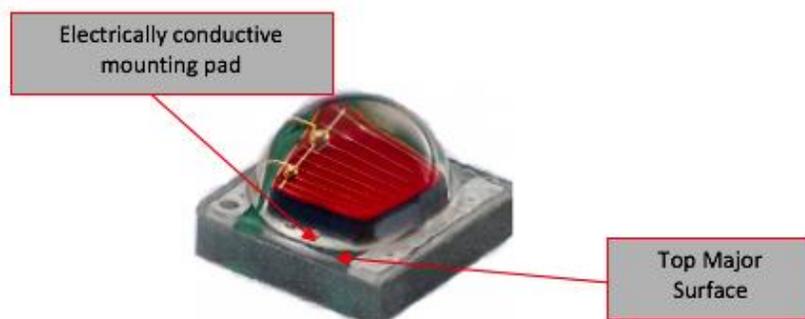
5 26. On information and belief, Defendant makes, uses, offers for sale, sells,
6 and/or imports in the United States products and/or services that infringe various
7 claims of the '486 Patent, and continues to do so. By way of illustrative example,
8 Defendant's infringing products include without limitation, all versions and variations,
9 including predecessor and successor models, of its "XLamp" line of LEDs, including
10 the XP-G2, XB-D, XB-H, XH-B, XH-G, XHP35, XHP35 HI, XM-L, XM-L HV, XM-
11 L2, XP-C, XP-E, XP-E HE, XP-E2, XP-E2 Torch, XP-G, XP-G2, XP-G3, XP-L, XP-
12 L HI, XP-12, XQ-A, XQ-B, XQ-D, XQ-E, XQ-E HI, XR-C, XR-E, XT-E HV, XT-E
13 Royal Blue, XT-E White, MHB-A, MHB-B, MHD-E, MHD-G, MK-R, MK-R2, MT-
14 G EasyWhite, MT-G2 EasyWhite, XHP50, XHP50.2, XHP70, XHP70.2, XM-L
15 Color, XM-L EasyWhite, XM-L2 EasyWhite LED products and Daylight bulbs.
16 Defendant's infringing products also include products, e.g., light bulbs, displays and
17 fixtures that contain at least one infringing LED product. Defendant's infringing
18 products are collectively referred to hereinafter as "'486 Accused Instrumentalities."

19 27. On information and belief, Defendant has directly infringed and
20 continues to directly infringe the '486 Patent by, among other things, making, using,
21 offering for sale, selling, and/or importing the '486 Accused Instrumentalities. On
22 information and belief, such products are covered by one or more claims of the '486
23 Patent including at least claim 1 because they contain each element of that claim.

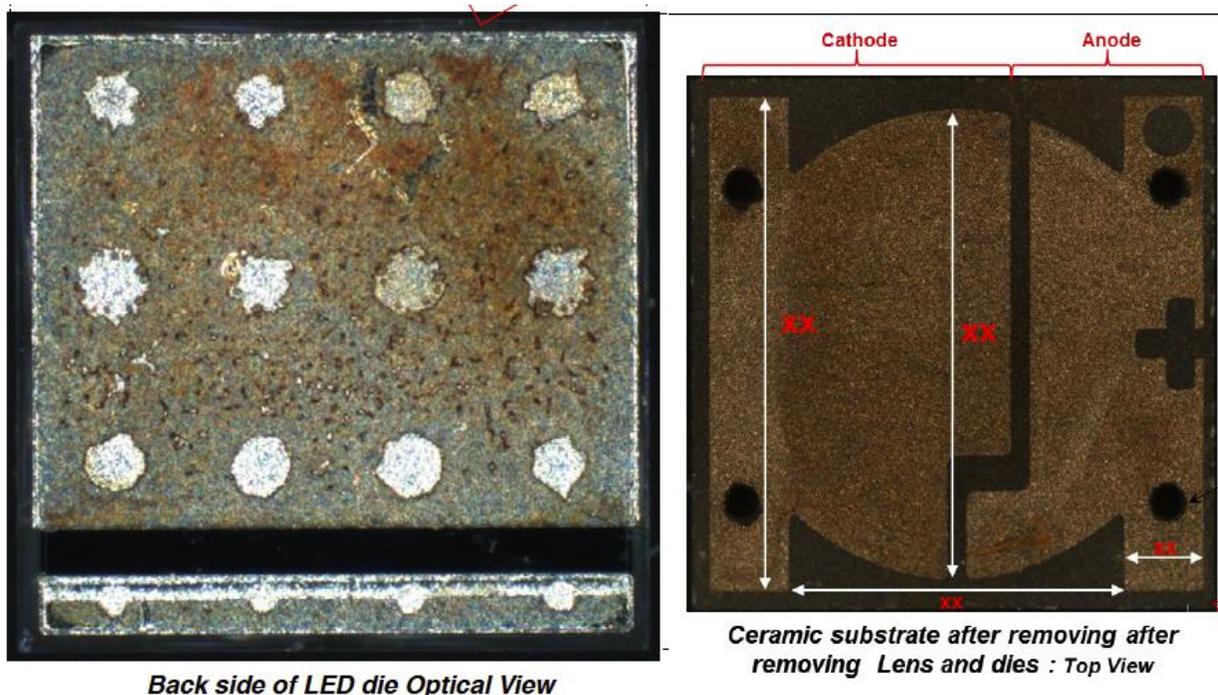
1 28. As an illustrative example, Defendant imports, sells and offers to sell its
2 XLamp XB-D LED products. Defendant's XLamp XB-D infringes, for example,
3 Claim 1 of the '486 patent because it is a semiconductor device comprising a
4 substantially planar substrate having opposed major surfaces:



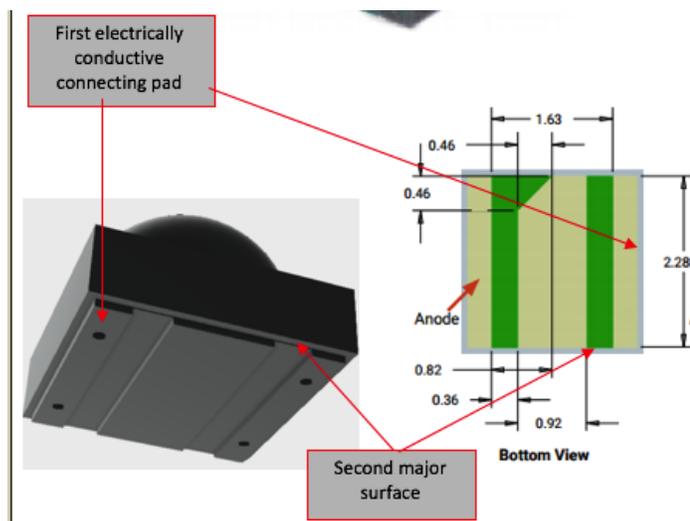
13 29. Defendants XLamp XB-D also includes an electrically conductive
14 mounting pad located on one of the major surfaces of the substrate:



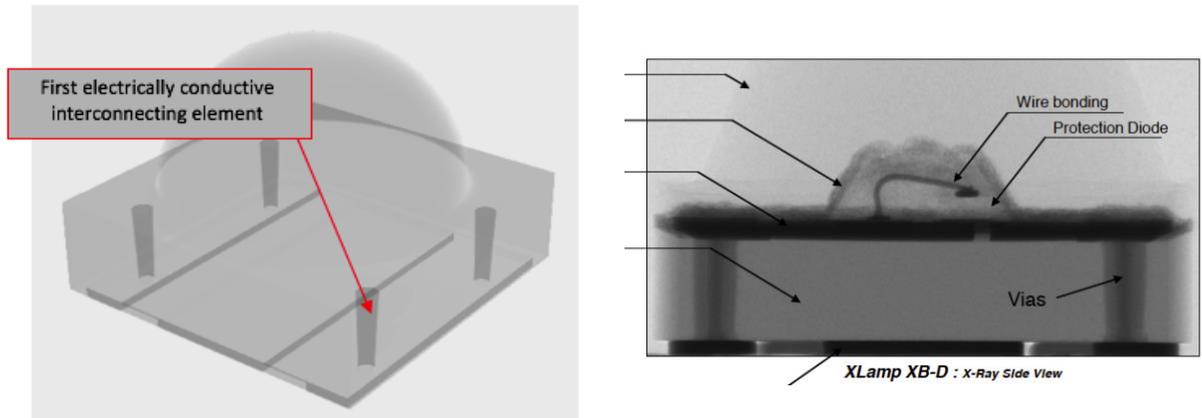
1 30. Defendant's XLamp XB-D also includes an LED having a metallized
 2 bottom major surface that is mounted on the electrically conductive mounting pad, the
 3 metallized bottom major surface comprising one of an anode and a cathode of the
 4 LED:



17 31. Defendant's XLamp XB-D also includes a first electrically conductive
 18 connecting pad located on the other of the major surfaces of the substrate:



1 32. Defendant's XLamp XB-D also includes a first electrically conductive
2 interconnecting element extending through the substrate and electrically
3 interconnecting the mounting pad and the first electrically conductive connecting pad:
4



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13 33. By making, using, offering for sale, selling, and/or importing the '486
14 Accused Instrumentalities infringing the '486 Patent, Defendant has injured DSS and
15 is liable to DSS for infringement of the '486 Patent pursuant to 35 U.S.C. § 271(a)
16 directly and/or under the doctrine of equivalents.

17 34. In addition, Defendant is actively inducing others, such as its affiliates,
18 customers, and end users of Accused Instrumentalities, services based thereupon, and
19 related products and/or processes, to directly infringe—and/or to combine outside of
20 the United States in a manner that would infringe if such combination occurred within
21 the United States—each and every claim limitation, including without limitation claim
22 1 of the '486 Patent, in violation of 35 U.S.C. §§ 271(b) and/or 271(f). Upon
23 information and belief, Defendant's customers and/or end users have directly
24 infringed and are directly infringing—and/or combining outside of the United States
25 in a manner that would infringe if such combination occurred within the United
26 States—each and every claim limitation, including without limitation claim 1 of the
27 '486 Patent. Defendant has had actual knowledge of the '486 Patent at least as of
28 service of this Complaint. Defendant is knowingly inducing its customers and/or end

1 users to directly infringe—and/or to combine outside of the United States in a manner
 2 that would infringe if such combination occurred within the United States—the '486
 3 Patent, with the specific intent to encourage such infringement, and knowing that the
 4 induced acts constitute patent infringement. Defendant's inducement includes, for
 5 example, providing technical guides, product data sheets, demonstrations, software
 6 and hardware specifications, installation guides, and other forms of support that
 7 induce its customers and/or end users to directly infringe—and/or to combine outside
 8 of the United States in a manner that would infringe if such combination occurred
 9 within the United States—the '486 Patent. The '486 Accused Instrumentalities are
 10 designed in such a way that when they are used for their intended purpose, the user
 11 infringes the '486 Patent. Defendant knows and intends that customers that purchase
 12 the '486 Accused Instrumentalities will use those products for their intended purpose.

13 35. Defendant specifically intends its United States customers infringe the
 14 '486 patent through use of the '486 Accused Instrumentalities in this country by at
 15 least advertising and promoting the use (e.g., hyperlinked “Application” below) of the
 16 '486 Accused Instrumentalities on its United States website: See, e.g.,
 17 <http://www.cree.com/led-components/products/xlamp-leds-discrete/xlamp-xb-d>.

XLamp XB-D

Smallest lighting-class LED enables dramatically lower system cost

Designed to enable lower system costs for lighting manufacturers, the XLamp® XB-D LED doubles the lumens per dollar of previously available LEDs. Built on Cree's SC² Technology™ Platform, the XB-D White LED delivers up to 139 lumens and 136 lumens per watt in cool white (6000 K) or up to 107 lumens and 105 lumens per watt in warm white (3000 K), both at 350 mA and 85°C.

Cree XLamp® XB-D color LEDs extend the double lumens-per-dollar performance of the XB package to color LEDs, delivering up to 40% higher maximum light output than XP-E color LEDs. The combination of performance and small size of XB-D color LEDs enables better color mixing and lower system cost.



Application

Non-Directional
 Directional
 Downlights
 Distributed
 Exterior Area
 Architectural
 Entertainment
 Vehicle
 Consumer Portable

Data Sheets

 [XB-D Data Sheet](#)

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27 36. Defendant also specifically intends its customers infringe the '486 Patent
 28 through use of the '486 Accused Instrumentalities through trade show presentations,

1 customer visits, direct customer contacts and application guides. Defendant also
2 specifically intends its customers to infringe the '486 Patent through selling '486
3 Accused Instrumentalities overseas with the specific intent that the customer import,
4 offer to sell, and/or sell the '486 Accused Instrumentalities in order to develop and
5 serve the United States market for Defendant's LED products, either alone or used in
6 products such as bulbs, displays and/or fixtures. Such customers include Defendant's
7 LED distributors, consumer products companies and retailers that serve the United
8 States market. See <http://www.cree.com/led-components/where-to-buy>, naming
9 Arrow Americas, Avnet, Digi-Key, Mouser Electronics, and WPG Americas as
10 United States "Distributor[s]."

11 37. Defendant has been aware of the '486 Patent and of its infringement as of
12 a date no later than the date it was served with the Complaint in case 2:17-cv-309,
13 which was filed on April 13, 2017. Since that date, Defendant has failed to investigate
14 and remedy its infringement of the '486 Patent and thus willfully and egregiously
15 continues to infringe the '486 Patent. On information and belief, Defendant continues
16 to offer infringing products without having modified or altered those products in a
17 manner that would not infringe the '486 patent. Defendant, at the very least, has been
18 egregiously and willfully blind to infringement of the '486 Patent. Further evidence
19 of Defendant's egregious and willful infringement are the acts of active inducement
20 described in this Complaint. Defendant actively induces and encourages customers to
21 make, use, sell, offer to sell and/or import the '486 Accused Instrumentalities with
22 knowledge that these acts constitute infringement of the '486 Patent, with the purpose
23 of, *inter alia*, developing and serving the United States market for Defendant's LED
24 products and consumer devices that include Defendant's products.

25 38. As a result of Defendant's infringement of the '486 Patent, DSS has
26 suffered monetary damages in an amount adequate to compensate for Defendant's
27 infringement, but in no event less than a reasonable royalty for the use made of the
28 invention by Defendant, together with interest and costs as fixed by the Court.

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COUNT III

INFRINGEMENT OF THE '087 PATENT

39. DSS references and incorporates by reference paragraphs 1 through 38 of this Complaint.

40. On information and belief, Defendant makes, uses, offers for sale, sells, and/or imports in the United States products and/or services that infringe various claims of the '087 Patent, and continues to do so. By way of illustrative example, Defendant's infringing products include without limitation, all versions and variations, including predecessor and successor models of its LED products including its CLA2 Series White, CLA2 Series Color, CLM1 Series White, CLM1 Series Color, CLM2 Series White, CLM2 Series Color, CLM3 Series Color, CLM3 Series White, CLM4 Series White, CLM4 Series Color, CLP6 Series White, CLP6 Series Color, CLX6 Series White, CLX6 Series Color, XLamp ML-B, XLamp ML-C, XLamp ML-E, PLCC4 3 in 1 SMD LED (CLM, CLV, CLX, CLY and SLV Series), models. Defendant's infringing products also include products, e.g., light bulbs, displays and fixtures that contain at least one infringing LED product. Defendant's infringing products are collectively referred to hereinafter as "'087 Accused Instrumentalities."

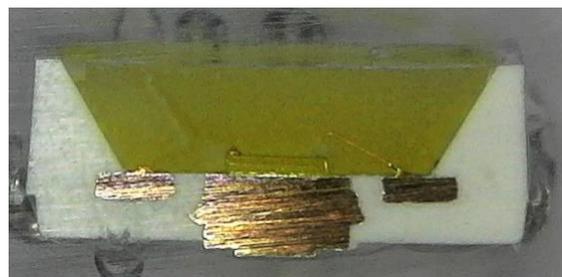
41. On information and belief, Defendant has directly infringed and continues to directly infringe the '087 Patent by, among other things, making, using, offering for sale, selling, and/or importing the '087 Accused Instrumentalities. On information and belief, such products and/or services are covered by one or more claims of the '087 Patent's including at least claim 1 because they contain each element of that claim.

42. As an illustrative example, Defendant imports, sells and offers to sell its XLamp ML-B LED products. Defendant's XLamp ML-B infringes, for example, Claim 1 of the '087 patent because it is an optical device comprising a lead frame with a plurality of leads:

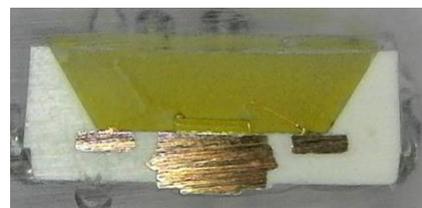
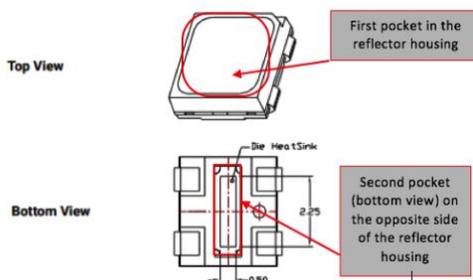
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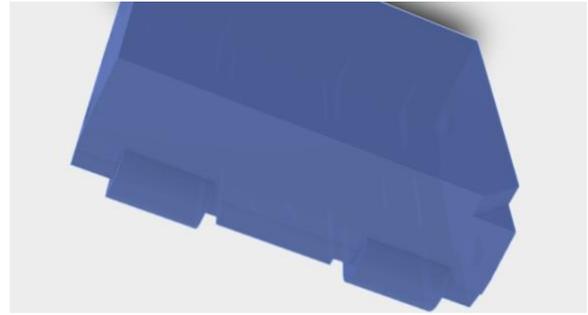
43. Defendant’s XLamp ML-B also includes a reflector housing formed around the lead frame, the reflector housing having a first end face and a second end face and a peripheral sidewall extending between the first end face and the second end face, the reflector housing having a first pocket with a pocket opening in the first end face and a second pocket opening in the second end face. The pocket opening in the second end face is filled with the “Die Heatsink”:



44. Defendant’s XLamp ML-B also includes at least one LED die mounted in the first pocket of the reflector housing and a light transmitting encapsulant disposed in the first pocket and encapsulating the at least one LED die:



1 45. Defendant's XLamp ML-B includes a plurality of lead receiving
2 compartments formed in the peripheral sidewall of the reflector housing:



12 46. By making, using, offering for sale, selling, and/or importing the '087
13 Accused Instrumentalities infringing the '087 Patent, Defendant has injured DSS and
14 is liable to DSS for infringement of the '087 Patent pursuant to 35 U.S.C. § 271(a)
15 directly and/or under the doctrine of equivalents.

16 47. In addition, Defendant is actively inducing others, such as its affiliates,
17 customers, and end users of Accused Instrumentalities, services based thereupon, and
18 related products and/or processes, to directly infringe—and/or to combine outside of
19 the United States in a manner that would infringe if such combination occurred within
20 the United States—each and every claim limitation, including without limitation claim
21 1 of the '087 Patent, in violation of 35 U.S.C. §§ 271(b) and/or 271(f). Upon
22 information and belief, Defendant's customers and/or end users have directly
23 infringed and are directly infringing—and/or combining outside of the United States
24 in a manner that would infringe if such combination occurred within the United
25 States—each and every claim limitation, including without limitation claim 1 of the
26 '087 Patent. Defendant has had actual knowledge of the '087 Patent at least as of
27 service of this Complaint. Defendant is knowingly inducing its customers and/or end
28 users to directly infringe—and/or to combine outside of the United States in a manner

1 that would infringe if such combination occurred within the United States—the '087
 2 Patent, with the specific intent to encourage such infringement, and knowing that the
 3 induced acts constitute patent infringement. Defendant's inducement includes, for
 4 example, providing technical guides, product data sheets, demonstrations, software
 5 and hardware specifications, installation guides, and other forms of support that
 6 induce its customers and/or end users to directly infringe—and/or to combine outside
 7 of the United States in a manner that would infringe if such combination occurred
 8 within the United States—the '087 Patent. The '087 Accused Instrumentalities are
 9 designed in such a way that when they are used for their intended purpose, the user
 10 infringes the '087 Patent. Defendant knows and intends that customers that purchase
 11 the '087 Accused Instrumentalities will use those products for their intended purpose.

12 48. Defendant specifically intends its United States customers infringe the
 13 '087 patent through use of the '087 Accused Instrumentalities in this country by at
 14 least advertising and promoting the use (e.g., hyperlinked “Application” below) of the
 15 '087 Accused Instrumentalities on its United States website: See, e.g.,
 16 <http://www.cree.com/led-components/products/xlamp-leds-discrete/xlamp-ml-b>.

XLamp ML-B

Lighting-Class Performance for Linear & Distributed Illumination Applications

The Cree XLamp® ML-B LED brings lighting-class performance to 1/4-watt LEDs and continues Cree's history of leading-edge innovation in LEDs for lighting applications. The XLamp® ML-B LED brings high performance and a smooth look to a wide range of lighting applications, including linear lighting, under cabinet illumination and fluorescent retrofits. Minimum-80, 85 and 90 CRI options are available to address applications, such as retail and restaurant lighting, where high CRI is required.



Application

Distributed
Landscape

Data Sheets

 [ML-B Data Sheet](#)

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24 49. Defendant also specifically intends its customers to infringe at least
 25 Claim 9 of the '087 patent by instructing users to include a plurality of '087 Accused
 26 Instrumentalities in a display. See, e.g., [http://www.cree.com/led-](http://www.cree.com/led-components/applications/full-color-indoor-video)
 27 [components/applications/full-color-indoor-video](http://www.cree.com/led-components/applications/full-color-indoor-video).
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Full-Color Indoor Video

Cree LEDs are optimized for indoor, full-color video screens.



ALL APPLICATIONS
 Indoor Lighting ▾ Outdoor Lighting ▾ Multi-color Lights ▾ Display ▾ Portable ▾

Featured Products



50. Defendant also specifically intends its customers infringe the ‘087 Patent through use of the ‘087 Accused Instrumentalities through trade show presentations, customer visits, direct customer contacts and application guides. Defendant also specifically intends its customers to infringe the ‘087 Patent through selling ‘087 Accused Instrumentalities overseas with the specific intent that the customer import, offer to sell, and/or sell the ‘087 Accused Instrumentalities in order to develop and serve the United States market for Defendant’s LED products, either alone or used in products such as bulbs, displays and/or fixtures. Such customers include Defendant’s LED distributors, consumer products companies and retailers that serve the United States market. See <http://www.cree.com/led-components/where-to-buy>, naming Arrow Americas, Avnet, Digi-Key, Mouser Electronics, and WPG Americas as United States “Distributor[s].”

51. Defendant has been aware of the ’087 Patent and of its infringement as of a date no later than the date it was served with the Complaint in case 2:17-cv-309, which was filed on April 13, 2017. Since that date, Defendant has failed to investigate and remedy its infringement of the ‘087 Patent and thus willfully and egregiously

1 continues to infringe the '087 Patent. On information and belief, Defendant continues
2 to offer infringing products without having modified or altered those products in a
3 manner that would not infringe the '087 patent. Defendant, at the very least, has been
4 egregiously and willfully blind to infringement of the '087 Patent. Further evidence
5 of Defendant's egregiously and willful infringement are the acts of active inducement
6 described in this Complaint. Defendant actively induces and encourages customers to
7 make, use, sell, offer to sell and/or import the '087 Accused Instrumentalities with
8 knowledge that these acts constitute infringement of the '087 Patent, with the purpose
9 of, *inter alia*, developing and serving the United States market for Defendant's LED
10 products and consumer devices that include Defendant's products.

11 52. As a result of Defendant's infringement of the '087 Patent, DSS has
12 suffered monetary damages in an amount adequate to compensate for Defendant's
13 infringement, but in no event less than a reasonable royalty for the use made of the
14 invention by Defendant, together with interest and costs as fixed by the Court.

15 COUNT IV

16 INFRINGEMENT OF THE '787 PATENT

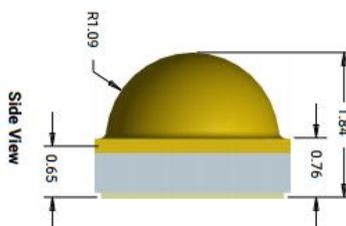
17 53. DSS references and incorporates by reference paragraphs 1 through 52 of
18 this Complaint.

19 54. On information and belief, Defendant makes, uses, offers for sale, sells,
20 and/or imports in the United States products and/or services that infringe various
21 claims of the '787 Patent, and continues to do so. By way of illustrative example,
22 Defendant's infringing products include without limitation, all versions and variations,
23 including predecessor and successor models, of its XLamp line of LEDs, that include
24 "Direct Attach," "SC3" and/or "SC5 Technology," including but not limited to its
25 XB-D, XP-G2, XHP35, XHP35 HI, XT-E, XT-E HV, XT-E Royal Blue, XT-E White,
26 XHP50, XHP50.2, XHP70, XHP70.2 LED products, as well as Daylight bulbs.
27 Defendant's infringing products also include products, e.g., light bulbs, displays and
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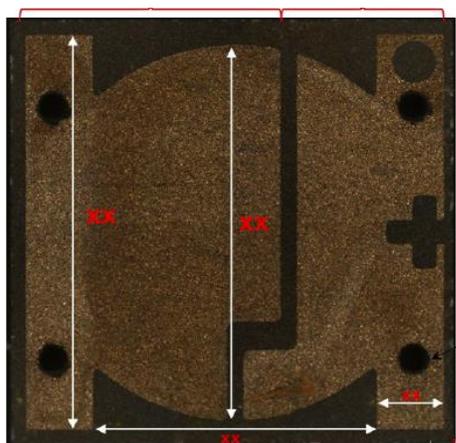
1 fixtures that contain at least one infringing LED product. Defendant’s infringing
 2 products are collectively referred to hereinafter as “’787 Accused Instrumentalities.”

3 55. On information and belief, Defendant has directly infringed and
 4 continues to directly infringe the ’787 Patent by, among other things, making, using,
 5 offering for sale, selling, and/or importing the ’787 Accused Instrumentalities. On
 6 information and belief, such products and/or services are covered by one or more
 7 claims of the ’787 Patent’s including at least claims 1 and 7 because they contain each
 8 element of those claims.

9 56. As an illustrative example, Defendant imports, sells and offers to sell its
 10 XLamp XB-D LED products. Defendant’s XLamp XB-D infringes, for example,
 11 Claim 7 of the ’787 patent because it is a semiconductor device comprising a
 12 substantially planar substrate having first and second major surfaces, the first and
 13 second major surfaces being opposed surfaces:



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 19 57. Defendant’s XLamp XB-D also includes first and second electrically
 20 conductive bonding pads located on the first major surface:



Ceramic substrate after removing after removing Lens and dies : Top View

1 58. Defendant's XLamp XB-D also includes a light emitting semiconductor
2 die comprising a top major light emitting surface and an oppositely-disposed bottom
3 major surface, the light emitting semiconductor die having an anode and a cathode on
4 the bottom major surface of the light emitting semiconductor die, the semiconductor
5 light emitting die being mounted on the first and second electrically conductive
6 bonding pads such that the anode of the light emitting semiconductor die is
7 electrically connected to the first electrically conductive bonding pad and the cathode
8 of the light emitting semiconductor die is electrically connected to the second
9 electrically conductive bonding pad.

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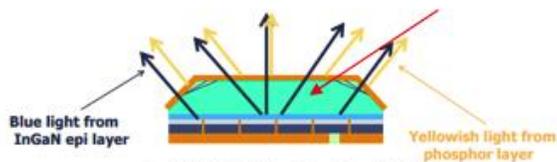


Figure 3: Light from DA chip based XLamp XB-D and XT-E LEDs

To improve light extraction, there are bevel cuts on the top surface of a DA chip LED. These make the phosphor thickness across the chip

Cree XLamp® XB-D and XT-E LEDs are built with the latest Cree SC³ Technology™ Platform. At the core of the SC³ Technology Platform is Cree's latest generation of silicon carbide based Direct Attach (DA) LED chips that deliver the highest flux and efficacy and industry-best reliability.

Cree XLamp XB-D and XT-E white LEDs are based on DA chip technology.

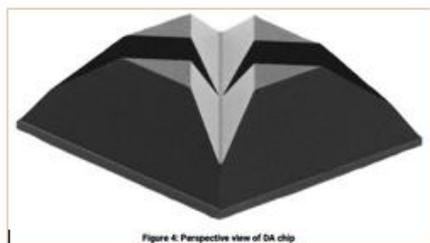
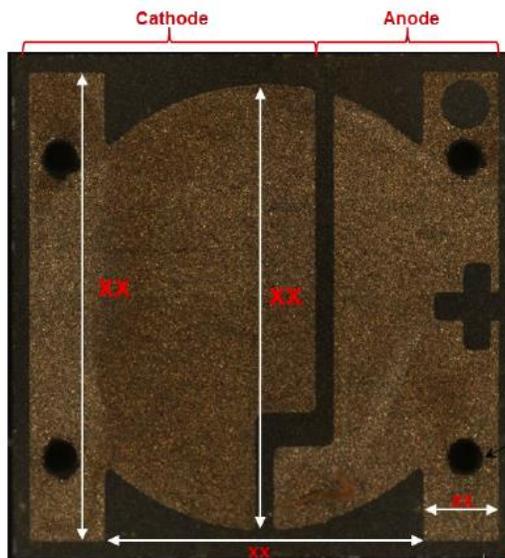
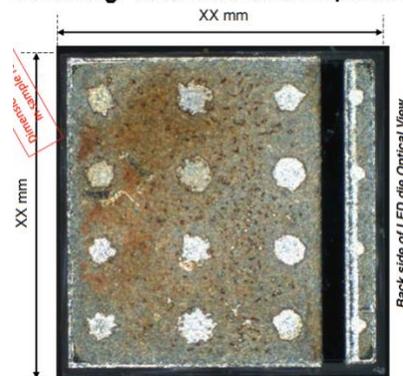


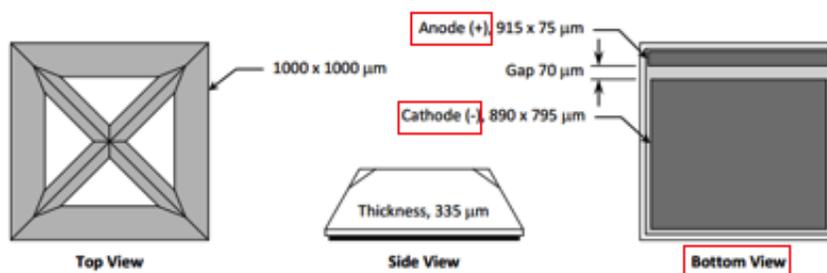
Figure 4: Perspective view of DA chip



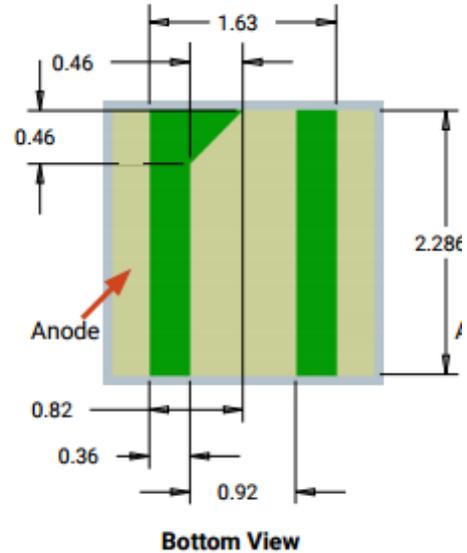
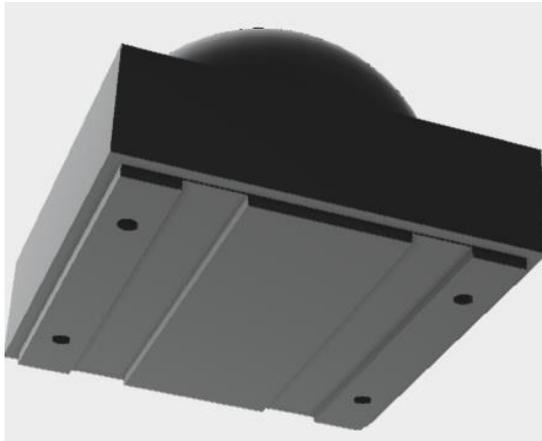
Ceramic substrate after removing lens and dies : Top View



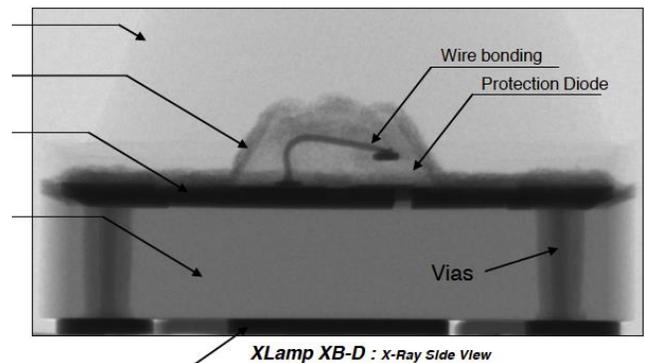
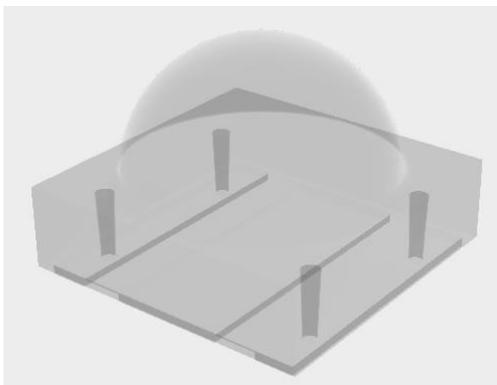
CxxxDA1000-Sxxx00-2-G Chip Diagram



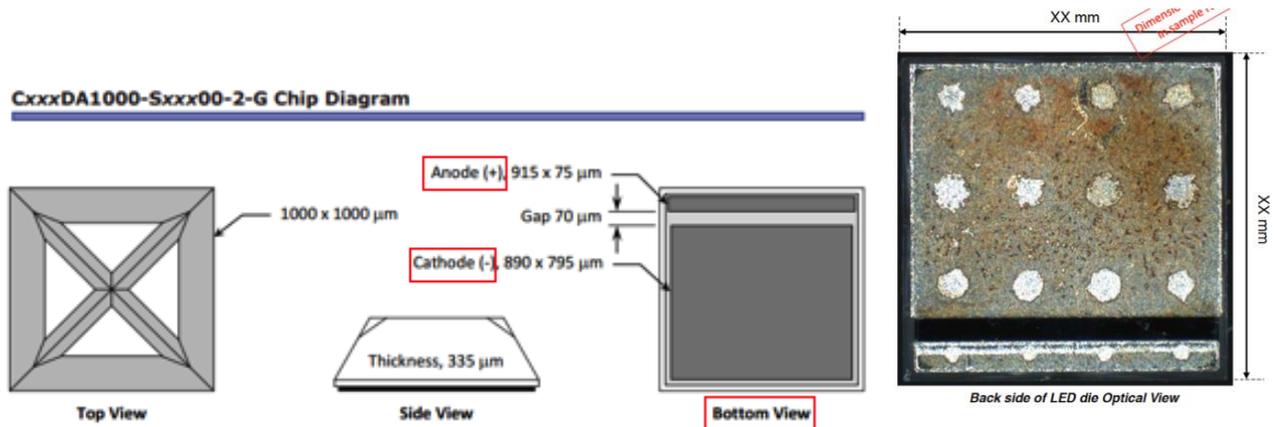
1 59. Defendant's XLamp XB-D also includes first and second electrically
 2 conductive connecting pads located on the second major surface.



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 14 60. Defendant's XLamp XB-D also includes a first electrically conductive
 15 interconnecting element electrically connected to the first electrically conductive
 16 bonding pad and the first electrically conductive connecting pad; and a second
 17 electrically conductive interconnecting element electrically connected to the second
 18 electrically conductive bonding pad and the second electrically conductive connecting
 19 pad.



1 61. The bottom major surface of the light emitting semiconductor die in
 2 Defendant's XLamp XB-D is a bottom surface of a substrate of the die, each of the
 3 anode and cathode comprises a metallization layer formed on the bottom major
 4 surface of the light emitting semiconductor die.



62. By making, using, offering for sale, selling, and/or importing the '787
 Accused Instrumentalities infringing the '787 Patent, Defendant has injured DSS and
 is liable to DSS for infringement of the '787 Patent pursuant to 35 U.S.C. § 271(a)
 directly and/or under the doctrine of equivalents.

63. In addition, Defendant is actively inducing others, such as its affiliates,
 customers, and end users of Accused Instrumentalities, services based thereupon, and
 related products and/or processes, to directly infringe—and/or to combine outside of
 the United States in a manner that would infringe if such combination occurred within
 the United States—each and every claim limitation, including without limitation
 claims 1 and 7 of the '787 Patent, in violation of 35 U.S.C. §§ 271(b) and/or 271(f).
 Upon information and belief, Defendant's customers and/or end users have directly
 infringed and are directly infringing—and/or combining outside of the United States
 in a manner that would infringe if such combination occurred within the United
 States—each and every claim limitation, including without limitation claim 7 of the
 '787 Patent. Defendant has had actual knowledge of the '787 Patent at least as of

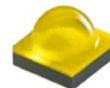
1 service of this Complaint. Defendant is knowingly inducing its customers and/or end
 2 users to directly infringe—and/or to combine outside of the United States in a manner
 3 that would infringe if such combination occurred within the United States—the '787
 4 Patent, with the specific intent to encourage such infringement, and knowing that the
 5 induced acts constitute patent infringement. Defendant's inducement includes, for
 6 example, providing technical guides, product data sheets, demonstrations, software
 7 and hardware specifications, installation guides, and other forms of support that
 8 induce its customers and/or end users to directly infringe—and/or to combine outside
 9 of the United States in a manner that would infringe if such combination occurred
 10 within the United States—the '787 Patent. The '787 Accused Instrumentalities are
 11 designed in such a way that when they are used for their intended purpose, the user
 12 infringes the '787 Patent. Defendant knows and intends that customers that purchase
 13 the '787 Accused Instrumentalities will use those products for their intended purpose.

14 64. Defendant specifically intends its United States customers infringe the
 15 '787 patent through use of the '787 Accused Instrumentalities in this country by at
 16 least advertising and promoting the use (e.g., hyperlinked “Application” below) of the
 17 '787 Accused Instrumentalities on its United States website: See, e.g.,
 18 <http://www.cree.com/led-components/products/xlamp-leds-discrete/xlamp-xb-d>.

XLamp XB-D

Smallest lighting-class LED enables dramatically lower system cost

Designed to enable lower system costs for lighting manufacturers, the XLamp® XB-D LED doubles the lumens per dollar of previously available LEDs. Built on Cree's SC² Technology™ Platform, the XB-D White LED delivers up to 139 lumens and 136 lumens per watt in cool white (6000 K) or up to 107 lumens and 105 lumens per watt in warm white (3000 K), both at 350 mA and 85°C.



Cree XLamp® XB-D color LEDs extend the double lumens-per-dollar performance of the XB package to color LEDs, delivering up to 40% higher maximum light output than XP-E color LEDs. The combination of performance and small size of XB-D color LEDs enables better color mixing and lower system cost.

Application

Non-Directional
 Directional
 Downlights
 Distributed
 Exterior Area
 Architectural
 Entertainment
 Vehicle
 Consumer Portable

Data Sheets

 [XB-D Data Sheet](#)

1 65. Defendant also specifically intends its customers infringe the '486 Patent
2 through use of the '787 Accused Instrumentalities through trade show presentations,
3 customer visits, direct customer contacts and application guides. Defendant also
4 specifically intends its customers to infringe the '787 Patent through selling '787
5 Accused Instrumentalities overseas with the specific intent that the customer import,
6 offer to sell, and/or sell the '787 Accused Instrumentalities in order to develop and
7 serve the United States market for Defendant's LED products, either alone or used in
8 products such as bulbs, displays and/or fixtures. Such customers include Defendant's
9 LED distributors, consumer products companies and retailers that serve the United
10 States market. See <http://www.cree.com/led-components/where-to-buy>, naming
11 Arrow Americas, Avnet, Digi-Key, Mouser Electronics, and WPG Americas as
12 United States "Distributor[s]."

13 66. Defendant has been aware of the '787 Patent and of its infringement as of
14 a date no later than the date it was served with the Complaint in case 2:17-cv-309,
15 which was filed on April 13, 2017. Since that date, Defendant has failed to investigate
16 and remedy its infringement of the '787 Patent and thus willfully and egregiously
17 continues to infringe the '787 Patent. On information and belief, Defendant continues
18 to offer infringing products without having modified or altered those products in a
19 manner that would not infringe the '787 patent. Defendant, at the very least, has been
20 egregiously and willfully blind to infringement of the '787 Patent. Further evidence
21 of Defendant's egregious and willful infringement are the acts of active inducement
22 described in this Complaint. Defendant actively induces and encourages customers to
23 make, use, sell, offer to sell and/or import the '787 Accused Instrumentalities with
24 knowledge that these acts constitute infringement of the '787 Patent, with the purpose
25 of, *inter alia*, developing and serving the United States market for Defendant's LED
26 products and consumer devices that include Defendant's products.

27 67. As a result of Defendant's infringement of the '787 Patent, DSS has
28 suffered monetary damages in an amount adequate to compensate for Defendant's

1 infringement, but in no event less than a reasonable royalty for the use made of the
2 invention by Defendant, together with interest and costs as fixed by the Court.

3 **PRAYER FOR RELIEF**

4 Plaintiff respectfully requests the following relief from this Court:

5 A. A judgment that Defendant has infringed one or more claims of the '771,
6 '486, '087, and/or '787 Patents;

7 B. A judgment and order requiring Defendant to pay DSS its damages,
8 costs, expenses, and prejudgment and post-judgment interest for Defendant's acts of
9 infringement in accordance with 35 U.S.C. § 284;

10 C. A judgment and order requiring Defendant to provide accountings and to
11 pay supplemental damages to DSS, including, without limitation, prejudgment and
12 post-judgment interest;

13 D. A judgment and order finding that this is an exceptional case within the
14 meaning of 35 U.S.C. § 285 and awarding to DSS its reasonable attorneys' fees
15 against Defendant; and

16 E. Any and all other relief to which DSS may show itself to be entitled.

17 **JURY TRIAL DEMANDED**

18 Pursuant to Rule 38 of the Federal Rules of Civil Procedure, DSS requests a
19 trial by jury of any issues so triable by right.

20
21 RUSS AUGUST & KABAT

22
23 Dated: January 23, 2018

24 By: /s/ Brian Ledahl

Brian Ledahl

25 *Attorneys for Plaintiff*
26 Document Security Systems, Inc.
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