

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

SIGNIFY NORTH AMERICA CORPORATION
and SIGNIFY HOLDING B.V.

Plaintiffs,

vs.

DELTA LIGHT (USA) LLC
and DELTA LIGHT N.V.

Defendants.

Civil Action No. 1:19-cv-2877

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Signify North America Corporation and Signify Holding B.V. (collectively, “Signify”) for their complaint against Delta Light (USA) LLC and Delta Light N.V. (collectively, “Defendants”) allege as follows:

NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.* including 35 U.S.C. § 271, which gives rise to the remedies specified under 35 U.S.C. §§ 281 and 283-285.

THE PARTIES

2. Plaintiff Signify North America Corporation (formerly known as Philips Lighting North America Corporation) is a corporation organized and existing under the laws of Delaware with its principal place of business at 200 Franklin Square Drive, Somerset, New Jersey 08873. Signify North America Corporation is registered to do business in the Commonwealth of

Massachusetts and has a place of business at 3 Burlington Woods Drive, Burlington, Massachusetts 01803.

3. Plaintiff Signify Holding B.V. (formerly known as Philips Lighting Holding B.V.) is a corporation organized and existing under the laws of the Netherlands with its registered office at High Tech Campus 48, 5656 AE Eindhoven, The Netherlands.

4. On information and belief, Defendant Delta Light (USA) LLC is a limited liability corporation organized and existing under the laws of Florida with a place of business at 255 Fifth Avenue, 6th Floor, New York, NY 10016.

5. On information and belief, Defendant Delta Light N.V. is a corporation organized and existing under the laws of Belgium with a place of business at Muizelstraat 2, 8560 Wevelgem, Belgium.

JURISDICTION AND VENUE

6. This Court has subject-matter jurisdiction over this patent infringement action pursuant to 28 U.S.C. §§ 1331 and 1338.

7. This Court has personal jurisdiction over Defendants, on information and belief, for at least the following reasons: (i) Defendants have committed acts of patent infringement in this District; (ii) Defendants regularly conduct business, solicit business, and/or derive substantial revenue from products provided within this District, including products that infringe Signify's patented technology; (iii) Defendant Delta Light (USA) LLC has a place of business within this District at 255 Fifth Avenue, 6th Floor, New York, NY 10016; and (iv) products shipped by Defendant Delta Light N.V. enter in this District. Additionally, according to the "Terms and Conditions" on Delta Light (USA) LLC's website: "DELTA LIGHT USA, LLC. is a Florida Limited Liability Company (LLC) that imports, modifies, assembles, and distributes

lighting products from the Belgium manufacturer DELTA LIGHT NV, We have a limited inventory of finished goods; however, most components are stocked in Belgium.” (See <https://www.deltalight.us/downloads/usa/termsandconditions.pdf>, last accessed March 28, 2019.)

8. Venue properly lies in this District. Pursuant to 28 U.S.C. § 1400, on information and belief, Defendant Delta Light (USA) LLC has committed acts of patent infringement in this District and has a regular and established place of business in this District at 255 Fifth Avenue, 6th Floor, New York, NY 10016. Pursuant to 28 U.S.C. § 1391(c)(3), on information and belief, Defendant Delta Light N.V. is a foreign corporation and may be sued in this District.

THE PATENTS-IN-SUIT

9. Signify is a global market leader with recognized expertise in the development, manufacturing, and application of innovative LED lighting solutions.

10. To protect its intellectual property resulting from its significant investments, Signify applied for and obtained numerous patents directed to various LED inventions and technologies. For example, Signify’s LED-related patents include U.S. Patent Nos. 6,577,512, 7,178,941, 7,262,559, 7,352,138, 8,070,328, and (collectively, the “Patents-in-Suit”).

11. U.S. Patent 6,577,512 (“the ’512 Patent”), titled “Power Supply for LEDs,” was duly and legally issued by the United States Patent and Trademark Office on June 10, 2003. Plaintiff Signify Holding B.V. is the assignee and owner of all right, title, and interest in the ’512 Patent, a copy of which may be found at <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=6577512>.

12. U.S. Patent 7,178,941 (“the ’941 Patent”), titled “Lighting Methods and Systems,” was duly and legally issued by the United States Patent and Trademark Office on February 20, 2007. Plaintiff Signify North America Corporation is the assignee and owner of all

right, title, and interest in the '941 Patent, a copy of which may be found at <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=7178941>.

13. U.S. Patent 7,262,559 (“the ’559 Patent”), titled “LEDs Driver,” was duly and legally issued by the United States Patent and Trademark Office on August 28, 2007. Plaintiff Signify Holding B.V. is the assignee and owner of all right, title, and interest in the ’559 Patent, a copy of which may be found at <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=7262559>.

14. U.S. Patent 7,352,138 (“the ’138 Patent”), titled “Methods and Apparatus for Providing Power to Lighting Devices,” was duly and legally issued by the United States Patent and Trademark Office on April 1, 2008. Plaintiff Signify North America Corporation is the assignee and owner of all right, title, and interest in the ’138 Patent, a copy of which may be found at <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=7352138>.

15. U.S. Patent 8,070,328 (“the ’328 Patent”), titled “LED Downlight” was duly and legally issued by the United States Patent and Trademark Office on December 26, 2011. Plaintiff Signify Holding B.V. is the assignee and owner of all right, title, and interest in the ’328 Patent, a copy of which may be found at <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=8070328>.

COUNT ONE

INFRINGEMENT OF U.S. PATENT NO. 6,557,512

16. Signify incorporates by reference the allegations in paragraphs 1-15 as if fully set forth herein.

17. On information and belief, Defendants have infringed and are infringing claims of the '512 Patent, including at least claims 28 and 38, in violation of 35 U.S.C. § 271(a) by manufacturing, using, offering to sell, selling, and/or importing infringing products.

18. Claim 28 (including the limitations of claim 19) of the '512 Patent recites:

A circuit for supplying power for LEDs comprising:

a transformer, the transformer supplying current to the LEDs and being responsive to a transformer control signal;

a current sensor for sensing current to the LEDs, the current sensor generating a sensed current signal;

a current reference for generating a reference current signal;

a current controller for comparing the sensed current signal to the reference current signal, the current controller generating a feedback signal;

a PFC responsive to the feedback signal, the PFC generating a gate drive signal;

a transistor responsive to the gate drive signal, the transistor generating the transformer control signal; and

a protective circuit limiting the current to the LEDs.

an optocoupler for isolating the current controller from the PFC.

19. On information and belief, Defendants have directly infringed and are directly infringing claim 28 of the '512 Patent by making, using, offering to sell, selling, and/or importing at least B-Liner products in this District and elsewhere in the United States.

20. Defendants provide a specification sheet for B-Liner products on Defendants' website at https://www.deltalight.com/frontend/files/downloads/profile_info/B-LINER.pdf. The following image from the specification sheet shows a B-Liner product:



21. The LED driver of a B-Liner 65 (“B-Liner”) product was reverse-engineered by technical specialists, and the resulting schematics are attached as Exhibit 1. The LED driver, a Hatch LC35-0700Z-UNV-X includes an ST L6562D Transition-Mode PFC Controller (designated as “U1” in Exhibit 1). A datasheet for the L6562D Transition-mode PFC Controller is available at: <https://www.st.com/resource/en/datasheet/l6562.pdf>. Page 1 of the L6562D is excerpted and attached as Exhibit 2. The Hatch LED driver further includes a Feeling Technology FP103 Dual Operational Amplifier and Reference Regulator (designated as “U4” in Exhibit 1). A datasheet for the FP103 Dual Operational Amplifier and Reference Regulator is available at: <http://www.feeling-tech.com.tw/km-master/ezcatfiles/cust/img/img/24/fp103v10-lf.pdf>. Page 2 of the FP103 datasheet is excerpted and attached as Exhibit 3.

22. On information and belief, B-Liner products include a circuit for supplying power for LEDs, as shown for example in the schematics of Exhibit 1.

23. On information and belief, B-Liner products include a transformer, the transformer supplying current to the LEDs and being responsive to a transformer control signal;

for example, transformer T1 supplies current to an LED array connected to output terminals DC+ and DC- and is responsive to a control signal generated by switch Q0.

24. On information and belief, B-Liner products include a current sensor for sensing current to the LEDs, the current sensor generating a sensed current signal; for example, current sense resistor RC1 senses current passing through the LED array and generates a signal proportional to the sensed current—the current sense signal is applied to U4 pin 6.

25. On information and belief, B-Liner products include a current reference for generating a reference current signal; for example, current reference, formed by the output of D15, Q6, R37, R42, C22, R40, R41, and regulated by U6, generates a reference signal that is applied to U4 pin 5.

26. On information and belief, B-Liner products include a current controller for comparing the sensed current signal to the reference current signal, the current controlling generating a feedback signal; for example, current controller OPA2 of U4 (Exhibit 3) compares the sensed current received at U4 pin 6 to the reference signal received at U4 pin 5. The output of comparator OPA2 is a feedback signal that is output from U4 pin 7 and is applied to PFC U1 INV pin 1 via optocoupler U2.

27. On information and belief, B-Liner products include a PFC responsive to the feedback signal, the PFC generating a gate drive signal; for example, PFC U1, in response to the feedback signal received at PFC U1 INV pin 1, generates a drive signal at GD pin 7.

28. On information and belief, B-Liner products include a transistor responsive to the gate drive signal, the transistor generating the transformer control signal; for example, gate driver signal drives switch Q0 and switch Q0, in turn, generates the transformer control signal to control transformer T1.

29. On information and belief, B-Liner products include a protective circuit limiting the current to the LEDs; for example, Zener diode D13 and MOSFET Q9 provide an alternate current path and operate to prevent excess current to the LEDs.

30. On information and belief, B-Liner products include an optocoupler for isolating the current controller from the PFC; for example, optocoupler U2 isolates current controller OPA2 of U4 (Exhibit 3) from PFC U1.

31. Claim 38 of the '512 Patent recites:

A circuit for supplying power for LEDs comprising:

a transformer, the transformer supplying current to the LEDs and being responsive to a transformer control signal;

a current sensor for sensing current to the LEDs, the current sensor generating a sensed current signal;

a current reference for generating a reference current signal;

a current controller for comparing the sensed current signal to the reference current signal, the current controller generating a feedback signal;

a PFC responsive to the feedback signal, the PFC generating a gate drive signal;

a transistor responsive to the gate drive signal, the transistor generating the transformer control signal; and

a protective circuit limiting the voltage to the LEDs.

32. On information and belief, Defendants have directly infringed and are directly infringing claim 38 of the '512 Patent by making, using, offering to sell, selling, and/or importing, at least B-Liner products in this District and elsewhere in the United States.

33. On information and belief, B-Liner products include a circuit for supplying power for LEDs, as shown for example in the schematics of Exhibit 1.

34. On information and belief, B-Liner products include a transformer, the transformer supplying current to the LEDs and being responsive to a transformer control signal; for example, transformer T1 supplies current to an LED array connected to output terminals DC+ and DC- and is responsive to a control signal generated by switch Q0.

35. On information and belief, B-Liner products include a current sensor for sensing current to the LEDs, the current sensor generating a sensed current signal; for example, current sense resistor RC1 senses current passing through the LED array and generates a signal proportional to the sensed current—the current sense signal is applied to U4 pin 6.

36. On information and belief, B-Liner products include a current reference for generating a reference current signal; for example, current reference, formed by the output of D15, Q6, R37, R42, C22, R40, R41, and regulated by U6, generates a reference signal that is applied to U4 pin 5.

37. On information and belief, B-Liner products include a current controller for comparing the sensed current signal to the reference current signal, the current controlling generating a feedback signal; for example, current controller OPA2 of U4 (Exhibit 3) compares the sensed current received at U4 pin 6 to the reference signal received at U4 pin 5. The output of comparator OPA2 is a feedback signal that is output from U4 pin 7 and is applied to PFC U1 INV pin 1 via optocoupler U2.

38. On information and belief, B-Liner products include a PFC responsive to feedback signal, the PFC generating a gate drive signal; for example, PFC U1, in response to the feedback signal received at PFC U1 INV pin 1, generates a drive signal at GD pin 7.

39. On information and belief, B-Liner products include a transistor responsive to the gate drive signal, the transistor generating the transformer control signal; for example, gate

driver signal drives switch Q0 and switch Q0, in turn, generates the transformer control signal to control transformer T1.

40. On information and belief, B-Liner products include a protective circuit limiting the voltage to the LEDs; for example, Zener diode D16 in conjunction with optocoupler U3 generates a signal to U1 INV pin 1, triggering overvoltage detection circuit limiting the voltage to the LEDs.

41. The full extent of Defendants' infringement is not presently known to Signify. On information and belief, Defendants have made and sold, or will make and sell, products under different names or part numbers that infringe the '512 Patent in a similar manner. Signify makes this preliminary identification of infringing products and infringed claims in Count One without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

42. Signify has suffered and continues to suffer damages as a result of Defendants' infringement of the '512 Patent in an amount to be determined at trial.

43. Defendants' infringement of the '512 Patent is causing irreparable harm for which Signify has no adequate remedy at law unless Defendants are enjoined by this Court. Under 35 U.S.C. § 283, Signify is entitled to a permanent injunction against further infringement of the '512 Patent.

44. On information and belief, Defendants have been aware of and have had notice and actual knowledge of the '512 Patent and its infringement of the '512 Patent at least as early as the service of this Complaint.

COUNT TWO

INFRINGEMENT OF U.S. PATENT NO. 7,178,941

45. Signify incorporates by reference the allegations in paragraphs 1-44 as if fully set forth herein.

46. On information and belief, Defendants have infringed and are infringing claims of the '941 Patent, including at least claim 10, in violation of 35 U.S.C. § 271(a) by manufacturing, using, offering to sell, selling, and/or importing infringing products.

47. Claim 10 of the '941 patent recites:

A lighting system, comprising:

a substantially linear housing having a first cavity extending longitudinally within the linear housing;

a circuit board positioned within the first cavity;

a plurality of LED light sources, the light sources supported within the first cavity by the circuit board;

a power facility for providing power to the light sources; and

a first channel extending longitudinally within the housing and spaced apart from the first cavity between the circuit board and the power facility for shielding the light sources from heat produced by the power facility.

48. On information and belief, Defendants have directly infringed and are directly infringing claim 10 of the '941 Patent by making, using, offering to sell, selling, and/or importing at least B-Liner products in this judicial district and elsewhere in the United States.

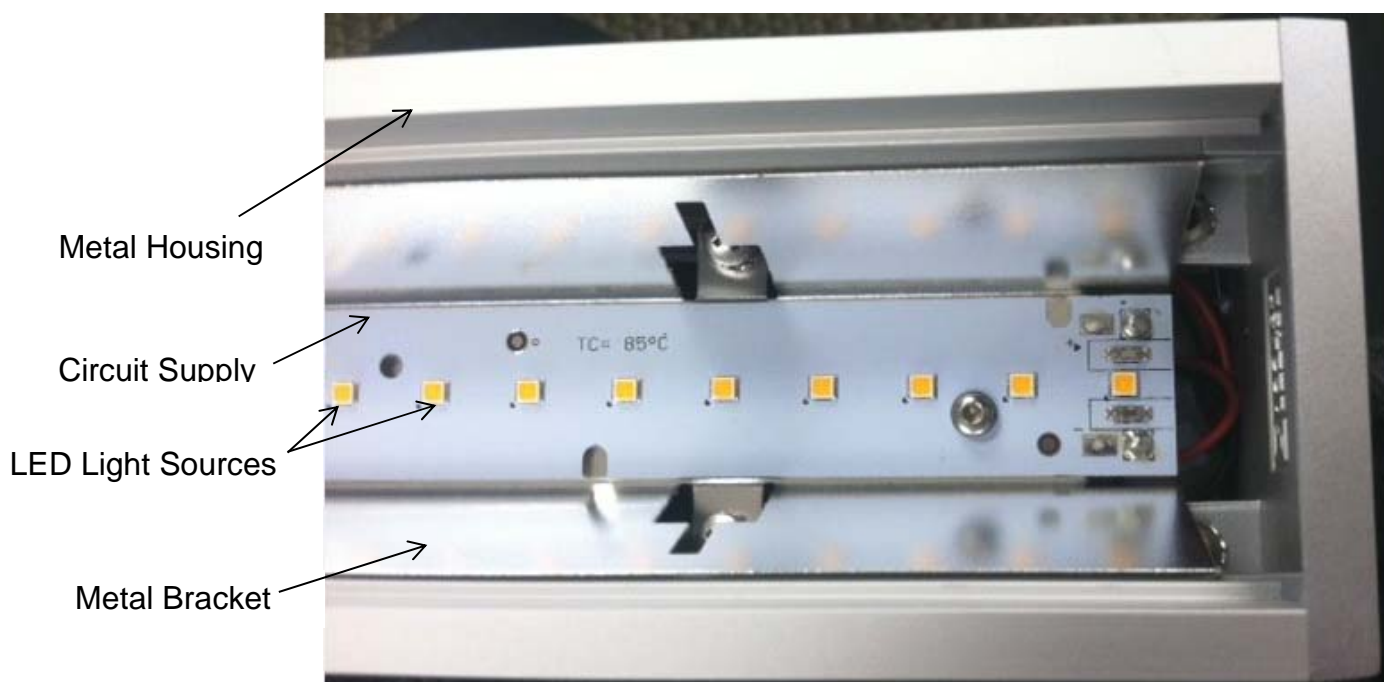
49. On information and belief, B-Liner products include a lighting system, as shown for example in the B-Liner specification sheet provided by Defendants.

50. On information and belief, B-Liner products include a substantially linear housing having a first cavity extending longitudinally within the linear housing; for example, the metal

housing of a B-Liner product is substantially linear and includes a first cavity defined by a metal bracket extending longitudinally within the metal housing, as shown below.

51. On information and belief, B-Liner products include a circuit board positioned within the first cavity; for example, a circuit board is positioned within the metal bracket that defines a first cavity, as show below.

52. On information and belief, B-Liner products include a plurality of LED light sources, the light sources supported within the first cavity by the circuit board; for example, a plurality of LED light sources is supported within the first cavity by the circuit board, as shown below.



53. On information and belief, B-Liner products include a power facility for providing power to the light sources; for example, the Hatch LED driver is a power facility for providing power to the LED light sources, as shown below.



54. On information and belief, B-Liner products include a first channel extending longitudinally within the housing and spaced apart from the first cavity between the circuit board and the power facility for shielding the light sources from heat produced by the power facility; for example, a gap between the circuit board and the Hatch LED driver extends longitudinally within the housing for shielding the LED light sources from the heat produced by the Hatch LED driver.

55. The full extent of Defendants' infringement is not presently known to Signify. On information and belief, Defendants have made and sold, or will make and sell, products under different names or part numbers that infringe the '941 Patent in a similar manner. Signify makes this preliminary identification of infringing products and infringed claims in Count Two without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

56. Signify has suffered and continues to suffer damages as a result of Defendant's infringement of the '941 Patent in an amount to be determined at trial.

57. Defendants' infringement of the '941 Patent is causing irreparable harm for which Signify has no adequate remedy at law unless Defendants are enjoined by this Court. Under 35

U.S.C. § 283, Signify is entitled to a permanent injunction against further infringement of the '941 Patent.

58. Defendants have been aware of and have had notice of the '941 Patent and its infringement of the '941 Patent at least as early as the service of this Complaint.

COUNT THREE

INFRINGEMENT OF U.S. PATENT NO. 7,262,559

59. Signify incorporates by reference the allegations in paragraphs 1-58 as if fully set forth herein.

60. On information and belief, Defendants have infringed and are infringing claims of the '559 Patent, including at least claim 11, in violation of 35 U.S.C. § 271(a) by manufacturing, using, offering to sell, selling, and/or importing infringing products.

61. Claim 11 of the '559 Patent recites:

A power supply for an LED light source, said power supply comprising:

a power converter operable to provide a regulated power including a LED current and a LED voltage;

an LED control switch operable to control a flow of the LED current through the LED light source; and

a voltage sensor operable to sense the LED voltage applied to the LED light source, said voltage sensor including

an differential amplifier, and

means for adjusting a gain of said differential amplifier,

wherein said LED control switch is further operable to clamp a peak of the LED current during an initial loading stage of the LED light source.

62. On information and belief, Defendants have directly infringed and are directly infringing claim 11 of the '559 Patent by making, using, offering to sell, selling, and/or importing at least B-Liner products in this District and elsewhere in the United States.

63. On information and belief, B-Liner products include a power supply for an LED light source, as shown for example in the schematics of Exhibit 1.

64. On information and belief, B-Liner products include a power converter operable to provide a regulated power including a LED current and a LED voltage; for example, flyback converter comprising, at least, transformer T1 and diodes D9, provides regulated power, including an LED current and an LED voltage, to LEDs connected to terminals DC+ and DC-.

65. On information and belief, B-Liner products include an LED control switch operable to control a flow of the LED current through the LED light source; for example control switch Q0 controls the flow of current supplied by the flyback converter through the LEDs.

66. On information and belief, B-Liner products include a voltage sensor operable to sense the LED voltage applied to the LED light source, the voltage sensor including a differential amplifier and means for adjusting a gain of the differential amplifier; for example, voltage sensor, including at least voltage sense resistors R44, R45, and R46, and differential amplifier OPA1 of U4 (Exhibit 3) is operable to sense voltage applied to the LEDs. The voltage across voltage sense resistor R46, proportional to the voltage applied to the LEDs, appears at the inverting input of differential amplifier OPA1. The gain of differential amplifier OPA1 is adjusted according to the value of resistor R43 and capacitor C19.

67. On information and belief, the LED control switch is further operable to clamp a peak of the LED current during an initial loading stage of the LED light source; for example, U1 and control switch Q0 function to clamp the LED current during an initial loading stage of the LED light source, according to the U1 ultra-low ($\leq 70 \mu\text{A}$) start-up current (Exhibit 2).

68. The full extent of Defendants' infringement is not presently known to Signify. On information and belief, Defendants have made and sold, or will make and sell, products under

different names or part numbers that infringe the '559 Patent in a similar manner. Signify makes this preliminary identification of infringing products and infringed claims in Count Three without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

69. Signify has suffered and continues to suffer damages as a result of Defendants' infringement of the '559 Patent in an amount to be determined at trial.

70. Defendants' infringement of the '559 Patent is causing irreparable harm for which Signify has no adequate remedy at law unless Defendants are enjoined by this Court. Under 35 U.S.C. § 283, Signify is entitled to a permanent injunction against further infringement of the '559 Patent.

71. On information and belief, Defendants have been aware of and have had notice and actual knowledge of the '559 Patent and its infringement of the '559 Patent at least as early as the service of this Complaint.

COUNT FOUR

INFRINGEMENT OF U.S. PATENT NO. 7,352,138

72. Signify incorporates by reference the allegations in paragraphs 1-71 as if fully set forth herein.

73. On information and belief, Defendants have infringed and is infringing claims of the '138 Patent, including at least claim 1, in violation of 35 U.S.C. § 271(a) by manufacturing, using, offering to sell, selling, and/or importing infringing products.

74. Claim 1 of the '138 Patent recites:

An illumination apparatus, comprising:

at least one LED; and

at least one controller coupled to the at least one LED and configured to receive a power-related signal from an alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage, the at least one controller further configured to provide power to the at least one LED based on the power-related signal.

75. On information and belief, Defendants have directly infringed and are directly infringing claim 1 of the '138 Patent by making, using, offering to sell, selling, and/or importing at least IMAX® BR8, IMAX® BR20, IMAX® XR 13, IMAX® SOFT, IMAX® ADJUSTABLE BR8, IMAX® ADJUSTABLE BR20, IMAX® ADJUSTABLE XR 13, IMAX® ADJUSTABLE SOFT, IMAX® ADJUSTABLE TRIMLESS BR8, IMAX® ADJUSTABLE TRIMLESS BR20, IMAX® ADJUSTABLE TRIMLESS XR 13, IMAX® ADJUSTABLE TRIMLESS SOFT, IMAX® WALLWASH BR8, IMAX® WALLWASH XR13, IMAX® WALLWASH SOFT, PINTOR 90 ST BR, PINTOR 90 ST XR 09, PINTOR 90 ST XR 19, SNEAK-R TRIMLESS, SNEAK-R, TWEETER TRIMLESS, TWEETER ST D, OREO, GYN OK SNAP-IN, GYN OK SNAP-IN SOFT, REO, REO OK, REO SOFT, REO OK SOFT, REO S OK, REO 2 S OK, REO S OK SOFT, REO X, DIRO TRIMLESS LED, DIRO TRIMLESS LED IP, DIRO TRIMLESS OK LED, DIRO TRIMLESS LED SOFT, DIRO ST OK LED, DIRO DUO ST OK LED, DIRO GT LED, DIRO GT LED SOFT, DEEP RINGO LED, DEEP RINGO LED IP, DEEP RINGO LED SOFT, DEEP RINGO LED, DEEP RINGO S LED, DEEP RINGO S LED SOFT, YOU-TURN, YOU-TURN 20, YOU-TURN OPTO 20, YOU-TURN SOFT, SPY TRIMLESS, SPY TRIMLESS SOFT, SPY ST, SPY ST SOFT, CARREE TRIMLESS LED, CARREE TRIMLESS LED IP, CARREE TRIMLESS OK LED, CARREE TRIMLESS OK LED SOFT, CARREE ST LED, CARREE ST OK LED, CARREE ST OK LED SOFT, CARREE ST L LED, CARREE ST L LED SOFT, CARREE GT LED, CARREE GT LED SOFT, CARREE X LED, MINIGRID IN TRIMLESS 1 FRAME SI, MINIGRID IN TRIMLESS

1 FRAME SI SOFT, MINIGRID IN TRIMLESS 2 FRAME SI, MINIGRID IN TRIMLESS 2 FRAME SI SOFT, MINIGRID 1 FRAME SI, MINIGRID IN 1 FRAME SI SOFT, MINIGRID IN 2 FRAME SI, MINIGRID IN 2 FRAME SI SOFT, YOU-TURN ON, BOXY RB, BOXY R C, BOXY R OK, BOXY R DIM8, BOXY XL R, BOXY XL R C, BOXY XL S, BOXY R DIM8, MINIGRID ON 150 BOX DIM8, MINIGRID ON 250 BOX DIM8, MINIGRID ON 350 BOX DIM8, ULTRA S D SOFT, ULTRA II S, ULTRA C D LED, ULTRA C D SOFT, SPY C, MIDISPY ON 1, MIDISPY ON 2, MIDISPY ON 3, SPY ON 1, SPY ON 2, SPY ON 3, GIBBO, GABOO C, FORTY-5 L, FORTY-5 R, BOXY WL+, BACKSPACE 38 LED DIM8, SPY ON AD, SPY ON HP AD, SPY FOCUS ON AD, BOXY R AD YOU-TURN ON AD, YOU-TURN ON OPTO AD, YOU-TURN ON 20 AD, YOU-TURN ON OPTO 20 AD, SPL52 - 1 LED, SPL52 - 2 LED, SPL52 - 1 LED D, SPL52 - 2 LED D, SPL52 - 1 RB LED, SPL52 - 2 RB LED, SPL52 - 3 LED, SPL52 - 3 LED D, SPL52 - MIDISPY, SPL52 - MIDISPY, SPL52 - SPY, SPL52 - SPY HP, TIGA LED, TIGA LED BS, TWEETER X P, MONOPOL LED products (collectively, “Mains Dimming Products”) in this District and elsewhere in the United States. On information and belief, each of these products is sold with a mains dimming driver and/or with a housing including a mains dimming driver, and are referred to on Defendants’ websites and in Defendants’ catalog (accessible at: https://www.deltalight.us/frontend/files/downloads/publications/lb12/LB12_NA.pdf) by various names, including, at least, “mains dimming,” “mains dim,” “DIM8,” “falling edge dimmable,” “dimming by falling edge dimmer,” by the abbreviation “FE,” and by the symbol:

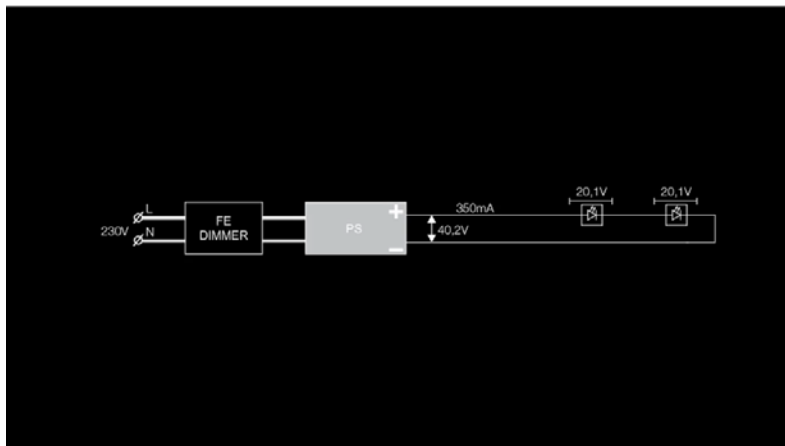


76. On information and belief, Mains Dimming Products each form illumination apparatus.

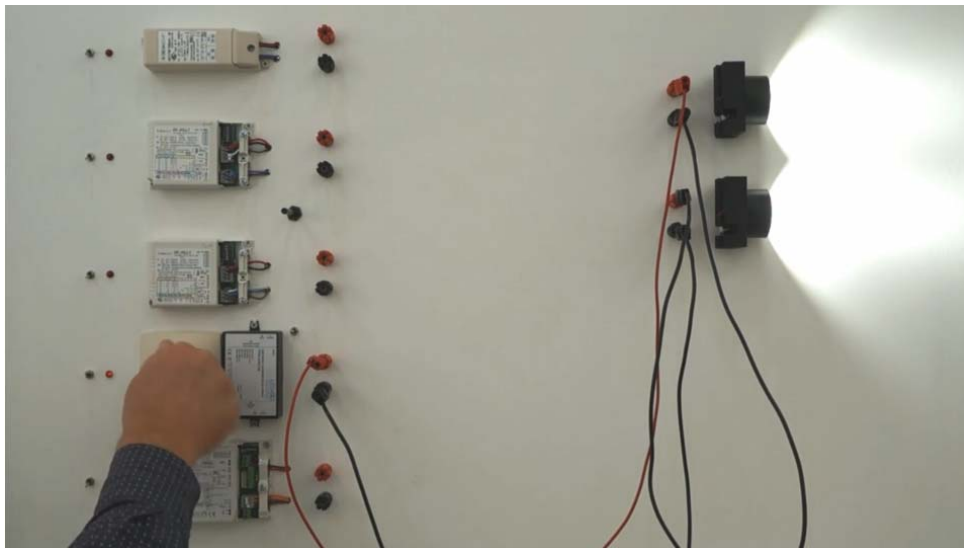
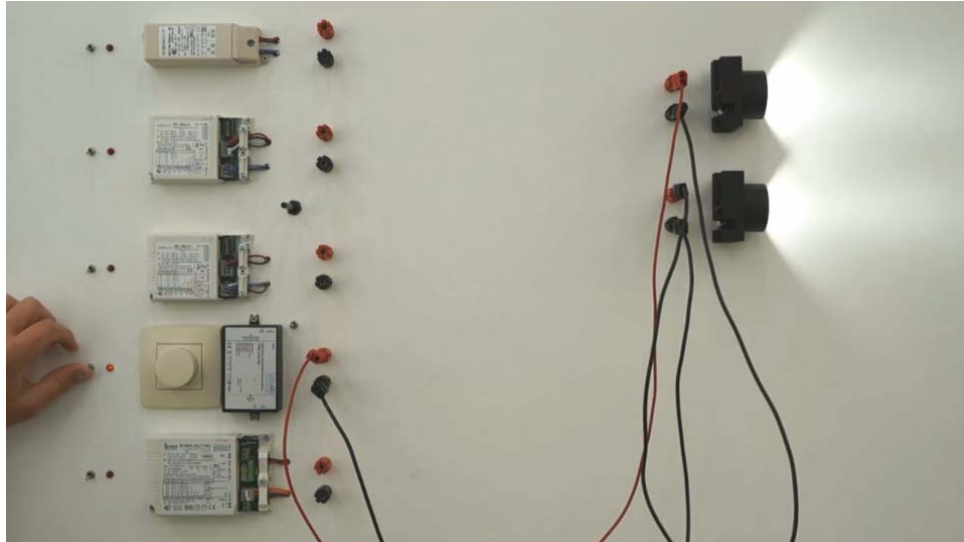
77. On information and belief, Mains Dimming Products each include at least one LED; for example, each mains dimming product includes at least one LED light source.

78. On information and belief, Mains Dimming Products each include at least one controller coupled to the at least one LED and configured to receive a power-related signal from an alternating current (A.C.) power source that provides signals other than a standard A.C. line voltage, the at least one controller further configured to provide power to the at least one LED based on the power-related signal; for example, a mains dimming driver provides power to the LED light source based on a phase-cut cut power-related signal received from a phase-cut alternating current power source, as demonstrated below.

79. On information and belief, Defendants provide an instructional video (at <http://play.deltalight.com/?id=99902639>) depicting the operation of such a mains dimming driver (PS) receiving a phase-cut power-related signal from a phase-cut alternating current power source—comprising line (L) and neutral (N) input terminals that receive power from a mains power supply and a falling-edge dimmer (FE DIMMER)—and providing power to two units, each including an LED module, according to the following schematic:



The video further depicts adjusting the user interface of a phase-cut dimmer to lower the dimming level (e.g., to lower the phase-angle such that more power is delivered during each half-cycle), and the mains dimming driver, as a result, providing more power to the LEDs based on the average power of the phase-cut power-related signal, as depicted in the following two stills from the instructional video:



80. On information and belief, all Mains Dimming Products operate in the same or a substantially similar manner as the LED modules and mains dimming driver shown in the instructional video.

81. The full extent of Defendants' infringement is not presently known to Signify. On information and belief, Defendants have made and sold, or will make and sell, products under different names or part numbers that infringe the '138 Patent in a similar manner. Signify makes this preliminary identification of infringing products and infringed claims in Count Four without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

82. Signify has suffered and continues to suffer damages as a result of Defendants' infringement of the '138 Patent in an amount to be determined at trial.

83. Defendants' infringement of the '138 Patent is causing irreparable harm for which Signify has no adequate remedy at law unless Defendants are enjoined by this Court. Under 35 U.S.C. § 283, Signify is entitled to a permanent injunction against further infringement of the '138 Patent.

84. On information and belief, Defendants have been aware of and have had notice and actual knowledge of the '138 Patent and its infringement of the '138 Patent at least as early as the service of this Complaint.

COUNT FIVE

INFRINGEMENT OF U.S. PATENT NO. 8,070,328

85. Signify incorporates by reference the allegations in paragraphs 1-84 as if fully set forth herein.

86. On information and belief, Defendants have infringed and are infringing claims of the '328 Patent, including at least claim 1, in violation of 35 U.S.C. § 271(a) by manufacturing, using, offering to sell, selling, and/or importing infringing products.

87. Claim 1 of the '328 Patent recites:

An LED downlight fixture, comprising:

an array of LEDs in thermal connectivity with a heatsink, said array of LEDs positioned adjacent a first aperture of a multi-piece reflector assembly;

said multi-piece reflector assembly including:

a first reflector having said first aperture disposed in an upper portion of said first reflector and an opposed larger second aperture in a lower portion of said first reflector;

a second reflector having a first aperture positioned adjacent said second aperture of said first reflector and a second aperture opposite said first aperture of said second reflector and defining a light exit passageway;

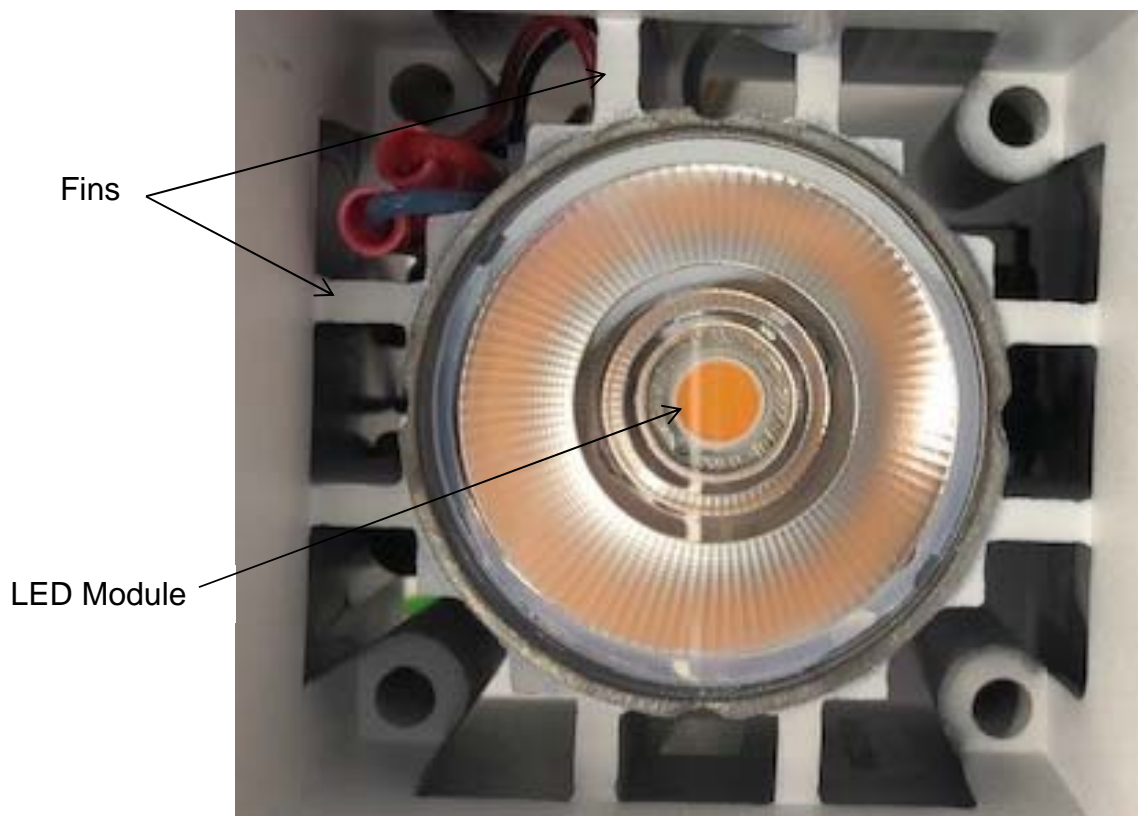
a diffuser positioned proximal to and extending across said second aperture of said first reflector and said first aperture of said second reflector.

88. On information and belief, Defendants have directly infringed and are directly infringing claim 1 of the '328 Patent by making, using, offering to sell, selling, and/or importing at least Boxy L+, Pintor ST, Grand REO, and Grid In HP Snap-In products in this District and elsewhere in the United States.

Infringing Boxy L+ Products

89. On information and belief, Boxy L+ products are LED downlight fixtures as shown below.

90. On information and belief, Boxy L+ products include an array of LEDs in thermal connectivity with a heatsink, said array of LEDs positioned adjacent a first aperture of a multi-piece reflector assembly; for example, an array of LEDs formed by an LED module in thermal connectivity with a heat sink formed by fins are positioned adjacent to the first aperture of a multi-piece reflector, as shown below.



91. On information and belief, Boxy L+ products include a multi-piece reflector assembly including: a first reflector having said first aperture disposed in an upper portion of said first reflector and an opposed larger second aperture in a lower portion of said first reflector; for example, a multi-piece reflector includes an upper reflector having a smaller aperture disposed in an upper portion of the upper reflector and a larger aperture disposed in a lower portion, as shown below.

Upper Reflector

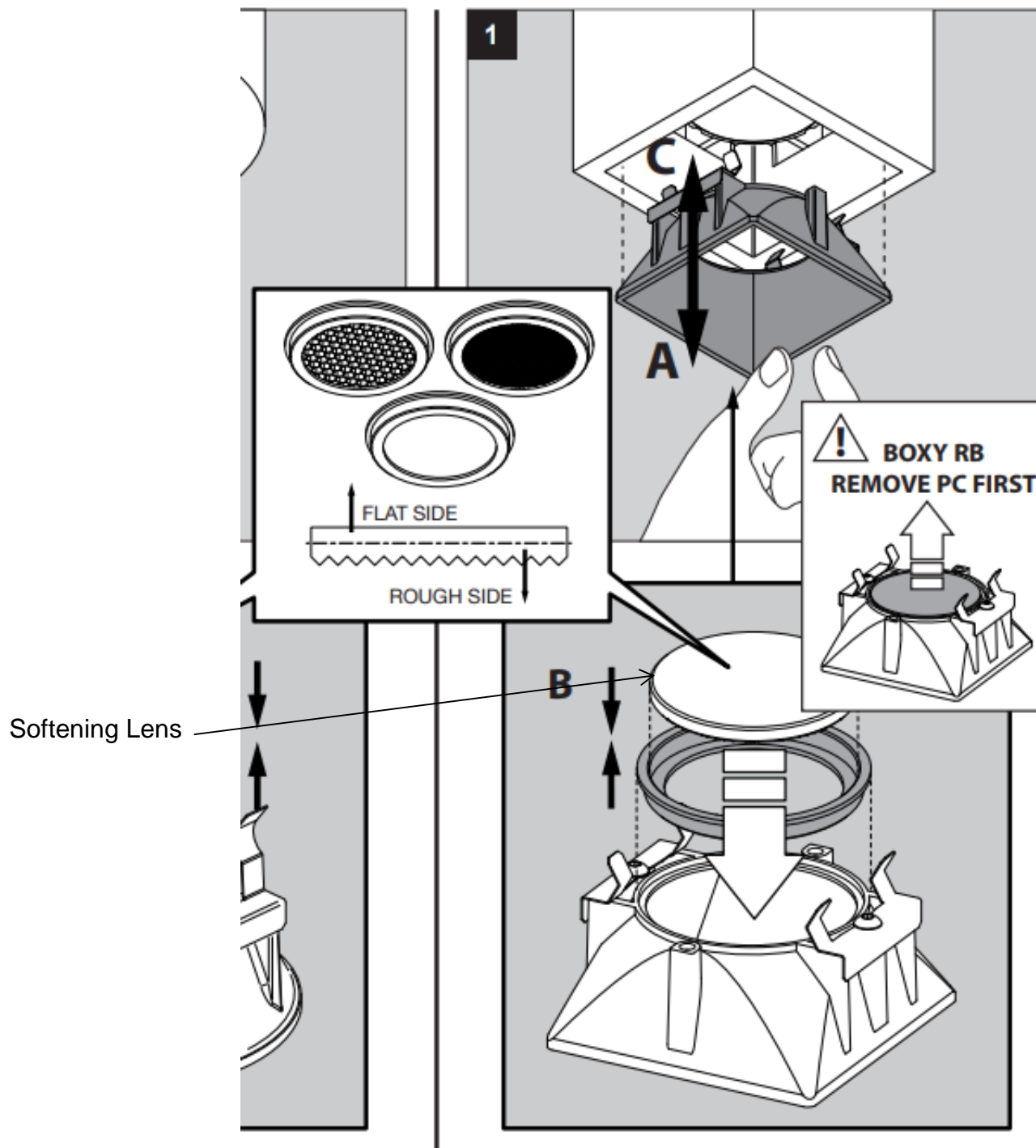


92. On information and belief, Boxy L+ products include a second reflector having a first aperture positioned adjacent said second aperture of said first reflector and a second aperture opposite said first aperture of said second reflector and defining a light exit passageway; for example, a second reflector, formed by at least part of the housing, has an upper aperture adjacent the larger aperture of the first reflector, and a lower aperture opposite the upper aperture of the housing. The alignment of the apertures of the upper reflector and the housing defines a light exit passageway, as shown below.

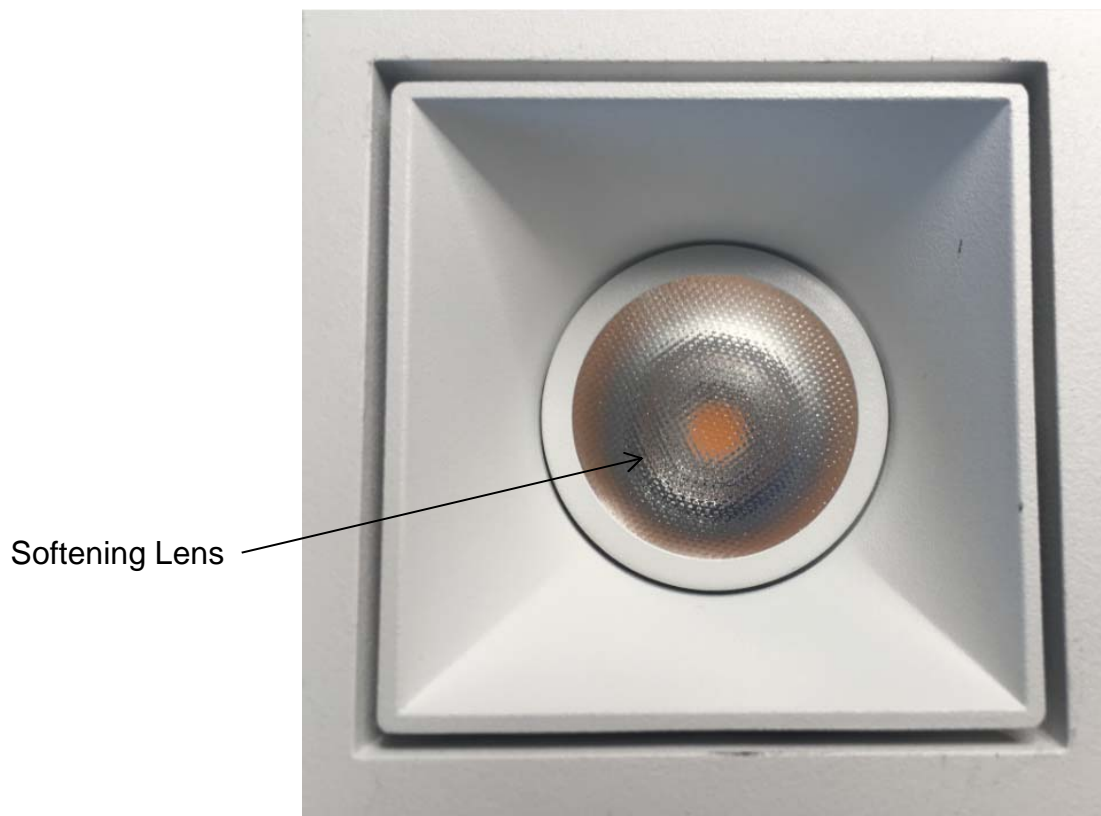
Housing



93. On information and belief, Boxy L+ products include a diffuser positioned proximal to and extending across said second aperture of said first reflector and said first aperture of said second reflector; for example, a diffuser in the form of softening lens is positioned proximal to and extending across the larger aperture of the upper reflector and the upper aperture of the housing, as shown in the Boxy Softening Lens installation guide provided on Defendants' website and excerpted below:



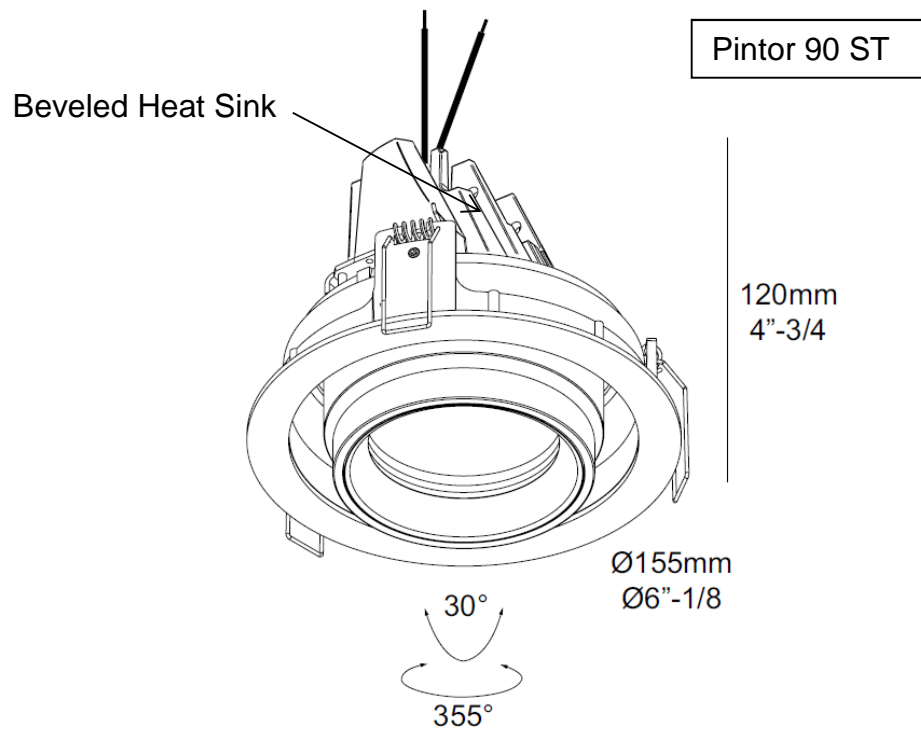
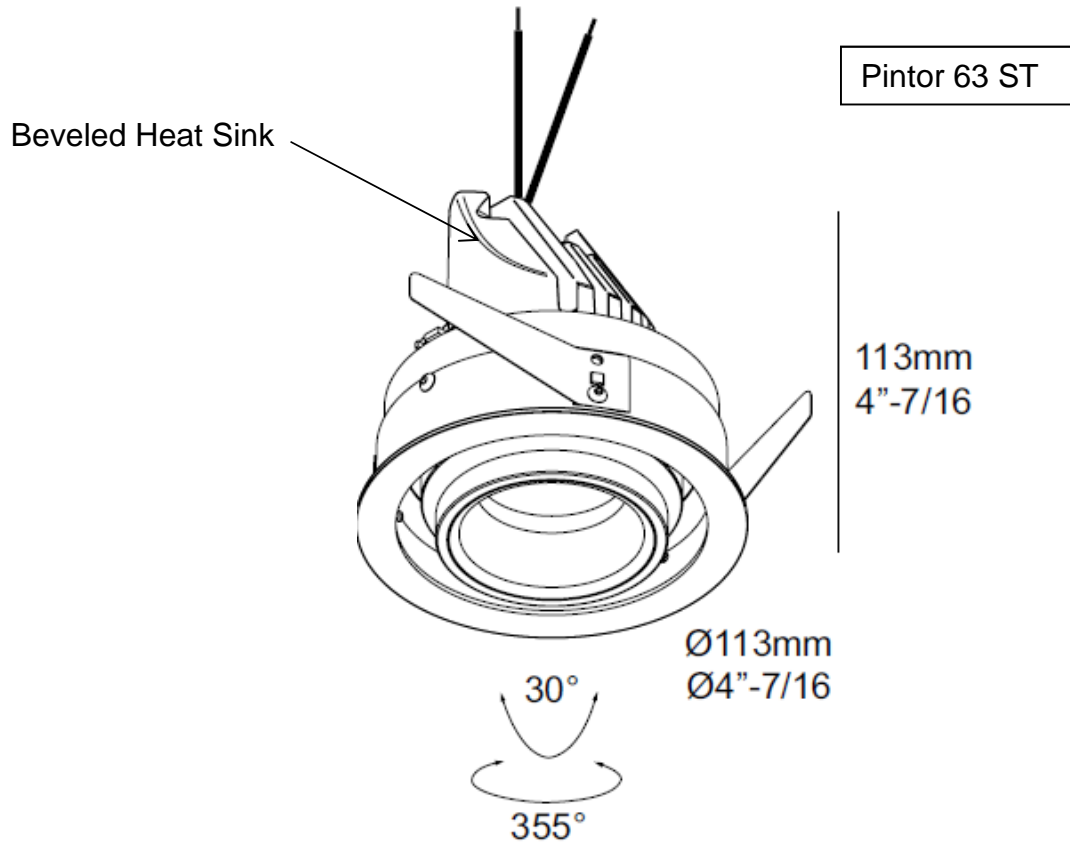
and as shown below:



Infringing Pintor ST Products

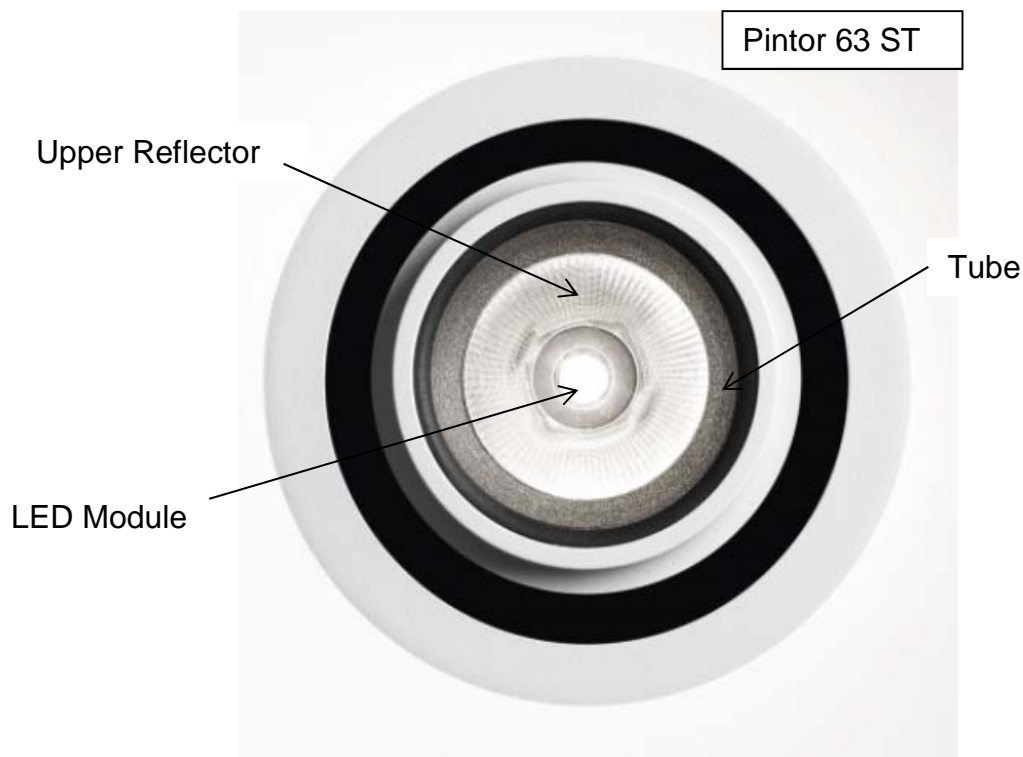
94. On information and belief, Pintor 63 ST products and Pintor 90 ST products (“Pintor ST products”) are LED downlight fixtures as shown below.

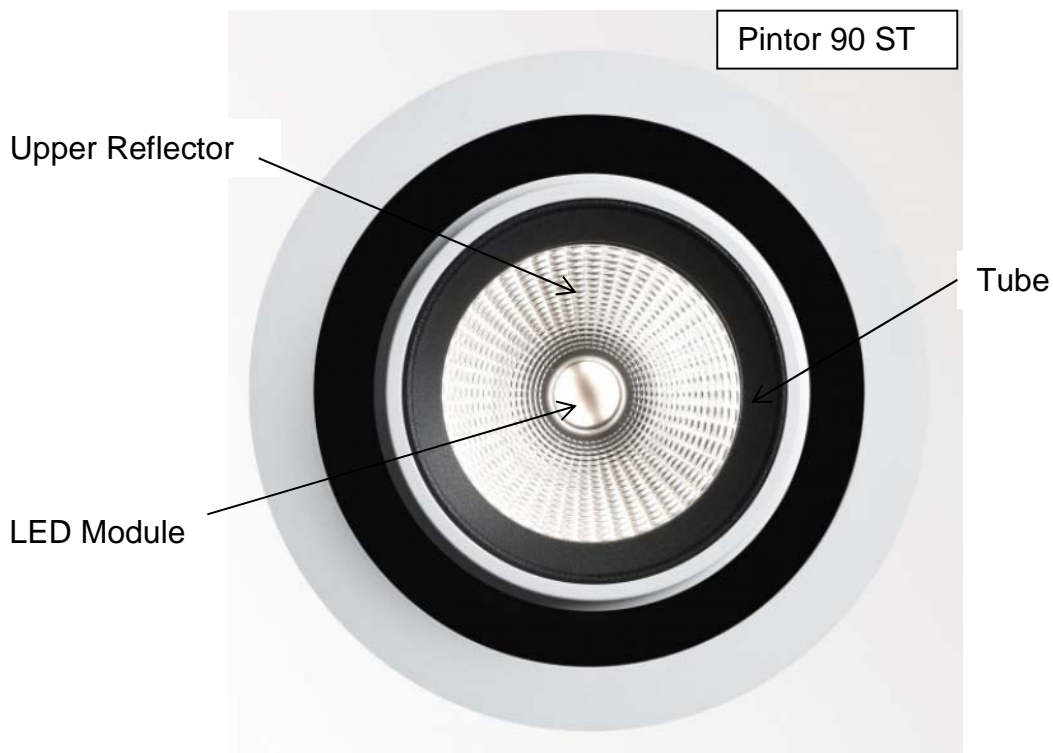
95. On information and belief, Pintor ST products include an array of LEDs in thermal connectivity with a heatsink, said array of LEDs positioned adjacent a first aperture of a multi-piece reflector assembly; for example, an array of LEDs formed by an LED module in thermal connectivity with a beveled heat sink are positioned adjacent to the first aperture of a multi-piece reflector, as shown in the catalog provided by Defendants and excerpted below:



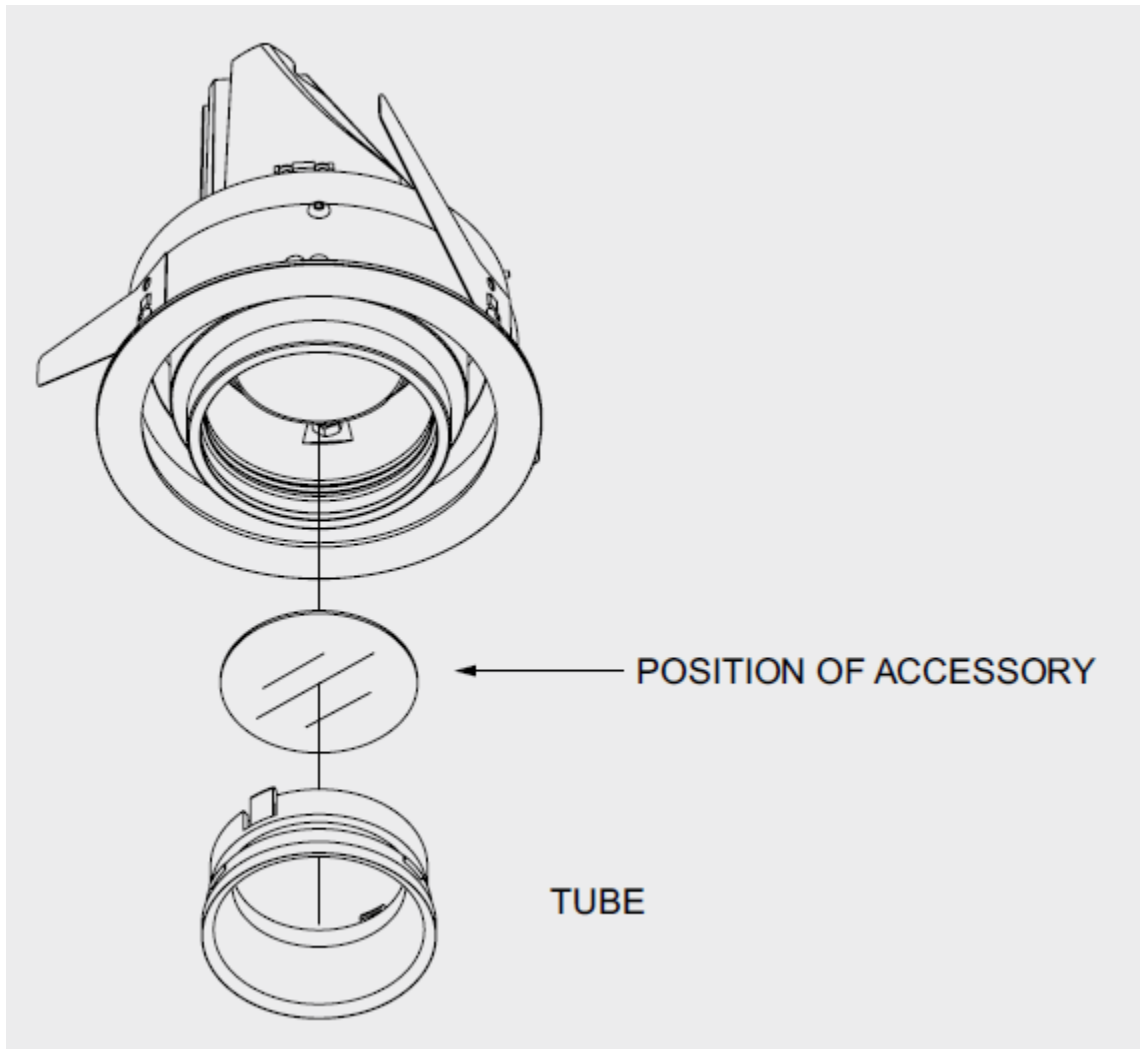
96. On information and belief, Pintor ST products include a multi-piece reflector assembly including: a first reflector having said first aperture disposed in an upper portion of said first reflector and an opposed larger second aperture in a lower portion of said first reflector; for example, a multi-piece reflector includes a first reflector formed by an upper reflector having a smaller aperture disposed in an upper portion of the upper reflector and a larger aperture disposed in a lower portion, as shown on Defendant's website and copied below.

97. On information and belief, Pintor ST products include a second reflector having a first aperture positioned adjacent said second aperture of said first reflector and a second aperture opposite said first aperture of said second reflector and defining a light exit passageway; for example, a second reflector, formed by a tube, has an upper aperture adjacent the larger aperture of the upper reflector, and a lower aperture opposite the upper aperture of the tube. The alignment of the apertures of the upper reflector and tube defines a light exit passageway, as shown below.





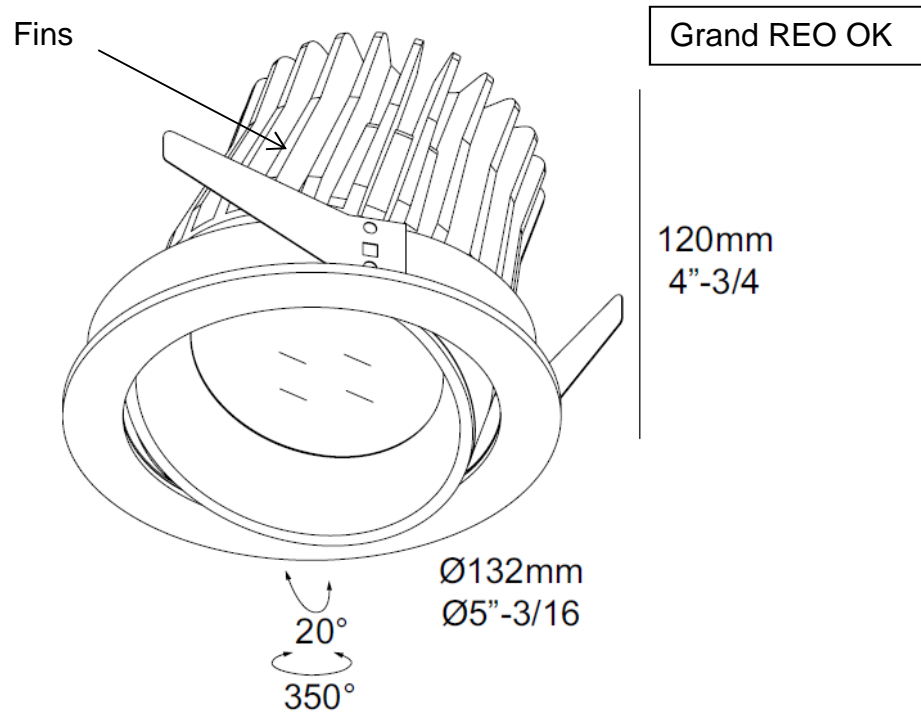
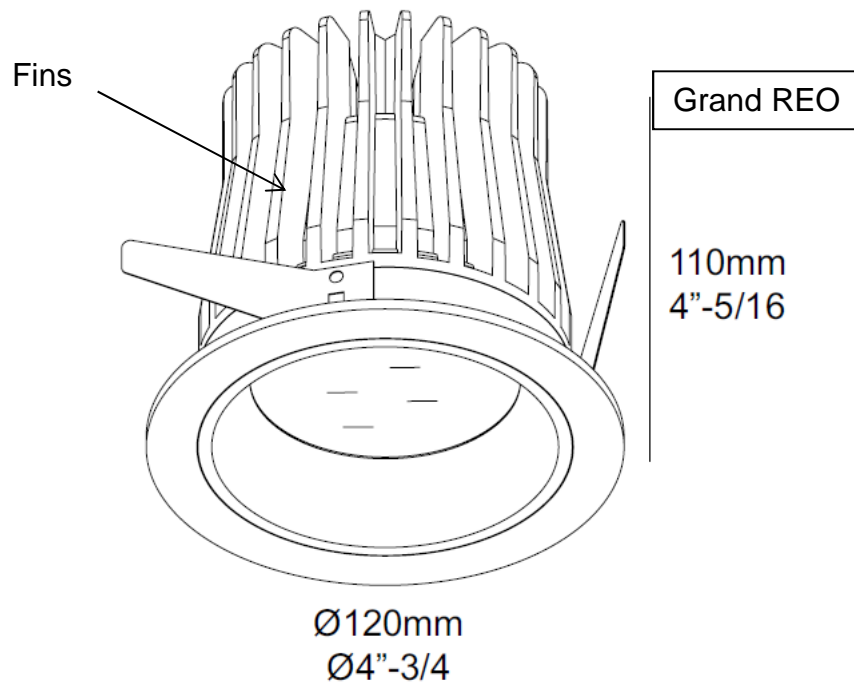
98. On information and belief, Pintor ST products include a diffuser positioned proximal to and extending across said second aperture of said first reflector and said first aperture of said second reflector; for example, a diffuser in the form of a softening lens (labeled as “accessory” below) is positioned proximal to and extending across the larger aperture of the upper reflector and the upper aperture of the tube, as shown in the catalog provided by Defendants and excerpted below:

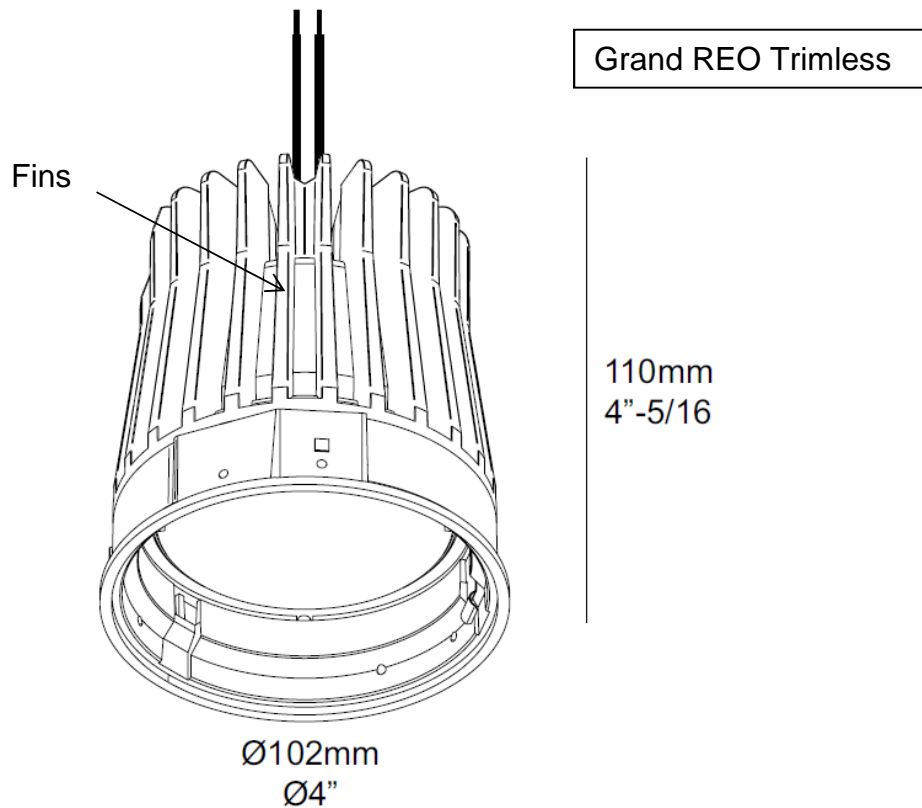


Infringing Grand REO Products

99. On information and belief, Grand REO products, Grand REO OK products, Grand REO Trimless products (“Grand REO products”) are LED downlight fixtures as shown below.

100. On information and belief, Grand REO products include an array of LEDs formed by an LED module in thermal connectivity with a heatsink, said array of LEDs positioned adjacent a first aperture of a multi-piece reflector assembly; for example, an array of LEDs in thermal connectivity with a heat sink formed by fins are positioned adjacent to the first aperture of a multi-piece reflector, as shown in the catalog provided by Defendants and excerpted below:

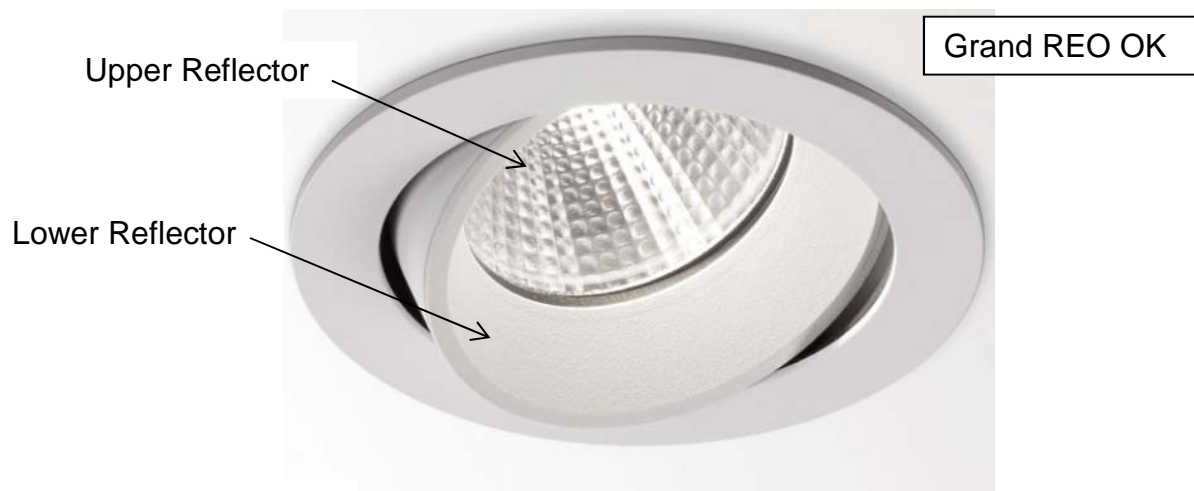
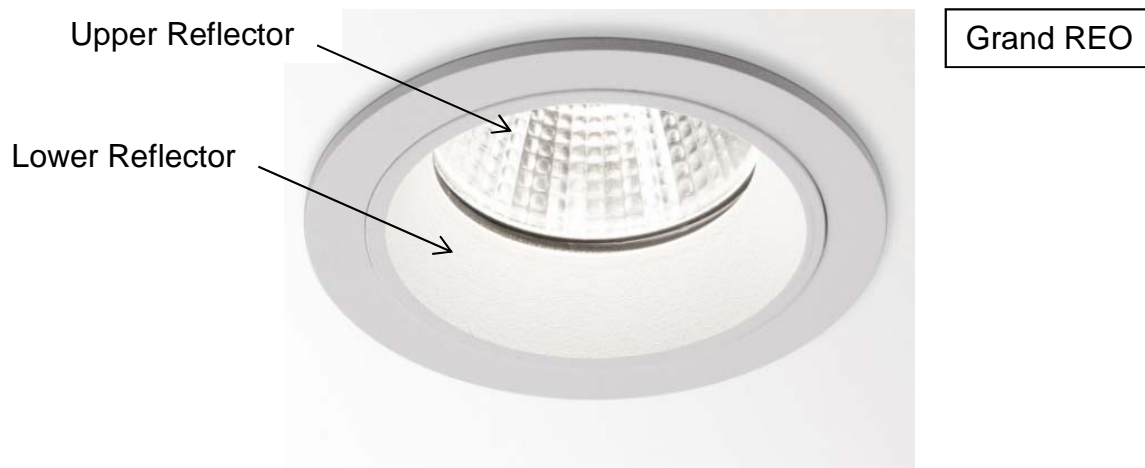




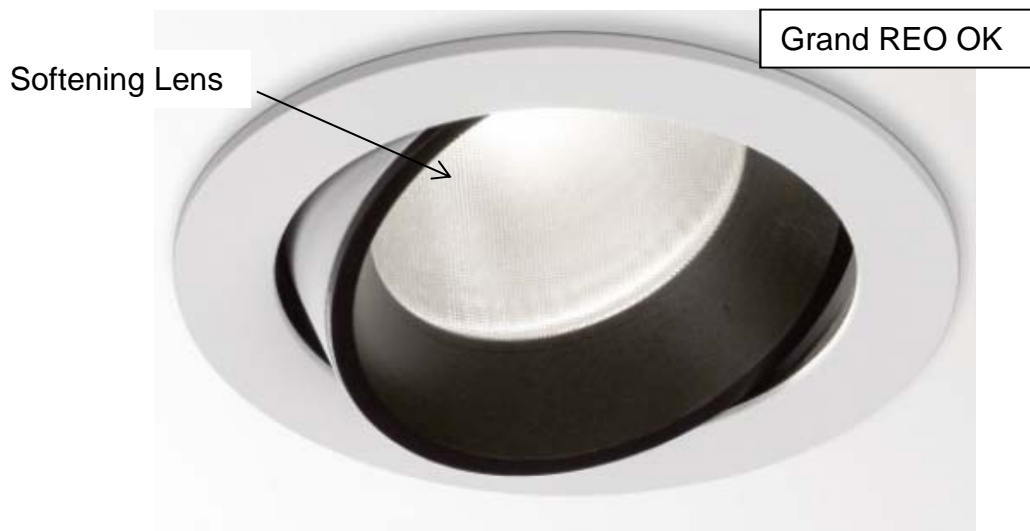
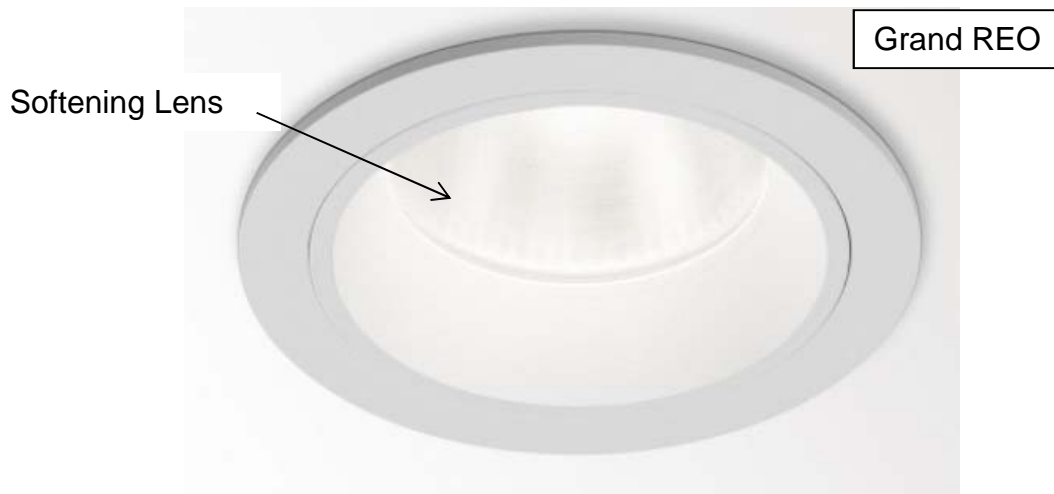
101. On information and belief, Grand REO products include a multi-piece reflector assembly including: a first reflector having said first aperture disposed in an upper portion of said first reflector and an opposed larger second aperture in a lower portion of said first reflector; for example, a multi-piece reflector includes a first reflector formed by an upper reflector having a smaller aperture disposed in an upper portion of the upper reflector and a larger aperture disposed in a lower portion, as shown on Defendant's website and copied below.

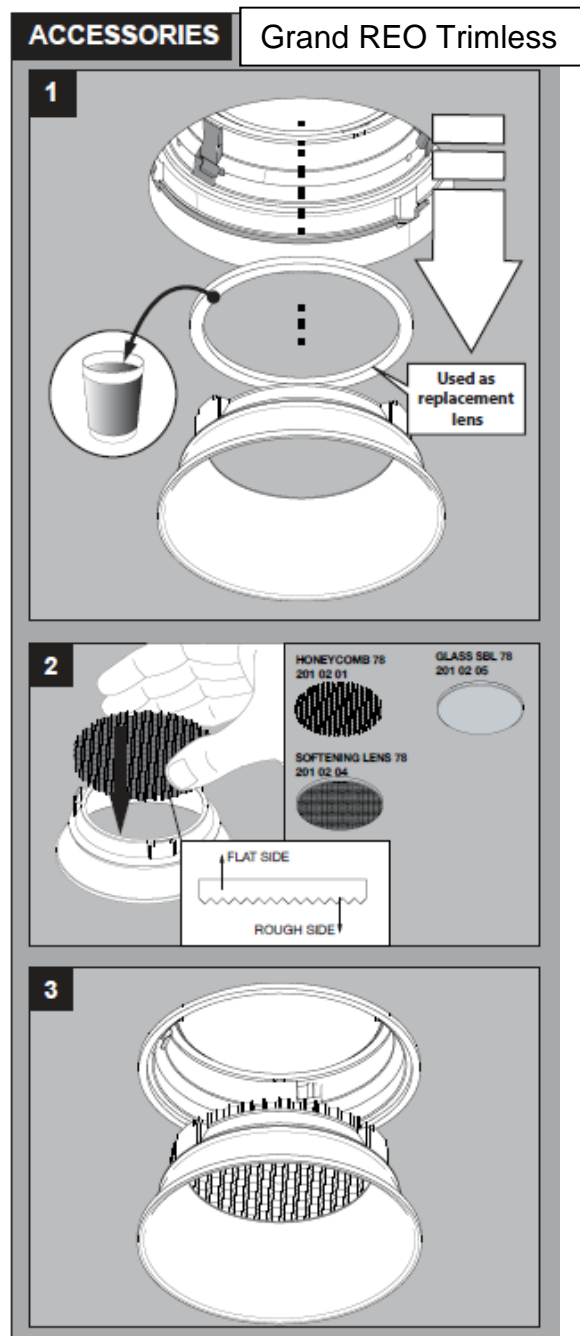
102. On information and belief, Grand REO products include a second reflector having a first aperture positioned adjacent said second aperture of said first reflector and a second aperture opposite said first aperture of said second reflector and defining a light exit passageway; for example, a second reflector, formed by a lower reflector (in the case of the Grand REO and Grand REO OK) or formed by a tube (in the case of the Grand REO Trimless), has an upper aperture adjacent the larger aperture of the upper reflector, and a lower aperture opposite the

upper aperture of the lower reflector/tube. The alignment of the apertures of the upper and lower reflectors/tube defines a light exit passageway, as shown below:



103. On information and belief, Grand REO products include a diffuser positioned proximal to and extending across said second aperture of said first reflector and said first aperture of said second reflector; for example, a diffuser in the form of a softening lens is positioned proximal to and extending across the larger aperture of the upper reflector and the upper aperture of the lower reflector/tube, as shown on Defendants website and excerpted below:

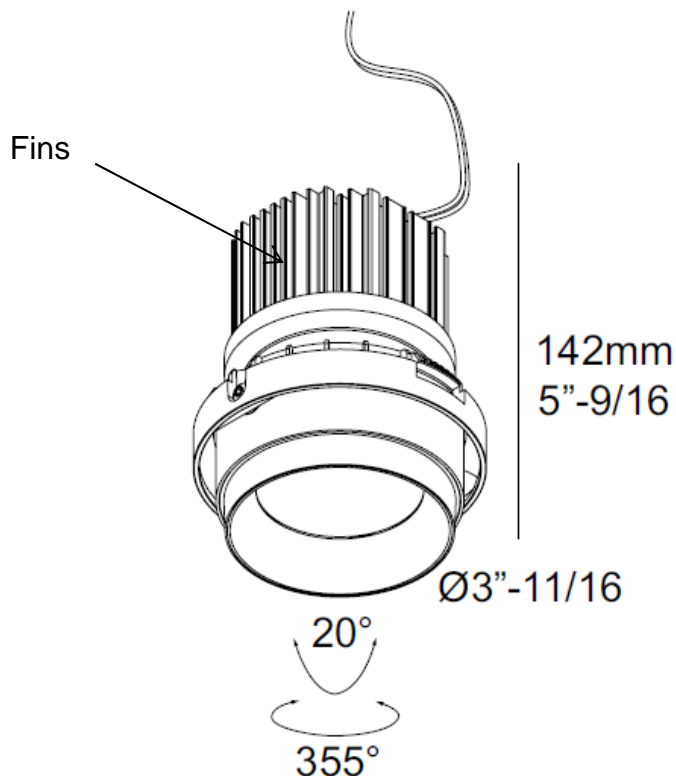




Infringing Grid In HP Snap-In Products

104. On information and belief, Grid In HP Snap-In products (used in Grid In Trimless 1 HP Frame, Grid In Trimless 2 HP Frame, Grid In 1 HP Frame, Grid In 2 HP Frame) are LED downlight fixtures as shown below.

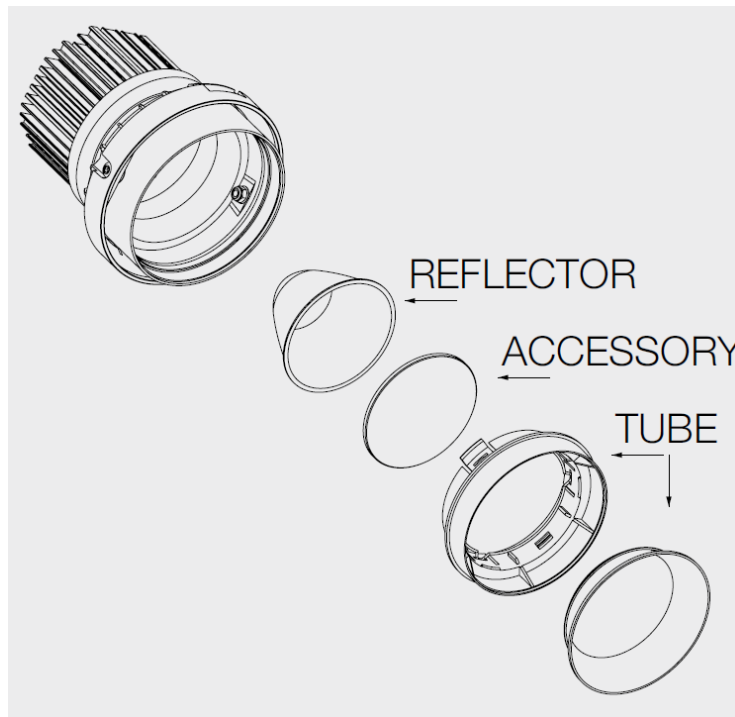
105. On information and belief, Grid In HP Snap-In products include an array of LEDs in thermal connectivity with a heatsink, said array of LEDs positioned adjacent a first aperture of a multi-piece reflector assembly; for example, an array of LEDs formed by an LED module in thermal connectivity with a heat sink formed by fins are positioned adjacent to the first aperture of a multi-piece reflector, as shown in the catalog provided by Defendants and excerpted below:



106. On information and belief, Grid In HP Snap-In products include a multi-piece reflector assembly including: a first reflector having said first aperture disposed in an upper portion of said first reflector and an opposed larger second aperture in a lower portion of said first reflector; for example, a multi-piece reflector includes a first reflector formed by an upper reflector (labeled as “reflector” below) having a smaller aperture disposed in an upper portion of the upper reflector and a larger aperture disposed in a lower portion, as shown below.

107. On information and belief, Grid In HP Snap-In products include a second reflector having a first aperture positioned adjacent said second aperture of said first reflector and a second aperture opposite said first aperture of said second reflector and defining a light exit passageway; for example, a second reflector, formed by a tube, has an upper aperture adjacent the larger aperture of the upper reflector, and a lower aperture opposite the upper aperture of the tube. The alignment of the apertures of the upper reflector and tube defines a light exit passageway, as shown below.

108. On information and belief, Grid In HP Snap-In products include a diffuser positioned proximal to and extending across said second aperture of said first reflector and said first aperture of said second reflector; for example, a diffuser in the form of softening lens (labeled as “accessory” below) is positioned proximal to and extending across the larger aperture of the upper reflector and the upper aperture of the tube, as shown in the catalog provided by Defendants and excerpted below:



109. The full extent of Defendants' infringement is not presently known to Signify. On information and belief, Defendants have made and sold, or will make and sell, products under different names or part numbers that infringe the '328 Patent in a similar manner. Signify makes this preliminary identification of infringing products and infringed claims in Count Five without the benefit of discovery or claim construction in this action, and expressly reserves the right to augment, supplement, and revise its identifications based on additional information obtained through discovery or otherwise.

110. Signify has suffered and continues to suffer damages as a result of Defendants' infringement of the '328 Patent in an amount to be determined at trial.

111. Defendants' infringement of the '328 Patent is causing irreparable harm for which Signify has no adequate remedy at law unless Defendants are enjoined by this Court. Under 35 U.S.C. § 283, Signify is entitled to a permanent injunction against further infringement of the '328 Patent.

112. Defendants have been aware of and have had notice of the '328 Patent and its infringement of the '328 Patent at least as early as the service of this Complaint.

PRAYER FOR RELIEF

WHEREFORE, Signify prays for the following judgments and relief:

- (a) A judgment that Defendants have infringed and are infringing the Patents-in-Suit;
- (b) A permanent injunction against Defendants and their affiliates, subsidiaries, assigns, employees, agents or anyone acting in privity or concert from infringing the Patents-in-Suit, including enjoining the making, offering to sell, selling, using, or importing into the United States products claimed in any of the claims of the Patents-in-Suit; using or performing methods claimed in any of the claims of the Patents-in-Suit; inducing others to use and perform methods that infringe any claim of the Patents-in-Suit; or contributing to others using and performing methods that infringe any claim of the Patents-in-Suit, until the expiration of the Patents-in-Suit;
- (c) An award of damages adequate to compensate Signify for Defendants' patent infringement, and an accounting to adequately compensate Signify for the infringement, including, but not limited to, lost profits and/or a reasonable royalty;
- (d) An award of pre-judgment and post-judgment interest at the maximum rate allowed by law;
- (e) An order finding that this is an exceptional case and awarding Signify its costs, expenses, disbursements, and reasonable attorneys' fees related to Defendants' patent infringement under 35 U.S.C. § 285 and all other applicable statutes, rules and common law; and
- (f) Such other further relief, in law or equity, as this Court deems just and proper.

JURY TRIAL

In accordance with Rule 38 of the Federal Rules of Civil Procedure, Signify hereby demands a jury trial on all issues triable before a jury.

Dated: April 1, 2019

Respectfully submitted,

BOND, SCHOENECK & KING, PLLC

s/ Jeremy P. Occek

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