
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

Luna Innovations Incorporated
(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
Incorporation or organization)

54-1560050
(I.R.S. Employer
Identification No.)

301 First Street, SW, Suite 200
Roanoke, Virginia 24011
Telephone: (540) 769-8400
(Address of principal executive offices) (Zip code)

Luna Innovations Incorporated 2006 Equity Incentive Plan
Advanced Photonix, Inc. 2000 Stock Option Plan
Advanced Photonix, Inc. 2007 Equity Incentive Plan
(Full title of the plan)

Dale E. Messick
Chief Financial Officer
301 First Street, SW, Suite 200
Roanoke, Virginia 24011
Telephone: (540) 769-8400
(Name and address of agent for service) (Telephone number, including area code, of agent for service)

Copies to:
Darren K. DeStefano
Cooley LLP
11951 Freedom Drive
Reston, Virginia 20190
Tel: (703) 456-8000
Fax: (703) 456-8100

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer,” “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value \$0.001 per share	11,968,884 shares	\$1.18 - \$7.96	\$15,809,471.04	\$1,837.06

- (1) Pursuant to Rule 416(a) promulgated under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's common stock (the "Common Stock") that become issuable under the Luna Innovations Incorporated 2006 Equity Incentive Plan (the "2006 EIP"), the Advanced Photonix, Inc. 2000 Stock Option Plan (the "2000 API Plan") and the Advanced Photonix, Inc. 2007 Equity Incentive Plan (the "2007 API Plan" and together with the 2000 API Plan, the "API Plans") set forth herein by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of outstanding shares of the Common Stock.
- (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) and (h) promulgated under the Securities Act. The offering price per share and the aggregate offering price are based upon (a) \$1.18, which is the average high and low prices of the Common Stock as reported on the NASDAQ Capital Market on May 20, 2015, (b) \$7.96, which is the weighted-average exercise price for outstanding options granted under the 2000 API Plan and (c) \$3.62, which is the weighted-average exercise price for outstanding options granted under the 2007 API Plan. The chart below details the calculations of the registration fee:

Securities	Number of Shares	Offering Price Per Share (2)	Aggregate Offering Price
Shares reserved for future grant under the 2006 EIP	11,399,250	\$1.18(2)(a)	\$13,451,115.00
Shares to be issued pursuant to outstanding stock awards under the 2000 API Plan	127,442	\$7.96(2)(b)	\$1,014,438.32
Shares to be issued pursuant to outstanding stock awards under the 2007 API Plan	336,939	\$3.62(2)(c)	\$1,219,719.18
Shares reserved for future grant under the 2007 API Plan	105,253	\$1.18(2)(a)	\$124,198.54
Proposed Maximum Aggregate Offering Price			\$15,809,471.04
Registration Fee			\$1,837.06

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of (i) registering an additional 11,399,250 shares of Common Stock to be issued pursuant to the 2006 EIP and (ii) registering 569,634 shares of Common Stock issuable in connection with the API Plans.

Pursuant to the Agreement and Plan of Merger and Reorganization, dated as of January 30, 2015 (the “Merger Agreement”), by and among the Registrant, Advanced Photonix, Inc. (“API”) and API Merger Sub, Inc., a wholly owned subsidiary of the Registrant, API became a wholly owned subsidiary of the Registrant on May 8, 2015 (the “Effective Time”). In accordance with the Merger Agreement, at the Effective Time, each option to purchase shares of API common stock outstanding and unexercised immediately prior to the Effective Time, whether or not vested, was converted at the exchange ratio specified in the Merger Agreement and became an option to purchase Common Stock, and the Registrant assumed each API option in accordance with the terms of the applicable API Plan and the terms of the stock option agreement by which such API option is evidenced. In addition, the Registrant assumed each of the API Plans.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

ITEM 1. PLAN INFORMATION

Not required to be filed with this Registration Statement.

ITEM 2. REGISTRANT INFORMATION AND EMPLOYEE PLAN ANNUAL INFORMATION

Not required to be filed with this Registration Statement.

PART II

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

The following documents filed by the Registrant with the Commission pursuant to the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are incorporated by reference in this Registration Statement:

- (a) The Registrant’s Annual Report on Form 10-K for the year ended December 31, 2014, filed with the Commission on March 16, 2015;
- (b) All other reports filed by the Registrant pursuant to Sections 13(a) or 15(d) of the Exchange Act subsequent to March 16, 2015; and
- (c) The section entitled “Description of Registrant’s Securities to be Registered” contained in the Registrant’s Registration Statement on Form 8-A, filed with the Commission pursuant to Section 12(g) of the Exchange Act on May 17, 2006, including any amendment or report filed for the purpose of updating such description.
- (d) All documents, reports and definitive proxy or information statements filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act (other than Current Reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items) on or after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement that indicates that all securities offered have been sold or that deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document that also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

The Registrant is incorporated under the laws of the State of Delaware. Section 102 of the Delaware General Corporation Law (the "DGCL") permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlements actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he is or is threatened to be made a party by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

As permitted by the DGCL, the Registrant's amended and restated certificate of incorporation and bylaws provide for indemnification, subject to specified exceptions, for directors and officers who are a party to or who are threatened to be made a party to any litigation.

The Registrant has entered into indemnity agreements with certain officers and directors that provide, among other things, that the Registrant will indemnify such officer or director, under the circumstances and to the extent provided for therein, for expenses, damages, judgments, fines and settlements he may be required to pay in actions or proceedings that he is or may be made a party by reason of his position as a director, officer or other agent of the Registrant, and otherwise to the fullest extent permitted under Delaware law and the bylaws. At present, no litigation or proceeding is pending that involves any of the Registrant's directors or officers regarding which indemnification is sought, nor is the Registrant aware of any threatened litigation that may result in claims for indemnification.

The Registrant maintains a directors' and officers' liability insurance policy. The policy insures directors and officers against unindemnified losses arising from certain wrongful acts in their capacities as directors and officers and reimburses the Registrant for those losses for which it has lawfully indemnified the directors and officers. The policy contains various exclusions.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

Exhibit Number	Description
4.1(1)	Amended and Restated Certificate of Incorporation of the Registrant.
4.2(2)	Certificate of Designations of the Series A Convertible Preferred Stock of the Registrant
4.3(3)	Amended and Restated Bylaws of the Registrant.
4.4(4)	Amendment to Amended and Restated Bylaws of the Registrant.
4.5(5)	Second Amendment to Amended and Restated Bylaws of the Registrant.
4.6(6)	Specimen stock certificate evidencing shares of the Registrant's Common Stock.
4.7(7)	2006 Equity Incentive Plan.
4.8(8)	Advanced Photonix, Inc. 2000 Stock Option Plan, as amended.
4.9(9)	Advanced Photonix, Inc. 2007 Equity Incentive Plan.
5.1	Opinion of Cooley LLP.
23.1	Consent of Grant Thornton LLP, Independent Registered Public Accounting Firm.
23.2	Consent of BDO USA, LLP, Independent Registered Public Accounting Firm.
23.3	Consent of Cooley LLP (included in Exhibit 5.1).
24.1	Power of Attorney (included on the signature page of this Form S-8).

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- (1) Previously filed as Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 000-52008), filed with the Commission on June 8, 2006, and incorporated by reference herein.
 - (2) Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 000-52008), filed with the Commission on January 15, 2010, and incorporated by reference herein.
 - (3) Previously filed as Exhibit 3.4 to the Registrant's Registration Statement on Form S-1 (File No. 333-131764), filed with the Commission on February 10, 2006, and incorporated by reference herein.
 - (4) Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 000-52008), filed with the Commission on May 10, 2010, and incorporated by reference herein.
 - (5) Previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 000-52008), filed with the Commission on February 2, 2015, and incorporated by reference herein.
 - (6) Previously filed as Exhibit 4.1 to Amendment No. 5 to the Registrant's Registration Statement on Form S-1 (File No. 333-131764), filed with the Commission on May 19, 2006, and incorporated by reference herein.
 - (7) Previously filed as Exhibit 10.9 to Amendment No. 3 to the Registrant's Registration Statement on Form S-1 (File No. 333-131764), filed with the Commission on April 28, 2006, and incorporated by reference herein.
 - (8) Previously filed as Exhibit 10.1 to Advanced Photonix, Inc.'s Quarterly Report on Form 10-Q (File No. 001-11056), filed with the Commission on February 13, 2012.
 - (9) Previously filed as Exhibit 10.5 to Advanced Photonix, Inc.'s Annual Report on Form 10-K (File No. 001-11056), filed with the Commission on June 29, 2012.

ITEM 9. UNDERTAKINGS

1. The undersigned registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement.

Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided, however, that paragraphs (a)(i) and (a)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(d) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

2. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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3. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Roanoke, Virginia, on this 22nd day of May, 2015.

LUNA INNOVATIONS INCORPORATED

By: /s/ My E. Chung

My E. Chung

President and Chief Executive Officer

POWER OF ATTORNEY

Know All Persons By These Presents, that each person whose signature appears below constitutes and appoints My E. Chung and Dale E. Messick and each or any one of them, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ My E. Chung</u> My E. Chung	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	May 22, 2015
<u>/s/ Dale E. Messick</u> Dale E. Messick	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	May 22, 2015
<u>/s/ Richard W. Roedel</u> Richard W. Roedel	Chairman of the Board of Directors	May 22, 2015
<u>/s/ Michael W. Wise</u> Michael W. Wise	Director	May 22, 2015
<u>/s/ John B. Williamson, III</u> John B. Williamson, III	Director	May 22, 2015
<u>/s/ Donald Pastor</u> Donald Pastor	Director	May 22, 2015
<u>/s/ Gary Spiegel</u> Gary Spiegel	Director	May 22, 2015
<u>/s/ Ed J. Coringrato Jr.</u> Ed J. Coringrato Jr.	Director	May 22, 2015

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Darren K. DeStefano
T: +1 703 456 8034
ddestefano@cooley.com

May 22, 2015

Luna Innovations Incorporated
301 First Street, SW, Suite 200
Roanoke, Virginia 24011

Ladies and Gentlemen:

We have represented Luna Innovations Incorporated, a Delaware corporation (the "**Company**"), in connection with the filing by the Company of a Registration Statement on Form S-8 (the "**Registration Statement**") with the Securities and Exchange Commission covering the offering of up to (i) 11,399,250 shares (the "**2006 EIP Shares**") of the Company's Common Stock, par value \$0.001 per share ("**Common Stock**"), pursuant to the Company's 2006 Equity Incentive Plan (the "**2006 EIP**"), (ii) 127,442 shares (the "**2000 API Plan Shares**") of Common Stock pursuant to the Advanced Photonix, Inc. 2000 Stock Option Plan (the "**2000 API Plan**") and (iii) 442,192 shares (together with the 2006 EIP Shares and the 2000 API Plan Shares, the "**Shares**") of Common Stock pursuant to the Advanced Photonix, Inc. 2007 Equity Incentive Plan (together with the 2006 EIP and the 2000 API Plan, the "**Plans**").

In connection with this opinion, we have examined and relied upon (a) the Registration Statement and the related prospectuses, (b) the Company's Amended and Restated Certificate of Incorporation, and the Company's Amended and Restated Bylaws, each as currently in effect, (c) the Company's Certificate of Designations of Series A Convertible Preferred Stock, (d) the Plans and (e) the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals, the conformity to originals of all documents submitted to us as copies thereof, and the due execution and delivery of all documents where due execution and delivery are a prerequisite to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not sought to independently verify such matters.

Our opinion is expressed only with respect to the federal laws of the United States of America and the General Corporation Law of the State of Delaware. We express no opinion as to whether the laws of any particular jurisdiction other than those identified above are applicable to the subject matter of this opinion.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Plans, the Registration Statement and the related prospectuses, will be validly issued, fully paid and nonassessable (except as to Shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

COOLEY LLP

By: /s/ Darren K. DeStefano
Darren K. DeStefano

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 16, 2015 with respect to the consolidated financial statements included in the Annual Report on Form 10-K for the year ended December 31, 2014 of Luna Innovations Incorporated, which is incorporated by reference in this Registration Statement. We consent to the incorporation by reference in the Registration Statement of the aforementioned report.

/s/ Grant Thornton LLP

McLean, Virginia
May 22, 2015

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement of Luna Innovations Incorporated on Form S-8 of our report dated June 30, 2014, relating to the consolidated financial statements of Advanced Photonix, Inc., which appears in the joint proxy statement/prospectus that forms a part of the Registration Statement on Form S-4 of Luna Innovations Incorporated (File No. 333-201956), which is incorporated by reference into this Form S-8.

/s/ BDO USA, LLP

Troy, Michigan
May 22, 2015