

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 Number)**1703 South Jefferson Street SW, Suite 400****Roanoke, Virginia 24016****(540) 769-8400**

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

2003 STOCK PLAN**2006 EQUITY INCENTIVE PLAN**

(Full title of the Plans)

Kent A. Murphy, Ph.D.**President, Chief Executive Officer and Chairman****Luna Innovations Incorporated****1703 South Jefferson Street SW, Suite 400****Roanoke, Virginia 24016****(540) 769-8400**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

CALCULATION OF REGISTRATION FEE

<u>Title of Securities to be Registered</u>	<u>Amount to be Registered(1)</u>	<u>Proposed Maximum Offering Price Per Share</u>	<u>Proposed Maximum Aggregate Offering Price</u>	<u>Amount of Registration Fee</u>
Common Stock, \$0.001 par value, to be issued under the 2003 Stock Plan	4,648,060(2)	\$ 0.92(6)	\$ 4,276,215.20	\$ 457.56
Common Stock, \$0.001 par value, issued under the 2003 Stock Plan	568,665(3)	\$ 0.35(7)	\$ 199,032.75	\$ 21.30
Common Stock, \$0.001 par value, to be issued under the 2006 Equity Incentive Plan	7,176,939(4)	\$ 3.60(8)	\$25,836,980.40	\$2,764.56
Common Stock, \$0.001 par value, to be issued under the 2006 Equity Incentive Plan	321,336(5)	\$ 5.69(9)	\$ 1,828,401.84	\$ 195.64
Total Registration Fees:				\$3,439.06

- (1) This Registration Statement covers shares of Registrant's Common Stock: (i) issued and issuable pursuant to the exercise of options granted prior to the filing of this Registration Statement under the 2003 Stock Plan and the 2006 Equity Incentive Plan, (ii) to be issued under the 2006 Equity Incentive Plan after the filing of this Registration Statement, and (iii) pursuant to Rule 416(a) of the Securities Act of 1933, as amended, any additional shares of Common Stock, which become issuable under the 2003 Stock Plan and 2006 Equity Incentive Plan by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration which results in an increase in the number of the outstanding shares of Registrant's Common Stock. For the sole purpose of calculating the registration fee, the number of shares to be registered under this Registration Statement has been broken down into four lines.
- (2) This subtotal represents shares of the Registrant's Common Stock issuable upon exercise of outstanding options under the 2003 Stock Plan as of the filing of this Registration Statement.
- (3) This subtotal represents shares of the Registrant's Outstanding Common Stock issued upon the exercise of options under the 2003 Stock Plan prior to the filing of this Registration Statement.
- (4) This subtotal represents (i) 7,498,275 shares of the Registrant's Common Stock initially available for issuance pursuant to the 2006 Equity Incentive Plan, less (ii) 321,336 shares of the Registrant's Common Stock issuable upon the exercise of outstanding options under the 2006 Equity Incentive Plan as of the filing of this Registration Statement.
- (5) This subtotal represents shares of the Registrant's Common Stock issuable upon exercise of outstanding options under the 2006 Equity Incentive Plan as of the filing of this Registration Statement.
- (6) Estimated in accordance with Rule 457(h) under the Securities Act of 1933, as amended, solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of \$0.92 per share.
- (7) Estimated in accordance with Rule 457(h) under the Securities Act of 1933, as amended, solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of \$0.35 per share.
- (8) Estimated in accordance with Rule 457(h) under the Securities Act of 1933, as amended, solely for the purpose of calculating the registration fee on the basis of \$3.60 per share, which represents the average of the high and low price of the Registrant's Common Stock as reported on the NASDAQ Global Market on November 14, 2006.
- (9) Estimated in accordance with Rule 457(h) under the Securities Act of 1933, as amended, solely for the purpose of calculating the registration fee on the basis of the weighted average exercise price of \$5.69 per share.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

Item 1. Plan Information.*

Item 2. Registrant Information and Employee Plan Annual Information.*

*Information required by Part I to be contained in the Section 10(a) prospectus is omitted from this Registration Statement in accordance with Rule 428 under the Securities Act of 1933 (the "**Securities Act**"), and the "Note" to Part I of Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents, which have been previously filed with the Commission, are hereby incorporated by reference in the Registration Statement:

- (a) The Registrant's prospectus, dated June 2, 2006, filed pursuant to Rule 424(b) under the Securities Act (the "**Prospectus**"), which contains audited consolidated financial statements for the Registrant and its subsidiaries for the fiscal year ended December 31, 2005.
- (b) All other reports filed by the Registrant pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**") (other than information contained in Current Reports on Form 8-K that is deemed furnished and not filed), since the end of the fiscal year covered by the Prospectus referred to in (a) above.
- (c) The description of the Registrant's Common Stock set forth in its registration statement on Form 8-A filed on May 17, 2006, and any amendment or report filed for the purpose of updating such description.

All documents filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act subsequent to the effectiveness of this Registration Statement and prior to the filing of a post-effective amendment that indicates that all securities offered have been sold or which 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.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145(a) of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if he or she 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, with respect to any criminal action or proceeding, had no cause to believe his or her conduct was unlawful.

Section 145(b) of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person acted in any of the capacities set forth above, against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if he or she acted under similar standards, except that no indemnification may be made in respect of 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 in which such action or suit was brought shall determine that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to be indemnified for such expenses which the court shall deem proper.

Section 145 of the Delaware General Corporation Law further provides that: (i) to the extent that a former or present director or officer of a corporation has been successful in the defense of any action, suit or proceeding referred to in

subsections (a) and (b) or in the defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him or her in connection therewith; (ii) indemnification provided for by Section 145 shall not be deemed exclusive of any other rights to which the indemnified party may be entitled; and (iii) the corporation may purchase and maintain insurance on behalf of any present or former director, officer, employee or agent of the corporation or any person who at the request of the corporation was serving in such capacity for another entity against any liability asserted against such person and incurred by him or her in any such capacity or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liabilities under Section 145.

Article VIII of the Registrant's amended and restated certificate of incorporation provides for the indemnification of directors to the fullest extent permissible under Delaware law. Article VI of the Registrant's amended and restated bylaws provides for the indemnification of officers, directors and third parties acting on the Registrant's behalf if such person acted in good faith and in a manner reasonably believed to be in and not opposed to the Registrant's best interest and, with respect to any criminal action or proceeding, the indemnified party had no reason to believe his or her conduct was unlawful.

The Registrant has entered into indemnification agreements with its directors, executive officers and others, in addition to indemnification provided for in its bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant has purchased and intends to maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

Item 7. Exemption from Registration Claimed.

Not Applicable.

Item 8. Exhibits.

<u>Exhibit Number</u>	<u>Exhibit Document</u>
3.1(1)	Amended and Restated Certificate of Incorporation of the Registrant (Exhibit 3.2)
3.2(2)	Amended and Restated Bylaws of the Registrant (Exhibit 3.4)
4.1(3)	Specimen Common Stock certificate of the Registrant (Exhibit 4.1)
4.2(2)	2003 Stock Plan (Exhibit 10.7)
4.3(4)	2006 Equity Incentive Plan (Exhibit 10.9)
5.1	Opinion of Wilson Sonsini Goodrich & Rosati, Professional Corporation
23.1	Consent of Grant Thornton LLP, Independent Registered Public Accounting Firm
23.2	Consent of Wilson Sonsini Goodrich & Rosati, Professional Corporation (contained in Exhibit 5.1 hereto)
24.1	Power of Attorney (see signature page)

- (1) Incorporated by reference to the exhibit to the Registrant's Current Report on Form 8-K, Commission File No. 000-52008, dated June 2, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form 8-K.
- (2) Incorporated by reference to the exhibit to the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on February 10, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.
- (3) Incorporated by reference to the exhibit to Amendment No. 5 of the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on May 19, 2006. The number given in parentheses indicates the corresponding exhibit number in such Form S-1.

- (4) Incorporated by reference to the exhibit to Amendment No. 3 of the Registrant's Registration Statement on Form S-1, Commission File No. 333-131764, filed on April 28, 2006. The number given in parenthesis indicates the corresponding exhibit number in such Form S-1.

Item 9. Undertakings.

A. The undersigned Registrant hereby undertakes:

(1) 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 the 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 a 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)(1)(i) and (A)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic 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.

(2) 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 therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) 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.

B. 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 therein, and the offering of such securities at the time shall be deemed to be the initial bona fide offering thereof.

C. 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 Commission, such indemnification as 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 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, Commonwealth of Virginia, on November 15, 2006.

Luna Innovations Incorporated

By: /s/ Kent A. Murphy

Kent A. Murphy, Ph.D.
President, Chief Executive Officer and Chairman

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Kent A. Murphy, Ph.D. and Dale E. Messick, jointly and severally, as such person's attorneys-in-fact, each with the power of substitution, for such person in any and all capacities, to sign any amendments to this Registration Statement on Form S-8, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may 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 date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ KENT A. MURPHY</u> Kent A. Murphy, Ph.D.	President, Chief Executive Officer (Principal Executive Officer) and Chairman	November 15, 2006
<u>/s/ DALE E. MESSICK</u> Dale E. Messick	Chief Financial Officer (Principal Financial and Accounting Officer)	November 15, 2006
<u>/s/ N. LEIGH ANDERSON</u> N. Leigh Anderson	Director	October 30, 2006
<u>/s/ JOHN C. BACKUS, JR.</u> John C. Backus, Jr.	Director	November 15, 2006
<u>/s/ BOBBIE KILBERG</u> Bobbie Kilberg	Director	October 26, 2006
<u>/s/ EDWARD G. MURPHY</u> Edward G. Murphy, M.D.	Director	October 25, 2006
<u>/s/ RICHARD W. ROEDEL</u> Richard W. Roedel	Director	November 15, 2006
<u>/s/ PAUL E. TORGERSEN</u> Paul E. Torgersen, Ph.D.	Director	November 15, 2006

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November 15, 2006

Luna Innovations Incorporated
1703 South Jefferson Street SW, Suite 400
Roanoke, Virginia 24016

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-8 to be filed by Luna Innovations Incorporated, a Delaware corporation (the "**Company**"), with the Securities and Exchange Commission on or about November 15, 2006 (the "**Registration Statement**"), relating to the registration under the Securities Act of 1933, as amended, of 12,715,000 shares of the Company's Common Stock, \$0.001 par value (the "**Shares**") reserved for issuance under the Company's 2003 Stock Plan and 2006 Equity Incentive Plan (the "**Plans**"). As legal counsel to the Company, we have reviewed the actions proposed to be taken by the Company in connection with the issuance and sale of the Shares to be issued under the Plans.

It is our opinion that, when issued and sold in the manner described in the Plans and pursuant to the agreements referred to therein, the Shares will be legally issued, fully paid and nonassessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to the use of our name wherever appearing in the Registration Statement and any amendments thereto.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

/s/ Wilson Sonsini Goodrich & Rosati, P.C.

**CONSENT OF GRANT THORNTON LLP,
INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We have issued our report dated March 21, 2006, accompanying the consolidated financial statements included in the Registration Statement on Form S-1 for the year ended December 31, 2005. We hereby consent to the incorporation by reference of said report in the Registration Statement of Luna Innovations Incorporated on Form S-8 to be filed on or about November 14, 2006.

/s/ GRANT THORNTON LLP

McLean, Virginia
November 14, 2006