FORM 3

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

## INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

| OMB APPROVAL             |           |  |  |  |  |  |  |  |  |
|--------------------------|-----------|--|--|--|--|--|--|--|--|
| OMB Number:              | 3235-0104 |  |  |  |  |  |  |  |  |
| Estimated average burden |           |  |  |  |  |  |  |  |  |
| hours per response       | e: 0.5    |  |  |  |  |  |  |  |  |

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| Dalhouse Warner  |                                 |       | 2. Date of Even<br>Requiring State<br>Month/Day/Yea<br>02/02/2010 | ment  | 3. Issuer Name and Ticker or Trading Symbol <u>LUNA INNOVATIONS INC</u> [ LUNA ] |   |  |                        |  |                          |  |
|--|---------------------------------|-------|---|---|--|---|--|------------------------|--|--------------------------|--|
| (Last) C/O LUNA IN INCORPORA   | (First) (Middle) NA INNOVATIONS |       |   | Relationship of Reporting Person(s) to Issuer (Check all applicable)     X Director 10% Owner |  | (Mor  | 5. If Amendment, Date of Original Filed (Month/Day/Year) |                        |  |                          |  |
| 1 RIVERSIDE CIRCLE, SUITE 400  |                                 |       |   |   |  | Officer (give title below)                  | Other (spec  | , [0.111               | ndividual or Joint/Group Filing (Check<br>plicable Line)<br>K Form filed by One Reporting Person |                          |  |
| (Street) ROANOKE   | VA                              | 24016 |   |   |  |   |  |                        | Form filed by<br>Reporting Po  | y More than One<br>erson |  |
| (City)   | (State)                         | (Zip) |   |   |  |   |  |                        |  |                          |  |
| Table I - Non-Derivative Securities Beneficially Owned   |                                 |       |   |   |  |   |  |                        |  |                          |  |
| 1. Title of Security (Instr. 4)  |                                 |       |   |   |  | ınt of Securities<br>ially Owned (Instr. 4) |  |                        | I. Nature of Indirect Beneficial Ownership<br>Instr. 5)  |                          |  |
| Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |                                 |       |   |   |  |   |  |                        |  |                          |  |
| 1. Title of Derivative Security (Instr. 4)  2. Date Exercisable Expiration Date (Month/Day/Year)                   |                                 |       | ate   | Underlying Derivative Security (Instr. 4) Color I   |  | 4.<br>Conversion<br>or Exercise<br>Price of | 5.<br>Ownership<br>Form:                                 | (Instr. 5)             |  |                          |  |
|  |                                 |       | Date<br>Exercisable   | Expiration<br>Date  | ı<br>Title   |   | Amount<br>or<br>Number<br>of<br>Shares                   | Derivative<br>Security | Direct (D)<br>or Indirect<br>(I) (Instr. 5)  |                          |  |
| Stock Option (   | Right to Buy)                   |       | (1)   | 01/12/2020  |  | Common Stock                                | 120,000  | 4.43                   | D  |                          |  |

## **Explanation of Responses:**

1. Of the Shares subject to the Option, 40,000 shares will vest upon the first anniversary and the remaining 80,000 shares will vest in equal monthly installments over the following 24 months.

/s/ Talfourd H. Kemper, Jr.

02/03/2010

\*\* Signature of Reporting Person

n Date

 $Reminder: Report \ on \ a \ separate \ line \ for \ each \ class \ of \ securities \ beneficially \ owned \ directly \ or \ indirectly.$ 

- \* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.