

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D/A

Under the Securities Exchange Act of 1934
(Amendment No. 2)*

Luna Innovations Incorporated
(Name of Issuer)

Common stock, par value \$0.001 per share
(Title of Class of Securities)

550351100
(CUSIP Number)

David J. Chanley
c/o White Hat Capital Partners LP
520 Madison Avenue, 33rd Floor
New York, New York 10022
(212) 257-5940

With a copy to:

Eleazer Klein, Esq.
David A. Curtiss, Esq.
Schulte Roth & Zabel LLP
919 Third Avenue
New York, NY 10022
(212) 756-2000

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

October 25, 2024
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), Rule 13d-1(f) or Rule 13d-1(g), check the following box. []

(Page 1 of 14 Pages)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1	NAME OF REPORTING PERSON White Hat Lightning Opportunity LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (as defined in Item 4 below) (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s) (as defined in Item 4))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 2.3%*	
14	TYPE OF REPORTING PERSON PN	

*The conversion of the shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker (as defined in Item 4 below). The number of shares of Common Stock in rows (8), (10) and (11) and the percentage set forth in row (13) reflect the conversion in full of the Series B Convertible Preferred Stock reported on this cover page, however, the ability to convert such Series B Convertible Preferred Stock at any given time is subject to the Blocker which applies to the beneficial ownership of the Reporting Persons in the aggregate.

1	NAME OF REPORTING PERSON WH Lightning GP LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 831,270 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 113,432 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 2.3%*	
14	TYPE OF REPORTING PERSON OO	

* The conversion of the shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker. The number of shares of Common Stock in rows (8), (10) and (11) and the percentage set forth in row (13) reflect the conversion in full of the Series B Convertible Preferred Stock reported on this cover page, however, the ability to convert such Series B Convertible Preferred Stock at any given time is subject to the Blocker which applies to the beneficial ownership of the Reporting Persons in the aggregate.

1	NAME OF REPORTING PERSON White Hat Strategic Partners II LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 1,246,908 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 170,149 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 1,246,908 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 170,149 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 1,246,908 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 170,149 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 3.5%*	
14	TYPE OF REPORTING PERSON PN	

* The conversion of the shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker. The number of shares of Common Stock in rows (8), (10) and (11) and the percentage set forth in row (13) reflect the conversion in full of the Series B Convertible Preferred Stock reported on this cover page, however, the ability to convert such Series B Convertible Preferred Stock at any given time is subject to the Blocker which applies to the beneficial ownership of the Reporting Persons in the aggregate.

1	NAME OF REPORTING PERSON White Hat SP GP II LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 1,246,908 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 170,149 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 1,246,908 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 170,149 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
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12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 3.5%*	
14	TYPE OF REPORTING PERSON OO	

* The conversion of the shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker. The number of shares of Common Stock in rows (8), (10) and (11) and the percentage set forth in row (13) reflect the conversion in full of the Series B Convertible Preferred Stock reported on this cover page, however, the ability to convert such Series B Convertible Preferred Stock at any given time is subject to the Blocker which applies to the beneficial ownership of the Reporting Persons in the aggregate.

1	NAME OF REPORTING PERSON White Hat Structured Opportunities LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 8,312,724 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,134,328 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 8,312,724 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,134,328 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 8,312,724 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,134,328 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.99%*	
14	TYPE OF REPORTING PERSON PN	

*The conversion of the shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker and the percentage set forth in row (13) gives effect to the Blocker. However, rows (8), (10) and (11) show the number shares of Common Stock that would be issuable upon the conversion of the shares of Series B Convertible Preferred Stock in full and does not give effect to the Blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to the Blocker, is less than the number of securities reported in rows (8), (10) and (11).

1	NAME OF REPORTING PERSON WHSO GP LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 8,312,724 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,134,328 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
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12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.99%*	
14	TYPE OF REPORTING PERSON OO	

*The conversion of shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker and the percentage set forth in row (13) gives effect to the Blocker. However, rows (8), (10) and (11) show the number of shares of Common Stock that would be issuable upon the conversion of the shares of Series B Convertible Preferred Stock in full and does not give effect to the Blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to the Blocker, is less than the number of securities reported in rows (8), (10) and (11).

1	NAME OF REPORTING PERSON White Hat Capital Partners LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.99%*	
14	TYPE OF REPORTING PERSON PN	

*The conversion of shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker and the percentage set forth in row (13) gives effect to the Blocker. However, rows (8), (10) and (11) show the number of shares of Common Stock that would be issuable upon the conversion of the shares of Series B Convertible Preferred Stock in full and does not give effect to the Blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to the Blocker, is less than the number of securities reported in rows (8), (10) and (11).

1	NAME OF REPORTING PERSON David J. Chanley	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.99%*	
14	TYPE OF REPORTING PERSON IN	

*The conversion of shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker and the percentage set forth in row (13) gives effect to the Blocker. However, rows (8), (10) and (11) show the number of shares of Common Stock that would be issuable upon the conversion of the shares of Series B Convertible Preferred Stock in full and does not give effect to the Blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to the Blocker, is less than the number of securities reported in rows (8), (10) and (11).

1	NAME OF REPORTING PERSON Mark R. Quinlan	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDING IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	7	SOLE VOTING POWER -0-
	8	SHARED VOTING POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
	9	SOLE DISPOSITIVE POWER -0-
	10	SHARED DISPOSITIVE POWER 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH PERSON 10,390,902 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock (including 1,417,909 shares of Common Stock issuable upon conversion of shares of Series B Convertible Preferred Stock issuable in one or more Subsequent Issuance(s))*	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 9.99%*	
14	TYPE OF REPORTING PERSON IN	

*The conversion of shares of Series B Convertible Preferred Stock reported herein is subject to the Blocker and the percentage set forth in row (13) gives effect to the Blocker. However, rows (8), (10) and (11) show the number of shares of Common Stock that would be issuable upon the conversion of the shares of Series B Convertible Preferred Stock in full and does not give effect to the Blocker. Therefore, the actual number of shares of Common Stock beneficially owned by such Reporting Person, after giving effect to the Blocker, is less than the number of securities reported in rows (8), (10) and (11).

The following constitutes Amendment No. 2 ("Amendment No. 2") to the Schedule 13D filed by the undersigned with the Securities and Exchange Commission on December 27, 2023 (the "Original Schedule 13D"), as amended by Amendment No. 1 to the Original Schedule 13D filed by the undersigned with the Securities and Exchange Commission on July 23, 2024 ("Amendment No. 1," and the Original Schedule 13D as amended by Amendment No. 1 and this Amendment No. 2, the "Schedule 13D"). This Amendment No. 2 amends the Schedule 13D as specifically set forth herein. Capitalized terms used herein and not otherwise defined in this Amendment No. 2 have the meanings set forth in the Schedule 13D.

Item 3. SOURCE AND AMOUNT OF FUNDS OR OTHER CONSIDERATION

Item 3 of the Schedule 13D is hereby amended and supplemented to include the following:

The White Hat Funds acquired the 3,000 Additional Shares (as defined below) reported herein in exchange for the Preferred Consent (as defined below) and an amount in cash equal to the par value thereof. The White Hat Funds have the option to acquire in one or more additional closings an additional 9,500 shares of Series B Convertible Preferred Stock at \$1,000 per share of Series B Convertible Preferred Stock. The source of the cash funds used to acquire the Additional Shares was the working capital of the White Hat Funds.

Item 4. PURPOSE OF TRANSACTION

Item 4 of the Schedule 13D is hereby amended and supplemented to include the following:

First Amendment to Loan Agreement

On October 25, 2024 (the "Closing Date"), certain funds affiliated with the Investment Manager (collectively, the "Lenders") entered into that certain First Amendment (the "Loan Amendment") to the Loan Agreement, with the Issuer, as borrower, Luna Technologies, Inc. and General Photonics Corp. as guarantors (together with the Issuer, the "Loan Parties"), and White Hat Lightning Opportunity LP, as agent (the "Agent"). The Loan Amendment provides for, among other things, the extension of certain incremental term facilities to the Issuer in an aggregate amount of \$15,000,000 (the "Term Loans"), bringing the resulting total Term Loan commitment to \$30,000,000, to provide funds for working capital and general corporate purposes of the Loan Parties. The Loan Amendment provides that the Loan Agreement will mature on the earlier of (i) June 30, 2025, subject to possible extension if the Issuer meets certain milestones related to a Sale Transaction (as defined in the Loan Agreement), and (ii) the date on which a Sale Transaction closes.

The Loan Amendment provides that the Loan Agreement will bear interest at a floating rate per annum equal to the Term SOFR (as defined in the Loan Amendment) plus a margin of 12%, with such interest payable monthly in cash in arrears, effective as of the Closing Date.

In connection with the Loan Amendment, on the Closing Date, the Loan Parties, Lenders, Agent and PNC Bank, National Association (“PNC”) entered into that certain First Amendment (the “Subordination Agreement Amendment”) and, together with that certain Fifth Amendment to the Loan Agreement, dated as of December 1, 2020 between the Loan Parties and PNC, the Loan Amendment and the other ancillary transaction documents executed in connection with the Loan Amendment, the “Transaction Documents”) to the Subordination and Intercreditor Agreement, dated as of July 19, 2024, to, among other things, restate the relative rights and priority of PNC and the Agent.

The foregoing description of the Loan Amendment does not purport to be complete and is qualified in its entirety by reference to the full text of the Loan Amendment. For further information regarding the Loan Amendment, reference is made to the full text of the Loan Amendment, which has been filed as Exhibit 99.5 hereto and incorporated by reference herein.

Private Placement of Series B Convertible Preferred Stock

In connection with the execution of the Transaction Documents, on the Closing Date, the holders (the “Holders”) of the Issuer’s Series B Convertible Preferred Stock entered into that certain Letter Agreement (the “Letter Agreement”) with the Issuer pursuant to which, among other things, the Holders (i) provided consent to the Issuer’s entry into the Transaction Documents (the “Preferred Consent”) as required by the terms of the outstanding Series B Convertible Preferred Stock and (ii) agreed to exercise a portion of their right to purchase, on a pro rata basis, and the Issuer agreed to issue and sell, 3,000 shares of the Series B Convertible Preferred Stock (the “Additional Shares”) in exchange for the Preferred Consent and an amount in cash equal to the par value thereof, in accordance with the Subscription Agreement, as amended by the Letter Agreement.

Following the transaction described herein, the Holders have the option to acquire in one or more additional closings an additional 9,500 shares of Series B Convertible Preferred Stock at \$1,000 per share of Series B Convertible Preferred Stock.

The foregoing description of the Letter Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Letter Agreement. For further information regarding the Letter Agreement, reference is made to the full text of the Letter Agreement, which has been filed as Exhibit 99.6 hereto and incorporated by reference herein.

Item 5. INTEREST IN SECURITIES OF THE ISSUER

Items 5(a) and (b) of the Schedule 13D are hereby amended and restated in their entirety:

- (a) See rows (11) and (13) of the cover pages to this Schedule 13D/A for the aggregate number of shares of Common Stock and percentages of shares of Common Stock beneficially owned by each of the Reporting Persons, which includes accumulated dividends through October 25, 2024. The percentages used in this Schedule 13D/A are calculated based upon an aggregate of 34,697,019 shares of Common Stock outstanding as of December 20, 2023, as described in the Subscription Agreement, and assumes the conversion of the shares of Series B Convertible Preferred Stock held by the White Hat Funds, subject to the Blocker.
- (b) See rows (7) through (10) of the cover pages to this Schedule 13D/A for the number of shares of Common Stock as to which each Reporting Person has the sole or shared power to vote or direct the vote and sole or shared power to dispose or to direct the disposition, which includes accumulated dividends through October 25, 2024.

Item 6. CONTRACTS, ARRANGEMENTS, UNDERSTANDINGS OR RELATIONSHIPS WITH RESPECT TO SECURITIES OF THE ISSUER

Item 6 of the Schedule 13D is hereby amended and supplemented to include the following:

The information set forth in Item 4 of Amendment No. 2 is hereby incorporated by reference.

Item 7. MATERIAL TO BE FILED AS EXHIBITS

Item 7 of the Schedule 13D is hereby amended and supplemented to include the following:

- Exhibit 99.5 First Amendment to Loan Agreement, dated as of October 25, 2024, by and among the Company, Luna Technologies, Inc., General Photonics Corp., White Hat Lightning Opportunity LP and certain funds affiliated with White Hat Capital Partners LP (incorporated by reference to Exhibit 10.2 of the Issuer's Current Report on Form 8-K filed with the SEC on October 29, 2024).
- Exhibit 99.6 Letter Agreement, dated as of October 25, 2024, by and among the Company and the Holders (incorporated by reference to Exhibit 10.3 of the Issuer's Current Report on Form 8-K filed with the SEC on October 29, 2024).

SIGNATURES

After reasonable inquiry and to the best of his or its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

DATE: October 29, 2024

/s/ David J. Chanley

DAVID J. CHANLEY, (i) individually, (ii) as Managing Member of: (a) WH Lightning GP LLC, (x) for itself and (y) as General Partner of White Hat Lightning Opportunity LP, (b) White Hat SP GP II LLC, (x) for itself and (y) as General Partner of White Hat Strategic Partners II LP, (c) WHSO GP LLC, (x) for itself and (y) as General Partner of White Hat Structured Opportunities LP and (d) White Hat Capital Partners GP LLC, as General Partner of White Hat Capital Partners LP.

/s/ Mark R. Quinlan

MARK R. QUINLAN, individually