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SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

**Applied Optoelectronics, Inc.**

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(Name of Issuer)

**Common Stock, Par value \$0.001 per share**

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(Title of Class of Securities)

**03823U102**

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(CUSIP Number)

**01/07/2025**

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(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

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SCHEDULE 13G

**CUSIP No.** 03823U102

Names of Reporting Persons

1

D. E. Shaw & Co., L.P.

Check the appropriate box if a member of a Group (see instructions)

2

(a)

(b)

3

Sec Use Only

Citizenship or Place of Organization

4

DELAWARE

Number of Shares 5 Sole Voting Power

Beneficially Owned by Each Reporting Person With: 0.00  
 Shared Voting Power  
 6  
 2,501,830.00  
 Sole Dispositive Power  
 7  
 0.00  
 Shared Dispositive Power  
 8  
 2,501,830.00

9 Aggregate Amount Beneficially Owned by Each Reporting Person

2,501,830.00

10 Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)

11 Percent of class represented by amount in row (9)

5.1 %

12 Type of Reporting Person (See Instructions)

IA, PN

**Comment for Type of Reporting Person:** On January 7, 2025, D. E. Shaw & Co., L.P. and David E. Shaw became the beneficial owners of more than 5% of the class of securities. On January 8, 2025, D. E. Shaw & Co., L.L.C. became the beneficial owner of more than 5% of the class of securities. The beneficial ownership information provided in this document is current as of January 8, 2025.

SCHEDULE 13G

CUSIP No. 03823U102

1 Names of Reporting Persons

D. E. Shaw & Co., L.L.C.

Check the appropriate box if a member of a Group (see instructions)

2  (a)  
 (b)

3 Sec Use Only

4 Citizenship or Place of Organization

DELAWARE

Sole Voting Power  
 5  
 0.00

Number of Shares Beneficially Owned by Each Reporting Person With: 6  
 Shared Voting Power

2,470,480.00  
 Sole Dispositive Power

7  
 0.00

8 Shared Dispositive Power

2,470,480.00

9 Aggregate Amount Beneficially Owned by Each Reporting Person

2,470,480.00

10 Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)

Percent of class represented by amount in row (9)

11

5.0 %

Type of Reporting Person (See Instructions)

12

OO

**Comment for Type of Reporting Person:** On January 7, 2025, D. E. Shaw & Co., L.P. and David E. Shaw became the beneficial owners of more than 5% of the class of securities. On January 8, 2025, D. E. Shaw & Co., L.L.C. became the beneficial owner of more than 5% of the class of securities. The beneficial ownership information provided in this document is current as of January 8, 2025.

## SCHEDULE 13G

**CUSIP No.** 03823U102

Names of Reporting Persons

1

David E. Shaw

Check the appropriate box if a member of a Group (see instructions)

2

(a)

(b)

3

Sec Use Only

Citizenship or Place of Organization

4

UNITED STATES

Sole Voting Power

5

0.00

Number of  
Shares  
Beneficially  
Owned by  
Each  
Reporting  
Person  
With:

Shared Voting Power

6

2,501,830.00

Sole Dispositive Power

7

0.00

Shared Dispositive

8

Power

2,501,830.00

Aggregate Amount Beneficially Owned by Each Reporting Person

9

2,501,830.00

Check box if the aggregate amount in row (9) excludes certain shares (See Instructions)

10

Percent of class represented by amount in row (9)

11

5.1 %

Type of Reporting Person (See Instructions)

12

IN

**Comment for Type of Reporting Person:** On January 7, 2025, D. E. Shaw & Co., L.P. and David E. Shaw became the beneficial owners of more than 5% of the class of securities. On January 8, 2025, D. E. Shaw & Co., L.L.C. became the beneficial owner of more than 5% of the class of securities. The beneficial ownership information provided in this document is current as of January 8, 2025.

## SCHEDULE 13G

### Item 1.

Name of issuer:

(a)

Applied Optoelectronics, Inc.

Address of issuer's principal executive offices:

(b)

13139 Jess Pirtle Blvd., Sugar Land, TX 77478

### Item 2.

Name of person filing:

(a)

D. E. Shaw & Co., L.P. D. E. Shaw & Co., L.L.C. David E. Shaw

Address or principal business office or, if none, residence:

(b)

The business address for each reporting person is: Two Manhattan West 375 Ninth Avenue, 52nd Floor New York, NY 10001

Citizenship:

(c)

D. E. Shaw & Co., L.P. is a limited partnership organized under the laws of the state of Delaware. D. E. Shaw & Co., L.L.C. is a limited liability company organized under the laws of the state of Delaware. David E. Shaw is a citizen of the United States of America.

Title of class of securities:

(d)

Common Stock, Par value \$0.001 per share

CUSIP No.:

(e)

03823U102

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

(a)

Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);

(b)

Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);

(c)

Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);

(d)

Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);

(e)

An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);

(f)

An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);

(g)

A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);

(h)

A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);

(i)

A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);

(j)

A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J). If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

(k)

Group, in accordance with Rule 240.13d-1(b)(1)(ii)(K).

### Item 4. Ownership

(a)

Amount beneficially owned:

D. E. Shaw & Co., L.P.: 2,501,830 shares This is composed of (i) 1,421,445 shares in the name of D. E. Shaw Valence Portfolios, L.L.C., (ii) 224,800 shares that D. E. Shaw Valence Portfolios, L.L.C. has the right to acquire through the exercise of call options, (iii) 761,835 shares in the name of D. E. Shaw Oculus Portfolios, L.L.C., (iv) 62,300 shares in the name of D. E. Shaw Composite Portfolios, L.L.C., and (v) 31,450 shares under the management of D. E. Shaw Investment Management, L.L.C. D. E. Shaw & Co., L.L.C.: 2,470,480 shares This is composed of (i) 1,421,445 shares in the name of D. E. Shaw Valence Portfolios, L.L.C., (ii) 224,800 shares that D. E. Shaw Valence Portfolios, L.L.C. has the right to acquire through the exercise of call options, (iii) 761,835 shares in the name of D. E. Shaw Oculus Portfolios, L.L.C., (iv) 62,300 shares in the name of D. E. Shaw Composite Portfolios, L.L.C., and (v) 100 shares in the name of D. E. Shaw Investment Management Special Investment Fund, L.L.C. David E. Shaw: 2,501,830 shares This is composed of (i) 1,421,445 shares in the name of D. E. Shaw Valence Portfolios, L.L.C., (ii) 224,800 shares that D. E. Shaw Valence Portfolios, L.L.C. has the right to acquire through the exercise of call options, (iii) 761,835 shares in the name of D. E. Shaw Oculus Portfolios, L.L.C., (iv) 62,300 shares in the name of

D. E. Shaw Composite Portfolios, L.L.C., and (v) 31,450 shares under the management of D. E. Shaw Investment Management, L.L.C. David E. Shaw does not own any shares directly. By virtue of David E. Shaw's position as President and sole shareholder of D. E. Shaw & Co., Inc., which is the general partner of D. E. Shaw & Co., L.P., which in turn is the investment adviser of D. E. Shaw Valence Portfolios, L.L.C., D. E. Shaw Oculus Portfolios, L.L.C., and D. E. Shaw Composite Portfolios, L.L.C. and the managing member of D. E. Shaw Investment Management, L.L.C., which in turn is the investment adviser of D. E. Shaw Investment Management Special Investment Fund, L.L.C., and by virtue of David E. Shaw's position as President and sole shareholder of D. E. Shaw & Co. II, Inc., which is the managing member of D. E. Shaw & Co., L.L.C., which in turn is the manager of D. E. Shaw Valence Portfolios, L.L.C., D. E. Shaw Oculus Portfolios, L.L.C., D. E. Shaw Composite Portfolios, L.L.C., and D. E. Shaw Investment Management Special Investment Fund, L.L.C., David E. Shaw may be deemed to have the shared power to vote or direct the vote of, and the shared power to dispose or direct the disposition of, the 2,501,830 shares as described above constituting 5.1% of the outstanding shares, and, therefore, David E. Shaw may be deemed to be the beneficial owner of such shares. David E. Shaw disclaims beneficial ownership of such 2,501,830 shares.

Percent of class:

(b)

D. E. Shaw & Co., L.P.: 5.1 % D. E. Shaw & Co., L.L.C.: 5.0 % David E. Shaw: 5.1 %

(c)

Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote:

D. E. Shaw & Co., L.P.: 0 shares D. E. Shaw & Co., L.L.C.: 0 shares David E. Shaw: 0 shares

(ii) Shared power to vote or to direct the vote:

D. E. Shaw & Co., L.P.: 2,501,830 shares D. E. Shaw & Co., L.L.C.: 2,470,480 shares David E. Shaw: 2,501,830 shares

(iii) Sole power to dispose or to direct the disposition of:

D. E. Shaw & Co., L.P.: 0 shares D. E. Shaw & Co., L.L.C.: 0 shares David E. Shaw: 0 shares

(iv) Shared power to dispose or to direct the disposition of:

D. E. Shaw & Co., L.P.: 2,501,830 shares D. E. Shaw & Co., L.L.C.: 2,470,480 shares David E. Shaw: 2,501,830 shares

Item 5. Ownership of 5 Percent or Less of a Class.

Item 6. Ownership of more than 5 Percent on Behalf of Another Person.

Not Applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

Not Applicable

Item 8. Identification and Classification of Members of the Group.

Not Applicable

Item 9. Notice of Dissolution of Group.

Not Applicable

Item 10. Certifications:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under ?? 240.14a-11.

#### SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

D. E. Shaw & Co., L.P.

Signature: /s/ Daniel R. Marcus

Name/Title: Daniel R. Marcus / Chief Compliance Officer

Date: 01/15/2025

D. E. Shaw & Co., L.L.C.

Signature: /s/ Daniel R. Marcus

Name/Title: Daniel R. Marcus / Authorized Signatory

Date: 01/15/2025

David E. Shaw

Signature: /s/ Daniel R. Marcus

Name/Title: Daniel R. Marcus / Attorney-in-Fact for David E. Shaw

Date: 01/15/2025

**Comments accompanying signature:** Exhibit 1: Power of Attorney, granted by David E. Shaw relating to D. E. Shaw & Co., Inc., in favor of the signatories hereto, among others, dated August 1, 2024. Exhibit 2: Power of Attorney, granted by David E. Shaw relating to D. E. Shaw & Co. II, Inc., in favor of the signatories hereto, among others, dated August 1, 2024.

**Exhibit Information**

Exhibit 3: Joint Filing Agreement, by and among the Reporting Persons, dated January 15, 2025.

**EXHIBIT 1**

POWER OF ATTORNEY  
FOR CERTAIN REGULATORY FILINGS  
INCLUDING CERTAIN FILINGS  
UNDER THE SECURITIES EXCHANGE ACT OF 1934  
AND THE INVESTMENT ADVISERS ACT OF 1940

I, David E. Shaw, hereby make, constitute, and appoint each of

Adam Deaton,  
Anne Dinning,  
Edward Fishman,  
Alexis Halaby,  
Edwin Jager,  
Martin Lebwohl,  
Daniel Marcus,  
Anoop Prasad,  
Maximilian Stone, and  
David Sweet,

acting individually in such person's capacity as an employee of D. E. Shaw & Co., L.P. or one of its subsidiaries, as my agent and attorney-in-fact, with full power of substitution, for the purpose of, from time to time, (i) executing in my name, in my capacity as President of D. E. Shaw & Co., Inc. (acting for itself or as the general partner of D. E. Shaw & Co., L.P. and general partner, managing member, or manager of other entities, any of which in turn may be acting for itself or other entities), all documents, certificates, instruments, statements, other filings, and amendments to the foregoing (collectively, "documents") determined by such person to be necessary or appropriate to comply with any registration or regulatory disclosure requirements and/or ownership or control-person reporting requirements imposed by any U.S. or non-U.S. governmental or regulatory authority, including without limitation Form ADV, Forms 3, 4, 5, and 13F, and Schedules 13D and 13G required to be filed with the U.S. Securities and Exchange Commission, and/or (ii) delivering, furnishing, or filing, in each case whether themselves or through their designee, any such documents to or with the appropriate governmental or regulatory authority. Any such determination shall be conclusively evidenced by such person's execution of, and/or their (or their designee's) delivery, furnishing, and/or filing of, the applicable document.

This power of attorney shall be valid as of the date set forth below and replaces the power granted on March 1, 2017, which is hereby cancelled. Furthermore, this power of attorney shall be valid with respect to any particular individual set forth above only for so long as such person remains employed by D. E. Shaw & Co., L.P. or one of its subsidiaries.

IN WITNESS HEREOF, I have executed this instrument as of the date set forth below.

Date: August 1, 2024

/s/ David E. Shaw

David E. Shaw,  
as President of D. E. Shaw & Co., Inc.

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**EXHIBIT 2**

POWER OF ATTORNEY  
FOR CERTAIN REGULATORY FILINGS  
INCLUDING CERTAIN FILINGS  
UNDER THE SECURITIES EXCHANGE ACT OF 1934  
AND THE INVESTMENT ADVISERS ACT OF 1940

I, David E. Shaw, hereby make, constitute, and appoint each of

Adam Deaton,  
Anne Dinning,  
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Alexis Halaby,  
Edwin Jager,  
Martin Lebwohl,  
Daniel Marcus,  
Anoop Prasad,  
Maximilian Stone, and  
David Sweet,

acting individually in such person's capacity as an employee of D. E. Shaw & Co., L.P. or one of its subsidiaries, as my agent and attorney-in-fact, with full power of substitution, for the purpose of, from time to time, (i) executing in my name, in my capacity as President of D. E. Shaw & Co. II, Inc. (acting for itself or as the managing member of D. E. Shaw & Co., L.L.C. and general partner, managing member, or manager of other entities, any of which in turn may be acting for itself or other entities), all documents, certificates, instruments, statements, other filings, and amendments to the foregoing (collectively, "documents") determined by such person to be necessary or appropriate to comply with any registration or regulatory disclosure requirements and/or ownership or control-person reporting requirements imposed by any U.S. or non-U.S. governmental or regulatory authority, including without limitation Form ADV, Forms 3, 4, 5, and 13F, and Schedules 13D and 13G required to be filed with the U.S. Securities and Exchange Commission, and/or (ii) delivering, furnishing, or filing, in each case whether themselves or through their designee, any such documents to or with the appropriate governmental or regulatory authority. Any such determination shall be conclusively evidenced by such person's execution of, and/or their (or their designee's) delivery, furnishing, and/or filing of, the applicable document.

This power of attorney shall be valid as of the date set forth below and replaces the power granted on March 1, 2017, which is hereby cancelled. Furthermore, this power of attorney shall be valid with respect to any particular individual set forth above only for so long as such person remains employed by D. E. Shaw & Co., L.P. or one of its subsidiaries.

IN WITNESS HEREOF, I have executed this instrument as of the date set forth below.

Date: August 1, 2024

/s/ David E. Shaw

David E. Shaw,  
as President of D. E. Shaw & Co. II, Inc.

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**EXHIBIT 3**

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended, each of the undersigned Reporting Persons hereby agrees to the joint filing, along with all other such Reporting Persons, on behalf of each of them of a statement on Schedule 13G (including amendments thereto) with respect to the Common Stock, Par value \$0.001 per share, of Applied Optoelectronics, Inc., and that this Agreement be included as an Exhibit to such joint filing. This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, each of the undersigned hereby executes this Agreement as of this 15th day of January, 2025.

D. E. Shaw & Co., L.P.

By: /s/ Daniel R. Marcus  
Daniel R. Marcus  
Chief Compliance Officer

D. E. Shaw & Co., L.L.C.

By: /s/ Daniel R. Marcus  
Daniel R. Marcus  
Authorized Signatory

David E. Shaw

By: /s/ Daniel R. Marcus  
Daniel R. Marcus  
Attorney-in-Fact for David E. Shaw

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