### AEYE, INC.

#### Up to 30,865,419 Shares of Common Stock

This prospectus supplement (this "Supplement") supplements the prospectus dated May 16, 2022 (as may be supplemented from time to time, the "Prospectus"), which is part of a registration statement on Form S-1 (File No. 333-264727) relating to the offer and resale of up to 30,865,419 shares of common stock of AEye, Inc. (the "Common Stock") by Tumim Stone Capital LLC (the "Selling Securityholder" or "Tumim"). The shares of Common Stock being offered by Tumim have been and may be issued pursuant to the purchase agreement dated December 8, 2021 that we entered into with Tumim (the "Purchase Agreement"). We are not selling any securities under the Prospectus and will not receive any of the proceeds from the sale of our Common Stock by Tumim. However, we may receive up to \$125.0 million in aggregate gross proceeds from sales of our Common Stock to Tumim that we may make under the Purchase Agreement from time to time after the date of the Prospectus. On December 8, 2021, we issued 302,634 shares of our Common Stock (the "Commitment Shares"), to Tumim as consideration for its irrevocable commitment to purchase shares of our Common Stock under the Purchase Agreement. See the sections entitled "The Tumim Transaction" in the Prospectus for a description of the transaction contemplated by the Purchase Agreement and "Selling Stockholder" in the Prospectus for additional information regarding Tumim.

This Supplement is being filed to update and supplement the information in the Prospectus with the information contained in the Form 8-K filed with the Securities and Exchange Commission on August 24, 2022.

This Supplement is not complete without, and may not be delivered or utilized except in connection with, the Prospectus. This Supplement should be read in conjunction with the Prospectus, and if there is any inconsistency between the information in the Prospectus and this Supplement, you should rely on the information in this Supplement.

Tumim may sell the shares of our Common Stock included in the Prospectus in a number of different ways and at varying prices. We provide more information about how Tumim may sell the shares in the section in the Prospectus entitled "Plan of Distribution." Tumim is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the "Securities Act").

Tumim will pay all sales and brokerage commissions and similar expenses in connection with the offer and resale of the Common Stock by Tumim pursuant to the Prospectus. We will pay the expenses (except sales and brokerage commissions and similar expenses) incurred in registering under the Securities Act the offer and resale of the shares included in the Prospectus by Tumim, including legal and accounting fees. See "Plan of Distribution" in the Prospectus.

We are an "emerging growth company" as defined in Section 2(a) of the Securities Act, and are subject to reduced public company reporting requirements. The Prospectus complies with the requirements that apply to an issuer that is an emerging growth company.

Our Common Stock is listed on The Nasdaq Stock Market LLC ("Nasdaq") under the symbols "LIDR." On August 23, 2022, the closing price of our Common Stock was \$1.72 per share.

Our business and investment in our Common Stock and Warrants involve significant risks. These risks are described in the section titled "Risk Factors" beginning on page 11 of the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of the Prospectus. Any representation to the contrary is a criminal offense.

The date of this Supplement is August 24, 2022.

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

### FORM 8-K

# CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 18, 2022

	AEYE, INC.	
(E	exact name of registrant as specifie	d in its charter)
Delaware	001-39699	37-1827430
(State or other jurisdiction of incorporation)	(Commission File Nun	nber) (IRS Employer Identification No.)
One Park Place, Suite 200, Du	,	94568
(Address of principal executive offices)		(Zip Code)
	's telephone number, including are	
	Nome or Former Address if Chance	ped Since Last Report)
(Former )	Name or Former Address, if Chang	500 Since East Reports
Check the appropriate box below if the Form 8-K filin following provisions:   Written communications pursuant to Rule 425 u	g is intended to simultaneously saturder the Securities Act (17 CFR 2	tisfy the filing obligations of the registrant under any of the 330.425)
Check the appropriate box below if the Form 8-K filin following provisions:  Written communications pursuant to Rule 425 und Soliciting material pursuant to Rule 14a-12 und	g is intended to simultaneously sat under the Securities Act (17 CFR 2 er the Exchange Act (17 CFR 240.	tisfy the filing obligations of the registrant under any of the 30.425)
Check the appropriate box below if the Form 8-K filin following provisions:  Written communications pursuant to Rule 425 u Soliciting material pursuant to Rule 14a-12 und Pre-commencement communications pursuant t	g is intended to simultaneously sat under the Securities Act (17 CFR 2 er the Exchange Act (17 CFR 240 to Rule 14d-2(b) under the Exchange	tisfy the filing obligations of the registrant under any of the (30.425) (.14a-12) ge Act (17 CFR 240.14d-2(b))
Check the appropriate box below if the Form 8-K filin following provisions:  ☐ Written communications pursuant to Rule 425 to Soliciting material pursuant to Rule 14a-12 und	g is intended to simultaneously sat under the Securities Act (17 CFR 2 er the Exchange Act (17 CFR 240 to Rule 14d-2(b) under the Exchange	tisfy the filing obligations of the registrant under any of the (30.425) (.14a-12) ge Act (17 CFR 240.14d-2(b))
Check the appropriate box below if the Form 8-K filin following provisions:  Written communications pursuant to Rule 425 u Soliciting material pursuant to Rule 14a-12 und Pre-commencement communications pursuant to Pre-commencement communications pursuant to Securities registered pursuant to Section 12(b) of the A	g is intended to simultaneously saturder the Securities Act (17 CFR 240 or Rule 14d-2(b) under the Exchange Rule 13e-4(c) under the Exchange Act:	tisfy the filing obligations of the registrant under any of the 30.425) .14a-12) ge Act (17 CFR 240.14d-2(b)) ge Act (17 CFR 240.13e-4(c))
Check the appropriate box below if the Form 8-K filin following provisions:  Written communications pursuant to Rule 425 u Soliciting material pursuant to Rule 14a-12 und Pre-commencement communications pursuant t	g is intended to simultaneously saturder the Securities Act (17 CFR 2 er the Exchange Act (17 CFR 240 o Rule 14d-2(b) under the Exchango Rule 13e-4(c) under the Exchange	tisfy the filing obligations of the registrant under any of the (30.425) (.14a-12) ge Act (17 CFR 240.14d-2(b))
Check the appropriate box below if the Form 8-K filin following provisions:  Written communications pursuant to Rule 425 u Soliciting material pursuant to Rule 14a-12 und Pre-commencement communications pursuant to Pre-commencement communications pursuant to Securities registered pursuant to Section 12(b) of the A	g is intended to simultaneously saturder the Securities Act (17 CFR 240 or Rule 14d-2(b) under the Exchange Rule 13e-4(c) under the Exchange Act:	tisfy the filing obligations of the registrant under any of the 30.425) .14a-12) ge Act (17 CFR 240.14d-2(b)) ge Act (17 CFR 240.13e-4(c))

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new

or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.  $\Box$ 

## Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On August 18, 2022, Thomas R. Tewell, our Chief Operating Officer, notified us of his resignation from employment at AEye, Inc. (the "Company"), effective August 26, 2022, to accept a position at an employer in an unrelated industry. Mr. Tewell's resignation did not result from any disagreement with the Company concerning any matter relating to the Company's operations, policies or practices. The Company thanks Mr. Tewell for his contributions and wishes him well in his new endeavor in his home state of Texas. Following his separation from service, Mr. Tewell is expected to join the Company's Advisory Board.

#### Item 8.01 Other Events.

On August 24, 2022, the Company disclosed that each of Blair LaCorte, its Chief Executive Officer and a director, Luis C. Dussan, its Chief Technology Officer and a director, Jennifer Dussan, the spouse of Luis C. Dussan, and Robert A. Brown, its Chief Financial Officer, entered into his or her own stock trading plan with a brokerage firm designed to comply with Rule 10b5-1 of the Securities and Exchange Act of 1934, as amended (each, a "Plan," and collectively, the "Plans"). Rule 10b5-1 trading plans permit individuals who are not in possession of material non-public information to adopt a written pre-arranged plan for transactions in securities under specified conditions and for specified periods of time.

Rule 10b5-1 plans are commonly used as a part of an individual's long-term asset diversification, tax, and financial planning strategy. Each of the Plans are in accordance with the Company's Insider Trading Policy. Under the terms of each of the Plans, the participant will have no discretion or control over the timing or effectuation of any transactions in Company securities pursuant to their respective Plan.

Each of Messrs. LaCorte, Dussan, and Brown continue to be subject to the Company's stock ownership guidelines, under which each is required to hold Company stock equal in value to at least four times the applicable base salary in the case of Mr. LaCorte, and at least two times the applicable base salary in the cases of Messrs. Dussan and Brown, commencing on the five-year anniversary of their employment with the Company. Upon the conclusion of each monthly sale transaction under the Plan, the participants will continue to satisfy the requirements of the Company's stock ownership guidelines.

Messrs. LaCorte and Brown entered into their respective Plans on May 20, 2022, and the first sale will occur no earlier than September 6, 2022, under Mr. LaCorte's Plan, and no earlier than August 23, 2022, under Mr. Brown's Plan. Mr. and Mrs. Dussan entered into their respective Plans on June 8, 2022, and the first sale will occur no earlier than September 1, 2022, under either of these Plans. Each of the Plans were reviewed and approved by the Company's Audit Committee.

Any transactions under each of the Plans will be disclosed through Form 144 and Form 4 filings with the Securities and Exchange Commission to the extent required by law. Except as required by law, the Company does not undertake to report any other Rule 10b5-1 trading plans that may be adopted by any officers, directors, or other stockholders in the future or to report any modifications or terminations of any publicly announced trading plan.

### **SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

AEye, Inc.

Dated: August 24, 2022

By: /s/ Andrew S. Hughes

Andrew S. Hughes

Senior Vice President, General Counsel & Corporate Secretary