

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
POST-EFFECTIVE AMENDMENT NO. 2 TO
FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933
Luminar Technologies, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation or organization)

83-1804317
(I.R.S. Employer
Identification Number)

2603 Discovery Drive, Suite 100
Orlando, Florida 32826
(800) 532-2417

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

Austin Russell
President and Chief Executive Officer
2603 Discovery Drive, Suite 100
Orlando, Florida 32826
(800) 532-2417

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

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Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

☐

Non-accelerated filer

☒

Accelerated filer

☐

Smaller reporting company

☒

Emerging growth company

☐

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 7(a)(2)(B) of the Securities Act. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Post-Effective Amendment No. 2 (“Post-Effective Amendment No. 2”) to the Registration Statement on Form S-3ASR (Registration No. 333-279118) (the “Original Registration Statement”) is being filed to convert the Original Registration Statement, as amended by Post-Effective Amendment No. 1 filed on March 28, 2025 (“Post-Effective Amendment No. 1”), to the proper submission type for a non-automatic shelf registration statement. All filing fees with respect to the registration of the securities registered hereunder were previously paid by the registrant in connection with Post-Effective Amendment No. 1.

This Post-Effective Amendment No. 2 contains two prospectuses:

- a base prospectus which covers the offering, issuance and sale by the registrant of up to \$100,000,000 of the registrant’s Class A common stock, preferred stock, debt securities, warrants and/or units from time to time in one or more offerings, none of which have been issued or sold as of the date hereof; and
- a financing agreement prospectus (the “financing agreement prospectus”) which covers the offering, issuance and sale by the registrant of (a) \$75,000,000 of new shares of Class A common stock that may be issued and sold from time to time under the financing agreement with Virtu Americas LLC (the “Financing Agreement”) and (b) Class A common stock having a maximum aggregate offering price of \$134,000,000 covered by previously filed prospectus supplements, dated May 3, 2024 and August 8, 2024, included under the Original Registration Statement (the “Prior Prospectus Supplements”) that remain unsold as of the date of this Post-Effective Amendment No. 2 and that may be issued and sold from time to time under the Financing Agreement. No further offerings will be made under Prior Prospectus Supplements.

Upon the effectiveness of this Post-Effective Amendment No. 2 (as such may be further updated in subsequent amendments), no further offerings will be made under the prospectuses contained in Post-Effective Amendment No. 1.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus.

The specific terms of the securities to be issued and sold under the financing agreement are specified in the financing agreement prospectus that immediately follows the base prospectus.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated April 1, 2025

PROSPECTUS



Luminar Technologies, Inc.

**\$100,000,000
of
Class A Common Stock
Preferred Stock
Debt Securities
Warrants
Units**

From time to time, we may offer and sell up to \$100,000,000 of any combination of the securities described in this prospectus in one or more offerings. The securities we may offer may be convertible into or exercisable or exchangeable for other securities or may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable antidilution provisions. We may offer the securities separately or together, in separate classes, series and in amounts, at prices and on terms that will be determined at the time the securities are offered.

This prospectus describes some of the general terms that may apply to these securities. Each time securities are sold, the specific terms and amounts of the securities being offered, and any other information relating to the specific offering, will be set forth in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before you invest in any of the securities being offered. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement.

Our Class A common stock is traded on the Nasdaq Global Select Market under the symbol "LAZR". On March 31, 2025, the last reported sale price of our Class A common stock was \$5.39 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, of the securities covered by the applicable prospectus supplement.

We may offer and sell our securities to or through one or more underwriters, dealers and agents, or directly to one or more purchasers, on a continuous or delayed basis. The names of any underwriters, dealers or agents and the terms of the arrangements with such entities will be stated in the accompanying prospectus supplement. See the sections of this prospectus entitled "About this Prospectus" and "Plan of Distribution" for more information. The price to the public of our securities and the net proceeds we expect to receive from the sale of such securities will also be set forth in a prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading ["Risk Factors"](#) on page 2 of this prospectus as well as those contained in the applicable prospectus supplement and any related free writing prospectus, and in the other documents that are incorporated by reference into this prospectus or the applicable prospectus supplement and any related free writing prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2025.

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We are responsible for the information contained and incorporated by reference in this prospectus, in any accompanying prospectus supplement, and in any related free writing prospectus we prepare or authorize. We have not authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. If you are in a jurisdiction where offers to sell, or solicitations of offers to purchase, the securities offered by this documentation are unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this document does not extend to you. The information contained in this document speaks only as of the date of this document, unless the information specifically indicates that another date applies. Neither the delivery of this prospectus or any accompanying prospectus supplement, nor any sale of securities made under these documents, will, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus, any accompanying prospectus supplement or any free writing prospectus we may provide you in connection with an offering or that the information contained or incorporated by reference is correct as of any time subsequent to the date of such information. You should assume that the information in this prospectus or any accompanying prospectus supplement, as well as the information incorporated by reference in this prospectus or any accompanying prospectus supplement, is accurate only as of the date of the documents containing the information, unless the information specifically indicates that another date applies. Our business, financial condition, results of operations and prospects may have changed since those dates.

ABOUT THIS PROSPECTUS

This prospectus provides you with a general description of our securities being offered. You should read this prospectus together with the additional information described under the heading “Where You Can Find Additional Information” and “Incorporation of Certain Information by Reference” before you invest in our securities.

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission (the “SEC”), using a “shelf” registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to a total dollar amount of \$100 million as described in this prospectus. This prospectus only provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain more specific information about the specific terms of the offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement. Each such prospectus supplement and any free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents incorporated by reference into this prospectus. If this prospectus is inconsistent with the prospectus supplement, you should rely upon the prospectus supplement. This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement.

We have not authorized anyone to provide you with information in addition to or different from that contained in this prospectus, any applicable prospectus supplement and any related free writing prospectus. We take no responsibility for, and can provide no assurances as to the reliability of, any information not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find Additional Information.”

This prospectus incorporates by reference, and any prospectus supplement or free writing prospectus may contain and incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any prospectus supplement or any applicable free writing prospectus may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “Risk Factors” contained in this prospectus, the applicable prospectus supplement and any applicable free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

Unless otherwise mentioned or unless the context requires otherwise, throughout this prospectus, any applicable prospectus supplement and any related free writing prospectus, the words “Luminar”, “we”, “us”, “our”, the “company” or similar references refer to Luminar Technologies, Inc. and its subsidiaries; and the term “securities” refers collectively to our Class A common stock, preferred stock, warrants, debt securities, or any combination of the foregoing securities.

We own various U.S. federal trademark registrations and applications and unregistered trademarks, including our corporate logo. This prospectus and the information incorporated herein by reference contains references to trademarks, service marks and trade names owned by us or other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus and the information incorporated herein, including logos, artwork, and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names. We do not intend our use or display of other companies' trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus, any applicable prospectus supplement or any related free writing prospectus are the property of their respective owners.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and any related free writing prospectus, including the information incorporated by reference herein and therein, contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potentially,” “predict,” “project,” “seek,” “should,” “target,” “will,” “would,” or the negative of these words or other comparable terminology.

These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including, our history of losses and our expectation that we will continue to incur significant expenses, including substantial research and development (“R&D”) costs, and continuing losses for the foreseeable future as well as our limited operating history which makes it difficult to evaluate our future prospects and the risks and challenges we may encounter; our strategic initiatives which may prove more costly than we currently anticipate and potential failure to increase our revenue to offset these initiatives; whether our LiDAR products are or will continue to be selected for inclusion in autonomous driving or advanced driving assistance systems (“ADAS”) by automotive original equipment manufacturers (“OEMs”) or their suppliers, and whether we will be de-selected by any customers; the lengthy period of time from a major commercial win to implementation and the risks of cancellation or postponement of the contract or unsuccessful implementation; potential inaccuracies in our forward looking estimates of certain metrics, our future cost of goods sold (“COGS”) and bill of materials (“BOM”) and total addressable market; the discontinuation, lack of success of our customers in developing and commercializing products using our solutions or loss of business with respect to a particular vehicle model or technology package and whether end automotive consumers will demand and be willing to pay for such features; our ability to successfully fund our growth if there are considerable delays in product introductions by us or our OEM customers may face with their products; our inability to reduce and control the cost of the inputs on which we rely, which could negatively impact the adoption of our products and our profitability; the effect of continued pricing pressures, competition from other LiDAR manufacturers, OEM cost reduction initiatives and the ability of automotive OEMs to re-source or cancel vehicle or technology programs which may result in lower than anticipated margins, or losses, which may adversely affect our business; the effect of general economic conditions, including inflation, recession risks and rising interest rates, generally and on our industry and us in particular, including the level of demand and financial performance of the autonomous vehicle industry and the decline in fair value of available-for-sale debt securities in a rising interest rate environment; market adoption of LiDAR as well as developments in alternative technology and the increasingly competitive environment in which we operate, which includes established competitors and market participants that have substantially greater resources; our ability to achieve technological feasibility and commercialize our software products and the requirement to continue to develop new products and product innovations due to rapidly changing markets and government regulations of such technologies; our ability to build, launch, receive regulatory approval, sell, and service insurance products as well as market and differentiate the benefits of LiDAR-based ADAS to consumers; our ability to manage our growth and expand our business operations effectively, including into international markets, such as China, which exposes us to operational, financial, regulatory and geopolitical risks; changes in our government contracts business and our defense customers’ business due to political change and global conflicts; adverse impacts due to limited availability and quality of materials, supplies, and capital equipment, or dependency on third-party service providers and single-source suppliers; the project-based nature of our orders, which can cause our results of operations to fluctuate on a quarterly and annual basis; whether we will be able to successfully transition our engineering designs into high volume manufacturing, including our ability to transition to an outsourced manufacturing business model and whether we and our outsourcing partners and suppliers can successfully operate complex machinery; whether we can successfully select, execute or integrate our acquisitions; defects, reliability and other issues with our products which could reduce market adoption of our new products, limit our ability to manufacture, damage our reputation and expose us to product liability, warranty and other claims; our ability to maintain and adequately manage our

inventory; our ability to maintain an effective system of internal control over financial reporting; our ability to protect and enforce our intellectual property rights; availability of qualified personnel, loss of highly skilled personnel; the impact of inflation and our stock price on our ability to hire and retain highly skilled personnel; the amount and timing of future sales and whether the average selling prices of our products could decrease rapidly over the life of the product as well as our dependence on a few key customers, who are often large corporations with substantial negotiating power; our ability to establish and maintain confidence in our long-term business prospects among customers and analysts and within our industry; whether we are subject to negative publicity; the effects of infectious diseases, health epidemics, pandemics and natural disasters on Luminar's business; interruption or failure of our information technology and communications systems; cybersecurity risks to our operational systems, security systems, infrastructure, integrated software in our LiDAR solutions; market instability exacerbated by geopolitical conflicts, including the Israel-Hamas war and the conflict between Russia and Ukraine; trade disputes with China and other countries, and including the effect of sanctions and trade restrictions, such as tariffs imposed by the U.S. government and any countermeasures by other governments in respect to such tariffs, that may affect supply chain or sales opportunities or overall demand; the large amount of our outstanding indebtedness and our ability to access sources of capital to repay our indebtedness and finance operations and growth; our ability to maintain compliance with the Nasdaq continued listing standards for the listing of our Class A common stock; and those other factors discussed in the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K. You should specifically consider the numerous risks outlined in "Risk Factors" in our most recent annual report on Form 10-K and subsequent documents and reports we file with the SEC.

Given these uncertainties, you should not place undue reliance on these forward-looking statements as actual events or results may differ materially from those projected in the forward-looking statements. Our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements contained in this prospectus, in the documents incorporated by reference herein and in any prospectus supplement by these cautionary statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law, you are advised to review any additional disclosures we make in the documents we subsequently file with the SEC that are incorporated by reference in this prospectus and any prospectus supplement. See "Where You Can Find Additional Information."

OUR COMPANY

Luminar is a technology company specializing in advanced Light Detection and Ranging (LiDAR) hardware and software solutions to enable the world's safest and smartest vehicles. Over the past decade, Luminar has been developing proprietary LiDAR hardware, core semiconductor components and software in-house to meet the demanding performance, safety, reliability and cost requirements to enable next-generation safety and autonomous capabilities for passenger and commercial vehicles, as well as other adjacent markets.

The global automotive and mobility sector is increasingly focused on safety and autonomy, specifically next-generation advanced driver assistance systems, or ADAS, and highway autonomy for passenger and commercial vehicles. Our LiDAR technology provides increased situational awareness in a broad range of driving environments through improved and higher confidence detection and planning at all vehicle speeds. Beyond sensor hardware, our product portfolio has expanded to include semiconductor components of our LiDAR that have utility in adjacent markets, in-development software capabilities such as perception and high-definition "3D" mapping, all of which we anticipate will monetize the ecosystem of improved safety and autonomy created by our LiDAR.

We were incorporated in the State of Delaware in August 2018 as a special purpose acquisition company under the name Gores Metropoulos, Inc. On February 5, 2019, we completed our initial public offering. On December 2, 2020, we consummated the business combination (the "Business Combination") pursuant to the Agreement and Plan of Merger (the "Merger Agreement"), dated August 24, 2020, with the pre-Business Combination Luminar Technologies, Inc. ("Legacy Luminar"). Legacy Luminar was incorporated in Delaware on March 31, 2015. In connection with the consummation of the Business Combination, we changed our name from Gores Metropoulos, Inc. to Luminar Technologies, Inc.

Our principal executive offices are located at 2603 Discovery Drive, Suite 100, Orlando, Florida 32826. Our telephone number is (800) 532-2417. Our website address is www.luminartech.com. Information contained on our website or connected thereto does not constitute part of, and is not incorporated by reference into, this prospectus or the registration statement of which it forms a part. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before making a decision to invest in our securities, you should carefully consider the risks described under the heading “Risk Factors” in the applicable prospectus supplement and any related free writing prospectus, and discussed under “Part I, Item 1A. Risk Factors” contained in our most recent annual report on Form 10-K, as supplemented and updated by subsequent Quarterly Reports on Form 10-Q and Current Reports on Form 8-K that we have filed or will file with the SEC, as well as any amendments thereto, which are incorporated by reference into this prospectus and the applicable prospectus supplement in their entirety, together with other information in this prospectus and the applicable prospectus supplement, the documents incorporated by reference herein and therein, and any free writing prospectus that we may authorize for use in connection with a specific offering. See “Where You Can Find Additional Information.”

We could be materially and adversely affected by any or all of these risks or by additional risks and uncertainties not presently known to us or that we currently deem immaterial that may adversely affect us or a particular offering in the future.

USE OF PROCEEDS

Unless otherwise indicated in a prospectus supplement, we intend to use the net proceeds from the sale of securities offered by this prospectus and any applicable prospectus supplement for general corporate purposes. General corporate purposes may include, but are not limited to, stock repurchases, repayment or refinancing of indebtedness, additions to working capital, capital expenditures, investments in our subsidiaries, and the financing of acquisitions of complementary businesses, technologies, or other assets.

DESCRIPTION OF OUR CAPITAL STOCK

General

The following is a summary of the rights of our common stock and preferred stock and certain provisions of our second amended and restated certificate of incorporation, as amended on February 27, 2024 and November 20, 2024, and our amended and restated bylaws as they are currently in effect, which we refer to in this section as our certificate of incorporation and bylaws, respectively. This summary does not purport to be complete and is qualified in its entirety by the provisions of our second amended and restated certificate of incorporation, as amended and amended and restated bylaws, copies of which have been filed with the SEC.

Our authorized capital stock consists of 846,000,000 shares, of which 715,000,000 shares, par value \$0.0001 per share, are designated as Class A common stock (“Class A Stock”), 121,000,000 shares, par value \$0.0001 per share, are designated as Class B common stock (“Class B Stock”) and 10,000,000 shares, par value \$0.0001 per share, are designated as preferred stock.

Common Stock

Holders of Class A Stock are entitled to one vote per share and holders of Class B Stock are entitled to ten votes per share, on all matters submitted to a vote of stockholders. The holders of Class A Stock and Class B Stock will generally vote together as a single class on all matters submitted to a vote of stockholders, unless otherwise required by Delaware law or our certificate of incorporation. Delaware law could require either holders of Class A Stock or Class B Stock to vote separately as a single class in the following circumstances:

- if we were to seek to amend the certificate of incorporation to increase or decrease the par value of a class of the capital stock, then that class would be required to vote separately to approve the proposed amendment; and
- if we were to seek to amend the certificate of incorporation in a manner that alters or changes the powers, preferences, or special rights of a class of capital stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Conversion

Each outstanding share of Class B Stock is convertible at any time at the option of the holder into one share of Class A Stock. In addition, each share of Class B Stock will convert automatically into one share of Class A Stock upon any transfer, whether or not for value, except for certain permitted transfers described in the paragraph that immediately follows this paragraph and further described in the certificate of incorporation. Once converted into Class A Stock, the Class B Stock will not be reissued.

A transfer of Class B Stock will not trigger an automatic conversion of such stock to Class A Stock if it is a permitted transfer. A permitted transfer is a transfer by certain holders of Class B Stock to any of the persons or entities listed in clauses “(i)” through “(v)” below, each referred to herein as a Permitted Transferee, and from any such Permitted Transferee back to such holder of Class B Stock and/or any other Permitted Transferee established by or for such holder of Class B Stock: (i) to a trust for the benefit of the holder of Class B Stock and over which such holder of Class B Stock retains sole dispositive power and voting control, provided the holder of Class B Stock does not receive consideration in exchange for the transfer (other than as a settlor or beneficiary of such trust); (ii) to a trust for the benefit of persons other than the holder of Class B Stock so long as the holder of Class B Stock retains sole dispositive power and voting control, provided the holder of Class B Stock does not receive consideration in exchange for the transfer (other than as a settlor or beneficiary of such trust); (iii) to a trust under the terms of which such holder of Class B Stock has retained a “qualified interest” within the meaning of Section 2702(b)(1) of the U.S. Tax Code, and/or a reversionary interest so long as the holder of Class B Stock retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held by such trust; (iv) to an Individual Retirement Account, as defined in Section 408(a) of the U.S. Tax Code, or a pension, profit sharing, stock bonus, or other type of plan or trust of which such holder of Class B Stock is a participant or beneficiary and which satisfies the requirements for qualification under Section 401 of the U.S. Tax Code, so long as such holder of Class B Stock

retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held in such account, plan, or trust; or (v) to a corporation, partnership, or limited liability company in which such holder of Class B Stock directly, or indirectly, retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held by such corporation, partnership, or limited liability company.

Each share of Class B Stock will convert automatically, without further action by the Company or the holder thereof, into one fully paid and nonassessable share of Class A Stock, upon: (a) the receipt by the Company of a written request for such conversion from the holders of a majority of the Class B Stock then outstanding, or, if later, the effective date for conversion specified in such request or (b) the occurrence of a transfer, other than a permitted transfer, of such share of Class B Stock.

Each outstanding share of Class B Stock held by a natural person or their Permitted Transferee will convert automatically into one share of Class A Stock upon the death or permanent disability of such holder.

Dividend Rights

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of Class A Stock and Class B Stock are entitled to receive dividends out of funds legally available if the Board of Directors of the Company (the “Board”), in its discretion, determines to issue dividends and then only at the times and in the amounts that the Board may determine.

No Preemptive or Similar Rights

Class A Stock and Class B Stock will not be entitled to preemptive rights, and are not subject to conversion (except as noted above), redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

If the Company becomes subject to a liquidation, dissolution or winding-up, the assets legally available for distribution to the stockholders would be distributable ratably among the holders of Class A Stock and Class B Stock and any participating preferred stock outstanding at that time, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights of and the payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Stock Exchange Listing

Our Class A common stock is listed on the Nasdaq Global Select Market. The trading symbol for our Class A common stock is “LAZR.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti. The transfer agent and registrar’s address is 6201 15th Avenue, Brooklyn, NY 11219, and its telephone number is (718) 921-8124.

Preferred Stock

The Board is authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, vesting, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations, or restrictions, in each case without further vote or action by the stockholders. The Board can also increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by the stockholders.

The Board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of Class A Stock and Class B Stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of the Company and

may adversely affect the market price of Class A Stock and the voting and other rights of the holders of Class A Stock and Class B Stock. There are no current plans to issue any shares of preferred stock.

The particular terms of any series of Preferred Stock to be offered by this prospectus will be set forth in the prospectus supplement relating to the offering. The description of the terms of a particular series of Preferred Stock that will be set forth in the applicable prospectus supplement does not purport to be complete and will be qualified in its entirety by reference to the certificate of designation relating to the series. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the Preferred Stock that we may offer under this prospectus, as well as the complete certificate of designation that contains the terms of the particular series of Preferred Stock.

Private Warrants

Warrants were issued in a private placement in connection with the initial public offering (the “IPO”) of Gores Metropoulos, Inc. (our name prior to the Business Combination with Legacy Luminar)(the “Private Warrants”). The Private Warrants will not be redeemable by the Company so long as they are held by the Gores Metropoulos Sponsor LLC or its permitted transferees. Otherwise, the Private Warrants have terms and provisions that are identical to those of the warrants sold as part of the public units in the IPO, including as to exercise price, exercisability and exercise period.

If holders of the Private Warrants elect to exercise them on a cashless basis, they would pay the exercise price by surrendering their Private Warrants for that number of shares of Class A Stock equal to the quotient obtained by dividing (x) the product of the number of shares of Class A Stock underlying the Private Warrants, multiplied by the difference between the exercise price of the Private Warrants and the “fair market value” (defined below) by (y) the fair market value. The “fair market value” shall mean the average reported last sale price of the Class A Stock for the 10 trading days ending on the third trading day prior to the date on which the notice of warrant exercise is sent to the warrant agent.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, the certificate of incorporation, and the bylaws contain provisions that could make the following transactions more difficult: an acquisition of the Company by means of a tender offer; an acquisition of the Company by means of a proxy contest or otherwise; or the removal of incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in the Company’s best interests, including transactions that provide for payment of a premium over the market price for the Company’s shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of the Company to first negotiate with Board. The Company believes that the benefits of the increased protection of the Company’s potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure the Company outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

The Company is subject to the provisions of Section 203 of the DGCL regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date on which the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the

outstanding voting stock owned by the interested stockholder, (i) shares owned by persons who are directors and also officers and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- at or subsequent to the date of the transaction, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction or series of transactions together resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions the Board does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Provisions of our Certificate of Incorporation and Bylaws

Our certificate of incorporation and bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of the Company's management team, including the following:

- Dual Class Common Stock. The certificate of incorporation provides for a dual class common stock structure pursuant to which holders of Class B Stock will have the ability to control the outcome of matters requiring stockholder approval (even if they own significantly less than a majority of the shares of outstanding Class A Stock), including the election of directors and significant corporate transactions, such as a merger or other sale of the Company or its assets. Directors, executive officers, and employees, and their respective affiliates, may have the ability to exercise significant influence over those matters.
- Board of Directors Vacancies. The certificate of incorporation and bylaws authorize only the Board to fill vacant directorships, including newly created seats. In addition, the number of directors constituting the Board is permitted to be set only by a resolution adopted by a majority vote of the Whole Board (as defined in the certificate of incorporation). These provisions prevent a stockholder from increasing the size of the Board and then gaining control of the Board by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of the Board but promotes continuity of management.
- Classified Board. The certificate of incorporation and bylaws provide that the Board is divided into three classes of directors. The existence of a classified board of directors could discourage a third-party from making a tender offer or otherwise attempting to obtain control of the Company as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.
- Directors Removed Only for Cause. The certificate of incorporation provides that stockholders may remove directors only for cause.
- Supermajority Requirements for Amendments of Certificate of Incorporation and Bylaws. The certificate of incorporation further provides that the affirmative vote of holders of at least two-thirds of the voting power of all of the then-outstanding shares of voting stock will be required to amend certain provisions of the certificate of incorporation, including provisions relating to the classified Board, the size of the Board, removal of directors, special meetings, actions by written consent, and designation of preferred stock. In addition, the affirmative vote of holders of 75% of the voting power of each of the then-outstanding Class A Stock and Class B Stock, voting separately by class, is required to amend the provisions of the certificate of incorporation relating to the terms of the Class B Stock. The affirmative vote of holders of at least two-thirds of the voting power of all of the then-outstanding shares of voting stock is required to amend or repeal the bylaws, although the bylaws may be amended by a simple majority vote of the Board.

- Stockholder Action; Special Meeting of Stockholders. The certificate of incorporation and bylaws provide that special meetings of stockholders may be called only by a majority of the Whole Board, the chairman of the Board, or the chief executive officer, thus prohibiting a stockholder from calling a special meeting. The certificate of incorporation provides that the stockholders may not take action by written consent, but may only take action at annual or special meetings of stockholders. As a result, holders of capital stock are not able to amend the bylaws or remove directors without holding a meeting of stockholders called in accordance with the bylaws. These provisions might delay the ability of stockholders to force consideration of a proposal or for stockholders to take any action, including the removal of directors.
- Notice Requirements for Stockholder Proposals and Director Nominations. The bylaws provide advance notice procedures for stockholders seeking to bring business before the annual meeting of stockholders or to nominate candidates for election as directors at the annual meeting of stockholders. The bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude stockholders from bringing matters before the annual meeting of stockholders or from making nominations for directors at the annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions might also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of the Company.
- No Cumulative Voting. The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. The certificate of incorporation and bylaws do not provide for cumulative voting.
- Issuance of Undesignated Preferred Stock. The Board will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by the Board. The existence of authorized but unissued shares of Preferred Stock will enable the Board to render more difficult or to discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest, or other means.
- Choice of Forum. The certificate of incorporation provides that the Chancery Court (or, if and only if the Chancery Court lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (1) any derivative action or proceeding brought on behalf of the Company; (2) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, or other employee of the Company or any stockholder to the Company or the Company's stockholders; (3) any action or proceeding asserting a claim against the Company or any current or former director, officer or other employee of the Company or any stockholder in such stockholder's capacity as such arising out of or pursuant to any provision of the DGCL, the Second Amended and Restated Certificate of Incorporation or the Amended and Restated Bylaws; (4) any action or proceeding to interpret, apply, enforce or determine the validity of the certificate of incorporation or the bylaws (including any right, obligation or remedy thereunder); (5) any action or proceeding as to which the DGCL confers jurisdiction to the Chancery Court; and (6) any action asserting a claim against the Company or any director, officer or other employee of the Company or any stockholder, governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants. The provisions would not apply to suits brought to enforce a duty or liability created by the Securities Act, the Exchange Act, or any other claim for which the U.S. federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, the certificate of incorporation provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of the certificate of incorporation. This may require significant additional costs associated with resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

Limitation of Liability and Indemnification

Our amended and restated bylaws provide that our directors and officers will be indemnified and advanced expenses by us to the fullest extent authorized or permitted by the DGCL as it now exists or may in the future be amended. In addition, our second amended and restated certificate of incorporation provides that our directors and officers will not be personally liable to us or our stockholders for monetary damages for breaches of their fiduciary duty as directors or officers to the fullest extent permitted by the DGCL as it now exists or may in the future be amended.

The amended and restated bylaws also permit us to purchase and maintain insurance on behalf of any officer, director, employee or agent of ours for any liability arising out of his or her status as such, regardless of whether the DGCL would permit indemnification.

These provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against our directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against our directors and officers pursuant to these indemnification provisions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

DESCRIPTION OF OUR DEBT SECURITIES

We may issue debt securities from time to time, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any debt securities that we may offer under this base prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities offered under a prospectus supplement may differ from the terms described below. Unless the context requires otherwise, whenever we refer to the indenture, we also are referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue the debt securities under one or more separate indentures that we will enter into with the trustee named in the indenture. The indenture will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We have filed a form of indenture under which debt securities may be issued from time to time as an exhibit to the registration statement of which this base prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this base prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The following summary of material provisions of the debt securities and the indenture is subject to, and qualified in its entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplements and any related free writing prospectuses related to the debt securities that we may offer under this base prospectus, as well as the complete indenture that contains the terms of the debt securities.

The debt securities will represent unsecured general obligations of the Company, unless otherwise provided in the applicable offering material.

General

The indenture does not limit the amount of debt securities that we may issue. It provides that we may issue debt securities up to the principal amount that we may authorize and may be in any currency or currency unit that we may designate. The prospectus supplement, documents incorporated by reference, or free writing prospectus with respect to any debt securities will set forth the following terms of the debt securities offered pursuant thereto as applicable:

- the title and series of such debt securities;
- the principal amount being offered;
- the total amount authorized and the total amount outstanding as of the most recent practicable date;
- any limit upon the aggregate principal amount of such debt securities of such series;
- whether such debt securities will be in global or other form; the date or dates and method or methods by which principal and any premium on such debt securities is payable;
- the interest rate or rates (or method by which such rate will be determined), if any;
- the dates on which any such interest will start accruing, become payable, record dates for interest payments and the method of payment;
- whether and under what circumstances any additional amounts are payable with respect to such debt securities;
- the notice, if any, to holders of such debt securities regarding the determination of interest on a floating rate debt security;
- the basis upon which interest on such debt securities shall be calculated, if other than that of a 360 day year of twelve 30-day months;

- the place or places where the principal of and interest or additional amounts, if any, on such debt securities will be payable;
- any redemption or sinking fund provisions, or the terms of any repurchase at the option of the holder of the debt securities; the denominations of such debt securities, if other than \$1,000 and integral multiples thereof;
- any rights of the holders of such debt securities to convert the debt securities into and/or exchange the debt securities for, other securities, cash or other property;
- the terms, if any, on which payment of principal or any premium, interest or additional amounts on such debt securities will be payable in a currency other than U.S. dollars;
- the terms, if any, by which the amount of payments of principal or any premium, interest or additional amounts on such debt securities may be determined by reference to an index, formula, financial or economic measure or other methods;
- if other than the principal amount thereof, the portion of the principal amount of such debt securities that will be payable upon declaration of acceleration of the maturity thereof or the method by which such portion is to be determined;
- any events of default or covenants in addition to or in lieu of those described herein and remedies therefor;
- whether such debt securities will be subject to defeasance or covenant defeasance;
- the terms, if any, upon which such debt securities are to be issuable upon the exercise of warrants, units or rights;
- name of any trustees and any authenticating or paying agents or registrars or depositaries or any other agents with respect to such debt securities;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- whether such debt securities will be guaranteed and the terms thereof;
- whether such debt securities will be secured by collateral and the terms of such security; and
- any other specific terms of such debt securities and any other deletions from or additions to or modifications of the indenture with respect to such debt securities.

Debt securities may be presented for exchange, conversion or transfer in the manner, at the places and subject to the restrictions set forth in the debt securities and the applicable offering material. Such services will be provided without charge, other than any tax or other governmental charge payable in connection therewith, but subject to the limitations provided in the indenture.

The indenture does not contain any covenant or other specific provision affording protection to holders of the debt securities in the event of a highly leveraged transaction or a change in control of the Company, except to the limited extent described below under “- Consolidation, Merger and Sale of Assets.”

Modification and Waiver

The indenture provides that supplements to the indenture may be made by the Company and the trustee for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of the indenture or of modifying in any manner the rights of the holders of debt securities of a series under the indenture or the debt securities of such series, with the consent of the holders of a majority (or such greater amount as is provided for a particular series of debt securities) in principal amount of each series of the outstanding debt securities issued under such indenture that are affected by the supplemental indenture, voting as a single class; provided that no such

supplemental indenture may, without the consent of the holder of each such debt security affected thereby, among other things:

- (a) change the stated maturity of the principal of, or any premium, interest or additional amounts on, such debt securities, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest or any additional amounts thereon, or reduce any premium payable upon the redemption thereof or otherwise, or change the obligation to pay additional amounts pursuant to the indenture, or reduce the amount of the principal of debt securities issued with original issue discount that would be due and payable upon an acceleration of the maturity thereof or the amount thereof provable in bankruptcy, or change the redemption provisions (other than provisions relating to notice periods (to the extent consistent with the Applicable Procedures of the Depositary) for redemption and conditions to redemption) or adversely affect the right of repayment at the option of the holder, or change the place of payment or currency in which the principal of, or any premium, interest or additional amounts with respect to any debt security is payable, or impair the right of any holder of debt securities to institute suit for the payment after such payment is due (or, in the case of redemption, on or after such redemption date or, in the case of repayment at the option of the holder, on or after such payment is due);
- (b) reduce the percentage in principal amount of outstanding debt securities of any series, the consent of the holders of which is required for any such supplemental indenture, or the consent of whose holders is required for any waiver provided for in the indenture, or reduce the requirements for quorum or voting;
- (c) modify any of the provisions of the sections of such indenture relating to supplemental indentures with the consent of the holders, waivers of past or existing defaults or waivers of certain covenants, except to increase any such percentage or to provide that certain other provisions of such indenture cannot be modified or waived without the consent of each holder affected thereby; or
- (d) make any change that adversely affects the right to convert or exchange any security into or for common stock or other securities, cash or other property in accordance with the terms of the applicable debt security.

The indenture provides that a supplemental indenture that changes or eliminates any covenant or other provision of the indenture that has expressly been included solely for the benefit of one or more particular series of debt securities, or that modifies the rights of the holders of such series with respect to such covenant or other provision, shall be deemed not to affect the rights under the indenture of the holders of debt securities of any other series.

The indenture provides that the Company and the trustee may, without the consent of the holders of any series of debt securities issued thereunder, enter into additional supplemental indentures for one of the following purposes:

- (a) to evidence the succession of another corporation to the Company and the assumption by any such successor of the covenants of the Company in such indenture and in the debt securities issued thereunder;
- (b) to add to the covenants of the Company for the benefit of the holders of any series of debt securities issued thereunder or to surrender any right or power conferred on the Company pursuant to the indenture; provided, that in respect of any such additional covenant, such supplemental indenture may provide for a particular period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such a default or may limit the remedies available to the Trustee upon an Event of Default or may limit the right of the Holders of a majority in aggregate principal amount of the Securities of such series to waive such an Event of Default;
- (c) to establish the form and terms of debt securities issued thereunder;
- (d) to evidence and provide for the acceptance of an appointment of a successor trustee under such indenture with respect to one or more series of debt securities issued thereunder and to add to or change any of the provisions of the indenture as necessary to provide for or facilitate the administration of the trusts under such indenture by more than one trustee pursuant to the indenture;

- (e) to cure any ambiguity, to correct or supplement any provision in the indenture that may be defective or inconsistent with any other provision of the indenture or to make any other provisions with respect to matters or questions arising under such indenture; provided that no such action pursuant to this clause (e) shall adversely affect the interests of the holders of any series of outstanding debt securities issued thereunder in any material respect;
- (f) to add to, delete from or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issue, authentication and delivery of securities under the indenture;
- (g) to add any additional events of default with respect to all or any series of debt securities (as shall be specified in such supplemental indenture);
- (h) to supplement any of the provisions of the indenture as may be necessary for the defeasance and discharge of any series of debt securities, provided that such action does not adversely affect the interests of any holder of an outstanding debt security of such series or any other security in any material respect;
- (i) to make provisions with respect to the conversion or exchange rights of holders of debt securities of any series;
- (j) to add guarantees in respect of the debt securities of one or more series and to provide for the terms and conditions of release thereof;
- (k) to convey, transfer, assign, mortgage or pledge to the trustee as security for the debt securities of any series any property or assets and to provide for the terms and conditions of release thereof;
- (l) to change or eliminate any of the provisions of the indenture, provided that any such change or elimination become effective only when there is no security of any series outstanding created prior to the execution of such supplemental indenture that is entitled to the benefit of such provision;
- (m) to provide for certificated securities in addition to or in place of global securities;
- (n) to qualify such indenture under the Trust Indenture Act of 1939, as amended;
- (o) with respect to the debt securities of any series, to conform the text of the indenture or the debt securities of such series to any provision of the description thereof in the Company's offering memorandum or prospectus relating to the initial offering of such debt securities, to the extent that such provision, in the good faith judgment of the Company, was intended to be a verbatim recitation of a provision of the indenture or such securities; or
- (p) to make any other change that does not adversely affect the rights of holders of any series of debt securities outstanding in any material respect.

Events of Default

Unless otherwise provided in any applicable prospectus supplement, documents incorporated by reference or free writing prospectus, the following will be events of default under the indenture with respect to each series of debt securities issued thereunder:

- (a) default for 30 days in the payment when due of interest on, or any additional amount in respect of, any series of debt securities;
- (b) default in the payment of principal of or any premium on any series of the debt securities outstanding under the indenture when due and payable;
- (c) default in the deposit, if any, of any sinking fund payment when and as due by the terms of any debt security of such series, subject to any cure period that may be specified in any debt security of such series;

- (d) failure by the Company for 60 days after receipt by written notice from the trustee upon direction of holders of at least 25% in principal amount of the debt securities outstanding of such series to observe or perform any of the other covenants or agreements in the indenture and stating that such notice is a "Notice of Default" pursuant to the indenture; provided, that if such failure cannot be cured within such 60-day period, such period shall be automatically extended by another 60 days so long as (i) such failure is subject to cure and (ii) the Company is using commercially reasonable efforts to cure such failure; and provided, further, that a failure to comply with any such other agreement in the indenture that results from a change in U.S. generally accepted accounting principles shall not be deemed to be an event of default;
- (e) certain events of bankruptcy, insolvency, reorganization or other similar action of the Company; and
- (f) any other event of default provided in the indenture with respect to a particular series of debt securities, provided that any such event of default that results from a change in U.S. generally accepted accounting principles shall not be deemed to be an event of default.

In case an event of default specified in clause (a) or (b) above shall occur and be continuing with respect to any series of debt securities, holders of at least 25%, and in case an event of default specified in any clause other than clause (a), (b) or (e) above shall occur and be continuing with respect to any series of debt securities, holders of at least a majority in aggregate principal amount of the debt securities of such series then outstanding may declare the principal (or, in the case of discounted debt securities, the amount specified in the terms thereof) of such series to be due and payable. If an event of default described in (e) above shall occur and be continuing then the principal amount (or, in the case of discounted debt securities, the amount specified in the terms thereof) of all the debt securities outstanding shall be and become due and payable immediately, without notice or other action by any holder or the trustee, to the full extent permitted by law. Any past or existing default or event of default with respect to particular series of debt securities under such indenture may be waived by the holders of a majority in aggregate principal amount of the outstanding debt securities of such series, except in each case a continuing default (1) in the payment of the principal of, any premium or interest on, or any additional amounts with respect to, any debt security of such series, or (2) in respect of a covenant or provision which cannot be modified or amended without the consent of each holder affected thereby.

The indenture provides that the Company must periodically furnish the trustee with a written statement as to the Company's compliance with the covenants contained in the indenture and as to the absence of default under the indenture terms.

The indenture provides that the trustee may withhold notice to the holders of any default with respect to any series of debt securities (except in payment of principal of or interest or premium on, or sinking fund payment in respect of, the debt securities) if and so long as the board of directors, the executive committee or a trust committee of directors of the trustee and/or responsible officers of the trustee in good faith determine that the withholding of such notice is in the best interest of the holders of securities of such series.

The indenture contains a provision entitling the trustee to be indemnified by the holders before proceeding to exercise any trust or power under the indenture at the request of such holders. The indenture provides that the holders of a majority in aggregate principal amount of the then outstanding debt securities of any series may direct the time, method and place of conducting any proceedings for any remedy available to the trustee or of exercising or omitting to exercise any trust or power conferred upon the trustee with respect to the debt securities of such series; provided, however, that the trustee may decline to follow any such direction if, among other reasons, the trustee determines that the actions or proceedings as directed may not lawfully be taken or would be unduly prejudicial to the holders of the debt securities of such series not joining in such direction. The right of a holder to institute a proceeding with respect to a series of debt securities will be subject to certain conditions precedent including, without limitation, that in case of an event of default specified in clause (a) or (b) of the first paragraph above under "- Events of Default," holders of at least 25%, or in case of an event of default other than specified in clause (a), (b) or (e) of the first paragraph above under "- Events of Default", holders of at least a majority, in aggregate principal amount of the debt securities of such series then outstanding make a written request upon the trustee to exercise its powers under such indenture, indemnify the trustee and afford the trustee reasonable opportunity to act. Notwithstanding the foregoing, the holder has an absolute right to receipt of the principal of, premium, if any, and

interest when due on the debt securities, to require conversion of debt securities if such indenture provides for convertibility at the option of the holder and to institute suit for the enforcement thereof.

Consolidation, Merger and Sale of Assets

The indenture provides that the Company may not directly or indirectly consolidate with or merge with or into, or sell, assign, transfer, lease, convey or otherwise dispose of all or substantially all of its assets and properties and the assets and properties of its subsidiaries (taken as a whole) to another person in one or more related transactions unless the Company is the survivor or the successor person is a person organized or existing under the laws of the United States, any state of the United States or the District of Columbia and assumes the Company's obligations on the debt securities issued thereunder, and under the indenture, and after giving effect thereto no event of default, and no event that, after notice or lapse of time or both, would become an event of default, shall have occurred and be continuing, and that certain other conditions are met.

Certain Covenants

Payment of Principal, any Premium, Interest or Additional Amounts. The Company will duly and punctually pay the principal of, and premium and interest on or any additional amounts payable with respect to, any debt securities of any series in accordance with their terms.

Maintenance of Office or Agency. The Company will be required to maintain an office or agency in each place of payment for each series of debt securities for notice and demand purposes and for the purposes of presenting or surrendering debt securities for payment, registration of transfer, or exchange.

Reports. So long as any debt securities of a particular series are outstanding under the indenture, the Company will file with the trustee, within 30 days after the Company has filed the same with the SEC, unless such reports are available on the SEC's EDGAR filing system (or any successor thereto), copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the SEC may from time to time by rules and regulations prescribe) which the Company may be required to file with the SEC pursuant to Section 13 or Section 15(d) of the Exchange Act; or, if the Company is not required to file information, documents or reports pursuant to either of said Sections, then it shall file with the trustee and the SEC, in accordance with rules and regulations prescribed from time to time by the SEC, such of the supplementary and periodic information, documents and reports which may be required pursuant to Section 13 of the Exchange Act in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations.

Additional Covenants. Any additional covenants of the Company with respect to any series of debt securities will be set forth in the applicable prospectus supplement, documents incorporated by reference or free writing prospectus relating thereto.

Conversion Rights

The terms and conditions, if any, upon which the debt securities are convertible into common stock or preferred stock will be set forth in the applicable prospectus supplement, documents incorporated by reference or free writing prospectus relating thereto. Such terms will include the conversion price (or manner of calculation thereof), the conversion period, provisions as to whether conversion will be at the option of the holders or the Company, the events requiring an adjustment of the conversion price and provisions affecting conversion in the event of redemption of such debt securities and any restrictions on conversion.

Redemption; Repurchase at the Option of the Holder; Sinking Fund

The terms and conditions, if any, upon which (a) the debt securities are redeemable at the option of the Company, (b) the holder of debt securities may cause the Company to repurchase such debt securities or (c) the debt securities are subject to any sinking fund will be set forth in the applicable prospectus supplement, documents incorporated by reference or free writing prospectus relating thereto.

Repurchases on the Open Market

The Company or any affiliate of the Company may at any time or from time to time repurchase any debt security in the open market or otherwise. Such debt securities may, at the option of the Company or the relevant affiliate of the Company, be held, resold or surrendered to the trustee for cancellation.

Discharge, Defeasance and Covenant Defeasance

The indenture provides, with respect to each series of debt securities issued thereunder, that the Company may satisfy and discharge its obligations under such debt securities of a series and such indenture with respect to debt securities of such series if:

- (a) all debt securities of such series previously authenticated and delivered, with certain exceptions, have been delivered to the trustee for cancellation; or
- (b)
 - i. the debt securities of such series have become due and payable, or mature within one year, or all of them are to be called for redemption within one year under arrangements satisfactory to the trustee for giving the notice of redemption and the Company irrevocably deposits in trust with the trustee, as trust funds solely for the benefit of the holders of such debt securities, for that purpose, money or governmental obligations or a combination thereof sufficient (in the opinion of a nationally recognized independent registered public accounting firm expressed in a written certification thereof delivered to the trustee) to pay and discharge the entire indebtedness on the debt securities of such series to maturity or redemption, as the case may be, and pays all other sums payable by it under such indenture; and
 - ii. the Company delivers to the trustee an officers' certificate and an opinion of counsel, in each case stating that all conditions precedent provided for in such indenture relating to the satisfaction and discharge of such indenture with respect to the debt securities of such series have been complied with.

Notwithstanding such satisfaction and discharge, the obligations of the Company to compensate and indemnify the trustee, the obligations of the Company and the trustee to hold funds in trust and to apply such funds pursuant to the terms of the indenture, with respect to issuing temporary debt securities, with respect to the registration, transfer and exchange of debt securities, with respect to the replacement of mutilated, destroyed, lost or stolen debt securities and with respect to the maintenance of an office or agency for payment, shall in each case survive such satisfaction and discharge.

DESCRIPTION OF OUR WARRANTS

We may issue warrants to purchase our debt or equity securities or securities of third parties or other rights, including rights to receive payment in cash or securities based on the value, rate or price of one or more specified commodities, currencies, securities or indices, or any combination of the foregoing. Warrants may be issued independently or together with any other securities and may be attached to, or separate from, such securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent. The terms of any additional warrants to be issued and a description of the material provisions of the applicable warrant agreement will be set forth in the applicable prospectus supplement. The terms of any warrants offered under that prospectus supplement may differ from the terms described below.

The following summary description, together with the additional information we may include in any applicable prospectus supplements does not purport to be complete and is subject to, and qualified in its entirety by reference to, the form of warrant agreement and form of warrant certificate relating to each series of warrants that will be incorporated by reference as an exhibit to the registration statement that includes this base prospectus or as an exhibit to a current report on Form 8-K if we offer warrants.

General

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock, the number of shares of common stock purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants, including whether the right to convert or purchase the securities may be forfeited unless exercised before the date specified in a notice of the redemption or call;
- kinds, frequency and timing of notice of the redemption or call, including the cities or newspapers where notice will be published;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants;
- provisions for the warrants to be held in book entry form; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M. Eastern Time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and the warrant certificate properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Enforceability of Rights by Holders of Warrants

Any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Outstanding Warrants

As of December 31, 2024, there were warrants outstanding to purchase up to a total of 383,836 shares of our Class A common stock.

DESCRIPTION OF OUR UNITS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the units that we may offer under this base prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this base prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

The following summary description, together with the additional information we may include in any applicable prospectus supplements, does not purport to be complete and is subject to, and qualified in its entirety by reference to, the form of unit agreement and form of unit certificate relating to each series of units that will be incorporated by reference as an exhibit to the registration statement that includes this base prospectus or as an exhibit to a current report on Form 8-K if we offer units.

General

We may issue units comprised of common stock, preferred stock, debt securities, debt obligations of third parties, including U.S. treasury securities, warrants, rights or any combination thereof. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities,” “Description of Warrants” and “Description of Rights” will apply to each unit and to any common stock, preferred stock, debt security, warrants or rights included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Any unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, any unit agents and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

Outstanding Units

We have no outstanding units.

PLAN OF DISTRIBUTION

We may offer and sell the securities being offered hereby in one or more of the following ways from time to time:

- to or through underwriters or dealers;
- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions other than on these exchanges or systems or in the over-the-counter market;
- in “at the market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act, to or through market makers or into an existing market for the securities;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- through broker-dealers acting as agent or principal, including in block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- directly to purchasers;
- a combination of any of these methods of sale; and
- in any manner, as provided in the applicable prospectus supplement by any other method permitted pursuant to applicable law.

We may distribute securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the times of sale;
- at prices related to such prevailing market prices;
- at varying prices determined at the time of sale; or
- at negotiated prices.

We will describe the method of distribution of the securities in the applicable prospectus supplement. We may also determine the price or other terms of the securities offered under this base prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the obligations of the underwriter, dealer or agent in the applicable prospectus supplement.

We will identify the specific plan of distribution, including any underwriters, dealers, agents or other purchasers, persons or entities, and any applicable compensation, in a prospectus supplement, in an amendment to

the registration statement of which this prospectus is a part, or in other filings we make with the SEC under the Exchange Act, which are incorporated by reference.

LEGAL MATTERS

Unless the applicable prospectus supplement indicates otherwise, the validity of the securities being offered by this prospectus will be passed upon by Orrick, Herrington & Sutcliffe LLP, Santa Monica, California. Additional legal matters may be passed upon for us or any underwriters, dealers or agents by counsel that we will name in the applicable prospectus supplement. Certain attorneys with Orrick, Herrington & Sutcliffe LLP and certain funds affiliated with the firm own and/or have an indirect interest in shares of Class A common stock, which represent less than 1% of our Class A common stock.

EXPERTS

The financial statements of Luminar Technologies, Inc. as of December 31, 2024 and 2023, and for each of the three years in the period ended December 31, 2024, incorporated by reference in this prospectus by reference to Luminar Technologies, Inc.'s annual report on Form 10-K for the year ended December 31, 2024, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the reports of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public free of charge at the SEC's website at www.sec.gov. Copies of certain information filed by us with the SEC are also available on the "Investors" page of our website at www.luminartech.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information on, or that can be accessed from, our website as part of this prospectus or any accompanying prospectus supplement.

We have filed with the SEC a registration statement on Form S-3 relating to the securities covered by this prospectus. This prospectus is a part of the registration statement and does not contain all the information in the registration statement. Other documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. You should review the information and exhibits in the registration statement for further information on us and our consolidated subsidiaries and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements. You may review a copy of the registration statement through the SEC's website, as provided above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information from other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act (other than, in each case, documents or information deemed to have been furnished and not filed in accordance with SEC rules) (i) after the date of the filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement, and (ii) after the effectiveness of the registration statement but prior to the termination of the offering of securities covered by this prospectus:

- our [Annual Report on Form 10-K for the year ended December 31, 2024](#), as filed with the SEC on March 28, 2025;
- our Current Report on [Form 8-K filed on March 24, 2025](#), as amended by [Form 8-K/A filed on March 28, 2025](#); and
- the description of our Class A common stock in our registration statement on [Form 8-A](#) filed with the SEC on January 31, 2019, as updated by the description of our capital stock included in [Exhibit 4.4 of our Annual Report on Form 10-K filed with the SEC on March 28, 2025](#), and any other amendment or report filed for the purpose of updating such description.

Any statement contained in this prospectus, or in a document all or a portion of which is incorporated by reference, shall be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any applicable prospectus supplement and any related free writing prospectus or any document incorporated by reference modifies or supersedes such statement. Any such statement so modified or superseded shall not, except as so modified or superseded, constitute a part of this prospectus.

Upon request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered a copy of the documents incorporated by reference into this prospectus. You may request a copy of these filings, and any exhibits we have specifically incorporated by reference as an exhibit in this prospectus, at no cost by writing or telephoning us at the following:

Luminar Technologies, Inc.
2603 Discovery Drive, Suite 100
Orlando, Florida 32826
Telephone: (800) 532-2417

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated April 1, 2025

PROSPECTUS

Up to \$209,000,000*



LUMINAR TECHNOLOGIES, INC.

EQUITY FINANCING PROGRAM

Class A Common Stock

***Comprised of \$134,000,000 of Class A Common Stock covered by previously filed prospectus supplements relating to our Equity Financing Program and \$75,000,000 of new Class A Common Stock to extend our Equity Financing Program**

We have entered into a Financing Agreement (the “Agreement”) with Virtu Americas LLC (“Virtu” or the “sales agent”), relating to shares of our Class A common stock offered by this prospectus pursuant to our equity financing program. We established this program with Virtu in 2023 and have periodically extended it. As of the date of this prospectus, \$134.0 million of Class A common stock covered by the prospectus supplement dated May 3, 2024, as supplemented on August 8, 2024 (collectively, the “prior prospectus supplements”), remain unsold. The shares of Class A common stock having a maximum aggregate offering price of \$134.0 million and remaining available to be offered and sold under the Agreement and the prior prospectus supplements, together with new Class A common stock having a maximum aggregate offering price of \$75.0 million which may also be sold under the Agreement as an extension of our equity financing program, will, from the date hereof, be offered and sold only under this prospectus. No further offers or sales will be made under the prior prospectus supplements. We intend to use the net proceeds, if any, from offerings under the equity financing program for general corporate purposes, including payment of interest on debt and otherwise to repay, repurchase, or service such debt.

Our Class A common stock is listed on the Nasdaq Global Select Market under the symbol “LAZR”. The last reported sale price of our Class A common stock on the Nasdaq Stock Market on March 31, 2025 was \$5.39 per share.

Sales of shares of Class A common stock, if any, under this prospectus may be made in transactions that are deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act of 1933, as amended (the “Securities Act”), including sales made directly on or through the Nasdaq Stock Market or any other existing trading market for our Class A common stock. The sales agent will make all sales using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between the sales agent and us.

The sales agent will receive from us a commission equal to up to 2.0% of the gross sales price of all shares sold through it under the Agreement. See “Plan of Distribution” for additional information regarding compensation to be paid to the sales agent. In connection with the sale of Class A common stock on our behalf, the sales agent may be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of the sales agent may be deemed to be underwriting commissions or discounts.

Investing in our Class A common stock involves risks. See “Risk Factors” beginning on page 3 of this prospectus, as well as those risks described in our most recent Annual Report on Form 10-K and in our subsequent filings with the Securities and Exchange Commission (the “SEC”) pursuant to the Securities Exchange Act of 1934, as amended (the “Exchange Act”), incorporated by reference in this prospectus before making a decision to invest in our Class A common stock.

Neither the SEC, any state securities commission nor any other regulatory body has approved or disapproved of these securities or determined if this prospectus are truthful and complete. Any representation to the contrary is a criminal offense.



The date of this prospectus is , 2025.

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ABOUT THIS PROSPECTUS

This prospectus relates to the offering of our Class A common stock. Before buying any of the Class A common stock that we are offering, we urge you to carefully read this prospectus, together with the information incorporated by reference as described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. These documents contain important information that you should consider when making your investment decision.

This prospectus describes the terms of this offering of our Class A common stock and adds to and updates information contained in the documents incorporated into this prospectus.

To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference into this prospectus that was filed with the SEC before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference into this prospectus) the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference into this prospectus . We have not, and the sales agent has not, authorized any other person to provide you with information in addition to or different from that contained in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the sales agent is not, making an offer to sell these securities in any jurisdiction where the offer or sale thereof is not permitted. You should assume that the information appearing in this prospectus and the documents incorporated into this prospectus is accurate only as of the respective dates of the applicable documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

When we refer to “we,” “our,” “us,” “Luminar,” and the “Company” in this prospectus, we mean Luminar Technologies, Inc. and its subsidiaries.

We and the sales agent are offering to sell, and seeking offers to buy, shares of our Class A common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and the offering of the shares of our Class A common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of our Class A common stock and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Luminar, the Luminar logo and our other registered or common law trademarks, service marks or trade names appearing in this prospectus are the property of Luminar. Solely for convenience, our trademarks, tradenames and service marks referred to in this prospectus appear without the ®, TM and SM symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights to these trademarks and tradenames. Other trademarks, service marks and trade names used in this prospectus are the property of their respective owners.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act, and Section 21E of the Exchange Act, that are forward-looking and as such are not historical facts. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potentially,” “predict,” “project,” “seek,” “should,” “target,” “will,” “would,” or the negative of these words or other comparable terminology.

These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including our history of losses and our expectation that we will continue to incur significant expenses, including substantial research and development (“R&D”) costs, and continuing losses for the foreseeable future as well as our limited operating history which makes it difficult to evaluate our future prospects and the risks and challenges we may encounter; our strategic initiatives which may prove more costly than we currently anticipate and potential failure to increase our revenue to offset these initiatives; whether our LiDAR products are or will continue to be selected for inclusion in autonomous driving or advanced driving assistance systems (“ADAS”) by automotive original equipment manufacturers (“OEMs”) or their suppliers, and whether we will be de-selected by any customers; the lengthy period of time from a major commercial win to implementation and the risks of cancellation or postponement of the contract or unsuccessful implementation; potential inaccuracies in our forward-looking estimates of certain metrics, our future cost of goods sold (“COGS”) and bill of materials (“BOM”) and total addressable market; the discontinuation, lack of success of our customers in developing and commercializing products using our solutions or loss of business with respect to a particular vehicle model or technology package and whether end automotive consumers will demand and be willing to pay for such features; our ability to successfully fund our growth if there are considerable delays in product introductions by us or our OEM customers may face with their products; our inability to reduce and control the cost of the inputs on which we rely, which could negatively impact the adoption of our products and our profitability; the effect of continued pricing pressures, competition from other LiDAR manufacturers, OEM cost reduction initiatives and the ability of automotive OEMs to re-source or cancel vehicle or technology programs which may result in lower than anticipated margins, or losses, which may adversely affect our business; the effect of general economic conditions, including inflation, recession risks and rising interest rates, generally and on our industry and us in particular, including the level of demand and financial performance of the autonomous vehicle industry and the decline in fair value of available-for-sale debt securities in a rising interest rate environment; market adoption of LiDAR as well as developments in alternative technology and the increasingly competitive environment in which we operate, which includes established competitors and market participants that have substantially greater resources; our ability to achieve technological feasibility and commercialize our software products and the requirement to continue to develop new products and product innovations due to rapidly changing markets and government regulations of such technologies; our ability to manage our growth and expand our business operations effectively, including into international markets, such as China, which exposes us to operational, financial, regulatory and geopolitical risks; changes in our government contracts business and our defense customers’ business due to political change and global conflicts; adverse impacts due to limited availability and quality of materials, supplies, and capital equipment, or dependency on third-party service providers and single-source suppliers; the project-based nature of our orders, which can cause our results of operations to fluctuate on a quarterly and annual basis; whether we will be able to successfully transition our engineering designs into high volume manufacturing, including our ability to transition to an outsourced manufacturing business model and whether we and our outsourcing partners and suppliers can successfully operate complex machinery; whether we can successfully select, execute or integrate our acquisitions; defects, reliability and other issues with our products which could reduce market adoption of our new products, limit our ability to manufacture, damage our reputation and expose us to product liability, warranty and other claims; our ability to maintain and adequately manage our inventory; our ability to maintain an effective system of internal control over financial reporting; our ability to protect and enforce our intellectual property rights; availability of qualified personnel, loss of highly skilled personnel; the impact of inflation and our stock price on our ability to hire and retain highly skilled personnel; the amount and timing of future sales and whether the average selling prices of

our products could decrease rapidly over the life of the product as well as our dependence on a few key customers, who are often large corporations with substantial negotiating power; our ability to establish and maintain confidence in our long-term business prospects among customers and analysts and within our industry; whether we are subject to negative publicity; the effects of infectious diseases, health epidemics, pandemics and natural disasters on Luminar's business; interruption or failure of our information technology and communications systems; cybersecurity risks to our operational systems, security systems, infrastructure, integrated software in our LiDAR solutions; market instability exacerbated by geopolitical conflicts, including the Israel-Hamas war and the conflict between Russia and Ukraine; trade disputes with China and other countries, including the effect of sanctions and trade restrictions, such as tariffs imposed by the U.S. government and any countermeasures by other governments in response to such tariffs, that may affect supply chain or sales opportunities or overall demand; the large amount of our outstanding indebtedness and our ability to comply with covenants contained in the agreements governing our indebtedness; our ability to access sources of capital to repay our indebtedness and finance operations and growth; our ability to maintain compliance with the Nasdaq continued listing standards for the listing of our Class A common stock; and those other factors discussed in the section entitled "Risk Factors" in our most recent Annual Report on Form 10-K. You should specifically consider the numerous risks outlined in "Risk Factors" in our most recent Annual Report on Form 10-K and subsequent documents and reports we file with the SEC.

Given these uncertainties, you should not place undue reliance on these forward-looking statements as actual events or results may differ materially from those projected in the forward-looking statements. Our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements contained in this prospectus and in the documents incorporated by reference herein by these cautionary statements. These forward-looking statements speak only as of the date on which the statements were made and are not guarantees of future performance. Although we undertake no obligation to revise or update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law, you are advised to review any additional disclosures we make in the documents we subsequently file with the SEC that are incorporated by reference in this prospectus. See "Where You Can Find More Information."

PROSPECTUS SUMMARY

The following summary highlights selected information contained elsewhere or incorporated by reference in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including all documents incorporated by reference herein and therein and the information set forth under the heading “Risk Factors” in this prospectus, our Annual Report on Form 10-K for the fiscal year ended December 31, 2024 and any subsequently filed Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and any amendment or update thereto reflected in our subsequent filings with the SEC and incorporated by reference in this prospectus.

The Company

Luminar is a technology company specializing in advanced Light Detection and Ranging (LiDAR) hardware and software solutions to enable the world’s safest and smartest vehicles. Over the past decade, Luminar has been developing proprietary LiDAR hardware, core semiconductor components and software in-house to meet the demanding performance, safety, reliability and cost requirements to enable next-generation safety and autonomous capabilities for passenger and commercial vehicles, as well as other adjacent markets.

The global automotive and mobility sector is increasingly focused on safety and autonomy, specifically next-generation advanced driver assistance systems, or ADAS, and highway autonomy for passenger and commercial vehicles. Our LiDAR technology provides increased situational awareness in a broad range of driving environments through improved and higher confidence detection and planning at all vehicle speeds. Beyond sensor hardware, our product portfolio has expanded to include semiconductor components of our LiDAR that have utility in adjacent markets, in-development software capabilities such as perception and high-definition “3D” mapping, all of which we anticipate will monetize the ecosystem of improved safety and autonomy created by our LiDAR.

Corporate Information

We were incorporated in the State of Delaware in August 2018 as a special purpose acquisition company under the name Gores Metropoulos, Inc. On February 5, 2019, we completed our initial public offering. On December 2, 2020, we consummated the business combination (the “Business Combination”) pursuant to the Agreement and Plan of Merger (the “Merger Agreement”), dated August 24, 2020, with the pre-Business Combination Luminar Technologies, Inc. (“Legacy Luminar”). Legacy Luminar was incorporated in Delaware on March 31, 2015. In connection with the consummation of the Business Combination, we changed our name from Gores Metropoulos, Inc. to Luminar Technologies, Inc.

Our principal executive offices are located at 2603 Discovery Drive, Suite 100, Orlando, Florida 32826. Our telephone number is (800) 532-2417. Our website address is www.luminartech.com. Information contained on our website or connected thereto does not constitute part of, and is not incorporated by reference into, this prospectus or the registration statement of which it forms a part. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website.

The Offering

Issuer

Luminar Technologies, Inc.

Shares of Class A Common Stock offered by us

Shares of our Class A common stock having an aggregate offering price of up to \$209.0 million. This amount includes Class A common stock having an aggregate offering price of up to \$134.0 million which remain unsold under the prior prospectus supplements and the Agreement, and new Class A common stock having an aggregate offering price of up to \$75.0 million also to be sold under the Agreement.

Plan of Distribution

“At the market offering” that may be made from time to time through or to our sales agent, Virtu. See the section titled “Plan of Distribution.”

Use of Proceeds

We intend to use the net proceeds, if any, from offerings under this program for general corporate purposes including payment of interest on debt and otherwise to repay, repurchase, or service such debt. See “[Use of Proceeds](#).”

Risk Factors

Investing in our Class A common stock involves a high degree of risk. Prospective investors should carefully consider the matters discussed or incorporated by reference under the caption titled “[Risk Factors](#)” on page 3 of this prospectus.

Nasdaq Global Select Stock Market symbol

LAZR

RISK FACTORS

Investing in the shares of Class A common stock being offered pursuant to this prospectus involves a high degree of risk. Before deciding whether to invest in our Class A common stock, you should consider carefully the risk factors described below. You should carefully consider the risks and uncertainties discussed under the section titled “Risk Factors” contained in our most recent Annual Report on Form 10-K and subsequently filed Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, as well as any amendments thereto, which are incorporated by reference into this prospectus and any applicable prospectus supplement in their entirety, together with other information in this prospectus and any applicable prospectus supplement, and the documents incorporated by reference herein and therein, before making an investment decision. These risks and uncertainties are not the only ones facing us. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect us. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.” Our business, financial condition or results of operations could be materially adversely affected by the materialization of any of these risks. The trading price of our Class A common stock could decline due to the materialization of any of these risks, and you may lose all or part of your investment. This prospectus and the documents incorporated herein by reference also contain forward-looking statements that involve risks and uncertainties. Actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks described below.

Additional Risks Related to This Offering

Our management will have broad discretion in the use of the net proceeds from this offering and may allocate the net proceeds from this offering in ways that you and other stockholders may not approve.

Our management will have broad discretion in the use of the net proceeds from this offering including for any of the purposes described in the section titled “Use of Proceeds,” and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure of our management to use these funds effectively could have a material adverse effect on our business and cause the market price of our Class A common stock to decline. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders.

If you purchase shares of our Class A common stock sold in this offering, you may experience immediate and substantial dilution in the net tangible book value of your shares. In addition, we may issue additional equity or additional convertible debt securities in the future, which may result in additional dilution to investors.

The price per share of our Class A common stock being offered may be higher than the net tangible book value per share of our outstanding Class A common stock prior to this offering. After giving effect to the sale of our Class A common stock in the aggregate amount of \$209.0 million at an assumed offering price of \$5.66 per share, the last reported sale price of our Class A common stock on the Nasdaq Global Select Market on March 26, 2025, and after deducting estimated offering commissions payable by us, our net tangible book deficit as of December 31, 2024 would have been \$(33.6) million, or \$(0.43) per share. This represents an immediate increase in net tangible book value of \$5.37 per share to our existing stockholders and an immediate dilution in net tangible book value of \$6.09 per share to new investors in this offering. For a more detailed discussion of the foregoing, see the section titled “Dilution.” To the extent outstanding stock options are exercised or convertible notes are converted, there will be further dilution to new investors. In addition, to the extent we need to raise additional capital in the future and we issue additional shares of Class A common stock or additional securities convertible or exchangeable for our Class A common stock, our then existing stockholders may experience dilution and the new securities may have rights senior to those of our Class A common stock offered in this offering.

Future sales of substantial amounts of our Class A common stock, or the possibility that such sales could occur, could adversely affect the market price of our Class A common stock.

We may issue up to \$209.0 million of Class A common stock from time to time in this offering. The issuance from time to time of shares in this offering, as well as our ability to issue such shares in this offering, could have the effect of depressing the market price or increasing the market price volatility of our Class A common stock.

It is not possible to predict the actual number of shares of Class A common stock we will sell under the Agreement, or the gross proceeds resulting from those sales.

Subject to certain limitations in the Agreement and compliance with applicable law, we have the discretion to deliver a placement notice to the sales agent at any time throughout the term of the Agreement. The number of shares of Class A common stock that are sold through or to the sales agent after delivering a placement notice will fluctuate based on a number of factors, including the market price of the Class A common stock during the sales period, the limits we set with the sales agent in any applicable placement notice, and the demand for our Class A common stock during the sales period. Because the price per share of each share of Class A common stock sold will fluctuate during the sales period, it is not currently possible to predict the number of shares that we will sell or the gross proceeds we will receive in connection with those sales.

The Class A common stock offered hereby will be sold in “at the market offerings”, and investors who buy shares at different times will likely pay different prices.

Investors who purchase shares of Class A common stock in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares of Class A common stock sold in this offering. In addition, there is no minimum or maximum sales price for shares of Class A common stock to be sold in this offering. Investors may experience a decline in the value of the shares they purchase in this offering as a result of sales made at prices lower than the prices they paid.

The market price and trading volume of Class A common stock is volatile and could decline significantly.

The market price of our Class A common stock has been and is expected to continue to be highly volatile and has recently experienced declines. In addition, the trading volume of our Class A common stock may fluctuate and cause significant price variations to occur. We cannot assure you that the market price of Class A common stock will not fluctuate widely or decline significantly in the future in response to a number of factors, including, among others, the following:

- the realization of any of the risk factors presented in our Annual Report on Form 10-K for the year ended December 31, 2024 and subsequent reports filed with the SEC;
- actual or anticipated differences in our estimates, or in the estimates of analysts, for our revenues, Adjusted EBITDA, results of operations, level of indebtedness, liquidity or financial condition;
- additions and departures of key personnel;
- failure to comply with the requirements of Nasdaq, Sarbanes-Oxley Act or other laws or regulations;
- future issuances, sales, resales or repurchases or anticipated issuances, sales, resales or repurchases, of our securities;
- publication of research reports about us;
- the performance and market valuations of other similar companies;
- commencement of, or involvement in, litigation involving us;
- broad disruptions in the financial markets, including sudden disruptions in the credit markets;

- speculation in the press or investment community;
- actual, potential or perceived control, accounting or reporting problems;
- changes in accounting principles, policies and guidelines; and
- other events or factors, including those resulting from infectious diseases, health epidemics and pandemics, natural disasters, war, acts of terrorism or responses to these events.

In the past, securities class-action litigation has often been instituted against companies following periods of volatility in the market price of their shares. This type of litigation could result in substantial costs and divert our management's attention and resources, which could have a material adverse effect on us.

USE OF PROCEEDS

The amount of proceeds from this offering will depend upon the number of shares of our Class A common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any or all shares under the Agreement. We intend to use the net proceeds, if any, from offerings under this program for general corporate purposes, including payment of interest on debt and otherwise to repay, repurchase, or service such debt.

The amounts and timing of our actual expenditures will depend on numerous factors, including the nature and timing of future strategic opportunities that we may identify and pursue, as well as the amount of our other cash resources and growth needs of our business. We therefore cannot estimate with certainty the amount of net proceeds to be used for the purposes described above or the timing of these expenditures. We may find it necessary or advisable to use the net proceeds for other purposes, and we will have broad discretion in the application of the net proceeds. Pending the uses described above, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities.

Our expected use of the net proceeds from this offering represents our current intentions based upon our present plans and business conditions.

DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We intend to retain all of our future earnings, if any, to finance the growth and development of our business. We do not intend to pay cash dividends to our stockholders in the foreseeable future.

DILUTION

If you invest in our Class A common stock, your interest will be diluted to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our Class A common stock immediately after you purchase shares in this offering.

As of December 31, 2024, our net tangible book deficit was approximately \$(240.3) million, or approximately \$(5.80) per share of our Class A common stock (on an as converted basis). Net tangible book deficit per share represents the amount of our total tangible assets reduced by the amount of our total liabilities, divided by the total number of shares of our Class A common stock outstanding as of December 31, 2024.

Dilution per share to new investors represents the difference between the amount per share paid by purchasers for our Class A common stock in this offering and the net tangible book value per share of our Class A common stock immediately following the completion of this offering.

After giving effect to the sale of our Class A common stock offered by this prospectus at an assumed offering price of \$5.66 per share of Class A common stock (the last reported sale price of our Class A common stock on the Nasdaq Global Select Market on March 26, 2025), and after deduction of commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book deficit as of December 31, 2024 would have been \$(33.6) million, or \$(0.43) per share. This represents an immediate increase in net tangible book value of \$5.37 per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of \$6.09 per share to new investors in this offering.

The following table illustrates this per share dilution to new investors:

| | | |
|---|----|--------|
| Assumed public offering price per share | \$ | 5.66 |
| Net tangible book deficit per share at December 31, 2024 | \$ | (5.80) |
| Increase in net tangible book value per share attributable to this offering | | 5.37 |
| As adjusted net tangible book deficit per share after giving effect to this offering | | (0.43) |
| Dilution in as adjusted net tangible book value per share to new investors in this offering | \$ | 6.09 |

The number of shares of our common stock to be outstanding immediately after this offering is based on 36,599,113 shares of our Class A common stock and 4,872,578 shares of our Class B common stock issued and outstanding as of December 31, 2024, and excludes as of that date:

- 412,207 shares of Class A common stock issuable upon exercise of outstanding stock options with a weighted average exercise price of \$24.84 per share;
- 111,218 shares of Class A common stock issuable upon exercise of outstanding private warrants with an exercise price of \$172.50 per share;
- 272,618 shares of Class A common stock issuable upon exercise of an outstanding warrant with an exercise price of \$47.65 per share;
- 1,765,668 shares of Class A common stock issuable upon the vesting of outstanding time-based restricted stock units, and 864 performance-based restricted stock units;
- 915,831 shares of Class A common stock issuable upon the vesting of outstanding executive performance-based restricted stock units;
- 573,780 shares of Class A and Class B common stock issuable upon achievement of certain earn-out provisions;
- 836,431 shares of Class A common stock issuable as a post combination compensation due to achievement of the service and performance conditions;

- 678,297 shares of Class A common stock issuable upon conversion of our \$203.1 million aggregate principal amount of then outstanding convertible notes, at an assumed conversion price of \$3.34;
- 7,593,802 shares of Class A common stock issuable upon conversion of our \$238.7 million aggregate principal amount of then outstanding convertible notes, at an assumed conversion price of \$31.43; and
- 3,764,359 shares of Class A common stock reserved for future issuance under our equity compensation plans, consisting of:
 - 1,721,249 shares of Class A common stock reserved for future issuance under our Management Longer Term Equity Incentive Plan;
 - 1,677,218 shares of Class A common stock reserved for future issuance under our Amended and Restated 2020 Equity Incentive Plan (the “EIP”); and
 - 365,892 shares of Class A common stock reserved for future issuance under our 2020 Employee Stock Purchase Plan.

The foregoing table does not give effect to the exercise of any outstanding options or warrants or the vesting of restricted stock units subsequent to December 31, 2024, the increase of 2,073,584 shares of Class A common stock to the share reserve under our amended and restated 2020 equity incentive plan pursuant to an annual automatic increase, 1,000,000 shares of Class A common stock issued to a vendor pursuant to a subscription agreement and 1,951,819 shares of Class A common stock issued in exchange for existing convertible debt securities subsequent to December 31, 2024. To the extent options and warrants are exercised or additional shares of Class A common stock are issued, there may be further dilution to new investors. In addition, we may raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans and may issue additional equity securities in exchange for existing convertible debt securities. To the extent we raise capital by issuing additional equity or convertible debt securities or issue shares of Class A common stock for other purposes, there may be further dilution to new investors.

DESCRIPTION OF OUR CAPITAL STOCK

General

The following is a summary of the rights of our common stock and preferred stock and certain provisions of our second amended and restated certificate of incorporation, as amended on February 27, 2024 and November 20, 2024, and our amended and restated bylaws as they are currently in effect, which we refer to in this section as our certificate of incorporation and bylaws, respectively. This summary does not purport to be complete and is qualified in its entirety by the provisions of our second amended and restated certificate of incorporation, as amended and amended and restated bylaws, copies of which have been filed with the SEC.

Our authorized capital stock consists of 846,000,000 shares, of which 715,000,000 shares, par value \$0.0001 per share, are designated as Class A common stock (“Class A Stock”), 121,000,000 shares, par value \$0.0001 per share, are designated as Class B common stock (“Class B Stock”) and 10,000,000 shares, par value \$0.0001 per share, are designated as preferred stock. As of March 14, 2025, we had 37,516,619 shares of Class A Stock outstanding, 4,872,578 shares of Class B Stock outstanding and no shares of preferred stock outstanding.

Common Stock

Holders of Class A Stock are entitled to one vote per share and holders of Class B Stock are entitled to ten votes per share, on all matters submitted to a vote of stockholders. The holders of Class A Stock and Class B Stock will generally vote together as a single class on all matters submitted to a vote of stockholders, unless otherwise required by Delaware law or our certificate of incorporation. Delaware law could require either holders of Class A Stock or Class B Stock to vote separately as a single class in the following circumstances:

- if we were to seek to amend the certificate of incorporation to increase or decrease the par value of a class of the capital stock, then that class would be required to vote separately to approve the proposed amendment; and
- if we were to seek to amend the certificate of incorporation in a manner that alters or changes the powers, preferences, or special rights of a class of capital stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Conversion

Each outstanding share of Class B Stock is convertible at any time at the option of the holder into one share of Class A Stock. In addition, each share of Class B Stock will convert automatically into one share of Class A Stock upon any transfer, whether or not for value, except for certain permitted transfers described in the paragraph that immediately follows this paragraph and further described in the certificate of incorporation. Once converted into Class A Stock, the Class B Stock will not be reissued.

A transfer of Class B Stock will not trigger an automatic conversion of such stock to Class A Stock if it is a permitted transfer. A permitted transfer is a transfer by certain holders of Class B Stock to any of the persons or entities listed in clauses “(i)” through “(v)” below, each referred to herein as a Permitted Transferee, and from any such Permitted Transferee back to such holder of Class B Stock and/or any other Permitted Transferee established by or for such holder of Class B Stock: (i) to a trust for the benefit of the holder of Class B Stock and over which such holder of Class B Stock retains sole dispositive power and voting control, provided the holder of Class B Stock does not receive consideration in exchange for the transfer (other than as a settlor or beneficiary of such trust); (ii) to a trust for the benefit of persons other than the holder of Class B Stock so long as the holder of Class B Stock retains sole dispositive power and voting control, provided the holder of Class B Stock does not receive consideration in exchange for the transfer (other than as a settlor or beneficiary of such trust); (iii) to a trust under the terms of which such holder of Class B Stock has retained a “qualified interest” within the meaning of Section 2702(b)(1) of the U.S. Tax Code, and/or a reversionary interest so long as the holder of Class B Stock retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held by such trust; (iv) to an Individual Retirement Account, as defined in Section 408(a) of the U.S. Tax Code, or a pension, profit sharing, stock bonus, or other type of plan or trust of which such holder of Class B Stock is a participant or beneficiary and which satisfies

the requirements for qualification under Section 401 of the U.S. Tax Code, so long as such holder of Class B Stock retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held in such account, plan, or trust; or (v) to a corporation, partnership, or limited liability company in which such holder of Class B Stock directly, or indirectly, retains sole dispositive power and exclusive voting control with respect to the shares of Class B Stock held by such corporation, partnership, or limited liability company.

Each share of Class B Stock will convert automatically, without further action by the Company or the holder thereof, into one fully paid and nonassessable share of Class A Stock, upon: (a) the receipt by the Company of a written request for such conversion from the holders of a majority of the Class B Stock then outstanding, or, if later, the effective date for conversion specified in such request or (b) the occurrence of a transfer, other than a permitted transfer, of such share of Class B Stock.

Each outstanding share of Class B Stock held by a natural person or their Permitted Transferee will convert automatically into one share of Class A Stock upon the death or permanent disability of such holder.

Dividend Rights

Subject to preferences that may apply to any shares of preferred stock outstanding at the time, the holders of Class A Stock and Class B Stock are entitled to receive dividends out of funds legally available if the Board of Directors of the Company (the "Board"), in its discretion, determines to issue dividends and then only at the times and in the amounts that the Board may determine.

No Preemptive or Similar Rights

Class A Stock and Class B Stock will not be entitled to preemptive rights, and are not subject to conversion (except as noted above), redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

If the Company becomes subject to a liquidation, dissolution or winding-up, the assets legally available for distribution to the stockholders would be distributable ratably among the holders of Class A Stock and Class B Stock and any participating preferred stock outstanding at that time, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights of and the payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

Stock Exchange Listing

Our Class A common stock is listed on the Nasdaq Global Select Market. The trading symbol for our Class A common stock is "LAZR."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Equiniti. The transfer agent and registrar's address is 6201 15th Avenue, Brooklyn, NY 11219, and its telephone number is (718) 921-8124.

Preferred Stock

The Board is authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, to establish from time to time the number of shares to be included in each series, and to fix the designation, vesting, powers, preferences, and rights of the shares of each series and any of its qualifications, limitations, or restrictions, in each case without further vote or action by the stockholders. The Board can also increase or decrease the number of shares of any series of preferred stock, but not below the number of shares of that series then outstanding, without any further vote or action by the stockholders.

The Board may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of Class A Stock and Class B Stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could,

among other things, have the effect of delaying, deferring, or preventing a change in control of the Company and may adversely affect the market price of Class A Stock and the voting and other rights of the holders of Class A Stock and Class B Stock. There are no current plans to issue any shares of preferred stock.

Private Warrants

Warrants were issued in a private placement in connection with the initial public offering (the “IPO”) of Gores Metropoulos, Inc. (our name prior to the Business Combination with Legacy Lumina)(the “Private Warrants”). The Private Warrants will not be redeemable by the Company so long as they are held by the Gores Metropoulos Sponsor LLC or its permitted transferees. Otherwise, the Private Warrants have terms and provisions that are identical to those of the warrants sold as part of the public units in the IPO, including as to exercise price, exercisability and exercise period.

If holders of the Private Warrants elect to exercise them on a cashless basis, they would pay the exercise price by surrendering their Private Warrants for that number of shares of Class A Stock equal to the quotient obtained by dividing (x) the product of the number of shares of Class A Stock underlying the Private Warrants, multiplied by the difference between the exercise price of the Private Warrants and the “fair market value” (defined below) by (y) the fair market value. The “fair market value” shall mean the average reported last sale price of the Class A Stock for the 10 trading days ending on the third trading day prior to the date on which the notice of warrant exercise is sent to the warrant agent.

Anti-Takeover Effects of Delaware Law and Our Certificate of Incorporation and Bylaws

Some provisions of Delaware law, the certificate of incorporation, and the bylaws contain provisions that could make the following transactions more difficult: an acquisition of the Company by means of a tender offer; an acquisition of the Company by means of a proxy contest or otherwise; or the removal of incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in the Company’s best interests, including transactions that provide for payment of a premium over the market price for the Company’s shares.

These provisions, summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of the Company to first negotiate with Board. The Company believes that the benefits of the increased protection of the Company’s potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure the Company outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

The Company is subject to the provisions of Section 203 of the DGCL regulating corporate takeovers. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder for a period of three years following the date on which the person became an interested stockholder unless:

- prior to the date of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, but not the outstanding voting stock owned by the interested stockholder, (i) shares owned by persons who are directors and also officers and (ii) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the date of the transaction, the business combination is approved by the board of directors of the corporation and authorized at an annual or special meeting of stockholders, and not by

written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a business combination includes a merger, asset or stock sale, or other transaction or series of transactions together resulting in a financial benefit to the interested stockholder. An interested stockholder is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, did own 15% or more of a corporation's outstanding voting stock. We expect the existence of this provision to have an anti-takeover effect with respect to transactions the Board does not approve in advance. We also anticipate that Section 203 may also discourage attempts that might result in a premium over the market price for the shares of common stock held by stockholders.

Provisions of our Certificate of Incorporation and Bylaws

Our certificate of incorporation and bylaws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of the Company's management team, including the following:

- **Dual Class Common Stock.** The certificate of incorporation provides for a dual class common stock structure pursuant to which holders of Class B Stock will have the ability to control the outcome of matters requiring stockholder approval (even if they own significantly less than a majority of the shares of outstanding Class A Stock), including the election of directors and significant corporate transactions, such as a merger or other sale of the Company or its assets. Directors, executive officers, and employees, and their respective affiliates, may have the ability to exercise significant influence over those matters.
- **Board of Directors Vacancies.** The certificate of incorporation and bylaws authorize only the Board to fill vacant directorships, including newly created seats. In addition, the number of directors constituting the Board is permitted to be set only by a resolution adopted by a majority vote of the Whole Board (as defined in the certificate of incorporation). These provisions prevent a stockholder from increasing the size of the Board and then gaining control of the Board by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of the Board but promotes continuity of management.
- **Classified Board.** The certificate of incorporation and bylaws provide that the Board is divided into three classes of directors. The existence of a classified board of directors could discourage a third-party from making a tender offer or otherwise attempting to obtain control of the Company as it is more difficult and time consuming for stockholders to replace a majority of the directors on a classified board of directors.
- **Directors Removed Only for Cause.** The certificate of incorporation provides that stockholders may remove directors only for cause.
- **Supermajority Requirements for Amendments of Certificate of Incorporation and Bylaws.** The certificate of incorporation further provides that the affirmative vote of holders of at least two-thirds of the voting power of all of the then-outstanding shares of voting stock will be required to amend certain provisions of the certificate of incorporation, including provisions relating to the classified Board, the size of the Board, removal of directors, special meetings, actions by written consent, and designation of preferred stock. In addition, the affirmative vote of holders of 75% of the voting power of each of the then-outstanding Class A Stock and Class B Stock, voting separately by class, is required to amend the provisions of the certificate of incorporation relating to the terms of the Class B Stock. The affirmative vote of holders of at least two-thirds of the voting power of all of the then-outstanding shares of voting stock is required to amend or repeal the bylaws, although the bylaws may be amended by a simple majority vote of the Board.
- **Stockholder Action: Special Meeting of Stockholders.** The certificate of incorporation and bylaws provide that special meetings of stockholders may be called only by a majority of the Whole Board, the chairman of the Board, or the chief executive officer, thus prohibiting a stockholder from calling a special meeting. The certificate of incorporation provides that the stockholders may not take action by written consent, but may only take action at annual or special meetings of stockholders. As a result, holders of capital stock are not able to amend the bylaws or remove directors without holding a meeting of stockholders called in

accordance with the bylaws. These provisions might delay the ability of stockholders to force consideration of a proposal or for stockholders to take any action, including the removal of directors.

- Notice Requirements for Stockholder Proposals and Director Nominations. The bylaws provide advance notice procedures for stockholders seeking to bring business before the annual meeting of stockholders or to nominate candidates for election as directors at the annual meeting of stockholders. The bylaws also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude stockholders from bringing matters before the annual meeting of stockholders or from making nominations for directors at the annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions might also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of the Company.
- No Cumulative Voting. The DGCL provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. The certificate of incorporation and bylaws do not provide for cumulative voting.
- Issuance of Undesignated Preferred Stock. The Board will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by the Board. The existence of authorized but unissued shares of Preferred Stock will enable the Board to render more difficult or to discourage an attempt to obtain control of the Company by means of a merger, tender offer, proxy contest, or other means.
- Choice of Forum. The certificate of incorporation provides that the Chancery Court (or, if and only if the Chancery Court lacks subject matter jurisdiction, any state court located within the State of Delaware or, if and only if all such state courts lack subject matter jurisdiction, the federal district court for the District of Delaware) will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: (1) any derivative action or proceeding brought on behalf of the Company; (2) any action or proceeding asserting a claim of breach of a fiduciary duty owed by any current or former director, officer, or other employee of the Company or any stockholder to the Company or the Company's stockholders; (3) any action or proceeding asserting a claim against the Company or any current or former director, officer or other employee of the Company or any stockholder in such stockholder's capacity as such arising out of or pursuant to any provision of the DGCL, the Second Amended and Restated Certificate of Incorporation or the Amended and Restated Bylaws; (4) any action or proceeding to interpret, apply, enforce or determine the validity of the certificate of incorporation or the bylaws (including any right, obligation or remedy thereunder); (5) any action or proceeding as to which the DGCL confers jurisdiction to the Chancery Court; and (6) any action asserting a claim against the Company or any director, officer or other employee of the Company or any stockholder, governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants. The provisions would not apply to suits brought to enforce a duty or liability created by the Securities Act, the Exchange Act, or any other claim for which the U.S. federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all such Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, the certificate of incorporation provides that the federal district courts of the United States of America will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions. In such instance, we would expect to vigorously assert the validity and enforceability of the exclusive forum provisions of the certificate of incorporation. This may require significant additional costs associated with

resolving such action in other jurisdictions and there can be no assurance that the provisions will be enforced by a court in those other jurisdictions.

Limitation of Liability and Indemnification

Our amended and restated bylaws provide that our directors and officers will be indemnified and advanced expenses by us to the fullest extent authorized or permitted by the DGCL as it now exists or may in the future be amended. In addition, our second amended and restated certificate of incorporation provides that our directors and officers will not be personally liable to us or our stockholders for monetary damages for breaches of their fiduciary duty as directors or officers to the fullest extent permitted by the DGCL as it now exists or may in the future be amended.

The amended and restated bylaws also permit us to purchase and maintain insurance on behalf of any officer, director, employee or agent of ours for any liability arising out of his or her status as such, regardless of whether the DGCL would permit indemnification.

These provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against our directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent we pay the costs of settlement and damage awards against our directors and officers pursuant to these indemnification provisions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

PLAN OF DISTRIBUTION

We have entered into a Financing Agreement (the “Agreement”) with Virtu Americas LLC (“Virtu” or the “sales agent”), pursuant to which we may issue and sell shares of our Class A common stock, \$0.0001 par value per share, through or to Virtu, acting as sales agent or principal. We established this program with Virtu in 2023 and have periodically extended it. Pursuant to this prospectus, we may issue and sell shares of our Class A common stock having a maximum aggregate offering price of \$209,000,000 under the Agreement. Sales of our Class A common stock, if any, will be made by any method permitted by law, including by means of ordinary brokers’ transactions on the Nasdaq Stock Market at market prices, in block transactions, or as otherwise agreed with the sales agent, or by means of any other existing trading market for our Class A common stock or to or through a market maker other than on an exchange. This summary of the material provisions of the Agreement does not purport to be a complete statement of its terms and conditions. A copy of the Agreement was filed as an exhibit to our registration statement on Form S-3 (File No. 333-279118) filed with the SEC on May 3, 2024 and is incorporated by reference into the registration statement of which this prospectus is a part. See “Where You Can Find More Information” below.

Upon delivery of a placement notice and subject to the terms and conditions of the Agreement, Virtu may sell our Class A common stock by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act, including sales made directly on the Nasdaq Global Select Market or any other existing trading market for our Class A common stock.

We will pay the sales agent commissions for its services in acting as sales agent or principal in the sale of Class A common stock. The sales agent will be entitled to compensation equal to up to 2.0% of the gross sales price of each sale of Class A common stock sold through it under the Agreement. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse Virtu for certain specified expenses, in an aggregate amount not exceeding \$50,000, including the fees and disbursements of its legal counsel. We estimate that the total expenses for the offering, excluding compensation payable to the sales agent under the terms of the Agreement, will be approximately \$150,000.

Settlement for sales of Class A common stock will occur on the next day after which shares of our Class A common stock are purchased and sold on the Nasdaq Global Select Market following the date on which such sales are made, or on another date that is agreed upon by us and Virtu in connection with a particular transaction, in return for payment of the net proceeds to us. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

The sales agent will use its commercially reasonable efforts consistent with its normal sales and trading practices and applicable state and federal laws, rules and regulations and the rules of the Nasdaq Stock Market, to sell on our behalf shares of our Class A common stock, under the terms and subject to the conditions set forth in the Agreement. We will instruct the sales agent as to the amount of Class A common stock to be sold. We may instruct the sales agent not to sell Class A common stock if the sales cannot be effected at or above the price designated by us in any instruction. We or the sales agent may suspend the offering of Class A common stock upon proper notice and subject to other conditions.

The sales agent will provide written confirmation to us no later than the opening of the trading day on the Nasdaq Global Select Market immediately following the trading day in which shares of our Class A common stock are sold under the Agreement. Each confirmation will include the number of shares sold on the preceding day, the net proceeds to us and the compensation payable by us to the sales agent in connection with the sales.

We will report at least quarterly the number of shares of Class A common stock sold through or to the sales agent under the Agreement, the net proceeds to us and the compensation paid by us to the sales agent in connection with the sales of Class A common stock.

This offering of shares of our Class A common stock pursuant to the Agreement will terminate upon the earlier of (1) the sale of all Class A common stock subject to the Agreement or (2) termination of the Agreement by us or the sales agent as permitted therein.

The sales agent and its affiliates may in the future provide various investment banking, commercial banking, fiduciary and advisory services to us and our affiliates from time to time for which they have received, and may in the future receive, customary fees and expenses. The sales agent and its affiliates may, from time to time, engage in other transactions with and perform services for us in the ordinary course of their business. To the extent required by Regulation M, the sales agent will not engage in any market making activities involving our Class A common stock while the offering is ongoing under this prospectus.

In connection with the sale of the Class A common stock on our behalf, the sales agent may, and will with respect to sales effected in an “at the market offering,” be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of the sales agent may be deemed to be underwriting commissions or discounts. We have agreed to indemnify the sales agent against specified liabilities, including liabilities under the Securities Act, or to contribute to payments that the sales agent may be required to make because of those liabilities.

This prospectus in electronic format may be made available on a website maintained by Virtu, and Virtu may distribute this prospectus electronically.

LEGAL MATTERS

Certain legal matters will be passed upon for us by Orrick, Herrington & Sutcliffe LLP. The sales agent is being represented in connection with this offering by Duane Morris LLP. Certain attorneys with Orrick, Herrington & Sutcliffe LLP and certain funds affiliated with the firm own and/or have an indirect interest in shares of Class A common stock, which represent less than 1% of our Class A common stock.

EXPERTS

The financial statements of Luminar Technologies, Inc. as of December 31, 2024 and 2023, and for each of the three years in the period ended December 31, 2024, incorporated by reference in this prospectus by reference to Luminar Technologies, Inc.'s annual report on Form 10-K for the year ended December 31, 2024, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the reports of such firm given their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 (File No. 333-279118) we filed with the SEC under the Securities Act and does not contain all of the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document.

For further information with respect to the Company and its Class A common stock, reference is made to the registration statement and the exhibits and any schedules filed therewith. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov.

We are subject to the information reporting requirements of the Exchange Act and we are required to file reports, proxy statements and other information with the SEC. These reports, proxy statements, and other information are available for inspection and copying at the SEC's website referred to above. We also maintain a website at www.luminartech.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus which has been previously filed with the SEC, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except for any information superseded by information included or subsequently incorporated by reference in this prospectus. We have filed the documents listed below with the SEC under the Exchange Act, and these documents are incorporated herein by reference (except to the extent such information is furnished):

- our [Annual Report on Form 10-K for the year ended December 31, 2024, as filed with the SEC on March 28, 2025](#)
- our Current Report on [Form 8-K filed on March 24, 2025](#), as amended by [Form 8-K/A filed on March 28, 2025](#); and
- the description of our Class A common stock in our registration statement on [Form 8-A](#) filed with the SEC on January 31, 2019, as updated by the description of our capital stock included in [Exhibit 4.4 of our Annual Report on Form 10-K filed with the SEC on March 28, 2025](#) and any other amendment or report filed for the purpose of updating such description.

All documents that we file (but not those that we furnish) with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the filing of the registration statement of which this prospectus is a part and prior to effectiveness of the registration statement, and (ii) after the effectiveness of the registration statement but prior to the termination of the offering of securities covered by this prospectus will be deemed to be incorporated by reference into this prospectus and will automatically update and supersede the information in this prospectus and any previously filed document.

We will provide to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus (other than the exhibits to such documents which are not specifically incorporated by reference herein). We will provide this information at no cost to the requester upon written or oral request to:

Luminar Technologies, Inc.
2603 Discovery Drive, Suite 100
Orlando, Florida 32826
Telephone: (800) 532-2417

You may also access these documents, free of charge on the SEC’s website at www.sec.gov or on the “Investors” page of our website at luminartech.com. Information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information on, or that can be accessed from, our website as part of this prospectus.

Up to \$209,000,000



LUMINAR TECHNOLOGIES, INC.

Class A Common Stock

PROSPECTUS



, 2025

PART II INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the estimated costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the issuance and distribution of the securities registered hereby.

| | Amount to be Paid | |
|---|----------------------|----|
| SEC registration fee | \$ 48,221 | ** |
| FINRA filing fee | | * |
| Accounting fees and expenses | | * |
| Legal fees and expenses (including Blue Sky fees) | | * |
| Transfer agent, trustee and warrant agent fees and expenses | | * |
| Printing expenses | | * |
| Miscellaneous | | * |
| Total | \$ | * |

* These fees and expenses depend on the securities offered and the number of issuances and accordingly cannot be estimated at this time and will be provided as applicable by amendment or in a filing with the SEC pursuant to the Exchange Act and incorporated herein by reference.

** Previously paid.

Item 15. Indemnification of Directors and Officers.

Section 145 of the Delaware General Corporation Law (the “DGCL”) provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been 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, partnership, joint venture, trust or other enterprise. The DGCL provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaws, agreement, vote of stockholders or disinterested directors or otherwise. The registrant’s Second Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws provide for indemnification by the registrant of its directors and officers to the fullest extent permitted by the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director or officer of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or officer, except for liability (1) for any breach of the director’s or officer’s duty of loyalty to the corporation or its stockholders, (2) for a director’s or officer’s acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) with respect to directors, for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, (4) with respect to directors or officers, for any transaction from which the director or officer derived an improper personal benefit, or (5) with respect to officers, in any action by or in the right of corporation. The registrant’s Second Amended and Restated Certificate of Incorporation provides for such limitation of liability to the fullest extent permitted by the DGCL.

The registrant has entered into, and expects to continue to enter into, indemnification agreements with each of its directors and executive officers. These agreements provide that the registrant will indemnify each of its directors and such officers to the fullest extent permitted by law.

Any underwriting agreement or distribution agreement that the registrant enters into with any underwriters or agents involved in the offering or sale of any securities registered hereby may require such underwriters or dealers to indemnify the registrant, some or all of its directors and officers and its controlling persons, if any, for specified liabilities, which may include liabilities under the Securities Act.

The registrant also maintains standard policies of insurance under which coverage is provided to its directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act, while acting in their capacity as directors and officers of the registrant.

Item 16. Exhibits.

| Exhibit Number | Exhibit Title |
|----------------|---|
| 1.1* | Form of Underwriting Agreement |
| 1.2 | Form of Subscription Agreement (incorporated by reference to Exhibit 1.2 to the Registrant's Registration Statement on Form S-3 (Registration No. 333-262250) filed with the Commission on January 20, 2022) |
| 1.3 | Financing Agreement, dated May 3, 2024, by and between the Registrant and Virtu Americas LLC(incorporated by reference to Exhibit 1.3 to the Registrant's Registration Statement on Form S-3ASR (Registration No. 333-279118) filed with the Commission on May 3, 2024) |
| 4.1 | Second Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K/A filed with the Commission on December 8, 2020) |
| 4.2 | Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.2 of the Registrant's Annual Report on Form 10-K filed with the Commission on February 28, 2024) |
| 4.3 | Certificate of Amendment to the Second Amended and Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed with the Commission on November 22, 2024) |
| 4.4 | Amended and Restated By-laws of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed with the Commission on August 30, 2024) |
| 4.5 | Specimen Class A Common Stock Certificate of the Registrant (incorporated by reference to Exhibit 4.1 of the Registrant's Form 8-K/A filed with the Commission on December 8, 2020) |
| 4.6* | Form of any certificate of designation with respect to any preferred stock issued hereunder and the related form of preferred stock certificate |
| 4.7* | Form of any warrant agreement with respect to each particular series of warrants issued hereunder |
| 4.8* | Form of any unit agreement with respect to any unit issued hereunder |
| 4.9 | Form of Indenture (incorporated by reference to Exhibit 4.5 of the Registrant's Registration Statement on Form S-3 (Registration No. 333-262250) filed with the Commission on January 20, 2022) |
| 4.10* | Form of Note |
| 5.1 | Opinion of Orrick, Herrington & Sutcliffe LLP |
| 23.1 | Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm |
| 23.2 | Consent of Orrick, Herrington & Sutcliffe LLP (included in Exhibit 5.1) |
| 24.1 | Power of Attorney (incorporated by reference to Exhibit 24.1 of the Registrant's Registration Statement on Form S-3ASR (Registration No. 333-279118) filed with the Commission on May 3, 2024) |
| 24.2 | Power of Attorney (Shaun Maguire, PhD)(incorporated by reference to Exhibit 24.2 of the Registrant's Amendment No. 1 to Registration Statement on Form S-3ASR (Registration No. 333-279118) filed with the Commission on March 28, 2025) |
| 24.3 | Power of Attorney (Dominick Schiano)(incorporated by reference to Exhibit 24.3 of the Registrant's Amendment No. 1 to Registration Statement on Form S-3ASR (Registration No. 333-279118) filed with the Commission on March 28, 2025) |
| 25.1** | Form T-1 Statement of Eligibility of Trustee for Senior Indenture under the Trust Indenture Act of 1939, as amended |
| 25.2** | Form T-1 Statement of Eligibility of Trustee for Subordinated Indenture under the Trust Indenture Act of 1939, as amended |
| 107 | Filing fee table |

* To be filed, if necessary, subsequent to the effectiveness of this registration by an amendment to this registration statement or incorporation by reference pursuant to a Current Report on Form 8-K in connection with an offering of securities.

** To be filed, if necessary, as an exhibit to a Current Report on Form 8-K or pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939 and incorporated herein by reference.

Item 17. Undertakings.

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 the volume of securities offered (if the total dollar value of 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 prospectus filed with the SEC 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 (1)(i), (1)(ii) and (1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of 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.
 - (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such

effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

- (5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
 - (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (6) 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 that time shall be deemed to be the initial bona fide offering thereof.
- (7) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the SEC under Section 305(b)(2) of the Trust Indenture Act.

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 SEC such indemnification is 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 the 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, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment No. 2 to the registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Orlando, State of Florida, on April 1, 2025.

LUMINAR TECHNOLOGIES, INC.

By: /s/ Thomas J. Fennimore
 Thomas J. Fennimore
 Chief Financial Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 2 to the registration statement has been signed by the following persons in the capacities and on the dates indicated.

| Name | Title | Date |
|-------------------------|---|---------------|
| * | President, Chief Executive Officer and Chairman of the Board of Directors | April 1, 2025 |
| Austin Russell | (Principal Executive Officer) | |
| /s/ Thomas J. Fennimore | Chief Financial Officer | April 1, 2025 |
| Thomas J. Fennimore | (Principal Financial and Accounting Officer) | |
| * | | |
| Alec E. Gores | Director | April 1, 2025 |
| * | | |
| Jun Hong Heng | Director | April 1, 2025 |
| * | | |
| Mary Lou Jepsen, PhD | Director | April 1, 2025 |
| * | | |
| Shaun Maguire, PhD | Director | April 1, 2025 |
| * | | |
| Katharine A. Martin | Director | April 1, 2025 |
| * | | |
| Dominick Schiano | Director | April 1, 2025 |
| * | | |
| Matthew J. Simoncini | Director | April 1, 2025 |
| * | | |
| Daniel D. Tempesta | Director | April 1, 2025 |

*By /s/ Thomas J. Fennimore
 Thomas J. Fennimore
 Attorney-in-fact

Calculation of Filing Fee Tables

Form S-3ASR
(Form Type)Luminar Technologies, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered and Carry Forward Securities

| | Security Type | Security Class Title | Fee Calculation or Carry Forward Rule | Amount Registered | Proposed Maximum Offering Price Per Unit (1) | Maximum Aggregate Offering Price | Fee Rate | Amount of Registration Fee |
|--------------------------------|-------------------------------|--|---------------------------------------|-------------------|--|----------------------------------|-----------|----------------------------|
| Fees to be Paid | Equity | Class A Common Stock, \$0.0001 par value per share | 457(o) | (2) | — | — | — | — |
| | Equity | Preferred Stock, par value \$0.0001 per share | 457(o) | (2) | — | — | — | — |
| | Debt | Debt Securities | 457(o) | (2) | — | — | — | — |
| | Equity | Warrants (3) | 457(o) | (2) | — | — | — | — |
| | Equity | Units (4) | 457(o) | (2) | — | — | — | — |
| | Unallocated (Universal) Shelf | | 457(o) | \$100,000,000 | — | \$100,000,000 | 0.0001531 | \$15,310.00 |
| | Equity | Class A Common Stock, \$0.0001 par value per share | 457(o)(5) | \$209,000,000 | \$— | \$209,000,000 | 0.0001531 | \$31,997.90 |
| Fees Previously Paid | Equity | Class A Common Stock, \$0.0001 par value per share | 457(c)(6) | 1,000,000 | \$5.96 | \$5,960,000 | 0.0001531 | \$912.48 |
| | Unallocated (Universal) Shelf | | 457(o) | \$100,000,000 | — | \$100,000,000 | 0.0001531 | \$15,310.00 |
| | Equity | Class A Common Stock, \$0.0001 par value per share | 457(o) | \$209,000,000 | \$— | \$209,000,000 | 0.0001531 | \$31,997.90 |
| | Equity | Class A Common Stock, \$0.0001 par value per share | 457(c) | 1,000,000 | \$5.96 | \$5,960,000 | 0.0001531 | \$912.48 |
| Total Offering Amounts | | | | | | | | \$48,220.38 |
| Total Fees Previously Paid (7) | | | | | | | | \$48,220.38 |
| Total Fee Offsets | | | | | | | | N/A |
| Net Fee Due | | | | | | | | 0 |

- (1) The proposed maximum offering price will be determined from time to time by the registrant in connection with the issuance by the registrant of shares of its Class A common stock, \$0.0001 par value per share ("Class A Common Stock").
- (2) The amount to be registered consists of an indeterminate amount of Class A Common Stock, preferred stock, debt securities, warrants and/or units and shall have an aggregate initial offering price not to exceed \$100,000,000. Also registered hereunder is such currently indeterminate number of (i) shares of Class A Common Stock or other securities of the registrant as may be issued upon conversion of, or in exchange for, convertible or exchangeable debt securities and/or preferred stock registered hereby, or (ii) shares of debt securities, Class A Common Stock, preferred stock or units as may be issued upon exercise of warrants registered hereby, as the case may be, including under any applicable antidilution provisions. Any securities registered hereunder may be sold separately or together with other securities registered hereunder. Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement also covers any additional securities that may be offered or issued in connection with any stock split, stock dividend or pursuant to antidilution provisions of any of the securities. Separate consideration may or may not be received for securities that are issuable upon conversion, exercise or exchange of other securities. If any debt securities are issued at an original issue discount, then the principal amount of such debt securities shall be in such greater amount as shall result in an aggregate initial offering price not to exceed \$100,000,000, less the aggregate dollar amount of all securities previously issued hereunder.
- (3) Warrants may be sold separately or together with any of the securities registered hereby and may be exercisable for shares of Class A Common Stock, preferred stock, debt securities, or units registered hereby. Because the warrants will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.
- (4) Each unit will be issued under a unit agreement and will represent an interest in two or more securities registered pursuant to this registration statement, which may or may not be separable from one another. Because the units will provide a right only to purchase such securities offered hereunder, no additional registration fee is required.
- (5) The amount to be registered relates to Class A Common Stock that may be issued and sold pursuant to the registrant's equity finance program pursuant to a prospectus included in this registration statement.
- (6) The amount to be registered relates to 1,000,000 shares of Class A Common Stock to be sold pursuant to a prospectus included in Post-Effective Amendment No. 1 to this registration statement.
- (7) The registrant previously paid a total fee of \$48,220.38, consisting of (i) \$15,310.00 related to the \$100,000,000 in unallocated (universal) shelf securities, (ii) \$31,997.90 related to the \$209,000,000 in shares of Class A Common Stock of the registrant that may be issued and sold under the registrant's equity financing program, and (iii) \$912.48 related to the 1,000,000 shares of Class A Common Stock sold pursuant to a prior prospectus included in Post-Effective Amendment No. 1 to the registration statement.



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April 1, 2025

Luminar Technologies, Inc.
2603 Discovery Drive, Suite 100
Orlando, Florida 32826

Re: Post-Effective Amendment No. 2 to Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Luminar Technologies, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company of Post-Effective Amendment No. 2 to the Registration Statement on Form S-3 (File No. 333-279118) (the "Initial Registration Statement") and as so amended, the "Registration Statement") with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), containing: (a) a base prospectus (the "Base Prospectus") for the offering from time to time, pursuant to Rule 415 of the General Rules and Regulations of the Commission promulgated under the Securities Act, by the Company of securities as set forth below, including shares of the Company's Class A common stock, par value \$0.0001 per share (the "Class A common stock"); (b) a prospectus (the "ATM Prospectus") covering up to \$134 million in aggregate offering price of shares of Class A common stock that remain unsold as of the date hereof (the "Unsold Shares") pursuant to the Initial Registration Statement and the Sales Agreement (defined below), and up to an additional \$75 million in aggregate offering price of shares of Class A common stock (together with the Unsold Shares, the "ATM Shares"), which may be sold from time to time under the Financing Agreement, dated as of May 3, 2024, by and between the Company and Virtu Americas LLC (the "Sales Agreement") and such shares the "ATM Shares"). The Base Prospectus will be supplemented for any future offerings under the Registration Statement by one or more prospectus supplements (each, a "Prospectus Supplement").

The Registration Statement, including the Base Prospectus (as supplemented from time to time by one or more Prospectus Supplements) provides for the registration of the offering by the Company of (a) up to \$100 million of securities of the Company consisting of (i) shares of Class A common stock ("Company Shares", which excludes the ATM Shares), including shares of Class A common stock that may be issued upon the conversion of Preferred Stock or Debt Securities (each as defined below) or the exercise of Warrants (as defined below); (ii) shares of preferred stock of the Company, \$0.0001 par value per share ("Preferred Stock"), which may be issued in one or more series, including Preferred Stock that may be issued upon the conversion of Debt Securities or the exercise of Warrants; (iii) debt securities of the Company, which may be senior or subordinated, and which may be issued in one or more series ("Debt Securities"); (iv) warrants to purchase Class A Common Stock, Preferred Stock or Debt Securities, or other securities, currencies or commodities ("Warrants"); and (v) units consisting of Class A Common Stock, Preferred Stock, Debt Securities or Warrants, in any combination ("Units"); and (b) the ATM Shares. The Company Shares, Preferred Stock, Debt Securities, Warrants and Units are collectively referred to herein as the "Company Securities", and the Company Securities and the ATM Shares are collectively referred to herein as the "Securities".

The offering of the Company Securities will be as set forth in the Base Prospectus, as supplemented by one or more Prospectus Supplements. The preferences, limitations and relative rights of shares of any series of Preferred Stock will be set forth in a Certificate of Designation (a "Certificate of Designation"). The Debt Securities may be issued pursuant to an indenture between the Company and a bank or trust company to be appointed in the future and duly qualified under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act"), as trustee (a "Trustee"), in the form filed as Exhibit 4.8 to the Registration Statement and one or more board resolutions, supplements thereto or officer's certificates thereunder (such indenture, together with the applicable board resolution, supplement or officer's certificate pertaining to the applicable series of Debt Securities, the "Indenture"). The Warrants may be issued pursuant to a warrant agreement (a "Warrant Agreement") to be entered into between the Company and a bank or trust company to be named, as warrant agent. The Units may be issued pursuant to a Unit Agreement (a "Unit Agreement") to be entered into between the Company and a bank or trust company to be named, as unit agent.

The offering of the ATM Shares will be as set forth in the ATM Prospectus.

In connection with rendering this opinion, we have examined and relied upon originals or copies, certified or otherwise, identified to our satisfaction, of (i) the Second Amended and Restated Certificate of Incorporation of the Company, as amended through the date hereof, (ii) the Amended and Restated Bylaws of the Company, as amended through the date hereof, (iii) certain resolutions of the Board of Directors of the Company (including any committee thereof) relating to the Registration Statement and the issuance, sale and registration of certain Class A Common Stock, (iv) the Registration Statement, (v) the Base Prospectus, (vi) the ATM Prospectus and (vii) such corporate records of the Company, certificates of public officials, officers of the Company and other persons, and such other documents, agreements and instruments as we have deemed relevant and necessary or appropriate as a basis for the opinions set forth below.

In our examination, we have assumed the legal capacity of all natural persons, the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified or photostatic copies, and the authenticity of the originals of such copies. In making our examination of documents executed or to be executed, we have assumed that the parties thereto, other than the Company, had or will have the power, corporate or other, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and the execution and delivery by such parties of such documents and the validity and binding effect thereof on such parties. As to any facts material to the opinions expressed herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and others and of public officials.

We have also assumed that: (i) the Registration Statement and any amendments thereto (including post-effective amendments) will have become effective under the Securities Act and comply with all applicable laws and such effectiveness shall not have been terminated or rescinded; (ii) the Registration Statement will be effective and will comply with all applicable laws at the time the Securities are offered or issued as contemplated by the Registration Statement; (iii) with respect to the Company Securities, one or more Prospectus Supplements or term sheets describing the Company Securities offered thereby will have been prepared, delivered and filed with the Commission and will comply with all applicable laws; (iii) with respect to the Company Securities, the Board of Directors of the Company, or a duly authorized committee thereof, shall have taken such action as may be necessary to authorize the issuance and sale

of such Securities, and if applicable, establish the relative rights and preferences of such Securities, or other terms of such Securities, in each case as set forth in or contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating to such Securities; (iv) with respect to the ATM Shares, the Board of Directors of the Company, or a duly authorized committee thereof, shall have taken such action as may be necessary to authorize each issuance and sale of ATM Shares; (v) all Securities will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement, the Base Prospectus and the applicable Prospectus Supplement; (vi) there shall not have occurred any change in law affecting the legality or enforceability of such Securities; (vii) a definitive purchase, underwriting, sales agreement or similar agreement with respect to any Securities offered or issued will have been duly authorized and validly executed and delivered by the Company and the other parties thereto; (viii) the Indenture will be duly qualified under the Trust Indenture Act and the applicable Trustee is qualified to act as trustee under the Indenture; (ix) any Securities issuable upon conversion, exchange, or exercise of any Company Securities being offered or issued will be duly authorized, created, and, if appropriate, reserved for issuance upon such conversion, exchange, or exercise; (x) after the issuance of any Securities offered pursuant to the Registration Statement, the total number of issued shares of Class A common stock or Preferred Stock, as applicable, together with the total number of shares of such stock issuable upon the exercise, exchange, conversion or settlement, as the case may be, of any exercisable, exchangeable or convertible security (including without limitation any Unit), as the case may be, then outstanding, will not exceed the total number of authorized shares of Class A common stock or Preferred Stock, as applicable, available for issuance under the Company's certificate of incorporation as then in effect; (xi) the consideration received for the issuance and sale of Company Shares, Preferred Stock or ATM Shares, as applicable, will be in an amount that is not less than the par value per share of such stock; (xii) at the time of the issuance and sale of the Securities, the Company will be validly existing as a corporation and in good standing under the laws of the State of Delaware; (xiii) except as specifically covered in the opinions set forth below, each of the Debt Securities, Warrants, Units and the applicable Indenture, Warrant Agreement and Unit Agreement constitute valid and binding obligations of each party thereto; (xiv) any Warrant Agreement or Unit Agreement will be governed by the laws of the State of New York; and (xv) none of the terms of any Securities to be established subsequent to the date hereof, nor the issuance and delivery of such Securities, nor the compliance by the Company with the terms thereof, will result in the violation of any applicable law, result in a default under or breach of any agreement or instrument then binding upon the Company or result in the violation of any restriction imposed by any court or governmental body having jurisdiction over the Company.

Our opinion herein is limited to the General Corporation Law of the State of Delaware and, with respect to the opinions set forth in paragraphs (3) through (5) below, the laws of the State of New York.

Based upon and subject to the foregoing, we are of opinion that:

1. The Company Shares will be validly issued, fully paid and nonassessable at such time as: (a) the terms of the issuance and sale of the Company Shares have been duly authorized by appropriate action of the Company; and (b) the Company Shares have been duly issued and paid for as contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating thereto.

2. The Preferred Stock will be validly issued, fully paid and nonassessable at such time as: (a) the terms of the issuance and sale of the Preferred Stock have been duly authorized by appropriate action of the Company; (b) a Certificate of Designation relating to the applicable series of Preferred Stock

has been filed with the Secretary of State of the State of Delaware in the form and manner required by law; and (c) the Preferred Stock has been duly issued and paid for as contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating thereto.

3. The Debt Securities will constitute valid and binding obligations of the Company at such time as: (a) the applicable Indenture has been duly authorized, executed and delivered by the Company and the Trustee; (b) the forms and the terms of the Debt Securities and their issuance and sale have been duly established in conformity with the applicable Indenture and approved by appropriate action of the Company; (c) the Debt Securities have been duly executed and delivered by the Company and authenticated by the Trustee in accordance with the applicable Indenture; and (d) the Debt Securities have been issued and paid for as contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating thereto.

4. The Warrants will constitute valid and binding obligations of the Company at such time as: (a) the applicable Warrant Agreement relating to the Warrants has been duly authorized, executed and delivered by the Company and the applicable warrant agent; (b) the forms and the terms of the Warrants and their issuance and sale have been duly established in conformity with the applicable Warrant Agreement and approved by appropriate action of the Company; (c) the Warrants have been duly executed and delivered by the Company and authenticated by the applicable warrant agent in accordance with the applicable Warrant Agreement; and (d) the Warrants have been issued and paid for as contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating thereto.

5. The Units will constitute valid and binding obligations of the Company at such time as: (a) the applicable Unit Agreement relating to the Units has been duly authorized, executed and delivered by the Company and the applicable unit agent; (b) the terms of the Units (including the Securities underlying the Units) and their issuance and sale have been duly established in conformity with the applicable Unit Agreement and approved by appropriate action of the Company; (c) the Units (and the Securities underlying the Units) have been duly executed and delivered by the Company and authenticated by the applicable unit agent in accordance with the applicable Unit Agreement; and (d) the Units have been issued and paid for as contemplated by the Registration Statement, the Base Prospectus and any Prospectus Supplement relating thereto.

6. The ATM Shares will be validly issued, fully paid and nonassessable at such time as: (a) the terms of the issuance and sale of the ATM Shares have been duly authorized by appropriate action of the Company; and (b) the ATM Shares have been duly issued and paid for in accordance with the Sales Agreement and as contemplated by the Registration Statement and the ATM Prospectus.

The opinions set forth in paragraphs (3) through (5) above are subject, as to enforcement, to (a) the effect of bankruptcy, insolvency, liquidation, receivership, moratorium, reorganization, fraudulent conveyance or similar laws relating to or affecting the rights of creditors generally; (b) general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith, fair dealing, and the rules governing the availability of specific performance or injunctive relief, whether enforcement is sought in a proceeding in equity or at law; and (c) provisions of law that require that a judgment for money damages rendered by a court in the United States be expressed only in United States dollars.

Luminar Technologies, Inc.
April 1, 2025
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We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement and to the use of our name under the caption "Legal Matters" in the Base Prospectus and the ATM Prospectus included in the Registration Statement. In giving such consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act, or the General Rules and Regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Orrick, Herrington & Sutcliffe LLP

ORRICK, HERRINGTON & SUTCLIFFE LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated March 28, 2025, relating to the financial statements of Luminar Technologies, Inc. appearing in the Annual Report on Form 10-K of Luminar Technologies, Inc., for the year ended December 31, 2024. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Deloitte & Touche LLP

San Jose, California
April 1, 2025