Registration No. 333-

_____ SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549 _____ FORM S-8 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933 _____ CIENA CORPORATION (Exact name of registrant as specified in its charter) Delaware (State or other jurisdiction of incorporation or organization) 23-2725311 _____ _____ (I.R.S. Employer Identification No.) 1201 Winterson Road Linthicum, Maryland 21090 (410) 865-8500 _____ (Address, including zip code, and telephone number, including area code, of registrant's principal executive offices) ____ CIENA Corporation 1999 Non-Officer Stock Option Plan (Full title of the Plan) _____ Michael O. McCarthy III Vice President, General Counsel and Secretary CIENA Corporation 1201 Winterson Road Linthicum, Maryland 21090 (410) 865-8500 (Name, address and telephone number, including area code, of agent for service) Copy to: Michael J. Silver, Esq. Hogan & Hartson L.L.P. 111 South Calvert Street Baltimore, Maryland 21202 (410) 659-2700

CALCULATION OF REGISTRATION FEE

TITLE OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE	AMOUNT OF REGISTRATION FEE (1)
Common Stock, par value \$.01 per share (2)	6,000,000	\$ 99.09	\$ 594,562,500	\$ 156,965

(1) Estimated pursuant to Rule 457(c) and (h) of the Securities Act of 1933, as amended, solely for the purpose of calculating the amount of the registration fee, based on the average of the high and low prices per share of CIENA Corporation common stock, par value \$.01 per share, on February 15, 2000, as reported on the NASDAQ National Market.

(2) Includes Series A Junior Participating Preferred Share Purchase Rights attached thereto, for which no separate fee is payable pursuant to Rule 457(i).

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I will be sent or given to employees as specified by Rule 428(b)(1) of the Securities Act of 1933 (the "Securities Act"). In accordance with the instructions to Part I of Form S-8, such documents will not be filed with the Securities and Exchange Commission (the "Commission"). These documents and the documents incorporated by reference pursuant to Item 3 of Part II of this registration statement, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

CIENA Corporation (the "Company") hereby incorporates by reference into this registration statement the following documents filed by it with the Commission:

- (a) The Registrant's Form 10-K for the fiscal year ended October 31, 1999 and filed December 10, 1999 and the Registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2000 and filed February 17, 2000;
- (b) All reports filed with the Commission pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), since October 31, 1999; and
- (c) The description of the Company's Common Stock, \$.01 par value per share ("Common Stock"), contained in the Registrant's Registration Statement on Form 8-A filed with the Commission on January 13, 1997, including all amendments and reports filed under Section 13(a) or 15(d) of the Exchange Act for purposes of updating the description of Common Stock.

In addition, all documents and reports filed by the Company subsequent to the date hereof pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment to this registration statement which indicates that all securities offered have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents or reports. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequent filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

ITEM 4. DESCRIPTION OF SECURITIES.

Not applicable (the Common Stock is registered under Section 12(g) of the Exchange Act).

3 ITEM 5.

INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law permits indemnification of officers, directors and other corporate agents under certain circumstances and subject to certain limitations. The Registrant's Third Amended and Restated Certificate of Incorporation and bylaws provide that the Registrant shall indemnify its directors, officers, employees and agents to the full extent permitted by Delaware General Corporation Law, including in circumstances in which indemnification is otherwise discretionary under Delaware law. In addition, the Registrant has entered into separate indemnification agreements with its directors, officers and certain employees which require the Registrant, among other things, to indemnify them against certain liabilities which may arise by reason of their status or service (other than liabilities arising from willful misconduct of a culpable nature) and to maintain directors' and officers' liability insurance, if available on reasonable terms. The Registrant has directors' and officers' liability insurance with up to $100\ {\rm million}$ coverage per year. These indemnification provisions and the indemnification agreement between the Registrant and its officers and directors may be sufficiently broad to permit indemnification of the Registrant's officers and directors for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.

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ITEM 7.

EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

EXHIBITS.

Exhibit.

ITEM 8.

Number	Description
4.1	Form of Common Stock Certificate (filed as Exhibit 4.1 to the Company's Registration Statement on Form S-1, Registration No.333-17729 and incorporated herein by reference).
4.2	Rights Agreement dated December 29, 1997 (filed as Exhibit 4.2 to the Registrant's Form 8-K dated December 29, 1997 and incorporated herein by reference).

5.1	Opinion of Hogan & Hartson L.L.P. regarding the legality of the shares being registered (filed herewith).
10.22	CIENA Corporation 1999 Non-Officer Stock Option Plan and Form of Stock Option Agreement (filed as Exhibit 10.22 to the Registrant's Form 10-K for the fiscal year ended October 31, 1999).
23.1	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1).
23.2	Consent of PricewaterhouseCooopers LLP (filed herewith).
24.1	Power of Attorney (included on signature page).

ITEM 9. UNDERTAKINGS.

(a) 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 of 1933;

(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 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent 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 (a) (1) (i) and (a) (1) (ii) do not apply if the registration statement is on Form S-3, Form S-8 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein,

3

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.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) 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.

(c) The undertaking concerning indemnification is set forth under the response to Item 6.

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-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Linthicum, State of Maryland, on this 22nd day of February, 2000.

CIENA CORPORATION

By: /s/ Patrick H Nettles, Ph.D. Patrick H. Nettles, Ph.D. President and Chief Executive Officer

POWER OF ATTORNEY

Know all men by these presents, that each individual whose signature appears below constitutes and appoints Patrick H. Nettles, Ph.D., Joseph R. Chinnici and Michael O. McCarthy III, and each of them as his true and lawful attorney-in-fact and agent, with power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign a registration statement (the "Registration Statement") relating to a registration of shares of common stock on Form S-8 and to sign any and all amendments (including post-effective amendments) to the Registration Statement, and to file the same, with all exhibits and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

Signature	Title 	Date
/s/ Patrick H. Nettles, Ph.D. Patrick H. Nettles, Ph.D.	Director, President and Chief Executive Officer	February 22, 2000
/s/ Joseph R. Chinnici Joseph R. Chinnici	Senior Vice President, Chief Financial Officer, Principal Financial Officer	February 22, 2000
/s/ Andrew C. Petrik Andrew C. Petrik	Vice President, Controller and Treasurer, Principal Accounting Officer	February 22, 2000
/s/ Harvey B. Cash Harvey B. Cash	Director	February 22, 2000

5

/s/ Billy B. Oliver	Director	February 22, 2000
Billy B. Oliver		
/s/ Michael J. Zak	Director	February 22, 2000
 Michael J. Zak		
/s/ Stephen P. Bradley	Director	February 22, 2000
Stephen P. Bradley		
/s/ John R. Dillon	Director	February 22, 2000
John R. Dillon		
/s/ Gerald H. Taylor	Director	February 22, 2000
- Gerald H. Taylor		

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4.2	Rights Agreement dated December 29, 1997 (filed as Exhibit 4.2 to the Registrant's Form 8-K dated December 29, 1997 and incorporated herein by reference).
5.1	Opinion of Hogan & Hartson L.L.P. regarding the legality of the securities being registered (filed herewith).
10.22	CIENA Corporation 1999 Non-Officer Stock Option Plan and Form of Stock Option Agreement (filed as Exhibit 10.22 to the Registrant's Form 10-K for the fiscal year ended October 31, 1999).
23.1	Consent of Hogan & Hartson L.L.P. (included in Exhibit 5.1).
<u></u>	

- 23.2 Consent of PricewaterhouseCoopers LLP (filed herewith).
- 24.1 Power of Attorney (included on signature page).

February 22, 2000

Board of Directors CIENA Corporation 1201 Winterson Road Linthicum, Md. 21090

Gentlemen:

We are acting as special counsel to CIENA Corporation, a Delaware corporation (the "COMPANY"), in connection with its registration statement on Form S-8, as amended (the "REGISTRATION STATEMENT"), filed with the Securities and Exchange Commission relating to the registration of up to 6,000,000 shares (the "SHARES") of the Company's common stock, par value \$.01 per share, issuable under the CIENA Corporation 1999 Non-Officer Stock Option Plan (the "PLAN"). This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. Section 229.601(b)(5), in connection with the Registration Statement.

For purposes of this opinion letter, we have examined copies of the following documents:

- 1. An executed copy of the Registration Statement.
- 2. A copy of the Plan.
- 3. The Third Restated Certificate of Incorporation of the Company, as amended, as certified by the Secretary of the State of the State of Delaware on February 16, 2000 and by the Secretary of the Company on the date hereof as being complete, accurate, and in effect.
- The Bylaws of the Company, as certified by the Secretary of the Company on the date hereof as being complete, accurate, and in effect.

5. Resolutions of the Board of Directors of the Company adopted at a meeting held on August 18, 1999, as certified by the Secretary of the Company on the date hereof as being complete, accurate, and in effect, relating to the issuance and sale of the Shares and arrangements in connection therewith.

In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including telecopies). This opinion letter is given, and all statements herein are made, in the context of the foregoing.

This opinion letter is based as to matters of law solely on Delaware corporate law. We express no opinion herein as to any other laws, statutes, ordinances, rules, or regulations.

Based upon, subject to and limited by the foregoing, we are of the opinion that the Shares, when issued and delivered in the manner and on the terms contemplated in the Registration Statement and the Plan, will be validly issued, fully paid, and non-assessable.

This opinion letter has been prepared for your use in connection with the Registration Statement and speaks as of the date hereof. We assume no obligation to advise you of any changes in the foregoing subsequent to the delivery of this opinion letter.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not thereby admit that we are an "expert" within the meaning of the Securities Act of 1933, as amended.

> Very truly yours, /s/ HOGAN & HARTSON L.L.P. HOGAN & HARTSON L.L.P.

-2-

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of CIENA Corporation of our report dated November 24, 1999 appearing in CIENA Corporation's Annual Report on Form 10-K for the year ended October 31, 1999.

PricewaterhouseCoopers LLP McLean, Virginia February 17, 2000