

PHOTRONICS INC  
Form DEF 14A  
February 28, 2019  
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**SCHEDULE 14A**  
**(Rule 14a-101)**

**INFORMATION REQUIRED IN PROXY STATEMENT**  
**SCHEDULE 14A INFORMATION**

**Proxy Statement Pursuant to Section 14(a) of the**  
**Securities Exchange Act of 1934 (Amendment No. )**

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement  Soliciting Material Under Rule 14a-12
- Confidential, For Use of the Commission Only  
(as permitted by Rule 14a-6(e)(2))
- Definitive Proxy Statement
- Definitive Additional Materials

PHOTRONICS, INC.  
(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

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- 1) Amount previously paid:
  
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- 4) Date Filed:

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**PHOTRONICS, INC.**

**15 Secor Road  
Brookfield, Connecticut 06804  
(203) 775-9000**

**NOTICE OF ANNUAL MEETING OF SHAREHOLDERS  
TO BE HELD ON MARCH 25, 2019**

TO THE SHAREHOLDERS OF PHOTRONICS, INC.:

Notice is hereby given that the Annual Meeting of Shareholders of Photronics, Inc. will be held on March 25, 2019 at 8:30 a.m. Eastern Time at the offices of Photronics, Inc., 15 Secor Road, Building 1, Brookfield, CT 06804 for the following purposes:

- 1) To elect seven members of the Board of Directors;
- 2) To ratify the selection of Deloitte & Touche LLP as independent registered public accounting firm for the fiscal year ending October 31, 2019;
- 3) To approve an amendment to the Photronics, Inc. Employee Stock Purchase Plan to increase the number of authorized shares of Common Stock available for issuance from 1,500,000 to 1,850,000; and
- 4) To approve, by non-binding advisory vote, the compensation of our named executive officers.

The shareholders will also act on any other business as may properly come before the meeting or any adjournments or postponements thereof.

The Board of Directors has fixed February 14, 2019, as the record date for determining the holders of common stock entitled to notice of and to vote at the meeting. A list of those shareholders entitled to vote at the Annual Meeting will be available for inspection by any of our shareholders for any purpose germane to the Annual Meeting, during regular business hours at Photronics principal executive offices 20 days prior to the Annual Meeting.

**YOUR VOTE IS IMPORTANT. ALL SHAREHOLDERS ARE CORDIALLY INVITED TO ATTEND THE MEETING. TO ENSURE YOUR REPRESENTATION AT THE MEETING, WHETHER OR NOT YOU PLAN TO ATTEND THE MEETING, YOU ARE REQUESTED TO COMPLETE, DATE, SIGN AND RETURN THE ENCLOSED PROXY IN THE ENCLOSED ENVELOPE OR AUTHORIZE THE VOTING OF YOUR SHARES BY INTERNET OR TELEPHONE PRIOR TO THE DEADLINE SPECIFIED ON YOUR PROXY CARD. NO POSTAGE IS REQUIRED FOR MAILING IN THE UNITED STATES.**

We thank you for your continued support.

Shareholders planning on attending the meeting in person should bring photo identification.

By Order of the Board of Directors,

*/s/ Richelle E. Burr*

Richelle E. Burr

Vice President, General Counsel and Secretary

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### **PHOTRONICS, INC.**

**15 Secor Road  
Brookfield, Connecticut 06804  
(203) 775-9000**

### **PROXY STATEMENT**

**For the Annual Meeting of Shareholders  
to be held on March 25, 2019**

### **GENERAL INFORMATION**

The enclosed proxy is solicited by the Board of Directors (the Board or Board of Directors ) of Photronics, Inc. ( Photronics , the Company , we , our or us ), to be voted at the Annual Meeting of Shareholders or any adjournment or postponements thereof (the Annual Meeting ) to be held on March 25, 2019, at 8:30 a.m. Eastern Time at the offices of Photronics, Inc., 15 Secor Road, Building 1, Brookfield, CT 06804. This proxy statement and the enclosed proxy card are being filed with the Securities and Exchange Commission on February 28, 2019 and on the same day the Company will begin sending the proxy statement and proxy card to all shareholders entitled to vote at the Annual Meeting. Our Annual Report on Form 10-K for the fiscal year ended October 31, 2018 as filed with the Securities and Exchange Commission ( SEC ), is included in the Annual Report to Shareholders being made available to our shareholders with this proxy statement.

The persons named as proxies on the accompanying proxy card have informed the Company of their intention, if no contrary instructions are given, to vote the shares of the Company s common stock ( Common Stock ) represented by such proxies FOR each of the director nominees named herein and FOR Proposals 2, 3 and 4 at their discretion on any other matters which may come before the Annual Meeting. The Board of Directors does not know of any business to be brought before the Annual Meeting other than as set forth in the Notice of Annual Meeting of Shareholders.

Any shareholder who executes and delivers a proxy may revoke it at any time prior to its use. Such revocation would be effective upon: (a) receipt by the Secretary of the Company of written notice of such revocation; (b) receipt by the Secretary of the Company of a properly executed proxy bearing a later date; or (c) appearance by the shareholder at the Annual Meeting and his or her request to revoke the proxy. Any such notice or proxy should be sent to Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804, Attention: Secretary. Appearance at the Annual Meeting without a request to revoke a proxy will not revoke a previously executed and delivered proxy.

### **QUORUM; REQUIRED VOTES**

Only shareholders of record at the close of business on February 14, 2019, are entitled to notice of and to vote at the Annual Meeting. As of February 14, 2019, there were 67,043,755 shares of Common Stock issued and outstanding, each of which is entitled to one vote. At the Annual Meeting, the presence in person or by proxy of the holders of a majority of the total number of shares of outstanding Common Stock will be necessary to constitute a quorum. Assuming a quorum is present, the matters to come before the Annual Meeting that are listed in the Notice of Annual Meeting of Shareholders require the following votes to be approved: (1) Proposal 1 (Election of Directors) a plurality of the votes cast by the shareholders entitled to vote at the Annual Meeting is required to elect seven members of the Board of Directors subject to the Company s policy that requires that any nominee that does not receive votes from at least a majority of votes cast by shareholders must tender his resignation; (2) Proposal 2 (Ratification of Selection of Independent Registered Public Accounting Firm for the Fiscal Year Ending October 31, 2019) a majority of the votes cast by the shareholders entitled to vote at the Annual Meeting is required to ratify the selection of Deloitte & Touche LLP; (3) Proposal 3 amendment to the Photronics, Inc. Employee Stock Purchase Plan to increase the number of authorized shares of Common Stock available for issuance from 1,500,000 to 1,850,000 and (4) Proposal 4 (Executive

Compensation) a majority of the votes cast by the shareholders entitled to vote at the Annual Meeting is required to approve the non-binding advisory resolution approving the compensation of the named executive officers, as described in the Compensation Discussion and Analysis and the narrative disclosure included in this proxy statement.

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Neither the approval nor the disapproval of Proposal 4 will be binding on the Company or the Board of Directors or will be construed as overruling a decision by the Company or the Board of Directors. Neither the approval nor the disapproval of Proposal 4 will create or imply any change to our fiduciary duties or create or imply any additional fiduciary duties for the Company or the Board of Directors. However, the Company will consider the results of this advisory vote in making future decisions on the Company's compensation policies and the compensation of the Company's named executive officers.

Shareholders who hold their shares through a broker (in street name), must provide specific instructions to their brokers as to how to vote their shares, in the manner prescribed by their broker. Pursuant to the rules that govern brokers and nominees who have record ownership of shares that are held in street name for account holders (who are the beneficial owners of the shares), brokers and nominees typically have the discretion to vote such shares on routine matters, but not on non-routine matters. If a broker or nominee has not received voting instructions from an account holder and does not have discretionary authority to vote shares on a particular item because it is a non-routine matter a broker-non-vote occurs. Under the rules governing brokers, an uncontested director election is considered a non-routine matter for which brokers do not have discretionary authority to vote shares held by an account holder. Additionally, as required by Section 957 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the Dodd-Frank Act), advisory votes on executive compensation and on the frequency of such votes are also considered non-routine matters for which brokers do not have discretionary authority to vote shares held by account holders. Of the four proposals listed in the Notice of Annual Meeting of Shareholders only the ratification of our independent registered public accounting firm under Proposal 2 is considered a routine matter. Abstentions will be considered as present but will not be considered as votes in favor of any matter; broker non-votes will be considered as present but will not be considered as votes for the non-routine matters for which such shares are not permitted to be voted.

## **CORPORATE GOVERNANCE AND ETHICS**

Photronics is committed to the values of effective corporate governance and high ethical standards. Our Board believes that these values are conducive to running our business efficiently, to maintaining our integrity in the market place, long-term performance and ensuring that the Company is managed for the long-term benefit of its stockholders. The Board recognizes that maintaining and ensuring good corporate governance is a continuous process. The Board periodically reevaluates our policies to ensure they meet the Company's needs. Set forth below are a few of the corporate governance practices and policies that we have adopted.

- **Related Party Transaction Policy.** Our Audit Committee is responsible for approving or ratifying transactions involving the Company and related parties and determining if such transactions are, or are not, consistent with the best interests of the Company and our shareholders.
- **Executive Sessions.** The Company's Board of Directors' meetings regularly include executive sessions without the presence of management, including the Company's Chief Executive Officer.
- **Shareholders Rights Plan Policy.** The Company does not have a shareholders rights plan and is not currently considering adopting one. The Board of Directors' position is that it will only adopt a shareholders rights plan if the Board of Directors determines that it is in the best interests of the Company, taking into consideration all factors that it deems advisable and appropriate.

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### **BOARD OF DIRECTORS POLICIES, COMMITTEE CHARTERS, AND CODE OF ETHICS**

The Board of Directors has responsibility for establishing broad corporate policies and reviewing overall performance rather than day to day operations of the Company. The Board's primary responsibility is to oversee management and, in doing so, to serve the Company's and its shareholders' best interests. Company management keeps the Board of Directors informed of Company activities through periodic updates when necessary, written reports and presentations at Board and Board Committee meetings.

The Company has adopted a code of ethics and corporate governance policy to assist the Board and its committees in the exercise of their responsibilities. The code of ethics and corporate governance policy apply generally to the Board and the Company's named executive officers. Each of the Board committees has a written charter that sets forth the goals and responsibilities of the committee. The Company's code of ethics and Board Committee charters can be found on the Company's website at [www.photronics.com](http://www.photronics.com). Shareholders may also request a free copy of the Company's code of ethics from: Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804, Attention: General Counsel. We will disclose any amendments to, or waivers from, a provision of our code of ethics that applies to the principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions that relate to any element of the code of ethics as defined in Item 406 of Regulation S-K, by posting such information on our website.

The Board of Directors has assessed each of its seven nominees for Director against the NASDAQ Global Select Market ( NASDAQ ) standards for independence and determined that Messrs. Fiederowicz, Fiorita, Hsia, and Tyson meet the general definition of an independent director as defined by NASDAQ.

The number of directors on the Company's Board is not permitted to be less than three or more than fifteen members under the Company's bylaws. Currently, the Board has fixed the number of directors at seven members. The Board is responsible for nominating members to the Board and for filling vacancies on the Board that may occur between annual meetings of shareholders, in each case upon the recommendation of the Nominating Committee. The Nominating Committee seeks input from other Board members and senior management and may engage a search firm to identify and evaluate potential candidates. The Board and each of the committees of the Board conduct annual self-assessments to determine their effectiveness. Additionally, each committee reviews the adequacy of its charter annually and considers any proposed changes.

### **BOARD LEADERSHIP STRUCTURE**

In May of 2015, Dr. Peter Kirlin was appointed as Chief Executive Officer and a member of the Board of Directors of the Company. Former Chairman and Chief Executive Officer of the Company, Constantine Macricostas became Executive Chairman at the time of Dr. Kirlin's appointment as Chief Executive Officer. The Executive Chairman reported directly to the Company's Board of Directors, assisted the Chief Executive Officer in setting the agenda for meetings of the Board of Directors and performed other duties that the Board assigned. The Company announced that Constantine Macricostas will no longer be Executive Chairman of the Company effective January 20, 2018. Mr. Macricostas will continue to be Chairman of the Board but no longer be an employee of the Company. Mr. Macricostas has agreed to provide consulting services to the Company through DEMA Associates, LLC. Compensation for such services will be \$390,000 per year. Mr. Macricostas will continue to work on special projects at the request of the Chief Executive Officer and will also continue to be involved in all decisions relating to capital expenditures and strategic planning.

The Board also has a Lead Independent Director. Mr. Walter Fiederowicz serves as Lead Independent Director. Mr. Fiederowicz's duties include the following: chair any meeting of the independent directors in executive session; facilitate communications between other members of the Board and the Chairman of the Board and Chief Executive

Officer (however, each director is free to communicate directly with the Chairman of the Board and the Chief Executive officer); and monitor, with the assistance of the General Counsel, communications from shareholders.

The Board will continue to reexamine our corporate governance policies and leadership structure on an ongoing basis to ensure that such policies and leadership structure continue to meet the Company's needs.



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### **THE BOARD OF DIRECTORS ROLE IN RISK OVERSIGHT AND ASSESSMENT**

The Company has a risk management program overseen by senior management and approved by the Board of Directors. The Board's risk oversight processes build upon management's regular risk assessment and mitigation processes, which include standardized reviews conducted with members of management across and throughout the Company in areas such as financial and management controls, strategic and operational planning, regulatory compliance, and environmental compliance. The results of these reviews are then discussed and analyzed at the most senior level of management, which assesses both the level of risk posed in these areas and the likelihood of their occurrence, coupled with planning for the mitigation of such risks and occurrences.

Risks are identified and prioritized by senior management and each prioritized risk is assigned to either a Board committee or the full Board for oversight. For example, strategic risks are overseen by the full Board; financial and business conduct risks are overseen by the Audit Committee or the full Board; risks associated with related party transactions are overseen by the Audit Committee; risks related to Cyber Security are overseen by the Cyber Security Committee; and compensation risks are overseen by the Compensation Committee. Management regularly reports these and other various risks to the relevant Board committee or the Board. Additional review or reporting of risks is conducted as needed or as requested by the Board or relevant Board committee.

### **COMPENSATION RELATED RISK**

The Company regularly assesses the risks related to our compensation programs, including our executive compensation programs, and does not believe that the risks arising from our compensation policies and practices are reasonably likely to have a material adverse effect on the Company. Incentive award targets and opportunities are reviewed annually. One of the Committee's primary objectives is to motivate high achievement while maintaining an appropriate balance between rewarding extraordinary performance without encouraging excessive risk taking.

### **PLURALITY-PLUS VOTING FOR DIRECTORS**

On December 6, 2018, the Company's Board of Directors approved an amendment to its corporate governance guidelines to implement a change in the vote required to elect directors in uncontested elections from a plurality-voting standard to a plurality plus voting standard. In uncontested elections, any director who does not receive a majority of the votes cast (which means that the number of shares voted for a director must exceed the number of shares voted against a director) must tender his resignation to the Board. The Nominating Committee shall consider the resignation and, promptly following the date of the shareholders' meeting at which the election occurred, shall recommend to the Board of Directors whether or not to accept it. The Nominating Committee will make a recommendation to the Board on whether or not to accept the tendered resignation. In considering whether or not to accept the resignation, the Nominating Committee will consider all factors deemed relevant by the Nominating Committee including, without limitation, the stated reason or reasons why shareholders withheld votes from the election of the director, if any, the length of service and the qualifications of the director (including, for example, the impact the director's resignation would have on the Company's compliance with the requirements of applicable corporate and securities laws and the rules of any stock exchange on which the Company's securities are listed for trading), such director's contributions to the Company and whether the director's resignation from the Board of Directors would be in the best interests of the Company. The Nominating Committee will also consider a range of possible alternatives concerning the director's tendered resignation as the Committee deems appropriate including, without limitation, acceptance of the resignation, rejection of the resignation, or rejection of the resignation coupled with a commitment to seek to address and cure the underlying reasons reasonably believed by the Nominating Committee to have substantially resulted in the withheld votes. The Board of Directors shall act on the Nominating Committee's recommendation within 90 days of the date of the shareholders' meeting at which the election occurred. In considering the Nominating Committee's recommendation, the Board of Directors will consider the information,

factors and alternatives evaluated by the Committee and such additional information, factors and alternatives that the Board of Directors may consider to be relevant. Following the Board of Directors' decision on the Nominating Committee's recommendation, the Company shall promptly disclose the decision regarding whether or not to accept the nominee's resignation (or the reasons for rejecting the resignation, if applicable), as well as a summary of the factors considered.

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STOCK BY DIRECTORS, OFFICERS  
AND CERTAIN BENEFICIAL OWNERS**

The following table sets forth certain information on the beneficial ownership of the Company's Common Stock as of February 14, 2019, by: (i) beneficial owners of more than five percent of the Common Stock; (ii) each director; (iii) each Named Executive Officer in the Summary Compensation Table set forth below; and (iv) all directors and currently employed Named Executive Officers of the Company as a group.

<b>Name and Address of Beneficial Owner<sup>(1)</sup></b>	<b>Amount and Nature of Beneficial Ownership<sup>(2)</sup></b>	<b>Percentage of Class</b>
Black Rock, Inc. 55 East 52 <sup>nd</sup> Street New York, NY 10022	10,215,805	15.24 % <sup>(3)</sup>
Dimensional Fund Advisors Palisades West, Building One 6300 Bee Cove Road Austin, TX 78746	5,859,559	8.74 % <sup>(4)</sup>
Vanguard Group 100 Vanguard Blvd. Malvern, PA 19355	4,402,465	6.57 % <sup>(5)</sup>
Barrow, Hanley, Mewhinney & Strauss, LLC 2200 Ross Avenue, 31st Floor Dallas, TX 75201-2761	3,983,773	5.94 % <sup>(6)</sup>
Donald Smith & Co., Inc. 152 West 57 <sup>th</sup> Street New York, NY 10019	3,611,108	5.39 % <sup>(7)</sup>

**Officers and Directors**

Richelle Burr	183,524	(8)	*
Walter M. Fiederowicz	68,000	(8)	*
Joseph A. Fiorita, Jr.	210,100	(8)(9)	*
Liang-Choo Hsia	90,000	(8)	*
John P. Jordan	73,000	(8)	*
Peter Kirlin	532,953	(8)	*
Frank Lee	318,425	(8)	*
Constantine S. Macricostas	504,575	(8)	*
George Macricostas	32,000	(8)	*
Christopher J. Progler	282,760	(8)	*
Mitchell G. Tyson	105,129	(8)	*
Directors and Named Executive Officers as a group (11 persons)	2,400,466	(10)	3.58 %

\* Less than 1%

(1) The address for all officers and directors is 15 Secor Road, Brookfield, Connecticut 06804.

(2)

Except as otherwise indicated, the named person has the sole voting and investment power with respect to the shares of Common Stock set forth opposite such person's name.

- (3) Based on Schedule 13G/A filed January 31, 2019.
- (4) Based on Schedule 13G/A filed February 8, 2019.
- (5) Based on Schedule 13G filed February 11, 2019.
- (6) Based on Schedule 13G filed February 11, 2019.
- (7) Based on Schedule 13G February 8, 2019.

Includes shares of Common Stock subject to stock options exercisable as of February 14, 2019, (or within 60 days

- (8) thereof), as follows: Ms. Burr: 116,000; Mr. Fiederowicz: 47,000; Dr. Hsia: 12,000; Dr. Kirlin: 263,625; Dr. Frank Lee: 195,250; Mr. George Macricostas: 2,000; Dr. Progler: 170,335; and Mr. Tyson: 23,500.
- (9) Includes 300 shares owned by the wife of Mr. Fiorita as to which shares he disclaims beneficial ownership.
  - (10) Includes the shares listed in notes (8) and (9) above.

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ELECTION OF DIRECTORS**

The Board has nominated seven directors to be elected at the 2019 Annual Meeting to serve for a one year term. Each of the seven directors of the Company that is elected at the Annual Meeting will serve until the 2020 Annual Meeting of Shareholders (unless such director resigns or otherwise leaves the Board). Each nominee is currently a director of the Company and has agreed to serve if elected. The names of, and certain information with respect to, the nominees for election as directors are set forth below.

The Company is open and receptive to shareholder communication. If, for any reason, any of the nominees shall become unable to stand for election, the individuals named in the enclosed proxy may exercise their discretion to vote for any substitutes chosen by the Board of Directors, unless the Board of Directors should decide to reduce the number of directors to be elected at the Annual Meeting. The Company has no reason to believe that any nominee will be unable to serve as a director.

**The Board of Directors recommends that you vote FOR the election of each of the following nominees:**

**Nominees:**

<b>Name and (Age)</b>	<b>Director Since</b>	<b>Position(s) with the Company</b>
<b>Walter M. Fiederowicz</b> (72 years)	1984	Director
<b>Joseph A. Fiorita, Jr.</b> (74 years)	1987	Director
<b>Dr. L. C. Hsia</b> (70 years)	2012	Director
<b>Dr. Peter S. Kirlin</b> (58 years)	2015	Director/CEO
<b>Constantine S. Macricostas</b> (83 years)	1974	Chairman
<b>George Macricostas</b> (49 years)	2002	Director
<b>Mitchell G. Tyson</b> (64 years)	2004	Director

Messrs. Fiederowicz, Fiorita, Hsia, and Tyson qualify as being independent under applicable NASDAQ rules.

In addition to the information set forth in the table above, the following provides certain information about each nominee for election as director, including his principal occupation for at least the past five years. Also set forth below

is a brief discussion of the specific experience, qualifications, attributes or skills that led to the conclusion that each nominee and director should serve as a director as of the date of this proxy statement.

Walter M. Fiederowicz has been a private investor and consultant since August 1997. Mr. Fiederowicz is Chairman of the Compensation Committee and Vice Chairman of the Audit Committee. Mr. Fiederowicz brings to the Board of Directors substantial experience in analyzing and forecasting economic conditions both domestically and internationally. Through his service on the boards of other companies, he has gained extensive experience in leadership, risk management, and corporate governance matters. Mr. Fiederowicz brings leadership and extensive business and financial experience to the Board.

Joseph A. Fiorita, Jr., CPA, has been a partner since 1973 at Fiorita, Kornhaas & Company, P.C., an independent certified public accounting firm with offices located in Danbury and Southbury, Connecticut. He is a member of the Connecticut Society of Certified Public Accountants (CSCPA) and American Institute of Certified Public

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Accountants (AICPA). He serves as an advisory board member of various closely-held companies and charitable organizations. He is also a Corporator for Newtown Savings Bank. Mr. Fiorita is Chairman of the Audit Committee and Vice Chairman of the Compensation Committee of the Board. Mr. Fiorita qualifies as an audit committee financial expert as defined under Item 407 of Regulations S-K audit committee rules. Mr. Fiorita brings to the Board of Directors broad experience in corporate finance and is highly qualified in the fields of accounting and internal controls, both of which contribute to his effective service on the Board of Directors. Through his service on the board of directors of other companies, he has gained additional experience in risk management and corporate governance.

Liang-Choo Hsia was formerly Senior Vice President and Senior Technical Advisor at Global Foundries. He joined Global Foundries as a result of the acquisition of Chartered Semiconductor Manufacturing where, for over ten years, he played a pivotal role in defining roadmaps for advanced node migration and oversaw the company's participation in the Joint Development Alliance with IBM for advanced manufacturing at the 22/20nm nodes. He joined Chartered after serving for three years as Director of Technology Development for United Microelectronics Corporation in Taiwan. Prior to that, he spent over a decade with IBM as an advisory scientist in various divisions. Dr. Hsia has authored or co-authored over 100 papers and over 50 patents. He resides in Taiwan and has offices in Taiwan and Singapore. Dr. Hsia is a member of the investment committee of Semi Taiwan, serves as a Director on the Board of Everam, Inc. Taiwan, a mobile DRAM design house, and serves on the Board of Sequia Microelectronics Corp., Taiwan, a design house for LED power supply chips. Dr. Hsia is Chairman of the Strategic Planning and Technology Development Committee and is a member of the Nominating Committee of the Board. Dr. Hsia brings an in depth knowledge and wealth of experience in the industry to the Board.

Peter S. Kirlin joined Photronics in August 2008 as Senior Vice President, US and Europe. Dr. Kirlin became Chief Executive Officer in May of 2015 after having been named President in 2013. Prior to joining Photronics, Dr. Kirlin, a 25-year veteran of the photomask and semiconductor industries, held several senior leadership positions of increasing responsibility. Dr. Kirlin was Vice President of Business Development at Entegris, a developer, manufacturer, and supplier of liquid and gas delivery systems, components, and consumables used in the semiconductor manufacturing process; Chairman and Chief Executive Officer of DuPont Photomasks; and Group Vice President of ATMI, a supplier of ultra-high purity materials and services used in the manufacture of semiconductors. Dr. Kirlin also was Executive Chairman of the privately-held firm Akzion, Inc., a provider of surface preparation solutions to the semiconductor and electronics industries. Dr. Kirlin was Executive Chairman of Akzion, Inc. from January 2007 to July 2008. Dr. Kirlin brings leadership, strategic direction, extensive business experience and a wealth of knowledge of the photomask and semiconductor industry to the Board.

Constantine S. Macricostas is Chairman of the Board and founder of the Company. Mr. Macricostas was Executive Chairman of the Company until January 20, 2018. Mr. Macricostas previously served as Chief Executive Officer of the Company on three different occasions from 1974 until August 1997, from February 2004 to June 2005, and from April 2009 until May 2015. Mr. Macricostas is a former director of RagingWire Data Centers, Inc., ( RagingWire ). Mr. Macricostas is the father of George Macricostas. Mr. Macricostas' knowledge of the Company and its operations, as well as the industry, is invaluable to the Board of Directors in evaluating and directing the Company's future. Through his long service to the Company and experience in the photomask industry, he has developed extensive knowledge in the areas of leadership, safety, risk oversight, management, and corporate governance, each of which provides great value to the Board of Directors. Mr. Macricostas is a member of the Cyber Security Committee of the Board.

George Macricostas is an investor and entrepreneur. He was Founder, Chairman and CEO of Ragingwire Data Centers, Inc. a provider of mission critical data center facilities, which is where the Cloud lives. Mr. Macricostas guided the company through an 80% sale to NTT of Japan in 2014 and completed the sale in 2018. Mr. Macricostas has 28 years of technical and business management experience in business operations and information technology. From 2006, Mr. Macricostas has served as a director of the Jane Goodall Institute a non-profit organization. Previously, he was a senior vice president at Photronics, Inc., where he was responsible for all aspects of the

company's IT infrastructure. Mr. Macricostas also serves as a Board Member of the Macricostas Foundation, a non-profit organization that funds philanthropic, educational and environmental causes.

Mr. Macricostas brings over 25 years of technical and business management experience in operations and information technology to the Board of Directors. Through his service on the Board, he has gained additional experience in risk management and corporate governance. Mr. Macricostas brings industry, risk management,

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leadership and business experience to the Board which enables him to bring broad based experience and expertise to the Board. Mr. Macricostas is Chairman of the Cyber Security Committee and is a member of the Strategic Planning and Technology Development Committee.

Mitchell G. Tyson is an independent business strategy and clean energy consultant and serves on multiple industry, government and corporate boards of directors. He is also an Adjunct Professor at the Brandeis International Business School, a partner in the Clean Energy Venture Group, Venture Partner in the Clean Energy Fund, chair of the Northeast Clean Energy Council and Chair of the Venture Café Foundation. He serves on a number of corporate boards including Bigbelly, Inc., 7AC, and Leading Edge Crystal Technologies. Until October 2010 he was the Chief Executive Officer and a Director of Advanced Electron Beams. Prior to joining Advanced Electron Beams in 2005, Mr. Tyson was a corporate consultant and lecturer. Previously, Mr. Tyson served as the Chief Executive Officer of PRI Automation, a publicly traded corporation that supplied automation systems including hardware, software and services to the semiconductor industry. From 1987 to 2002, he held positions of increasing management responsibility and helped transform PRI Automation from a small robotics manufacturer to the world's leading supplier of semiconductor fab automation systems. Prior to joining PRI Automation, Mr. Tyson worked at GCA Corporation from 1985 to 1987 as Director of Product Management and served as science advisor and legislative assistant to the late U.S. Senator Paul Tsongas from 1979 to 1985. Mr. Tyson is Chairman of the Nominating Committee and a member of the Audit Committee of the Company. Mr. Tyson brings leadership and extensive business experience as well as finance expertise to the Board.

## **MEETINGS AND COMMITTEES OF THE BOARD**

The Board of Directors met seven (7) times during the 2018 fiscal year. During fiscal 2018, each director attended all of the regular meetings of the Board of Directors and 100% of committee meetings of the Board on which such director served.

The Company's Board of Directors has Audit, Compensation, Nominating, Strategic Planning and Technology Development and Cyber Security Committees. Members of the Audit, Compensation, and Nominating Committees are comprised of independent, non-employee directors.

The Audit Committee's functions include the appointment of the Company's independent registered public accounting firm, reviewing with such accountants the plan for and results of their auditing engagement, and the independence of such accountants. Pre-approval of all audit & non-audit services provided to the Company. Messrs. Fiederowicz, Fiorita, and Tyson are the members of the Audit Committee. All members of this Committee are independent, non-employee directors under applicable NASDAQ rules and Rule 10A-3 under the Exchange Act. Mr. Fiorita qualifies as an audit committee financial expert as defined under Item 407 of Regulation S-K. The Audit Committee held eight (8) meetings during the 2018 fiscal year.

The Compensation Committee's functions include establishing the compensation levels for our executive officers and overseeing compensation policies and programs for the executive officers of the Company and administration of the Company's equity and stock plans. This includes setting corporate goals and objectives relevant to compensation of our executive officers and evaluating performance against these goals and objectives. The Committee also reviews and makes recommendations to the Board with respect to director compensation. Members of management, including the Chairman, the Chief Executive Officer, the Vice President of Human Resources, and the Vice President and General Counsel participate in Compensation Committee meetings when requested by the Committee to present and discuss the materials provided, including recommendations considered to be relative to executive pay and competitive market practices. These members of management assist the Committee in understanding the Company's business plan and long-term strategic direction, developing the performance targets for our performance-based compensation and understanding the technical or regulatory considerations, as well as, the motivational factors of the decisions that are

intended to drive executive and company performance. Although the Committee solicits input and perspective from management regarding executive compensation, the ultimate decision on executive compensation is made solely by the Compensation Committee, and the decision regarding the Chief Executive Officer's compensation is made by the Compensation Committee without the presence of the Chief Executive Officer. Messrs. Fiederowicz and Fiorita are the members of the Compensation Committee. All members of this Committee are independent, non-employee directors under applicable NASDAQ rules. The Compensation Committee held 5 meetings during the 2018 fiscal year.

The purpose of the Strategic Planning and Technology Development Committee is to assist the Board of Directors with planning and directing the Company towards its vision and strategic goals. Dr. Hsia and

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Mr. George Macricostas are the members of the Strategic Planning and Technology Development Committee. The Strategic Planning and Development Committee held 3 meetings during the 2018 fiscal year.

The Cyber Security Committee was formed in fiscal 2017. The purpose of the Cyber Security Committee is to assist the Board and the Company's management in fulfilling its oversight responsibilities to the shareholders and investment community by reviewing and reporting on technology-based issues as well as cybersecurity risks, protection, and mitigation. Mr. Constantine Macricostas and Mr. George Macricostas are the members of the Cyber Security Committee. The Committee held 2 meetings during the 2018 fiscal year.

The Nominating Committee's functions include the consideration and nomination of candidates for election to the Board. Mr. Tyson and Dr. Hsia are the members of the Nominating Committee. All members of this Committee are independent, non-employee directors under applicable NASDAQ rules. This Committee held 1 meeting during the 2018 fiscal year.

The minimum qualifications for nominees to be considered by the Nominating Committee are experience as a business or technology leader, the highest ethical standards, the ability to deliver value and leadership to the Company, and the ability to understand, in a comprehensive manner, the technology utilized by the Company and its customers for the production of semiconductors and flat panel displays. If an opening for a Director arises, the Board will conduct a search for qualified candidates. The Nominating Committee utilizes its network of contacts to compile a list of potential candidates but may also engage, if it deems appropriate, a professional search firm. The Nominating Committee will also consider qualified candidates for Director suggested by shareholders in written submissions sent to Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804, Attention: Secretary.

The Nominating Committee also recognizes that the diversity of backgrounds, diverse skills and professional experience are important considerations for determination of the Board's composition. In this regard, the Committee's selection of a nominee also gives significant consideration to the backgrounds of the other directors, so that the Board of Directors as a whole has an appropriate mix of backgrounds, professional skills, and breadth of experience. The Nominating Committee reviews its effectiveness in balancing these considerations through its ongoing consideration of directors and nominees, as well as the Nominating Committee's annual self-evaluation process. The Nominating Committee evaluates candidates in the same manner, whether the candidate was recommended by a shareholder or not.

The Nominating Committee did not receive any Director nominations from a shareholder for the Annual Meeting.

The Board provides a process for shareholders to send communications to the Board or to any Director individually. Shareholders may send written communications to the Board or to any Director c/o Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804, Attention: Secretary. All communications will be compiled by the Secretary and submitted to the Board or the individual Directors on a periodic basis.

It is the Company's policy that the Directors who stand for election at the Annual Meeting attend the Annual Meeting unless the Director has an irreconcilable conflict and attendance has been excused by the Board. All of the nominees who were Directors during the last fiscal year and who are standing for election at the Annual Meeting attended the 2018 Annual Meeting of Shareholders.

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**AUDIT COMMITTEE REPORT**

The Audit Committee is composed of three directors, each of whom meets the independence requirements of NASDAQ rules and Rule 10A-3 under the Securities Exchange Act of 1934, as amended. The Audit Committee operates under a written charter adopted by the Board of Directors of the Company. The Audit Committee also prepares a written self-performance evaluation of the Committee's performance on an annual basis.

Company management is responsible for the Company's internal controls and the financial reporting process. For the fiscal year ended October 31, 2018, the Audit Committee reviewed and discussed the audited financial statements with the Company's management and the Company's independent registered public accounting firm. The Audit Committee also reviewed and discussed with Deloitte & Touche LLP the audited Financial Statements and the matters required by PCAOB Auditing Standard No. 1301 Communications with Audit Committees. In addition, the Audit Committee has received the written disclosures and the letter from Deloitte & Touche LLP required by PCAOB Ethics and Independence Rule 3526 (communications with Audit Committee, concerning Independence) and has discussed with Deloitte & Touche LLP that firm's independence from the Company and its management. The Audit Committee reviewed and discussed with management and Deloitte & Touche LLP, as appropriate, (1) the audited financial statements and (2) management's report on internal control over financial reporting and Deloitte & Touche LLP's related opinions. The Committee considered whether the provision of non-audit services by Deloitte & Touche LLP to the Company is compatible with maintaining the independence of Deloitte & Touche LLP, and concluded that the independence of Deloitte & Touche LLP was not compromised by the provision of such services. The Audit Committee met with management periodically during the fiscal year to review the Company's Sarbanes-Oxley Section 404 compliance efforts related to internal controls over financial reporting. Additionally, the Audit Committee pre-approved all audit and non-audit services provided to the Company by Deloitte & Touche LLP. Based on the foregoing meetings, reviews, and discussions, the Audit Committee recommended to the Board of Directors that the audited financial statements for fiscal year 2018 be included in the Company's Annual Report on Form 10-K for filing with the SEC. Further, the Audit Committee has recommended the appointment of Deloitte & Touche LLP as the Company's independent registered public accounting firm for 2019, subject to shareholder approval.

The Audit Committee has a formal procedure for reviewing complaints and inquiries about accounting and auditing matters and violations of Company policy.

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For the fiscal years ended October 31, 2018 and October 29, 2017, the aggregate fees for professional services rendered by Deloitte & Touche LLP were as follows:

	<b>Fiscal 2018</b>	<b>Fiscal 2017</b>
Audit Fees <sup>(a)</sup>	\$ 1,257,728	\$ 1,088,167
Audit-Related Fees <sup>(b)</sup>	4,909	48,700
Tax Fees <sup>(c)</sup>	34,507	51,354
All Other Fees <sup>(d)</sup>	17,040	0
<b>Total</b>	<b>\$ 1,314,183</b>	<b>\$ 1,188,221</b>

Represents aggregate fees in connection with the audit of the Company's annual financial statements, internal (a) controls over financial reporting, and review of the Company's quarterly financial statements or services normally provided by Deloitte & Touche LLP.

(b) Represents assurance and other activities not directly related to the audit of the Company's financial statements.

(c) Represents aggregate fees in connection with tax compliance, tax advice and tax planning.

(d) Represents aggregate fees for products and services other than audit fees, audit related fees and tax fees.

This report is submitted by:

Joseph A. Fiorita, Jr.  
Chairman

Walter M. Fiederowicz

Mitchell G. Tyson

**EXECUTIVE OFFICERS**

The names of the executive officers (the Named Executive Officers) of the Company as set forth below together with the positions held by each person in the Company. All executive officers are elected annually by the Board of Directors and serve until their successors are duly elected and qualified.

<b>Name and Age</b>	<b>Position</b>	<b>Served as an Executive Officer Since</b>
Richelle E. Burr, 54	Vice President, General Counsel and Secretary	2010
John P. Jordan, 73	Senior Vice President, Chief Financial Officer	2017
Peter S. Kirlin, 58	Chief Executive Officer	2008

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Frank Lee, 66	President of Asia IC Photomask SBU	2018
Constantine S. Macricostas, 83	Chairman	2008
Christopher J. Proglar, 55	Vice President, Chief Technology Officer and Strategic Planning	2004

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**Richelle E. Burr** joined Photronics in 2003 as Corporate Counsel. She was promoted to Vice President, Associate General Counsel in 2008 and was appointed Secretary in April of 2009 prior to her appointment as General Counsel in January 2010.

**John P. Jordan** was appointed as Senior Vice President, Chief Financial Officer, effective September 5, 2017. Prior to joining Photronics, Mr. Jordan was most recently Vice President, Chief Financial Officer, Treasurer and Controller of AstroNova, Inc. Before joining AstroNova, Mr. Jordan served as Vice President, Chief Financial Officer, and Treasurer of Zygo Corporation from 2011 to 2014. Prior to that he was Vice President, Chief Financial Officer, and Treasurer of Baldwin Technology Company, Inc.

**Dr. Peter S. Kirlin** was appointed Chief Executive Officer on May 4, 2015. Prior to his appointment as Chief Executive Officer, he served as President of the Company beginning in September of 2013. He joined Photronics in August 2008 as Senior Vice President, US and Europe.

**Dr. Frank Lee** became a Named Executive Officer on January 20, 2018. Dr. Lee has been serving as the President of PDMC (formerly PSMC) since 2006. Prior to that he was CEO, NSMC, Ning-PO from 2004 to 2006 and was Fab Director and Senior Advisor for UMC, Hsin-Chu, Taiwan from 2001 to 2004 and, prior to that, he was Executive Vice President of Grace Semiconductor, Shanghai, China from 2000-2001.

**Constantine S. Macricostas** currently services as Chairman of the Board. He ceased being an employee of the Company effective as of January 20, 2018. Additional biographical information for Mr. Macricostas is set forth in Proposal 1. Mr. Macricostas is no longer an employee of the Company as of January 20, 2018.

**Dr. Christopher J. Progler** became an executive officer on June 21, 2006. Dr. Progler has been employed by Photronics since 2001 starting with the position of Corporate Chief Scientist. He was promoted to Vice President and Chief Technology Officer in 2004. In 2011 Dr. Progler assumed the added responsibility of Strategic Planning for the Company. His current work includes global R&D, product development and strategic ventures. Dr. Progler serves on the management boards of Asia-based photomask joint venture companies PDMC and PDMCX and EUV photoresist company Inpria.

## **COMPENSATION DISCUSSION AND ANALYSIS**

The Compensation Committee of the Board of Directors (the Compensation Committee) is comprised of two of the independent, non-employee members of the Board of Directors. The Compensation Committee is responsible for setting and administering the policies governing compensation of our executive officers. The Compensation Committee reviews and approves, among other things, overall annual performance for the Named Executive Officers (identified in the Summary Compensation Table), as well as, all participants in the Company's 2011 Executive Incentive Compensation Plan (2011 EICP).

The purpose of this Compensation Discussion and Analysis is to provide material information about the Company's compensation objectives and policies for its Named Executive Officers and to put into perspective the tabular disclosures and related narratives. The following report provides information about our compensation programs and policies, as well as, the outcomes and achievements that resulted in the determination of compensation to our Named Executive Officers. Specific 2018 compensation information for our Chief Executive Officer, and the other Named Executive Officers will be outlined in a series of tables following this report.

### **Summary**

The Company is one of the world's leading manufacturers of photomasks, which are high precision photographic quartz plates containing microscopic images of electronic circuits. Photomasks are a key element in the manufacture of semiconductors and flat panel displays ( FPDs ) and are used as masters to transfer circuit patterns onto semiconductor wafers and flat panel substrates during the fabrication of integrated circuits ( ICs ) and a variety of FPDs and, to a lesser extent, other types of electrical and optical components. The Company presently operates principally from nine manufacturing facilities; two of which are located in Europe, three in Taiwan, one in Korea and three in the United States. We have completed the construction of our two new manufacturing facilities in Hefei and Xiamen, China. We have nearly completed the initial wave of moving our tools into the cleanrooms at these facilities and we are working to complete the installation of the tools. Currently, research and development photomask activities for ICs are focused on 14 nanometer node and below and, for FPDs, on AMOLED resolution enhancement (display device technology used in smart watches, mobile devices, laptops and televisions) and introduction of photomasks Generation 10.5+ large glass substrates (3370 x 2940mm or greater).

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Fiscal 2018 was a wonderful year for Photronics. We rapidly accelerated our business beyond expectation and achieved record revenue in 2018. We continued our China expansion initiatives and made significant progress repositioning the Company to dramatically improve our revenues. Our financial performance and increased revenues contributed to greater cash flow from operations. Revenue was \$535.3 million in 2018, a record for the Company and an improvement of 19% compared to fiscal 2017. Both integrated circuit as well as flat panel display grew 19% year over year. High-end revenue was the primary growth driver for integrated circuit increasing 62% from the previous year as both logic and memory increased. We increased our business with captives by modifying our product offering to provide greater value. In flat panel display both high-end and main stream were strong. We grew our revenue in China and saw a recovery in demand for mobile applications. We were the first company to install and ramp the Prexision-800 mask writer, a Mycronic produced tool, which is the most advanced tool in the industry. Our flat panel display business had a record breaking quarter in the fourth quarter. Net income attributable to our shareholders was \$42.1 million compared with \$13.1 million in 2017. Gross profit improved 44% and operating income more than doubled. We ended the year with a cash balance of \$329.3 million, \$21.3 million higher than the previous year, We initiated a share repurchase for the first time in our history, enabling us to begin returning cash to our shareholders. We were presented with the Excellent Supplier Award from Nanya, a memory producer in Asia. Our Korean subsidiary celebrated twenty-five years since its founding and we further enhanced our competitive position by forming a new joint venture in China with Dai Nippon Printing. Fiscal 2019 marks the 50<sup>th</sup> anniversary of the founding of Photronics. Since our formation in 1969, we evolved from a small start-up in Danbury, Connecticut to the most technologically advanced merchant photomask company in the world.

Our compensation program for our Named Executive Officers received support of 90% of the votes cast at our 2018 Annual Meeting of Shareholders. Based on the effectiveness of our compensation program and in consideration of this year's and prior year's approval rate of the advisory vote, the Compensation Committee decided to continue the foundation and fundamentals of the compensation structure for fiscal 2019 and decided that no significant change in its compensation policies should be recommended to the Board.

### **Compensation Philosophy**

It is important that the Company be able to attract, motivate and retain highly talented individuals at all levels of the organization who are committed to the Company's values and objectives. Accordingly, the Company's compensation philosophy is based on rewarding the Company's executives for their individual and collective efforts and contributions to the Company in a manner that fosters teamwork and leads to the long-term success of the Company. We feel this is in the best interest of our shareholders. The Company also believes that delivering a substantial portion of such rewards in the form of restricted stock aligns the interests of the Company's executives with the interests of shareholders. The Company's compensation program is designed to attract and retain talented employees by providing adequate incentives to achieve its business objectives while not encouraging excessively risky behavior. The Compensation Committee periodically reviews the Company's approach to executive compensation in light of general economic conditions of the semiconductor industry and the Company's performance and reviews the compensation practices of its peers and makes changes when appropriate. Such periodic reviews include giving consideration to the views of the outside advisors whom we typically meet with on an annual basis, and regularly considering the compensation programs and practices among our closest semiconductor capital equipment peer group companies, as well as compensation practices among a broader group of high technology companies.

### **Compensation Objectives**

Consistent with the Company's philosophy, the Company believes that executive compensation must be competitive with other comparable employers in order for qualified employees to be attracted to, and retained by, the Company and that the Company's compensation practices should provide incentives for driving better business performance and increasing shareholder value. Accordingly, the four primary objectives of the Company's compensation program, as

administered by the Compensation Committee are:

- to provide competitive compensation to attract, retain and motivate talented employees and foster teamwork as well as support the Company's achievement of its financial and strategic goals;
  - to advance the goals of the Company by aligning executives' interests with shareholder interests;
  - to minimize risks associated with compensation; and

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- to balance the incentives associated with the program in a way that provides incentives for executives to assess
- and manage risks associated with the Company's business appropriately, in the context of the Company's business strategy.

### **Elements of Compensation**

The Compensation Committee uses three principal components to achieve the Company's primary objectives: base salary, annual cash incentives and stock-based awards. The Company minimizes its perquisites available to its employees as a whole, including its executives.

The Compensation Committee believes that the three principal components of the Company's compensation result in a compensation program that is competitive and aligns the Named Executive Officers' interests with shareholder value creation.

### **Base Salary**

Base salaries provide each executive with a fixed, minimum level of cash compensation. The Company believes that it is important for retention, stability, and continuity of leadership that base salaries be competitive with the Company's peers. Base salaries may be increased or decreased depending upon changes in duties or economic conditions.

### **Annual Cash Incentives**

Annual cash incentives are used to promote the achievement of specific short-term goals of the Company that correspond to certain goals of the Company set on an annual basis and the underlying metrics relating thereto.

### **Stock-Based Awards**

Stock-based awards are the Company's preferred approach to both align the interests of shareholders with the executives, as well as enhance the Company's retention goals. By virtue of the stock-based awards, the Named Executive Officers are shareholders themselves and participate in the gains in value of the Company's stock.

### **Determination of Total Compensation**

When determining total compensation, the Compensation Committee assesses five primary factors:

- the overall performance of the Company;
- the Named Executive Officer's role in that performance;
- the compensation previously received by the Named Executive Officer;
- the compensation of similarly situated executive officers working for peer group companies; and
  - shareholder feedback.

When linking the Company's performance and the total compensation of the Named Executive Officers, the Compensation Committee uses both the objective metrics provided for under the 2011 EICP, as well as, its subjective assessment of the performance of the Company.

The Compensation Committee meets with the Company's Chief Executive Officer and other senior executives to obtain recommendations with respect to the Company's compensation programs and practices for executives and other employees. The Compensation Committee takes management's recommendations into consideration but is not bound by management's recommendations with respect to executive compensation. When the Compensation Committee evaluates the role of each Named Executive Officer in the performance of the Company it considers both the recommendation and evaluation of such Named Executive Officer by the Chief Executive Officer (the Chief

Executive Officer does not evaluate his own performance) and the Compensation Committee's assessment of each Named Executive Officer's leadership qualities, paying particular attention to the scope of his or her duties and the collaboration of such Named Executive Officer with other team members.

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In establishing compensation levels for the Company's Named Executive Officers, identified in the Summary Compensation Table, the Compensation Committee considers compensation at eight publicly traded companies in the semiconductor/electronics industries with similar levels of sales and capital. These companies are Advanced Energy Industries, Inc., Axcelis Technologies, Inc., Brooks Automation, Inc., Cabot Microelectronics Corp., Entegris, Inc., FormFactor, Inc., Kulicke & Soffa Industries, Inc., and Veeco Instruments, Inc. Information regarding these companies and their compensation practices is drawn from their proxy statements. Generally, the Compensation Committee believes that the compensation of its executive officers should be set near the median compensation of this comparison group; however, it is also important to the Compensation Committee that compensation reflect individual performance and the Company's results which may warrant compensation up to 20% above or below the median.

In addition, while establishing its compensation policies for a given year, the Compensation Committee will evaluate the results from the most recent shareholder advisory vote on compensation to consider the implications of such advisory vote for the compensation policies and determine whether changes are appropriate. At the 2018 Annual Shareholders Meeting, 90% of the votes cast with respect to the advisory vote on executive compensation voted to approve the executive compensation paid in fiscal 2018. In light of this vote, as well as the Compensation Committee's review of the compensation arrangements discussed above, general market pay practices for its executives, and its assessments of individual and corporate performance, the Compensation Committee determined that no significant change in its compensation policies would be made. The Compensation Committee will consider the results from this year's and future shareholder advisory votes regarding future executive compensation decisions.

The Compensation Committee does not use tally sheets.

### **Base Salary**

The Compensation Committee evaluates and establishes base salary levels in light of economic conditions (generally and in the regions where executives work) and in comparison to other similarly situated companies. Base salary is designed to recognize an executive's knowledge, experience level, skill, ability, level of responsibility, and ongoing performance. The Compensation Committee targets base salary for all executives to be at a level consistent with our assessment of their value relative to their peers in the labor market, while also taking into account our need to manage costs. Any recommendations for salary changes to any Named Executive Officers (other than the Chief Executive Officer) are made by the Chief Executive Officer and presented to the Compensation Committee for approval.

In fiscal year 2018, all Named Executive Officers received a 3% salary increase except for the Executive Chairman who did not receive an increase. The Company announced that the Executive Chairman would no longer be an employee of the Company effective as of January 20, 2018, but would be Chairman of the Company. The Senior Vice President and Chief Financial Officer did not receive any increase as he started in September, 2017.

There were no other salary increases to date for the Named Executive Officers.

### **Annual Cash Incentives**

Participation in the 2011 EICP is limited to key employees of the Company as designated by the Compensation Committee. The 2011 EICP is administered by the Compensation Committee, which has full power and authority to determine which key employees of the Company receive awards under the 2011 EICP, set performance goals and bonus targets for each fiscal year, interpret and construe the terms of the 2011 EICP and make all determinations it deems necessary in the administration of the 2011 EICP, including any determination with respect to the achievement of performance goals and the application of such achievement to the bonus targets. The 2011 EICP sets out quantitative and qualitative categories of business criteria upon which performance goals are based. The business criteria measures within each category may be assigned different weightings based upon their relative degree of

importance as determined by the Compensation Committee.

In the quantitative category, one or more of the following business criteria may be used as performance measures: (i) net sales, (ii) operating income, (iii) net income, (iv) earnings per share of common stock, (v) net cash flows provided by operating activities, (vi) increase in working capital, (vii) return on invested capital, (viii) return on equity, and/or (ix) debt reduction. In the qualitative category, the business criteria relate to

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objective individual performance, taking into account individual goals and objectives. The performance goals with respect to each category of business criteria are established by the Compensation Committee within ninety days of the commencement of each fiscal year. Annual bonus targets are either expressed as a percentage of current salary or a fixed monetary amount with respect to each performance goal. At the end of each fiscal year for which a bonus may be earned, the Compensation Committee determines each participant's level of achievement of the established performance goals. Consistent with the relevant provisions of the Dodd-Frank Act, the Company will clawback, or retroactively adjust, if the relevant performance measures that awards are based upon are later restated or otherwise adjusted in a manner that would reduce the size of the award or payment. The Compensation Committee may amend or terminate the 2011 EICP at any time provided that no amendment will be effective prior to approval of the Company's shareholders to the extent such approval is required under listing rules or otherwise required by law.

The Compensation Committee met in January 2018 and established 5 metrics for fiscal 2018 that were to be used under the 2011 EICP. The goals established for 2018 were to: achieve net income target; achieve EBITDA target; execute the China business plan and develop and execute growth via business development. Below sets forth the targets and the actual performance of the Company against those targets.

<b>Metric</b>	<b>Target</b>	<b>Actual Performance</b>
Achieve EBITDA Target	\$123MM	Achieved
Achieve Net Income Target	\$15.1MM	Achieved
Execute China Business Plans	Competitively Sensitive	Achieved
Develop and Execute Growth via Business Development	Competitively Sensitive	Achieved
Competitively Sensitive	Competitively Sensitive	Not Achieved

In accordance with Instruction 4 to Item 402 of Regulation S-K, target information has been omitted with criteria (1) involving confidential trade secrets or confidential commercial or financial information, the disclosure of which would result in competitive harm for the Company.

The EBITDA target for fiscal 2018 of \$123 million was based on full year performance (EBITDA as defined in our credit agreement, is GAAP net income plus interest expense, income tax expense, depreciation and amortization, plus (less) special items as defined). The other targets were to achieve net income of \$15.1 million based on full year performance (net income defined as net income attributable to Photronics, Inc., which is revenues and income less expenses and net income attributable to non-controlling interests); execute the China Business Plans; Develop and Execute Growth via Business Development and a competitively sensitive goal. Each of the five metrics was given equal weight. In order for the Named Executive Officers to be eligible for a cash bonus for fiscal year 2018, the Company was required to meet at least two of the metrics. In November 2018, the Compensation Committee met and reviewed the metrics established for fiscal year 2018 and also reviewed the performance of the Company as a whole for fiscal year 2018. The Compensation Committee decided to award the following bonuses to the Named Executive Officers based on the achievements of the metrics set forth above. When determining the bonuses, the Compensation Committee considered the fact that 2018 was a great year for the Company. The Company achieved record revenue in 2018. Revenue was \$535.3 million an improvement of 19% compared with 2017. Growth of the Company was broad-based and balanced with integrated circuit and flat panel display both growing 19% year over year. High end integrated circuit revenue increased 62% from the previous year as both logic and memory increased. The Company increased its business with captive mask makers (mask makers owned by semiconductor manufacturers) which was the first time in the past several years that a merchant producer has been able to regain market share from captive mask makers. Furthermore, our flat panel business finished very strong with record quarterly revenue in the fourth quarter. The Compensation Committee also reviewed the fact that the Company significantly exceeded the targets for EBITDA and for Net Income. Additionally, the Company also significantly exceeded the metric related to the China business plan as well as develop and execute growth via business development metric. Because the targets that were

met were significantly exceeded the Compensation Committee approved the bonuses as set forth below.

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The Bonuses awarded to the Named Executive Officers in December of 2018 were as follows:

Ms. Richelle Burr	\$ 107,000
Mr. John P. Jordan	\$ 138,000
Dr. Peter Kirilin	\$ 390,000
Dr. Frank Lee	\$ 209,514
Mr. Constantine Macricostas <sup>(1)</sup>	\$ 0
Dr. Christopher J. Proglor	\$ 141,000

(1) Mr. Macricostas was no longer Executive Chairman as of January 20, 2018, .

In January 2019, the Compensation Committee met and established goals for fiscal 2019 under the 2011 EICP. The goals established for 2019 are: achieve a specified net income target; achieve a specified EBITDA target; execute the business plans in China; increase market share via specified model and enter into long term partnership agreements.

**Stock-Based Awards**

The Company's long-term incentive program uses restricted stock and stock options. The Company's equity incentive plan described below allows for the grant of stock options and restricted stock awards to directors and executive officers of the Company, as well as, other employees of the Company.

The Compensation Committee believes that the grant of stock options and restricted stock awards provides a strong link between executive compensation and shareholder return, aligning the long-term interests of its executives with those of the Company's shareholders and thereby promoting strategic planning while minimizing excessive risk.

For the purpose of aiding the Company and its subsidiaries in attracting, retaining, and motivating qualified personnel, the Company adopted a long term equity incentive compensation plan (the 2016 LTEICP ) in 2016. We believe that the 2016 LTEICP is essential to the Company's continued success. The awards provided under the 2016 LTEICP are vital to our ability to attract and retain highly skilled individuals to work for the Company and to serve on its Board of Directors.

**Administration**

The 2016 LTEICP is administered by the Compensation Committee. The Compensation Committee has the authority to determine, subject to the provisions of the 2016 LTEICP, who will be granted awards, the terms and conditions of awards, and the number of shares subject to, or the cash amount payable with respect to, an award. The Compensation Committee may also make factual determinations in connection with the administration or interpretation of the 2016 LTEICP. To the extent not prohibited by applicable laws, rules, and regulations, the Compensation Committee may also, from time to time, delegate some or all of its authority under the 2016 LTEICP to a subcommittee or to other persons or groups of persons as it deems necessary, appropriate, or advisable. Additionally, subject to applicable laws, rules and regulations, any authority or responsibility that, under the terms of the 2016 LTEICP may be exercised by the Compensation Committee, may alternatively be exercised by the Board of Directors of the Company.

The granting of equity awards under the 2016 LTEICP is generally decided every November or December. Such equity awards are generally granted in January. Grants to Named Executive Officers under the 2016 LTEICP are based on job responsibilities and the potential for individual contribution impacting the Company's overall performance. When considering grants, the Compensation Committee exercises judgment and discretion, generally using a sliding scale approach and also considers previous stock award grants to align generally with its overall compensation philosophy. For example, the Compensation Committee may consider reducing grants in a particular

year when a Named Executive Officer has large realizable gains from stock award grants in previous years. Other than inducement awards to new officers or other awards permitted to be granted outside of a shareholder approved equity plan under NASDAQ rules, the Company makes all grants of restricted stock and stock options pursuant to the terms of the 2016 LTEICP.

The annual granting process generally begins with the Compensation Committee providing direction to the Chief Executive Officer as to the total number of shares available for grant for the year. The Chief Executive Officer

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then provides individual grant recommendations to the Compensation Committee (except for his own) for review and approval. The Chief Executive Officer's recommendation is a subjective evaluation of the Named Executive Officers' contributions to the Company's future success, the level of incentive compensation previously received, as well as, the market price of the common stock on the date of grant. The Compensation Committee considers the aggregate number of shares available, the number of shares previously awarded and the number of individuals to whom the Company wishes to grant stock options or restricted stock awards. The Compensation Committee reserves the right to consider any factors it considers relevant under the circumstances then prevailing in reaching its determination regarding the amount of each stock option and/or restricted stock award.

The Chief Executive Officer's grant is determined by the Compensation Committee at its sole discretion, based on the Compensation Committee's evaluation of the Chief Executive Officer's expected contribution to the Company's future success, the level of incentive compensation previously awarded, the overall performance of the Company, a review of the Chief Executive Officer's peer group compensation, and the market price of the Company's common stock on the date of grant.

When determining the long-term incentive grants that were decided in November of 2018 but awarded in January 2019, the Compensation Committee considered the overall performance of the Company in fiscal 2018. The Compensation Committee also reviewed the options and restricted stock awards that were granted last year, as well as, the cost of option grants to the Company and the fact that the trend in compensation is moving toward more restricted stock grants and less option grants. The Compensation Committee also reviewed the grant history of the Company's peers and the compensation given to peer company Named Executive Officers and based on the totality of its review and analysis the Compensation Committee decided to grant the following awards to the Named Executive Officers.

### **Eligibility**

The Compensation Committee has the authority under the 2016 LTEICP to select the individuals who will be granted awards from among the officers, employees, directors, non-employee directors, consultants, advisors, and independent contractors of the Company or a subsidiary of the Company.

### **Number of Shares Available for Issuance**

A maximum of four million (4,000,000) shares of Common Stock may be issued under the 2016 LTEICP. Such shares may be authorized but unissued shares, shares previously issued and reacquired by the Company, or both. Any shares subject to awards which, for any reason, expire or are terminated or forfeited, become available again for grant under the 2016 LTEICP. Additionally, shares that are tendered or withheld to pay the exercise price of an award or to satisfy tax withholding obligations and exercised shares covered by a stock-settled stock appreciation right will not be available for issuance pursuant to a new award. The Compensation Committee shall have full authority to determine the effect of a change in control, on the vesting, exercisability, settlement, payment or lapse of restrictions applicable to an award under the 2016 LTEICP.

### **Types of Awards; Limits**

The Compensation Committee may grant the following types of awards under the 2016 LTEICP: options; restricted stock; restricted stock units; stock appreciation rights; performance stock; performance units; and other awards based on, or related to, shares of the Company's Common Stock. However, the 2016 LTEICP contains various limits with respect to the types of awards, as follows: no more than 2,000,000 shares can be granted as restricted shares and no more than 15% of the shares measured as of the date the 2016 LTEICP was adopted by the Board and approved by the shareholders can be granted to any Participant in any fiscal year; provided, however, that Non-Employee Directors may not receive more than 30,000 shares in any fiscal year.

**Stock Options**

Option awards typically vest 25% per year beginning one year after the grant date, with full vesting on the fourth anniversary of the grant date. Stock options expire ten years after the grant date, unless the employee separates earlier from the Company, at which point vested options expire 30 days after separation. The exercise price is equal to the closing price of our common stock on the date of grant.

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**TABLE OF CONTENTS****Restricted Stock**

Restricted stock awards typically vest 25% per year beginning one year after the grant date, with full vesting on the fourth anniversary of the grant date. Any shares not fully vested on the date the employee separates from the Company are forfeited. Restricted stock awards granted to the Named Executive Officers vest 25% per year beginning one year after the grant date.

Based on the determination of the Compensation Committee, the following Named Executive Officers were awarded the following grants on January 2, 2019:

	<b>Restricted Stock</b>
Ms. Richelle Burr	27,000
Mr. John P. Jordan	36,000
Dr. Peter Kirilin	75,000
Dr., Frank Lee	40,000
Mr. Constantine Macricostas <sup>(1)</sup>	0
Dr. Christopher J. Progler	32,000

(1) Mr. Macricostas was no longer Executive Chairman as of January 20, 2018.

The shares of restricted stock will vest in four equal increments over the next four years. All stock awards granted are subject to acceptance by the respective recipients of the terms of the stock award agreements.

**Stock Ownership Guidelines**

In December of 2015, the Compensation Committee adopted stock ownership guidelines effective for the calendar year 2016. The ownership requirements will be determined as a multiple of base salary or a non-management director's annual cash retainer converted to a fixed number of shares as follows: Chairman 2x annual base salary; Chief Executive Officer 2x annual base salary; 1x annual base salary for the Chief Financial Officer; 1x annual base salary for the Chief Technology Officer; 1x annual base salary for the President of Asia IC Photomask SBU; and 1x annual base salary for the General Counsel. Non-Management Directors 2x annual cash retainer fee. Stock that counts towards satisfaction of guidelines includes shares owned outright by the participant, stock held in Photronics Employee Stock Purchase Plan, restricted stock issued or granted, whether or not vested, and shares acquired upon stock option exercises. The stock price used to calculate conversion will be the average stock price over the twenty trading days prior to the given date. Participants have five years to achieve their designated ownership level.

**Health and Welfare and Retirement Benefits**

The Named Executive Officers participate in a variety of health and welfare and paid time off benefits designed to allow the Company to retain its workforce. The benefits program enjoyed by the Company's Named Executive Officers is the same as that offered to all other domestic employees.

The Company does not have a defined benefit pension plan or supplemental retirement plan. However, the Company does have a 401K Savings Plan (the Plan). The Plan is a 401(k)-compliant plan which enables participating employees to make contributions from their earnings and share in the contributions the Company makes to a trust fund maintained by the trustee. An account in the trust fund is maintained by the trustee for the Plan. All employees are eligible to participate in the Plan, except for nonresident aliens with no United States earned income from the Company and temporary employees or interns. The minimum amount that an employee can contribute is 1% and the

maximum amount is 50%. In fiscal year 2018, the Company provided a matching contribution based on the contributions that participating employees made to the Plan. Participating employees received a matching contribution of 50% of the first 4% of their contribution to the Plan.

**Employment Agreements**

In order to retain the Named Executive Officers and retain continuity of management in the event of an actual or threatened change of control, the Company has entered into employment agreements with each of the Named Executive Officers (with the exception of Frank Lee). Each agreement covers title, duties and responsibilities, and stipulates compensation terms. Each employment agreement also sets forth the severance benefits due in the

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event of a change in control or termination without cause. These employment agreements are described below under the caption Certain Agreements. The estimate of the compensation that would be payable in the event of a change in control or termination without cause is described below under the caption Potential Payments Upon Termination or Change in Control. The Compensation Committee believes that these agreements are a competitive requirement to attract and retain highly qualified executive officers. Before authorizing the Company to enter into the employment agreements with the Named Executive Officers, the Compensation Committee analyzed each of the termination and change in control arrangements and determined that each arrangement was advisable and appropriate under the circumstances of the Company and given the circumstances of each of the individual Named Executive Officers. The Compensation Committee will review these arrangements again upon the renewal of each employment agreement.

### Perquisites

The Company offers very limited perquisites to its executive officers. The use of a company car or a car allowance to employees is provided to the Named Executive Officers as indicated in the Summary Compensation Table.

### Tax and Accounting Impact on Compensation

Financial reporting and income tax consequences to the Company of individual compensation elements are important considerations for the Compensation Committee when it is analyzing the overall level of compensation and the mix of compensation. Overall, the Compensation Committee seeks to balance its objective of ensuring an effective compensation package for the Named Executive Officers while attempting to ensure the deductibility of such compensation – at the same time ensuring an appropriate and transparent impact on reported earnings and other closely followed financial measures.

Section 162(m) of the Internal Revenue Code ( §162(m) ) limits the amount of compensation paid to each Named Executive Officer that may be deducted by the Company to \$1 million in any year. Historically, prior to the 2017 Tax Cuts and Jobs Act ( TCJA ) there was an exception to the \$1 million limitation for performance-based compensation that met certain requirements. This exception was repealed as part of the TCJA for tax years beginning after December 31, 2017 and thus remains in force for our fiscal 2018 year. Further, a transition rule continuing the exception, to written binding contracts that were in place as of November 2, 2017, provided that those contracts are not materially modified after November 2, 2017, through any subsequent renewal date.

Historically, the compensation paid to our executive officers has not exceeded this limit due to the performance based exception. Following the changes made by the TCJA, whether compensation paid to executive officers exceeds the Section 162(m) limitation will depend in part on whether such compensation qualifies under the transition rule for performance based compensation available for written binding contracts in place on November 2, 2017, and not materially modified (or subsequently renewed) thereafter. To the extent that it is practicable and consistent with the Company's executive compensation philosophy, the Company will maintain the contracts qualified under the transition rule or if it is determined not to be in the best interest of shareholders, the Compensation Committee will abide by its compensation philosophy even if it results in a loss of deductibility.

### CEO Pay Ratio

As required by Securities and Exchange Commission rules, we are providing the following information about the ratio of the median annual total compensation of our employees and the annual total compensation of Dr. Kirlin, our CEO. For the year ended October 31, 2018:

- the median of total compensation of all employees of our Company for fiscal 2018 is estimated to be \$35,229.00
  - the annual total compensation of Dr. Kirlin for fiscal 2018 was \$1,546,172.00

- Based on this information, the ratio of the annual total compensation of our chief executive officer to the median of the annual total compensation of all other employees is estimated to be 44 to 1.



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Excluding our CEO, we identified the median employee by examining the 2018 total annual base salary for all individuals who were employed as of October 31, 2018. We included all our employees, whether full-time or part-time, including any interns. For any employee that we paid in currency other than U.S. Dollars, we then applied the applicable foreign currency exchange rate as of October 31, 2018 to convert such employee's total target compensation into U.S. Dollars.

Once we identified our median employee, we added together all of the elements of such employee's compensation for 2018 in the same way that we calculate the annual total compensation of our named executive officers in the Summary Compensation Table including overtime, bonus, matching contribution pursuant to the Company 401(k) savings and profit sharing and vacation payout, if applicable. To calculate our ratio, we divided Dr. Kirlin's salary for fiscal 2018 plus his bonus for fiscal 2018 performance plus his stock award and option award granted in fiscal 2018 plus personal use of a Company car and matching contribution pursuant to the Company's 401(k) Savings, and Profit Sharing Plan and divided that amount by the median employee's annual total compensation.

**COMPENSATION COMMITTEE REPORT ON EXECUTIVE COMPENSATION**

The Compensation Committee, comprised of independent directors, reviewed and discussed the above Compensation Discussion and Analysis (CD&A) with the Company's management. Based on the review and discussions, the Compensation Committee recommended to the Company's Board of Directors that the CD&A be included in these Proxy Materials.

Respectfully submitted,

Walter M. Fiederowicz, Chairman

Joseph A. Fiorita, Jr.

TABLE OF CONTENTS**EXECUTIVE COMPENSATION**

The following table sets forth certain information regarding compensation paid or accrued by the Company for services rendered for the three-year period ended October 31, 2018, to each of the individuals who served (i) as the Chief Executive Officer; (ii) Chief Financial Officer and (iii) the three other most highly compensated executive officers of the Company whose total salary and bonus exceeded \$100,000 (the Named Executive Officers ).

**SUMMARY COMPENSATION TABLE**

<b>Name and Principal Position</b>	<b>Year</b>	<b>Salary (\$)</b>	<b>Bonus (\$)</b>	<b>Stock Awards (\$)<sup>(1)</sup></b>	<b>Option Awards (\$)<sup>(2)</sup></b>	<b>All Other Compensation (\$)</b>	<b>Total (\$)</b>
<b>Richelle Burr</b>	2018	266,102	107,000	129,000	41,040	13,649 <sup>(3)</sup>	556,791
Vice President, General Counsel and Secretary	2017	260,000	40,000	170,250	53,940	14,200 <sup>(3)</sup>	538,390
	2016	260,000		51,553	118,881	14,366 <sup>(3)</sup>	444,800
<b>John P. Jordan</b>	2018	345,000	138,000			17,931 <sup>(4)</sup>	500,931
Senior Vice President, Chief Financial Officer	2017	39,808		232,500		2,000 <sup>(4)</sup>	274,308
<b>Peter S. Kirlin</b>	2018	591,001	390,000	516,000	41,040	8,132 <sup>(5)</sup>	1,546,173
Chief Executive Officer	2017	575,000	70,000	425,625	103,385	8,137 <sup>(5)</sup>	1,182,147
	2016	569,230		151,625	279,720	8,038 <sup>(5)</sup>	1,008,613
<b>Frank Lee</b>	2018	419,027	209,514	154,800	54,720		838,061
President, Asia IC Photomask							
<b>Constantine S. Macricostas</b>	2018	365,792				20,000 <sup>(6)</sup>	385,792
Executive Chairman	2017	425,000	31,875	141,875	143,840	21,982 <sup>(6)</sup>	764,572
	2016	423,270		151,625	186,480	21,982 <sup>(6)</sup>	783,357
<b>Christopher J. Progler</b>	2018	345,933	141,000	129,000	41,040	17,400 <sup>(7)</sup>	674,373
Vice President, Chief	2017	337,365	35,000	170,250	53,940	17,527 <sup>(7)</sup>	614,082
	2016	337,365		67,928	153,846	17,173 <sup>(7)</sup>	576,312

Technology Officer,  
Strategic  
Planning

- (1) The amounts shown in the Stock Awards column represents the closing price of the Company's Common Stock on the date of grant multiplied by the number of shares awarded in accordance with ASC No. 718.  
The amounts included in this column represent the grant date fair value of the options calculated in accordance
- (2) with ASC No. 718. The assumptions used in determining the fair value of these options are set forth in Note 8 of the Company's Annual Report on Form 10-K.
- (3) Represents car allowance, matching contribution pursuant to the Company's 401(k) Savings and Profit Sharing Plan.
- (4) Represents car allowance, matching contribution pursuant to the Company's 401(k) Savings and Profit Sharing Plan.
- (5) Represents personal use of a Company car and matching contribution pursuant to the Company's 401(k) Savings, and Profit Sharing Plan.
- (6) Represents allowance for medical reimbursements. Mr. Macricostas was no longer an employee of the Company as of January 20, 2018.
- (7) Represents car allowance and matching contribution pursuant to the Company's 401(k) Savings and Profit Sharing Plan.

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TABLE OF CONTENTS**GRANT OF PLAN-BASED AWARDS TABLE**

During the fiscal year ended October 31, 2018, the following plan-based awards were granted to the Named Executive Officers

<b>Name</b>	<b>Grant Date</b>	<b>Stock Option Awards (#)<sup>(1)</sup></b>	<b>Restricted Stock Awards: Number of Shares of Stock<sup>(1)</sup></b>	<b>Exercise Price of Awards (\$)</b>	<b>Grant Date Fair Value of Stock and Option Awards \$</b>
Richelle Burr	01/02/2018	15,000	15,000	8.60	170,040
John P. Jordan					
Peter S. Kirlin	01/02/2018	15,000	60,000	8.60	557,040
Frank Lee	01/02/2018	20,000	18,000	8.60	209,520
Constantine S. Macricostas					
Christopher J. Proglar	01/02/2018	15,000	15,000	8.60	170,040

(1) The number of shares of Common Stock underlying each option is equal to such number of options. See the Compensation Discussion and Analysis for an explanation of the amount of salary and bonus in proportion to total compensation and a description of the material terms of plan based awards.

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Name	Grant Date	Option Awards				Stock Awards	
		No. of Securities Underlying Unexercised Options (#) Exercisable	No. of Securities Underlying Unexercised Options <sup>(1)</sup> (#) Un-exercisable	Option Exercise Price (\$)	Option Expiration Date	No. of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
Richelle Burr	12/10/2010	15,000		6.71	12/10/2020		
	12/9/2011	15,000		6.32	12/09/2021		
	12/7/2012	5,625		5.46	12/7/2022		
	12/13/2013	25,000		8.86	12/13/2023		
	12/19/2014					1,042 <sup>(2)</sup>	10,149
	12/19/2014	18,750	6,250	8.23	12/19/2024		
	1/4/2016					2,125 <sup>(2)</sup>	20,698
	1/4/2016	12,750	12,750	12.13	1/4/2026		
	1/3/2017					11,250 <sup>(2)</sup>	109,575
	1/3/2017	3,750	11,250	11.35	1/3/2027		
	1/2/2018					15,000 <sup>(2)</sup>	146,100
1/2/2018		15,000	8.60	1/2/2028			
John P. Jordan	9/5/2017					22,500 <sup>(2)</sup>	219,150
Peter S. Kirlin	12/10/2010	20,000		6.71	12/10/2020		
	12/9/2011	20,000		6.32	12/9/2021		
	12/7/2012	33,000		5.46	12/7/2022		
	12/13/2013	45,000		8.86	12/13/2023		
	12/19/2014					1,875 <sup>(2)</sup>	18,263
	12/19/2014	33,750	11,250	8.23	12/19/2024		
	5/4/2015					2,500 <sup>(2)</sup>	24,350
	5/4/2015	37,500	12,500	8.84	5/4/2025		
	1/4/2016					6,250 <sup>(2)</sup>	60,875
	1/4/2016	30,000	30,000	12.13	1/4/2026		
	1/3/2017					28,125 <sup>(2)</sup>	273,938
	1/3/2017	7,187	21,563	11.35	1/3/2027		
	1/2/2018					60,000 <sup>(2)</sup>	584,400

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	1/2/2018		15,000	8.60	1/2/2028		
Frank Lee	12/21/2009	6,000		4.42	12/21/2019		
	7/21/2010	30,000		4.60	7/21/2020		
	2/4/2011	12,000		6.71	2/4/2021		
	12/9/2011	15,000		6.32	12/9/2021		
	12/7/2012	30,000		5.46	12/7/2022		
	12/13/2013	30,000		8.86	12/13/2023		
	12/19/2014					1,250 <sup>(2)</sup>	12,175
	12/19/2014	22,500	7,500	8.23	12/19/2024		
	1/4/2016					2,650 <sup>(2)</sup>	25,811
	1/4/2016	16,500	16,500	12.13	1/4/2026		
	1/3/2017					13,500 <sup>(2)</sup>	131,490
	1/3/2017	5,000	15,000	11.35	1/3/2027		
	3/7/2017					3,750 <sup>(2)</sup>	36,525
	3/7/2017	2,500	7,500	10.75	3/7/2027		
	1/2/2018					18,000 <sup>(2)</sup>	175,320
	1/2/2018		20,000	8.60	1/2/2028		

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Name	Grant Date	Option Awards			Stock Awards		
		No. of Securities Underlying Unexercised Options (#) Exercisable	No. of Securities Underlying Unexercised Options <sup>(1)</sup> (#) Un-exercisable	Option Exercise Price (\$)	Option Expiration Date	No. of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)
Christopher J. Proglor	12/21/2009	19,600		4.42	12/21/2019		
	12/10/2010	13,185		6.71	12/10/2020		
	12/9/2011	17,500		6.32	12/9/2021		
	12/7/2012	26,450		5.46	12/7/2022		
	12/13/2013	33,000		8.86	12/13/2023		
	12/19/2014					1,375 <sup>(2)</sup>	13,393
	12/19/2014	24,750	8,250	8.23	12/19/2024		
	1/4/2016					2,800 <sup>(2)</sup>	27,272
	1/4/2016	16,500	16,500	12.13	1/4/2026		
	1/3/2017					11,250 <sup>(2)</sup>	109,575
	1/3/2017	3,750	11,250	11.35	1/3/2027		
	1/2/2018					15,000 <sup>(2)</sup>	146,100
	1/2/2018		15,000	8.60	1/2/2028		

(1) The options vest 25% on each of the first 4 anniversaries of the date of the grant.

(2) Represents restricted stock awards which vest 25% on each of the first 4 anniversaries of the date of the grant.

**OPTION EXERCISES AND STOCK VESTED  
FISCAL YEAR ENDED OCTOBER 31, 2018**

Name (a)	Option Awards		Stock Awards	
	No. of Shares Acquired On Exercise (#)(b)	Value Realized on Exercise (\$)(c)	No. of Shares Acquired on Vesting (#)(d)	Value Realized on Vesting (\$)(e)
Richelle Burr	0	0	6,897	78,593
John P. Jordan	0	0	7,500	58,125
Peter S. Kirlin	0	0	18,750	213,438
Frank Lee	11,000	8,360	9,575	108,298

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Constantine Macricostas	510,000	1,181,345	9,688	84,239
Christopher J. Progler	32,150	57,923	7,900	90,076



TABLE OF CONTENTS**CERTAIN AGREEMENTS**

Ms. Burr and the Company entered into a 3 year employment agreement dated May 21, 2010. The agreement provided for a base salary of \$170,000. The Compensation Committee or the Board of Directors reviews Ms. Burr's base salary from time to time in accordance with normal business practices of the Company and as a result of such review may increase her base salary. Ms. Burr's current base salary is \$274,940. Ms. Burr received a bonus of \$107,000 in December 2018 and a 3% increase was granted in January 2019. Ms. Burr's agreement is automatically extended for consecutive 1 year periods unless the Company gives at least 30 days' notice of its intent not to renew. Ms. Burr is entitled to participate in employee benefit plans and arrangements as established by the Company for similarly situated executives. Ms. Burr is also entitled to receive an automobile allowance or company car in accordance with the Company's policies and provisions applicable to other similarly situated executives of the Company. If the agreement is terminated by the Company for reasons other than for cause or Ms. Burr resigns for good reason, Ms. Burr will receive a payment equal to 100% of her base salary paid out over 12 months. The agreement also provides severance payments equal to 150% of her base salary payable over 18 months in the event of involuntary termination other than for cause (including a resignation for good reason) following a change in control and Ms. Burr's stock options or similar rights will become immediately vested. Ms. Burr has agreed not to engage in any activity that competes with the Company's business during the term of her employment agreement and for twelve months thereafter.

John P. Jordan and the Company entered into a three year employment agreement dated September 5, 2017. The agreement provided for a base salary of \$345,000 per year. The Compensation Committee or the Board of Directors will review Mr. Jordan's base salary from time to time in accordance with normal business practices of the Company, and as a result of such reviews, may increase his base salary. Dr. Jordan's current salary is \$355,350. Mr. Jordan received a bonus of \$138,000 in December 2018 and a 3% increase was granted in January 2019. The agreement is automatically extended for consecutive 1 year periods unless the Company gives at least 30 days' notice of its intent not to renew. Mr. Jordan is entitled to participate in employee benefit plans and arrangements as established by the Company for similarly situated executives. Mr. Jordan is also entitled to receive an automobile allowance in accordance with the Company's policies and provisions applicable to other similarly situated executives of the Company. If the agreement is terminated by the Company for reasons other than for cause, or Mr. Jordan resigns for good reason, Mr. Jordan will receive a payment equal to 100% of his base salary paid out over 12 months. The agreement also provides severance payments equal to 150% of his base salary payable over 18 months in the event of involuntary termination other than for cause (including a resignation for good reason) following a change in control and Mr. Jordan's stock options or similar rights will become immediately vested. Mr. Jordan has agreed not to engage in any activity that competes with the Company's business during the term of his employment agreement and for twelve months thereafter.

Dr. Kirlin and the Company entered into a three year employment agreement dated May 21, 2010, which was amended May 4, 2015. The agreement provided for a base salary of \$525,000. The Compensation Committee or the Board of Directors reviews Dr. Kirlin's base salary from time to time in accordance with normal business practices of the Company and as a result of such review may increase his base salary. Dr. Kirlin's current base salary is \$610,018. Dr. Kirlin received a bonus of \$390,000 in December 2018 and a 3% increase in January 2019. Dr. Kirlin's agreement is automatically extended for consecutive 1 year periods unless the Company gives at least 30 days' notice of its intent not to renew. Dr. Kirlin is entitled to participate in employee benefit plans and arrangements as established by the Company for similarly situated executives. Dr. Kirlin is also entitled to receive an automobile allowance or company car in accordance with the Company's policies and provisions applicable to other similarly situated executives of the Company. If the agreement is terminated by the Company for reasons other than for cause, or Dr. Kirlin resigns for good reason, Dr. Kirlin will receive a payment equal to 100% of his base salary paid out over twelve months. The agreement also provides severance payments equal to 150% of his base salary payable over 18 months in the event of involuntary termination other than for cause (including a resignation for good reason) following a change in control

and Dr. Kirlin's stock options or similar rights will become immediately vested. Dr. Kirlin has agreed not to engage in any activity that competes with the Company's business during the term of his employment agreement and for twelve months thereafter.

Dr. Progler and the Company entered into a three year employment agreement dated September 10, 2007. The agreement provided for a base salary of \$243,000 per year. The Compensation Committee or the Board of Directors reviews Dr. Progler's base salary from time to time in accordance with normal business practices of the Company, and as a result of such reviews may increase his base salary. Dr. Progler's current base salary is

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\$358,722, which reflects a 3% salary increase in January 2019. Dr. Progler received a bonus of \$141,000 in December 2018. The agreement is automatically extended for consecutive 1 year periods unless the Company gives at least 30 days notice of its intent not to renew. Dr. Progler is entitled to participate in employee benefit plans and arrangements as established by the Company for similarly situated executives. Dr. Progler is also entitled to receive an automobile allowance or company car in accordance with the Company's policies and provisions applicable to other similarly situated executives of the Company. If the agreement is terminated by the Company for reasons other than for cause or Mr. Progler resigns for good reason, Mr. Progler will receive a payment equal to 100% of his base salary paid out over 12 months. The agreement also provides severance payments equal to 150% of his base salary payable over 18 months in the event of involuntary termination other than for cause (including a resignation for good reason) following a change in control and Mr. Progler's stock options or similar rights will become immediately vested. Mr. Progler has agreed not to engage in any activity that competes with the Company's business during the term of his employment agreement and for twelve months thereafter.

For purposes of the foregoing, good reason means the relocation of the Company's principal executive offices outside the United States without the employee's consent or any reduction in his salary or health benefits without the employee's consent.

**EQUITY COMPENSATION PLAN INFORMATION**

<b>Plan Category</b>	<b>No. of Shares to be issued upon exercise of outstanding options, warrants and rights</b>	<b>Weighted-average exercise price of outstanding options, warrants, and rights</b>	<b>No. of Shares remaining available for future issuance under equity compensation plans (excluding securities reflected in column)</b>
	<b>(a)</b>	<b>(b)</b>	<b>(c)</b>
Equity Compensation Plan Approved by Shareholders	2,842,857	\$ 8.81	2,933,820 <sup>(1)</sup>
Equity Compensation Plans Not Approved by Shareholders	0	0	0
<b>Total</b>	<b>2,842,857</b>	<b>\$ 8.81</b>	<b>2,933,820</b>

Represents shares of Photronics Common Stock issuable pursuant to future issuance under the Company's 2016

(1) Long Term Equity Incentive Plan (the "LTEIP") and shares available under the Company's Employee Stock Purchase Plan.

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Ms. Burr, Dr. Kirilin, Dr. Progler, and Mr. Jordan have employment agreements with the Company that provide for severance payments in the event of termination by the Company without cause, termination upon a change of control, or resignation by such Named Executive Officer with good reason. The employment agreements are further described above under the caption Certain Agreements .

The table below was prepared as if the Named Executives Officer s employment was terminated as of October 31, 2018, the last business day of our 2018 fiscal year and, if applicable, a change in control occurred on that date. The table also utilizes the closing share price of Photronics Common Stock on October 31, 2018.

<b>Name</b>	<b>Severance Payment (\$)<sup>(1)</sup></b>	<b>Benefit Plans (\$)<sup>(2)</sup></b>	<b>Options (\$)<sup>(3)</sup></b>	<b>Restricted Stock (\$)<sup>(4)</sup></b>	<b>Total (\$)</b>
<b>Richelle Burr</b>					
Termination without cause or resignation for good reason.	266,102	18,000			284,102
Termination upon change of control	399,153	18,000	26,538	286,522	730,213
<b>John P. Jordan</b>					
Termination without cause or resignation for good reason.	345,000	18,000			363,000
Termination upon change of control	517,500	18,000		219,150	754,650
<b>Peter S. Kirilin</b>					
Termination without cause or resignation for good reason.	591,001	18,000			609,001
Termination upon change of control	886,502	18,000	45,338	961,825	1,911,665
<b>Christopher J. Progler</b>					
Termination without cause or resignation for good reason.	345,933	18,000			363,933
Termination upon change of control	518,900	18,000	29,558	296,340	862,798

(1) Assumes no bonus will be paid as part of the severance payment. The calculation was based on base salary for fiscal 2018.

(2) Assumes a payment of \$1,500 per month for COBRA premiums for 12 months.

(3) The value of options assumes all outstanding option awards that are in the money and as of October 31, 2018 were immediately vested upon the change of control, regardless of whether termination of employment, for any reason, has occurred, as provided under the Company's stock incentive plans. The amount is calculated by multiplying the amount of unvested options granted by the closing price on the date of grant and then deducting that number from the number of unvested options granted multiplied by the closing share price on October 31, 2018. The closing price on the date of grant was \$8.23 for the award granted on December 19, 2014, \$12.13 for the award granted on January 4, 2016, and \$11.35 for the award granted on January 3, 2017 and \$8.60 for the award granted on January 2, 2018. The closing price on October 31, 2018 was \$9.74.

(4)

The value of restricted stock assumes all unvested outstanding awards as of October 31, 2018, were immediately vested upon the change of control, regardless of whether termination of employment, for any reason has occurred, as provided under the Company's stock incentive plans. In the case of restricted stock the value is based on the number of outstanding shares that would not ordinarily have vested as of October 31, 2018, multiplied by \$9.74, the applicable closing share price on October 31, 2018.

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### **DIRECTORS COMPENSATION**

Directors who are not employees of the Company each received an annual retainer of \$40,000 in addition to a fee of \$4,000 for each Board meeting attended in fiscal 2018.

Grants of stock as part of the Directors' annual compensation are generally made at the first Board meeting of the Company's fiscal year. For fiscal 2018, each Director received a restricted stock award of 12,000 shares. The restrictions on the awards lapse quarterly over the one-year service period. We believe that providing part of the directors' annual retainer compensation in the form of equity rather than cash serves to align the interest of our directors with our shareholders as they become shareholders themselves.

Directors who are also employees of the Company are not compensated for serving on the Board.

In fiscal 2018, the Chairman of the Audit Committee received an additional annual retainer of \$40,000 and the Vice Chairman received an additional annual retainer of \$20,000. In fiscal 2018, the other member of the Audit Committee received an additional annual retainer of \$15,000. Members of the Audit Committee receive a per diem payment of \$1,250 for travel in connection with the Audit Committee and for Board of Director assignments. The Chairman of the Compensation Committee received an additional annual retainer of \$40,000 and the Vice Chairman of the Compensation Committee receives an additional annual retainer of \$20,000. In fiscal 2018, the Chairman of the Strategic Planning and Development Committee received an additional annual retainer of \$15,000 and the Vice Chairman received an additional annual retainer of \$10,000. In fiscal 2018, the Chairman of the Nominating Committee received an additional annual retainer of \$20,000 and the Vice Chairman received an additional annual retainer of \$10,000. In fiscal 2018, the Chairman of the Cyber Security Committee received an additional annual retainer of \$15,000 and the other member of the Cyber Security Committee received a retainer of \$10,000. From time to time, management may request the involvement of one or more directors outside of board meetings in connection with the development or consideration of strategic initiatives. The directors are paid an additional \$2,500 per diem prorated fee for the time devoted to such matters. Such additional fees shall be paid to the directors in fiscal 2019 if such services are rendered by any director.

At the meeting of the Board of Directors held in December 2018, the Compensation Committee recommended to the Board the compensation to be paid to the Board for fiscal 2019. The Board, after considering this recommendation, then established the annual compensation for the directors. When assessing the directors' compensation, the Compensation Committee reviews the compensation of the directors of its peer group (the peer group is described above in the Compensation Discussion and Analysis), reviewing each element of director compensation including the annual retainer, the committee chair retainer, meeting fees and equity awards to determine whether the amount is competitive and reasonable for the services provided by the directors. We provide higher annual retainers for service as the Chair(s) of the Audit and Compensation Committee. We believe that providing part of the directors' annual retainer compensation in the form of equity rather than cash serves to align the interests of our directors with our shareholders as they become shareholders themselves. The annual retainer for Directors who are not employees for 2019 is \$40,000 and a meeting fee of \$4,000 per meeting. Grants of stock as part of the Directors' annual compensation are generally made in January. For fiscal 2019, each Director received a restricted stock award of 12,000 shares in January 2019. The restrictions on the awards lapse quarterly over the one-year service period.

In fiscal 2019, the Chairman of the Audit Committee will receive an additional annual retainer of \$40,000 and the Vice Chairman will receive an additional annual retainer of \$20,000. In fiscal 2019, the other member of the Audit Committee will receive an additional annual retainer of \$15,000. Members of the Audit Committee will receive a per diem payment of \$2,500 for travel in connection with the Audit Committee and for Board of Director assignments. The Chairman of the Compensation Committee will receive an additional annual retainer of \$40,000 and the Vice Chairman of the Compensation Committee will receive an additional annual retainer of \$20,000. In fiscal 2019, the

Chairman of the Strategic Planning and Development Committee will receive an additional annual retainer of \$15,000 and the Vice Chairman will receive an additional annual retainer of \$10,000. In fiscal 2019, the Chairman of the Nominating Committee will receive an additional annual retainer of \$20,000 and the Vice Chairman will receive an additional annual retainer of \$10,000. In fiscal 2019, the Chairman of the Cyber Security Committee will receive an additional annual retainer of \$15,000 and the other

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member of the Cyber Security Committee will receive a retainer of \$10,000. From time to time, management may request the involvement of one or more directors outside of board meetings in connection with the development or consideration of strategic initiatives. The directors may earn an additional \$2,500 per diem prorated fee for the time devoted to such matters.

**DIRECTOR COMPENSATION TABLE**

<b>Name</b>	<b>Fees Earned or Paid in Cash (\$)</b>		<b>Stock Awards (\$)</b>	<b>Total (\$)</b>
<b>Walter M. Fiederowicz</b>	116,000	(3)	103,200 (1)	219,200
<b>Joseph A. Fiorita</b>	116,000	(4)	103,200 (1)	219,200
<b>Constantine Macricostas</b>	62,000	(5)	170,050 (2)	232,050
<b>George Macricostas</b>	81,000	(6)	103,200 (1)	184,200
<b>Mitchell G. Tyson</b>	91,000	(7)	103,200 (1)	194,200
<b>Liang-Choo Hsia</b>	81,000	(8)	103,200 (1)	184,200

(1) The amounts shown represents 12,000 shares of restricted stock granted on January 2, 2018 with a closing stock price of \$8.60. The restricted stock vests quarterly over a year.

(2) The amounts shown represents 19,000 shares of restricted stock granted on January 22, 2018 with a closing stock price of \$8.95. The restricted stock vests quarterly over a year.

(3) Represents \$40,000 as an annual retainer, \$40,000 as Chairman of the Compensation Committee, \$20,000 as Vice Chairman of the Audit Committee, and \$16,000 for meeting fees (4 meetings at \$4,000 per meeting)

(4) Represents \$40,000 as an annual retainer, \$40,000 as Chairman of the Audit Committee, \$20,000 as Vice Chairman of the Compensation Committee, and \$16,000 for meeting fees (4 meetings at \$4,000 per meeting).

(5) Represents \$40,000 as an annual retainer, \$10,000 as a member of the Cyber Security Committee, and \$12,000 for meeting fees (3 meetings at \$4,000 per meeting).

(6) Represents \$40,000 as an annual retainer, \$15,000 as Chairman of the Cyber Security Committee, \$10,000 as a member of the Strategic Planning and Technology Development Committee, and \$16,000 for meeting fees (4 meetings at \$4,000 per meeting).

(7) Represents \$40,000 as an annual retainer and \$15,000 as a member of the Audit Committee, \$20,000 as Chairman of the Nominating Committee, and \$16,000 for meeting fees (4 meetings at \$4,000 per meeting).

Represents \$40,000 as an annual retainer, \$15,000 as Chairman of the Strategic Planning and Technology

(8) Development Committee, \$10,000 as Member of the Nominating Committee, and \$16,000 for meeting fees (4 meetings at \$4,000 per meeting).

**COMPENSATION COMMITTEE****INTERLOCKS AND INSIDER PARTICIPATION**

During fiscal 2018, no members of the Compensation Committee were officers or employees of the Company or any of its subsidiaries. During fiscal 2018, no executive officers of the Company served on the Compensation Committee or the Board of Directors of another entity whose executive officers served on the Company's Compensation Committee.

**PROPOSAL 2****RATIFICATION OF THE SELECTION OF****INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**



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The Audit Committee has selected Deloitte & Touche LLP ( D&T ), independent registered public accounting firm, to audit the consolidated financial statements of the Company and its subsidiaries for the fiscal year ending October 31, 2019. We are asking you to ratify this selection at the meeting.

A representative of D&T will attend the meeting to answer appropriate questions and may make a statement.

Approval of this proposal to ratify the appointment of D&T requires a majority of the votes cast by the shareholders entitled to vote at the Annual Meeting.

**The Board of Directors recommends that you vote FOR this proposal to ratify the selection of D&T as independent registered public accountants for Photronics, Inc. and its subsidiaries for the fiscal year ending October 31, 2019.**

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**PROPOSAL 3**

**TO APPROVE AN AMENDMENT TO THE PHOTRONICS, INC. EMPLOYEE STOCK PURCHASE PLAN TO INCREASE THE NUMBER OF AUTHORIZED SHARES OF COMMON STOCK AVAILABLE FOR ISSUANCE FROM 1,500,000 TO 1,850,000**

For the purpose of aiding the Company and its subsidiaries in attracting, retaining and motivating personnel and encouraging stock ownership by employees, the Company has an Employee Stock Purchase Plan.

The Company's Employee Stock Purchase Plan ( Plan ) was approved by the shareholders of the Company at the Annual Meeting held on March 18, 1992 and was amended as of April 1, 1998, March 24, 2004, April 8, 2010, and April 28, 2012. This Proposal No. 3, if approved by the shareholders, would increase the number of shares of Common Stock available for purchase under the Plan. There are currently 1,500,000 shares of our Common Stock authorized for issuance under the Plan. Under the Plan, approximately 1.4 million shares had been issued through October 31, 2018, and approximately 0.1 million shares were subject to outstanding subscriptions. This amendment would increase the number of shares of Common Stock authorized for issuance under the Plan from 1,500,000 to 1,850,000 shares. The Board approved this amendment at a meeting held on December 6, 2018, subject to the approval of the shareholders.

The Board believes the Plan should be amended to increase the number of shares authorized for issuance in order to permit employees to purchase shares of Common Stock through payroll deductions. Approval of this proposal requires the affirmative vote of the holders of a majority of the outstanding shares of Common Stock present in person or by proxy at the Annual Meeting.

The following is a summary of the material features of the Plan, as amended. The Plan is qualified in its entirety by reference to the text of the Plan. You may request a copy of the Plan, as amended, free of charge by writing to: General Counsel, Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804. A copy of the plan is also attached hereto as Annex A.

***Administration***

The Plan is administered by a plan committee which consists of two (2) or more members of the Board of Directors, none of whom are eligible to participate in the Plan. The plan committee is authorized to determine any questions arising in the administration, interpretation and application of the Plan, and is authorized to make such uniform rules as may be necessary to carry out its provisions. The Board of Directors of the Company may amend the Plan, except that the Board of Directors may not, without shareholder approval, make any amendment which would increase the number of shares reserved under the Plan, extend the term during which offerings may be made under the Plan, or increase the maximum number of shares which an eligible employee is entitled to purchase.

***Plan Participation***

Under the Plan, each person who has been an employee of the Company for one complete calendar month and whose customary employment is for more than twenty (20) hours per week and for more than five (5) months per calendar year is eligible to purchase that number of shares of Common Stock having a purchase price equal to not more than 5% of the employee's annual compensation. Approximately 630 individuals will be eligible to participate in the Plan. The purchase price per share shall be an amount equal to such percentage, not greater than 100% nor less than 85%, as determined by the plan committee on the offering date, of the fair market value of a share of Common Stock on one of the following dates, as determined by the plan committee, the offering date or the purchase date whichever would result in a lower purchase price for the Common Stock. Any person who, after grant of a right to purchase, would hold 5% or more of the Common Stock of the Company is not eligible to make purchases under the Plan. In addition, the

granting of a right to any employee to purchase shares under the Plan and any other stock purchase plan of the Company and its subsidiaries is limited to \$25,000 in fair market value of such shares (determined as of the date of grant of such right) for each calendar year.

The total purchase price of the shares of stock covered by the grants is paid through payroll deductions over a period of up to twenty-four months. A participating employee has none of the rights or privileges of a shareholder of the Company (including rights to dividends) until the shares are fully paid for and issued.

It is intended that the rights to purchase shares of stock to be granted by the Company will constitute options issued pursuant to an employee stock purchase plan within the meaning of Section 423 of the United States Internal Revenue Code of 1986, as amended (the Code).

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### *Shares Available*

A maximum of one million five hundred thousand shares (1,500,000) shares of Common Stock may currently be issued under the Plan. If the amendment of the Plan is approved a maximum of one million eight hundred and fifty thousand shares (1,850,000) shares of Common Stock will be issuable under the Plan. In the event of a stock dividend, share distribution, recapitalization, merger, consolidation, split-up, spin-off, combination or exchange of share or similar action with respect to the Common Stock, the Board makes adjustments to the unissued shares under the Plan to reflect any such event.

### *Certain Federal Income Tax Considerations*

The following is a general summary of certain United States income tax consequences based upon the laws as currently in effect, and does not purport to cover possible foreign, state, local, estate, employment or other tax consequences.

The Plan, and the right of participants to make purchases thereunder, is intended to qualify under the provisions of Section 421 and 423 of the Code. Under these provisions, no income will be taxable to a participant at the time of purchase of shares. Upon disposition of the shares, the participant will be subject to tax and the amount of the tax will depend on the period of time that the participant holds the shares. If the shares are disposed of by the participant at least two years after the beginning of the option period and at least one year from the date the shares are purchased, the lesser of (a) the excess of the fair market value of the shares at the time of such disposition over the purchase price, or (b) 15% of the fair market value of the shares on the first day of the option period, will be treated as ordinary income and any further gain will be taxed at long-term capital gain rates. If the shares are sold after such time and the sale price is less than the purchase price, the participant recognizes no ordinary income but, instead, a capital loss for the difference between the sale price and the purchase price.

If the shares are sold or otherwise disposed of before the expiration of such two-year and one-year periods, the excess of the fair market value of the shares on the exercise date over the purchase price will be treated as ordinary income even if no gain is realized on the sale or if a gratuitous transfer is made. Any additional gain or loss on such sale or disposition will be long-term or short-term capital gain or loss, depending on the holding period.

The Company is not entitled to a deduction for amounts taxed as ordinary income to a participant except to the extent of ordinary income recognized by participants upon disposition of shares within two years from the date of grant or within one year of the date of purchase.

### *New Plan Benefits*

It is not presently possible to determine the benefits or amounts that will be received by any particular employee or groups in the future.

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### **PROPOSAL 4 TO APPROVE, BY NON-BINDING VOTE, THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS**

Pursuant to the Dodd-Frank Act, we are asking our shareholders to provide advisory approval of the compensation of our Named Executive Officers, as we have described it in the Compensation Discussion and Analysis section of this proxy statement beginning on page 12. While this vote is advisory, and not binding on the Company, it will provide information to our Compensation Committee regarding investor sentiment about our executive compensation philosophy, policies, and practices which the Compensation Committee will be able to consider when determining executive compensation for future years. For the reasons stated below, we are requesting your approval of the following non-binding resolution:

**RESOLVED, that the compensation paid to the Company's Named Executive Officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion is hereby APPROVED.**

The compensation of our Named Executive Officers and our compensation philosophy policies are comprehensively described in the Compensation Discussion and Analysis, and its accompanying tables (including all footnotes).

The Compensation Committee designs our compensation policies for our Named Executive Officers to create executive compensation arrangements that are competitive, align pay with creating shareholder value and balance compensation risk appropriately in the context of the Company's business strategy. Based on its review of the total compensation of our Named Executive Officers for fiscal year 2018, the Compensation Committee believes that the total compensation for each of the Named Executive Officers is reasonable and effectively achieves the designed objectives of driving Company performance, attracting, retaining and motivating our people, aligning our executives with shareholders' long-term interests, and discouraging excessive risk taking.

Neither the approval nor the disapproval of this resolution will be binding on us or the Board of Directors or will be construed as overruling a decision by us or the Board of Directors. Neither the approval nor the disapproval of this resolution will create or imply any change to our fiduciary duties or create or imply any additional fiduciary duties for us or the Board of Directors.

### **THE BOARD OF DIRECTORS RECOMMENDS THAT YOU VOTE FOR APPROVING THE COMPENSATION OF OUR NAMED EXECUTIVE OFFICERS**

### **RELATED PARTY TRANSACTIONS**

The Company has an operating policy the purpose of which is to ensure that contracts with entities in which any director, officer, or other member of management has a financial interest are competitively priced and commercially reasonable. Under the policy, any such contract must be reviewed and approved in advance by the Audit Committee. To the extent that anyone on the Audit Committee is the person with a financial interest, the Chief Executive Officer and Chief Financial Officer of the Company will obtain independent assessment of the commercial reasonableness of the contract when considered necessary.

On January 20, 2018, the Company entered into a four-year consulting agreement with DEMA Associates, LLC, for \$390,000 per year. Mr. George Macricostas and Mr. Constantine Macricostas are members of DEMA Associates, LLC. In fiscal 2018, we incurred expenses for services provided by this entity of \$300,000.

Our chairman of the board of directors was also a director of Raging Wire Data Center, Inc. ( Raging Wire ) that provided secure managed information technology services to the Company. Another member of our board of directors was the chief executive officer and chairman of the board of Raging Wire. We had contracted with Raging Wire since 2002 for services it provided to all of our facilities. As of January 30, 2018, no members of our board of directors were executive officers, directors or shareholders of this entity.

In July 2016, we entered into a contract for information technology services with NTT Communications, the parent entity of RagingWire. Mr. George Macricostas served as the executive chairman of the board and a director of RagingWire and Mr. Constantine Macricostas served as a director of Raging Wire. In fiscal 2018, we incurred expenses for services provided by NTT Communications of \$100,000. As of January 30, 2018, no members of our board of directors were executive officers, directors or shareholders of the wholly owned subsidiary.

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Dr. Frank Lee is related to an individual in a position of authority at one of our largest customers. We recorded revenue from this customer of \$78.4 million in fiscal 2018. As of October 31, 2018, we had accounts receivable of \$23.5 million from this customer.

We believe that the terms of our transactions with the related parties described above were negotiated at arm's length and were no less favorable to us than terms we could have obtained from unrelated third parties.

## **SOLICITATION OF PROXIES AND COSTS THEREOF**

We will bear the costs of solicitation of proxies. We have engaged The Proxy Advisory Group, LLC<sup>®</sup> to assist us with the solicitation of proxies and provide related advice and informational support for a services fee and the reimbursement of customary disbursements both of which are not expected to exceed \$12,500 in the aggregate. In addition to solicitations by mail, The Proxy Advisory Group, LLC and certain of our officers may solicit proxies by telephone, email and personal interviews without additional remuneration. We will request brokers, custodians, and fiduciaries to forward proxy solicitation material to the owners of shares of our common stock that they hold in their names. We will reimburse banks and brokers for their reasonable out-of-pocket expenses incurred in connection with the distribution of our proxy materials.

As of the date of this proxy statement, the Board of Directors knows of no matters which will be presented for consideration at the Annual Meeting of Shareholders other than the proposals set forth in this Proxy Statement. If any other matters properly come before the Annual Meeting of Shareholders the persons named in the proxy will act in respect thereof in accordance with their best judgment.

## **SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires the Company's executive officers and directors and persons who beneficially own more than ten percent of a registered class of the Company's equity securities to file an initial report of beneficial ownership on Form 3 and changes in beneficial ownership on Form 4 or 5 with the SEC. Executive officers, directors and greater than ten percent shareholders are also required by SEC rules to furnish the Company with copies of all Section 16(a) forms they file. Based solely on its review of the copies of such forms received by it, or written representations from certain reporting persons, the Company believes that during the last fiscal year, all filing requirements applicable to its executive officers, directors, and ten percent shareholders were timely except for one late Form 5 filing and a Form 4 for the transaction for Lee Kang Jyh that occurred on March 8, 2018 that was filed on August 2, 2018 as a result of issues related to filing codes, a Form 4 for Mitchell Tyson that occurred on March 12, 2018 that was filed on July 11, 2018 whereby the Company was not provided notification by the broker of a share transaction until July 11, 2018 and a Form 4 for Walter M. Fiederowicz that occurred on August 8, 2018 and September 4, 2018 that was filed February 27, 2019 whereby the Company was not provided notification by the broker of a share transaction until February 26, 2019.

## **FORM 10-K AND ADDITIONAL INFORMATION**

The Company's annual report filed with the SEC on Form 10-K for the year ended October 31, 2018, which includes audited financial statements and financial statement schedules, will be furnished, free of charge, upon written request directed to the Secretary, Photronics, Inc., 15 Secor Road, Brookfield, Connecticut 06804 (203-775-9000).

## **MULTIPLE SHAREHOLDERS SHARING THE SAME ADDRESS**

The Company has adopted a procedure approved by the SEC called "householding" which will reduce our printing costs and postage fees. Under this procedure, multiple shareholders residing at the same address will receive a single copy

of the annual report and proxy statement unless the shareholder notifies the Company that they wish to receive individual copies. Shareholders may revoke their consent to householding at any time by contacting Broadridge Financial Services, Inc. either by calling toll-free at (800) 542-1061, or by writing to Broadridge, Householdings Department, 51 Mercedes Way, Edgewood, New York, 11717. The Company will remove you from the householding program within 30 days of receipt of your response, following which you will receive an individual copy of our disclosure document.



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**SHAREHOLDER PROPOSALS**

Under Rule 14a-8 shareholder proposals intended for inclusion in the Company's proxy statement for the 2020 Annual Meeting of Shareholders must be received by the Company no less than 120 calendar days before the date of the Company's proxy statement released to shareholders in connection with the previous year's annual meeting (October 29, 2018) and must meet certain requirements of applicable laws and regulations in order to be considered for possible inclusion in the proxy statement for that meeting. Proposals may be mailed to Photronics, Inc. to the attention of the Secretary, 15 Secor Road, Brookfield, Connecticut 06804. A nomination by a qualifying shareholder may be made only pursuant to timely notice (in the same time frame as a shareholder proposal) in proper written form to the Secretary.

The graph below presents a five year comparison of the total cumulative return on the Company's common stock in comparison to returns on the NASDAQ Composite indices. The comparison assumes an initial investment of \$100 and the reinvestment of dividends. The graph and other information included under this section should not be deemed to be soliciting material or be filed with the Securities and Exchange Commission or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Securities and Exchange Act of 1934, as amended.

**Comparison of Five-Year Cumulative Total Return  
Based upon an initial investment of \$100 on October 30, 2013  
with dividends reinvested**

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**EXHIBIT A**

**EMPLOYEE STOCK PURCHASE PLAN**

**(Amended and Current as of**

**March 25, 2019)**

**ARTICLE I - General**

- 1.1 The purpose of Photronics, Inc. Employee Stock Purchase Plan is to provide eligible employees of the Company and its designated subsidiaries (if any) with an opportunity to acquire a proprietary interest in the Company by the purchase of shares of the Common Stock of the Company directly from the Company through payroll deductions. It is felt that employee participation in the ownership of the Company will be to the mutual benefit of both the employees and the Company.
- 1.2 The Plan is intended to qualify as an employee stock purchase plan within the meaning of Section 423 of the Internal Revenue Code of 1986, as amended (the Code). The provisions of the Plan shall, accordingly, be construed so as to extend and/or limit eligibility and participation in a manner consistent, and so as to otherwise comply, with the requirements of the Code.
- 1.3 Eligibility and participation in the Plan shall give any Employee only such rights as are set forth in the Plan and any amendments hereto and shall in no way affect or in any manner limit the Company's right to discharge the Employee, which right is expressly reserved by the Company, or impair the authority of the Plan Committee to limit the Employee's rights, claims or causes, as provided in the Plan.

**ARTICLE II - Definitions**

- 2.1 The following words and phrases, when used in the Plan, shall have the following respective meanings, unless the context clearly indicates otherwise:

**Authorized Leave of Absence**

Any leave of absence authorized under the Company's standard personnel practices, provided that all persons under similar circumstances must be treated equally in the granting of such Authorized Leave of Absence and provided further that the person returns to the employ of the Company upon the expiration of an Authorized Leave of Absence.

**Board of Directors**

The Board of Directors of Photronics, Inc.

**Code**

The Internal Revenue Code of 1986, as amended from time to time, and applicable Treasury Department regulations issued thereunder.

**Common Stock**

The Common Stock, par value \$0.01 per share, of the Company, or the securities adjusted or substituted therefor pursuant to Article XIV.

**Company**

Photronics, Inc., a Connecticut corporation, or its successor or successors or any present or future subsidiary of Photronics, Inc., which may be designated to participate in the Plan by the Board of Directors.

**Compensation**

The Compensation of an Eligible Employee shall be determined in accordance with procedures approved by the Plan Committee or the Board of Directors. In the absence of the adoption of specific procedures, Compensation of an Eligible Employee shall be the annualized salary or wages of such Employee based on such Employee's current rate of pay and work schedule, but excluding any discretionary overtime, sick pay, vacation pay or other benefits.

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### **Disability**

Disability shall have the same meaning set forth in Section 22(e)(3) of the Code or any successor provision thereto. At present, a disability is defined as a physical or mental impairment or incapacity which, can be expected to result in death or has lasted or can be expected to last for a continuous period of at least twelve (12) months and renders the Participant unable to engage in any substantial, gainful activity.

### **Effective Date of the Plan**

The date on which the Plan shall have become effective pursuant to Article XVII, provided, however, that if the Plan shall not be approved by the stockholders of the Company as provided in Article XVII, the Plan and all rights granted hereunder shall be, and be deemed to have been, null and void.

### **Eligible Employee**

An Employee who is eligible to participate in the Plan in accordance with provisions of Articles IV and V.

### **Employee**

Any person who, on an Offering Date, is a common law employee of the Company and whose customary employment is for more than twenty (20) hours per week and for more than five (5) months per calendar year, other than any highly compensated employees (within the meaning of Section 414[q] of the Code or any successor provision thereto) of the Company who are excluded from participation hereunder by action of the Board of Directors. A person who is or has been on an Authorized Leave of Absence, and who in the absence of such Authorized Leave of Absence would have been classified as an Employee, shall in the discretion of the Plan Committee be considered to be an Employee, except to the extent that such determination is inconsistent with Section 423 of the Code. Such determination by the Plan Committee shall be final and conclusive.

### **Offering**

An Offering in accordance with the provisions of Article V.

### **Offering Date**

The date of an Offering as established by the Plan Committee pursuant to Section 5.1 hereof.

### **Participant**

An Eligible Employee who subscribes for Shares pursuant to Article VI.

### **Plan**

The Photronics, Inc. Employee Stock Purchase Plan set forth herein, as amended from time to time in accordance with the provisions of Article XV.

### **Plan Committee**

The committee provided for in Article XII to administer the Plan.

**Purchase Date**

A Purchase Date as provided in Sections 8.1 or 10.3, as appropriate.

**Shares**

Shares of Common Stock offered under the Plan.

The masculine gender, whenever used in the Plan, shall be deemed to include the feminine gender, and whenever the plural is used it shall include the singular, if the context so requires.

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**ARTICLE III - *Shares Subject to the Plan***

Subject to the provisions of Article XIV hereof, the aggregate number of shares of Common Stock which may be issued under the Plan shall not exceed 1,850,000. The aggregate number of such shares which may be issued with respect to any Offering shall be determined by the Plan Committee with respect to such

3.1 Offering. Such shares may be authorized but unissued shares of Common Stock or issued shares of Common Stock which are held by the Company. Any shares subscribed for under the Plan and not purchased as a result of the cancellation in whole or in part of such subscription shall (unless the Plan shall have terminated) be again available for issuance under the Plan.

**ARTICLE IV - *Eligibility***

Each Employee who has been continuously employed by the Company for the one complete calendar month (or such longer period as may be determined by the Plan Committee) ending immediately prior to an

4.1 Offering Date shall be eligible to participate in the Offering under the Plan made on such Offering Date. Notwithstanding the provisions of Section 4.1, no Employee shall be offered Shares if, immediately after he would subscribe for such Shares, such Employee would own capital stock (including shares of Common

4.2 Stock which may be purchased under such subscription and under any other outstanding subscriptions under the Plan or options to purchase shares of Common Stock of the Company held by such Employee, as computed in accordance with Section 423[b][3] of the Code or any successor provision thereto) possessing 5% or more of the total combined voting power or value of all classes of stock of the Company. For purposes of determining the stock ownership of any Employee, the provisions of Section 424[d] of the Code shall apply.

**ARTICLE V - *Offering Under the Plan***

Offerings under the Plan shall be made on such Offering Dates as shall be determined by the Plan Committee. Notwithstanding anything to the contrary, no Offering shall be made on any date prior to the

5.1 date that a required registration statement with respect to such Offering filed under the Securities Act of 1933, as amended, has become effective. Nothing contained herein shall be deemed to require that an Offering be made in any year.

5.2 [a] Subject to the limitations set forth in Sections 5.2[b] and 6.3, and to the other terms and conditions of the Plan, in each offering under the Plan, each Eligible Employee on an Offering Date shall be offered the right during the Subscription Period as provided in Section 6.2, to subscribe to purchase such number of Shares as the percentage designated by the Plan Committee for such offering (not to exceed 5%) of his Compensation would buy, at a price equal to the product of (i) the fair market value of a Share on the Offering Date, multiplied by (ii) the Purchase Price percentage utilized under Section 5.3 hereof.

[b] Notwithstanding anything to the contrary contained in Sub-Section [a] of this Section 5.2, no Eligible Employee shall be eligible to subscribe for Shares in an Offering if, immediately after he would subscribe for such Shares, such subscription would permit his rights to purchase shares of Common Stock under all employee stock purchase plans of the Company to accrue at a rate which exceeds \$25,000 (or such other maximum amounts as may be prescribed from time to time under the Code) of the fair market value of such shares (determined as of the Offering Date for such Offering) for each calendar year in which such subscription would be outstanding at any time. For purposes of this limitation the provisions of Section 423[b][8] of the Code shall be applicable.

5.3

The Purchase Price per share subscribed for all Shares in a particular Offering shall be an amount equal to such percentages, not greater than 100% nor less than 85%, as shall be determined by the Plan Committee on or prior to the Offering Date, of the fair market value of a share of Common Stock (determined in accordance with the provisions of Article XIII) on one of the following dates with respect to such Offering, with such date to be determined by the Plan Committee on or prior to the Offering Date: (i) the Offering Date, (ii) the Purchase Date, or (iii) the Offering Date or the Purchase Date (whichever would result in a lower Purchase Price for the Common Stock).

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- 5.4 In order to participate in any Offering, an Eligible Employee entitled to subscribe for Shares in such Offering shall comply with the subscription procedures set forth in Article VI.

**ARTICLE VI - *Subscriptions for Shares***

- 6.1 As soon as practicable after an Offering Date, the Company shall furnish to each Eligible Employee a Subscription Agreement setting forth the maximum number of Shares to which such Eligible Employee may subscribe in such Offering, the fair market value per share of Common Stock on the Offering Date, the Purchase Price for Shares in such Offering and such other terms and conditions consistent with the Plan as shall be determined by the Plan Committee.

- 6.2 Within fifteen (15) days after receipt of such Subscription Agreement, an Eligible Employee desiring to participate in the Offering shall notify the Plan Committee of the number of Shares for which he desires to subscribe. Such notification shall be effected by the Eligible Employee's completing, executing and returning to the Secretary of the Company the Subscription Agreement. All such subscriptions shall be deemed to have been made as of the Offering Date. No subscription shall be accepted from any person who is not an Eligible Employee on the date his subscription is received by the Company.

- 6.3 The minimum number of Shares for which an Eligible Employee will be permitted to subscribe in any Offering is ten (10) (or the number of Shares offered to him if fewer than ten). If at any time the Shares available for an Offering are oversubscribed, the Number of Shares for which each Eligible Employee is entitled to subscribe pursuant to Section 5.2 shall be reduced, pro rata, to such lower number as may be necessary to eliminate such over-subscription.

- 6.4 If an Eligible Employee fails to subscribe to the Shares within the period and in the manner prescribed in Section 6.2, he shall waive all rights to purchase Shares in that Offering.

**ARTICLE VII - *Payment for Shares***

- 7.1 The aggregate Purchase Price for the Shares for which a Participant subscribes in any Offering in accordance with the provisions of Article VI of the Plan shall be paid by means of payroll deductions.

- 7.2 [a] The aggregate Purchase Price for Shares shall be paid by payroll deductions in equal amounts over a period of 24 months (or such shorter period as shall be determined by the Plan Committee in accordance with the Plan) from the Offering Date. The period over which such payroll deductions are to be made in hereinafter referred to as the Payment Period .

- [b] Such payroll deductions with respect to an Offering shall commence as soon as practicable after the receipt of the Company of the executed Subscription Agreement authorizing such payroll deductions, and shall cease upon the earlier of the termination of the Payment Period or payment in full of the Purchase Price for such Shares. A Participant may cancel his subscription to the extent provided for in Article X, but no other change in terms of his Subscription Agreement may be made during the Payment Period and, in particular, in no event may a Participant change the amount of his payroll deductions under such Subscription Agreement. All payroll deductions withheld from a Participant under a Subscription Agreement shall be credited to his account under the Plan. In the event that payroll deductions are simultaneously being made with respect to more than one Subscription Agreement, the aggregate amount of such payroll deductions at any payday shall be credited first toward the payment for Shares subscribed for in the earliest Offering. A Participant may not make any separate cash payment into his account, provided, however, that a Participant who has been deemed to be in the employ of the Company while on an Authorized Leave of Absence without pay during the Payment Period, may upon his return to the actual employ of the Company, make a cash payment into his account in an amount not exceeding the aggregate of the



payroll deductions which would have been made during such Authorized Leave of Absence.

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[c] All funds representing payroll deductions for the accounts of Participants will, except as provided in Section 7.3, be paid into the general funds of the Company. No interest will be paid or accrued under any circumstances on any funds withheld by the Company as payroll deductions pursuant to this Section 7.2 or on any other funds paid to the Company for purchases of Shares under the Plan.

7.3 Notwithstanding anything in this Article VII to the contrary, with respect to any Offering which is made prior to the approval of the Plan by the stockholders of the Company, all payroll deductions withheld for the accounts of Participants shall, until the Plan is approved by the stockholders, be held by the Company in a special escrow account for the benefit of such Participants. No interest will be paid or accrued under any circumstances on such funds. No Shares will be issued to such Participants until after approval of the Plan by the stockholders. In the event that the Plan is not approved by the stockholders within the period specified in Article XVII, all such funds will thereupon be promptly refunded to the respective Participants.

7.4 Failure to pay for subscribed Shares as provided in this Article VII shall constitute the cancellation of such subscription to the extent that any such Shares shall not have been so paid for.

**ARTICLE VIII - *Issuance of Shares***

8.1 At the end of the Payment Period for an Offering, (each of which dates is referred to as a Purchase Date ), the balance of all amounts then held in the account of a Participant representing payroll deductions pursuant to a Subscription Agreement shall be applied to the purchase by the Participant from the Company of the number of Shares equal to the amount of such balance divided by the Purchase Price per share for such Shares applicable on such Purchase Date up to the number of Shares provided for in the respective Subscription Agreement. Any amount remaining in the Participant's account in excess of the sum required to purchase whole Shares on a Purchase Date shall be promptly refunded to the Participant. As soon as practicable after a Purchase Date, the Company will issue and deliver to the Participant a certificate representing the Shares purchased by him from the Company on such Purchase Date. No fractional shares will be issued at any time.

8.2 A Participant who disposes (whether by sale, exchange, gift or otherwise) of any of the Shares acquired by him pursuant to the Plan within two (2) years after the Offering Date for such Shares or within one (1) year after the issuance of Shares to him shall notify the Company in writing of such disposition within thirty (30) days after such disposition.

**ARTICLE IX - *Rights of Stockholders***

9.1 A Participant shall not have any rights to dividends or any other rights as a stockholder of the Company with respect to any Shares until such Shares shall have been issued to him as reflected by the books and records maintained by the Company's transfer agent relating to stockholders of the Company.

**ARTICLE X - *Voluntary Withdrawal/Termination of Employment***

10.1 A Participant may discontinue his payroll deductions under a Subscription Agreement at any time by giving written notice thereof to the Plan Committee, effective for all payroll periods commencing five (5) days after receipt of such notice by the Plan Committee. The balance in the account of such Participant following such discontinuance shall be promptly refunded to the Participant. Withdrawal from an Offering pursuant to this Section 10.1 shall not affect an Eligible Employee's eligibility to participate in any other Offering under the Plan.

10.2 If the Participant's employment with the Company is terminated for any reason other than death while still an Employee, such Participant's rights to purchase Shares under any Subscription Agreement shall immediately terminate. Any balance remaining in his account as of the date of such termination of employment shall be promptly refunded to the Participant.

10.3 In the event of the death of an Employee who was a Participant prior to the purchase of the Shares for which he subscribed pursuant to Article VI hereof, the person or persons who acquired by laws of



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descent and distribution (his Estate ) his rights to purchase Shares under his Subscription Agreement(s), shall have the right within ninety (90) days after the death of the Participant (but in no event later than the termination of the Payment Period) to purchase from the Company that number of Shares subscribed for and not issued to the Participant prior to his death which the balance in the Participant's payroll deduction account is sufficient to purchase. The failure of the person or persons so acquiring his rights to so give notice of intention to purchase shall constitute a forfeiture of all further rights of the Participant or other persons to purchase such Shares and in such event, the balance in the Participant's payroll deduction account will be refunded, without interest. If the Participant dies more than fifty (50) days prior to the termination of the Payment Period and his Estate elects to purchase the Shares subscribed for, the Purchase Price for his Shares shall be the percentage, designated pursuant to Section 5.3, of the fair market value on the Offering Date, irrespective of the Purchase Price for other Participants.

**ARTICLE XI - Non-Transferability of Subscription Rights**

During the lifetime of a Participant, the Shares for which he subscribes may be purchased only by him. No Subscription Agreement of a Participant and no right under or interest in the Plan or any such Subscription Agreement (hereinafter collectively referred to as Subscription Rights ) may be assigned, transferred, pledged, hypothecated or disposed of in any way (whether by operation of law or otherwise), except by the Participant's will or by the applicable laws of descent and distribution, or may be subject to execution, attachment or similar process. Any assignment, transfer, pledge, hypothecation or other disposition of Subscription Rights, or any levy of execution, attachment or other process attempted upon Subscription Rights, shall be null and void and without effect, and in any such event all Subscription Rights shall, in the sole discretion of the Plan Committee (exercised by written notice to the Participant or to the person then entitled to purchase the Shares under the provisions of Sections 10.3 hereof), terminate as of the occurrence of any such event.

**ARTICLE XII - Administration of the Plan**

The Plan shall be administered by a Plan Committee which shall consist of two (2) or more members of the Board of Directors, none of whom shall be eligible to participate in the Plan. The members of the Plan Committee shall be appointed, and may be removed, by the Board of Directors. The Board of Directors shall have the power to remove and substitute for members of the Plan Committee and to fill any vacancy which may occur in the Plan Committee.

Unless otherwise determined by the Board of Directors, the members of the Plan Committee shall serve without additional compensation for their services. All expenses in connection with the administration of the Plan, including, but not limited to, clerical, legal and accounting fees, and other costs of administration, shall be paid by the Company.

The Chairman of the Plan Committee shall be designated by the Board of Directors. The Plan Committee shall select a Secretary who need not be a member of the Plan Committee. The Secretary, or in his absence, any member of the Plan Committee designated by the Chairman, shall keep the minutes of the proceedings of the Plan Committee and all data, records and documents relating to the administration of the Plan by the Plan Committee.

A quorum of the Plan Committee shall be such number as the Committee shall from time to time determine, but shall not be less than a majority of the entire Plan Committee. The acts of a majority of the members of the Plan Committee present at any meeting at which a quorum is present shall be the act of the Plan Committee. Members of the Plan Committee may participate in a meeting by means of telephone conference or similar communications procedure pursuant to which all persons participating in the meeting can hear each other. The Plan Committee may take action without a meeting if such action is evidenced by a writing signed by at least a majority of the entire Plan Committee.

The Plan Committee may, by an instrument in writing, delegate to one or more of its members or to an officer or officers of the Company any of its powers and its authority under the Plan, including the execution

and delivery on its behalf of instruments, instructions and other documents.

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- 12.6 It shall be the sole and exclusive duty and authority of the Plan Committee to interpret and construe the provisions of the Plan, to decide any disputes which may arise with regard to the status, eligibility and rights of Employees under the terms of the Plan, and any other persons claiming an interest under the terms of the Plan, and, in general, to direct the administration of the Plan.
- 12.7 The Plan Committee may adopt, and from time to time amend, such rules and regulations consistent with the purposes and provisions of the Plan, as it deems necessary or advisable to administer and effectuate the Plan.
- 12.8 The Plan Committee may shorten, lengthen (but not beyond thirty (30) days) or waive the time required by the Plan for the filing of any notice or other form under the Plan.
- 12.9 The discretionary powers granted hereunder to the Plan Committee shall in no event be exercised in any manner that will discriminate against individual employees or a class of employees or discriminate in favor of employees who are shareholders, officers, supervisors or highly compensated employees of the Company.

**ARTICLE XIII - Valuation of Shares of Common Stock**

- 13.1 For purposes of the Plan, the fair market value of a share of Common Stock as of any date shall be determined as follows:
- [a] If the Common Stock is then listed on a national securities exchange, the fair market value shall be the closing price of a share of Common Stock on such exchange on such date, or, if there has been no sale of shares of Common Stock on that date, the closing price of a share of Common Stock on such exchange on the last preceding business day on which shares of Common Stock were traded.
- [b] If the Common Stock is then listed on the National Association of Securities Dealers Automatic Quotation System National Market System, the fair market value shall be the average of the high and low sales prices of a share of Common Stock on that date, or if there has been no sale of shares of Common Stock on that date, the average of the high and low sales prices of Common Stock on the last preceding business day on which shares of Common Stock were traded.

**ARTICLE XIV - Adjustments in Certain Events**

- 14.1 If (i) the Company shall at any time be involved in a transaction to which sub-section [a] of Section 424 of the Code is applicable, (ii) the Company shall declare a dividend payable in, or shall sub-divide or combine, its Common Stock, or (iii) any other event shall occur which in the judgment of the Board of Directors necessitates action by way of adjusting the terms of the outstanding Subscription Agreements, the Board of Directors shall take any such action as in its judgment shall be appropriate to preserve Participant rights substantially proportionate to the rights existing prior to such event. To the extent that such action shall include an increase or decrease in the number of shares of Common Stock subject to outstanding Subscription Agreements, the aggregate number of shares available under Article III hereof for issuance under the Plan pursuant to outstanding Subscription Agreements and Subscription Agreements which may be entered into, and the aggregate number of shares available for issuance in any Offering and the number which may be subscribed for, shall be proportionately increased or decreased, as the case may be. No action shall be taken by the Board of Directors under the provisions of this Article XIV which, in its judgment, would constitute a modification, extension or renewal of the Subscription Agreement (within the meaning of Section 424[h] of the Code), or would prevent the Plan from qualifying as an employee stock purchase plan (within the meaning of Section 423 of the Code). The determination of the Board of Directors with respect to any matter referred to in this Article XIV shall be conclusive and binding upon each Participant.

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**ARTICLE XV - Termination and Amendment of the Plan**

15.1 The Board of Directors may, without further approval by the stockholders of the Company, at any time terminate or amend the Plan without notice, or make such modifications of the Plan as it shall deem advisable; provided that the Board of Directors may not, without prior approval by the holders of a majority of the outstanding shares of Common Stock of the Company, amend or modify the Plan so as to (i) increase the maximum number of shares of Common Stock which may be issued under the Plan (except as contemplated in Article XIV hereof), (ii) extend the term during which Offerings may be made under the Plan or (iii) increase the maximum number of Shares which an Eligible Employee is entitled to purchase (except as contemplated in Article XIV hereof); and provided further that the Board of Directors may not amend or modify the Plan in any manner which would prevent the Plan from qualifying as an employee stock purchase plan (within the meaning of Section 423 of the Code). No termination, amendment or modification of the Plan may, without the consent of a Participant, adversely affect the rights of such Participant under an outstanding Subscription Agreement.

**ARTICLE XVI - Miscellaneous**

16.1 Unless otherwise expressly provided in the Plan, all notices or other communications by a Participant to the Company under or in connection with the Plan shall be deemed to have been duly given when received by the Secretary of the Company or when received in the form specified by the Company at the location and by the persons, designated by the Company for the receipt thereof.

16.2 Notwithstanding anything hereunder to the contrary, the offer, sale and delivery by the Company of Shares under the Plan to any Eligible Employee is subject to compliance with all applicable securities regulation and other federal and state laws. The terms of this Plan shall be construed under the laws of the State of Connecticut.

**ARTICLE XVII - Effective Date**

17.1 The Plan shall become effective at such time as the Plan has been adopted by the Board of Directors and has been approved by the holders of a majority of the outstanding shares of Common Stock of the Company.

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