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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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AMENDMENT NO. 1  
TO

FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

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CREE RESEARCH, INC.  
(Exact name of registrant as specified in its charter)

NORTH CAROLINA  
(State or other jurisdiction  
of incorporation or  
organization)

56-1572719  
(I.R.S. Employer Identification No.)

4600 SILICON DRIVE  
DURHAM, NORTH CAROLINA 27703  
(919) 313-5300  
(Address, including zip code and telephone number, including  
area code, of registrant's principal executive offices)

F. NEAL HUNTER  
CHAIRMAN AND CHIEF EXECUTIVE OFFICER  
CREE RESEARCH, INC.  
4600 SILICON DRIVE  
DURHAM, NORTH CAROLINA 27703  
(919) 313-5300  
(Name, address, including zip code and telephone number, including area code,  
of agent for service)

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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC:  
As soon as practicable after this registration statement becomes effective.

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

If any of the securities being registered on this Form are to be offered on a

delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. [ ]

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

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

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. [ ]

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THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.  
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SUBJECT TO COMPLETION, DATED JANUARY 25, 1999

THE INFORMATION CONTAINED IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THESE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

1,300,000 SHARES

[CREE LOGO]

COMMON STOCK

\$ PER SHARE  
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Cree Research, Inc. is offering 1,300,000 shares of common stock with this prospectus. This is a firm commitment underwriting.

The common stock is listed on the Nasdaq National Market under the symbol "CREE." On January 21, 1999, the last reported sale price of the common stock on the Nasdaq National Market was \$40.125 per share.

INVESTING IN THE COMMON STOCK INVOLVES CERTAIN RISKS. SEE "RISK FACTORS" BEGINNING ON PAGE 6.

PER SHARE TOTAL

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Price to the public ..... \$            \$  
Underwriting discount .....  
Proceeds to Cree .....

Cree has granted an over-allotment option to the underwriters. Under this option, the underwriters may elect to purchase a maximum of 195,000 additional shares from Cree within 30 days following the date of this prospectus to cover over-allotments.

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NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

CIBC OPPENHEIMER

PRUDENTIAL SECURITIES INCORPORATED

MORGAN KEEGAN & COMPANY, INC.

The date of this Prospectus is            , 1999

Following the prospectus cover page are color photos of certain of the Company's products:

- Blue and green LEDs
- Silicon carbide (SiC) wafer
- Gemstone crystal
- Microwave device
- Utility substation (Photo courtesy of Carolina Power & Light)
- Blue laser beam

In the center of the photo layout is the Cree logo over the title "Existing and Planned Products"

Beside or beneath each photo is the following description:

LEDS

Cree has created high brightness blue and green LEDs through the combination of SiC and GaN.

SILICON CARBIDE WAFERS

Cree is the leading worldwide supplier of SiC wafers used by customers in research and development programs.

GEMSTONE APPLICATIONS

Cree manufactures near colorless SiC with properties similar to diamond for use in unique gemstones.

MICROWAVE\*

Cree is developing devices for use in microwave applications, such as wireless base station transmitters.

POWER SEMICONDUCTORS\*

Cree is developing power semiconductor devices for applications, such as motor control and high voltage power transmission.  
(Photo Courtesy of Carolina Power & Light)

LASERS\*

Cree is developing blue laser diodes designed to increase optical storage capability.

\*Currently under development

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As used in this prospectus, the terms "we," "us," "our," the "Company" and "Cree" mean Cree Research, Inc. and its subsidiaries (unless the context indicates a different meaning), and the term "common stock" means the Company's common stock, \$0.005 par value per share. Unless otherwise stated, all information contained in this prospectus assumes no exercise of the over-allotment option granted to the underwriters.

The underwriters are offering the shares subject to various conditions and may reject all or part of any order. The shares should be ready for delivery on or about \_\_\_\_\_, 1999, against payment in immediately available funds.

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FORWARD-LOOKING STATEMENTS

Information set forth in this prospectus under the captions "Prospectus Summary," "Risk Factors," "Use of Proceeds," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" contains various "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, which represent our judgment concerning the future and are subject to risks and uncertainties that could cause our actual operating results and financial positions to differ materially. Forward-looking statements are typically identified by the use of terms such as "may," "will," "expect," "anticipate," "estimate" and similar words, although some forward-looking statements are expressed differently. Our actual results could differ materially from those contained in the forward-looking statements due to a number of factors, including fluctuations in our operating results, production yields in our manufacturing processes, whether we can produce commercial quantities of high brightness blue and green LEDs, our dependence on a few customers, whether we can manage our growth effectively, assertion of intellectual property rights by others, adverse economic conditions and insufficient capital resources. These and other factors that could cause actual results to differ materially from such forward-looking statements are set forth under the caption "Risk Factors" and elsewhere in this prospectus.

## PROSPECTUS SUMMARY

YOU SHOULD READ THE FOLLOWING SUMMARY TOGETHER WITH THE MORE DETAILED INFORMATION REGARDING OUR COMPANY AND THE COMMON STOCK BEING SOLD IN THIS OFFERING AND OUR FINANCIAL STATEMENTS AND ACCOMPANYING NOTES THAT APPEAR ELSEWHERE IN THIS PROSPECTUS.

### THE COMPANY

We are the world leader in developing and manufacturing semiconductor materials and electronic devices made from silicon carbide, or SiC. We use our proprietary technology to make enabling compound semiconductors such as blue and green light emitting diodes or LEDs, SiC crystals used in the production of unique gemstones and SiC wafers that are sold for research and development. We have new product initiatives based on our expertise in SiC, including microwave transistors for use in wireless base stations and radar, blue laser diodes for optical storage applications and high power devices for power conditioning and switching.

Our blue and green LEDs are sold to customers who package them for use in applications such as backlighting for automotive dashboards and liquid crystal displays, including wireless handsets. Other applications include indoor and outdoor electronic displays, such as video replay boards in indoor arenas. Additionally, we recently began shipping LEDs for use in traffic signals and miniature lighting. We have developed several generations of blue LED products, including a more robust conductive buffer chip that is easier to build into lamps and has a low unit price. Strategies Unlimited, an industry research firm, has estimated that the market size for LEDs (all colors) was approximately \$1.8 billion in 1997 and has forecast that the blue and green LED portion of the market will increase from approximately \$204 million in 1998 to approximately \$430 million in 2001.

We believe that for certain applications SiC-based compound semiconductor devices offer significant advantages over other semiconductor materials such as silicon and gallium arsenide. In particular, the properties of SiC make it an excellent material for extending existing semiconductor device technology where high power, high temperature or short wavelengths are important for performance. For example, SiC enables the manufacture of blue and green LEDs in an easier to use, industry standard structure. SiC also permits a smaller LED chip size that we believe is less expensive to produce than LEDs made using other materials. In addition, SiC-based microwave transistors can operate at significantly higher power levels than existing silicon or gallium arsenide-based devices. This characteristic will allow wireless systems to use fewer transistors per base station with less complex circuitry, which should result in a lower system cost.

Many of the same physical characteristics that make SiC an excellent material for certain semiconductor applications also make the material very difficult to produce. Through our proprietary technology and over 10 years of development and manufacturing experience, we have succeeded in overcoming many difficulties in processing SiC for commercial use.

Our objective is to continue to develop SiC materials and device technology with low unit costs. We are using our materials and process technology to develop new microwave, power and laser diode products while continuing to enhance our LEDs, SiC wafers and gemstone crystals. We have increased the performance and reduced the cost of our LED chips over the last several years by decreasing chip size, increasing wafer diameter and enhancing our epitaxial film deposition (wafer coating) and fabrication processes.

Our principal executive offices are located at 4600 Silicon Drive, Durham, North Carolina 27703. Our telephone number is (919) 313-5300.

### THE OFFERING

Common stock offered by Cree..... 1,300,000 shares

Common stock to be outstanding after the offering... 14,219,818 shares(1)

Use of proceeds..... To purchase additional manufacturing equipment and build out the Company's principal manufacturing facility, to repay indebtedness, for research and development, and for working capital and general corporate purposes.

Nasdaq National Market symbol..... CREE

SUMMARY CONSOLIDATED FINANCIAL INFORMATION  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|                                       | YEARS ENDED      |                  |                  | SIX MONTHS ENDED     |                      |
|---------------------------------------|------------------|------------------|------------------|----------------------|----------------------|
|                                       | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
| STATEMENT OF INCOME DATA:             |                  |                  |                  |                      |                      |
| Total revenue .....                   | \$15,057         | \$ 28,973        | \$ 42,531        | \$ 20,313            | \$ 26,317            |
| Gross profit .....                    | 3,568            | 9,878            | 14,552           | 6,696                | 12,273               |
| Income (loss) from operations .....   | (624)            | 3,112            | 8,145            | 3,401                | 7,111                |
| Net income .....                      | \$ 243           | \$ 3,542         | \$ 6,275         | \$ 2,640             | \$ 5,217             |
| Earnings per share:                   |                  |                  |                  |                      |                      |
| Basic .....                           | \$ 0.02          | \$ 0.28          | \$ 0.49          | \$ 0.21              | \$ 0.41              |
| Diluted .....                         | \$ 0.02          | \$ 0.27          | \$ 0.47          | \$ 0.20              | \$ 0.39              |
| Shares used in per share calculation: |                  |                  |                  |                      |                      |
| Basic .....                           | 11,826           | 12,455           | 12,863           | 12,699               | 12,876               |
| Diluted .....                         | 12,615           | 13,126           | 13,493           | 13,522               | 13,541               |

DECEMBER 27, 1998

|   | DECEMBER 27, 1998 |                 |
|---|-------------------|-----------------|
|   | ACTUAL            | AS ADJUSTED (2) |
| BALANCE SHEET DATA:                             |                   |                 |
| Cash and cash equivalents .....                 | \$12,769          | \$51,543        |
| Working capital .....                           | 24,383            | 63,278          |
| Total assets .....                              | 78,103            | 116,877         |
| Long term debt, including current portion ..... | 10,000            | --              |
| Shareholders' equity .....                      | 59,989            | 108,763         |

(1) Based on 12,919,818 shares of common stock outstanding on December 27, 1998. Excludes 1,984,547 shares of common stock reserved for issuance upon the exercise of stock options and warrants outstanding at December 27, 1998, of which 84,451 shares were issued between December 27, 1998 and January 13, 1999.

(2) Adjusted to give effect to the sale of 1,300,000 shares of common stock offered by Cree in this offering at an assumed public offering price of \$40.125 per share, and the application of the net proceeds from the sale of the shares, after deducting the estimated underwriting discount and estimated offering expenses payable by Cree. See "Use of Proceeds."

## RISK FACTORS

YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING FACTORS BEFORE DECIDING TO INVEST IN THE SHARES. THE RISKS AND UNCERTAINTIES DESCRIBED BELOW ARE NOT THE ONLY ONES WE FACE. ADDITIONAL RISKS AND UNCERTAINTIES NOT PRESENTLY KNOWN TO US, THAT WE CURRENTLY DEEM IMMATERIAL OR THAT ARE SIMILAR TO THOSE FACED BY OTHER COMPANIES IN OUR INDUSTRY OR BUSINESS IN GENERAL MAY ALSO IMPAIR OUR BUSINESS OPERATIONS. IF ANY OF THE FOLLOWING RISKS ACTUALLY OCCURS, OUR BUSINESS, FINANCIAL CONDITION OR RESULTS OF FUTURE OPERATIONS COULD BE MATERIALLY AND ADVERSELY AFFECTED. IN SUCH CASE, THE TRADING PRICE OF OUR COMMON STOCK COULD DECLINE, AND YOU MAY LOSE ALL OR PART OF YOUR INVESTMENT. THIS PROSPECTUS ALSO CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. OUR ACTUAL RESULTS COULD DIFFER MATERIALLY FROM THOSE ANTICIPATED IN THESE FORWARD-LOOKING STATEMENTS AS A RESULT OF CERTAIN FACTORS, INCLUDING THE RISKS FACED BY US DESCRIBED BELOW AND ELSEWHERE IN THIS PROSPECTUS. PLEASE REFER TO "FORWARD-LOOKING STATEMENTS" ON PAGE 3.

OUR OPERATING RESULTS MAY FLUCTUATE SIGNIFICANTLY AND WE MAY NOT BE ABLE TO MAINTAIN OUR EXISTING GROWTH RATE.

Although we have had significant revenue and earnings growth in recent quarters, we may not be able to sustain these growth rates and we may experience significant fluctuations in our revenue and earnings in the future. Our operating results will depend on many factors, including the following:

- o our ability to develop, manufacture and deliver products in a timely and cost-effective manner;
- o whether we encounter low levels of usable product produced during each manufacturing step (our "yield");
- o our ability to expand our production of SiC wafers and devices;
- o demand for our products;
- o demand for our customers' products;
- o competition; and
- o general industry and global economic conditions.

Our future operating results could be adversely affected by these or other factors. If our future operating results are below the expectations of stock market analysts or our investors, our stock price may decline.

IF WE EXPERIENCE POOR PRODUCTION YIELDS, OUR OPERATING RESULTS MAY SUFFER.

Our SiC products are manufactured using technologies that are highly complex. Our customers incorporate our products into high volume applications such as automotive dashboards, wireless handsets, full color video displays and gemstones, and they insist that our products meet exact specifications for quality, performance and reliability.

The number of usable crystals, wafers and devices that result from our production processes can fluctuate as a result of many factors, including the following:

- o impurities in the materials used;
- o contamination of the manufacturing environment;
- o equipment failure, power outages or variations in the manufacturing process;
- o losses from broken wafers or other human error; and

- o defects in packaging.

Because many of our manufacturing costs are fixed, if our yields decrease our operating results would be adversely affected. For this reason, we are constantly trying to improve our yields.

In the past, we have experienced difficulties in achieving acceptable yields on new products, which has adversely affected our operating results. We may experience similar problems in the future and we cannot predict when they may occur or their severity. These problems could significantly affect our future operating results.

IF WE ARE UNABLE TO PRODUCE ADEQUATE QUANTITIES OF OUR HIGH BRIGHTNESS BLUE AND GREEN LEDS, OUR OPERATING RESULTS MAY SUFFER.

We are currently beginning the manufacture of commercial quantities of high brightness blue and green LEDs, and as a result we have incurred certain fixed costs. We believe that high volume production of these products will be important to our future operating results. Achieving greater

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volumes requires improved production yields for these products. Successful production of these products is subject to a number of risks, including the following:

- o our ability to consistently manufacture these products in volumes large enough to cover our fixed costs and satisfy our customers' requirements;
- o our ability to improve our yields and reduce the costs associated with the manufacture of these products; and
- o whether these products gain market acceptance.

Our inability to produce adequate quantities of our high brightness blue and green products would have a material adverse effect on our business, results of operations and financial condition.

OUR OPERATING RESULTS ARE SUBSTANTIALLY DEPENDENT ON THE DEVELOPMENT OF NEW PRODUCTS BASED ON OUR CORE SiC TECHNOLOGY.

Our future success will depend on our ability to develop new SiC solutions for existing and new markets. We must introduce new products in a timely and cost-effective manner and we must secure production orders from our customers. The development of new SiC products is a highly complex process, and we have historically experienced delays in completing the development and introduction of new products. Products currently under development include high power radio frequency and microwave devices, power devices, blue laser diodes and high temperature devices. The successful development and introduction of these products depends on a number of factors, including the following:

- o achievement of technology breakthroughs required to make commercially viable devices;
- o the accuracy of our predictions of market requirements and evolving standards;
- o acceptance of our new product designs;
- o the availability of qualified development personnel;
- o our timely completion of product designs and development;
- o our ability to develop repeatable processes to manufacture new products in sufficient quantities for commercial sales; and
- o acceptance of our customers' products by the market.

If any of these or other factors become problematic, we may not be able to

develop and introduce these new products in a timely or cost-efficient manner.

WE DEPEND ON A FEW LARGE CUSTOMERS.

Historically, a substantial portion of our revenue has come from large purchases by a small number of customers. We expect that trend to continue. For example, for fiscal 1998 our top five customers accounted for 81% of our total revenue. For the six months ended December 27, 1998, our top five customers accounted for 79% of our total revenue. (These percentages consider sales to a distributor as sales to one customer). Sales to Siemens AG during both periods accounted for 40% of our total revenue. In addition, sales to C3 accounted for 11% of our total revenue in fiscal 1998 and 18% of our total revenue in the six months ended December 27, 1998. Accordingly, our future operating results depend on the success of our largest customers and on our success in selling large quantities of our products to them.

The concentration of our revenues with a few large customers makes us particularly dependent on factors affecting those customers. For example, if demand for their products decreases, they may stop purchasing our products and our operating results will suffer. If we lose a large customer and fail to add new customers to replace lost revenue, our operating results may not recover.

WE FACE CHALLENGES RELATING TO EXPANSION OF OUR PRODUCTION AND MANUFACTURING FACILITY.

In order to increase production at our new facility, we must add critical new equipment, move existing equipment and complete the remaining phases of building out the facility. We are in the process of completing this build-out and expect to construct additional facilities in the future. Expansion activities such as these are subject to a number of risks, including the following:

- o unforeseen environmental or engineering problems relating to existing or new facilities;
- o unavailability or late delivery of the advanced, and often customized, equipment used in the production of our products;
- o unavailability of funds necessary for expansion;

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- o work stoppages and delays; and
- o delays in bringing production equipment on-line.

These and other risks may affect the ultimate cost and timing of the build-out of our existing facility, as well as the construction of new facilities, which could adversely affect our business, results of operations and financial condition.

THE ONGOING OPERATION OF OUR MANUFACTURING FACILITY IS CRITICAL TO OUR BUSINESS.

In November 1997, we acquired our present principal facility in Durham, North Carolina, which includes a total of 172,000 square feet. The ongoing operation of this facility is crucial to our strategy of expanding our manufacturing capacity to meet demand for our SiC products now and in the future.

We began commercial production of products from this facility in August 1998. We expect that production from the facility will increase throughout the remainder of fiscal 1999 and into fiscal 2000. A number of factors will affect the successful operation of this facility and our business, including the following:

- o demand for our products;

- o our production yields;
- o our ability to generate revenues in amounts that cover the significant fixed costs of operating our facility;
- o our ability to hire, train and manage qualified production personnel; and
- o our inability to use all or a significant portion of our facility for prolonged periods of time for any reason -- for example, a fire or explosion caused by our use of combustible chemicals and high temperatures during certain of our manufacturing processes.

WE FACE SIGNIFICANT CHALLENGES MANAGING OUR RAPID GROWTH.

We are experiencing a period of significant growth that will continue to place a great strain on our management and other resources. We have grown from 188 employees on December 31, 1996 to 297 employees on December 27, 1998 and from revenues of \$29.0 million for the fiscal year ended June 30, 1997 to \$42.5 million for the fiscal year ended June 28, 1998. To manage our growth effectively, we must continue to:

- o implement and improve operational systems;
- o maintain adequate physical plant, manufacturing facilities and equipment to meet customer demand;
- o add experienced senior level managers; and
- o attract and retain qualified people with experience in engineering, design, technical marketing and support.

We will spend substantial amounts of money in connection with our rapid growth and may have additional unexpected costs. Our systems, procedures or controls may not be adequate to support our operations, and we may not be able to expand quickly enough to exploit potential market opportunities. Our future operating results will also depend on expanding sales and marketing, research and development, and administrative support. If we cannot attract qualified people or manage growth effectively, our business, operating results and financial condition could be adversely affected.

THE MARKETS IN WHICH WE OPERATE ARE HIGHLY COMPETITIVE.

The market for our products is highly competitive. Although we believe our SiC-based LEDs offer substantial advantages, competitors currently sell blue and green LEDs made from sapphire wafers that are brighter than the high brightness LEDs we currently produce. In addition, we believe that other firms (including certain of our customers) may seek to enter the blue and green LED market in the future. For example, Siemens AG and Shin-Etsu Handotai Co. Ltd. license certain of our LED technology, which may facilitate their entrance into our LED markets. The market for SiC wafers is also becoming competitive as other firms have in recent years begun offering SiC wafer products or announced plans to do so.

Also, other firms may develop new or enhanced products that are more effective than any that we have developed or may develop. These firms may develop technology that produces commercial products with characteristics similar to SiC-based products, but at a lower cost. Many existing and potential competitors have far greater financial, marketing and other resources than we do. We believe that present and future competitors will

aggressively pursue the development and sale of competing products. We also expect significant competition for products we are currently developing, such as those for use in microwave communications.

We expect competition to increase. This could mean lower prices for our products, reduced demand for our products and a corresponding reduction in our ability to recover development, engineering and manufacturing costs. Any of these developments could have an adverse effect on our business, results of

operations and financial condition.

#### WE RELY ON A FEW KEY SUPPLIERS.

We depend on a limited number of suppliers for certain raw materials, components and equipment used in manufacturing our SiC products, including key materials and equipment used in critical stages of our manufacturing processes. We generally purchase these limited source items with purchase orders, and we have no guaranteed supply arrangements with such suppliers. If we were to lose such key suppliers, our manufacturing efforts could be hampered significantly. Although we believe our relationship with our suppliers is good, we cannot assure you that we will continue to maintain good relationships with such suppliers or that such suppliers will continue to exist.

#### IF GOVERNMENT AGENCIES OR OTHER CUSTOMERS DISCONTINUE THEIR FUNDING FOR OUR RESEARCH AND DEVELOPMENT OF SiC TECHNOLOGY, OUR BUSINESS MAY SUFFER.

In the past, government agencies and other customers have funded a significant portion of our research and development activities. If this support is discontinued or reduced, our ability to develop or enhance products could be limited and our business, results of operations and financial condition could be adversely affected.

#### WE DEPEND HEAVILY ON KEY PERSONNEL.

Our success depends in part on keeping key technical and management personnel. For example, some of the equipment used in the production of our products must be modified before it is put to use and only a limited number of employees possess the expertise needed to perform these modifications. Furthermore, the number of individuals with experience in the production of SiC and related products is limited, and our future success depends in part on retaining those individuals who are already employees.

We must also continue to attract qualified personnel. The competition for qualified personnel is intense, and the number of people with the experience that we need is limited. We cannot be sure that we will be able to continue to attract and retain other skilled personnel in the future.

#### LIMITATIONS ON THE PROTECTION OF OUR INTELLECTUAL PROPERTY.

Our intellectual property position is based on patents exclusively licensed to us by North Carolina State University, also known as N.C. State, and on patents owned by us. The licensed patents give us rights to our SiC crystal growth process. The expiration dates on the U.S. patents we license from N.C. State run from 2007 to 2009. We also own 43 U.S. patents relating to various aspects of our technology and have other patent applications pending. The issued U.S. patents we own expire between 2008 and 2016. We have obtained (or licensed from N.C. State) a number of patents covering these same technologies in key foreign jurisdictions.

We intend to continue to file patent applications in the future, where appropriate, and to pursue such applications with U.S. and foreign patent authorities, but we cannot be sure that any other patents will be issued on such applications or that our patents will not be contested. In the past, one of the important patents we license from N.C. State relating to crystal growth was subject to re-examination in the U.S. but we prevailed in the proceeding. Currently, the corresponding European patent is being challenged, which means that we could lose patent protection in certain European countries for this particular method. There is no assurance that other of our patents will not be contested. Also, because issuance of a valid patent does not prevent other companies from using alternative, non-infringing technology, we cannot be sure that any of our patents (or patents issued to N.C. State or other parties and licensed to us) will provide significant commercial protection.

In addition to patent protection, we also rely on trade secrets, technical know-how and other unpatented proprietary information relating to our product development and manufacturing activities. We try to protect this information with

confidentiality agreements with our employees and other parties. We cannot be sure that these agreements will not be breached, that we would have adequate remedies for any breach or that our trade secrets and proprietary know-how will not otherwise become known or independently discovered by others.

OUR OPERATIONS COULD INFRINGE UPON THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.

Particular aspects of our technology could be found to infringe the claims of other existing or future patents. Other companies may hold or obtain patents on inventions or may otherwise claim proprietary rights to technology necessary to our business. We cannot predict the extent to which we may be required to seek licenses.

WE ARE SUBJECT TO RISKS FROM INTERNATIONAL SALES.

Sales to customers located outside the U.S. accounted for about 69% of our revenue in fiscal 1996, about 79% of our revenue in fiscal 1997, about 74% of our revenue in fiscal 1998 and about 62% of our revenue in the first six months of fiscal 1999.

We expect that revenue from international sales will continue to be a significant part of our total revenue. International sales are subject to a variety of risks, including risks arising from currency fluctuations, the emergence of the Euro, trading restrictions, tariffs, trade barriers and taxes. Also, future U.S. Government or military export restrictions could limit or prohibit sales of our products to customers in certain countries because of their uses in military or surveillance applications.

Because all of our foreign sales are denominated in U.S. dollars, our products become less price competitive in countries with currencies that are low or are declining in value against the U.S. dollar. Also, we cannot be sure that our international customers will continue to place orders denominated in U.S. dollars. If they do not, our reported revenue and earnings will be subject to foreign exchange fluctuations.

WE ARE SUBJECT TO STRINGENT ENVIRONMENTAL REGULATION.

We are subject to a variety of government regulations pertaining to chemical and waste discharges and other aspects of our manufacturing process. For example, we are responsible for the management of the hazardous materials we use and disposal of hazardous waste resulting from our manufacturing process. The proper handling and disposal of such hazardous material and waste requires us to comply with certain government regulations. We believe we are in full compliance with such regulations as of the date of this prospectus, but any failure, whether intentional or inadvertent, to comply with such regulations could have an adverse effect on our business. In addition, these regulations may affect our ability to expand or change our manufacturing facility.

THE VOLATILITY OF OUR STOCK PRICE COULD AFFECT AN INVESTMENT IN OUR STOCK.

The market price of our common stock has been and may continue to be subject to wide fluctuations. Factors affecting our stock price may include:

- o variations in operating results from quarter to quarter;
- o changes in earning estimates by analysts;
- o market conditions in the industry; and
- o general economic conditions.

Our stock price has fluctuated widely. For example, between November 1997 and January 1998 the price of our common stock dropped from approximately \$29.50 to

\$13.50 per share. Between August 1998 and January 11, 1999, the price of our common stock rose from approximately \$10.50 to \$53.25 per share. Consequently, the current market price of our common stock may not be indicative of future market prices, and you may not be able to sustain or increase the value of your investment in our common stock.

#### WE FACE RISKS CONCERNING YEAR 2000 ISSUES.

We are evaluating all of our internal computers, computer equipment and other equipment with embedded technology against Year 2000 concerns. Although we believe our planning efforts are adequate to address our Year 2000 concerns, it is still possible that we could experience negative consequences and material costs caused by undetected errors or defects in the technology used in our internal systems. Our most significant Year 2000 risk is that the systems of other parties on which we rely, specifically our key suppliers, will not be compliant on a timely basis. Any disruption in delivery of supplies to us that is caused by a

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third party's failure to address Year 2000 issues would affect our ability to manufacture our products, which could result in a material adverse effect on our business, operating results and financial condition.

At this time, we are unable to estimate the most likely worst-case effects of the arrival of the Year 2000 and we do not have a contingency plan for any unanticipated negative effects.

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#### USE OF PROCEEDS

The Company estimates that the net proceeds from the sale of the shares of common stock it is offering will be approximately \$48.8 million. If the underwriters fully exercise the over-allotment option, the net proceeds will be approximately \$56.2 million. For the purpose of estimating net proceeds, the Company is assuming that the public offering price will be \$40.125 per share. "Net proceeds" is what the Company expects to receive after paying the underwriting discount and other estimated expenses of the offering.

Cree will use the net proceeds of the offering as follows:

- o approximately \$30 to \$35 million of the net proceeds will be used to fund the build-out and expansion of the Company's facilities, as well as the purchase of equipment;
- o approximately \$10 million of the net proceeds will be used to repay the outstanding balance on the Company's term loan, which has an interest rate of 8.0% and matures on December 10, 2011; and
- o the balance of the net proceeds, if any, will be used for general corporate purposes, including working capital and research and development.

The Company reserves the right to vary the use of proceeds among the categories listed above because the Company's ability to use the proceeds in the approximate amounts listed is dependent on a number of factors, including the unexpected costs of equipment and other capital expenditures, the progress of new product research and development and the continued success of the Company's products. Pending such uses, the Company intends to invest the net proceeds from this offering in investment grade, interest-bearing securities.

#### DIVIDEND POLICY

The Company has never declared or paid cash dividends on its common stock and does not anticipate that it will do so in the foreseeable future. There are no contractual restrictions in place that currently materially limit, or are likely in the future to materially limit, the Company from paying dividends on its common stock, but applicable state law may limit the payment of dividends. The present policy of the Company is to retain earnings, if any, to provide funds for the operation and expansion of its business.

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PRICE RANGE OF COMMON STOCK

The Company's common stock has traded publicly on the Nasdaq National Market under the symbol "CREE" since February 8, 1993, the date of the Company's initial public offering. The following table sets forth the high and low sales prices for the Company's common stock for the periods indicated as reported by the Nasdaq National Market.

|  | HIGH<br>----- | LOW<br>----- |
|--|---------------|--------------|
| FISCAL 1997                                    |               |              |
| First Quarter .....                            | \$ 15.750     | \$ 8.250     |
| Second Quarter .....                           | 14.000        | 8.875        |
| Third Quarter .....                            | 15.875        | 9.375        |
| Fourth Quarter .....                           | 15.125        | 9.500        |
| FISCAL 1998                                    |               |              |
| First Quarter .....                            | \$ 20.500     | \$ 11.750    |
| Second Quarter .....                           | 29.500        | 15.625       |
| Third Quarter .....                            | 19.625        | 13.500       |
| Fourth Quarter .....                           | 17.625        | 14.000       |
| FISCAL 1999                                    |               |              |
| First Quarter .....                            | \$ 17.500     | \$ 10.500    |
| Second Quarter .....                           | 47.000        | 13.625       |
| Third Quarter (through January 21, 1999) ..... | 53.250        | 35.375       |

On January 21, 1999, the last sale price reported on the Nasdaq National Market for the common stock was \$40.125 per share. On December 27, 1998, there were approximately 386 holders of record of the common stock.

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CAPITALIZATION

The following table sets forth the capitalization of the Company as of December 27, 1998 on an actual and as adjusted basis to reflect the sale of 1,300,000 shares of common stock offered by the Company hereby, at an estimated offering price of \$40.125 per share, after deducting the estimated underwriting discount and the estimated offering expenses payable by the Company and the application of the net proceeds. See "Use of Proceeds."

|                                 | DECEMBER 27, 1998 |                         |
|---------------------------------|-------------------|-------------------------|
|                                 | -----<br>ACTUAL   | AS ADJUSTED(1)<br>----- |
|                                 | (IN THOUSANDS)    |                         |
| Cash and cash equivalents ..... | \$ 12,769         | \$ 51,543               |

|   |           |           |
|---|-----------|-----------|
| Long-term debt, less current portion .....  | =====     | =====     |
|   | \$ 9,879  | \$ --     |
| Shareholders' equity:   |           |           |
| Preferred stock, \$0.01 par value; 3,000 shares authorized; none issued and outstanding .....   | --        | --        |
| Common stock, \$0.005 par value; 30,000 shares authorized; 12,920 shares issued and outstanding; 14,220 shares issued and outstanding as adjusted (1) ..... | 65        | 71        |
| Additional paid-in capital .....  | 49,583    | 98,351    |
| Retained earnings .....   | 10,341    | 10,341    |
|   | -----     | -----     |
| Total shareholders' equity .....  | 59,989    | 108,763   |
|   | -----     | -----     |
| Total capitalization .....  | \$ 69,868 | \$108,763 |
|   | =====     | =====     |

(1) Excludes 1,984,547 shares of common stock reserved for issuance upon the exercise of stock options and warrants outstanding at December 27, 1998, of which 84,451 shares were issued between December 27, 1998 and January 13, 1999.

SELECTED CONSOLIDATED FINANCIAL DATA

The Company derived the statement of income data for the years ended June 30, 1996 and 1997 and June 28, 1998, and balance sheet data as of June 30, 1997 and June 28, 1998 from the audited financial statements in this prospectus. Those financial statements were audited by PricewaterhouseCoopers LLP, independent accountants. The Company derived the statement of income data for the years ended June 30, 1994 and 1995 and the balance sheet data as of June 30, 1994, 1995 and 1996 from audited financial statements that are not included in this prospectus. The Company derived the statement of income data for the six months ended December 28, 1997 and December 27, 1998 and balance sheet data at December 27, 1998 from the unaudited financial statements included in this prospectus. The Company's management believes that the unaudited historical financial statements contain all adjustments needed to present fairly the information included in those statements, and that the adjustments made consist of normal recurring adjustments. Historical results are not necessarily indicative of results of operations to be expected in the future, and the results for the six months ended December 27, 1998 are not necessarily indicative of results to be expected for the entire year. The following selected consolidated financial data should be read in conjunction with the Company's Consolidated Financial Statements and notes thereto, and with Management's Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this prospectus.

|   | YEARS ENDED                           |                  |                  |                  |                  | SIX MONTHS ENDED     |                      |
|---|---------------------------------------|------------------|------------------|------------------|------------------|----------------------|----------------------|
|   | JUNE 30,<br>1994 (1)                  | JUNE 30,<br>1995 | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
|   | (IN THOUSANDS, EXCEPT PER SHARE DATA) |                  |                  |                  |                  |                      |                      |
| STATEMENT OF INCOME DATA:               |                                       |                  |                  |                  |                  |                      |                      |
| Revenue:                                |                                       |                  |                  |                  |                  |                      |                      |
| Product revenue, net .....              | \$ 3,534                              | \$5,989          | \$ 9,689         | \$ 19,823        | \$ 34,891        | \$ 16,369            | \$ 23,525            |
| Contract revenue, net .....             | 3,956                                 | 3,011            | 3,945            | 6,535            | 7,640            | 3,944                | 2,792                |
| License fee income .....                | --                                    | --               | 1,423            | 2,615            | --               | --                   | --                   |
| Total revenue .....                     | 7,490                                 | 9,000            | 15,057           | 28,973           | 42,531           | 20,313               | 26,317               |
| Cost of revenue:                        |                                       |                  |                  |                  |                  |                      |                      |
| Product revenue, net .....              | --                                    | 4,244            | 8,411            | 13,388           | 21,727           | 10,365               | 11,792               |
| Contract revenue, net .....             | --                                    | 1,773            | 3,078            | 5,707            | 6,252            | 3,252                | 2,252                |
| Total cost of revenue .....             | 5,923                                 | 6,017            | 11,489           | 19,095           | 27,979           | 13,617               | 14,044               |
| Gross profit .....                      | 1,567                                 | 2,983            | 3,568            | 9,878            | 14,552           | 6,696                | 12,273               |
| Operating expenses:                     |                                       |                  |                  |                  |                  |                      |                      |
| Research and development .....          | 712                                   | 1,194            | 1,286            | 1,826            | 1,774            | 920                  | 1,927                |
| Sales, general and administrative ..... | 1,740                                 | 2,268            | 2,917            | 4,301            | 4,131            | 1,985                | 2,668                |
| Other (income) expense .....            | 3                                     | (1)              | (11)             | 639              | 502              | 390                  | 567                  |
| Income (loss) from operations .....     | (888)                                 | (478)            | (624)            | 3,112            | 8,145            | 3,401                | 7,111                |
| Interest income, net .....              | 457                                   | 461              | 867              | 607              | 730              | 332                  | 135                  |

|   |           |         |         |          |          |          |          |
|---|-----------|---------|---------|----------|----------|----------|----------|
| Income (loss) before income taxes ..... | (431)     | (17)    | 243     | 3,719    | 8,875    | 3,733    | 7,246    |
| Income tax expense .....                | --        | --      | --      | 177      | 2,600    | 1,093    | 2,029    |
| Net income (loss) .....                 | \$ (431)  | \$ (17) | \$ 243  | \$ 3,542 | \$ 6,275 | \$ 2,640 | \$ 5,217 |
| Earnings per share:                     |           |         |         |          |          |          |          |
| Basic .....                             | \$ (0.04) | \$ 0.00 | \$ 0.02 | \$ 0.28  | \$ 0.49  | \$ 0.21  | \$ 0.41  |
| Diluted .....                           | \$ (0.04) | \$ 0.00 | \$ 0.02 | \$ 0.27  | \$ 0.47  | \$ 0.20  | \$ 0.39  |
| Shares used in per share calculation:   |           |         |         |          |          |          |          |
| Basic .....                             | 10,337    | 10,367  | 11,826  | 12,455   | 12,863   | 12,699   | 12,876   |
| Diluted .....                           | 10,337    | 10,367  | 12,615  | 13,126   | 13,493   | 13,522   | 13,541   |

|  |                |      |      |      |          |              |
|--|----------------|------|------|------|----------|--------------|
|  | JUNE 30,       |      |      |      | JUNE 28, | DECEMBER 27, |
|  | 1994           | 1995 | 1996 | 1997 | 1998     | 1998         |
|  | (IN THOUSANDS) |      |      |      |          |              |

BALANCE SHEET DATA:

|   |          |          |           |           |           |           |
|---|----------|----------|-----------|-----------|-----------|-----------|
| Cash and cash equivalents .....                 | \$ 4,902 | \$ 3,748 | \$ 10,162 | \$ 10,448 | \$ 17,680 | \$ 12,769 |
| Working capital .....                           | 11,006   | 9,970    | 18,596    | 21,013    | 27,603    | 24,383    |
| Total assets .....                              | 20,018   | 20,924   | 43,796    | 50,137    | 72,724    | 78,103    |
| Long-term debt, including current portion ..... | 23       | --       | --        | --        | 8,667     | 10,000    |
| Shareholders' equity .....                      | 19,334   | 19,504   | 40,672    | 45,125    | 54,865    | 59,989    |

(1) During this period, the Company did not report cost of revenue by type.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF  
FINANCIAL CONDITION AND RESULTS OF OPERATIONS

ALL STATEMENTS, TREND ANALYSIS AND OTHER INFORMATION CONTAINED IN THE FOLLOWING DISCUSSION RELATIVE TO MARKETS FOR OUR PRODUCTS AND TRENDS IN REVENUE, GROSS MARGINS AND ANTICIPATED EXPENSE LEVELS, AS WELL AS OTHER STATEMENTS, INCLUDING WORDS SUCH AS "MAY," "WILL," "ANTICIPATE," "BELIEVE," "PLAN," "ESTIMATE," "EXPECT," AND "INTEND" AND OTHER SIMILAR EXPRESSIONS CONSTITUTE FORWARD-LOOKING STATEMENTS. THESE FORWARD-LOOKING STATEMENTS ARE SUBJECT TO BUSINESS AND ECONOMIC RISKS AND UNCERTAINTIES, AND OUR ACTUAL RESULTS OF OPERATIONS MAY DIFFER MATERIALLY FROM THOSE CONTAINED IN THE FORWARD-LOOKING STATEMENTS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED IN "RISK FACTORS" AS WELL AS OTHER RISKS AND UNCERTAINTIES REFERENCED IN THIS PROSPECTUS.

OVERVIEW

We are the world leader in developing and manufacturing semiconductor materials and electronic devices made from SiC. We recognize product revenue at the time of shipment or in accordance with the terms of the relevant contract. We derive the largest portion of our revenue from the sale of blue and green LED products. We offer LEDs at two brightness levels -- high brightness blue and green products and standard blue products. Our LED devices are utilized by end users for automotive backlighting, liquid crystal display ("LCD") backlighting (including use in wireless handsets), indicator lamps, miniature white lights (such as replacements for miniature incandescent bulbs), indoor sign and arena displays, outdoor full color stadium displays, traffic signals and other lighting applications. LED products represented 48% of our revenue in both fiscal 1998 and the first six months of fiscal 1999.

The high brightness products, which were introduced to the market in September 1998 in limited quantities, are currently being integrated into our manufacturing facility for full production. During the first six months of fiscal 1999, margins realized on the high brightness products were substantially lower than those derived from our standard blue LED product, as the yield was lower than the standard product. Historically, we have

experienced low margins with many new product introductions, and we are working to make improvements to output and yield during the second half of fiscal 1999. We anticipate that the high brightness products will contribute greater volumes as yield improvements are obtained.

We believe that in order to increase market demand for all of our LED products, we must continue to substantially lower average sales prices. Historically, we have been successful in achieving lower costs for the standard blue product. During the remainder of fiscal 1999, we plan to focus on reducing costs through higher production yields and from higher volumes as fixed costs are spread over a greater number of units.

We also derive revenue from the sale of advanced materials made from SiC that are used primarily for research and development. We also sell SiC crystals to C3, Inc. ("C3"), which incorporates them in gemstone applications. During late fiscal 1998 and the first six months of fiscal 1999, C3 purchased equipment from us, which has more than doubled the capacity for the production of crystals for C3. Sales of advanced materials made from SiC represented 34% of our revenue in fiscal 1998 and approximately 41% during the first six months of fiscal 1999.

The balance of our revenue, 18% for fiscal 1998 and 11% for the first six months of fiscal 1999, is derived from government contract funding. Under various programs, U.S. Government entities further the development of our technology by supplementing our research and development efforts. All resulting technology obtained through these efforts remains our property after the completion of the contract, subject to certain license rights retained by the government. Contract revenue includes funding of direct research and development costs and a portion of our general and administrative expenses and other operating expenses for contracts under which we expect funding to exceed direct costs over the life of the contract. For contracts under which we anticipate that direct costs will exceed amounts to be funded over the life of the contract (i.e., certain cost-share arrangements), we report direct costs as research and development expenses with related reimbursements recorded as an offset to those expenses.

In September 1996, we entered into an agreement with Siemens AG ("Siemens") under which Siemens agreed to purchase our blue LED chips. In December 1998, this agreement was amended to provide for additional shipments of LED products through September 1999. This contract calls for declining prices based on an increase in the number of units shipped. Siemens accounted for 40% of our revenue for both fiscal 1998 and the first six months of fiscal 1999.

We also are party to certain license agreements related to our technology for the manufacture of blue and green LEDs under which we have received one-time license fees. Under these license agreements, our obligation to transfer the licensed technology was completed in the year that the license fee revenue was recognized.

On September 24, 1997, the Board of Directors changed our fiscal year from the twelve months ending June 30, to a 52 or 53 week year ending on the last Sunday in the month of June. Our 1998 fiscal year extended from July 1, 1997 to June 28, 1998.

RESULTS OF OPERATIONS

The following table shows our statement of operations data expressed as a percentage of total revenue for the periods indicated:

|                            | YEARS ENDED      |                  |                  | SIX MONTHS ENDED     |                      |
|----------------------------|------------------|------------------|------------------|----------------------|----------------------|
|                            | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 30,<br>1998 | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
| Revenue:                   |                  |                  |                  |                      |                      |
| Product revenue, net ..... | 64.3%            | 68.4%            | 82.0%            | 80.6%                | 89.4%                |

|   |        |       |       |       |       |
|---|--------|-------|-------|-------|-------|
| Contract revenue, net .....             | 26.2   | 22.6  | 18.0  | 19.4  | 10.6  |
| License fee income .....                | 9.5    | 9.0   | --    | --    | --    |
|   | -----  | ----- | ----- | ----- | ----- |
| Total revenue .....                     | 100.0  | 100.0 | 100.0 | 100.0 | 100.0 |
| Cost of revenue:                        |        |       |       |       |       |
| Product revenue, net .....              | 55.9   | 46.2  | 51.1  | 51.0  | 44.8  |
| Contract revenue, net .....             | 20.4   | 19.7  | 14.7  | 14.7  | 8.6   |
|   | -----  | ----- | ----- | ----- | ----- |
| Total cost of revenue .....             | 76.3   | 65.9  | 65.8  | 67.0  | 53.4  |
|   | -----  | ----- | ----- | ----- | ----- |
| Gross margin .....                      | 23.7   | 34.1  | 34.2  | 33.0  | 46.6  |
| Operating expenses:                     |        |       |       |       |       |
| Research and development .....          | 8.5    | 6.3   | 4.2   | 4.5   | 7.3   |
| Sales, general and administrative ..... | 19.4   | 14.9  | 9.6   | 9.8   | 10.1  |
| Other expense .....                     | --     | 2.2   | 1.2   | 1.9   | 2.2   |
|   | -----  | ----- | ----- | ----- | ----- |
| Income (loss) from operations .....     | ( 4.2) | 10.7  | 19.2  | 16.8  | 27.0  |
| Interest income, net .....              | 5.8    | 2.1   | 1.7   | 1.6   | 0.5   |
|   | -----  | ----- | ----- | ----- | ----- |
| Income before income taxes .....        | 1.6    | 12.8  | 20.9  | 18.4  | 27.5  |
| Income tax expense .....                | --     | 0.6   | 6.1   | 5.4   | 7.7   |
|   | -----  | ----- | ----- | ----- | ----- |
| Net income .....                        | 1.6%   | 12.2% | 14.8% | 13.0% | 19.8% |
|   | =====  | ===== | ===== | ===== | ===== |

SIX MONTHS ENDED DECEMBER 27, 1998 AND DECEMBER 28, 1997

REVENUE. Revenue increased 30% from \$20.3 million in the first six months of fiscal 1998 to \$26.3 million in the first six months of fiscal 1999. This increase was attributable to an increase in product revenue of 44% from \$16.4 million in the first six months of fiscal 1998 to \$23.5 million in the first six months of fiscal 1999. This rise in product revenue was a result of the 128% increase in sales of our LED products in the first six months of fiscal 1999 compared to the first six months of fiscal 1998. Growth in LED volume was due in part to the introduction of the new high brightness devices, but mostly was a result of

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improvements in the product design of and strong demand for the standard brightness product. This volume increase was partly offset by a 40% decline in the average sales price of the standard blue LED chip during this same period. We believe that in order to increase volume we must continue to lower average sales prices.

Revenue attributable to sales of SiC material was 84% higher in the first six months of fiscal 1999 than in the same period of fiscal 1998 due to a significant increase in sales to C3 for gemstone applications. During the first six months of fiscal 1998, C3 was in initial stages of operation; therefore, unit sales were limited. Revenue from sales of SiC wafers increased 43% in the first six months of fiscal 1999 as compared to the first six months of fiscal 1998, due to quality improvements in wafers, along with the availability of the larger two-inch wafer during fiscal 1999. During the first six months of fiscal 1999, sales from our displays business declined 96% over the prior year period as we have chosen to de-emphasize this product line. Contract revenue received from U.S. Government agencies declined 29% during the first six months of fiscal 1999 compared to the first six months of fiscal 1998, as a significant contract that funded optoelectronic research was exhausted in early fiscal 1999.

GROSS PROFIT. Gross margin climbed to 47% of revenue during the first six months of fiscal 1999 as compared to 33% during the first six months of fiscal 1998. This increase is predominantly attributable to design and manufacturing improvements that occurred over the past year resulting in significant reductions in cost. With the introduction of the new conductive buffer LED technology in the fourth quarter of fiscal 1998, we were able to significantly lower costs of production due to fewer manufacturing steps required with the new chip structure and improved yield. During the first six months of fiscal 1998, we introduced a smaller LED chip size and, in December 1997, we began to fabricate devices on a larger two-inch wafer. As of December 1997, we were still in the process of establishing these new manufacturing designs and had not achieved production efficiency. In addition, the larger two-inch wafer had not been in full production for much of the period; therefore, average die yields during the first six months of fiscal 1998 were significantly lower. Wafer costs for SiC material sales also declined 47% during the first six months of fiscal 1999 over the comparative period due to more efficient processes and improved yield.

RESEARCH AND DEVELOPMENT. Research and development expenses increased 109% in the first six months of fiscal 1999 to \$1.9 million from \$0.9 million in the first six months of fiscal 1998. Much of this increase was caused by significantly higher costs for the initial development of the new high brightness LED product. We anticipate that internal funding for the development of new products will continue to grow in future periods, while we believe that government funding for our development projects will remain constant or decrease.

SALES, GENERAL AND ADMINISTRATIVE. Sales, general and administrative expenses increased 34% in the first six months of fiscal 1999 to \$2.7 million from \$2.0 million in the first six months of fiscal 1998 due primarily to two insurance events that were recorded in the second quarter of fiscal 1998. As a result of the dismissal of a securities class action lawsuit in November 1997, we were reimbursed \$0.2 million for costs incurred in connection with the lawsuit. Most of these expenses were recorded in fiscal 1997. In addition, we received a \$0.2 million reimbursement of medical expenses due to a negotiated cost cap in a partially self-funded insured health plan. Also as a result of our increased profitability during the first six months of fiscal 1999 over the first six months of fiscal 1998, the profit sharing accrual (which is based on 5% of net income) has grown \$0.2 million. We anticipate that total sales, general and administrative costs will increase in connection with the growth of our business; however, we believe that as a percentage of revenue they will remain constant or possibly decline.

OTHER (INCOME) EXPENSE. Other expense increased 45% to \$0.6 million during the first six months of fiscal 1999 from \$0.4 million for the first six months of fiscal 1998. In the first six months of fiscal 1999, we realized impairments to leasehold costs as a result of management's decision to move equipment from our leased facility to our new manufacturing site. This was offset somewhat by income recognized under our equipment build-out agreement with C3. In 1998, we sold to C3 equipment manufactured by us at cost plus a reasonable overhead allocation. The overhead allocation was recorded as "Other income."

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INTEREST INCOME, NET. Interest income, net has decreased 59% to \$0.1 million in the first six months of fiscal 1999 from \$0.3 million in the first six months of fiscal 1998 due to interest expense incurred. In November 1997, we obtained a term loan from NationsBank to fund the acquisition and construction of our manufacturing facility in Durham, North Carolina. While much of the interest was capitalized during the last half of fiscal 1998, the majority of the interest incurred in the first half of fiscal 1999 has been expensed.

INCOME TAX EXPENSE. Income tax expense for the first six months of fiscal 1999 was \$2.0 million compared to \$1.1 million in the first six months of fiscal 1998. This increase resulted from increased profitability during the first six months of fiscal 1999 over fiscal 1998. Our effective tax rate during the first six months of fiscal 1999 was 28% compared to 29% in the first six months of fiscal 1998.

FISCAL YEARS ENDED JUNE 28, 1998 AND JUNE 30, 1997 AND 1996

REVENUE. Revenue increased 47% from \$29.0 million in fiscal 1997 to \$42.5 million in fiscal 1998. A significant portion of the rise was attributable to the 132% increase in LED volume sold pursuant to an amendment to the purchase agreement with Siemens. This agreement and two subsequent amendments provided \$6.8 million in additional revenue in fiscal 1998 over fiscal 1997. This significant increase in volume sold was offset by a 32% decline in our average sales price per LED sold.

Wafer and other materials revenue increased 110% in fiscal 1998 over fiscal 1997 due to a 29% increase in wafer volume associated with greater interest in the worldwide research community for SiC-based products, as well as revenues from C3. C3 activity grew as a result of the execution in July 1997 of the new supply agreement and development agreement. Revenues for the displays business increased 37% in fiscal 1998 over fiscal 1997 due to increased interest among customers for indoor video displays.

Contract revenue increased 17% to \$7.6 million during fiscal 1998 as compared to fiscal 1997 as a result of a change in the mix of funding from available contracts. Funding for fiscal 1997 included a higher amount of proceeds recognized under two cost-share arrangements. For these arrangements, funds are recorded as a reduction in research and development expense rather than as contract revenue. As funds associated with these two programs were exhausted during fiscal 1998, we shifted our resources to programs under a cost-plus or catalog price arrangement, in which funding is recorded as contract revenue. Therefore contract revenue was higher in fiscal 1998 than 1997.

Included in revenue for fiscal 1997 is a one-time license fee of \$2.6 million. This license fee was earned pursuant to a License and Technology Transfer Agreement entered into in September 1996 with Shin-Etsu Handotai Co. Ltd. ("Shin-Etsu"). Pursuant to this agreement, we granted Shin-Etsu a license to use certain epitaxial and device fabrication process technology for the manufacture of our blue LED product. We did not record any license fee revenue during fiscal 1998.

In fiscal 1997, our revenue of \$29.0 million represented a 92% increase over fiscal 1996 revenue of \$15.1 million. The most substantial increase in revenue occurred in the LED product line as a 70% increase in sales was recorded. Much of this increase was attributable to higher volume stemming from the original purchase agreement and first amendment with Siemens. Fiscal 1997 was the first year our LEDs were incorporated into automotive backlighting applications. During fiscal 1997, wafer sales grew 60% over fiscal 1996 due to a greater acceptance of SiC material in the marketplace. In addition, the average sales price per wafer was also increased during fiscal 1997 due to the availability of higher quality premium wafer products. Revenues for the displays business increased 76% in fiscal 1997 from fiscal 1996 due to the introduction of the modules products in that year for indoor arena applications.

Contract revenue grew 66% to \$6.5 million in fiscal 1997 over fiscal 1996 due largely to increased funding from the U.S. Government for certain research contracts, primarily in the areas of microwave, power, blue laser and basic material development.

Results for fiscal 1996 include \$1.4 million in one-time net license fee revenue. This license fee was earned pursuant to a development license and supply agreement entered into with Siemens in October 1995, under which we granted Siemens a license to use certain technology to manufacture blue and green LED products.

GROSS PROFIT. Our gross profit increased 47% to \$14.6 million in fiscal 1998 over fiscal 1997. Our gross margin was 34% for both fiscal 1998 and fiscal 1997. License fees, which have no corresponding cost, were included in fiscal 1997 results. Without license fee revenue, gross profit would have been \$7.3 million or 28% of revenue for fiscal 1997. The overall increase in gross profit in fiscal 1998 resulted from higher revenue and lower LED and material costs per unit. The lower LED and wafer costs were recognized due to higher throughput, which more effectively utilized plant capacity and yield efficiencies. The greater throughput enabled us to spread fixed cost investments over a larger volume of product. Greater yield in LED applications resulted from a combination of a new smaller die size and a new larger two-inch diameter wafer and in the fourth quarter of fiscal 1998, the introduction of the conductive buffer technology. Yield was also higher for LED and materials due to plant processing efficiency and a higher quality of wafer materials used in these products.

The cost of contract revenue has increased in fiscal 1998 over fiscal 1997 due to the change in the mix of funding from available contracts. Costs for fiscal 1997 included a higher amount of expenses recognized under two cost-share arrangements. For these arrangements, costs are recorded as research and development expenses rather than cost of contract revenue. When funding under these two contracts was completed in the second quarter of fiscal 1998, all resources were shifted to cost-plus and catalog priced contracts, where expenses are recorded as a cost of contract revenue.

In fiscal 1997 as compared to fiscal 1996, our gross margin climbed to 34% from 24%, respectively. License fee revenue, which has no corresponding cost, was

recorded in both years. Without license fees, gross margin would have been 28% in fiscal 1997 as compared to 16% in fiscal 1996. Higher gross profit recorded in fiscal 1997 stemmed from significantly improved yields and manufacturing processes, as compared with fiscal 1996, when we experienced difficulty with the ramp of LED production due to poor epitaxial yields. These processes were corrected during the first six months of fiscal 1997.

Contract cost of revenue was significantly higher in fiscal 1997 than fiscal 1996 due largely to increased funding from the U.S. Government for certain research contracts, primarily in the areas of microwave, power, blue laser and basic material development.

RESEARCH AND DEVELOPMENT. Research and development costs decreased by 3% to approximately \$1.8 million in fiscal 1998 from approximately \$1.8 million in fiscal 1997 due to a reduction in work performed under two cost-share contracts to further the blue laser research. These cost-share contracts concluded during the first half of fiscal 1998. Additionally, research and development costs for fiscal 1997 included a one-time write-off of \$0.1 million for the closure of our Eastern European Division, located in St. Petersburg, Russia.

Research and development spending was higher in fiscal 1997 than fiscal 1996 due to the work performed under the cost-share arrangements. These cost-share contracts were not in place in fiscal 1996.

SALES, GENERAL AND ADMINISTRATIVE EXPENSES. Sales, general and administrative expenses decreased 4% to \$4.1 million for fiscal 1998 from \$4.3 million in fiscal 1997 due to the receipt of two one-time insurance payments. As a result of the dismissal in November 1997 of a securities class action lawsuit filed in October 1996, we were reimbursed \$0.2 million from our insurance carrier for costs incurred in defense of the suit. In addition, as a result of a negotiated cost cap, we received a \$0.2 million reimbursement of medical expenses that were incurred under a partially self-funded insured health plan. As a percentage of revenue, these costs have decreased to 10% in fiscal 1998 from 15% in fiscal 1997.

Total sales, general and administrative expenses increased 47% to \$4.3 million in fiscal 1997 from \$2.9 million in fiscal 1996 due to higher costs associated with additional sales personnel to focus the business on gaining new LED customers, the Shin-Etsu license agreement commission fee of \$0.2 million and greater legal fees in connection with the defense of a securities class action lawsuit.

OTHER (INCOME) EXPENSE. In fiscal 1998, other expense included a net loss recorded on the write-down of leasehold improvements associated with a leased facility in Durham, North Carolina and disposal of certain other fixed assets and a write-off of \$66,000 for the remaining value of goodwill associated with the acquisition of the Real Color Displays subsidiary. In addition, we entered into an agreement with C3 to sell

equipment manufactured by us at cost plus a reasonable overhead allocation. The overhead allocation was recorded as "Other income;" however, the amount was more than offset by leasehold write-offs associated with the move to our new facility and other asset disposals. Other expense for fiscal 1997 was higher than that recorded in fiscal 1998 as large fixed asset write-downs were recorded as the result of a physical plant inventory. These write-downs were greater than those recorded in fiscal 1998.

INTEREST INCOME, NET. Interest income, net increased by \$0.1 million in fiscal 1998 over fiscal 1997 and decreased by \$0.3 million when comparing fiscal 1997 to fiscal 1996 due to higher investable cash balances available in fiscal 1998 and fiscal 1996. Cash balances were higher in fiscal 1998 as we generated approximately \$12.1 million from operations compared to approximately \$6.1 million in fiscal 1997. Also, we concluded a private equity placement in September 1995 that increased available cash in fiscal 1996.

INCOME TAX EXPENSE. Our effective income tax rate increased to 29% for fiscal 1998 from a 5% effective rate during fiscal 1997. The lower rate for fiscal 1997 resulted from the utilization of net operating loss carryforwards. We had no tax provision in fiscal 1996 as we generated a net operating loss for tax

purposes.

QUARTERLY RESULTS OF OPERATIONS

The following table shows unaudited quarterly results of operations in dollar amounts and as a percentage of revenue for the periods indicated. We have prepared this information on a basis consistent with our audited financial statements and included all adjustments that we consider necessary for a fair presentation of the information for the periods presented. Results of operations for any fiscal quarter are not necessarily indicative of results for any future period.

|   | THREE MONTHS ENDED |                  |                   |                  |
|---|--------------------|------------------|-------------------|------------------|
|   | MARCH 31,<br>1997  | JUNE 30,<br>1997 | SEPT. 28,<br>1997 | DEC. 28,<br>1997 |
| (IN THOUSANDS, EXCEPT PER SHARE DATA)   |                    |                  |                   |                  |
| Revenue:                                |                    |                  |                   |                  |
| Product revenue, net .....              | \$ 5,571           | \$ 6,940         | \$8,206           | \$ 8,164         |
| Contract revenue, net .....             | 1,395              | 1,539            | 2,001             | 1,942            |
| Total revenue .....                     | 6,966              | 8,479            | 10,207            | 10,106           |
| Cost of revenue:                        |                    |                  |                   |                  |
| Product revenue .....                   | 3,488              | 4,691            | 5,419             | 4,946            |
| Contract revenue .....                  | 1,244              | 1,245            | 1,653             | 1,600            |
| Total cost of revenue .....             | 4,732              | 5,936            | 7,072             | 6,546            |
| Gross profit .....                      | 2,234              | 2,543            | 3,135             | 3,560            |
| Operating expenses:                     |                    |                  |                   |                  |
| Research and development .....          | 485                | 579              | 394               | 527              |
| Sales, general and administrative ..... | 1,079              | 1,252            | 1,140             | 850              |
| Other expense (income) .....            | 204                | 256              | (6)               | 390              |
| Income from operations .....            | 466                | 456              | 1,607             | 1,793            |
| Interest income, net .....              | 138                | 145              | 164               | 169              |
| Income before income taxes .....        | 604                | 601              | 1,771             | 1,962            |
| Income tax expense (benefit) .....      | 50                 | (123)            | 602               | 490              |
| Net income .....                        | \$ 554             | \$ 724           | \$1,169           | \$ 1,472         |
| Earnings per share:                     |                    |                  |                   |                  |
| Basic .....                             | \$ 0.04            | \$ 0.06          | \$ 0.09           | \$ 0.12          |
| Diluted .....                           | \$ 0.04            | \$ 0.05          | \$ 0.09           | \$ 0.11          |
| Shares used in per share calculation:   |                    |                  |                   |                  |
| Basic .....                             | 12,326             | 12,455           | 12,609            | 12,789           |
| Diluted .....                           | 13,056             | 13,003           | 13,408            | 13,636           |

|                                       | THREE MONTHS ENDED |                  |                   |                  |
|---------------------------------------|--------------------|------------------|-------------------|------------------|
|                                       | MARCH 29,<br>1998  | JUNE 28,<br>1998 | SEPT. 27,<br>1998 | DEC. 27,<br>1998 |
| (IN THOUSANDS, EXCEPT PER SHARE DATA) |                    |                  |                   |                  |
| Revenue:                              |                    |                  |                   |                  |
| Product revenue, net .....            | \$ 8,929           | \$ 9,593         | \$ 10,720         | \$ 12,805        |
| Contract revenue, net .....           | 1,742              | 1,955            | 1,559             | 1,233            |
| Total revenue .....                   | 10,671             | 11,548           | 12,279            | 14,038           |
| Cost of revenue:                      |                    |                  |                   |                  |
| Product revenue .....                 | 5,510              | 5,852            | 5,415             | 6,377            |
| Contract revenue .....                | 1,430              | 1,573            | 1,207             | 1,045            |
| Total cost of revenue .....           | 6,940              | 7,425            | 6,622             | 7,422            |

|   |          |          |          |          |
|---|----------|----------|----------|----------|
| Gross profit .....                      | 3,731    | 4,123    | 5,657    | 6,616    |
| Operating expenses:                     |          |          |          |          |
| Research and development .....          | 367      | 487      | 806      | 1,121    |
| Sales, general and administrative ..... | 1,041    | 1,105    | 1,218    | 1,450    |
| Other expense (income) .....            | 31       | 79       | 269      | 298      |
| Income from operations .....            | 2,292    | 2,452    | 3,364    | 3,747    |
| Interest income, net .....              | 180      | 217      | 115      | 20       |
| Income before income taxes .....        | 2,472    | 2,669    | 3,479    | 3,767    |
| Income tax expense (benefit) .....      | 717      | 790      | 1,113    | 916      |
| Net income .....                        | \$ 1,755 | \$ 1,879 | \$ 2,366 | \$ 2,851 |
| Earnings per share:                     |          |          |          |          |
| Basic .....                             | \$ 0.13  | \$ 0.14  | \$ 0.18  | \$ 0.22  |
| Diluted .....                           | \$ 0.13  | \$ 0.14  | \$ 0.18  | \$ 0.21  |
| Shares used in per share calculation:   |          |          |          |          |
| Basic .....                             | 13,028   | 13,026   | 12,920   | 12,832   |
| Diluted .....                           | 13,501   | 13,429   | 13,249   | 13,834   |

THREE MONTHS ENDED

|   | MARCH 31,<br>1997 | JUNE 30,<br>1997 | SEPT. 28,<br>1997 | DEC. 28,<br>1997 |
|---|-------------------|------------------|-------------------|------------------|
| Revenue:                                |                   |                  |                   |                  |
| Product revenue, net .....              | 80.0%             | 81.8%            | 80.4%             | 80.8%            |
| Contract revenue, net .....             | 20.0              | 18.2             | 19.6              | 19.2             |
| Total revenue .....                     | 100.0             | 100.0            | 100.0             | 100.0            |
| Cost of revenue:                        |                   |                  |                   |                  |
| Product revenue .....                   | 50.1              | 55.3             | 53.1              | 48.9             |
| Contract revenue .....                  | 17.9              | 14.7             | 16.2              | 15.8             |
| Total cost of revenue .....             | 68.0              | 70.0             | 69.3              | 64.7             |
| Gross profit .....                      | 32.0              | 30.0             | 30.7              | 35.3             |
| Operating expenses:                     |                   |                  |                   |                  |
| Research and development .....          | 7.0               | 6.8              | 3.9               | 5.2              |
| Sales, general and administrative ..... | 15.5              | 14.8             | 11.2              | 8.4              |
| Other expense (income) .....            | 2.9               | 3.0              | ( 0.1)            | 3.9              |
| Income from operations .....            | 6.6               | 5.4              | 15.7              | 17.8             |
| Interest income, net .....              | 2.0               | 1.7              | 1.6               | 1.7              |
| Income before income taxes .....        | 8.6               | 7.1              | 17.3              | 19.5             |
| Income tax expense (benefit) .....      | 0.7               | ( 1.5)           | 5.9               | 4.8              |
| Net income .....                        | 7.9%              | 8.6%             | 11.4%             | 14.7%            |

THREE MONTHS ENDED

|                             | MARCH 29,<br>1998 | JUNE 28,<br>1998 | SEPT. 27,<br>1998 | DEC. 27,<br>1998 |
|-----------------------------|-------------------|------------------|-------------------|------------------|
| Revenue:                    |                   |                  |                   |                  |
| Product revenue, net .....  | 83.7%             | 83.1%            | 87.3%             | 91.2%            |
| Contract revenue, net ..... | 16.3              | 16.9             | 12.7              | 8.8              |
| Total revenue .....         | 100.0             | 100.0            | 100.0             | 100.0            |
| Cost of revenue:            |                   |                  |                   |                  |
| Product revenue .....       | 51.6              | 50.7             | 44.1              | 45.4             |
| Contract revenue .....      | 13.4              | 13.6             | 9.8               | 7.4              |
| Total cost of revenue ..... | 65.0              | 64.3             | 53.9              | 52.8             |

|   |       |       |       |       |
|---|-------|-------|-------|-------|
| Gross profit .....                      | 35.0  | 35.7  | 46.1  | 47.2  |
| Operating expenses:                     |       |       |       |       |
| Research and development .....          | 3.4   | 4.2   | 6.6   | 8.0   |
| Sales, general and administrative ..... | 9.8   | 9.5   | 9.9   | 10.3  |
| Other expense (income) .....            | 0.3   | 0.8   | 2.2   | 2.1   |
|   | ----- | ----- | ----- | ----- |
| Income from operations .....            | 21.5  | 21.2  | 27.4  | 26.8  |
| Interest income, net .....              | 1.7   | 1.9   | 0.9   | 0.1   |
|   | ----- | ----- | ----- | ----- |
| Income before income taxes .....        | 23.2  | 23.1  | 28.3  | 26.9  |
| Income tax expense (benefit) .....      | 6.7   | 6.9   | 9.1   | 6.5   |
|   | ----- | ----- | ----- | ----- |
| Net income .....                        | 16.5% | 16.2% | 19.2% | 20.4% |
|   | ===== | ===== | ===== | ===== |

## LIQUIDITY AND CAPITAL RESOURCES

We have funded our operations to date through sales of equity, bank borrowings and revenue from product and contract sales. As of December 27, 1998, we had working capital of approximately \$24.4 million, including \$13.7 million in cash and cash equivalents and liquid marketable securities.

Operating activities generated \$4.2 million in cash during the first six months of fiscal 1999. This was attributable primarily to net income of \$5.2 million and other non cash expenses of \$3.3 million. These amounts were partly offset by an increase of \$2.0 million in accounts receivable, a \$0.9 million rise in inventory and a \$3.1 million decrease in accounts payable.

Most of the \$10.4 million of cash used by investing activities in the first six months of fiscal 1999 was related to expenditures associated with the continued construction of our new manufacturing facility in Durham, North Carolina. We also increased manufacturing capacity by adding new equipment to support the epitaxial deposition and clean room fabrication processes.

The \$1.2 million of cash provided by financing activities in the first six months of fiscal 1999 related primarily to the receipt of \$1.8 million and \$0.7 million in proceeds from the exercise of stock warrants and stock options from the Company's employee stock option plan, respectively. In addition, \$0.6 million was received from a Director as payment of profits from a short-swing transaction in our securities and \$1.3 million was funded as the final draw from the long term debt arrangement with NationsBank. We currently have a \$10.0 million loan outstanding from NationsBank. We expect to pay off this loan with proceeds from this offering. These cash proceeds were offset by a \$3.2 million cash outlay for the repurchase of our common stock. This stock was repurchased at an average price of \$13.68. The stock warrants exercised were distributed in connection with our September 1995 private placement and have an exercise price of \$27.23. As of December 27, 1998 warrants remained outstanding to purchase 234,575 shares; these warrants will expire in September 2000.

We are currently engaged in construction activities related to a new clean room fabrication facility. We also intend to expand our facility for new crystal growth and test and packaging areas in calendar 1999. These additions will allow us to consolidate all LED and wafer manufacturing facilities to one site with improved manufacturing capabilities. In addition, in order to keep pace with anticipated growth in LED and wafer sales and provide expanded facilities for our new microwave product line, we anticipate a second phase of expansion to facilities and infrastructure to begin in early fiscal 2000. We anticipate total costs for these expenses to be between \$15 and \$18 million. Estimates for equipment costs related to this expansion total between \$15 and \$17 million. We plan to fund these capital projects from the proceeds of this offering. In addition, we are in the process of purchasing a 79-acre site close to our present facility for \$1.5 million. We anticipate that internally generated cash plus the proceeds of this offering will be sufficient to fund our capital requirements for the next 12 months.

We have adopted a Year 2000 compliance plan and formed a team of information technology professionals assigned to the task of identifying and resolving any Year 2000 issues that may affect our business. Our compliance plan has four phases: inventory, assessment, remediation and testing. We have completed an inventory for all of our computer systems, computer related equipment and equipment with embedded processors, as well as our products, and are in the process of assessing those systems. We have completed this assessment with respect to approximately 80% of our systems and expect to complete our assessment of the remaining systems by February 1999. In addition, we have determined that our products are of a nature that they are not subject to failure as a result of Year 2000 issues. Although we cannot control whether and how third parties will address the Year 2000 issue, we also are in the process of contacting critical vendors and suppliers to assess their ability to ensure smooth delivery of products without disruptions caused by Year 2000 problems. In the course of our assessment, we have not yet identified any Year 2000 issues that would affect our ability to do business; however, our assessment is not complete, and there can be no assurance that

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there are no Year 2000 issues that may affect us. Once we complete the assessment phase, we will prioritize and implement necessary repairs or replacements to equipment and software to achieve Year 2000 compliance. We expect to complete this phase by March 1999. The final phase will consist of a testing program for all repairs. We anticipate that all testing will be completed by April 1999.

#### COSTS

We have not prepared estimates of costs to remediate Year 2000 problems; however, based on currently available information, including the results of our assessment to date and our replacement schedule for equipment, we do not believe that the costs associated with Year 2000 compliance will have a material adverse effect on our business, results of operations or financial condition.

#### YEAR 2000 RISKS

Although we believe that our Year 2000 compliance plan is adequate to address Year 2000 concerns, there can be no assurance that we will not experience negative consequences as a result of undetected defects or the non-compliance of third parties with whom we interact. Furthermore, there can be no assurance that there will not be a delay in, or increased costs associated with, the implementation of corrections as the Year 2000 compliance plan is performed, such as unexpected costs of correcting equipment that has not yet been fully evaluated. If realized, these risks could result in an adverse effect on our business, results of operations and financial condition.

We believe that our greatest risk stems from the potential non-compliance of our suppliers. We depend on a limited number of suppliers for certain raw materials, components and equipment necessary for the manufacture of our products. Accordingly, if those suppliers are unable to process or fill our orders or otherwise interact with us because of Year 2000 problems, we could experience material adverse effects to our business. We are in the process of assessing the Year 2000 status of our suppliers and are investigating alternative sources of supply. As a consequence of our dependence on limited sources of supply, we generally maintain a significant inventory of certain critical materials and require suppliers to keep certain amounts of inventory available for us; however, there can be no assurance that we will have enough materials on hand to continue production without interruption in the event one or more of our suppliers experiences Year 2000 problems that affect its (their) ability to supply us. Any supply chain disruptions would affect our ability to manufacture our products which could result in material adverse consequences to our business, results of operations and financial condition.

#### CONTINGENCIES

We have not yet developed a contingency plan to address what would happen in the event we are unable to address the Year 2000 issue. The contingency plan is

expected to be completed after the inquiry of vendors and customers is completed.

## BUSINESS

### INTRODUCTION

Cree is the world leader in developing and manufacturing semiconductor materials and electronic devices made from SiC. Using its proprietary compound semiconductor technology, the Company produces LEDs for use in automotive and LCD backlighting, indicator lamps, full color LED displays and other lighting applications. The Company also manufactures SiC crystals used in the production of unique gemstone products and SiC wafers sold for research directed to optoelectronics, microwave and power applications. SiC-based compound semiconductor devices offer significant advantages over competing products based on silicon, gallium arsenide ("GaAs") and other materials for certain electronic applications. The Company has new product initiatives based on SiC, including microwave devices for wireless base stations and radar systems, larger and clearer crystals for moissanite gemstones, blue laser diodes for optical storage applications and power devices for power conditioning and switching and other uses.

### BACKGROUND

Most semiconductor devices are fabricated on wafers made from silicon crystals. Silicon evolved as the dominant semiconductor material because it is relatively easy to grow into large, single crystals and is suitable for fabricating most electronic devices. Alternative materials, such as GaAs, have emerged to enable the fabrication of new devices with characteristics that could not be obtained using silicon, including certain microwave, LED, laser and other optoelectronic devices. However, GaAs, silicon and other commercially available semiconductor materials have certain physical and electronic characteristics that limit their usefulness in many applications. For example, silicon and GaAs-based semiconductors are not suitable for the fabrication of short wavelength optoelectronic devices. In addition, the power handling capabilities of silicon and GaAs-based microwave transistors can limit the power and performance of microwave systems used in many commercial and military aerospace applications. Furthermore, few silicon or GaAs devices can operate effectively at temperatures above 400|SD F. This is a major limitation in applications such as advanced electronic systems for high power density electric motors, jet engines and satellites.

Substantial research and development efforts have been undertaken to explore the properties of other potential semiconductor materials. These efforts have identified few candidate materials that are capable of being grown as low defect single crystals (a requirement in the production of most semiconductors) which also possess physical and electronic properties that meaningfully increase device performance over products fabricated from currently available semiconductor materials. Of the few potential candidates, the properties of SiC make it an excellent material for extending existing semiconductor device technology where high power, high temperature or short wavelengths are important for performance.

### SIC OVERVIEW

SiC has many physical characteristics that make the material very difficult to produce. For example, in a typical semiconductor manufacturing process, the semiconductor material is grown in single crystal form and sliced into wafers. The wafers are then polished and chemically etched, coated with a thin film containing controlled levels of impurities and fabricated into devices. Because SiC can form many different atomic arrangements and must be grown at process temperatures above 3,500(degree mark)F, it is difficult to grow large single crystals that are homogeneous in structure. In addition, the high temperatures required to grow SiC make the control of impurity levels in SiC crystals and thin films difficult. "Micropipes," or small diameter holes, may appear in the crystals during crystal growth, affecting the electrical integrity of the wafer and reducing the usability of portions of the wafer for certain applications. Furthermore, slicing and polishing SiC wafers is hindered by the intrinsic hardness of the material. Similarly, its inherent chemical resistance makes SiC

a difficult material to etch.

Many of the same physical characteristics that make SiC difficult to produce also make it an excellent material for certain semiconductor applications. The following characteristics distinguish SiC from

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conventional silicon and GaAs-based semiconductor materials, resulting in significant advantages if production hurdles can be overcome:

- o WIDE ENERGY BANDGAP. Bandgap is the amount of energy required to ionize an electron from the valence band to the conduction band. SiC is classified as a "wide bandgap" semiconductor material, meaning that more energy is required for ionization. Electronic devices made from this material can operate more efficiently and at much higher temperatures than devices made from other common semiconductor materials.
- o HIGH BREAKDOWN ELECTRIC FIELD. The "breakdown electric field" is the amount of voltage per unit distance that a material can withstand and still effectively operate as a semiconductor device. SiC has a much higher breakdown electric field than silicon or GaAs. This characteristic allows SiC devices to operate at much higher voltage levels. Additionally, it allows SiC power devices to be significantly smaller while carrying the same as or greater power levels than comparable silicon and GaAs-based devices.
- o HIGH THERMAL CONDUCTIVITY. SiC is an excellent thermal conductor compared to other commercially available semiconductor materials. This feature enables SiC-based devices to operate at high power levels and still dissipate the excess heat generated.
- o HIGH SATURATED ELECTRON DRIFT VELOCITY. SiC has a "saturated electron drift velocity" higher than that of silicon or GaAs. The electron drift velocity is the maximum speed at which electrons can travel through a material. This characteristic, combined with a high breakdown electric field, allows the fabrication of SiC-based microwave transistors that operate at significantly higher power levels than current silicon and GaAs-based devices.
- o ROBUST MATERIAL. SiC has an extremely high melting point and is one of the hardest known materials in the world. SiC is also extremely resistant to chemical breakdown and can operate in a hostile environment. As a result, SiC can withstand much higher electrical pulses and is much more radiation-resistant than silicon or GaAs.
- o GEMOLOGICAL APPEAL. In the gemstone industry, SiC is known as moissanite. Its high refractive index and dispersion give it "diamond-like" sparkle or fire. In addition, its hardness allows superior faceting and wear resistance compared to many gemstone materials.

#### THE CREE SOLUTION

Through its proprietary technology and over 10 years of development and manufacturing experience, Cree has succeeded in overcoming difficulties in processing SiC for commercial use. The Company introduced its first product in October 1989 and currently is the leading manufacturer of SiC wafers and SiC-based blue and green LED products in the world. The Company believes that its proprietary process techniques and the inherent attributes of SiC give Cree's products significant advantages over competing products for certain electronic and gemological applications. These advantages include:

- o BLUE AND GREEN LIGHT EMISSION. Cree produces high efficiency blue and green LEDs using gallium nitride ("GaN"), a wide bandgap material, and other nitrides grown on SiC substrates. The conductive properties of SiC enable Cree to fabricate a simpler, smaller LED chip as compared to competing blue and green LEDs grown using GaN and related materials on sapphire substrates. Cree has also demonstrated and is continuing development of GaN-based blue laser diodes grown on SiC. The principal advantages of SiC over other substrate materials for blue laser diodes are its high electrical and thermal conductivity and its ability to be cleaved, providing an excellent surface for laser light emission.

- o ENABLING SUBSTRATE PROPERTIES. The inherent attributes of SiC as a substrate enable researchers to work on developing new optoelectronic, microwave and power devices that offer significant advantages over competing products and which could not be produced as effectively on other substrate materials. The Company manufactures SiC wafers for both internal use and sale to external development programs to further new product development. The Company continues to develop larger substrates with lower defect

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densities, which should drive further device development and strengthen SiC's economic advantages in certain applications.

- o GEMSTONE MATERIAL PROPERTIES. Cree manufactures SiC crystals that are used to produce moissanite gemstones. The combination of SiC's optical properties (high refractive index and dispersion) and robust material properties give these gemstones both diamond-like sparkle or fire and hardness characteristics. Cree continues to develop larger and higher quality SiC crystals for this application.
- o HIGH POWER MICROWAVE OPERATION. The Company has demonstrated SiC microwave transistors that can operate at much higher voltages than silicon or GaAs because of SiC's high breakdown electric field, allowing much higher power operation at high frequencies. Higher power SiC devices can allow the fabrication of SiC-based microwave transmitters with less circuit complexity and higher total output power. These same advantages exist for microwave devices made using GaN on SiC substrates, which can also operate at much higher frequencies than SiC-only devices. The Company believes that initial applications for its microwave devices now under development will be for wireless base stations and radar systems. The high temperature capabilities of SiC should also enable future aerospace and defense applications.
- o HIGH POWER, HIGH VOLTAGE OPERATION. Cree is developing SiC power diodes and switches that are able to operate at higher power densities than currently available semiconductor materials because of the much higher breakdown electric field of SiC. In addition, Cree believes that its SiC power devices will be able to operate with lower resistive losses and lower switching losses than those made with silicon or GaAs.

## STRATEGY

The Company's strategy is to continue to develop SiC materials and device technology for use in enabling products and systems. The Company believes that by supplying its customers with enabling component technology it allows them to develop and deliver new systems that provide enhanced performance capabilities. The Company's strategy incorporates the following key elements:

- o GROW REVENUES THROUGH MULTIPLE PRODUCT LINES. The Company has focused its technology on six primary product lines -- LEDs, SiC wafers, gemstone crystals, microwave devices, power devices and laser diodes. The Company generates its current product revenues primarily through the sale of blue and green LEDs, SiC wafers and gemstone crystals. The Company plans to leverage its enabling materials technology to develop products in the area of microwave, power and lasers while continuing to develop new and improved products to enhance growth in LEDs, SiC wafers and gemstone crystals.
- o EXPAND CAPACITY AND INFRASTRUCTURE. In order to meet anticipated demand for its existing products and to develop and fabricate new products, the Company has more than doubled its manufacturing capacity over the last year and is preparing to support additional growth over the next several years as needed. In November 1997, the Company acquired its present manufacturing facility in Durham, North Carolina, a 30-acre site with 172,000 square feet of manufacturing, warehouse and office space. The Company is currently in the process of completing the build-out of this facility to increase capacity, which it expects to finish in July 1999. The Company also intends to expand its existing facility, construct new facilities and purchase equipment.

- o ENHANCE COMPETITIVE VALUE OF SiC PRODUCTS THROUGH TECHNOLOGICAL ADVANCES. The Company believes that it can make existing and future products more competitive than alternative non-SiC products through continued technological advances. In pursuing this strategy, the Company has increased the performance and reduced the cost of its LED chips over the last several years by decreasing die size, increasing wafer diameter and developing a conductive buffer epitaxial and fabrication process. These improvements have resulted in LED chip products which provide a low cost solution for numerous high volume applications. The Company is continuing SiC development activities to provide improvements in die cost, crystal quality and device performance.

PRODUCTS

All of Cree's products are an outgrowth of its SiC technology. Cree continually pursues technical improvements to its existing products to lower cost and improve quality. The following chart illustrates the Company's existing products and user applications:

| PRODUCT             | USER APPLICATIONS  |
|---------------------|--|
| Blue and green LEDs | <ul style="list-style-type: none"> <li>o Backlighting, such as automotive dashboards and LCD displays, including wireless handsets</li> <li>o Large area indoor full color displays, such as arena video screens</li> <li>o Large outdoor full color displays</li> <li>o White light products to replace miniature incandescent bulbs, such as those used in automobile map lights</li> <li>o Traffic signals</li> </ul> |
| Wafer products      | <ul style="list-style-type: none"> <li>o Research and development for new semiconductor applications</li> </ul>  |
| SiC crystals        | <ul style="list-style-type: none"> <li>o Gemstones</li> </ul>  |

BLUE AND GREEN LEDs

LEDs are solid-state chips used in miniature lamps in everyday applications such as indicator lights on printers, computers and other equipment. LEDs generally offer substantial advantages over small incandescent bulbs, including longer life, lower maintenance and energy consumption, and smaller space requirements. Groups of LEDs can make up single or multicolor electronic displays. Prior to the introduction of Cree's blue LED product in 1989, blue LEDs could not be produced in volumes necessary for commercialization. Since then, Cree has developed several generations of blue LED products, including a more robust conductive buffer chip that is easier to build into lamps and has a lower unit price than competing products. The commercial availability of the blue LED, together with red and green, has enabled the development of full color LED lamps and video displays. Strategies Unlimited, an industry research firm, has estimated that the market size for LEDs (all colors) was approximately \$1.8 billion in 1997 and has forecast that the blue and green LED portion of the market will increase from approximately \$204 million in 1998 to approximately \$430 million in 2001.

Presently, the Company's blue LED chips are used for backlighting purposes, such as automotive dashboards and LCD displays, including wireless handsets. In addition, they are used in office equipment indicator lighting, full color video display technology, such as arena video replay boards, moving message advertising and informational signs. The Company's standard blue LED products are primarily used in indoor applications. In September 1998, the Company introduced brighter blue and green LEDs that offer a lower cost, highly efficient LED solution for existing applications that require a higher brightness. For example, many municipalities throughout the U.S. have already implemented red LEDs into their traffic signals, but have not previously used

green LEDs due to high cost or unavailability. In addition, the Company believes that there are a large number of existing applications for green LEDs using lower efficiency materials technology which could be replaced with Cree's new higher efficiency green LED products.

In November 1998, Cree announced a new product line built on its existing blue LED products for use in solid-state white light applications. By passing blue or ultraviolet LED output through certain conversion materials such as phosphors or polymers, blue light is converted into white light. Cree is developing new blue and ultraviolet LEDs designed to maximize conversion efficiency. The Company anticipates that white light LEDs initially will have the greatest impact on the market for miniature incandescent lighting, such as map lights, automobile trunk lights and small flashlights.

#### WAFER PRODUCTS

Cree manufactures SiC wafers for sale to corporate, government and university programs that use SiC for developing electronic components. These customers utilize the material as the basis for research in optoelectronic, microwave and high power devices. Each order may be sold as a bare wafer or customized

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by adding epitaxial films, depending upon the nature of the customer's development program. For the past several years, the Company has worked to improve the quality of its wafers while increasing their size. During fiscal 1998, the Company expanded its capabilities to supply two-inch wafers while achieving a significant improvement in wafer quality.

#### SIC CRYSTALS FOR GEMSTONE APPLICATIONS

Single crystalline SiC has characteristics that are similar to diamond, including properties relating to hardness and brilliance. Through a proprietary process, Cree manufactures SiC crystals in near colorless form for use in gemstones. The Company sells SiC crystals to C3, a company which was founded to develop gemstone products from SiC crystals. C3 cuts and polishes the product to fabricate diamond-like gemstones targeted at customers who desire affordable high quality jewelry. During the first half of fiscal 1999, Cree significantly expanded crystal growth capacity for C3 to meet increased volume requirements. The potential for increasing demand depends on Cree's ability to meet C3's requirements for color, clarity and yield. Consequently, Cree has agreed to focus development efforts on improving its manufacturing processes to increase crystal size and volume, as well as to develop crystals with higher quality. Future demand also is dependent on C3's ability to cut, facet and effectively market its gemstone products.

#### PRODUCTS UNDER DEVELOPMENT

The Company believes that the inherent physical characteristics of SiC make it an excellent material for many new semiconductor applications. The Company is dedicated to creating new applications using SiC and has products currently under development in each of the areas described below. The following chart illustrates the potential user applications for each area of product development:

| PRODUCT CATEGORY                                 | POTENTIAL USER APPLICATIONS   |
|--|---|
| High power radio frequency and microwave devices | <ul style="list-style-type: none"><li>o Communication systems for wireless applications, such as PCS base stations</li><li>o Radar systems</li></ul>  |
| Power devices                                    | <ul style="list-style-type: none"><li>o Industrial motor controls</li><li>o Electric vehicles</li><li>o Lighting ballasts</li><li>o Factory robotics</li><li>o Locomotive applications</li><li>o Solid-state power transmission</li></ul> |

- Blue and ultraviolet lasers           o High density optical storage, such as CD-ROMs and DVDs
- High temperature devices           o Automotive and aerospace electronics

#### HIGH POWER RADIO FREQUENCY AND MICROWAVE DEVICES

The Company is currently developing SiC-based high power transistors that operate at radio and microwave frequencies. The Company believes these devices will have applications in wireless phone base stations, high power solid-state broadcast systems for television and radio, and radar search and detection equipment.

Cree is continuing to develop a SiC-based device for use in base stations for wireless systems. This device can be used for frequency band applications beginning at 1.8 gigahertz, such as personal communications system ("PCS") base station networks. The Company believes that SiC transistors will be superior to current silicon and GaAs-based devices due to greater output power per transistor. The higher output power available from SiC devices is expected to allow wireless systems to use fewer transistors per base station resulting in less complex circuitry and lower cost. In addition, SiC's ability to dissipate heat more rapidly than other materials reduces the need for costly cooling equipment. The Company currently anticipates releasing its first product designed for use in microwave applications during fiscal 1999 for shipment in the first half of fiscal 2000.

Cree is also developing GaN-based microwave transistors on SiC substrates that are targeted for higher frequency applications (10 to 30 gigahertz). During fiscal 1998, the Company reported the demonstration of GaN on SiC transistors that, although low in total output power, operated at a power density of 6.8 watts per

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millimeter at 10 gigahertz. The Company believes this power density is the highest publicly reported for a solid-state field-effect transistor operating at radio or microwave frequency and is substantially higher than that achieved with equivalent silicon or GaAs-based devices. The Company does not anticipate that a commercial device capable of emitting power at this level will be available in the near term.

#### POWER DEVICES

The Company is developing prototype high power devices that have many potential uses. Such devices could be employed in applications involving power conditioning as well as power switching. SiC-based power devices have the potential to handle significantly higher power densities than existing silicon-based devices. In addition, SiC devices are expected to operate at significantly higher temperatures and voltages with superior switching capabilities. These devices are expected to yield substantial power savings due to reductions in energy losses made possible by the devices' high efficiency. Potential applications include power drive components for electric vehicles, lighting ballast components, industrial motor controls and power conditioning for high voltage power transmission. The Company recently entered into a three-year project with Kansai Electric Power Company, one of the largest power companies in the world, for development of SiC-based devices for use in power transmission networks.

#### BLUE AND ULTRAVIOLET LASER DIODES

The Company continues to focus on the development of blue and ultraviolet laser diodes. SiC's inherent attributes, including its natural cleavability and high thermal conductivity, make it an excellent material for blue laser applications. The storage capacity of optical disk drives can be increased significantly by utilizing a laser diode capable of emitting short wavelength light. The Company has demonstrated a laser diode fabricated from GaN and related materials deposited on SiC substrates that emits blue light, which has a shorter wavelength than that of the red or infrared lasers used today. The Company believes that the shorter wavelength of blue light could potentially result in storage capacity for optical disk drives that is significantly greater than the capacity permitted by red light. This increased storage

capacity could lead to advances in CD-ROM data storage and audio and video compact disc applications. Currently, the Company is the only U.S.-based company to have demonstrated the continuous wave operation of a blue laser diode at room temperature; however, there is still substantial work needed to produce a blue laser suitable for commercial applications.

#### HIGH TEMPERATURE DEVICES

In certain applications for microwave and power devices, the ability of SiC to operate at higher temperatures than comparable silicon devices can be a major advantage. Thus, Cree is currently developing high temperature versions of these devices. These devices would be used for applications in high temperature environments or environments with limited cooling or heat sinking, including potential applications in the automotive, energy and aerospace industries. Cree is also working on high temperature analog and digital circuits that could be used to amplify low level sensor signals directly in a jet engine or other high ambient temperature environment. Such devices could also find use in applications such as down hole drilling equipment. Although Cree has developed prototype devices, additional development work is needed to achieve commercial viability.

#### RESEARCH AND DEVELOPMENT

The Company believes that its ability to maintain its position as a leading supplier of SiC material and SiC-based semiconductor products, and to expand the markets for such products, will depend in large part on its ability to enhance existing products and to continue developing new products incorporating the latest improvements in SiC technology. Accordingly, the Company is committed to investing significant resources in research and development.

The Company continually conducts research aimed at improving the quality of its crystals and wafers and enhancing its epitaxial film deposition (wafer coating) process. Cree believes that these research and development efforts will benefit all of the Company's products. The Company believes it can increase the

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diameter of its wafers while lowering manufacturing costs and permitting the development of more complex devices. The key determinants that will enable the manufacture of more complex devices, such as power semiconductors, are the substrate quality and wafer size. Epitaxial thickness, lower defect density and the elimination of variation are important factors to yield improvement, marketability and lower cost. In moving to larger wafer sizes, the Company is focusing on how to stabilize the process to repeatedly grow larger diameter crystals with minimal defects. The two-inch wafer size, which Cree introduced in fiscal 1998, is considered a minimum standard for many niche fabrication facilities. Cree also has begun development of three-inch and larger wafer sizes.

During fiscal years 1998, 1997 and 1996, the Company spent \$8.6 million, \$9.7 million and \$6.3 million, respectively, for direct expenditures relating to research and development activities. Offsetting these expenditures were \$8.2 million, \$8.7 million and \$5.9 million, respectively, of U.S. Government funding for direct and indirect research and development expenses. In addition, certain customers have also sponsored research activities related to the development of new products. During fiscal years 1998 and 1997, customers spent \$3.5 million and \$66,000, respectively, for product research and development activities. In fiscal 1996, customers did not provide significant funding for research activities.

#### SALES AND MARKETING

The Company actively markets its products through targeted mailings, telemarketing, select advertising and attendance at trade shows. The Company generally uses an executive sales approach, relying predominantly on the efforts of senior management and a small direct sales staff for worldwide product sales. The Company believes that this approach is preferable in view of its current customer base and product mix, particularly since the production of lamp and display products incorporating LED chips is concentrated among a relatively small number of manufacturers. However, the Company departs from

this approach for sales to certain Asian countries. In Japan, the Company markets its LED products and SiC wafers through its distributors Sumitomo Corporation ("Sumitomo") and Shin-Etsu. The Company also uses sales representatives to market its LED products in Hong Kong, China and Korea. The Company sells SiC crystal materials for use in gemstone applications directly to C3 under an exclusive supply agreement.

#### MANUFACTURING AND FACILITIES

The Company operates its own facilities in Durham, North Carolina. Direct control over SiC crystal growth, wafering, epitaxial deposition, device fabrication and test operations allows the Company to shorten its product design and production cycles and to protect its proprietary technology and processes. In November 1997, the Company acquired its present manufacturing facility, a 30-acre industrial site in Durham, North Carolina, consisting of a 139,000 square foot production facility and 33,000 square feet of service and warehouse buildings. The Company is currently in the process of completing the build-out of this facility to increase capacity. The Company is also in the process of purchasing a 79-acre site close to its present facility for \$1.5 million. The Company anticipates that any additional expansion of capacity in the near future will occur on these two sites.

The Company currently leases space for some of its manufacturing and research and development facilities which occupy 21,900 square feet and 3,800 square feet, respectively, in the same building in Durham, North Carolina. These leases expire in December 2001 and May 1999, respectively. In addition, the Company also leases approximately 13,200 square feet in a separate building in Durham, North Carolina which is used for its device fabrication and test processes. This lease expires in August 2000.

The Company's products are manufactured in a six-part process which includes: SiC crystal growth, wafer slicing, polishing, epitaxial deposition, fabrication, and testing and packaging. SiC crystals are grown using a proprietary high temperature process designed to produce uniform crystals in a single crystalline form. Crystals used for moissanite gemstones exit the manufacturing process at this stage. Crystals used for other products are then sliced into wafers. The wafers are polished and then processed using the Company's proprietary epitaxial deposition technology, which essentially consists of growing a thin layer of SiC, GaN or other material on the polished wafer, depending on the nature of the device under production. SiC wafer

products may leave the manufacturing process either after polishing or epitaxy. Following epitaxy, LED chips are fabricated in a clean room environment. The final steps include testing and packaging for shipment to the customer. In manufacturing its products the Company depends substantially on its custom-manufactured equipment and systems, some of which is manufactured internally and some of which the Company acquires from third parties and customizes itself.

The Company depends on a limited number of suppliers for certain raw materials, components and equipment used in its SiC products and LEDs, including certain key materials and equipment used in its crystal growth, wafering, polishing, epitaxial deposition, device fabrication and device test processes. The Company generally purchases these limited source items pursuant to purchase orders and has no guaranteed supply arrangements with its suppliers. In addition, the availability of these materials, components and equipment to the Company is dependent in part on the Company's ability to provide its suppliers with accurate forecasts of its future requirements. The Company endeavors to maintain ongoing communication with its suppliers to guard against interruptions in supply and, to date, generally has been able to obtain adequate supplies in a timely manner from its existing sources. However, any interruption in the supply of these key materials, components or equipment could have a significant adverse effect on the Company's operation.

#### COMPETITION

The semiconductor industry is intensely competitive and is characterized by rapid technological change, price erosion and intense foreign competition. The Company believes that it currently enjoys a favorable position in the existing

markets for SiC-based products and materials primarily as a result of its proprietary SiC-based technology. However, the Company faces actual and potential competition from a number of established domestic and international compound semiconductor companies. Many of these companies have greater engineering, manufacturing, marketing and financial resources than the Company.

The Company's primary competition for the blue and green LED products comes from Nichia Chemical Industries, Ltd., Toyoda Gosei Co. Ltd. and the Hewlett-Packard Company which currently market blue and green LED products that are brighter than the Company's high brightness blue and green LED devices. These companies have historically been successful in the market for outdoor display applications because of the brightness demands of outdoor displays, as well as the decreased price sensitivity of the outdoor display market. Cree believes its brighter blue and green LEDs will enable it to compete successfully in this market because they can be used in the same applications at a lower cost than competing products.

The Company believes that it is positioned to take advantage of the larger indoor display market because of its lower cost and the advantages of its design. The Company believes that its approach to manufacturing blue and green LEDs from SiC substrates offers a more cost-effective design and process than its competitors, who use a sapphire substrate. Cree's smaller chip design enables the diode to use less material and permits more devices to be fabricated on each wafer processed, lowering the cost per unit. In addition, the Company's device enables manufacturers to package the LED on the same production line as other green and red LEDs, eliminating the need for special equipment necessary for chips made from sapphire substrates. Furthermore, Cree's SiC-based devices can withstand a much higher level of electrostatic discharge ("ESD") than existing sapphire-based products and therefore are more suitable for applications that require high ESD emission ratings, such as automotive applications.

#### PATENTS AND PROPRIETARY RIGHTS

The Company has an exclusive license to 10 U.S. patents from N.C. State, and holds 43 additional domestic patents of its own or owned jointly. In key foreign markets, Cree holds exclusive licenses to patents issued on the N.C. State technology and owns patents issued on Cree applications which are counterparts to the U.S. patents. The Company also holds licenses or rights to acquire exclusive licenses to inventions owned by N.C. State, the University of California and Purdue Research Foundation which are subject to pending patent applications. Cree has 25 patent applications of its own pending in the U.S. and also has 85 foreign patent applications pending. In addition to its patent rights, the Company relies upon proprietary know-how and

trade secrets relating to its manufacturing processes and devices and has entered into non-disclosure agreements to protect its proprietary technology with both employees and parties outside of the Company.

The Company earns a material amount of its revenues in overseas markets. While the Company holds and has applied for patent protection for certain of its technologies and products in some of these markets, there can be no assurance that the Company's intellectual property rights will provide adequate protection in all commercially significant markets.

THE N.C. STATE LICENSE. In 1987, the Company entered into a license agreement with N.C. State pursuant to which the Company was granted a worldwide, fully paid, exclusive license to manufacture, use and sell products and processes covered by the claims of 10 U.S. patent applications filed by N.C. State relating to SiC materials and SiC-based semiconductor devices, some of which also have been filed in foreign countries. Ten patents were subsequently issued with respect to eight of those applications, with expiration dates between 2007 and 2009. Twelve of the foreign filings have been issued with expiration dates from 2006 through 2013. Included in the licensed patents are patents practiced by the Company to grow single crystal SiC. The U.S. patent for this process expires in 2007 and in other markets the comparable patents expire between 2006 and 2012. Under the terms of the license, the U.S. Office of Naval Research has retained an interest in the licensed technology for certain military applications.

CREE'S PATENTS. Since its inception, the Company has been granted 43 U.S. patents of its own or jointly owned. These patents expire between 2008 and 2016. The Company has filed a number of these patent applications in foreign countries, many of which have been issued. In addition, the Company has, in the past, entered into joint research and development programs to develop new SiC-based devices. These efforts have resulted in four jointly-owned patents, one with Purdue University, two with General Electric Company and one with N.C. State.

The Company intends to continue to file patent applications in the future, where appropriate, and to pursue such applications with U.S. and foreign patent authorities, but the Company cannot be sure that any patents will be issued on such applications or that the Company patents will not be contested. In the past, one of the important patents the Company licenses from N.C. State relating to crystal growth was subject to re-examination in the U.S. but the Company prevailed in the proceeding. Currently, the corresponding European patent is being challenged, which means that the Company could lose patent protection in certain European countries for this particular method. Also, because issuance of a valid patent does not prevent other companies from using alternative, non-infringing technology, there can be no assurance that any of the Company's patents (or patents issued to N.C. State or other parties and licensed to the Company) will provide significant commercial protection.

Although the Company believes that its products do not infringe on the proprietary rights of third parties, there can be no assurance that third parties will not assert infringement claims against the Company in the future with respect to current or future products or that such assertion may not require the Company to enter into royalty arrangements, prevent the Company from selling products, or result in protracted or costly litigation.

Because of rapid technological developments in the semiconductor industry, the patent position of any semiconductor device manufacturer, including that of the Company, is subject to uncertainties and may involve complex legal and factual issues. Consequently, although the Company holds certain patents, is licensed under other patents, and is currently pursuing additional patent applications, there can be no assurance that patents will be issued from any pending applications or that claims allowed by any existing or future patents issued or licensed to the Company will not be challenged, invalidated, or circumvented, or that any rights granted under such patents will provide adequate protection to the Company.

EMPLOYEES

As of December 27, 1998, the Company employed 297 people, including 214 in manufacturing operations, 51 in research and development, and 32 in sales and general administration. None of the Company's employees is represented by a labor union or subject to collective bargaining agreements. The Company believes relations with its employees are strong.

MANAGEMENT

EXECUTIVE OFFICERS AND DIRECTORS

The executive officers and Directors of the Company are as follows:

| NAME                             | AGE | POSITION  |
|----------------------------------|-----|---|
| F. Neal Hunter (1)               | 36  | Chairman and Chief Executive Officer                                    |
| Charles M. Swoboda               | 32  | President and Chief Operating Officer                                   |
| Calvin H. Carter, Jr., Ph.D. (2) | 43  | Executive Vice President, Director of Materials Technology and Director |
| Cynthia B. Merrell               | 38  | Chief Financial Officer and Treasurer                                   |
| John W. Palmour, Ph.D.           | 38  | Director and Director of Advanced Devices                               |
| James E. Dykes (1) (3)           | 61  | Director  |
| Michael W. Haley (2) (3)         | 60  | Director  |
| Walter L. Robb, Ph.D (3)         | 70  | Director  |
| Dolph W. von Arx (1) (2) (3)     | 64  | Director  |

- -----
- (1) Member of Executive Committee
  - (2) Member of Audit Committee
  - (3) Member of Compensation Committee

MR. HUNTER, a co-founder of the Company, has served as Chairman of the Company's Board of Directors since 1995, as the Company's Chief Executive Officer since 1994 and as a Director since the Company's inception in 1987. Mr. Hunter also served as President from 1994 until January 14, 1999. Prior to his election as President and Chief Executive Officer in 1994, Mr. Hunter served as Vice President of Marketing with responsibility for the management of the Company's optoelectronic products and as the Company's Secretary and Treasurer. He received a B.S. degree in mechanical engineering from N.C. State.

MR. SWOBODA became President effective January 14, 1999 and has served as Chief Operating Officer of the Company since June 1997. Prior to becoming President, Mr. Swoboda also held the title of Vice President since June 1997. Mr. Swoboda joined the Company in 1993 and served as the Company's Operations Manager from July 1996 to June 1997, as Wafer Fab Manager from April 1996 to July 1996, as General Manager of the Company's subsidiary, Real Color Displays, Inc., from August 1994 to April 1996 and as LED Product Manager from July 1993 to August 1994. Prior to 1993, he was employed by Hewlett-Packard Company, an electronics company. Mr. Swoboda received a B.S. degree in electrical engineering from Marquette University.

DR. CARTER, a co-founder of the Company, has served as a Director and Vice President since Cree's inception. He currently holds the positions of Executive Vice President and Director of Materials Technology. As Director of Materials Technology, Dr. Carter is responsible for the Company's development of advanced materials growth technology, including the growth of SiC material for semiconductor and other applications. He previously served as Vice President, New Product Development from 1995 to 1997 and as Director of Technology from 1987 to 1995. Dr. Carter holds B.S., M.S. and Ph.D. degrees in materials science and engineering from N.C. State.

MS. MERRELL was named Chief Financial Officer and Treasurer effective July 1998 after serving as the Company's Interim Chief Financial Officer and Assistant Treasurer since January 1998. Ms. Merrell joined the Company in 1996, initially serving as its Controller. From January 1992 to November 1996 she was employed as the controller of Kaset International, a subsidiary of The Times Mirror Company engaged in providing training, consulting and project management services in the field of customer relations. Ms. Merrell's prior financial experience includes service in various capacities with Tropicana Products, Inc. and the accounting firm of Arthur Andersen & Co. She received a B.S. degree in accounting from the University of Florida and is licensed as a Certified Public Accountant in Florida.

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DR. PALMOUR, a co-founder of the Company, currently serves as Director of Advanced Devices and, in that capacity, is responsible for the Company's development of advanced SiC devices such as microwave transistors and power devices. Dr. Palmour has served as a Director of the Company since October 1995 and previously served on the Company's Board of Directors from October 1992 to April 1993. During the period from 1993 to 1995 that Dr. Palmour was not a Director, he continued to be employed by the Company. Dr. Palmour received his B.S. and Ph.D. degrees from N.C. State in the fields of materials science and engineering.

MR. DYKES became a Director of the Company in January 1992. He served as Executive Vice President of Thomas Group, Inc., a publicly held management consulting group, from July 1997 through June 1998 and from 1994 to 1997 served as President and Chief Executive Officer of Intellon Corp., a privately held start-up company in the home automation industry. From January 1989 until his retirement in December 1992, Mr. Dykes served as President and Chief Executive Officer of Signetics Company, a subsidiary of North American Philips Corporation. Mr. Dykes received a B.S. degree in electrical engineering from the University of Florida. He is currently a director of EXAR Corporation and Thomas Group, Inc.

MR. HALEY became a Director of the Company in April 1989. He serves as Chairman

and Chief Executive Officer of Triton Management Company based in Greensboro, North Carolina, which previously owned and operated 60 restaurants and has been engaged principally in investment and property management since the sale of the restaurants in 1993 and 1996. Mr. Haley graduated from the University of North Carolina-Chapel Hill, where he received a bachelor's degree in business administration.

DR. ROBB became a Director of the Company in April 1993. He is currently the President of Vantage Management, Inc., a consulting and investment firm in Schenectady, New York. From 1986 through 1992, Dr. Robb served as a Senior Vice President for Corporate Research and Development for General Electric Company, a diversified technology company. From 1951 to 1986, he held various other positions with General Electric Company. Dr. Robb received a B.S. degree from Pennsylvania State University and M.S. and Ph.D. degrees from the University of Illinois. All of Dr. Robb's degrees were awarded in chemical engineering. He is currently a Director of Celgene Corporation, Neopath, Inc. and Mechanical Technology Incorporated.

MR. VON ARX became a Director of the Company in October 1991. He served as the Non-Executive Chairman of Morrison Restaurants Inc. from January 1996 to July 1998 and is the former Chairman, President and Chief Executive Officer of Planters LifeSavers Company, an affiliate of RJR Nabisco, Inc., where he served in such capacities for four years prior to his retirement in 1991. Mr. von Arx is a graduate of Washington University, where he received a bachelor's degree. He is currently a Director of Ruby Tuesday, Inc., International Multifoods Corporation, MacKenzie Investment Management, Inc. and BMC Fund, Inc.

PRINCIPAL SHAREHOLDERS

The following table sets forth certain information regarding beneficial ownership of the Company's Common Stock as of December 27, 1998, except as otherwise noted below, and as adjusted to reflect the sale of the shares offered hereby: (i) by each person known by the Company to own beneficially more than five percent of the Common Stock; (ii) by each Director; (iii) by each executive officer; and (iv) by all Directors and executive officers of the Company as a group. Except as otherwise indicated, the persons or entities listed below have sole voting and investment power with respect to all shares of Common Stock owned by them, except to the extent such power may be shared with a spouse.

| DIRECTORS AND EXECUTIVE OFFICERS(1)                         | SHARES OF COMMON STOCK BENEFICIALLY OWNED PRIOR TO THE OFFERING(2) |         | SHARES OF COMMON STOCK BENEFICIALLY OWNED AFTER THE OFFERING(2) |         |
|---|--|---------|---|---------|
|   | NUMBER   | PERCENT | NUMBER  | PERCENT |
| Michael W. Haley (3)  | 475,914  | 3.7%    | 475,914   | 3.3%    |
| Dolph W. von Arx (4)  | 314,160  | 2.4%    | 314,160   | 2.2%    |
| F. Neal Hunter (5)  | 295,786  | 2.3%    | 295,786   | 2.1%    |
| John W. Palmour, Ph.D. (6)                                  | 289,500  | 2.2%    | 289,500   | 2.0%    |
| Calvin H. Carter, Jr., Ph.D. (7)                            | 256,030  | 2.0%    | 256,030   | 1.8%    |
| Walter L. Robb, Ph.D. (8)                                   | 170,000  | 1.3%    | 170,000   | 1.2%    |
| Charles M. Swoboda (9)                                      | 58,200   | *       | 58,200  | *       |
| James E. Dykes (10)   | 56,000   | *       | 56,000  | *       |
| Cynthia B. Merrell (11)                                     | 12,400   | *       | 12,400  | *       |
| All Directors and executive officers as a group (9 persons) | 1,927,990  | 14.3%   | 1,927,990   | 13.0%   |
| 5% SHAREHOLDERS   |  |         |   |         |
| Trustees of General Electric Pension Trust (12)             | 1,279,967  | 9.9%    | 1,279,967   | 9.0%    |
| Freiss Associates, Inc. (13)                                | 750,000  | 5.8%    | 750,000   | 5.3%    |
| D.L. Carlson Investment Group, Inc. (14)                    | 683,995  | 5.3%    | 683,995   | 4.8%    |

\* Represents less than one percent.

(1) Unless otherwise indicated, the address of the Directors and executive officers named above is the same as the Company's address at 4600 Silicon Drive, Durham, North Carolina 27703.

(2) Based on 12,919,818 shares of common stock outstanding on December 27, 1998

and 14,219,818 shares of common stock outstanding immediately after the offering. Pursuant to the rules of the Commission, certain shares of Cree's common stock which a person has the right to acquire within 60 days pursuant to the exercise of stock options and warrants are deemed to be outstanding for the purpose of computing beneficial ownership and the percentage ownership of that person but are not deemed outstanding for purposes of computing the percentage ownership of any other person. All Directors and executive officers as a group hold options to purchase an aggregate of 587,966 shares of common stock. Unless otherwise noted, the Company believes that all persons named in the table have sole voting and investment power with respect to all shares of common stock that are beneficially owned by them.

- (3) Includes options to purchase 68,000 shares of common stock. Also includes 20,000 shares held by a charitable foundation of which Mr. Haley is a director. Mr. Haley holds shared voting and investment power over these shares but disclaims beneficial ownership.
- (4) Includes options to purchase 94,000 shares of common stock. Mr. von Arx disclaims voting and investment power over these shares.
- (5) Includes options to purchase 115,786 shares of common stock.
- (6) Includes options to purchase 66,000 shares of common stock. Also includes 10,000 shares held by Dr. Palmour's spouse. Dr. Palmour disclaims voting and investment power over these shares.
- (7) Includes options to purchase 54,780 shares of common stock. Also includes 51,030 shares held by members of Dr. Carter's immediate family. Dr. Carter disclaims voting and investment power over these shares.
- (8) Includes options to purchase 77,000 shares of common stock. Also includes 43,000 shares held by a trust of which Dr. Robb is a trustee. Dr. Robb holds shared voting and investment power over these shares but disclaims beneficial ownership.
- (9) Includes options to purchase 58,000 shares of common stock.

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- (10) Includes options to purchase 42,000 shares of common stock.
- (11) Includes options to purchase 12,400 shares of common stock.
- (12) Based upon a Form 13G filed with the Securities and Exchange Commission filed February 19, 1997. Includes warrants to purchase 12,500 shares of common stock. Trustees of General Electric Pension Trust's address is 3003 Summer Street, Stamford, Connecticut 06904.
- (13) Based on a Form 13F filed with the Securities and Exchange Commission for the period ended September 30, 1998. Freiss Associates, Inc.'s address is 3908 Kennett Pike, P.O. Box 4166, Greenville, Delaware 19807.
- (14) Based on a Form 13F filed with the Securities and Exchange Commission for the period ended September 30, 1998. D.L. Carlson Investment Group, Inc.'s address is 101 N. State Street, Concord, New Hampshire 03301.

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#### CERTAIN TRANSACTIONS

Pursuant to a supply agreement originally entered into in 1995 and subsequently amended and restated, the Company has agreed to supply SiC to C3 on an exclusive basis for use in the fabrication of gemstones, and C3 has agreed to purchase certain of its requirements for such material from the Company. In related development agreements executed in July 1997 and January 1998, and subsequently amended and restated, the Company has agreed to develop improved processes for manufacturing large volume, colorless SiC material for sale to C3. In addition, the Company and C3 are parties to an agreement executed in

February 1996 under which the Company supplies certain electronic devices to C3 for use in gemstone testing equipment. During the fiscal year ended June 28, 1998, C3 purchased approximately \$4.5 million in products and services from the Company under these agreements.

The Company and C3 are also parties to an agreement executed in May 1998 under which C3 purchased certain equipment constructed by the Company which the Company retains for use in manufacturing SiC crystals for sale to C3. The purchase price of the equipment was based on the Company's costs plus a reasonable allocation of overhead, subject to an agreed maximum price of \$3.4 million. Under the terms applicable to the purchase, C3 is obligated to transfer title to the equipment to the Company once it is fully depreciated.

Certain of the Company's Directors and executive officers own approximately 169,000 shares of C3 common stock, representing less than 2.4% of C3's outstanding common stock. In addition, C. Eric Hunter and Jeff N. Hunter, brothers of Cree's Chairman and Chief Executive Officer, F. Neal Hunter, beneficially own approximately 12% of the outstanding common stock of C3. Jeff Hunter is the Chairman and Chief Executive Officer of C3. The Company also owns less than 1% of the outstanding shares of common stock of C3.

UNDERWRITING

The Company has entered into an underwriting agreement with the underwriters named below. CIBC Oppenheimer Corp., Prudential Securities Incorporated and Morgan Keegan & Company, Inc. are acting as representatives of the underwriters.

The underwriting agreement provides for the purchase of a specific number of shares of common stock by each of the underwriters. The underwriters' obligations are several, which means that each underwriter is required to purchase a specified number of shares, but is not responsible for the commitment of any other underwriter to purchase shares. Subject to the terms and conditions of the underwriting agreement, each underwriter has severally agreed to purchase the number of shares of common stock set forth opposite its name below:

| UNDERWRITER<br>- - - - -                 | NUMBER OF SHARES<br>- - - - - |
|--|-------------------------------|
| CIBC Oppenheimer Corp. ....              |                               |
| Prudential Securities Incorporated ..... |                               |
| Morgan Keegan & Company, Inc. ....       | - - - - -                     |
| Total .....                              | =====                         |

This is a firm commitment underwriting. This means that the underwriters have agreed to purchase all of the shares offered by this prospectus (other than those covered by the over-allotment option described below) if any are purchased. Under the underwriting agreement, if an underwriter defaults in its commitment to purchase shares, the commitments of non-defaulting underwriters may be increased or the underwriting agreement may be terminated, depending on the circumstances.

The representatives have advised Cree that the underwriters propose to offer the shares directly to the public at the public offering price that appears on the cover page of this prospectus. In addition, the representatives may offer some of the shares to certain securities dealers at such price less a concession of \$ per share. The underwriters may also allow, and such dealers may reallow, a concession not in excess of \$ per share to certain other dealers. After the shares are released for sale to the public, the representatives may change the offering price and other selling terms at various times.

The Company has granted the underwriters an over-allotment option. This option, which is exercisable for up to 30 days after the date of this prospectus, permits the underwriters to purchase a maximum of 195,000 additional shares from the Company to cover over-allotments. If the underwriters exercise all or part of this option, they will purchase shares covered by the option at the public offering price that appears on the cover page of this prospectus, less the underwriting discount. If this option is exercised in full, the total price to public will be \$ , and the total proceeds to the Company will be \$ . The underwriters have severally agreed that, to the extent the over-allotment option is exercised, they will each purchase a number of additional shares proportionate to the underwriter's initial amount reflected in the foregoing table.

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The following table provides information regarding the amount of the discount to be paid to the underwriters by the Company:

| PER SHARE | TOTAL                                 |  |
|-----------|---------------------------------------|--|
|           | WITHOUT EXERCISE<br>OF OVER-ALLOTMENT | WITH FULL<br>EXERCISE OF<br>OVER-ALLOTMENT |
| -----     | -----                                 | -----                                      |

The Company estimates that its total expenses of the offering, excluding the underwriting discount, will be approximately \$650,000.

The Company has agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

The Company and its executive officers and directors have agreed to a 90-day "lock up" with respect to approximately 1,927,990 shares of common stock and certain other Company securities that they beneficially own, including securities that are convertible into shares of common stock and securities that are exchangeable or exercisable for shares of common stock. This means that, subject to certain exceptions, for a period of 90 days following the date of this prospectus, the Company and such persons may not offer, sell, pledge or otherwise dispose of these securities without the prior written consent of CIBC Oppenheimer Corp.

Rules of the Securities and Exchange Commission may limit the ability of the underwriters to bid for or purchase shares before the distribution of the shares is completed. However, the underwriters may engage in the following activities in accordance with the rules:

- o Stabilizing transactions -- The representatives may make bids or purchases for the purpose of pegging, fixing or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.
- o Over-allotments and syndicate covering transactions -- The underwriters may create a short position in the shares by selling more shares than are set forth on the cover page of this prospectus. If a short position is created in connection with the offering, the representatives may engage in syndicate covering transactions by purchasing shares in the open market. The representatives may also elect to reduce any short position by exercising all or part of the over-allotment option.
- o Penalty bids -- If the representatives purchase shares in the open market in a stabilizing transaction or syndicate covering transaction, they may reclaim a selling concession from the underwriters and selling group members who sold those shares as part of this offering.

- o Passive market making -- Market makers in the shares who are underwriters or prospective underwriters may make bids for or purchases of shares, subject to certain limitations, until the time, if ever, at which a stabilizing bid is made.

Stabilization and syndicate covering transactions may cause the price of the shares to be higher than it would be in the absence of such transactions. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages resales of the shares.

Neither the Company nor the underwriters make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. These transactions may occur on the Nasdaq National Market or otherwise. If such transactions are commenced, they may be discontinued without notice at any time.

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#### LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon for the Company by Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, L.L.P., 2500 First Union Capitol Center, Raleigh, North Carolina 27601. Certain legal matters in connection with this offering will be passed upon for the Underwriters by Hale and Dorr LLP, 60 State Street, Boston, Massachusetts 02109.

#### EXPERTS

The consolidated balance sheets as of June 30, 1997 and June 28, 1998, and the consolidated statements of operations, cash flow and shareholders equity for the two years in the period ended June 30, 1997, and for the year ended June 28, 1998, included in this prospectus have been included herein in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of that firm as experts in accounting and auditing.

#### OTHER MATTERS

In September 1998, the Company retained Ernst & Young LLP as its independent public accountants and dismissed the Company's former auditors. In connection with its audits for the two most recent fiscal years prior to dismissal and through the date of its dismissal, there were no disagreements with the former auditors on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure which disagreements, if not resolved to the satisfaction of the former auditors, would have caused it to make reference to the subject matter of the disagreement in connection with its report on the financial statements of the Company for such periods. The former auditors' reports on the Company's financial statements contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles. Prior to retaining Ernst & Young LLP, the Company had not consulted with Ernst & Young LLP on any accounting, auditing or reporting matter.

#### WHERE YOU CAN FIND MORE INFORMATION

The Company has filed a registration statement on Form S-3 with the Securities and Exchange Commission in connection with this offering. In addition, the Company files annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. You may read and copy the registration statement and any other documents filed by the Company at the Securities and Exchange Commission's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the Securities and Exchange Commission at 1-800-SEC-0330 for further information on the Public Reference Room. The Company's Securities and Exchange Commission filings are also available to the public at the Securities and Exchange Commission's Internet site at "<http://www.sec.gov>".

This prospectus is part of the registration statement and does not contain all of the information included in the registration statement. Whenever a reference is made in this prospectus to any contract or other document of the Company, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement for a copy of the contract or document.

The Securities and Exchange Commission allows the Company to "incorporate by reference" into this prospectus the information the Company files with it, which means that the Company can disclose important information to you by referring you to those documents. Information incorporated by reference is part of this prospectus. Later information filed with the Securities and Exchange Commission will update and supersede this information.

The Company incorporates by reference the documents listed below and any future filings made with the Securities and Exchange Commission under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until this offering is completed:

- o Annual Report on Form 10-K for the year ended June 28, 1998, as amended by Form 10-K/A.
- o Quarterly Report on Form 10-Q for the quarter ended September 27, 1998.
- o Current Report on Form 8-K dated September 21, 1998, as amended by Form 8-K/A on September 30, 1998.
- o The description of the Company's common stock contained in its registration statement on Form 8-A filed with the Commission under Section 12 of the Securities Exchange Act of 1934.

You may request a copy of these filings, at no cost, by contacting the Company at:

Cree Research, Inc.  
 4600 Silicon Drive  
 Durham, North Carolina 27703  
 Attention: Investor Relations Manager  
 Telephone: (919) 313-5300

CREE RESEARCH, INC.  
 INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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CREE RESEARCH, INC.  
CONSOLIDATED BALANCE SHEETS  
(IN THOUSANDS)

|  | JUNE 28,<br>1998 | DECEMBER 27,<br>1998 |
|--|------------------|----------------------|
|  | -----            | -----                |
|  |                  | (UNAUDITED)          |
| <b>ASSETS</b>  |                  |                      |
| Current assets:  |                  |                      |
| Cash and cash equivalents .....  | \$17,680         | \$12,769             |
| Marketable securities .....  | 657              | 905                  |
| Accounts receivable, net .....   | 10,479           | 12,110               |
| Inventories .....  | 2,543            | 3,402                |
| Deferred income tax .....  | 1,952            | 264                  |
| Prepaid expenses and other current assets .....  | 1,347            | 691                  |
|  | -----            | -----                |
| Total current assets .....   | 34,658           | 30,141               |
| Property and equipment, net .....  | 36,476           | 44,972               |
| Patent and license rights, net .....   | 1,525            | 1,641                |
| Other assets .....   | 65               | 1,349                |
|  | -----            | -----                |
| Total assets .....   | \$72,724         | \$78,103             |
|  | =====            | =====                |
| <b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>  |                  |                      |
| Current liabilities:   |                  |                      |
| Accounts payable, trade .....  | \$ 5,595         | \$ 4,097             |
| Current maturities of long term debt .....   | 17               | 121                  |
| Accrued salaries and wages .....   | 391              | 550                  |
| Other accrued expenses .....   | 1,052            | 990                  |
|  | -----            | -----                |
| Total current liabilities .....  | 7,055            | 5,758                |
| Long term liabilities:   |                  |                      |
| Long term debt .....   | 8,650            | 9,879                |
| Deferred income tax .....  | 2,154            | 2,477                |
|  | -----            | -----                |
| Total long term liabilities .....  | 10,804           | 12,356               |
| Shareholders' equity:  |                  |                      |
| Preferred stock, par value \$0.01; 2,750 shares authorized at June 28, 1998 and 3,000 shares authorized at December 27, 1998; none issued and outstanding .....  | --               | --                   |
| Common stock, \$0.005 par value; 14,500 shares authorized at June 28, 1998 and 30,000 shares authorized at December 27, 1998; shares issued and outstanding 12,989 and 12,920 at June 28, 1998 and December 27, 1998, respectively ..... | 65               | 65                   |
| Additional paid-in-capital .....   | 49,676           | 49,583               |
| Retained earnings .....  | 5,124            | 10,341               |
|  | -----            | -----                |
| Total shareholders' equity .....   | 54,865           | 59,989               |
|  | -----            | -----                |
| Total liabilities and shareholders' equity .....   | \$72,724         | \$78,103             |
|  | =====            | =====                |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF INCOME  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|   | SIX MONTHS ENDED     |                      |
|---|----------------------|----------------------|
|   | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
|   | (UNAUDITED)          |                      |
| Revenue:                                |                      |                      |
| Product revenue, net .....              | \$ 16,369            | \$ 23,525            |
| Contract revenue, net .....             | 3,944                | 2,792                |
|   | -----                | -----                |
| Total revenue .....                     | 20,313               | 26,317               |
| Cost of revenue:                        |                      |                      |
| Product revenue .....                   | 10,365               | 11,792               |
| Contract revenue .....                  | 3,252                | 2,252                |
|   | -----                | -----                |
| Total cost of revenue .....             | 13,617               | 14,044               |
| Gross profit .....                      | 6,696                | 12,273               |
| Operating expenses:                     |                      |                      |
| Research and development .....          | 920                  | 1,927                |
| Sales, general and administrative ..... | 1,985                | 2,668                |
| Other expense .....                     | 390                  | 567                  |
|   | -----                | -----                |
| Income from operations .....            | 3,401                | 7,111                |
| Interest income, net .....              | 332                  | 135                  |
|   | -----                | -----                |
| Income before income taxes .....        | 3,733                | 7,246                |
| Income tax expense .....                | 1,093                | 2,029                |
|   | -----                | -----                |
| Net income .....                        | \$ 2,640             | \$ 5,217             |
|   | =====                | =====                |
| Earnings per share:                     |                      |                      |
| Basic .....                             | \$ 0.21              | \$ 0.41              |
|   | =====                | =====                |
| Diluted .....                           | \$ 0.20              | \$ 0.39              |
|   | =====                | =====                |
| Shares used in per share calculation:   |                      |                      |
| Basic .....                             | 12,699               | 12,876               |
|   | =====                | =====                |
| Diluted .....                           | 13,522               | 13,541               |
|   | =====                | =====                |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF CASH FLOW  
(IN THOUSANDS)

|   | SIX MONTHS ENDED     |                      |
|---|----------------------|----------------------|
|   | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
|   | (UNAUDITED)          |                      |
| Operating activities:   |                      |                      |
| Net income .....  | \$ 2,640             | \$ 5,217             |
| Adjustments to reconcile net income to net cash provided by operating activities: |                      |                      |
| Depreciation and amortization .....   | 2,067                | 2,341                |
| Loss on disposal of property, equipment and patents .....                         | 320                  | 951                  |

|  |           |           |
|--|-----------|-----------|
| Amortization of patent rights .....                        | 50        | 56        |
| Amortization and write off of goodwill .....               | 86        | --        |
| Proceeds from sale of marketable trading securities .....  | --        | 489       |
| Purchase of marketable trading securities .....            | (1,500)   | (232)     |
| Gain on marketable trading securities .....                | --        | (116)     |
| Changes in operating assets and liabilities:               |           |           |
| Accounts receivable .....                                  | (2,258)   | (1,964)   |
| Inventories .....  | 1,161     | (859)     |
| Prepaid expenses and other assets .....                    | 148       | 1,004     |
| Accounts payable, trade .....                              | (783)     | (3,073)   |
| Accrued expenses .....                                     | 889       | 420       |
|  | -----     | -----     |
| Net cash provided by operating activities .....            | 2,820     | 4,234     |
|  | -----     | -----     |
| Investing activities:                                      |           |           |
| Purchase of property and equipment .....                   | (5,704)   | (10,380)  |
| Proceeds from sale of property and equipment .....         | 340       | 189       |
| Purchase of patent rights .....                            | (200)     | (194)     |
|  | -----     | -----     |
| Net cash used in investing activities .....                | (5,564)   | (10,385)  |
|  | -----     | -----     |
| Financing activities:                                      |           |           |
| Proceeds from issuance of long-term debt .....             | 3,259     | 1,333     |
| Net proceeds from issuance of common stock .....           | 2,139     | 2,527     |
| Receipt of Section 16(b) common stock profits .....        | --        | 594       |
| Repurchase of common stock .....                           | --        | (3,214)   |
|  | -----     | -----     |
| Net cash provided by financing activities .....            | 5,398     | 1,240     |
|  | -----     | -----     |
| Net increase (decrease) in cash and cash equivalents ..... | 2,654     | (4,911)   |
| Cash and cash equivalents:                                 |           |           |
| Beginning of period .....                                  | 10,448    | 17,680    |
|  | -----     | -----     |
| End of period .....  | \$ 13,102 | \$ 12,769 |
|  | =====     | =====     |
| Supplemental disclosure of cash flow information:          |           |           |
| Cash paid for interest, net of amounts capitalized .....   | \$ --     | \$ 275    |
|  | =====     | =====     |
| Cash paid for income taxes .....                           | \$ 219    | \$ 1,396  |
|  | =====     | =====     |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY  
YEAR ENDED JUNE 28, 1998 AND THE SIX MONTHS ENDED DECEMBER 27, 1998  
(IN THOUSANDS)

|   | COMMON<br>STOCK<br>PAR VALUE | ADDITIONAL<br>PAID-IN<br>CAPITAL | RETAINED<br>EARNINGS | TREASURY<br>STOCK | TOTAL<br>SHAREHOLDERS'<br>EQUITY |
|---|------------------------------|----------------------------------|----------------------|-------------------|----------------------------------|
|   | -----                        | -----                            | -----                | -----             | -----                            |
| Balance at June 30, 1997 -- (audited) .....                   | \$62                         | \$ 46,214                        | \$ (1,151)           | \$ --             | \$ 45,125                        |
| Common stock options exercised for cash, 217<br>shares .....  | 1                            | 1,693                            | --                   | --                | 1,694                            |
| Common stock warrants exercised for cash, 331<br>shares ..... | 2                            | 1,240                            | --                   | --                | 1,242                            |
| Purchase of common stock for the treasury, 82<br>shares ..... | --                           | --                               | --                   | (1,262)           | (1,262)                          |
| Retirement of 82 treasury shares .....                        | --                           | (1,262)                          | --                   | 1,262             | --                               |
| Income tax benefits from stock option exercises .....         | --                           | 1,791                            | --                   | --                | 1,791                            |
| Net income .....  | --                           | --                               | 6,275                | --                | 6,275                            |
|   |                              |                                  | -----                | -----             | -----                            |
| Balance at June 28, 1998 -- (audited) .....                   | 65                           | 49,676                           | 5,124                | --                | 54,865                           |
| Common stock options exercised for cash, 100<br>shares .....  | 1                            | 745                              | --                   | --                | 746                              |
| Common stock warrants exercised for cash, 65<br>shares .....  | --                           | 1,781                            | --                   | --                | 1,781                            |
| Receipt of Section 16(b) common stock profits .....           | --                           | 594                              | --                   | --                | 594                              |
| Purchase and retirement of 235 treasury shares .....          | (1)                          | (3,213)                          | --                   | --                | (3,214)                          |
| Net income .....  | --                           | --                               | 5,217                | --                | 5,217                            |
|   |                              |                                  | -----                | -----             | -----                            |
| Balance at December 27, 1998 -- (unaudited) .....             | \$65                         | \$ 49,583                        | \$ 10,341            | \$ --             | \$ 59,989                        |
|   | =====                        | =====                            | =====                | =====             | =====                            |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

BASIS OF PRESENTATION

The consolidated balance sheet as of December 27, 1998, the consolidated statements of income for the six months ended December 28, 1997 and December 27, 1998, the consolidated statements of cash flow for the six months ended December 28, 1997 and December 27, 1998, and the consolidated statement of shareholders' equity for the six months ended December 27, 1998 have been prepared by the Company and have not been audited. In the opinion of management, all normal and recurring adjustments necessary to present fairly the financial position, results of operations and cash flows at December 27, 1998, and all periods presented, have been made.

Certain information and footnote disclosures normally included in financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted. It is suggested that these condensed financial statements be read in conjunction with the financial statements and notes thereto included elsewhere herein. The results of operations for the period ended December 27, 1998 are not necessarily indicative of the operating results that may be attained for the entire fiscal year.

ACCOUNTING POLICIES

FISCAL YEAR

The Company's fiscal year is a 52 or 53 week period ending on the last Sunday in the month of June. Accordingly, all quarterly reporting reflects a 13 week period in fiscal 1999. In fiscal 1998, the Company changed its fiscal year from the twelve months ending June 30, to the 52 week period ending on the last Sunday in the month of June. The Company's current fiscal year will extend from June 29, 1998 to June 27, 1999.

INVESTMENTS

Investments are accounted for in accordance with Statement of Financial Accounting Standards No. 115, "Accounting for Certain Investments in Debt and Equity Securities" ("SFAS 115"). This statement requires certain securities to be classified into three categories:

- (1) Securities Held-to-Maturity -- Debt securities that the entity has the positive intent and ability to hold to maturity are reported at amortized cost.
- (2) Trading Securities -- Debt and equity securities that are bought and held principally for the purpose of selling in the near term are reported at fair value, with unrealized gains and losses included in earnings.
- (3) Securities Available-for-Sale -- Debt and equity securities not classified as either securities held-to-maturity or trading securities are reported at fair value with unrealized gains and losses excluded from earnings and reported as a separate component of stockholders' equity.

The Company's short-term investments are comprised of equity securities that are classified as trading securities, which are carried at their fair value based upon quoted market prices of those investments at December 27, 1998, with net realized and unrealized gains and losses included in net earnings.

As of December 27, 1998, short-term investments consist of common stock holdings in C3, the majority of which were purchased in November 1997 and September 1998. The Company's CEO has, through a binding agreement, promised to indemnify the Company for losses of up to \$450,000 for the net difference between the aggregate cash consideration paid by Cree for the shares of C3

common stock and the cash proceeds received by Cree upon the sale of C3 common shares. This indemnity covers losses that may result from the sale of shares purchased in November 1997 and September 1998 below the purchase price paid, offset by gains realized on shares acquired directly from C3 in January 1997 (see below). Payment of this obligation is due within ten days after receipt by the CEO of the Company's written demand made pursuant to a vote of the majority of the members of the Board of Directors other than the CEO. Realized losses on shares of C3

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CREE RESEARCH, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) -- (CONTINUED)

stock sold by the Company were \$254,000 and \$46,000, for fiscal 1998 and 1999, respectively. At December 27, 1998, a net unrealized gain, including shares acquired directly from C3 (see below), of \$383,000 was recognized to bring the valuation of shares held to market. Therefore, the Company recorded approximately \$116,000 of other income in the six months ended December 27, 1998. Approximately \$32,000 of net losses were recorded to other income (expense) in fiscal 1998. Since the net unrealized gain on shares held exceeded realized losses on shares sold, there was no receivable recorded from the CEO as of December 27, 1998.

In addition to the shares of C3 purchased in November 1997 and September 1998, the Company acquired 24,601 shares of C3 common stock in January 1997. These shares were issued pursuant to an option C3 granted to the Company in 1995. The option gave the Company the right to acquire, for an aggregate consideration of \$500, one percent of the outstanding common stock of C3. C3 retained the right to waive the consideration and issue the stock at any time, which it elected to do in January 1997. The shares issued pursuant to the option are restricted securities within the meaning of Rule 144 under the Securities Act of 1933, which permits the sale of such securities without registration if certain conditions are met. The shares first became eligible for sale under Rule 144 in the third quarter of fiscal 1998.

LONG TERM DEBT

The Company obtained a term loan from a commercial bank of up to \$10,000,000 to finance the purchase and upfit of a production facility and service and warehouse buildings in November 1997. As of December 27, 1998 the entire \$10,000,000 loan was outstanding, including a current portion of \$121,000 and a long term amount of \$9,879,000. The loan, which is collateralized by the purchased property, accrues interest at a fixed rate of 8% and carries customary covenants, including the maintenance of a minimum tangible net worth and other requirements. Accrued interest is due monthly until May 1999, at which time the outstanding principal balance will be amortized over twenty years until 2011, when the loan balance becomes due.

During the six months ended December 27, 1998, the Company capitalized interest on funds used to construct property, plant and equipment in connection with the facility. Interest capitalized for the six months ended December 27, 1998 was \$118,000.

INVENTORIES

Inventories are stated at the lower of cost or market, with cost determined using the first-in, first-out (FIFO) method. Inventories consist of the following:

|                        | JUNE 28,<br>1998 | DECEMBER 27,<br>1998 |
|------------------------|------------------|----------------------|
|                        | -----            | -----                |
|                        | (IN THOUSANDS)   |                      |
| Raw materials .....    | \$ 999           | \$1,338              |
| Work-in-progress ..... | 752              | 1,220                |

|                       |         |         |
|-----------------------|---------|---------|
| Finished goods .....  | 792     | 844     |
|                       | -----   | -----   |
| Total Inventory ..... | \$2,543 | \$3,402 |
|                       | =====   | =====   |

RESEARCH AND DEVELOPMENT ACCOUNTING POLICY

The U.S. Government provides funding for several of the Company's current research and development efforts. The contract funding may be based on a cost-plus or a cost-share arrangement. The amount of funding under each contract is determined based on cost estimates that include direct costs, plus an allocation for research and development, general and administrative and cost of capital expenses. Cost-plus funding is determined based on actual costs plus a set percentage margin. For cost-share contracts, the actual costs are

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CREE RESEARCH, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) -- (CONTINUED)

divided between the U.S. Government and the Company based on the terms of the contract. The government's cost share is then paid to the Company. Activities performed under these arrangements include research regarding silicon carbide and gallium nitride materials. The contracts typically require submission of a written report to document the results of such research.

The revenue and expense classification for contract activity is determined based on the nature of the contract. For contracts where the Company anticipates that funding will exceed direct costs over the life of the contract, funding is reported as contract revenue and all direct costs are reported as costs of contract revenue. For contracts under which the Company anticipates that direct costs will exceed amounts to be funded over the life of the contract, costs are reported as research and development expenses and related funding as an offset of those expenses. The following table details information about contracts for which direct expenses exceed funding by period as included in research and development expenses:

|                                   | SIX MONTHS ENDED     |                      |
|-----------------------------------|----------------------|----------------------|
|                                   | DECEMBER 28,<br>1997 | DECEMBER 27,<br>1998 |
|                                   | -----                | -----                |
|                                   | (IN THOUSANDS)       |                      |
| Net R&D costs .....               | \$281                | \$0                  |
| Government funding .....          | 598                  | 0                    |
|                                   | ----                 | --                   |
| Total direct costs incurred ..... | \$879                | \$0                  |
|                                   | =====                | ==                   |

As of December 27, 1998, all funding under contracts where the Company anticipates that direct costs will exceed amounts to be funded has been exhausted. Therefore, the Company anticipates that all future funding under existing contracts will be reflected as contract revenue while direct costs will be reported as contract cost of revenue.

SIGNIFICANT SALES CONTRACT

In September 1996, the Company entered into a Purchase Agreement with Siemens AG ("Siemens"), pursuant to which Siemens agreed to purchase LED chips made with the Company's gallium nitride-on-silicon carbide technology. In April 1997 and December 1997, contract amendments were executed that provided for enhanced product specifications requested by Siemens and larger volume requirements, respectively.

In September 1998, the Company and Siemens further amended the contract to extend the Purchase Agreement with respect to shipments to be made on or after

June 29, 1998. The third amendment obligates the Company to ship, and Siemens to purchase, stipulated quantities of both conductive buffer and new high brightness LED chips and silicon carbide wafers through fiscal 1999. The agreement also limits Siemen's right to defer shipments to 30% of scheduled quantities for items to be shipped in more than 24 weeks after initial notice and 10% of scheduled quantities for items to be shipped in more than 12 weeks. In both cases, Siemens would be required to accept all product within 90 days of the original shipment date. Additionally, the amendment provides for higher per unit prices early in the contract with reductions in unit prices being available as the cumulative volume shipped increases.

In December 1998, the Company and Siemens further amended the contract to include greater quantities of conductive buffer LED chips to be shipped during fiscal 1999 and extend the contract for these shipments through September 1999. This amendment also provides for higher per unit prices early in the contract with reductions in unit prices being available as the cumulative volume shipped increases. As was the case with the third amendment, these higher prices were negotiated by the Company to offset higher per unit costs expected earlier in the contract.

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CREE RESEARCH, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) -- (CONTINUED)

INCOME TAXES

The Company has established an estimated tax provision based upon an effective rate of 28%. The estimated tax rate was based on tax reduction strategies being implemented by the Company. The estimated effective rate was based upon projections of income for the fiscal year and the Company's ability to utilize remaining net operating loss carryforwards and other tax credits. However, the actual effective rate may vary depending upon actual pre-tax book income for the year or other factors.

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled.

The actual income tax expense attributable to earnings for the six months ended December 27, 1998 differed from the amounts computed by applying the statutory U.S. Federal tax rate of 35% to pretax earnings as a result of the following:

|  | AMOUNT         | PERCENT |
|--|----------------|---------|
|  | -----          | -----   |
|  | (IN THOUSANDS) |         |
| Federal income tax provision at statutory rate ..... | \$2,536        | 35.0%   |
| State tax provision .....                            | 174            | 2.4     |
| Decrease in income tax expense resulting from:       |                |         |
| Foreign sales corporation .....                      | (306)          | (4.2)   |
| State tax incentives .....                           | (167)          | (2.3)   |
| Research and development credits .....               | (85)           | (1.2)   |
| Change in valuation allowance .....                  | (123)          | (1.7)   |
|  | -----          | ----    |
| Income tax expense .....                             | \$2,029        | 28.0%   |
|  | =====          | =====   |

The following are the components of the provision for income taxes for the six months ended December 27, 1998 (in thousands):

Current:

|                              |         |
|------------------------------|---------|
| Federal .....                | \$1,182 |
| State .....                  | 175     |
|                              | -----   |
| Total current portion .....  | 1,357   |
| Deferred:                    |         |
| Federal .....                | 782     |
| State .....                  | (110)   |
|                              | -----   |
| Total deferred portion ..... | 672     |
|                              | -----   |
| Net provision .....          | \$2,029 |
|                              | =====   |

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) -- (CONTINUED)

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are as follows:

|   | JUNE 28,<br>1998 | DECEMBER 27,<br>1998 |
|---|------------------|----------------------|
|   | -----            | -----                |
|   | (IN THOUSANDS)   |                      |
|   | -----            | -----                |
| Deferred tax assets:                              |                  |                      |
| Net operating loss carryforwards .....            | \$1,304          | \$ 948               |
| Research tax credits .....                        | 169              | 92                   |
| Compensation accruals .....                       | 62               | 70                   |
| Inventory capitalization .....                    | 120              | 130                  |
| Bad debt allowance .....                          | 56               | 64                   |
| Alternative minimum tax .....                     | 261              | 158                  |
| Foreign tax credit .....                          | 270              | 153                  |
| State incentive credits .....                     | --               | 165                  |
|   | -----            | -----                |
| Total gross deferred tax assets .....             | 2,242            | 1,780                |
| Less valuation allowance .....                    | (290)            | (167)                |
|   | -----            | -----                |
| Net deferred tax asset .....                      | 1,952            | 1,613                |
| Deferred tax liabilities:                         |                  |                      |
| Property and equipment, due to depreciation ..... | 2,154            | 2,477                |
|   | -----            | -----                |
| Gross deferred tax liabilities .....              | 2,154            | 2,477                |
|   | -----            | -----                |
| Net deferred tax asset (liability) .....          | \$ (202)         | \$ (864)             |
|   | =====            | =====                |

The net change in the total valuation allowance for the six months ended December 27, 1998 was \$123,000. The primary reason for the reduction in the valuation allowance for the six months ended December 27, 1998 was the implementation of tax strategies to utilize these assets. Realization of deferred tax assets associated with the NOL carryforwards is dependent upon the Company generating sufficient taxable income prior to their expiration. Although realization is not assured for the remaining deferred tax assets, management believes it is more likely than not that they will be realized through future taxable earnings. However, the net deferred tax assets could be reduced in the future if management's estimates of taxable income during the carryforward period are significantly reduced.

As of December 27, 1998, the Company has net operating loss carryforwards for federal purposes of \$3,493,000 and \$2,346,000 for state purposes. The carryforward expiration period is 2011 to 2013 for Federal tax purposes and from 2000 to 2003 for state purposes. The Company anticipates that each of these carryforwards will be utilized by the end of the current fiscal year.

EARNINGS PER SHARE

The Company presents earnings per share in accordance with Statement of

Financial Accounting Standards, "Earnings Per Share," ("SFAS 128"). SFAS 128 required the Company to change its method of computing, presenting and disclosing earnings per share information. All prior period data presented has been restated to conform to the provisions of SFAS 128.

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CREE RESEARCH, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) -- (CONTINUED)

The following computation reconciles the differences between the basic and diluted presentations:

|   | SIX MONTHS ENDED                         |                      |
|---|--|----------------------|
|   | DECEMBER 28,<br>1997                     | DECEMBER 27,<br>1998 |
|   | (IN THOUSANDS, EXCEPT<br>PER SHARE DATA) |                      |
| Net income .....                                    | \$ 2,640                                 | \$ 5,217             |
| Weighted average common shares .....                | 12,699                                   | 12,876               |
|   | -----                                    | -----                |
| Basic earnings per common share .....               | \$ 0.21                                  | \$ 0.41              |
|   | =====                                    | =====                |
| <br>  |  |                      |
| Net income .....                                    | \$ 2,640                                 | \$ 5,217             |
| Diluted weighted average common shares:             |  |                      |
| Common shares outstanding .....                     | 12,699                                   | 12,876               |
| Dilutive effect of stock options and warrants ..... | 823                                      | 665                  |
|   | -----                                    | -----                |
| Total diluted weighted average common shares .....  | 13,522                                   | 13,541               |
|   | -----                                    | -----                |
| Diluted earnings per common share .....             | \$ 0.20                                  | \$ 0.39              |
|   | =====                                    | =====                |

Potential common shares that would have the effect of increasing diluted income per share are considered to be antidilutive. In accordance with SFAS No. 128, these shares were not included in calculating diluted income per share. As of December 27, 1998, there were no potential shares considered to be antidilutive. For the six months ended December 28, 1997, there were 300,000 shares that were not included in calculating diluted income per share because their effect was antidilutive.

NEW ACCOUNTING PRONOUNCEMENTS

In fiscal 1999, the Company adopted Statement of Financial Accounting Standards No.130, "Reporting Comprehensive Income," ("SFAS 130"), which establishes standards for reporting and display of Comprehensive income and its components in a full set of general-purpose financial statements. SFAS 130 only impacts financial statement presentation as opposed to actual amounts recorded. Other comprehensive income includes all nonowner changes in equity that are excluded from net income. This Statement has no financial statement impact for an enterprise that has no items of other comprehensive income in any period presented. During the six months ended December 28, 1997 and December 27, 1998, the Company had no items of other comprehensive income.

In fiscal 1999, the Company adopted Statement of Financial Accounting Standards No. 131, "Disclosures about Segments of an Enterprise and Related Information," ("SFAS 131"). SFAS 131 changes the way public companies report segment information in annual financial statements and also requires those companies to report selected segment information in interim financial statements to shareholders. SFAS 131 also establishes standards for related disclosures about products and services, geographic areas, and major customers. The application of the new rules does not have a significant impact on the Company's financial statements.

In June 1998, the Financial Accounting Standards Board issued Statement No.133,

"Accounting for Derivative Instruments and Hedging Activities," ("SFAS 133") which is required to be adopted in years beginning after June 15, 1999. Because of the Company's minimal use of derivatives, management does not anticipate that the adoption of the new Statement will have a significant effect on earnings or the financial position of the Company.

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REPORT OF INDEPENDENT ACCOUNTANTS

July 22, 1998

BOARD OF DIRECTORS AND SHAREHOLDERS  
CREE RESEARCH, INC.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, cash flows and shareholders' equity, present fairly, in all material respects, the financial position of Cree Research, Inc. and subsidiaries at June 30, 1997 and June 28, 1998, and the results of their operations and their cash flows for the two years in the period ended June 30, 1997, and for the year ended June 28, 1998 in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

PRICEWATERHOUSECOOPERS LLP  
RALEIGH, NORTH CAROLINA

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CREE RESEARCH, INC.  
CONSOLIDATED BALANCE SHEETS  
(IN THOUSANDS)

|   | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|---|------------------|------------------|
|   | -----            | -----            |
| ASSETS  |                  |                  |
| Current assets:                                 |                  |                  |
| Cash and cash equivalents .....                 | \$ 10,448        | \$17,680         |
| Marketable securities .....                     | --               | 657              |
| Accounts receivable, net .....                  | 7,694            | 10,479           |
| Inventories .....                               | 3,949            | 2,543            |
| Deferred income tax .....                       | 1,830            | 1,952            |
| Prepaid expenses and other current assets ..... | 466              | 1,347            |
|   | -----            | -----            |
| Total current assets .....                      | 24,387           | 34,658           |
| Property and equipment, net .....               | 24,333           | 36,476           |
| Patent and license rights, net .....            | 1,267            | 1,525            |
| Other assets .....                              | 150              | 65               |
|   | -----            | -----            |
| Total assets .....                              | \$ 50,137        | \$72,724         |

|   | =====     | =====    |
|---|-----------|----------|
| LIABILITIES AND SHAREHOLDERS' EQUITY  |           |          |
| Current liabilities:  |           |          |
| Accounts payable, trade .....   | \$ 2,248  | \$ 5,595 |
| Current maturities of long term debt .....  | --        | 17       |
| Accrued salaries and wages .....  | 292       | 391      |
| Other accrued expenses .....  | 834       | 1,052    |
|   | -----     | -----    |
| Total current liabilities .....   | 3,374     | 7,055    |
| Long term liabilities:  |           |          |
| Long term debt .....  | --        | 8,650    |
| Deferred income tax .....   | 1,638     | 2,154    |
|   | -----     | -----    |
| Total long term liabilities .....   | 1,638     | 10,804   |
| Shareholders' equity:   |           |          |
| Preferred stock, par value \$0.01; 2,750 shares authorized; none issued and<br>outstanding .....  | --        | --       |
| Common stock, \$0.005 par value; 14,500 shares authorized; shares issued and<br>outstanding 12,523 at June 30, 1997 and 12,989 at June 28, 1998 ..... | 62        | 65       |
| Additional paid-in-capital .....  | 46,214    | 49,676   |
| Retained earnings (deficit) .....   | (1,151)   | 5,124    |
|   | -----     | -----    |
| Total shareholders' equity .....  | 45,125    | 54,865   |
|   | -----     | -----    |
| Total liabilities and shareholders' equity .....  | \$ 50,137 | \$72,724 |
|   | =====     | =====    |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF OPERATIONS  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

|   | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|---|------------------|------------------|------------------|
|   | -----            | -----            | -----            |
| Revenue:                                |                  |                  |                  |
| Product revenue, net .....              | \$ 9,689         | \$ 19,823        | \$ 34,891        |
| Contract revenue, net .....             | 3,945            | 6,535            | 7,640            |
| License fee income .....                | 1,423            | 2,615            | --               |
|   | -----            | -----            | -----            |
| Total revenue .....                     | 15,057           | 28,973           | 42,531           |
| Cost of revenue:                        |                  |                  |                  |
| Product revenue, net .....              | 8,411            | 13,388           | 21,727           |
| Contract revenue, net .....             | 3,078            | 5,707            | 6,252            |
|   | -----            | -----            | -----            |
| Total cost of revenue .....             | 11,489           | 19,095           | 27,979           |
|   | -----            | -----            | -----            |
| Gross profit .....                      | 3,568            | 9,878            | 14,552           |
| Operating expenses:                     |                  |                  |                  |
| Research and development .....          | 1,286            | 1,826            | 1,774            |
| Sales, general and administrative ..... | 2,917            | 4,301            | 4,131            |
| Other (income) expense .....            | (11)             | 639              | 502              |
|   | -----            | -----            | -----            |
| Income (loss) from operations .....     | (624)            | 3,112            | 8,145            |
| Interest income, net .....              | 867              | 607              | 730              |
|   | -----            | -----            | -----            |
| Income before income taxes .....        | 243              | 3,719            | 8,875            |
| Income tax expense .....                | --               | 177              | 2,600            |
|   | -----            | -----            | -----            |
| Net income .....                        | \$ 243           | \$ 3,542         | \$ 6,275         |
|   | =====            | =====            | =====            |
| Earnings per share:                     |                  |                  |                  |
| Basic .....                             | \$ 0.02          | \$ 0.28          | \$ 0.49          |
|   | =====            | =====            | =====            |
| Diluted .....                           | \$ 0.02          | \$ 0.27          | \$ 0.47          |
|   | =====            | =====            | =====            |
| Shares used in per share calculation:   |                  |                  |                  |
| Basic .....                             | 11,826           | 12,455           | 12,863           |

|               |        |        |        |
|---------------|--------|--------|--------|
| Diluted ..... | =====  | =====  | =====  |
|               | 12,615 | 13,126 | 13,493 |
|               | =====  | =====  | =====  |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF CASH FLOW  
(IN THOUSANDS)

|   | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|---|------------------|------------------|------------------|
|   | -----            | -----            | -----            |
| Operating activities:   |                  |                  |                  |
| Net income .....  | \$ 243           | \$ 3,542         | \$ 6,275         |
| Adjustments to reconcile net income to net cash provided by (used in) operating activities: |                  |                  |                  |
| Depreciation and amortization .....   | 1,765            | 3,356            | 4,217            |
| Loss (gain) on disposal of property and equipment .....                                     | (8)              | 631              | 719              |
| Loss on write off of patents .....  | --               | 141              | 17               |
| Amortization of patent rights .....   | 126              | 108              | 102              |
| Amortization and write off of goodwill .....  | 41               | 41               | 86               |
| Purchase of marketable trading securities .....   | --               | --               | (1,500)          |
| Proceeds from sale of marketable trading securities .....                                   | --               | --               | 421              |
| Loss on marketable trading securities .....   | --               | --               | 32               |
| Deferred income taxes .....   | --               | (192)            | 394              |
| Tax benefits associated with stock options .....  | --               | 96               | 1,791            |
| Changes in assets and liabilities:  |                  |                  |                  |
| Accounts receivable .....   | (3,258)          | (891)            | (2,398)          |
| Inventories .....   | (1,549)          | (723)            | 1,406            |
| Deferred cost on research contracts .....   | 81               | --               | --               |
| Prepaid expenses and other assets .....   | 49               | (262)            | (882)            |
| Accounts payable, trade .....   | 714              | (226)            | 1,092            |
| Accrued expenses .....  | 160              | 476              | 320              |
| Net cash provided by (used in) operating activities .....                                   | (1,636)          | 6,097            | 12,092           |
| Investing activities:   |                  |                  |                  |
| Maturity of investment securities .....   | 2,124            | 1,787            | --               |
| Purchase of property and equipment .....  | (14,740)         | (8,115)          | (15,287)         |
| Proceeds from sale of assets .....  | 52               | 13               | 463              |
| Purchase of patent rights .....   | (310)            | (310)            | (377)            |
| Net cash used in investing activities .....   | (12,874)         | (6,625)          | (15,201)         |
| Financing activities:   |                  |                  |                  |
| Proceeds from issuance of long-term debt .....  | --               | --               | 8,667            |
| Net proceeds from issuance of common stock .....  | 20,924           | 926              | 2,936            |
| Repurchase of common stock .....  | --               | (112)            | (1,262)          |
| Net cash provided by financing activities .....   | 20,924           | 814              | 10,341           |
| Net increase in cash and cash equivalents .....   | 6,414            | 286              | 7,232            |
| Cash and cash equivalents:  |                  |                  |                  |
| Beginning of year .....   | 3,748            | 10,162           | 10,448           |
| End of year .....   | \$ 10,162        | \$ 10,448        | \$ 17,680        |
| Supplemental disclosure of cash flow information:   |                  |                  |                  |
| Cash paid for interest, net of amounts capitalized .....                                    | \$ 5             | \$ --            | \$ 74            |
| Cash paid for income taxes .....  | \$ --            | \$ 300           | \$ 336           |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY  
YEARS ENDING JUNE 30, 1996 AND 1997 AND JUNE 28, 1998  
(IN THOUSANDS)

COMMON      ADDITIONAL      TOTAL

|   | STOCK<br>PAR VALUE | PAID-IN<br>CAPITAL | RETAINED<br>EARNINGS | UNEARNED<br>COMPENSATION | TREASURY<br>STOCK | SHAREHOLDERS'<br>EQUITY |
|---|--------------------|--------------------|----------------------|--------------------------|-------------------|-------------------------|
| Balance at June 30, 1995 .....  | \$52               | \$ 24,427          | \$ (4,936)           | \$ (2)                   | \$ (38)           | \$ 19,503               |
| Common stock options<br>exercised for cash, 122 shares .....  | 1                  | 412                | --                   | --                       | --                | 413                     |
| Common stock warrants<br>exercised for cash, 665 shares .....   | 3                  | 2,916              | --                   | --                       | --                | 2,919                   |
| Compensation expense<br>for common stock options .....  | --                 | --                 | --                   | 2                        | --                | 2                       |
| Proceeds from sale of 1,079 shares<br>of common stock and 300<br>common stock warrants,<br>net of issuance costs of \$625 ..... | 5                  | 17,587             | --                   | --                       | --                | 17,592                  |
| Net income .....  | --                 | --                 | 243                  | --                       | --                | 243                     |
| Balance at June 30, 1996 .....  | 61                 | 45,342             | (4,693)              | --                       | (38)              | 40,672                  |
| Common stock options exercised<br>for cash, 52 shares .....   | --                 | 160                | --                   | --                       | --                | 160                     |
| Common stock warrants exercised<br>for cash, 203 shares .....   | 1                  | 766                | --                   | --                       | --                | 767                     |
| Purchase of common stock for<br>the treasury, 10 shares .....   | --                 | --                 | --                   | --                       | (112)             | (112)                   |
| Retirement of 20 treasury shares .....  | --                 | (150)              | --                   | --                       | 150               | --                      |
| Income tax benefits from stock<br>option exercises .....  | --                 | 96                 | --                   | --                       | --                | 96                      |
| Net income .....  | --                 | --                 | 3,542                | --                       | --                | 3,542                   |
| Balance at June 30, 1997 .....  | 62                 | 46,214             | (1,151)              | --                       | --                | 45,125                  |
| Common stock options exercised<br>for cash, 217 shares .....  | 1                  | 1,693              | --                   | --                       | --                | 1,694                   |
| Common stock warrants exercised<br>for cash, 331 shares .....   | 2                  | 1,240              | --                   | --                       | --                | 1,242                   |
| Purchase of common stock for<br>the treasury, 82 shares .....   | --                 | --                 | --                   | --                       | (1,262)           | (1,262)                 |
| Retirement of 82 treasury shares .....  | --                 | (1,262)            | --                   | --                       | 1,262             | --                      |
| Income tax benefits from stock<br>option exercises .....  | --                 | 1,791              | --                   | --                       | --                | 1,791                   |
| Net income .....  | --                 | --                 | 6,275                | --                       | --                | 6,275                   |
| Balance at June 28, 1998 .....  | \$65               | \$ 49,676          | \$ 5,124             | \$ --                    | \$ --             | \$ 54,865               |

The accompanying notes are an integral part of the consolidated financial statements.

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. NATURE OF BUSINESS

Cree Research, Inc. ("the Company" or "Cree"), a North Carolina corporation, develops, manufactures and markets silicon carbide-based semiconductor devices. Revenues are primarily derived from the sale of blue light emitting diodes ("LEDs"), silicon carbide ("SiC") based materials and full-color LED based electronic displays and modules. The Company markets its blue LED chip products principally to customers who incorporate them into packaged lamps for resale to original equipment manufacturers. The Company also sells SiC material products to corporate, government and university research laboratories. In addition, the Company is engaged in a variety of research programs related to the advancement of SiC process technology and the development of electronic devices that take advantage of SiC's unique physical and electronic properties. These research projects are primarily funded by Federal government agencies and departments. The Company recovers the costs of a majority of its research and development efforts from revenues on these contracts with agencies of the Federal government.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include the accounts of Cree Research, Inc., and its wholly-owned subsidiaries, Real Color Displays, Inc. ("RCD"), Cree Research FSC, Inc. and Cree Technologies, Inc. All material intercompany accounts and transactions have been eliminated in consolidation.

CHANGE IN FISCAL YEAR

On September 24, 1997, the Board of Directors of Cree Research, Inc. changed the Company's fiscal year from the twelve months ending June 30, to a 52 or 53 week year ending on the last Sunday in the month of June. Accordingly, all quarterly reporting reflected a 13 week period in fiscal 1998, except that the period ended September 28, 1997, which commenced July 1, 1997, reflected the results of twelve weeks and five days. The Company's 1998 fiscal year extended for the period from July 1, 1997 to June 28, 1998.

#### ESTIMATES

The preparation of these financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities, at June 30, 1997 and June 28, 1998, and the reported amounts of revenues and expenses during the years ended June 30, 1996 and 1997 and June 28, 1998. Actual amounts could differ from those estimates.

#### REVENUE RECOGNITION

The Company recognizes product revenue at the time of shipment or in accordance with the terms of the relevant contract. Revenue from government contracts is recorded on the percentage-of-completion method as expenses per contract are incurred. License fee income is recognized when the transfer of licensed technology is completed.

Contract revenue represents reimbursement by various U.S. Government entities to aid in the furthering of the development of the Company's technology by supplementing the Company's research and development efforts. Any resulting technology obtained by the Company through these efforts remain the property of the Company after the completion of the contract, subject to certain license rights obtained by the government. Contract revenue includes funding of direct research and development costs and a portion of the Company's general and administrative expenses and other operating expenses for contracts under which funding is expected to exceed direct costs over the life of the contract. The specific reimbursement provisions of the contracts, including the portion of the Company's general and administrative expenses and other operating expenses that are reimbursed, vary by contract. Such reimbursements are recorded as contract revenue. For

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#### CREE RESEARCH, INC. NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

contracts under which the Company anticipates that direct costs will exceed amounts to be funded over the life of the contract (i.e., certain cost share arrangements), the Company reports direct costs as research and development expenses with related reimbursements recorded as an offset to those expenses.

In September 1996, the Company entered into a license and supply agreement with Shin-Etsu Handotai Co. LTD. ("Shin-Etsu") and other parties to use certain LED fabrication technology and has agreed to supply silicon carbide wafers required to manufacture the licensed product. The license agreement provides for payment of a license fee and royalties based on a percentage of sales of products made using the licensed technology. The license fee was payable in installments which totaled \$2,700,000. As of June 28, 1998, all license fees have been received. The Company also has recorded a short-term accrued expense of \$186,000 payable in the first quarter of fiscal 1999 to the third party that brokered the license agreement. Substantially all of the Company's obligations to transfer the licensed technology were performed during fiscal 1997, and the net present value of the license fee payments and commission were recognized. In October 1995, the Company also entered into an agreement to license its technology for the joint development and manufacture of LEDs using Cree's technology to Siemens AG License fees are payable in installments totaling \$1,500,000. As of June 28, 1998, all fees have been received. The Company's obligation to transfer the licensed technology was substantially completed during fiscal 1996, and the net present value of the license fee payments was recorded as revenue at that time.

## CASH AND CASH EQUIVALENTS

Cash and cash equivalents consist of unrestricted cash accounts and highly liquid investments with an original maturity of three months or less when purchased.

## MARKETABLE SECURITIES

Investments are accounted for in accordance with Statement of Financial Accounting Standards No. 115 (SFAS No. 115) "Accounting for Certain Investments in Debt and Equity Securities." This statement requires certain securities to be classified into three categories:

(a) Securities Held-to-Maturity -- Debt securities that the entity has the positive intent and ability to hold to maturity are reported at amortized cost.

(b) Trading Securities -- Debt and equity securities that are bought and held principally for the purpose of selling in the near term are reported at fair value, with unrealized gains and losses included in earnings.

(c) Securities Available-for-Sale -- Debt and equity securities not classified as either securities held-to-maturity or trading securities are reported at fair value with unrealized gains or losses excluded from earnings and reported as a separate component of stockholders' equity.

The Company's short-term investments are comprised of equity securities that are classified as trading securities, which are carried at their fair value based upon quoted market prices of those investments at June 28, 1998, with net realized and unrealized gains and losses included in net earnings.

As of June 28, 1998, short-term investments consist of common stock holdings in C3 a portion of which were purchased in November 1997. The Company's CEO has, through a binding agreement, promised to indemnify the Company for losses of up to \$300,000, plus the lesser of \$100,000 or the net difference between the per share selling price and \$9.375 per share for all shares of C3 common stock sold by Cree. This indemnity covers losses that may result from the sale of shares purchased in November 1997 below the purchase price paid, offset by gains realized on shares acquired directly from C3 in January 1997 (see below). Payment of this obligation is due within ten days after receipt by the CEO of the Company's written

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## CREE RESEARCH, INC.

### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

demand made pursuant to a vote of the majority of the members of the Board of Directors. At June 28, 1998, the Company had recorded a \$390,000 receivable from the CEO (included in net accounts receivable) based upon this agreement for the net realized and unrealized losses on this investment. Realized losses on shares of C3 stock sold by the Company during fiscal 1998 totaled \$254,000, and unrealized losses offset by the unrealized gain on shares acquired from C3 directly (see below) were \$168,000 at June 28, 1998. Approximately \$32,000 of losses on the investment in C3 stock is included in other income (expense) for fiscal 1998.

In addition to the shares of C3 purchased in November 1997, the Company acquired 24,601 shares of C3 common stock in January 1997. These shares were issued pursuant to an option C3 granted to the Company in 1995. The option gave the Company the right to acquire, for an aggregate consideration of \$500, one percent of the outstanding common stock of C3. C3 retained the right to waive the consideration and issue the stock at any time, which it elected to do in January 1997. The shares issued pursuant to the option are restricted securities within the meaning of Rule 144 under the Securities Act of 1933, which permits the sale of such securities without registration if certain conditions are met. The shares first became eligible for sale under Rule 144 in the third quarter of fiscal 1998.

## INVENTORIES

Inventories are stated at the lower of cost or market, with cost being determined under the first-in, first-out (FIFO) method. Inventories consists of the following:

|                        | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|------------------------|------------------|------------------|
|                        | -----            | -----            |
|                        | (IN THOUSANDS)   |                  |
| Raw materials .....    | \$1,559          | \$ 999           |
| Work-in-progress ..... | 1,374            | 752              |
| Finished goods .....   | 1,016            | 792              |
|                        | -----            | -----            |
|                        | \$3,949          | \$2,543          |
|                        | =====            | =====            |

#### PROPERTY AND EQUIPMENT

Property and equipment are recorded at cost and depreciated on a straight-line basis over the estimated useful lives of the assets, which range from three to 20 years. Leasehold improvements are amortized over the life of the related lease. Expenditures for repairs and maintenance are charged to expense as incurred. The costs of major renewals and betterments are capitalized and depreciated over their estimated useful lives. The cost and related accumulated depreciation of the assets are removed from the accounts upon disposition and any resulting gain or loss is reflected in operations.

During the first quarter of fiscal 1996, the Company changed its previous estimate on the useful lives of some of its manufacturing equipment from five to nine years. The change in estimate was based on the Company's experience with similar fixed assets. The net adjustment increased net income approximately \$280,000, or \$0.02 per share, for fiscal 1996.

The Company has entered into an agreement with C3 to sell crystal growth equipment manufactured by the Company to C3 at cost plus a reasonable overhead allocation. As a result of this transaction, the Company has recognized the overhead allocation as "other operating income."

In November 1997, the Company purchased real property consisting of approximately 30 acres of land with a production facility of approximately 139,000 square feet and a total of approximately 33,000 square feet of service and warehouse buildings. This property is located in Durham, North Carolina, in the vicinity of the Research Triangle Park. The purchase price of the land and buildings was \$3,000,000. The Company moved

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#### CREE RESEARCH, INC.

#### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

most of its sales and administrative personnel to this facility in January 1998. The Company anticipates it will relocate several other operations to this facility over the next few quarters. All areas, with the exception of certain crystal growth and wafer fabrication assets, are expected to relocate during fiscal 1999.

The Company assesses the realizability of the carrying value of its investment in property and equipment whenever events or changes in circumstance indicate that an impairment may have occurred in accordance with the provisions of Statement of Financial Accounting Standards No. 121 ("SFAS No. 121"), "Accounting for Impairment of Long Lived Assets and Assets to be Disposed of." As of June 28, 1998, the Company has not recorded any impairment in the carrying value of its property and equipment.

#### PATENT AND LICENSE RIGHTS

Patent rights reflect costs incurred to enhance and maintain the Company's intellectual property position. License rights reflect costs incurred to use

the intellectual property of others. Both are amortized on a straight line basis. During fiscal 1997, the Company changed its previous estimate of the useful lives of patents from 17 years beginning at the date of patent issue to 20 years from the date of patent application to conform to a legislative amendment made to the U.S. patent laws which became effective in June 1995. This change in estimate had no material impact to net income or earnings per share, since the average period of time between patent application and issue is generally about three years. Amortization expense was \$126,000, \$108,000 and \$102,000, for the years ended June 30, 1996 and 1997 and June 28, 1998, respectively. Total accumulated amortization for patents was approximately \$460,000 and \$560,000 at June 30, 1997 and June 28, 1998, respectively.

GOODWILL

Goodwill represented the amount by which the costs to acquire the net assets of the Real Color Displays subsidiary exceeded their related fair value at acquisition. Based on a review of undiscounted cash flows of the subsidiary anticipated over the remaining amortization period, the Company determined that goodwill had been impaired. As a result, the Company wrote off the remaining \$66,000 carrying value of such goodwill in the second quarter of fiscal 1998. As required by generally accepted accounting principles, this charge was included in the results of operations.

RESEARCH AND DEVELOPMENT POLICY

The Company partners with the Federal government in many of its current research and development efforts. By entering into contracts, the Company has most of its research and product development costs funded by the U.S. Government. The contract funding may be based on a cost-plus or a cost-share arrangement. Pursuant to each contract, the amount of funding is determined based on cost estimates that include direct costs, plus an allocation for research and development, general and administrative and a cost of capital expense. Cost-plus funding is determined based on actual costs plus a set percentage margin. For the cost-share contracts, the actual costs are divided between the U.S. Government and the Company based on the terms of the contract. The government's cost share is then funded to the Company. Activities performed under both of these arrangements include research regarding silicon carbide and gallium nitride materials. The contracts typically require the submission of a written report that documents the results of such research.

Funding on contracts under which the Company anticipates that funding will exceed direct costs over the life of the contract is recorded as contract revenue and related costs are reported as a cost of contract revenue. For contracts under which the Company anticipates that direct costs will exceed amounts to be funded over the life of the contract, direct costs are shown as research and development expenses and related funding as an offset of those expenses. The following table details information about contracts for which direct expenses exceed funding by period as reflected in the statements of operations:

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

|  | YEARS ENDED      |                  |                  |
|--|------------------|------------------|------------------|
|  | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|  | (IN THOUSANDS)   |                  |                  |
| Net research and development costs ..... | \$ 368           | \$ 671           | \$276            |
| Government funding .....                 | 1,918            | 2,186            | 601              |
|  | -----            | -----            | ----             |
| Total direct costs incurred .....        | \$2,286          | \$2,857          | \$877            |
|  | =====            | =====            | =====            |

As of June 28, 1998, all funding under contracts where the Company anticipates that direct costs will exceed amounts to be funded has been exhausted. Therefore, the Company anticipates that all future funding under existing contracts will be reflected as contract revenue while direct costs will be reported as contract cost of revenue.

INTEREST CAPITALIZATION

During the year ended June 28, 1998, the Company capitalized interest on funds used to construct property, plant and equipment in connection with the newly acquired facility. Interest capitalized during fiscal 1998 was \$128,000.

CREDIT RISK, MAJOR CUSTOMERS AND MAJOR SUPPLIERS

Financial instruments which potentially subject the Company to a concentration of credit risk consist principally of cash equivalents and accounts receivable. The Company's cash equivalents consist of U.S. Treasury bills, government agency bonds and commercial paper. Certain bank deposits may at times be in excess of the FDIC insurance limit.

The Company sells its products to manufacturers and researchers worldwide and generally requires no collateral. The Company maintains reserves for potential credit losses, and such losses, in the aggregate, have generally been within management's expectations. The Company presently derives primarily all of its contract revenues from contracts with the U.S. Department of Defense. Approximately 33% and 18%, respectively, of the Company's accounts receivable balance at June 30, 1997 and June 28, 1998 was due from the Department of Defense. In addition, the Company had amounts due from Siemens totaling 19% and 37%, of accounts receivable balances at June 30, 1997 and June 28, 1998, respectively, and amounts due from C3 totaling 1% and 23%, of accounts receivable balances at June 30, 1997 and June 28, 1998, respectively.

The Company has derived its product revenue from sales primarily in the United States, the Far East and Europe as follows:

|                     | YEARS ENDED      |                  |                  |
|---------------------|------------------|------------------|------------------|
|                     | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
| United States ..... | 31%              | 21%              | 26%              |
| Far East .....      | 27%              | 33%              | 15%              |
| Europe .....        | 38%              | 44%              | 58%              |
| Other .....         | 4%               | 2%               | 1%               |

One customer accounted for 46% and 51% of product revenue for fiscal 1997 and 1998, respectively. Another customer accounted for 2% and 13% of product revenue for fiscal 1997 and 1998, respectively. In addition, two customers accounted for 32% of product revenue in fiscal 1996. The Department of Defense accounted for 97%, 99% and 93% of contract revenues during fiscal 1996, 1997 and 1998, respectively.

CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

The Company depends on single or limited source suppliers for a number of raw materials and components used in its SiC wafer products and LEDs. Any interruption in the supply of these key materials or components could have a significant adverse effect on the Company's operations.

Basic earnings per common share is computed using the weighted average number of shares outstanding. Diluted earnings per common share is computed using the weighted average number of shares outstanding adjusted for the incremental shares attributed to outstanding options to purchase common stock.

Incremental shares of 789,000, 670,000 and 631,000 in 1996, 1997 and 1998, respectively, were used in the calculation of diluted earnings per common share.

ACCOUNTING FOR STOCK BASED COMPENSATION

In accordance with Accounting Principles Board Opinion No. 25, Accounting for Stock Issued to Employees, no compensation is recorded for stock options or other stock-based awards that are granted to employees with an exercise price equal to or above the common stock price on the grant date. Compensation related to performance share grants is recognized from the grant date until the performance conditions are satisfied, based on the market price of the Company's common stock.

In October, 1995, the Financial Accounting Standards Board ("FASB") issued Statement No. 123 ("FAS 123"), "Accounting for Stock Based Compensation." This Statement establishes fair value as the measurement basis for equity instruments issued in exchange for goods or services and stock-based compensation plans. Fair value may be measured using quoted market prices, option-pricing models or other reasonable estimation methods. FAS 123 permits the Company to choose between adoption of the fair value based method or disclosing pro forma net income information. The Statement is effective for transactions entered into after December 31, 1995. The Company will continue to account for stock-based compensation in accordance with Accounting Principles Board Opinion No. 25, as amended, and provide only the pro forma disclosures required by FAS 123.

3. ACCOUNTS RECEIVABLE

The following is a summary of accounts receivable:

|                                       | JUNE 30, 1997  | JUNE 28, 1998 |
|---------------------------------------|----------------|---------------|
|                                       | -----          | -----         |
|                                       | (IN THOUSANDS) |               |
| Trade receivables .....               | \$5,210        | \$ 8,971      |
| Other short term receivables .....    | 2,700          | 1,659         |
|                                       | -----          | -----         |
|                                       | 7,910          | 10,630        |
| Allowance for doubtful accounts ..... | 216            | 151           |
|                                       | -----          | -----         |
| Current receivables .....             | 7,694          | 10,479        |
| Long term receivables .....           | 54             | 56            |
|                                       | -----          | -----         |
| Total accounts receivable .....       | \$7,748        | \$10,535      |
|                                       | =====          | =====         |

CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

The following table summarizes the changes in the Company's allowance for doubtful accounts for the years ended June 30, 1996 and 1997, and June 28, 1998:

ALLOWANCE FOR DOUBTFUL ACCOUNTS:  
(In thousands)

| YEARS ENDED         | BALANCE AT BEGINNING OF PERIOD | CHARGES TO COST AND EXPENSES | DEDUCTIONS (WRITE-OFFS CHARGED TO RESERVE) | BALANCE AT END OF PERIOD |
|---------------------|--------------------------------|------------------------------|--|--------------------------|
| June 30, 1996 ..... | \$ 22                          | 203                          | (175)                                      | \$ 50                    |
| June 30, 1997 ..... | \$ 50                          | 190                          | (24)                                       | \$216                    |
| June 28, 1998 ..... | \$216                          | 50                           | (115)                                      | \$151                    |

#### 4. PROPERTY AND EQUIPMENT

The following is a summary of property and equipment:

|   | JUNE 30, 1997 | JUNE 28, 1998 |
|---|---------------|---------------|
| (IN THOUSANDS)                                  |               |               |
| Office equipment and furnishings .....          | \$ 909        | \$ 1,372      |
| Land and buildings .....                        | --            | 3,501         |
| Machinery and equipment .....                   | 22,312        | 28,136        |
| Construction in progress .....                  | 2,669         | 9,074         |
| Leasehold improvements .....                    | 5,420         | 4,697         |
|   | -----         | -----         |
|   | 31,310        | 46,780        |
| Accumulated depreciation and amortization ..... | (6,977)       | (10,304)      |
|   | -----         | -----         |
| Total property and equipment .....              | \$ 24,333     | \$ 36,476     |
|   | =====         | =====         |

Depreciation and amortization of property and equipment totaled \$1,765,000, \$3,356,000, and \$4,217,000 for the year ended June 30, 1996 and 1997, and June 28, 1998, respectively.

#### 5. SHAREHOLDERS' EQUITY

The Board of Directors is authorized to issue 1,250,000 and 1,500,000 shares of Class A Voting and Class B Non-Voting preferred stock, respectively, each with a par value of \$0.01 per share, at its discretion. This preferred stock may be issued in one or more series with the number of shares, designation, relative rights, preferences and limitations to be determined by resolution of the Board of Directors.

#### 6. STOCK OPTIONS AND STOCK WARRANTS

As permitted by FAS 123, "Accounting For Stock-Based Compensation," the Company has elected to follow Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" and related interpretations and amendments in accounting for its employee stock option plans.

The Company's Amended and Restated Equity Compensation Plan has authorized the grant of options for up to 2,540,000 shares of the Company's common stock. All options granted have ten year terms and vest and become fully exercisable within five years. The Company had granted 96,000 options with a ten year term for shares of the Company's common stock under the Stock Option Plan for Non-Employee Directors (Directors Formula Plan). This Plan was terminated in November 1997 and all 96,000 options granted under this plan are now fully vested. The Company's current stock plans provide for grants of options with exercise prices equal to or exceeding fair market value on the date of grant.

Pro forma information regarding net income and earnings per share is required by Statement 123, and has been determined as if the Company had accounted for its employee stock options under the fair value method of the Statement. The fair value of these options was estimated at the date of grant using a Black-Scholes option pricing model with weighted average risk free rates of interest of 6.7% and 5.6%, for the years ended June 30, 1997 and June 28, 1998, respectively. The volatility factor of the expected market price of the Company's common stock is .748 and the weighted-average expected life of the options was seven years for executives and directors and five years for other employees.

For purposes of pro-forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The Company's pro forma information is as follows:

|   | YEARS ENDED                           |                  |                  |
|---|---------------------------------------|------------------|------------------|
|   | JUNE 30,<br>1996                      | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|   | (IN THOUSANDS, EXCEPT PER SHARE DATA) |                  |                  |
| Net income, as reported .....                       | \$ 243                                | \$ 3,542         | \$ 6,275         |
| Pro forma net income, as adjusted for FAS 123 ..... | \$ 243                                | \$ 1,418         | \$ 4,405         |
| Pro forma earnings per share:                       |                                       |                  |                  |
| Basic .....   | \$ 0.02                               | \$ 0.11          | \$ 0.34          |
| Diluted .....                                       | \$ 0.02                               | \$ 0.11          | \$ 0.33          |

The following table details the number of stock options outstanding and their related exercise prices as of June 28, 1998:

NUMBER OF OPTIONS OUTSTANDING AS OF JUNE 28,  
1998

| EXERCISE PRICE | NUMBER OF OPTIONS | WEIGHTED-AVERAGE CONTRACTUAL LIFE |
|----------------|-------------------|-----------------------------------|
| \$ 0.42        | 5,497             | 2 years                           |
| \$ 3.13        | 8,000             | 6 years                           |
| \$ 3.63        | 250,200           | 5 years                           |
| \$ 3.75        | 13,317            | 3 years                           |
| \$ 4.00        | 78,700            | 6 years                           |
| \$ 4.38        | 6,000             | 6 years                           |
| \$ 6.82        | 6,700             | 5 years                           |
| \$ 7.38        | 6,000             | 6 years                           |
| \$ 9.38        | 26,600            | 9 years                           |
| \$ 10.25       | 14,500            | 9 years                           |
| \$ 11.19       | 16,800            | 8 years                           |
| \$ 12.98       | 409,100           | 9 years                           |
| \$ 14.38       | 203,400           | 7 years                           |
| \$ 15.75       | 48,000            | 8 years                           |
| \$ 16.38       | 43,500            | 10 years                          |
| \$ 17.75       | 19,000            | 10 years                          |
| \$ 18.75       | 40,000            | 9 years                           |
| \$ 19.38       | 10,000            | 10 years                          |
|                | 1,205,314         |                                   |

CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

|  | TOTAL OPTION ACTIVITY                 |                              |               |                              |               |                              |
|--|---------------------------------------|------------------------------|---------------|------------------------------|---------------|------------------------------|
|  | JUNE 30, 1996                         |                              | JUNE 30, 1997 |                              | JUNE 28, 1998 |                              |
|  | (IN THOUSANDS, EXCEPT PER SHARE DATA) |                              |               |                              |               |                              |
|  | OPTIONS                               | WEIGHTED<br>AVERAGE<br>PRICE | OPTIONS       | WEIGHTED<br>AVERAGE<br>PRICE | OPTIONS       | WEIGHTED<br>AVERAGE<br>PRICE |
| Outstanding -- beginning of year ..... | 769                                   | \$ 4.23                      | 632           | \$ 4.39                      | 927           | \$ 4.76                      |
| Granted .....                          | --                                    | \$ --                        | 381           | \$ 13.56                     | 542           | \$ 13.98                     |
| Exercised .....                        | 122                                   | \$ 3.39                      | 52            | \$ 3.08                      | 217           | \$ 7.80                      |
| Forfeited .....                        | 15                                    | \$ 4.36                      | 34            | \$ 8.05                      | 47            | \$ 8.67                      |
|  | ---                                   |                              | ---           |                              | ---           |                              |
| Outstanding -- end of year .....       | 632                                   | \$ 4.39                      | 927           | \$ 4.76                      | 1,205         | \$ 10.19                     |
| Exercisable at end of year .....       | 439                                   | \$ 3.78                      | 702           | \$ 7.44                      | 599           | \$ 8.40                      |

During fiscal year 1992, the Company issued stock warrants to purchasers of Class B Non-Voting preferred stock, Series C. The warrants entitled the holders to purchase 607,320 shares of common stock at \$3.75 per share. In September 1992, the Company issued stock warrants to additional purchasers of Class B Non-Voting preferred stock, Series C. The warrants entitled the holders to purchase 363,644 shares of common stock at \$4.13 per share. Warrants to purchase 425,642, 202,996 and 331,326 shares of common stock were exercised during the years ended June 30, 1996 and 1997, and June 28, 1998, respectively. All remaining warrants expired effective February 8, 1998.

In connection with the Company's September 1995 private placement, the Company issued an additional 300,000 warrants, which have an exercise price of \$27.23 and expire September 2000. As of June 28, 1998, all of these warrants remain outstanding and represent the only warrants outstanding.

#### 7. COMMITMENTS

The Company currently leases three facilities under four separate lease agreements. These facilities are comprised of both office and manufacturing space. The first facility has a remaining lease period of approximately three and one half years for a multi-suite block. Effective May 1, 1998, the Company has notified the lessor of its intention to exercise a right to terminate for all suites with the exception of the base suite. This right to terminate will be effective May 1, 1999. Also associated with this facility is a sublease agreement entered into in fiscal 1996 to lease an adjacent 1,900 square feet. That sublease expires in October 1998 and will not be renewed. The lease term for the second facility began in September 1995. This facility has a remaining lease period of approximately two years with two options to renew for a total of four additional years. All of these agreements provide for rental adjustments for increases in property taxes, the consumer price index and general property maintenance.

Rent expense associated with these leases totaled \$388,000, \$549,000 and \$522,000 for the years ended June 30, 1996 and 1997, and June 28, 1998, respectively. Future minimum rentals as of June 28, 1998 under these leases are as follows:

| YEARS ENDED    | MINIMAL RENTAL<br>AMOUNT |
|----------------|--------------------------|
| -----          |                          |
| (IN THOUSANDS) |                          |
| 1999 .....     | \$ 389                   |
| 2000 .....     | 334                      |
| 2001 .....     | 284                      |
| 2002 .....     | 138                      |
|                | -----                    |
| Total .....    | \$1,145                  |

CREE RESEARCH, INC.  
 NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

8. LONG-TERM DEBT

In November 1997, the Company entered into a term loan from a commercial bank for up to \$10,000,000 to finance the purchase and upfit of the new main facility in Durham, North Carolina. Approximately \$2,950,000 was disbursed under the loan to finance the initial purchase of the facility with the remaining proceeds expected to be disbursed on a monthly basis based on actual expenditures incurred. Draws under the loan agreement may be made during the eighteen month period ending in May 1999. The loan, which is collateralized by the purchased property and subsequent upfits, accrues interest at a fixed rate of 8% and carries customary covenants, including the maintenance of a minimum tangible net worth and other requirements. Accrued interest is due monthly through May 1999, at which time the outstanding principal balance will be amortized over twenty years until 2011, when the loan balance becomes due. At June 28, 1998, short term and long term borrowings associated with this loan were \$17,000 and \$8,650,000, respectively, leaving \$1,333,000 unused and available.

The aggregate maturities for long-term debt for the five years after June 28, 1998 are:

| YEARS ENDED      | AMOUNT<br>DUE  |
|------------------|----------------|
| -----            | -----          |
|                  | (IN THOUSANDS) |
| 1999 .....       | \$ 17          |
| 2000 .....       | 213            |
| 2001 .....       | 230            |
| 2002 .....       | 250            |
| 2003 .....       | 270            |
| Thereafter ..... | 7,687          |
|                  | -----          |
| Total .....      | \$8,667        |
|                  | =====          |

9. INCOME TAXES

The Company accounts for its income taxes under the provisions of Statement of Financial Accounting Standards No. 109 ("FAS 109"), "Accounting for Income Taxes." Under the asset and liability method of FAS 109, deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. Under FAS 109, the effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

The actual income tax expense attributable to earnings for the years ended June 30, 1996 and 1997, and June 28, 1998 differed from the amounts computed by applying the U.S. federal tax rate of 34 percent to pretax earnings as a result of the following:

|  | YEARS ENDED      |                  |                  |
|--|------------------|------------------|------------------|
|  | JUNE 30,<br>1996 | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|  | (IN THOUSANDS)   |                  |                  |
| Federal income tax provision at statutory rate (34%) ..... | \$ 83            | \$ 1,265         | \$3,018          |
| State tax provision .....                                  | 36               | 193              | 166              |
| Decrease in income tax expense resulting from:             |                  |                  |                  |
| Foreign sales corporation .....                            | --               | --               | (214)            |
| Decrease in valuation allowance .....                      | (106)            | (1,279)          | (358)            |
| Other .....  | (13)             | (2)              | (12)             |
| Income tax expense .....                                   | \$ --            | \$ 177           | \$2,600          |

The following are the components of the provision for income taxes:

|                               | YEARS ENDED      |                  |
|-------------------------------|------------------|------------------|
|                               | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|                               | (IN THOUSANDS)   |                  |
| Current:                      |                  |                  |
| Federal .....                 | \$ 54            | \$ 699           |
| Foreign tax withholding ..... | 220              | 50               |
| State .....                   | 95               | 269              |
|                               | 369              | 1,018            |
| Deferred:                     |                  |                  |
| Federal .....                 | (442)            | 1,582            |
| State .....                   | 250              | --               |
|                               | (192)            | 1,582            |
| Net provision .....           | \$ 177           | \$2,600          |

There is no tax provision for fiscal 1996.

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are as follows:

|  | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|--|------------------|------------------|
|  | (IN THOUSANDS)   |                  |
| Deferred tax assets:                   |                  |                  |
| Net operating loss carryforwards ..... | \$ 2,413         | \$1,304          |
| Research tax credits .....             | 157              | 169              |
| Compensation .....                     | 115              | 62               |
| Inventory .....                        | 199              | 120              |
| Bad debt .....                         | 84               | 56               |
| Goodwill .....                         | 31               | --               |

|   |         |          |
|---|---------|----------|
| Alternative minimum tax .....                     | 64      | 261      |
| Foreign tax credit .....                          | 220     | 270      |
| Other .....                                       | 10      | --       |
|   | -----   | -----    |
| Total gross deferred tax assets .....             | 3,293   | 2,242    |
| Less valuation allowance .....                    | (1,463) | (290)    |
|   | -----   | -----    |
| Net deferred tax asset .....                      | 1,830   | 1,952    |
| Deferred tax liabilities:                         |         |          |
| Property and equipment, due to depreciation ..... | 1,638   | 2,154    |
|   | -----   | -----    |
| Gross deferred tax liabilities .....              | 1,638   | 2,154    |
|   | -----   | -----    |
| Net deferred tax asset (liability) .....          | \$ 192  | \$ (202) |
|   | =====   | =====    |

The net change in the total valuation allowance for the years ended June 30, 1997 and June 28, 1998 was \$1,201,000 and \$1,173,000, respectively. Included in the valuation allowance is \$815,000 and \$0, respectively, for 1997 and 1998 to offset net operating losses ("NOL") generated by the exercise of stock options. The reduction in the valuation allowance does not impact the 1998 tax provision as such taxes are reflected in additional paid in capital. The primary reason for the reduction in the valuation allowance in 1997 and 1998 was the greater likelihood of the utilization of future tax benefits from net operating loss carryforwards. Realization of deferred tax assets associated with the NOL carryforwards is dependent upon the Company generating sufficient taxable income prior to their expiration. Management believes that there is a risk that certain of the state NOL carryforwards may expire unused and, accordingly, has established a valuation allowance against them. Although realization is not assured for the remaining deferred tax assets, management believes it is more likely than not that they will be realized through future taxable earnings. However, the net deferred tax assets could be reduced in the future if management's estimates of taxable income during the carryforward period are significantly reduced.

As of June 28, 1998, the Company has net operating loss carryforwards for Federal purposes of \$3,493,000 and \$2,346,000 for state purposes. The carryforward expiration period is 2011 to 2013 for Federal tax purposes and from 2000 to 2003 for state purposes.

#### 10. ACQUISITION

In August 1994, the Company formed a North Carolina wholly-owned subsidiary, RCD, to develop and market full color LED displays. Subsequently, RCD acquired the net assets of Color Cells International, Ltd., a Hong-Kong based company in this line of business, for cash consideration of \$215,000 and assumption of \$152,000 of liabilities. The terms of the acquisition called for an "Earn-Out Payment" based on calculated net profits, payable half in cash and half in Cree common stock. Earn-Out Payments were subject to certain

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

limitations concerning the timing (calculation based on certain eligible shipments through September 1997) and amount (maximum payments of \$1.8 million) of any such payments. As of the end of the earn-out period in September 1997, no amounts had been earned or paid under this agreement.

#### 11. RETIREMENT PLAN

The Company maintains an employee benefit plan (the "Plan") pursuant to Section 401(k) of the Internal Revenue Code. Under the Plan, there is no fixed dollar amount of retirement benefits, and actual benefits received by employees will depend on the amount of each employee's account balance at the time of retirement. All employees are eligible to participate under the Plan on the first day of a new fiscal quarter after date of hire. The Plan is not insured by the Pension Benefit Guaranty Corporation.

The Company may, at its discretion, make contributions to the Plan. However, the Company did not make any contributions to the Plan during the years ended June 30, 1996, 1997 or June 28, 1998.

## 12. CONTINGENCIES

The consolidated securities class action lawsuits previously pending against the Company and certain of its directors and officers in the U.S. District Court for the Middle District of North Carolina were dismissed with prejudice on November 28, 1997. The dismissal was pursuant to a stipulation of the named parties entered after the court granted the defendant's motions to dismiss the consolidated complaint for failure to state a claim. No payments were made to the plaintiffs to obtain the dismissal. By stipulating to the dismissal with prejudice, the plaintiffs waived any right to re-file the action or to appeal the court's order of dismissal.

## 13. EARNINGS PER SHARE

The Company has adopted Statement of Financial Accounting Standards (SFAS) No. 128, "Earnings Per Share," as of December 28, 1997. SFAS No. 128 required the Company to change its method of computing, presenting and disclosing earnings per share information. All prior period data presented has been restated to conform to the provisions of SFAS No. 128.

The following computation reconciles the differences between the basic and diluted presentations:

|   | YEARS ENDED                           |                  |                  |
|---|---------------------------------------|------------------|------------------|
|   | JUNE 30,<br>1996                      | JUNE 30,<br>1997 | JUNE 28,<br>1998 |
|   | (IN THOUSANDS, EXCEPT PER SHARE DATA) |                  |                  |
| Basic:  |                                       |                  |                  |
| Net income .....                                    | \$ 243                                | \$ 3,542         | \$ 6,275         |
| Weighted average common shares .....                | 11,826                                | 12,455           | 12,863           |
| Basic income per common share .....                 | \$ 0.02                               | \$ 0.28          | \$ 0.49          |
| Diluted:  |                                       |                  |                  |
| Net income .....                                    | \$ 243                                | \$ 3,542         | \$ 6,275         |
| Weighted average shares:                            |                                       |                  |                  |
| Common shares outstanding .....                     | 11,826                                | 12,455           | 12,863           |
| Dilutive effect of stock options and warrants ..... | 789                                   | 670              | 631              |
| Total shares and common share equivalents .....     | 12,615                                | 13,126           | 13,493           |
| Diluted income per common share .....               | \$ 0.02                               | \$ 0.27          | \$ 0.47          |

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CREE RESEARCH, INC.  
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS -- (CONTINUED)

## 14. NEW ACCOUNTING PRONOUNCEMENTS

The Company will adopt Statement of Financial Accounting Standards No. 130 "Reporting Comprehensive Income" ("SFAS No. 130") for the year ended June 27, 1999. SFAS No. 130 requires the Company to display an amount representing total comprehensive income for the period in a financial statement which is displayed with the same prominence as other financial statements. Upon adoption, all prior period data presented will be restated to conform to the provisions of SFAS No. 130. The application of the new pronouncement is not expected to have a material impact on the Company's financial statements.

The Company will adopt Statement of Financial Accounting Standards No. 131 "Disclosures about Segments of an Enterprise and Related Information" ("SFAS No. 131") for the year ended June 27, 1999. SFAS No. 131 requires the Company to report selected information about operating segments in its financial statements. It also establishes standards for related disclosures about products and services, geographic areas and major customers. The application of the new pronouncement is not expected to have a material impact on the Company's disclosures.

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-----  
[CREE LOGO]

CREE RESEARCH, INC.

1,300,000 SHARES

COMMON STOCK

-----  
PROSPECTUS  
-----

, 1999

CIBC OPPENHEIMER

PRUDENTIAL SECURITIES INCORPORATED

MORGAN KEEGAN & COMPANY, INC.

-----  
YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED IN THIS PROSPECTUS. NO DEALER, SALESPERSON OR OTHER PERSON IS AUTHORIZED TO GIVE INFORMATION THAT IS NOT CONTAINED IN THIS PROSPECTUS. THIS PROSPECTUS IS NOT AN OFFER TO SELL NOR IS IT SEEKING AN OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED. THE INFORMATION CONTAINED IN THIS PROSPECTUS IS CORRECT ONLY AS OF THE DATE OF THIS PROSPECTUS, REGARDLESS OF THE TIME OF THE DELIVERY OF THIS PROSPECTUS OR ANY SALE OF THESE SECURITIES.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the expenses of the Company payable in connection with the issuance and distribution of the Common Stock being registered hereby, excluding underwriting discounts and commission. All expenses of the offering will be borne by the Company. All amounts shown are estimates except the SEC registration fee, the NASD filing fee and the Nasdaq fee:

|  |           |
|--|-----------|
| SEC Registration Fee .....                           | \$ 17,431 |
| NASD Filing Fee .....                                | 6,770     |
| Nasdaq Fee .....                                     | 17,500    |
| Printing and Engraving Expenses .....                | 125,000   |
| Legal Fees and Expenses .....                        | 250,000   |
| Accounting Fees .....                                | 175,000   |
| Blue Sky Expenses .....                              | 10,000    |
| Transfer Agent and Registrar Fees and Expenses ..... | 5,000     |
| Miscellaneous Expenses .....                         | 43,299    |
|  | -----     |
| Total .....  | \$650,000 |
|  | =====     |

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Sections 55-8-50 through 55-8-58 of the North Carolina Business Corporation Act permit a corporation to indemnify its directors, officers, employees or agents under either or both a statutory or nonstatutory scheme of indemnification. Under the statutory scheme, a corporation may, with certain exceptions, indemnify a director, officer, employee or agent of the corporation who was, is, or is threatened to be made, a party to any threatened, pending or completed legal action, suit or proceeding, whether civil, criminal, administrative, or investigative, because of the fact that such person was a director, officer, agent or employee of the corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. This indemnity may include the obligation to pay any judgment, settlement, penalty, fine (including an excise tax assessed with respect to an employee benefit plan) and reasonable expenses incurred in connection with a proceeding (including counsel fees), but no such indemnification may be granted unless such director, officer, agent or employee (i) conducted himself in good faith, (ii) reasonably believed (1) that any action taken in his official capacity with the corporation was in the best interest of the corporation or (2) that in all other cases his conduct at least was not opposed to the corporation's best interest and (iii) in the case of any criminal proceeding, had no reasonable cause to believe his conduct was unlawful. Whether a director has met the requisite standard of conduct for the type of indemnification set forth above is determined by the board of directors, a committee of directors, special legal counsel or the shareholders in accordance with Section 55-8-55. A corporation may not indemnify a director under the statutory scheme in connection with a proceeding by or in the right of the corporation in which the director was adjudged liable to the corporation or in connection with a proceeding in which a director was adjudged liable on the basis of having received an improper personal benefit.

In addition to, and separate and apart from the indemnification described above under the statutory scheme, Section 55-8-57 of the North Carolina Business Corporation Act permits a corporation to indemnify or agree to indemnify any of its directors, officers, employees or agents against liability and expenses (including attorney's fees) in any proceeding (including proceedings brought by or on behalf of the corporation) arising out of their status as such or their activities in such capacities, except for any liabilities or expenses incurred on account of activities that were, at the time taken, known or believed by the person to be clearly in conflict with the best interests of the corporation. The Company's bylaws provide for indemnification to the fullest extent permitted under the North Carolina Business Corporation Act. Accordingly, the Company may indemnify its directors, officers and employees in accordance with either the statutory or the non-statutory standard.

Sections 55-8-52 and 55-8-56 of the North Carolina Business Corporation Act require a corporation, unless its articles of incorporation provide otherwise, to indemnify a director or officer who has been wholly successful, on the merits or otherwise, in the defense of any proceeding to which such director or officer was a party. Unless prohibited by the articles of incorporation, a director or officer also may make application and obtain court-ordered indemnification if the court determines that such director or officer is fairly and reasonably entitled to such indemnification as provided in Sections 55-8-54 and 55-8-56.

Finally, Section 55-8-57 of the North Carolina Business Corporation Act provides that a corporation may purchase and maintain insurance on behalf of an individual who is or was a director, officer, employee or agent of the corporation against certain liabilities incurred by such persons, whether or not the corporation is otherwise authorized by the North Carolina Business Corporation Act to indemnify such party. The Company's directors and officers are currently covered under directors' and officers' insurance policies maintained by the Company.

As permitted by North Carolina law, Article VII of the Company's Articles of Incorporation limits the personal liability of directors for monetary damages for breaches of duty as a director provided that such limitation will not apply to (i) acts or omissions not made in good faith that the director at the time of the breach knew or believed were in conflict with the best interests of the Company, (ii) any liability for unlawful distributions under N.C. Gen. Stat. Section 55-8-33, (iii) any transaction from which the director derived an improper personal benefit, or (iv) acts or omissions occurring prior to the date the provision became effective.

Section 7 of the Underwriting Agreement to be filed as Exhibit 1.01 hereto also contains certain provisions pursuant to which certain officers, directors and controlling persons of the Company may be entitled to be indemnified by the underwriters named therein.

ITEM 16. EXHIBITS

The following documents (unless indicated) are filed herewith and made a part of this Registration Statement.

| EXHIBIT NUMBER | DESCRIPTION OF EXHIBIT   |
|----------------|--|
| 1.01**         | Form of Underwriting Agreement   |
| 4.01(1)        | Specimen Common Stock Certificate  |
| 4.02*          | Amended and Restated Articles of Incorporation                           |
| 4.03*          | Amended and Restated Bylaws  |
| 5.01*          | Opinion of Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, L.L.P. |
| 23.01          | Consent of PricewaterhouseCoopers LLP                                    |
| 23.02*         | Consent of Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, L.L.P. |
| 24.01*         | Powers of Attorney   |
| 27.01*         | Financial Data Schedule  |

(1) Exhibit 4.2 to the Company's Registration Statement on Form SB-2, File No. 33-55998, declared effective by the Securities and Exchange Commission on February 8, 1993, and incorporated herein by reference.

\* Previously filed.

\*\* To be filed by amendment.

ITEM 17. UNDERTAKINGS

1. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the

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securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

2. Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described in Item 15 above, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of the expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

3. The undersigned Registrant hereby undertakes that: (a) for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective; and (b) for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on January 25, 1999.

CREE RESEARCH, INC.

BY: /s/ F. NEAL HUNTER

-----  
F. NEAL HUNTER  
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

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POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to the Registration Statement has been signed by the following persons on January 25, 1999 in the capacities indicated.

| SIGNATURE   | TITLE  |
|---|--|
| -----<br>/s/ F. NEAL HUNTER<br>-----<br>F. NEAL HUNTER                  | Chairman and Chief Executive Officer   |
| -----<br>/s/ CYNTHIA B. MERRELL<br>-----<br>CYNTHIA B. MERRELL          | Chief Financial Officer and Treasurer<br>(Chief Accounting and Financial<br>Officer) |
| -----<br>*<br>-----<br>CALVIN H. CARTER, JR., PH.D.                     | Director   |
| -----<br>*<br>-----<br>JAMES E. DYKES                                   | Director   |
| -----<br>*<br>-----<br>MICHAEL W. HALEY                                 | Director   |
| -----<br>*<br>-----<br>WALTER L. ROBB, PH.D.                            | Director   |
| -----<br>*<br>-----<br>DOLPH W. VON ARX                                 | Director   |
| -----<br>*<br>-----<br>JOHN W. PALMOUR, PH.D.                           | Director   |
| * By: /s/ F. NEAL HUNTER<br>-----<br>F. NEAL HUNTER AS ATTORNEY-IN-FACT | * By: /s/ CYNTHIA B. MERRELL<br>-----<br>CYNTHIA B. MERRELL AS ATTORNEY-IN-FACT      |

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EXHIBIT INDEX

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| 23.01             | Consent of PricewaterhouseCoopers LLP                                    |
| 23.02*            | Consent of Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan, L.L.P. |
| 24.01*            | Powers of Attorney   |

- -----

- (1) Exhibit 4.2 to the Company's Registration Statement on Form SB-2, File No. 33-55998, as declared effective by the Securities and Exchange Commission on February 8, 1993, and incorporated herein by reference.

\* Previously filed

\*\* To be filed by amendment

CONSENT OF INDEPENDENT ACCOUNTANTS

We consent to the inclusion in the Prospectus constituting part of this Amendment No. 1 to the registration statement on Form S-3 No.333-70579 of our report dated July 22, 1998, on our audits of the financial statements of Cree Research, Inc. and subsidiaries. We also consent to the references to our firm under the captions "Selected Financial Data" and "Experts."

/s/ PricewaterhouseCoopers LLP

Raleigh, North Carolina  
January 25, 1999