## FORM 4

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

| OMB APPR          | OVAL   |     |
|-------------------|--------|-----|
| OMB Number:       | 3235-0 | 287 |
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| ours per response | ə      | 0.5 |

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. *See* Instruction 1(b).

#### STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| I I NT   |               |  | *   |  |                |                       |                             |   |  |   | 5 D.1 (  | -1.1. CD                 |   | (-) 4- T   |   |
|--|---------------|--|---|--|----------------|-----------------------|-----------------------------|---|--|---|--|--------------------------|---|--|---|
| 1. Name and Address of Reporting Person * DICKSON JOHN T                 |               | 2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC] |   |  |                |                       |                             | _X_ Direct  | (Che   |   | ible)<br>0% Owner  |                          |   |  |   |
| (Last) (First) (Middle) C/O KLA-TENCOR CORPORATION, ONE TECHNOLOGY DRIVE |               |  | 3. Date of Earliest Transaction (Month/Day/Year) 11/03/2011 |  |                |                       |                             |   | Office   | r (give title belo  | w)(  | Other (specify be        | elow)   |  |   |
| (Street)   |               |  | 4. If Amendment, Date Original Filed(Month/Day/Year)        |  |                |                       |                             | 6. Individual or Joint/Group Filing(Check Applicable Line) X_ Form filed by One Reporting Person Form filed by More than One Reporting Person |  |   |  |                          |   |  |   |
|  | AS, CA 95     |  |   |  |                |                       |                             |   |  |   |  |                          |   |  |   |
| (City  | ·)            | (State)  | (Zip)   |  | Ta             | ble I - N             | on-De                       | erivative S   | Securitie  | s Acqu  | ired, Dispo  | osed of, or I            | Beneficially (                                  | Owned  |   |
| 1.Title of S (Instr. 3)  | ecurity       |  | 2. Transaction<br>Date<br>(Month/Day/Year)                  | 2A. Deemed<br>Execution D<br>any<br>(Month/Day)                  | ate, if        | Code (Instr.          |                             | (D)   | Disposed 3, 4 and 3  | of<br>5)  | Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)  |                          | Ownership<br>Form:<br>Direct (D)<br>or Indirect | 7. Nature of Indirect Beneficial Ownership (Instr. 4)                  |   |
|  |               |  |   |  |                | Code                  | V                           | Amour   | (A) or (D)   | Price   |  |                          |   | (I)<br>(Instr. 4)  |   |
| Common<br>Stock Un   | Stock - R     | estricted  | 11/03/2011  |  |                | A                     |                             | 2,539<br>( <u>2</u> )   | A  | \$ 0  | 2,539  |                          |   | D  |   |
| Common   | Stock         |  |   |  |                | _                     | _                           |   |  | 1   |  |                          |   | _  |   |
|  |               | separate line for  | each class of secur   | ities beneficia  | ılly ov        | vned dire             | ctly o                      | r indirectly  | y  |   | 14,878   |                          |   | D  |   |
| <u>l</u>   |               | separate line fo   |   | ities beneficia  |                |                       | Per<br>cor<br>the           | sons wh<br>tained in<br>form dis  | no respo<br>n this fo<br>splays a  | rm are<br>curre   | the collect<br>e not requ<br>ntly valid  |                          |   | SEC SEC  | 474 (9-02)  |
| Reminder:  | Report on a s |  | Table II - I  | Derivative Se  | curiti         | es Acqu               | Per<br>cor<br>the<br>red, I | sons what ained in form dis   | no responding this for splays a soft, or Bestible sections.              | rm are<br>curre<br>neficial   | the collected not requesting the transfer of transfer of the transfer of transfer of the transfer of t | iired to res<br>OMB cont | ormation<br>pond unles<br>rol number            | SEC  | , ,   |
| Reminder:  | Report on a s | 3. Transaction Date (Month/Day/)                                   | Table II - I  | Derivative Se<br>e.g., puts, cal<br>4.<br>te, if Transac<br>Code | ecuritils, was | es Acqu<br>errants, ( | Per cor the red, I ption (M | sons whatained in<br>form dis   | no responding this for splays a sof, or Bettible secutible secution Date | rm are<br>curre<br>neficial<br>urities)<br>7. T<br>Ame<br>Und<br>Seco | the collect<br>e not requ<br>ntly valid  | iired to res<br>OMB cont | ormation pond unles rol number                  | SEC  SEC  10.  Ownersh Form of Derivativ Security. Direct (I or Indire | 11. Naturip of Indire Beneficiae Ownersh (Instr. 4) |

### **Reporting Owners**

|  | Relationships |              |         |       |  |
|--|---------------|--------------|---------|-------|--|
| Reporting Owner Name / Address   | Director      | 10%<br>Owner | Officer | Other |  |
| DICKSON JOHN T<br>C/O KLA-TENCOR CORPORATION<br>ONE TECHNOLOGY DRIVE<br>MILPITAS, CA 95035 | X             |              |         |       |  |

### **Signatures**

| Brian M. Martin as Attorney-in-Fact for John T. Dickson | 11/04/2011 |
|---|------------|
| -*Signature of Reporting Person                         | Date       |

#### **Explanation of Responses:**

- \* If the form is filed by more than one reporting person, see Instruction 4(b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.
- (2) The restricted stock units will fully vest one year from date of grant and will be deliverable on such date.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.