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

Form 8-K

Current Report

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): 11/13/2008

KLA-TENCOR CORPORATION

(Exact name of registrant as specified in its charter)

Commission File Number: 000-09992

Delaware

(State or other jurisdiction of incorporation)

04-2564110 (IRS Employer Identification No.)

One Technology Drive, Milpitas, California 95035 (Address of principal executive offices, including zip code)

(408) 875-3000

(Registrant's telephone number, including area code)

N/A

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

[] Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

[] Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

[] Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

[] Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01. Other Events

On November 13, 2008, KLA-Tencor Corporation (the "Company") issued a news release that the Company's Board of Directors had declared a cash dividend of \$0.15 per share on the Company's common stock. Such dividend shall be payable on December 1, 2008 to the Company's stockholders of record as of the close of business on November 24, 2008. A copy of the news release is attached hereto as Exhibit 99.1.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

The following exhibit is filed herewith:

Exhibit No. Description

99.1 Text of news release issued by KLA-Tencor Corporation dated November 13, 2008

Signature(s)

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

KLA-TENCOR CORPORATION

Date: November 13, 2008

By: /s/ Mark P. Dentinger

Mark P. Dentinger Executive Vice President and Chief Financial Officer

Exhibit Index

Exhibit No. Description EX-99.1 Text of news release issued by KLA-Tencor Corporation dated November 13, 2008

FOR IMMEDIATE RELEASE

Investor Relations: Ed Lockwood Sr. Director, Investor Relations (408) 875-9529 ed.lockwood@kla-tencor.com

Media Relations: Meggan Powers Sr. Director, Corporate Communications (408) 875-8733 meggan.powers@kla-tencor.com

KLA-TENCOR DECLARES REGULAR CASH DIVIDEND FOR SECOND QUARTER OF FISCAL YEAR 2009

MILPITAS, Calif.-November 13, 2008-KLA-Tencor Corporation (NASDAQ: KLAC) today announced that its Board of Directors has declared a quarterly cash dividend of \$0.15 per share on its common stock, payable on December 1, 2008 to KLA-Tencor stockholders of record as of the close of business on November 24, 2008.

About KLA-Tencor: KLA-Tencor is the world leader in yield management and process control solutions for semiconductor manufacturing and related nanoelectronics industries. Headquartered in Milpitas, California, the company has sales and service offices around the world. An S&P 500 company, KLA-Tencor is traded on the NASDAQ Global Select Market under the symbol KLAC. Additional information about the company is available at *http://www.kla-tencor.com*.

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