



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

August 4, 2009

Mr. James P. Moniz
Chief Financial Officer
Nanometrics Incorporated
1550 Buckeye Drive
Milpitas, California 95035

RE: **Nanometrics Incorporated**
Form 10-K for the fiscal year ended December 27, 2008
Filed March 27, 2009
Form 8-K/A filed August 4, 2008
File No. 0-13470

Dear Mr. Moniz:

We have completed our review of your Form 10-K and related filings and do not, at this time, have any further comments.

Sincerely,

James Martin
Senior Assistant Chief Accountant