

# Smart Spectrophotometers Offer a Better Way to Measure the Color of Cookie Samples

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Few people can resist nibbling on a perfectly-baked cookie. Many find the mouthwatering, nostalgic aromas of caramelized sugar coupled with the rich golden brown crumbles downright irresistible. But if you've ever eaten an under or overbaked cookie, you know that not all cookies are as delicious as they should be. Factors like setting the oven temperature too high or too low or baking the cookies for too long or too little time could negatively impact the [texture and color](#) of the cookie as well as someone's experience eating it.

This is why large-scale cookie manufacturers need to carefully measure the color of their cookie products. Using a smart spectrophotometer that is capable of accurately measuring the color of textured samples (like crumbly cookies), you can ensure that every batch of cookies is baked to perfection and that they all appear uniform in color to your customers. Whether you produce just a few thousand packages of gourmet cookies every year, or you make millions of cookies in a wide variety of flavors and textures, a smart spectrophotometer can help you refine your manufacturing process.

## Color is a Sign of Cookie Quality

The color of cookies and other baked foods can tell you a great deal about how the product will likely taste. This is due to caramelization and the Maillard reaction, a complex chemical process that causes food to turn brown as it's exposed to heat.<sup>1</sup> During the Maillard reaction, the proteins and sugars in the food are broken down by high temperatures, which results in deeper coloration and a significant change in flavor and aroma. In the case of cookies, the Maillard reaction browns the color of the raw cookie dough and produces strong aromatic compounds—that classic freshly-baked cookie scent.

For cookie manufacturers, paying close attention to [caramelization](#) and the Maillard reaction is important because too much exposure to heat over time could result in an overly bitter, brittle cookie. Likewise, too little heat exposure will impede the development of the Maillard reaction or caramelization, and the cookie will be soft, pale, and somewhat bland in flavor. Customers are aware of the connection between cookie color, texture, and quality, and the appearance of the cookie may impact a customer's buying habits.<sup>2</sup> This is why you need a smart spectrophotometer to ensure that all of your cookie products have gone through just the right amount of caramelization and appear consistent in color overall.

Full article with photos available here:

<https://www.hunterlab.com/blog/color-food-industry/smart-spectrophotometers-offer-a-better-way-to-measure-the-color-of-cookie-samples/>