Difference in Whiteness Index - old versus new instrument

Question; I just got a new instrument to replace my 11 year old one. When I measure my sample and display Whiteness Index I get numbers that appear different than expected. Why?

Answer:

There are several different WI indicies they are all described in detail in the User's Manuals for the instruments and software. The issue is that ASTM E313 has changed over time. While HunterLab cannot force a customer to use the most current Standard Practice, HunterLab is not obligated to support obsolete methods and my guess is that the customer is using ASTM Test Method WI E313 (WI= 4Z%-3Y under C/2) , this method dates to 1973. ASTM discontinued this method in 1996, new instruments and software use the 1996 Test Method WI E313-06 which is the most current equation. (WI=Y +800(xn - x) + 1700(yn - y) under C/2 or D/65/10). the number after E313- is the year the method was last updated. For this method which was originally adopted in 1996, it was last verified and readopted in 2006, hence the -06.