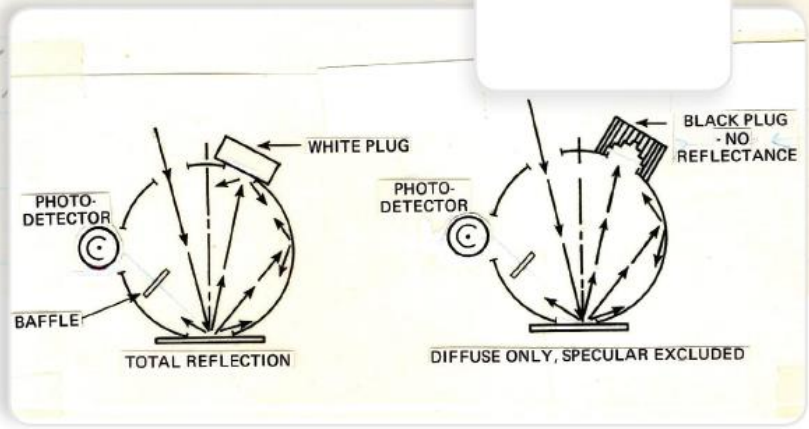
Measurement Method

MM 5232.00



Measuring Industrial Coatings

with Agera

The industrial coating industry relies on specific sample matching and quality control evaluation to meet consumer demands. Color and gloss indices allow manufacturers to assign all products a numerical value and to ensure color quality and color consistency throughout production.

The Application

Specific color formulations can be quantified and stored using spectrophotometric instrumentation and software. Instrumental analysis offers an easy, reliable, and repeatable method of color formulation, mixing, and production quality control processes. Information can also be shared across productions facilities.

Designed to measure industrial coatings, Agera measures color, opacity, 60-degree gloss, and UV content and includes a camera for on screen sample positioning and image capture. With modern data communications including USB, Ethernet, and Wi-Fi, and a high-resolution color touchscreen display, Agera is the perfect solution for measuring paint and coatings.

Recommended Measurement Parameters:

Color Scales	**CIELAB**
Illuminant/Observer	**D65/10**
Gloss	**60-degree**
Standard Accessories	**51mm (2in, LAV2), 25mm (1in, LAV1), or 16mm (5/8in MAV) port plate (included with the instrument)**
Optional Accessories	**For Port-Forward Operation - D02-1018-462 Sample Clamp** 

Sample Preparation

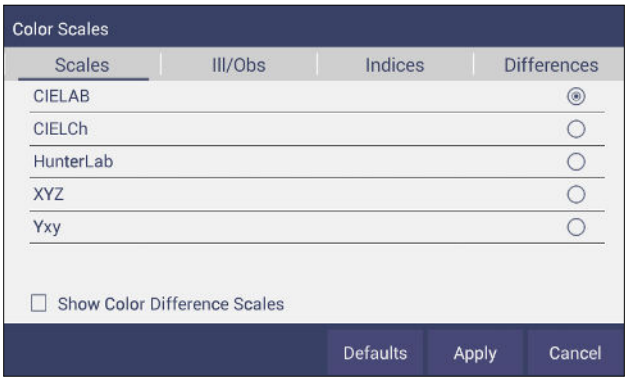
Agera can measure the color, opacity, and gloss of coating samples in either a port-up or port-forward configuration. Samples that are applied to a drawdown card are typically used in this process.

Port-forward Configuration

Port-up Configuration

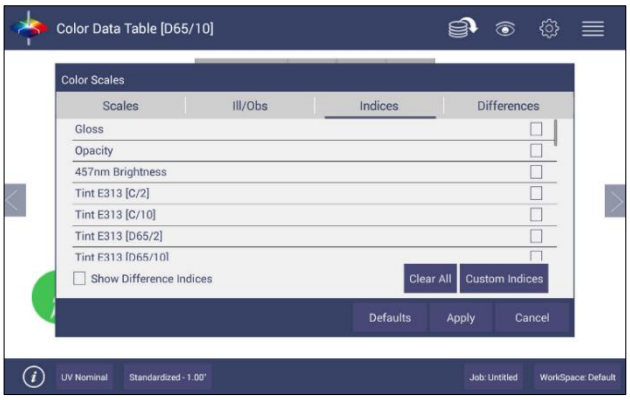
Measurement Method-Standalone (Using Agera Essentials)

1. **Configure** Essentials to Measure and Report CIELAB and 60-degree gloss.
    a. ***WORKSPACE > COLOR SCALES >*** select **CIELAB** or your desired color scale.



Select Color Scales

    b. Move to the next tab and select ***ILL/OBS***. Then to the next ***INDICES*** tab to select 60-degree ***GLOSS***. Press ***APPLY*** and return to the Color Data Table.



Select Gloss from Indices Tab

    c. To save the above setup for future use, click ***WORKSPACE > SAVE WORKSPACE***. When prompted to Save, select ***NO*** to create a new Workspace Name. Enter the ***NAME*** of the Workspace.

2. **Standardization**.

   a. Place the desired port plate on the instrument. Then, go to ***WORKSPACE*** > ***STANDARDIZATION***. You can also press the Standardization button in the Status bar as a shortcut. The instrument can report the current port plate and UV Mode on the status bar. Agera can save multiple modes contains different UV settings (nominal, excluded and calibration) and Area of View (xLAV1, LAV, and MAV).

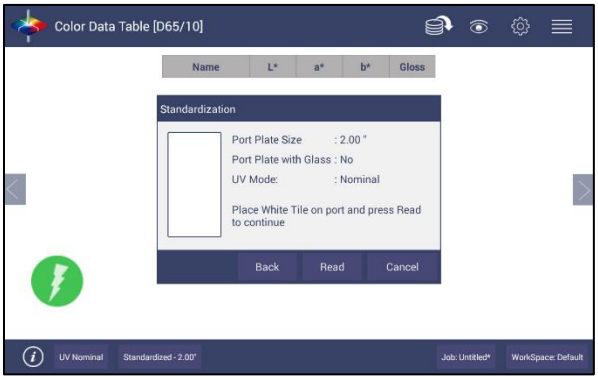
   Each Agera has a specific set of Black Glass and White Tile unique to the instrument. These are not interchangeable with other instruments. Position the standard tiles on the instrument with the white line matching the white line on the port plate.

   Gloss standardization is automatically done while performing instrument color standardization and uses the Black Glass as the reference.

   b. ***READ BLACK GLASS***: Place the Agera black glass on the sensor port. Press ***READ*** to continue.

Read Black Glass

   c. ***READ WHITE TILE***: Remove the black glass and place the Agera white tile at the port. Press ***READ*** to continue.



Change to White Tile

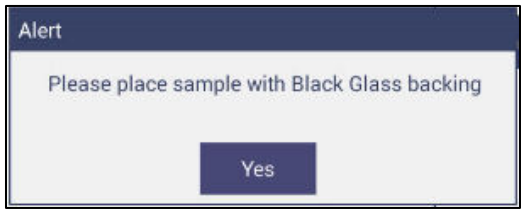
   d. Remove the calibrated white tile when standardization is complete. The instrument is ready to ***READ SAMPLES***.

3. **Measure Samples**.

   a. Clean the coated sample from all residues or dirt and place it flush on instrument reflectance port.

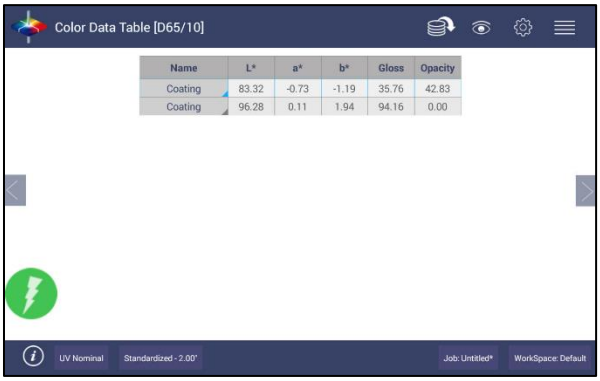
   b. Take a reading. For opacity measurements, you are prompted to back the sample with white and then back the sample with black as shown in the figures.

Sample Backed with White



Sample Backed with Black Glass

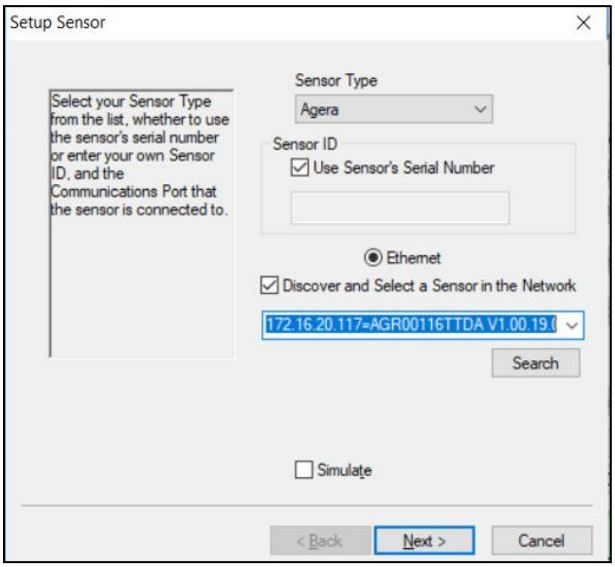
   c. All of the selected measurement results will be displayed simultaneously on the screen.



Measurement Results

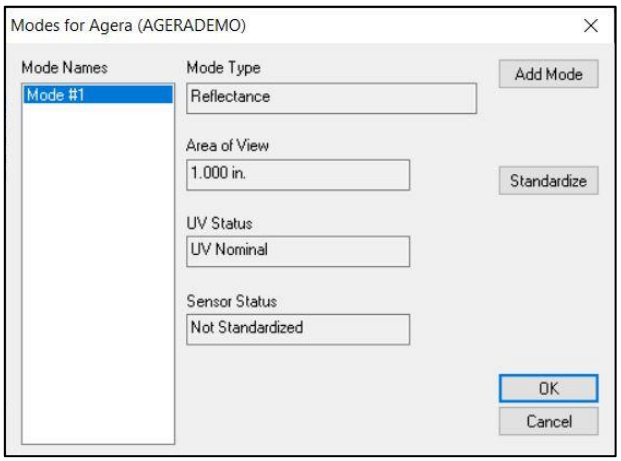
Measurement Method-Connect to EasyMatch QC

1. **Connect** Agera to EasyMatch QC. Please check the methods on how to connect Agera to EasyMatch QC in this article at our support website support.hunterlab.com.
    a. Open EasyMatch QC and select ***SENSOR > INSTALL & CONFIGURE > ADD SENSOR.***



Setup Sensor

    a. Setup the ***AREA OF VIEW*** and ***UV STATUS*** on the Set Modes page. When all is done, press ***STANDARDIZE*** to continue.

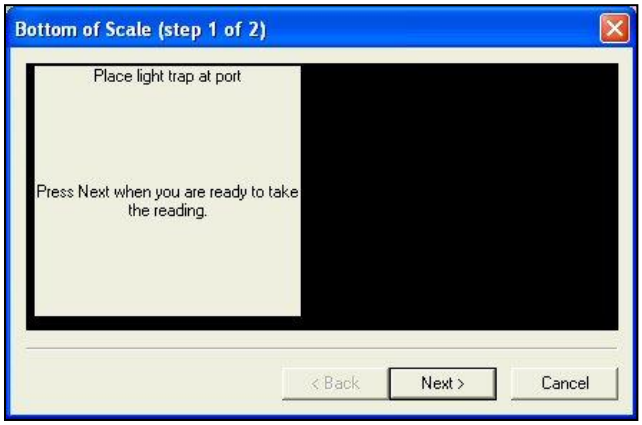


Setup Modes

2. **Standardize**.
    a. Select your desired port plate.
    b. The ***SENSOR > STANDARDIZE*** command yields prompts that lead you through the standardization procedure for the standardization mode currently selected using the *Set Modes* command. The keyboard shortcut for this command is ***F4***.

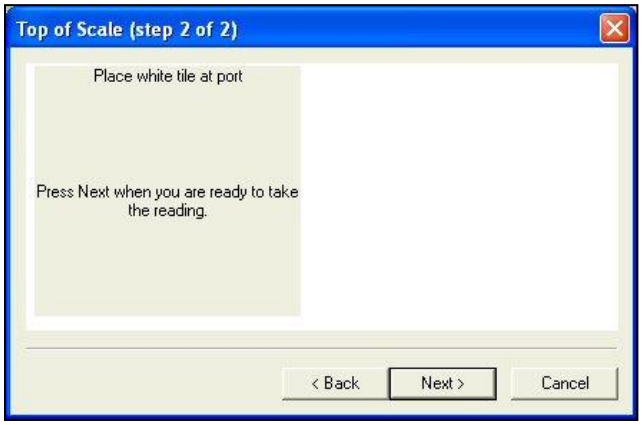
c. Standardize the instrument using the black glass and calibrated white standards that come with the instrument.

d. First, the bottom-of-scale must be set. Click ***NEXT*** when you are ready to read the zero.



Standardization: Bottom-of-Scale

e. Then, the top-of-scale must be set. Click ***NEXT*** when you are ready to read the standard or blank.



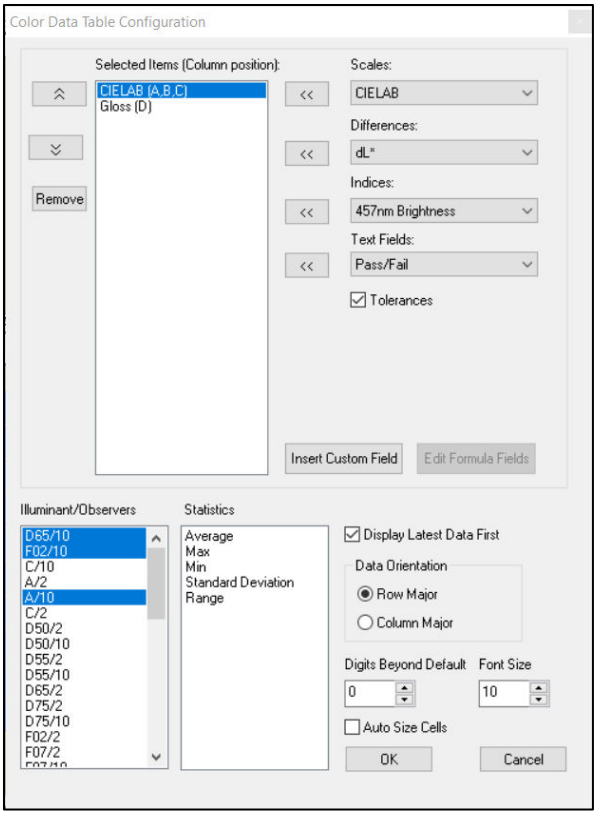
Standardization: Top-of-scale

f. Click ***FINISH*** when standardization is complete.

3. **Configure** EasyMatch QC to measure CIELAB and 60-degree gloss**.**

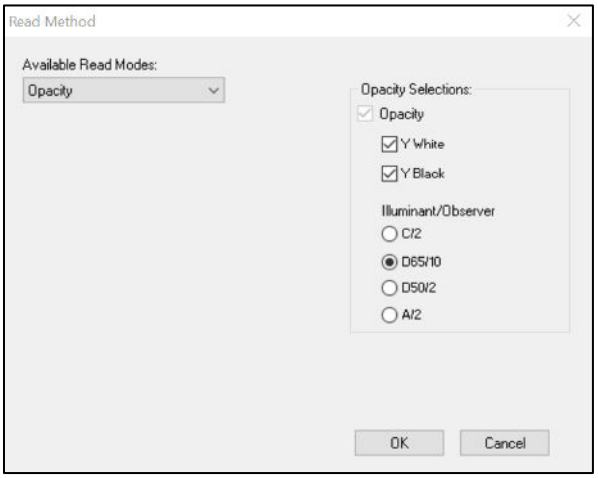
a. In EasyMatch QC, right click on the Color Data Table view and select ***CONFIGURE***. This command allows you to set various preferences pertaining to the Color Data Table view. Select each **SCALE, DIFFERENCE, INDICE**, and **TEXT** field parameter you would like to display from the drop-down boxes and click the ***LEFT ARROW*** (**<<**) button after each selection to move it to the **SELECTED ITEMS** box. Once all desired items are shown in the Selected Items box, you may move them up and down in the display order using the up and down arrows. Items may also be removed from the Selected Items box using the **REMOVE** button.

Highlight (select) each **ILLUMINANT/OBSERVER** combination you wish to display. Choose your **STATISTICS** the same way. You may indicate the order in which you would like the illuminant/observer tabs and statistical parameters displayed by deselecting all items that have already been chosen and then selecting the items for display in the order desired.



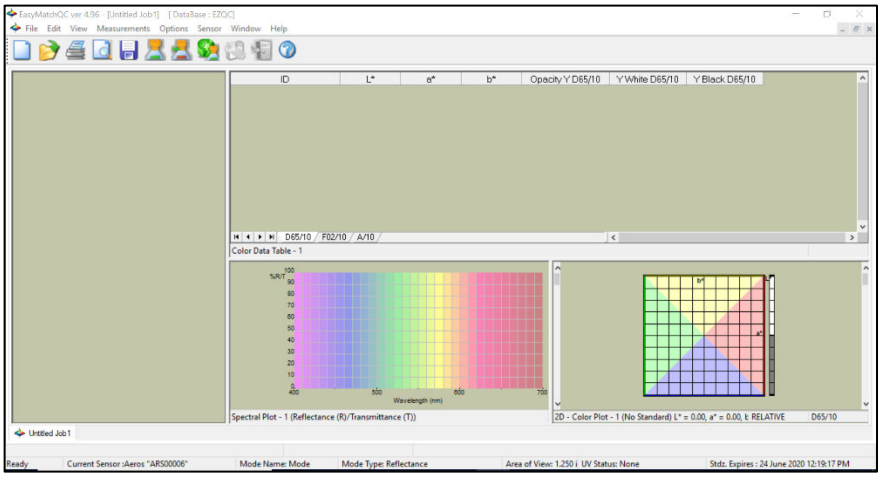
Configure Color Data Table

4. **Measure Samples**.
    a. Place the clean sample flush on the reflectance port.
    b. To measure opacity go to ***OPTIONS > READ METHOD*** and select ***OPACITY***. Select the Opacity parameters and press ***OK*** when done.



Options > Read Method

c. Press to ***READ SAMPLE***. You will be prompted to back the sample with white and then black. The screen shows the individual opacity readings plus the opacity calculation.



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About HunterLab

HunterLab, the first name in color measurement, provides ruggedly dependable, consistently accurate, and cost effective color measurement solutions. With over 6 decades of experience in more than 65 countries, HunterLab applies leading edge technology to measure and communicate color simply and effectively. The company offers both diffuse/8° and a complete line of true 45º/0º optical geometry instruments in portable, bench-top and production in-line configurations. HunterLab, the world's true measure of color.

The world's true measure of color
HunterLab