

# Measuring Tomato Scores Using Agera

Part No. A60-1019-459



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For EasyMatch Essentials 100.0051 and Above with Agera-Tomato Option

## Measuring Tomato Scores Using Agera

This option features the measurement of Tomato Scores: Fresh Tomato Color Index (C/2), Tomato Paste (C/2), Catsup (C/2), Tomato Sauce (C/2), Tomato Juice (C/2), Tomato a/b Ratio (C/2). This option includes: HunterLab Tomato Tile (L02-1014-594), (2) 64 mm (2.5 in) OD Glass Sample Cups (04-7209-00), Port for Sample Cup (D02-1018-615) and Sample Cup Cover (04-4000-00).

### SETTING UP THE INSTRUMENT

#### Standardization

From the **WORKSPACE** menu, select **STANDARDIZATION**. You can also press the Standardization button in the Status bar as a shortcut.

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

- **READ BLACK GLASS:** Place the Agera black glass at the sensor port and press **READ**. Make sure that the line on the tile matches the port plate white line.

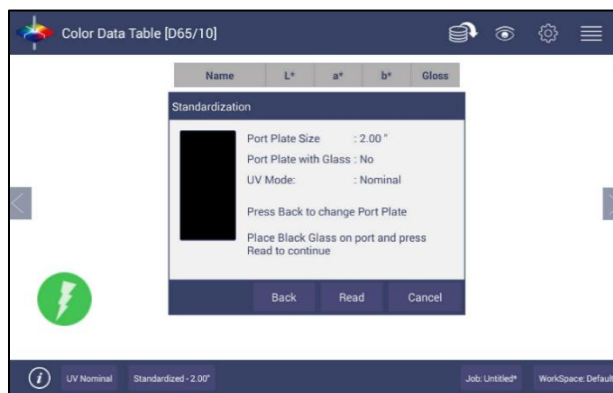


Figure 1. Read the Black Glass for Bottom-of-Scale

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

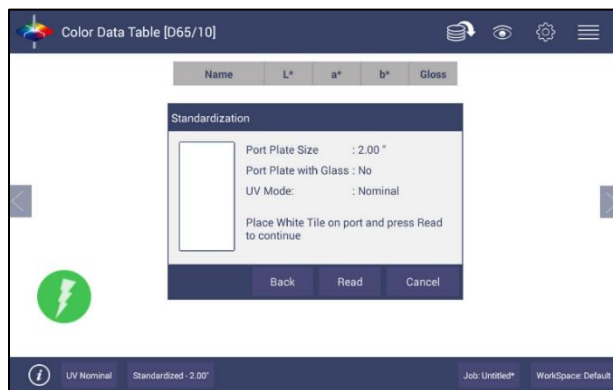


Figure 2. Read the White Tile for Top-of-Scale

- Remove the calibrated white tile when standardization is completed. Click **OK**.

- Standardization is updated and reported as **STANDARDIZED** in the bottom status bar along with UV Mode and Port Plate Size.

### Select Views

Go to **WORKSPACE > VIEWS** to select the screen views to be used. Simply check on the box of the screen needed. Press **APPLY** to save one or all of the screens. Tomato Scores are displayed on the **COLOR DATA TABLE** and **EZ VIEW**. To navigate between screens once the selections have been applied, use the **VIEW FLIPPERS** on the left and right of the screen. EZ View allows you to eliminate the color scale and display results – one sample at a time.



Figure 3. Workspace Views

- VIEW OPTIONS** for EZ View includes the selection of **NO COLOR SCALE**, **PASS/FAIL**, **IMAGE VIEW**, **PRECISION** and **FONT SIZE**.
- VIEW OPTIONS** for Color Data include **UV MODE**, **IMAGE STATUS**, **PORT PLATE SIZE**, **TOLERANCES**, **DATA ORDER**, **DATE**, **IMAGE VIEW**, **TIME** and **PASS/FAIL**.

### Setup Tomato Indices

Go to **WORKSPACE > COLOR SCALES** provide four tabs in which the **SCALES**, **INDICES**, **DIFFERENCES** AND **ILLUMINANT/OBSERVER (ILL/OBS)** can be configured.

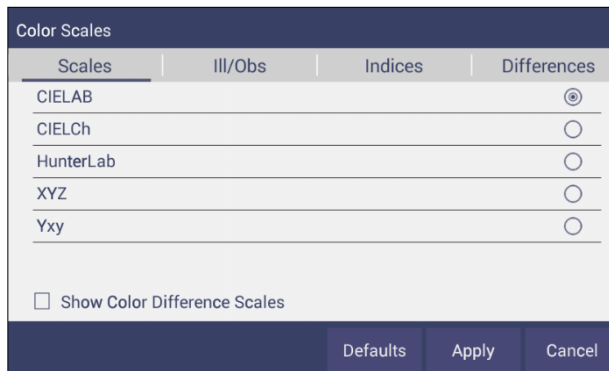


Figure 4. Color Measurement Scales

- The **SCALES** Tab shows the five scales available for measurement. Select the absolute scale or color difference scales (if a standard is selected). Press **APPLY** and begin to read your samples.
- The **ILLUMINANT/OBSERVER** tab displays combination selections for these parameters. The Tomato Scores use C/2.

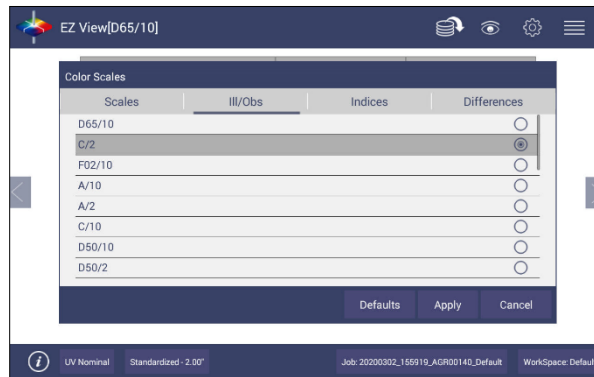


Figure 5. Illuminant/Observer Configuration

- To select indices, go to the **INDICES** tab and check the corresponding box on the right side. Multiple selections are available for Tomato Scores. To remove all selections, press **CLEAR ALL**. To see more choices, the screen can be scrolled. Press **APPLY** to continue.

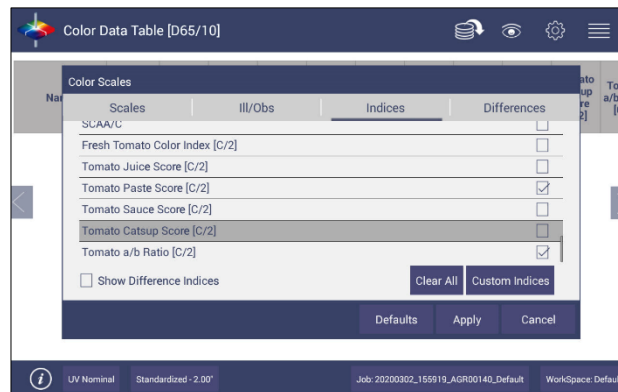


Figure 6. Index Configuration

## Setting Tolerances

Tolerances can be manually entered for Scales, Indices and Differences. Tolerances will be displayed on the measurement screen if enabled under **VIEW OPTIONS** for the Color Data and EZ View Screens. Pass/Fail based on these tolerances can also be viewed on these screens.

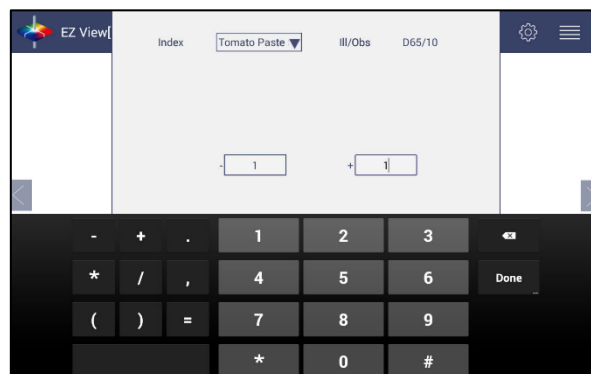


Figure 7. Indices Tolerance Configuration

## Using A Hitch To The Tomato Red Tile

The purpose of the Tomato Red Tile is to improve inter-instrument agreement in Tomato Score values at multiple sites, or between a buyer and seller of processed tomato products. The hitch standard is particularly important for the Agera Tomato because in the first setup hitches the instrument to the assigned values of the Tomato Red tile.

At the factory, the values for the Tomato Red tile ( $C/2^\circ$ ) have been entered along with the product views. If it is necessary to re-set the hitch, here is the procedure.

1. Go to **WORKSPACE > STANDARD AND TOLERANCES**.
2. Place Tomato tile on the port plate and select **READ**.
3. After reading, select **HITCH**. The Standard is displayed under **AS READ**. Enter the **TARGET VALUES** from the back of the tile.
4. Check the **APPLY HITCH** box and press **OK**.

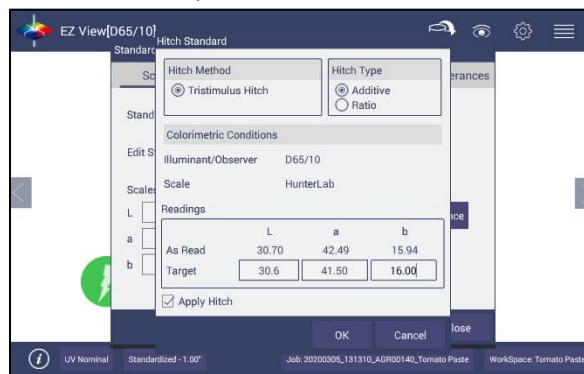


Figure 8. Hitch Standardization

5. On the next page press **APPLY** if you want to use the Tomato Tile as your standard for this job. **Or** you can select to save the hitched standard into database without applying it to the current measurement.

## READING TOMATO SAMPLES

Complete the following steps to take individual readings using the Agera:

1. When beginning measurements of tomato products, it is recommended to read the hitched tomato Red tile as a Performance Qualification check. If the instrument is still hitched correctly, it should read the assigned Hunter Lab  $C/2^\circ$  values closely. If not, reset the hitch to the Tomato Red tile as described under **USING A HITCH TO THE TOMATO RED TILE**.
2. To measure a sample, pour or spoon the sample into a 64 mm (2.5 in) glass sample cup until the cup is almost full.
3. Place the sample cup in the recessed area of the sample cup port plate
4. Cover the sample cup with the sample cup opaque cover.
5. Measure the sample by pressing the **READ** key.
6. The result is displayed.
7. To create a standard for difference calculations, a long press on the Sample name will provide the option to **SET AS STANDARD**.

8. Remove the sample cup from the sample port and place the next sample at the port.
9. Press **READ** to take another reading using this product setup.

Name	Pass/Fail	L	a	b	Tomato Paste Score [C/2]	Tomato a/b Ratio [C/2]
Standard_20200302161307		30.79	42.64	16.01	57.74	2.60
Sample3	Pass	29.07	31.85	11.80	55.27	2.63
Sample2	Pass	28.65	39.63	14.86	58.53	2.60
Sample1	Pass	30.79	42.64	16.01	57.74	2.60

**Figure 9. Tomato Score Readings in CDT**

Name	Standard_20...	Sample3
Tomato Paste Score [C/2]	57.74	55.27
Tomato a/b Ratio [C/2]	2.60	2.63

**Figure 10. Tomato Scores in EZ View**