Evolving Image Processing

Color CCD Camera

High performance headlight tester equipped with a color CCD camera to determine the color shade that supports various lights and light sources.
Color Analysis Close to That of Human Eyes Has Been Achieved

[Color Image Processing Headlight Tester]

Can perform analysis close to that of human eyes by taking advantage of the characteristics of a color camera to determine the color shade of the light from the balance of the RGB values. It can accurately determine the light distribution form and color shade of light sources ranging from the red light source of a halogen lamp to the blue light sources of HID and LED lights. It can also reliably support new light sources.

Evolving Image Processing Method

The color image processing method supports lights that are becoming more diverse. It enables accurate measurement. Conventional image processing headlight testers have performed measurement by capturing the light of the headlight with a monochrome CCD camera. The color image processing headlight tester recognizes the accurate light distribution of the light from the image captured with a color CCD camera in order to support new light sources and their light distributions which are becoming more diverse. It strongly supports the measurement and adjustment work of customers.

Using Latest Technology RGB Color Method

It can perform analysis close to that of human eyes by taking advantage of the characteristics of a color camera to determine the color shade from the RGB values*. It can accurately measure light sources ranging from the red light source of a halogen lamp to the blue (white) light sources of HID and LED lights. It can also reliably support new light sources.

Proposal Service Realized

The image of the light distribution pattern of various lights is processed and the irradiation direction and luminosity are displayed instantly. Proposal service that can persuade customers can be realized.

Reliable Support for All Headlights!

Reliable support for light distribution patterns such as those of a Z-beam and various new light sources such as HID and LED increases the work range.

Chromaticity Display Function to Allow You to Easily Determine the Color Shade of Light Added

The function can display the CIE chromaticity diagram and JIS chromaticity range table. The color shade of the light can be used as a criterion, which also can be used to explain to your customer.

Variety of Measurement Modes

A variety of measurement modes are available to meet various measurement requirements. The measurement modes support all lights and display the measurement results in an easy-to-view and easy-to-understand manner. The modes can be switched with operation buttons.

*Photometric value

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[Image of color image processing headlight tester]

[Image of red light source (halogen lamp) and blue (white) light sources (HID/LED)]

[Image of CIE chromaticity diagram and JIS chromaticity range table]

[Image of variety of measurement modes]
Speed

Instant Alignment and Measurement

The previous tester detected the light center from the brightest part of the light to align with it. This tester instantly determines the representative light form (multi-reflector projector) by subdividing the measurement logic. It detects the light center from the form to increase the alignment speed. The work efficiency has been substantially increased.

Since the center of the light source of the headlight is determined accurately, the light receiver does not move even if the irradiation direction changes during adjustment work. The adjustment work can be performed smoothly without any unnecessary movement.

Arbitrary Adjustment

The adjustment work is completed by just moving the target (cross mark) within the square pass range frame. The work can be performed easily without relying on intuition or a number. Once the target enters the square pass range frame, a double-size image is automatically displayed to facilitate the adjustment work.

Easy-to-read Measurement Results Screen

Measurement results can be checked all at once on the measurement results screen. Measurement data can be stored by pressing an operation button so work efficiency is substantially improved.

Useful Functions

- **Adjust Mode**
  The target can be moved to any position for a special light for which the elbow point is hard to acquire. When the position is determined, the optical axis can be adjusted as the target follows during light adjustment.

- **Screen Mode**
  Adjustment to an arbitrary position can be performed by placing the virtual cutline (adjustment target) and aligning the light image with it.

Setting the irradiation direction arbitrarily (frees the cutoff line to the target position). This function can adjust the light to align it with the cutoff line.

The function can easily determine the color shade of the light under measurement. The chromaticity display mode changes alternately each time the operation button is pressed.

The function displays the entire headlight image captured with the camera.

The headlight image captured with the camera is displayed without processing the image.

The headlight image captured with the camera is tonalized (white and black) and displayed.
**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Model (HL-2015)</th>
</tr>
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<tbody>
<tr>
<td>Model</td>
<td>HL-2015</td>
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<tr>
<td>Model test number</td>
<td>JASEA-H-39</td>
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<tr>
<td>Measurement method</td>
<td>Automatic light condensation</td>
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<tr>
<td>Measurement distance (m)</td>
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<tr>
<td>Light measuring height measurement range (cm)</td>
<td>75–1,200</td>
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<tr>
<td>Low-beam light (luc)</td>
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<tr>
<td>Fog light (luc)</td>
<td>1,000</td>
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<tr>
<td>High-beam light(low-beam light)</td>
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<tr>
<td>Fog light</td>
<td>1,000</td>
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<tr>
<td>Luminosity</td>
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<tr>
<td>Luminosity/illumination direction</td>
<td>LCD digital</td>
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<td>Light distribution/alignment</td>
<td>Image/optical</td>
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<td>Power supply</td>
<td>AC 100 (5A, 50/60Hz)</td>
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<tr>
<td>Tester dimensions (mm)</td>
<td>W944×D745×H1,520</td>
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<td>Tester weight (kg)</td>
<td>Approx. 1.78</td>
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<td>Standard accessories</td>
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<tr>
<td>Rail dimensions (mm)</td>
<td>W600×4,500/5,500</td>
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</table>

**External Dimensions**

**Response to New Standards as a Result of Revised Safety Standards for the Headlights**

As a result of the establishment of safety standards details by notification in the official gazette, the inspection method of the headlights was changed effective September 1, 1998, so the measurement of the low-beam was added to the current measurement of the high-beam so that the headlights are inspected by measuring the high-beam and low-beam.

**Inspection Flow at Service Shop**

- **The high-beam light has passed the inspection according to the old standards?**
  - Yes
  - No
  - Was the vehicle produced on or after September 1, 1998?
    - Yes
    - No
  - If the adjustment possible by service according to the old standards?
    - Yes
    - No

- **Adjust the low-beam light**
  - Use the headlight tester for low-beam light measurement
  - Finished (passed)
  - Finished (failed)

- **The low-beam light has passed the inspection according to the new standards?**
  - Yes
  - No

- **Adjustment to the measurement of the new standards**
  - Yes
  - No

If the inspection fails, the reinspection must be performed according to the new standards.
- If the vehicle was produced on or before August 31, 1998, the high-beam light must be reinspected.
- If the vehicle was produced on or after September 1, 1998, the low-beam light must be reinspected.

**Vehicle Alignment Laser Printer**

CD: 01201052

**Protection Fence**

CD: 01210615

Before using this product, carefully read the precautions indicated by **DANGER**, **WARNING**, and **CAUTION** in the manual supplied with this product to ensure correct use.