by sensor **56** is then converted to an electronic signal which passes to microprocessor **52** through a wire **58**.

The situation shown in FIG. **4** is duplicated for each of lamps **32**, so that signals responsive to the light intensity sensed from each of lamps **32** is provided to microprocessor **52** as a separate electronic input through the respective wires **58**.

Similarly, microprocessor **52**, as stated before, defines electronic outputs **60** to wattage regulators **61**, which separately communicate with the individual lamps **32**, so that microprocessor **52** can adjust the intensity of emission of each lamp **32** on an individual basis in a manner which is responsive to the feedback received through sensor **56** in each instance.

Thus, by this invention, the output of the respective lamps **32** can be continuously monitored and adjusted to fit a predetermined, desired standard by three means:

1. Simply by raising or lowering platform **18** by means of motor **28**;

2. By the controller (Analog or RAM and Microprocessor) **52**, changing the output of lamps **32** through the wattage regulator **61**, using inputted data; or

3. A combination of the above two methods.

Accordingly, the intensity of the light (irradiance) on the sample can be controlled, and continuous adjustment can be made to conform with the testing requirements required by the appropriate test procedure.

Also because of this, it can be assured that the actual irradiation provided to the respective samples **20** on different runs of the lightfastness testing chamber can be readily correlated with each other for accurate lightfastness and other stability data.

As shown in FIG. **6**, the lower tip of light transmission rod **54** may be sheathed with a metal sleeve **63**, which may extend the entire length of rod **54** if desired. Sleeve **63** may extend below the lower end of light transmission rod **54**, to limit the angle a of light acceptance to rod **54** and thus to sensor **56**. This expedient can help in assuring that the only significant light that passes through each light rod **54** to its respective sensor **56** is light directly emitted from the associated lamp **32**. Thus, the independence of the data received from each sensor **56** is assured in that the light emission from each separate lamp **32** is separately sensed with less interference from other light sources, particularly the other lamps.

Referring to FIG. **7**, as an alternative, light rod **54** may carry a similar sleeve **62**, in which the lower end of the sleeve **62** defines an inner flange **64** to limit the aperture at the lower end of the light rod. This also can serve to make the light rod more selective as to the source of light that it receives, so that only the light from the associated lamp **32** is sensed by a given sensor **56**.

FIG. **8** illustrates a method for calibrating the irradiance of the individual lamps to a quantitative level. Once this is done, the relative data provided by the sensors **56** and microprocessor **52** in accordance with this invention is correlated with absolute data, to provide a desired, quantitative irradiance from each of lamps **32** to samples on platform **18**.

As a first step, one places a master calibrator sensor on platform **18**. Such known sensors are able to provide quantitative sensing of the radiation from lamps **32**, to provide a numerical readout of the intensity thereof.

After initializing of all variables, a first of the lamps **32** is ignited. The irradiance is measured by the master calibration sensor, and the intensity of radiation of the lamp **32** is adjusted to the desired level as indicated by the numerical readout of the master calibration sensor.

The lamp wattage is then monitored and if not within desired limits the lamp should be removed and replaced. Otherwise, the process continues.

One then records the master sensor output versus the measurement of individual lamp irradiation output, as measured With the associated individual monitoring apparatus, namely light rod **54** and light sensor **56**.

Then, each individual light monitoring system comprising the light monitor **56** and the individual wattage regulator **61**, controlled through ROM and microprocessor **52**, can be adjusted to maintain the appropriate value sensed by the individual light monitor as a correlation with the master sensor output.

The same process is then performed with respect to the next lamp, with the irradiance data being stored with respect to each lamp until all lamps have been thus calibrated. Following this, one removes the master calibration sensor.

From that time on, it can be known that the given irradiation output sensed for each lamp will result in a known total irradiance at the sample site. This calibration data remains good until the operating characteristics of the system change with aging.

The above has been offered for illustrative purposes only, and is not intended to limit the scope of the invention of this application, which is as defined in the claims below.

That which is claimed is:

1. The method of calibrating the light output of a multi-lamp lightfastness testing chamber defining a sample testing area in said chamber, which comprises:

sequentially turning on and off each lamp by itself, while

measuring from said sample testing area the irradiation provided by each lamp, while

adjusting the intensity of irradiation for each lamp to a desired level, and thereafter

sensing with individual lamp sensor means spaced from the sample testing area the light intensity of each individual lamp, and adjusting power to each lamp so that the sensed light intensity of each lamp is maintained within predetermined limits corresponding to the irradiation level measured from said sample testing area.

2. The method of claim **1** in which one senses with individual sensor means the light intensity of each individual lamp from a side of each lamp that is substantially opposed to portions of each lamp that directly irradiate said sample testing area.

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