

Claims

1. An LED light source, comprising:
 - a mounting substrate; and
 - a plurality of plant cultivation LED packages on the mounting substrate, each of the plurality of the plant cultivation LED packages including:
 - a substrate different from the mounting substrate;
 - at least one blue LED chip, provided on the substrate, for emitting blue light having a light emission peak at a wavelength in a range of 400 nm to 480 nm;
 - a red phosphor mixed resin which is provided so as to directly cover the blue LED chip and contains red phosphors being dispersed or settled down therein, each of the red phosphors emitting in response to excitation light emitted from the blue LED chip, red light having a light emission peak at a wavelength in a range of 620 nm to 700 nm; and
 - a silicone resin which is transparent, has a dome shape, and is provided so as to cover the red phosphor mixed resin.
2. The LED light source as set forth in claim 1, wherein as the plurality of plant cultivation LED packages, LED packages have different light amount ratios of blue region emission light to red emission light are provided in combination.
3. The LED light source as set forth in claim 1, wherein the substrate is made of ceramic or film-like base material.
4. The LED light source as set forth in claim 1, wherein each of the red phosphor mixed resin has a dome shape.
5. The LED light source as set forth in claim 1, further comprising illumination LED packages other than the plant cultivation LED packages provided on the mounting substrate.

Claims

1. An LED light source, comprising:

a mounting substrate; and

a plurality of plant cultivation LED packages on the mounting substrate, each of the plurality of the plant cultivation LED packages including:

a substrate different from the mounting substrate;

at least one blue LED chip, provided on the substrate, for emitting blue light having a light emission peak at a wavelength in a range of 400 nm to 480 nm;

a red phosphor mixed resin which is provided so as to directly cover the blue LED chip and contains red phosphors being dispersed or settled down therein, each of the red phosphors emitting in response to excitation light emitted from the blue LED chip, red light having a light emission peak at a wavelength in a range of 620 nm to 700 nm; and

a silicone resin which is transparent, has a dome shape, and is provided so as to cover the red phosphor mixed resin, as the plurality of plant cultivation LED packages, LED packages having different light amount ratios of blue region emission light to red region emission light being provided in combination.

2. The LED light source as set forth in claim 1, wherein the substrate is made of ceramic or film-like base material.

3. The LED light source as set forth in claim 1, wherein each of the red phosphor mixed resin has a dome shape.

4. The LED light source as set forth in claim 1, further comprising illumination LED packages other than the plant cultivation LED packages provided on the mounting substrate.