What is claimed is:

1. An agricultural sunlight transmission lighting system, characterized in that, the system comprises a controller, a light condenser, a main driving mechanism and an illuminator, wherein controlled by the controller, the light condenser is driven by the main driving mechanism to track the sun so as to reflect and/or refract sunlight to the illuminator;

wherein a light path between the light condenser and the illuminator is provided with a light guide mirror, a number of the light guide mirror is 0 or more than 0;

in a case that the number of the light guide mirror is 0, the illuminator is driven to move by a secondary driving mechanism to allow an illuminated object to receive lighting in a scanning pattern;

in a case that the number of the light guide mirror is more than 0, the illuminator and/or the light guide mirror is driven to move by a secondary driving mechanism, the illuminator cooperates with the light guide mirror to allow an illuminated object to receive lighting in a scanning pattern; and

wherein said lighting in a scanning pattern refers to alternating light and dark lighting.

2. The agricultural sunlight transmission lighting system according to claim 1, characterized in that, the illuminator is a reflector, a lens, a light guide plate or a combination thereof, and the illuminated object is microalgae or plants.

3. The agricultural sunlight transmission lighting system according to claim 1 or 2, characterized in that, the light guide mirror is in the shape of a plate, a curved plate, a wheel, a pyramid, a prism, a windmill or a fan blade, and a reflecting surface of the light guide mirror is a plane or a curved surface, and the light guide mirror and/or the illuminator are fixedly installed or are driven to move by a secondary driving mechanism.

4. The agricultural sunlight transmission lighting system according to claim 1 or 2, characterized in that, the system further comprises a fill light, wherein the fill light comprises a driving circuit and a light source, and the driving circuit outputs a pulse current to drive the light source to give out pulsed light.

5. The agricultural sunlight transmission lighting system according to claim 3, characterized in that, the system further comprises a fill light which is disposed in front of the light guide mirror or the illuminator that is driven to move by the secondary driving mechanism, wherein the fill light comprises a driving circuit, a spotlight reflector and a light source, and a beam emitted by the fill light passes through the light guide mirror and/or the illuminator which are moving, to provide lighting to the illuminated object in a scanning pattern.

6. The agricultural sunlight transmission lighting system according to claim 1 or 2, characterized in that, the system further comprises a solar photo-thermal utilization device which is disposed on a branched light path of the light condenser, wherein the light condenser driven by the main driving mechanism moves the beam from a main light path to the solar photo-thermal utilization device on the branched light path.

7. The agricultural sunlight transmission lighting system according to claim 3 or 5, characterized in that, the system further comprises a solar photo-thermal utilization device which is disposed on a branched light path of the light condenser or the light guide mirror, wherein the light condenser driven by the main driving mechanism moves the beam from a main light path to the solar photo-thermal utilization device on the branched light path, or the light guide mirror driven by the secondary driving mechanism moves the beam from the main light path to the solar photo-thermal utilization device on the branched light path.

8. A greenhouse fitting the agricultural sunlight transmission lighting system according to one of claims 1-7, characterized in that, a facade or a top of the greenhouse is provided with one or more light through holes, a main optical axis of the agricultural sunlight transmission lighting system passes through one of the light through holes, and the greenhouse is internally provided with a supporting device of the illuminator.

9. The greenhouse according to claim 8, characterized in that, a suspended rail is disposed

above the greenhouse, and an agricultural robot and/or a basket can operate on the suspended rail or be transported on the suspended rail.

10. A method for obtaining a larger effective lighting cultivation area by utilizing sunlight by using the agricultural sunlight transmission lighting system according to one of claims 1-9, characterized in that, the method comprises:

step a, tracking, by a light condenser driven by a main driving mechanism, the sun;

step b, reflecting and/or refracting, by the light condenser, sunlight to an illuminator; and

step c, providing, by the illuminator, lighting to microalgae or plants;

wherein in step b, the light condenser reflects and/or refracts the sunlight to the light guide mirror, and then the light guide mirror is driven by the secondary driving mechanism to move so as to project the beam to a plurality of illuminators in a scanning pattern sequentially; and

in step c, the illuminator provides alternating light and dark lighting to microalgae or plants.

11. The method according to claim 10, characterized in that, when there's not need of lighting to the microalgae or plants, the main driving mechanism drives the light condenser or the light guide mirror driven the secondary driving mechanism to move the beam from a main light path and turn it to a solar photo-thermal utilization device on the branched light path so as to collect the sunlight for power generation and/or heat collection.

12. The method according to claim 10, characterized in that, the method further comprises a supplemental lighting step, wherein continuous light beams emitted by a fill light disposed in front of the light guide mirror or the illuminator are turned into pulse light after passing through the moving illuminator driven by the secondary driving mechanism.

13. A method for obtaining a larger effective lighting cultivation area by utilizing sunlight by using the agricultural sunlight transmission lighting system according to one of claims 1-9, characterized in that, the method comprises:

step a, tracking, by a light condenser driven by a main driving mechanism, the sun;

step b, reflecting and/or refracting, by the light condenser, sunlight to an illuminator; and

step c, providing, by the illuminator, lighting to microalgae or plants;

wherein in step b, the light condenser reflects and/or refracts the sunlight to the light guide mirror, and then the light guide mirror reflects the sunlight to the illuminator which is driven by the secondary driving mechanism to move; and

in step c, the illuminator provides alternating light and dark lighting to microalgae or plants.

14. A fill light system to provide lighting in a scanning pattern to plants, characterized in that, the fill light system comprises a fill light, an illuminator, and a driving mechanism, wherein the fill light comprises a driving circuit, a spotlight reflector and a light source;

wherein the fill light is disposed before a light guide mirror or the illuminator, a number of the light guide mirror is 0 or more than 0;

in a case that the number of the light guide mirror is 0, the fill light emits a light beam to the illuminator, and the illuminator is driven to move by the driving mechanism to allow an illuminated object to receive lighting in a scanning pattern;

in a case that the number of the light guide mirror is more than 0, the illuminator and/or the light guide mirror is driven to move by the driving mechanism; wherein in a case that the illuminator is driven to move by the driving mechanism, the illuminator provides lighting in a scanning pattern to an illuminated object, and in a case that the illuminator is kept static while the light guide mirror is driven to move by the driving mechanism, the light guide mirror provides lighting in a scanning pattern to the illuminated object;

wherein said lighting in a scanning pattern refers to alternating light and dark lighting, the illuminated object is microalgae or plants, and the light source is an artificial light source with light emitting spectrum suitable for fill lighting of plants.

15. The fill light system according to claim 14, wherein the light source is an agricultural sodium lamp or led lamp.