WHAT IS CLAIMED IS:

1. A method for adjusting color temperature based on screen brightness, comprising:

detecting (S110) a screen brightness of a screen subjected to a blue light filtering operation;

determining (S120) a reconstruction proportion of RGB optical spectral energy corresponding to the screen brightness and a target color temperature to be met according to pre-learned RGB optical spectral energy distribution information, the pre-learned RGB optical spectral energy distribution information comprising a correspondence between proportions of RGB optical spectral energy, screen brightnesses and color temperatures; and

adjusting (S130) the RGB optical spectral energy of the screen according to the reconstruction proportion, so as to make the RGB optical spectral energy of the screen subjected to the blue light filtering operation meet the target color temperature.

2. The method according to claim 1, wherein determining (S120) the reconstruction proportion of the RGB optical spectral energy corresponding to the screen brightness and the target color temperature to be met according to the pre-learned RGB optical spectral energy distribution information comprises:

acquiring a screen brightness level corresponding to the screen brightness; and

querying the pre-learned RGB optical spectral energy distribution information to acquire the reconstruction proportion corresponding to the screen brightness level and the target color temperature.

3. The method according to claim 1, wherein determining (S120) the reconstruction proportion of the RGB optical spectral energy corresponding to the screen brightness and the target color temperature to be met according to the pre-learned RGB optical spectral energy distribution information comprises:

querying a plurality of brightness ranges partitioned in advance, so as to determine a target brightness range including the screen brightness and a reference brightness corresponding to the target brightness range; and

querying the pre-learned RGB optical spectral energy distribution information to acquire the reconstruction proportion corresponding to the reference brightness and the target color temperature.

4. The method according to any of claims 1-3, wherein the method further comprises:

for each screen brightness level, pre-learning and storing a reconstruction proportion of the RGB optical spectral energy required for realizing a desired display effect of each color temperature so as to acquire the pre-learned RGB optical spectral energy distribution information.

5. The method according to claim 4, wherein for each screen brightness level, pre-learning and storing a reconstruction proportion of the RGB optical spectral energy required for realizing a display effect of each color temperature so as to acquire the pre-learned RGB optical spectral energy distribution information comprises:

for a predetermined screen brightness level, adjusting the RGB optical spectral energy of the screen in the initial state according to a predetermined color temperature;

acquiring a current color temperature according to the adjusted RGB optical spectral energy of the screen and determining whether the current color temperature meets the predetermined color temperature; and

when the current color temperature does not meet the predetermined color temperature, continuing adjusting the adjusted RGB optical spectral energy until the predetermined color temperature is met;

recording test data in the pre-learned RGB optical spectral energy distribution information, wherein the test data comprises: a correspondence between the predetermined screen brightness level, the predetermined color temperature and a reconstruction proportion of the RGB optical spectral energy.

6. The method according to claim 4, wherein for each screen brightness level, pre-learning and storing a reconstruction proportion of the RGB optical spectral energy required for realizing a display effect of each color temperature so as to acquire the pre-learned RGB optical spectral energy distribution information comprises:

presenting a display effect of a color temperature for a reconstruction proportion of the RGB optical spectral energy to a user for a predetermined screen brightness level;

receiving evaluation information fed back by the user to the display effect; and

recording test data in the RGB optical spectral energy distribution information according to the evaluation information, wherein the test data comprises: a correspondence between the predetermined screen brightness level, the first color temperature and the proportion of the RGB optical spectral energy.

7. The method according to claim 3, wherein the method further comprises:

detecting a screen brightness range;

determining the plurality of brightness ranges according to a predetermined number of ranges and the screen brightness range; and

determining a reference brightness corresponding to each brightness range.

8. The method according to claim 7, wherein determining the reference brightness corresponding to each brightness range comprises:

for each brightness range, acquiring a middle brightness in the brightness range as the reference brightness corresponding to the brightness range.

9. The method according to any of claims 1-8, wherein adjusting (S130) the RGB optical spectral energy of the screen according to the reconstruction proportion, so as to make the RGB optical spectral energy of the screen subjected to the blue light filtering operation meet the target color temperature comprises:

performing, by a plurality of first energy adjusting modules corresponding respectively to blue light, green light and red light, an initial adjustment on the RGB optical spectral energy according to the reconstruction proportion; and

performing, by a plurality of second energy adjusting modules corresponding respectively to blue light, green light and red light, a further adjustment on the RGB optical spectral energy initially adjusted by the first energy adjusting module, so as to make the RGB optical spectral energy of the screen subjected to the blue light filtering operation meet the target color temperature.

10. The method according to any of claims 1-8, wherein adjusting (S130) the RGB optical spectral energy of the screen according to the reconstruction proportion, so as to make the RGB optical spectral energy of the screen subjected to the blue light filtering operation meet the target color temperature comprises:

adjusting, by a plurality of third energy adjusting modules corresponding respectively to blue light, green light and red light, the RGB optical spectral energy of the screen according to the reconstruction proportion, so as to make the RGB optical spectral energy of the screen subjected to the blue light filtering operation meet the target color temperature.

11. The method according to any of claims 1-10, wherein detecting (S110) a screen brightness of a screen subjected to a blue light filtering operation comprises:

acquiring a proportion of filtered blue light;

substituting the proportion of filtered blue light into a screen brightness formula to acquire the screen brightness.

12. The method according to any of claims 1-10, wherein detecting (S110) a screen brightness of a screen subjected to a blue light filtering operation comprises:

acquiring the screen brightness using a brightness sensor.

13. A non-transitory computer-readable storage medium, having a computer program stored thereon, wherein when the computer program is executed by a device, the device is caused to perform the method according to any of claims 1-12.

14. A terminal device (1000), comprising a memory (1100), a processor (1200), and a computer program (1300) stored on the memory (1100) and executable on the processor (1200), wherein when the processor (1200) executes the computer program (1300), the terminal device (1000) is caused to perform the method according to any of claims 1-12.