What is claimed is:

1. An illumination control system connected to an illumination unit installed in a management area, the system comprising:

a motion sensor acquiring position information of a person and action information of the person in the management area;

a necessary light amount holder holding position information of the illumination unit and necessary light amount information for the action information of the person;

a brightness control calculation unit acquiring a necessary amount of light corresponding to the action information of the person acquired by the motion sensor based on the necessary light amount information held by the necessary light amount holder, and calculating a brightness control amount based on the position information of the illumination unit to set the acquired necessary amount of light at a place indicated by the position information of the person acquired by the motion sensor; and

an illumination unit controller controlling the illumination unit using the brightness control amount calculated by the brightness control calculation unit.

2. The system of claim 1, wherein the motion sensor is a camera unit installed on one of a wall, a ceiling, and a desk in the management area.

3. The system of claim 2, wherein the camera unit includes a unit switching the camera unit to a security operation mode of storing image information of an image taken when the presence of a person is detected.

4. The system of claim 1, further comprising an entering person detection unit composed of any one of an infrared sensor, an ultrasonic sensor, a distance sensor, an RFID tag, and an IC card reader and is installed at an entrance of the management area, wherein the brightness control calculation unit calculates the brightness control amount to increase the amount of light of the illumination unit in the management area when the entering person detection unit detects an entering person.

5. The system of claim 1, wherein based on a distance calculated from the position information of the person in the management area and the position information of the illumination unit, the brightness control calculation unit calculates the brightness control

amount of the illumination unit to form a distribution of light amount which is the highest at the person and decreases away from the person in a stepwise fashion.

6. The system of claim 1, wherein

the management area is composed of a plurality of types of areas in which the person performs different actions,

the necessary light amount holder holds a necessary amount of light of each action of the person for each area type, and

the brightness control calculation unit specifies an area type corresponding to the position information of the person acquired by the motion sensor based on the held necessary light amount information, acquires the necessary amount of light corresponding to the action information of the person in the specified area type, and calculates the brightness control amount of the illumination unit to set the acquired necessary light amount at the place indicated by the position information of the person acquired by the motion sensor.

7. The system of claim 6, wherein the area type is set based on movement trajectory information of the person obtained by the motion sensor and accumulated.

8. The system of claim 1, wherein

the motion sensor includes a person identification determination unit,

the necessary light amount holder holds the position information of the illumination unit and the necessary light amount information for the action information of the person, and

the brightness control calculation unit acquires a necessary amount of light corresponding to the action information of the person determined by the motion sensor based on the held necessary light amount information, and calculates the brightness control amount of the illumination unit to set the acquired necessary amount of light at the place indicated by the position information of the person acquired by the motion sensor.

9. The system of claim 1, wherein the brightness control calculation unit acquires the movement trajectory information of the person in the management area acquired by the motion sensor and accumulated, predicts a direction that the person moves based on the movement trajectory information, and calculates the brightness control amount to increase an amount of light of the illumination unit located in the predicted direction.

10. The system of claim 1, wherein the brightness control calculation unit acquires information on orientation of the person acquired by the motion sensor, predicts the direction that the person moves based on the information on the orientation, and calculates the brightness control amount to increase an amount of light of the illumination unit located in the predicted direction.

11. The system of claim 1, wherein

the motion sensor acquires specific marker information shown by the person in the management area, and

the brightness control calculation unit acquires the marker information acquired by the motion sensor and calculates the brightness control amount to control the amount of light of the illumination unit based on the marker information.

12. The system of claim 1, further comprising a database server acquiring and storing person detection result information, movement trajectory information, illumination control history information, sensing history information by the motion sensor in the management area.

13. An illumination control method using an illumination control system connected to an illumination unit installed in a management area, comprising:

holding position information of the illumination unit and necessary light amount information for action information of a person in the management area;

acquiring position information of the person and action information of the person in the management area;

acquiring a necessary amount of light corresponding to the acquired action information of the person based on the held necessary light amount information;

calculating a brightness control amount based on the position information of the illumination unit to set the acquired necessary amount of light at a place indicated by the acquired position information of the person; and

controlling the illumination unit with the calculated brightness control amount.

What is claimed is:

1. An illumination control system can be connected to an illumination unit installed in a management area, the system comprising:

a motion sensor acquiring position information and action information of a person in the management area;

a necessary light amount holder holding position information of the illumination unit and necessary light amount information for the action information of the person;

a brightness control calculation unit acquiring a necessary amount of light corresponding to the action information of the person acquired by the motion sensor based on the necessary light amount information held by the necessary light amount holder, and calculating a brightness control amount based on the position information of the illumination unit to set the acquired necessary amount of light at a place indicated by the position information of the person acquired by the motion sensor; and

an illumination unit controller controlling the illumination unit using the brightness control amount calculated by the brightness control calculation unit.

2. The system of claim 1, wherein the motion sensor is a camera unit installed on one of a wall, a ceiling, and a desk in the management area.

3. The system of claim 1, wherein based on a distance calculated from the position information of the person in the management area and the position information of the illumination unit, brightness control calculation unit calculates the brightness control amount of the illumination unit to form a distribution of light amount which is the highest at the person and decreases away from the person in a stepwise fashion.

4. The system of claim 1, wherein

the management area is composed of a plurality of types of areas in which the person performs different actions,

the necessary light amount holder holds a necessary amount of light of each action of the person for each area type,

the brightness control calculation unit specifies an area type corresponding to the position information of the person acquired by the motion sensor based on the held necessary light amount information, acquires the necessary amount of light corresponding to the action information of the person in the specified area type, and calculates the brightness control amount of the illumination unit to set the acquired necessary light amount at the place indicated by the position information of the person acquired by the motion sensor.

5. The system of claim 4, wherein the area type is set based on movement trajectory information of the person obtained by the motion sensor and accumulated.

6. The system of claim 1, wherein

the motion sensor includes a person identification determination unit,

the necessary light amount holder holds the position information of the illumination unit and the necessary light amount information for the action information of the person,

the brightness control calculation unit acquires a necessary amount of light corresponding to the action information of the person determined by the motion sensor based on the held necessary light amount information, and calculates the brightness control amount of the illumination unit to set the acquired necessary amount of light at the place indicated by the position information of the person acquired by the motion sensor.

7. The system of claim 1, wherein the brightness control calculation unit acquires the movement trajectory information of the person in the management area acquired by the motion sensor and accumulated, predicts a direction that the person moves based on the movement trajectory information, and calculates the brightness control amount to increase an amount of light of the illumination unit located in the predicted direction.

8. The system of claim 1, wherein the brightness control calculation unit acquires information on orientation of the person acquired by the motion sensor, predicts the direction that the person moves based on the information on the orientation, and calculates the brightness control amount to increase an amount of light of the illumination unit located in the predicted direction.

9. The system of claim 2, wherein the camera unit includes a unit switching the camera unit to a security operation mode of storing image information of an image taken when the presence of a person is detected.

10. The system of claim 1, further comprising an entering person detection unit composed of any one of an infrared sensor, an ultrasonic sensor, a distance sensor, an RFID tag, and an IC card reader and is installed at an entrance of the management area, wherein the brightness control calculation unit calculates the brightness control amount to increase the amount of light of the illumination unit in the management area when the entering person detection unit detects an entering person.

11. The system of claim 1, wherein the motion sensor acquires specific marker information shown by the person in the management area, and

the brightness control calculation unit acquires the marker information acquired by the motion sensor and calculates the brightness control amount to control the amount of light of the illumination unit based on the marker information.

12. The system of claim 1, further comprising a database server acquiring and storing person detection result information, movement trajectory information, illumination control history information, sensing history information by the motion sensor in the management area.

13. An illumination control method using an illumination control system can be connected to an illumination unit installed in a management area, comprising:

holding position information of the illumination unit and necessary light amount information for action information of a person;

acquiring position information and action information of the person in the management area;

acquiring a necessary amount of light corresponding to the acquired action information of the person based on the held necessary light amount information;

calculating a brightness control amount based on the position information of the illumination unit to set the acquired necessary amount of light at a place indicated by the acquired position information of the person; and

controlling the illumination unit with the calculated brightness control amount.