

What is Infra Red Light?

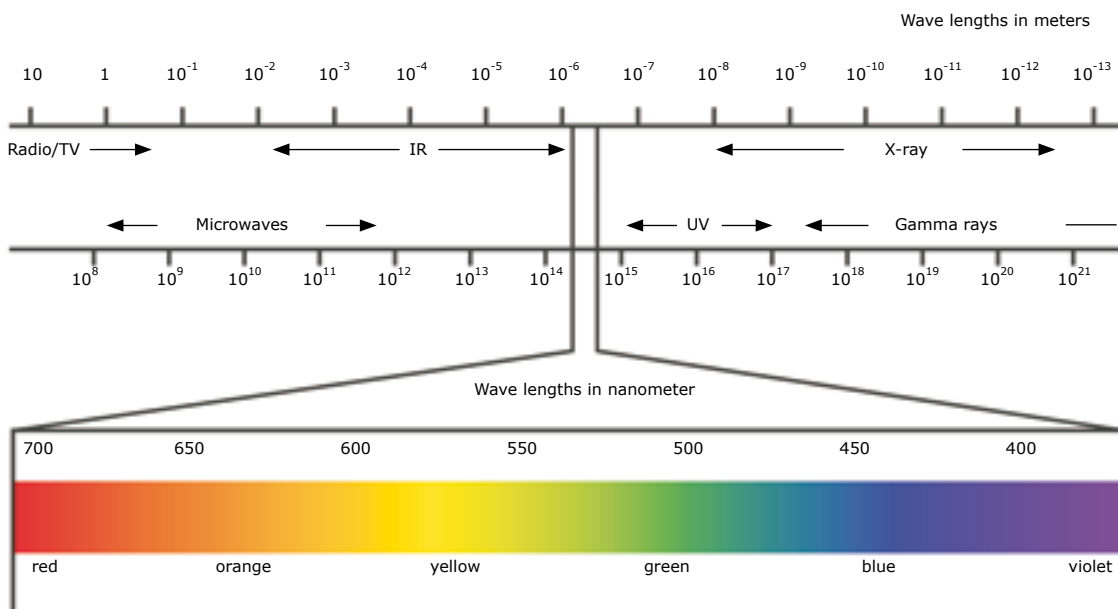
Colour or Monochrome Cameras?

The first question in planning a CCTV installation for day and night monitoring is whether or not you prefer colour or monochrome pictures. In most cases, end users would like colour images over b/w images. If this is the case, you also need to consider colour-correcting illumination so that the image is displayed in true colours. For example: lots of installers have to use yellow low-pressure sodium street lighting. When using alternative white lighting, you can degrade the performance of a CCTV system by inexact colour playback - a camera, even the best one is only as good as the light which is available. IR LED illuminators can illuminate over much larger distances than comparable white light illuminators.

What is infrared light (IR-light)?

IR-light is a light which is beyond the range of the human eye, or the eye can only see very poorly compared to monochrome CCTV cameras. Near IR-light is light, which is at a slightly longer wave length than visible light in the spectral range from 700 to 1100nm, just beyond the visible spectrum. This near IR-light is used for CCTV purposes.

Since IR-light does not include any colours which are visible to the human eye, it cannot be used for colour pictures. In order to see the IR-light you need monochrome or day/night cameras. CCTV cameras used with Infra-Red lighting always provide monochrome images. IR light is ideal for applications where covert monitoring is required, but also where even low levels of overt lighting will cause problems of light pollution.

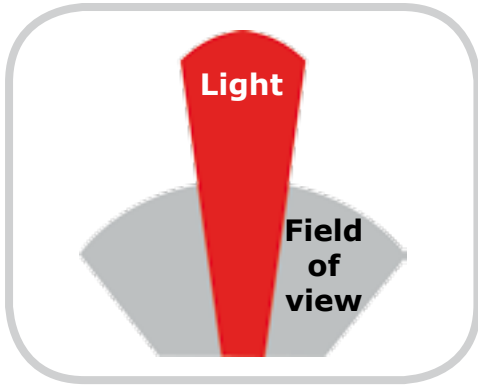


Beam Patterns

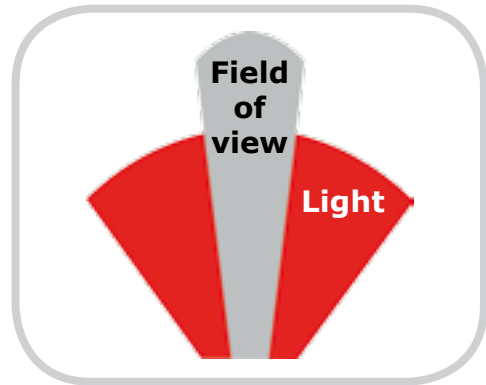
When planning CCTV illumination, the beam angle should always be adapted to cover the full field of vision of the camera. The correct angle of the illumination must be used to fully illuminate the scene. Modern Adaptive Illumination™ units allow the angle of the illumination to be adjusted on site to suit the specific requirements.

Technical Tip:

The beam angle of the illumination should always be adapted to the field of vision of the camera. The only practical way to achieve this is through Adaptive Illumination™.



If the beam angle is too narrow, it will result in 'white out' or glare in the middle of the picture. Therefore, the picture will not be correctly illuminated.



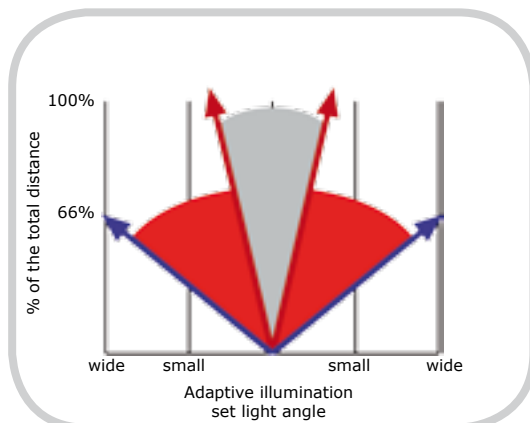
If the beam angle is too broad, the result will be a waste of energy and reduce the distance of illumination.

Traditional beam patterns

As standard, beam patterns from an illuminator are provided at a fixed angle, either narrow or wide. Historically, spot and flood lenses have dominated but more recently these have been rejected in favour of more precise angles such as 10, 30 or 60 degrees. However, these are still fixed angle output, meaning they are inflexible on site. If the lighting requirements change or if the cameras field of view is changed the lighting may be unacceptable. Also, it means that all lighting decisions must be made prior to installation which is often difficult. Often final lens decisions and viewing areas are made during the installation process.

Adaptive Illumination™ beam patterns

Many installations use vari-focal lenses and ideally the installer requires the same level of flexibility with lighting to maximise system performance. Adaptive Illumination™ (AI) products do not provide light at a fixed output angle, rather they provide a range of output angles allowing the installer to select the angle that covers the exact field of view and provides the highest quality images. Adjustment is quick and convenient and any angle is easily selectable.



**Raymax 100
Narrow setting**



**Raymax 100
Wide angle setting**