

## **Infra-Red Question & Answer**



### **HOW FAR CAN MY CAMERA SEE AT NIGHT WITH INFRA-RED LAMPS?**

The range that your camera will see in the dark will depend on sensitivity and spectral response of the camera and lens combination. Derwent produces a chart that gives an indication of the performance.

### **WHY DO I NEED AN INFRA-RED LAMP?**

The human eye cannot see infrared light, however most mono CCTV cameras can. As such the invisible light can be used to illuminate a scene, this allows night-time surveillance without the need for additional artificial lighting. Infrared also provides many other benefits above conventional lighting; IR beam-shapes can be designed to optimise CCTV camera performance, extended bulb-life, covert surveillance, lower running costs etc.

NB. It is important to design illumination for the CCTV camera.

### **WHY DERWENT LAMPS?**

Derwent lamps give several unique benefits – Low cost of ownership, increased bulb life, and reduced maintenance and bulb replacement costs. The Uniflood range also provides even-illumination via Cosec<sup>2</sup> system to enable the camera to work within its dynamic range. Derwent provide a high level of technical product support and can provide on-site demonstration and support of all their product range. Derwent are world leaders in Infra-Red CCTV surveillance.

### **CAN INFRA-RED LAMPS WORK WITH COLOUR CAMERAS?**

Derwent produce a night-time colour corrected lamp that gives white, visible light (this is not an IR lamp) – Please call for details. Infra Red lamps CAN NOT work with colour cameras. Normal artificial light e.g. sodium light, causes problems to the quality of the colour CCTV picture, not producing accurate colour quality. There is a range of dual-mode cameras now available, which will work with I.R. lamps when the camera is working in monochrome mode.

### **CAN INFRA-RED LAMPS BE USED FOR COVERT OPERATION?**

Yes. Infra-red lamps come in varying wavelengths from approximately 730nm to 950nm. The 730nm wavelengths will give the normal red glow on the lamp - like a traffic light. The 830nm lamp will greatly reduce the visible glow. The 950nm lamp is totally black and is ideal for covert use where no indication of night-time security is a requirement. WARNING a 950nm lamp will require a highly sensitive I.R. camera.

### **WHAT LENS DO I NEED?**

Derwent produce the following choice of beam patterns for Uniflood: 6° Spot (precise), 10° Cosec, 30° Cosec, 60° Flood (for local illumination). Note: The 10° and 30° cosec beams are designed for even illumination to replace traditional Spot/Flood combination. The lens and field of view of the camera should be matched to the lens and area of illumination of the lamp.

### **WHAT IS THE AVERAGE BULB LIFE OF INFRA-RED LAMPS?**

Bulb life is dependent on filament ruggedness and design. Derwent bulb life is considerably greater than the industry average due to the rugged halogen quartz bulb. Uniflood 500 – average 3,000hrs. Uniflood 300 – One-year normal use. Miniflood avg. 8,000 hours.

### **CAN I USE DERWENT UNIFLOOD LAMPS WITHOUT A POWER SUPPLY?**

No. The Derwent range is powered by a dedicated power supply, which includes a dusk/dawn photocell and is specially rated to optimise life and performance of the lamp.

Derwent use low voltage bulbs to increase safety and maximise lower cost of ownership

## **Infra-Red Question & Answer (Continued)**

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### **HOW DO I SPECIFY THE TYPE OF DERWENT LAMPS I REQUIRE?**

To order Derwent lamps you must specify the lamp including lens and filter and the power supply requirements i.e. single or twin system and bracketry if required. Example. UNIFLOOD 500/30/730 – This denotes the high performance Uniflood 500 with a 30° Cossec<sup>2</sup> Lens and a 730nm Filter.

### **WHAT IS COSEC<sup>2</sup>?**

Cossec<sup>2</sup> is the lens formula used to achieve even illumination in the Uniflood 500 and Uniflood 300, so that returned radiated energy to the camera is the same from wherever the subject is in the scene. This characteristic permits the camera to work within its dynamic range and avoids white out on the screen.

### **CAN DERWENT LAMPS BE SUPPLIED IN DIFFERENT COLOURS?**

Yes. The Uniflood series of lamps are manufactured as standard in black. However other colours can be supplied. Refer to Derwent.

### **WHAT IS THE BEST COMBINATION OF LENS WHEN USING ZOOM LENS?**

High spec schemes for long distance open scenes often use a long zoom lens – say 16mm-160mm specify 10° + 10° lamps. For a shorter zoom, say 10mm – 100mm a 10° + 30° is a usable twin lamp set-up – see lens chart.

### **CAN WE REDUCE OR EXTEND THE LEAD LENGTH BETWEEN THE PSU AND LAMP?**

Derwent's Uniflood 500 & 300 lamps are provided with a standard 4m lead between the PSU and lamp. This gives you maximum performance and bulb life. Reducing the lead may reduce bulb life, extending the lead will reduce IR performance but extend bulb life. There are taps in the PSU to allow for lengths up to 18M with 1.5mm<sup>2</sup> cable. Refer to Derwent for advice on your specific enquiry.

### **WHAT IS THE DIFFERENCE BETWEEN 10° COSEC Vs SPOT AND A 30° COSEC Vs FLOOD?**

Traditionally the industry uses spot and flood combinations to cover near and far scenes. The 10° and 30° cossec beams are designed to replace these and give even illumination over the scene. Derwent spot lamp gives a more precise 6° spot. The Flood gives wide 50-60° coverage and is intended for short-range local illumination.

### **CAN INFRARED LAMPS FACE THE CAMERA HEAD?**

No. Although the light emitted from the lamp is not visible to the human eye, the camera sees the light in much the same way as we see white light. As a result the camera will 'white out' if the lamp is situated within the cameras direct field of view.

### **HOW SAFE IS INFRA-RED?**

With over 20,000 Infra Red lamps installed in Europe each year Derwent is unaware of a single safety issue raised about IR used in CCTV. However as a basic rule of thumb, if you can feel the heat don't stare at the lamp. Derwent produces a paper regarding safe installation and use of its illuminators.

### **CAN THE LAMPS BE OPERATED REMOTELY?**

Yes – most Derwent power supplies have a built-in remote switch that allows on/off facilities via telemetry or PIR.