



Providing Excellence in Science Education

IPC Irwin Standard Raybox (24V)

Part Number OPS1024

User Instructions



INTRODUCTION.

The IPC Irwin Standard Raybox (24V) has been specifically designed as an easy to use light beam/ray generator. The Raybox is a low voltage, safe to use unit with the option of producing both a single light ray or triple light rays.

DESCRIPTION.

Our standard Raybox features a ventilated metal lamp housing manufactured from 20swg, black powder coated steel and comes supplied with a metal white powder coated reversible (single & triple) slit plate. The light source comprises a 24V/21W (drawing approx. 0.95Amps) SBC lamp with a vertical positioned axial filament and is fitted with a 1m connection cable, terminated with 2 x black 4mm plugs.

The standard Raybox provides the opportunity to perform many ray optics experiments and further investigations into the phenomenon of light. The Raybox requires a low voltage power supply, AC or DC, please see the IPC Irwin range of suitable Power Supplies.

INSTRUCTIONS.

To operate simply connect the Raybox to an AC or DC power supply set or adjusted to 24V, please note that the power supply must be capable of delivering up to 1Amp of current. Note: 24V is the maximum voltage allowed, but depending on the ambient light in the classroom a lower voltage operation is recommended. The higher the voltage the brighter the illumination and higher the heat from the filament lamp. Should the unit be used at the maximum voltage for a long period the housing will become hot, and care must be taken to avoid burns. A total blackout is not essential, but a lower voltage can be used simply by turning off the classroom lights. Depending on the experiments being performed the slit plate (light gate) can be orientated to select either one or three slits.

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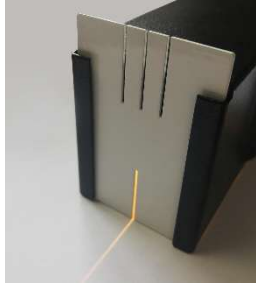
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EXPERIMENT SUGGESTIONS.



Place a piece of paper on the bench and lay the Raybox on it so that the paths of light rays can be simply traced out by drawing. You can then place lenses and prisms in front of the light gate to observe diffraction and how convex and concave lens affect the light path. Tip: use spectacles for long and short sight to further demonstrate the use of lenses in everyday objects.

SPECIFICATIONS.

Dimensions	= 150 x 65 x 65mm overall.
Mass	= 0.25kg
Lamp Type	= SBC (B15d) with axial filament.
Lamp Rating	= 24V/21W
Operating Voltage	= 24V (AC or DC) max.
Operating Current	= 0.9 Amps max.
Connection Lead	= 1m Lead terminated with 2 x Black 4mm Plugs.

PRECAUTIONS:

Do not cover the unit, do not touch the lamp until it has cooled, allow the unit to cool down before moving as this will prolong the life of the lamp. The unit is designed for Student experiments on geometrical optics, however adequate supervision must be maintained by a qualified, experienced Teacher or Technician. **Never leave the unit on unsupervised.**

When replacing the lamps only use a lamp rated at 24V/21W, with an axial filament. **Note:** the lamp holder is designed to be rotated in order to position the filament perfectly vertical.

Please Note: This Equipment is for Education, Training, or research Purposes Only.

Thank you for choosing this IPC Irwin product, which has specifically been designed for education and we know it will bring you good service long into the future. This is just one product of a wide range of UK designed and manufactured products to enhance a STEM education. Please see www.ipcirwin.com website for more details on the products and service we provide to support teaching and learning in science and technology.

IPC Irwin also provide Portable Appliance Testers and a Calibration service, for more details please go to www.ipcirwin.com or call our sales and technical support line on 015395 58555.



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