

## Levy Hill MkVI radiometer/photometer – advances in UV/Vis measurement for NDT

*Fluorescent penetrant checking and magnetic particle inspection are key diagnostic techniques in Non Destructive Testing in such industries as aerospace, castings and automotive & structural engineering. Key to successful inspection (and hence the safety of customers and the public alike) is accurate and reliable monitoring of assessment tools.*

### Background

Detection of flaws and cracks in materials and structures used in the manufacture of aerospace components is understandably vital to the safety of all air travellers. Similar requirements are also manifest in other manufacturing areas including automotive and structural engineering.

Two common techniques for crack detection are fluorescent penetrant checking and magnetic particle inspection. Both techniques rely upon the ingress of an applied fluorescent dye into flaws – with the flaw being subsequently visible under UV illumination.

In carrying out such processes it is essential that the performance on the “checking tools” is closely monitored. Specifically:

- ◆ the dye emits the correct amount of visible light
- ◆ the UV lamp emits the correct amount of UV light with minimum visible light in its spectrum
- ◆ the ambient lighting conditions are acceptable

Such is the importance of these checks is that they are prescribed by various standards bodies. Such standards include British Standards BS4489 and BS667, Civil Aviation Authority Air Worthiness Notice 95 and Rolls Royce Standard RPS702.

Levy Hill MkVI combined UV/Vis radiometer/photometer



### The Applied Scintillation Technologies Solution

AST and its sister company Levy Hill Laboratories have a long history in developing and manufacturing custom solutions of UV and white light monitoring as well as calibration of meters.

Reviewing the equipment available, AST – in consultation with leading industrial and aerospace companies – developed an instrument to more accurately address the specific and demanding requirements of the market.

### Key Features and Benefits of Levy Hill MkVI

Consultation with the market prior to design highlighted very direct demands in addition to the basic requirements of accurate and reliable measurement.

The Levy Hill MkVI addresses these specifically:

- ◆ large area, integrating detector head to minimise errors from hot-spots within the lamp
- ◆ light and highly robust construction allowing single handed operation
- ◆ automatic power off and LCD display minimise battery usage
- ◆ automatic back-lit display in low light level/UV operation

As a result the Levy Hill MkVI is now the most widely sold meter in UK and EU and elsewhere as customers recognise the design advantages and benefits.

Further backed by AST’s in-house support from and ISO9002 registered company and accredited calibration service traceable to national standards, the Levy Hill MkVI is now a recognised meter on national standards.

This is reflected in accreditation by UK and other civil aviation authorities and the extensive international client list which includes British Aerospace, GE Aircraft Engines, Westland Helicopters and Allied Signal.

## Product Specification

### ◆ Physical Characteristics

dimensions 157 x 84 x 30 mm  
 weight (inc battery) 220 g  
 detector lead 1 m  
 case material ABS

### ◆ Electronics

power PP3 battery  
 current drawn  
 standard operation 7 mA  
 back-lit operation 56 mA  
 typical battery life 20 - 40 hours  
 display 3½ digit LCD  
 low battery indicator  
 auto ranging  
 auto back-light  
 detector large area Se cell

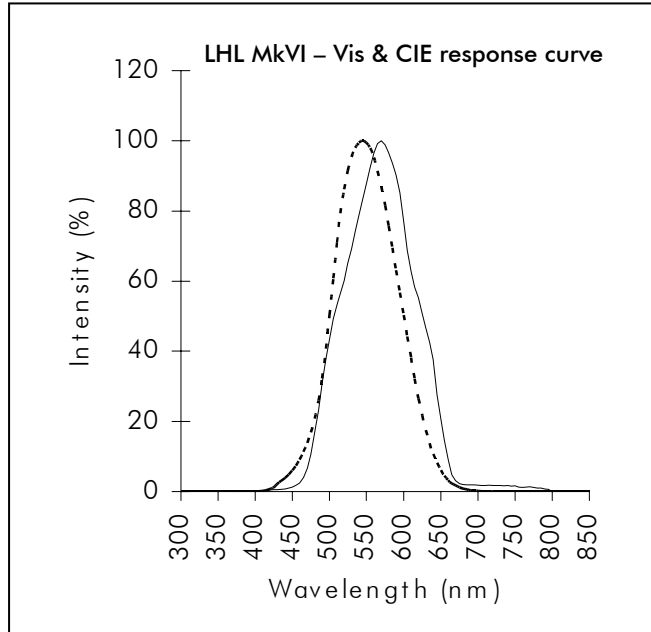
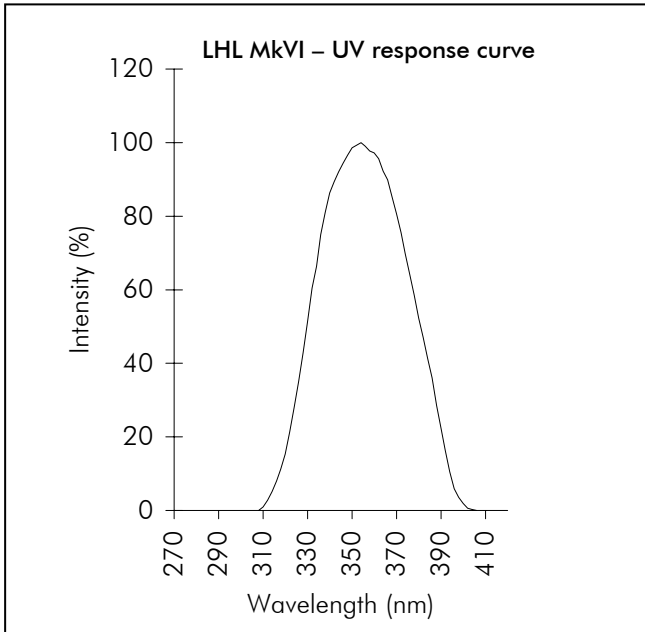
### ◆ UV Operation

wavelength 366nm  
 ranges 0 - 19.99 mW/cm<sup>2</sup>  
 accuracy ± 10%

### ◆ Visible/White Light Operation

wavelength  
 ranges 0 - 19.99 Lux  
 20 - 199.9 Lux  
 200 - 1999 Lux

◆ Accuracy ± 10%



Applied Scintillation Technologies has the knowledge and expertise based on years of experience to partner you in the development of custom products for UV and visible light measurement. Resolution, sensitivity, speed & colour of response are a few of the parameters that can be influenced in the production of a customised product that more closely relates to your customer need.

- ◆ A customised product is often a more cost effective solution
- ◆ Formulations can be developed to meet your specific requirements
- ◆ Exceed your initial expectations through partnership development
- ◆ An ISO9002 company – quality assurance is guaranteed through every delivery
- ◆ Product differentiation can provide unique product positioning versus competitors
- ◆ Enjoy continued product development and technical support through partnership

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