



Sylvania Lighting International

**PRODUCT PROFILE**

**BL QUANTUM**

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# **BL QUANTUM**

**January 2003**

## **1. Introduction and General Description**

Sylvania has been manufacturing BL350 UVA in Europe lamps for over 20 years and is the market leader in Europe for the flying insect trap applications. Improvements in “phosphor” technology means Sylvania has produced a new generation of UVA lamps with much improved insect attraction characteristics relevant for this application. This range will be a premium, high performance range to be sold alongside the BL350 and called Quantum.

## **2. Management Summary**

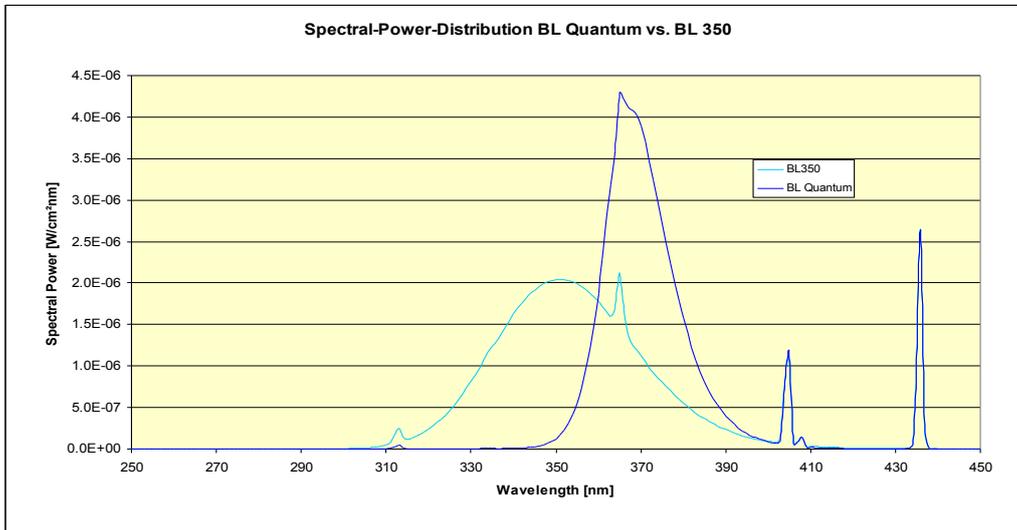
BL350 lamps, no differently than competition’s similar products, typically lose 50% of their UV output by 5000 hours of operation. The SYLVANIA QUANTUM lamps use new generation phosphor technology to achieve two important improvements:

- IMPROVEMENT N°1. The energy distribution of the QUANTUM lamp is concentrated more around the peak of 365 nanometers wavelength value, which is accepted as significant for the attraction of nuisance flying insects (such as house flies), so increasing the level of attraction.
- IMPROVEMENT N°2. The depreciation of UVA output over time is significantly reduced. After 5000 hours of operation, at the end of the season, the QUANTUM lamp will still be at 70% of its original 100 hour output.

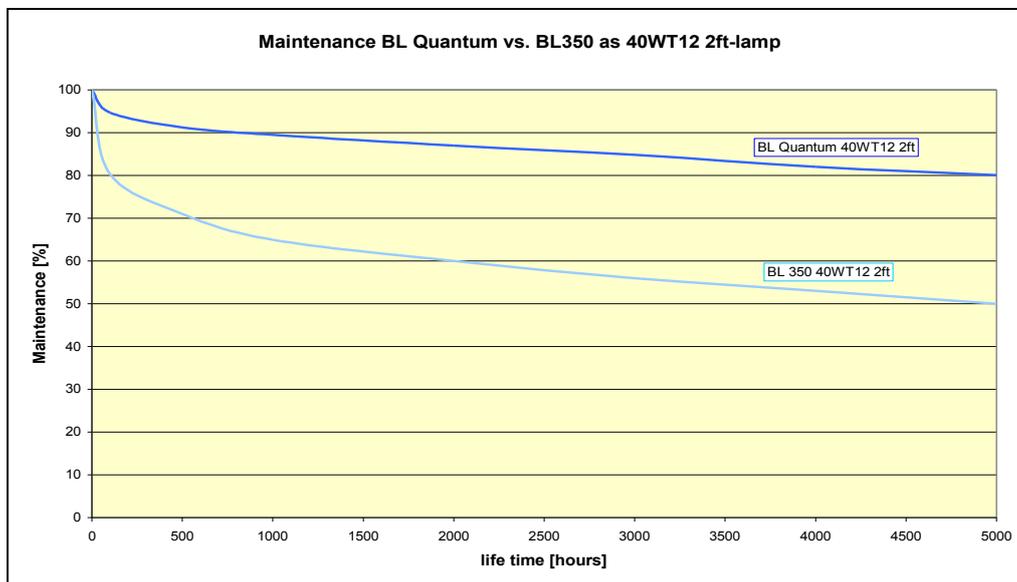
## **3. Product Characteristics**

The range will comprise F20W 2ft (600 mm.); F40W 2ft (600 mm.), F15W T8 and F22W Circline. These lamps will carry a strong branding, SYLVANIA BL QUANTUM but will otherwise appear similar and have identical physical and electrical characteristics to their BL350 counterparts.

**4. Technical Support Data**



The spectral power distribution curves show the much higher peak output at 365 nm of QUANTUM BL (actually +100%) compared to the BL350.



Maintenance Data shows the significant increase of QUANTUM BL in output maintenance after 4000-5000 hours of use (actually +40% relative) compared to the BL350.

Notes: The data has been measured on F40W 2ft (600 mm.) lamp which is the highest loaded type in the range.

**5. Features and Benefits**

Flying insects, of which the most common and numerous is the housefly (*musca domestica*), carries up to 4,0 million pathogenic bacteria on its feet and mouthparts. Wasps, midges and mosquito's, mainly a nuisance, all put in an appearance sometime between March and the end of September in Europe. This period of time, about 4700 hours of continuous operation, is known as "the season". Many installations burn the lamps continuously and it follows that during this period of time the UV output of the conventional BL350 lamp will fall to half –see UV maintenance data above.

It still further follows that the lamp's rate of attraction for insects will likewise have fallen by half.

- The QUANTUM lamp, in preserving its output at 70% at 5000 hours, will be still attracting more insects at the end of the season than either BL350 or competition products.
- The re-engineered spectral power distribution of the lamp has a "sharpened" peak at 365 nm of double the irradiance of the BL350. Flying insect's eye-sensitivity is generally at or near this frequency.

The QUANTUM lamp will have a significantly higher output at the frequencies for maximum attraction and increase the probability of attracting a flying insect.

**SUMMARY**

<b>FEATURES</b>	<b>RELATED BENEFIT</b>	<b>TO WHOM</b>
Sharpened SPD Peak at 365 nm	Attracts more insects	End-user
40% better through life maintenance	Performs longer and better throughout the season	End-user
Premium pricing	Higher sales and profit	OEM and Specialized Distributors

## 6. Reasons for the Product Introduction

The product has been launched in the UK since many of the European flykiller OEM's are concentrated in the UK. Some 1,5 million UVA lamps are sold annually in the UK alone for the flykiller application. The UK flykiller manufacturers produce up to 200K new machines annually.

The European Sylvania brand BL350 lamp has been the most popular 'workhorse' lamp for the UK industry and has enjoyed a good brand image.

During the past two years Pest West has enjoyed exclusivity for QUANTUM in Sylvania brand.

## 7. Competition

PHILIPS: Their Actinic 05 product, originally a photo-reproduction lamp, is close to the BL350. Their /10 product, one of the early new, higher output lamps, is probably closer to the QUANTUM, but is not expected that the launch of the QUANTUM to this market sector will cause them to change strategy across Europe.

OSRAM: Do not participate in this market in Europe, as they no longer manufacture T12 lamps and rely on Sylvania for their needs. In the US Osram/Sylvania is producing BL-lamps and supplies most of the American flytrap OEM's.

GE: do not participate in the UVA Fly killing market in Europe.

## 8. Safety Issues

There are sometimes fears and concerns about UV exposure. Flykiller maximum exposure limits in Europe are set by EN60335-2-59:1997 at an effective 1,0 milliWatt per metre squared ( $1,0 \text{ mW/m}^2$ ) measured at a distance of 1 metre – originally based on the recommendations of the UK National Radiological Protection Board in the UK. This standard particularly sets out to eliminate any lamp with a high UVB content i.e. emissions above 315 nm. It is normally the flykiller manufacturer, who must test for compliance, however Sylvania Europe does have the capability to produce bare lamp data. The irradiance value for a single QUANTUM lamp measured without reflector, in free air at 25 Celsius, is very approximately  $0,2 \text{ mW/m}^2$  or about one-fifth of the limit.

The enhanced 365 nm. peak output of QUANTUM does not affect the results adversely at all compared to a BL350. The EN 60335 evaluation concerns only the total emission between the prescribed limits and QUANTUM remains similar in total to the BL350, eg



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F40W 2ft BL350 total UVA output: 5,5W  
F40W 2ft QUANTUM total UVA output: 5,2W (slightly lower, but held longer over life).

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