



## UV-Curing Spot Lamp with Patented Intensity Adjustment

The Process Control You Need Without the Added Cost!

The BlueWave<sup>®</sup> 75 Version 2.0 UV-curing spot lamp offers high-intensity and user-friendly operation for any light-based curing application. The patented intensity adjustment feature provides user control of light intensity to assist users in process validation and control. Intensity measurement is easily accomplished with the Dymax ACCU-CAL<sup>™</sup> 50 radiometer. Scheduled intensity measurements taken during the production process will indicate whether additional intensity adjustments are required. This method of measurement provides the most accurate readings as they are taken through the lightguide in the actual production setting.

The *BlueWave 75* spot lamp emits UVA and blue visible light (300-450 nm) and is designed for curing of UV and visible light-curable adhesives, coatings, and encapsulants. It contains an integral shutter which can be actuated by a foot pedal, making it ideal for both manual and automated processes. An auto-ranging power supply provides consistent performance at any input voltage (90-264V, 47-63 Hz). Dymax also offers a wide range of long-lasting liquid and fiber lightguides in single, multi-legged, and various length configurations.



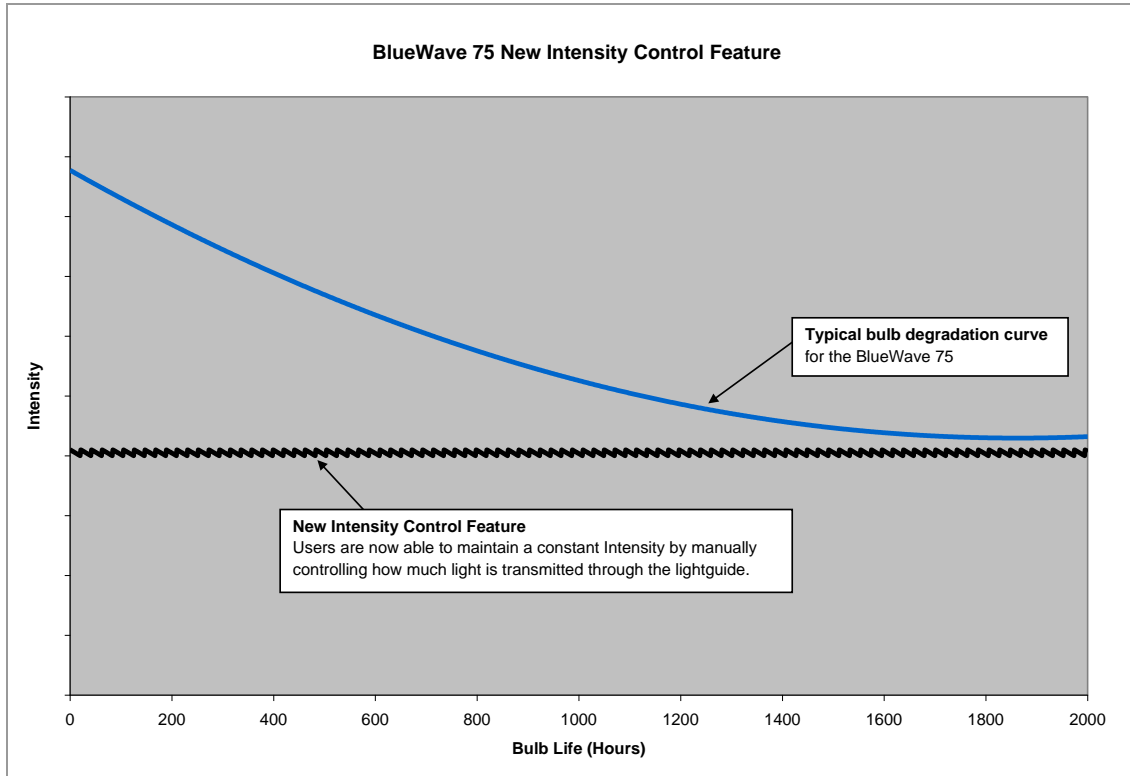
BlueWave 75 UV-Curing Spot Lamp with Patented Intensity Adjustment and Four-Pole Lightguide

FEATURES	
Patented manual intensity adjustment	>9,000 mW/cm <sup>2</sup> initial intensity
Simple to operate and adjust	2,000 hours useful bulb life
Integral shutter with digital timer	Foot switch
Proprietary "Cool Blue <sup>™</sup> " filter virtually eliminates liquid lightguide degradation	Wide range of lightguides available (liquid/fiber, single/multi-pole, various lengths)
Universal input voltage for global operation	Fast bulb replacement

# How Does the BlueWave® 75 Patented Intensity Adjustment Feature Work?

All bulbs used to power high-intensity UV-curing spot lamps degrade over time from normal use. This typically results in a gradual decrease in total intensity as the bulb ages (shown in Chart 1). Recognizing this, UV-curing processes are usually validated using the lowest acceptable intensity level to maximize bulb life. However, this means that for the majority of the production process, curing is done with a higher intensity level than is actually necessary, and it can be expected that the intensity will decrease over time. With the *BlueWave 75's* patented intensity adjustment feature, users can maintain the qualified intensity range by manually increasing intensity output to offset this degradation. The adjustment is easily accomplished with the provided adjusting tool or using the removable knob as shown in the photographs below. This feature is useful for both process validation and subsequent process control during production.

Chart 1.



## Validation

Prior to production, Dymax advises customers to conduct testing to determine the exposure time and intensity required to achieve full cure. Validating a UV curing process can be accomplished in one of two ways:

### Set Exposure Time, Determine Intensity

Users can specify a cure time and through empirical testing, determine the intensity required to achieve full cure.

### Set Intensity, Determine Exposure Time

Users can specify intensity (perhaps one that maximizes bulb life) through empirical testing to determine the exposure time required to achieve full cure.

*Note: As with any manufacturing process, it is advisable to incorporate a safety factor.*

## Control

Process validation identifies a minimum acceptable intensity range that ensures complete cure in an acceptable cycle time. Users can choose to operate at full intensity (intensity adjusted to 100%) or maintain a constant intensity (at some lower level) through periodic manual adjustments. The average *BlueWave 75* bulb will typically degrade <1% per eight hours of normal use. The good manufacturing practice of routine intensity measurement with a calibrated radiometer will determine when and if any adjustments are required.

## Intensity Adjustment Options:



Intensity adjustment knob for fingertip adjustment



Intensity adjustment, with knob removed, performed with adjustment tool

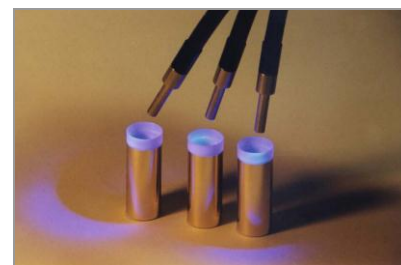
SPECIFICATIONS	
<b>Initial Intensities</b>	<b>Total</b> (280-450 nm) 19+ W/cm <sup>2</sup> <b>Visible</b> (400-450 nm) 9+ W/cm <sup>2</sup> <b>UVA*</b> (320-395 nm) 9+ W/cm <sup>2</sup> <b>UVB</b> (280-320 nm) 1.5 W/cm <sup>2</sup>
<b>Intensity Adjustment</b>	Manual from 1% to 100% output
<b>Power Requirements</b>	90-264VAC, 50-60 Hz
<b>Power Supply</b>	Solid-state, 75 Watt
<b>Bulb</b>	75 Watt high-pressure, short-arc bulb included; replacement in less than one minute
<b>Reflector</b>	Elliptical; glass with dichroic coating to reflect UV and minimize IR
<b>Shutter Timer</b>	Digital LCD timer up to 99.99 seconds; manual or timed shutter
<b>Shutter Activation</b>	Foot switch
<b>Cooling</b>	Filtered, single arrangement; thermally controlled to maintain proper lamp temperature
<b>Hour Meter</b>	Digital LCD; total unit operating hours (non re-settable) and total bulb hours (re-settable)
<b>Overall Dimensions</b>	12" x 12" x 6.5" (30.5 cm x 30.5 cm x 16.5 cm)
<b>Weight</b>	14 lbs. (6 kg)
<b>System Warranty</b>	One year from purchase
<b>Bulb Warranty</b>	Ignition warranted for 2,000 hours
<b>Replacement Bulb</b>	<b>40205</b>
<b>PART NUMBERS</b>	
North American Version (115V Standard Plug)	<b>40078</b>
Asian Version (Type G Plug)	<b>40077</b>
Unit With No Power Cord	<b>40183**</b>

\* As measured through a 5-mm liquid lightguide with a Dymax ACCU-CAL™ 50 Radiometer (320-395 nm). Excessive on/off cycles and improper cooling may affect bulb degradation and therefore no warranty is expressed or implied.

\*\* Contains the appropriate power cord for Europe.

Table 1.

STANDARD LIGHTGUIDES		
Part Number	Lightguide Description	
	<i>(all noted are liquid filled, quartz fiber are also available)</i>	
<b>5720</b>	Single pole	5 mm x 1 Meter
<b>5721</b>	Single pole	5 mm x 1.5 Meters
<b>5722</b>	Single pole	8 mm x 1 Meter
<b>38476</b>	Two pole	3 mm x 1 Meter
<b>38477</b>	Three pole	3 mm x 1 Meter
<b>38478</b>	Four pole	3 mm x 1 Meter



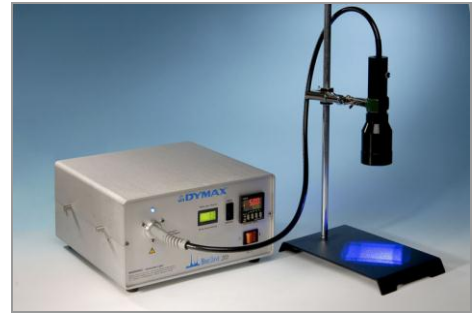
Trifurcated wand curing metal-to-plastic assembly



**ACCU-CAL™ 50 Radiometer**  
for measuring the UV intensity of spot lamps, flood lamps, and conveyor systems  
PN **39560**



**UV Protective Safety Goggles**  
Clear PN **35284**  
Tinted PN **35285**  
Dark Tint PN **35286**



**Rod Lenses**  
Shown: *BlueWave 75* with 8 mm rod lens  
(rod lenses require an 8 mm lightguide)  
2" x 2" Area (~100 mW/cm<sup>2</sup>) PN **38699**  
5" x 5" Area (~30 mW/cm<sup>2</sup>) PN **38698**



**Liquid Lightguides** available in 1, 2, 3 and 4-pole configurations (see Table 1 on page 3 for sizes and part numbers)



**Angled Terminators for Lightguides**  
3 mm/60° PN **39029** ■ 3 mm/90° PN **39030**  
5 mm/60° PN **38042** ■ 5 mm/90° PN **38049**



**Lightguide Mounting Stand**  
(fits 3 mm, 5 mm and 8 mm lightguides)  
PN **39700**

## FREE DYMAX EQUIPMENT EVALUATION

Contact your Dymax representative to initiate rental of Dymax UV curing equipment. The highlights of the Dymax Trial Rental/Lease program are:

- *Two (2) weeks free evaluation and 3% per week thereafter*
- *Eight (8) weeks of rental fees are deducted from the price at purchase*
- *50% of additional rental fees are deducted*
- *Customer pays shipping both ways*



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