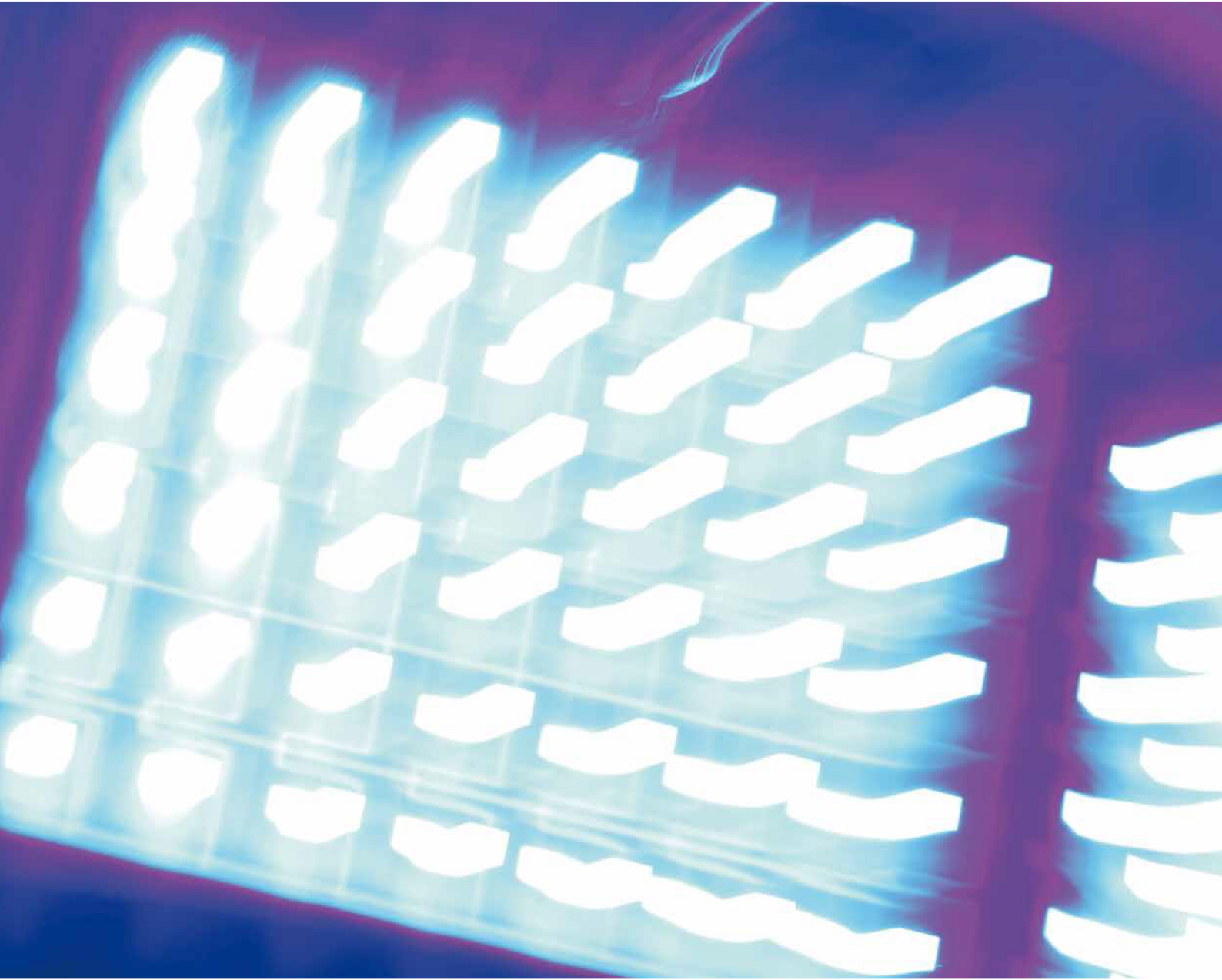


Heraeus



**Efficient industrial curing processes with  
innovative UV LED technology**  
The Heraeus Noblelight UV LED portfolio

# UV LED portfolio by Heraeus

Various solutions from water to air cooled systems of different intensities, power classes and lamp head sizes to fit any industrial application

UV LED is the industrial standard for curing and drying processes, due to its efficiency and energy-saving potential. Heraeus offers UV LED curing solutions and customer specific UV LED curing systems tailored to the application. Users can choose between water- or

air-cooled UV LED curing systems depending on their process and production needs. While water cooling offers high power solutions in challenging industrial environments, air cooling offers easy and fast integration.

## Water-cooled systems

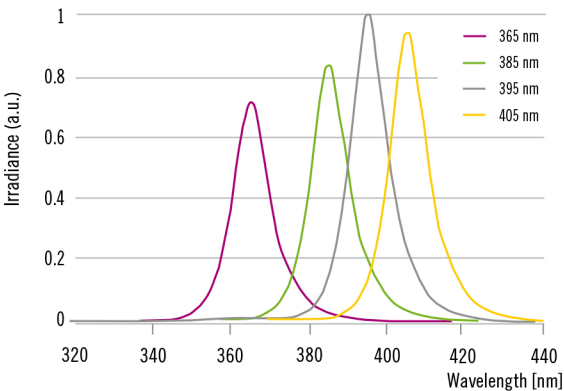
Semray® UV5000 & UV7000 (water-cooled) line-up. Unique water based compact platform concept for highest dose and intensity.



Model	UV 5000 – 400 mm				UV 5000 – 1000 mm				UV 7000 – 400 mm				UV 7000 – 1000 mm			
Peak wavelength [nm]	365	385	395	405	365	385	395	405	365	385	395	405	365	385	395	405
Irradiation intensity [W/cm²]	15	18	23	20	15	18	23	20	22	26	30	26	22	26	30	26
Emission window size [mm]	410 × 84				1000 × 84				410 × 84				1000 × 84			
Standard dimensions [mm]	422 (W) × 100 (D) × 100 (H)				1016 (W) × 100 (D) × 100 (H)				422 (W) × 100 (D) × 100 (H)				1016 (W) × 100 (D) × 100 (H)			

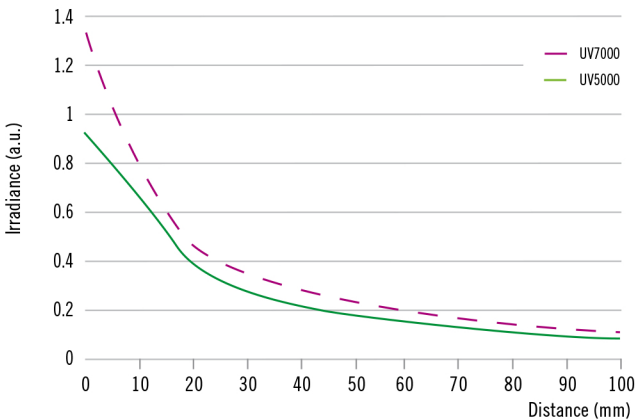
Customized sizes in 50 mm steps are available, please reach out to our global contacts.

### Semray® UV 5000 / 7000 output wavelength



In addition to standard UV LED solutions, Heraeus Noblelight offers customer-specific LED systems designed to meet individual needs. This enables customers to find a cost-efficient solution, optimized in terms of energy consumption. All UV LED systems

### Irradiation distance and light intensity



are available in different wavelengths. In addition, we can tune optical specifications and footprints to meet individual requirements.

Learn more about UV technology:  
[www.heraeus-noblelight.com/semray](http://www.heraeus-noblelight.com/semray)

# Reliable energy efficient UV solutions

meeting individual process requirements, increase production efficiency and improve process accuracy.

**The use of UV LEDs is state of the art in industrial curing processes and proven in numerous applications. Our systems fit perfectly in diverse production processes as we offer high UV intensity even at large working distances. The different available peak wavelengths achieve an excellent depth of cure, especially suitable for curing heat-sensitive materials due to the low heat generation. A UV LED curing system from Heraeus Noblelight is simple to integrate into any production process and requires significantly less maintenance.**

UV LED light sources offer many advantages to industrial processes. Optical, electrical and thermal parameters, as well as operating conditions and lamp dimensions, have to be taken into account for UV light curing processes because they have a substantial influence on the curing results. The goal is to provide the suitable wavelength within the appropriate output class at the right point of use.

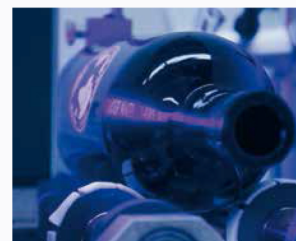
## **Heraeus solution: custom engineered system.**

Our UV LEDs are manufactured with a range from small to wide emission windows. Adapted control and cooling units complete the range. Our application experts will assist you to get the perfect solution for your requirements. Benefit from our global service network. We are all over the globe – and we cover everything from installation, training to process optimization.

**Made in Germany.** The manufacturing of a UV LED system is a complex process. Heraeus provides expertise in high end materials combined with experience and knowledge from different business segments. All manufacturing steps and technologies used, such as chip-on-board (CoB), special thermal and optical components, are optimized with each other and tested in the Heraeus Noblelight production facility.

## **Your advantages with Heraeus UV LEDs**

- High power density for an efficient and optimized curing process
- Especially suitable for curing heat-sensitive materials due to low heat generation
- Most flexible working distances (max. irradiance even at large working distances) due to special micro-optics and resulting beam focusing
- High process reliability: Smart thermal management maximizes the stability of the UV output
- Easy integration and maintenance because the system components are modular, adjusted to each other and optimized for the specific application
- Customer-specific, process-optimized solutions due to globally available service and application experts
- In-house CoB technology for optimum UV LED performance
- Adjustable intensity for more flexible use



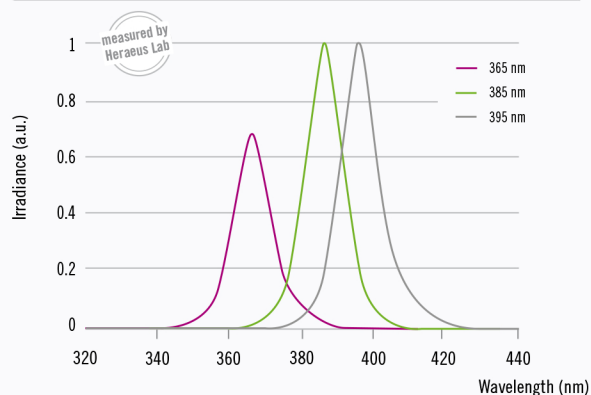
## NobleCure® IRIS series (water-cooled) line-up



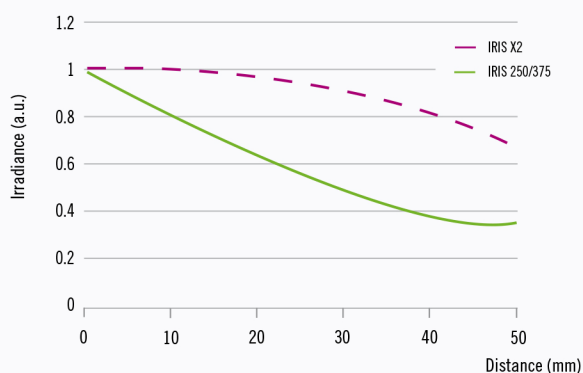
Model	IRIS 250			IRIS 375
Peak wavelength [nm]	365	385	395	385*
Irradiation intensity [W/cm <sup>2</sup> ]	15	22	22	22
Emission window size [mm]	254 × 26,5			379 × 26,5
Standard dimensions [mm]	275(W) × 178(D) × 60(H)			400(W) × 100(D) × 60(H)

\*Further wavelengths available on request

### NobleCure® IRIS series output wavelength

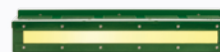


### Irradiation distance and light intensity



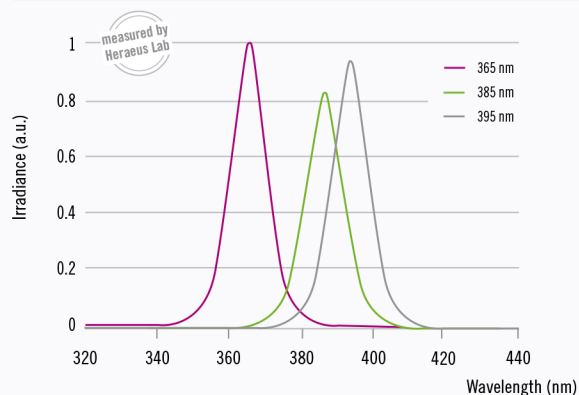
## Air-cooled systems

### NobleCure® Altair series (air-cooled) line-up

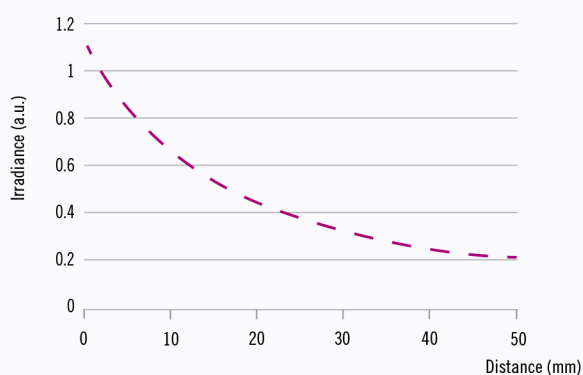


Model	Altair 75			Altair 150			Altair 250			Altair 350		
Peak wavelength [nm]	365	385	395	365	385	395	365	385	395	365	385	395
Irradiation intensity [W/cm <sup>2</sup> ]	4	3.3	3.7	4	3.3	3.7	4	3.3	3.7	4	3.3	3.7
Emission window size [mm]	80 × 13			160 × 13			260 × 13			360 × 13		
Standard dimensions [mm]	121(W) × 289(D) × 42,4(H)			218(W) × 213(D) × 70(H)			329(W) × 213(D) × 70(H)			430(W) × 213(D) × 70(H)		

### NobleCure® Altair series output wavelength



### Irradiation distance and light intensity



# Semray® UV4103.

ONE UV LED segment.

ONE backplane.

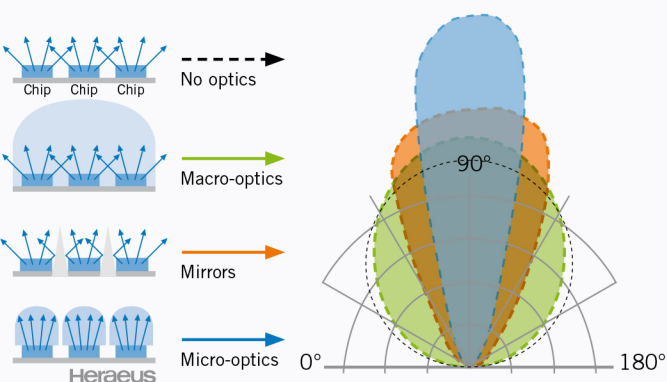
ONE data cable.

ONE power cable.

Independent of the width.

**Semray® UV4103 is the plug & play UV LED curing revolution, designed for maximum performance, flexibility and reliability. All components are perfectly matched to ensure a high and uniform UV output for optimum curing results.**

The all-in-one solution. Semray® UV4103 The One can support very different processes – due to its modular design and revolutionary plug & play backplane concept. Everything is possible, from reducing the machine width or changing the wavelength to extending the working clearance and increasing the process speed. Semray® The One enables you to respond to new requirements, simply by inserting or removing segments, each 77 mm wide, in the backplane.



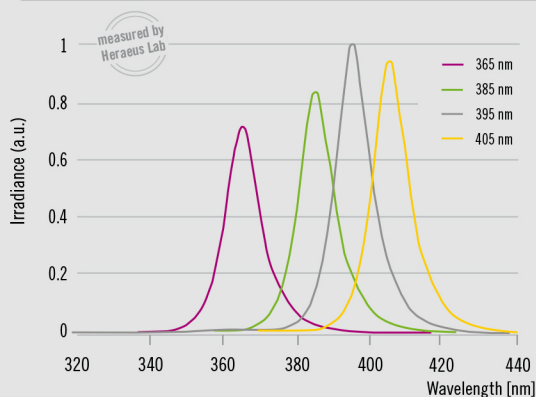
Heraeus unique micro-optics reduce stray light to a minimum with an exit angle of 60 instead of 120 degrees – for all available wavelengths.



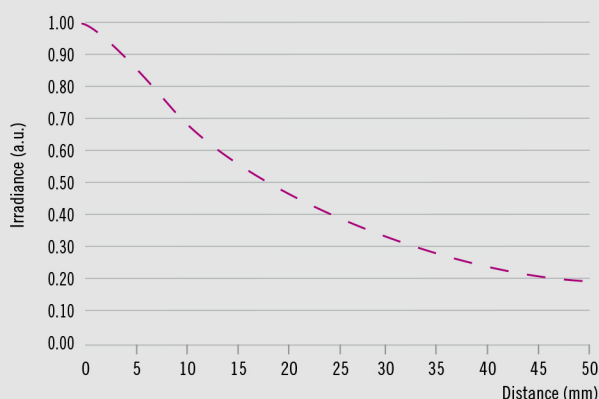
## Specifications air-cooled Semray® UV4103 segment

Model	UV4103 Segment			
Peak wavelength [nm]	365	385	395	405
Typ. Irradiance [W/cm²]	13	15	18	17
Typ. Optical Output [W]	150	170	210	195
Emission window size [mm]	77 × 45			
Electrical connections [W]	550			
Weight [kg]	1,5			
Outer dimensions of housing (W × D × H) [mm]	77 × 136 × 253			
Noise level [db]	75			

## Semray® UV 4103 series output wavelength



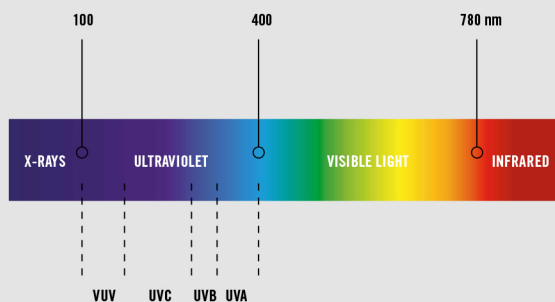
## Irradiation distance and light intensity



# The incredible power of light®

Photonics-based solutions from ultraviolet to infrared

Heraeus Noblelight covers the total spectrum of technically usable wavelengths and can help find the optimum light system solution to suit specific processes. Whether you wish to optimize existing applications or win new markets, we offer efficient, well thought-out and long-life solutions that give you a lasting competitive advantage.



Heraeus Noblelight is part of the Heraeus technology group, a globally active family-owned enterprise. Within the Heraeus group, we have direct access to fundamental technologies and high-quality materials such as quartz glass, important precious metals and specialty materials. Rely on the acknowledged Heraeus quality!

**Think UV. Think Heraeus.**



**Productive light solutions with wavelengths from UV to IR improve** many industries, from analytical to automotive or semiconductors and water treatment.



**Need to make your industrial process more efficient?** The solution for your process challenges has the highest priority to us. Our light solutions operate efficiently and increase production rates.



**Tested, checked and proven.**

Our in-house application competence and development centers around the world allow you to:

- test your material under practical conditions
- optimize your industrial processes
- determine feasibility for your application

In addition, Hanau has an ISO 17025-accredited measuring laboratory that offers its know-how and takes customer-specific measurements.