

# Optical Comparison Chart

The Optical Chart compares the light power damage threshold ratings for standard UNIBLITZ shutters. When using UNIBLITZ shutters with coherent and non-coherent light sources (such as lasers or high power lamps used in microscopes) the power output from these sources may require the need to protect the Shutter's blade surface from the source's damaging effects. To accomplish this, most UNIBLITZ shutters are available with three optional blade finishes/coatings. The standard finish is black TEFLON® over a stainless steel substrate on both the input and output sides. The max power recommended on the "T" (or "S" type) blade is 100mW/mm<sup>2</sup>. As an alternate to the standard finish, a polished stainless steel ("S") finish is offered. Choices of AISiO ("Z") and AlMgF<sub>2</sub> ("ZM") coatings over a BeCu substrate are also available. It is intended that the user's light source be input to the reflective side only.\* When considering a coated shutter blade (over a BeCu substrate) as an option, please keep in mind that the timing specifications will differ slightly from the published specifications found in the timing section of this data sheet. Typically add 10% (for the LS series) and 30% (for the VS series) to published timing specifications with shutters equipped with coated blades, excluding the CS25, VS35 and larger apertures. (Note timing is the same for all blade finishes and coatings for CS25, VS35 and larger type shutters.) The user may also wish to review the Laser Application Reference Sheet located in the resource section.

SHUTTER SERIES	ULTRAVIOLET .3-.4µm (microns)		VISIBLE .4-.75µm (microns)		INFRARED .75- 10.6µm (microns)	
	(Z) AISiO	(ZM) AlMgF <sub>2</sub>	(Z) AISiO	(ZM) AlMgF <sub>2</sub>	(Z) AISiO	(ZM) AlMgF <sub>2</sub>
<b>CS25</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>CS35</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>CS45</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>CS65</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>CS90HS</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>DSS10</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>DSS20</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>DSS25</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>LS2</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>LS3</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>LS6</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>NS15B</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>NS25B</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>NS25S</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>NS35B</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>

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SHUTTER SERIES	ULTRAVIOLET .3-.4μm (microns)		VISIBLE .4-.75μm (microns)		INFRARED .75– 10.6μm (microns)	
	(Z) AISiO	(ZM) AlMgF <sub>2</sub>	(Z) AISiO	(ZM) AlMgF <sub>2</sub>	(Z) AISiO	(ZM) AlMgF <sub>2</sub>
<b>NS45B</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>NS65B</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>TS2B</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>TS6B</b>	N/A	2.5 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>	2.5 W/mm <sup>2</sup>
<b>VS14</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>VS25</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>VS35</b>	N/A	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>	10 W/mm <sup>2</sup>	5 W/mm <sup>2</sup>
<b>XRS14</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>XRS25</b>	N/A	N/A	N/A	N/A	N/A	N/A
<b>XRS6</b>	N/A	N/A	N/A	N/A	N/A	N/A

*The question regarding enhancement of shutter speed with the application of user supplied lubricants has been repeatedly asked. It is our experience that lubricating the shutter blades will actually slow the shutter down and eventually render the shutter inoperable. UNDER NO CIRCUMSTANCES SHOULD ANY TYPE OF LUBRICANT BE APPLIED TO THE SHUTTER BLADE AREA.*