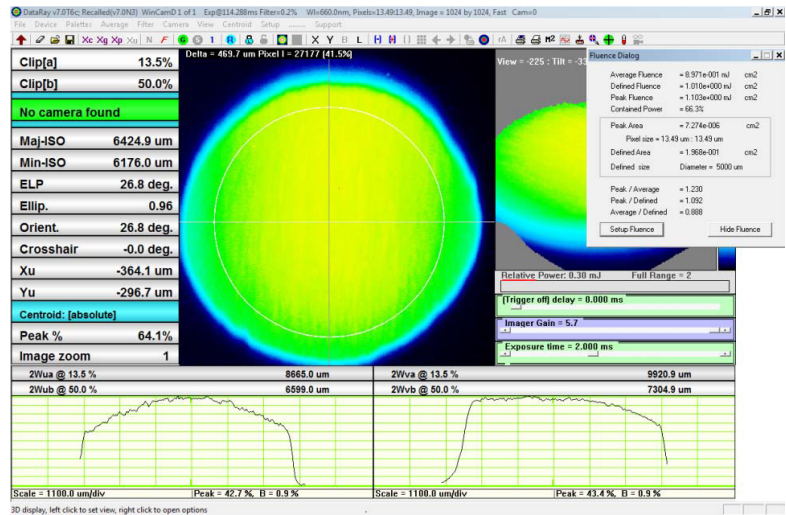




Profiling UV beams can be challenging for several reasons. Firstly, harsh UV light can deteriorate sensors over time. Secondly, options are limited for profiling large diameter UV lasers.

UV converters address both of these problems. The UV beam impinges on a carefully chosen rugged UV crystal that fluoresces in the visible region. The fluorescence is reimaged onto a DataRay beam profiling camera for quick and easy analysis.

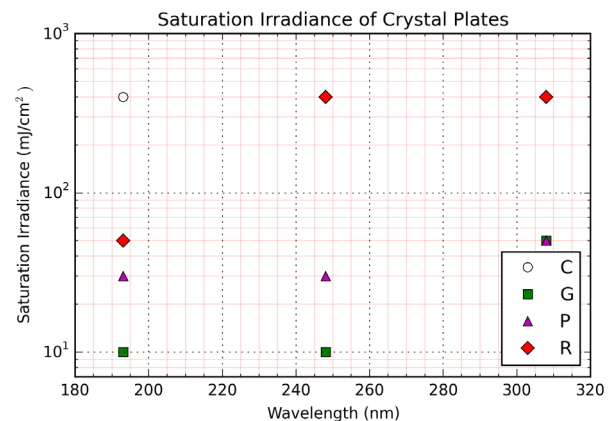
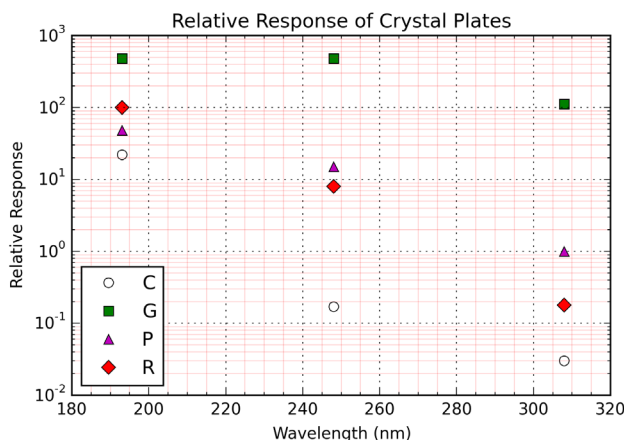


### System Features

- High resolution: to 2  $\mu\text{m}$  on a collimated beam
- Excellent crystal linearity: 5 to 6 decades
- Excellent long-term crystal stability:  $>10^7$  pulses
- Add-on option to WinCamD series cameras
- Beam sizes from 50  $\mu\text{m}$  to 33 x 33 mm
- Four crystal faceplates options optimized for different wavelength ranges
- Coated crystal option for coherence lengths  $\geq 1$  mm
- High dynamic range adjustment: integral iris diaphragm, f/2.8 to f/28, adds a 100:1 dynamic adjustment range to the cameras dynamic range, particularly useful when dealing with pulsed lasers
- High damage threshold: 500  $\text{mJ}/\text{cm}^2$ , 1.5  $\text{W}/\text{cm}^2$ , 4 W max

### Applications

- Excimer lasers
- UV beams and lasers to x-ray
- Deep UV (DUV) and Extreme UV (EUV)



**Crystal Options**

| Crystal | Primary application                  | $\lambda$ nm Band | Relative response |        |        | Saturation mJ/cm <sup>2</sup> |        |        | Decay time $\mu$ sec | Max Rep Rate kHz |
|---------|--------------------------------------|-------------------|-------------------|--------|--------|-------------------------------|--------|--------|----------------------|------------------|
|         |                                      |                   | 193 nm            | 248 nm | 308 nm | 193 nm                        | 248 nm | 308 nm |                      |                  |
| C       | 193 nm                               | 110 to 225        | 22                | 0.17   | 0.03   | 400                           | X      | X      | 3 - 5                | 20 - 30          |
| G       | Wide $\lambda$ , low fluence         | 1 to 400          | 480               | 480    | 112    | 10                            | 10     | 50     | 0.5                  | 200              |
| P       | $\lambda < 350$ , high fluence, fast | 110 to 350        | 48                | 15     | 1      | 30                            | 30     | 50     | 5                    | 20               |
| R       | Wide $\lambda$ , high fluence, slow  | 110 to 532        | 100               | 8      | 0.18   | 50                            | 400    | 400    | 3,000                | .03              |

**UV Converter Models**

| # Aperture/crystal/<br>sensor size | Aperture mm | Crystal FOV | Configuration  | OAL mm | Diam mm        | Camera Format |
|------------------------------------|-------------|-------------|----------------|--------|----------------|---------------|
| BSF 08 x 12                        | 8           | 4.8 x 6.4   | Axial cylinder | 82     | 35             | 1/2"          |
| BSF 08 x 23                        |             |             |                | 93     |                | 2/3"          |
| BSF 08 x LCM                       |             | 99          |                | 1"     |                |               |
| BSF 12 x 12                        | 12          | 7.2 x 9.6   |                | 103    |                | 1/2"          |
| BSF 12 x 23                        |             |             |                | 112    |                | 2/3"          |
| BSF 12 x LCM                       |             | 140         |                | 1"     |                |               |
| BSF 23 x 12                        | 23          | 13.8 x 18.4 |                | 123    |                | 1/2"          |
| BSF 23 x 23                        |             |             |                | 108    |                | 2/3"          |
| BSF 23 x LCM                       |             | 122         |                | 1"     |                |               |
| BSF 47 x 12, 23, LCM               | 47          | 33.2 x 33.2 | 125            | 75     | 1/2", 2/3", 1" |               |

**Camera Models for use with UV converters**

| Model         | S-WCD-LCM  | S-BC2-HR   | S-BC2-XHR  |
|---------------|------------|------------|------------|
| Format        | 1"         | 1/2"       | 1/2"       |
| Smallest beam | 55 $\mu$ m | 52 $\mu$ m | 32 $\mu$ m |
| CW/ Pulsed    | CW/Pulsed  | CW         | CW         |