

Biomedical Solutions

*Directionality + Uniformity + Transmission =
Light Shaping Diffuser®*



Glass diffusers for UV and Florescence Applications.

In an industry as important as your health, Physical Optics Corporation, a world wide leader in technical innovation, is your partner for your optics needs. Whether your project requires sample illumination, fluorescence studies or surgery illumination, POC has the approach and product to meet your requirements. Our indispensable line of Light Shaping Diffusers® and custom designed wave guides can be tailored to your exacting needs.

With a large array of patent protected standard devices, that work from 200 nm to 1800 nm, with transmissions that can exceed 90 percent and divergence angles ranging from 0.5 degrees to 95 degrees (Full Width Half Maximum), our products are unsurpassed world wide

for their application and availability.

Today's medical community is more dependant than ever on uniform optical sources and ultraviolet emissions profiles. With the large variety of new illumination devices available on the market today, we at POC have listened to your requirements and geared many of our products towards meeting your needs.

Whether you use our standard diffusers, a custom optical light pipe or one of our new "White" high uniformity diffusers, you will find POC to be your ideal partner. Please contact POC sales to discuss your lighting needs.

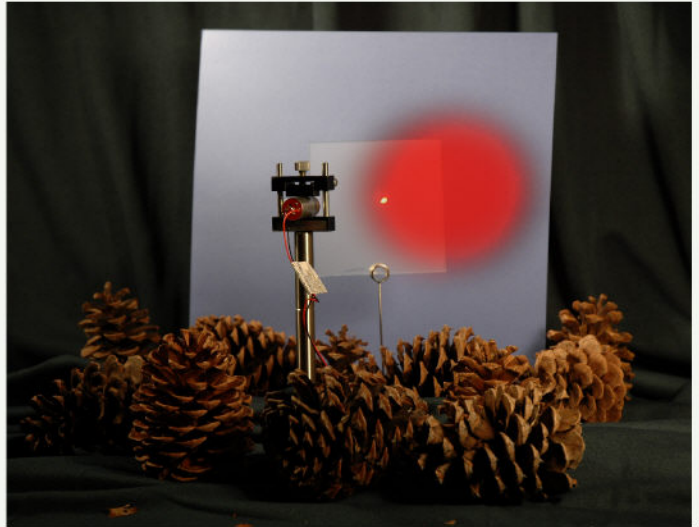
Physical Optics Corporation, a leader in optical solutions.

Biomedical Instrumentation

- Brightness Uniformity $\geq 85\%$
- Temperature Range:
 - polyester and polycarbonate:
-30C to 105C
 - acrylic: -40C to 80C
 - Glass: -40C to 170C or -40C to 500C
- Humidity: Cycled at 95% for 24 hours
- Solvent resistance: acetone, methanol, MEK, Windex, gasoline, methylene, chloride and chlorine bleach

PRODUCT INFORMATION

- Transmission efficiency:
85-92% dependant on angle and wavelength
88-92% over the visible.
- Transmission wavelength:
370-1800nm for standard polyester,
polycarbonate and acrylic
200nm or 240nm—1800+nm for glass



30 degree glass diffuser profile.

CUTTING

The Light Shaping Diffuser can easily be cut into many useful shapes and sizes. The substrate material, thickness, dimensional tolerances and quantities usually determine the cutting method chosen. In general, the methods used by POC are shear cutting, die or punch cutting, rotary die cutting, band saw cutting and laser cutting. For polycarbonate thin films, 0.015" thick and less, either die or laser cutting can be used. For polyester, die cutting is used and for acrylic and thicker substrates, saw cutting is used. For all cutting methods, a protective liner is placed on the diffuser surface to minimize cutting defects.

CLEANING

The POC Light Shaping Diffuser should be considered an optical element that requires attentive handling. There are several ways to clean the diffuser depending on the severity of the contamination. The first method employed should consist of a clean mid-pressure air spray. This will clean the surface of the diffuser of any small particles. If this is unsuccessful, drag wipe the diffuser using optical lens paper or cheesecloth moistened with either optical grade methanol or deionized water. Do not use acetone due to its discoloration effect on the diffuser, and do not submerge the diffuser or scrub it. In most circumstances, the higher the diffuser angle, the easier it is to damage the surface. This is due to the high aspect ratio components in the surface relief pattern. If you have questions regarding cleaning, contact the POC sales department for further information.

Light Shaping Displays
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