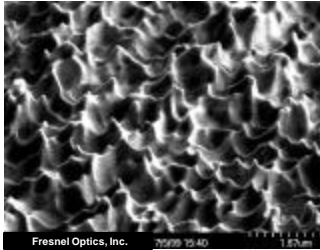


Surface Relief Diffusive Microstructures (SRDM)

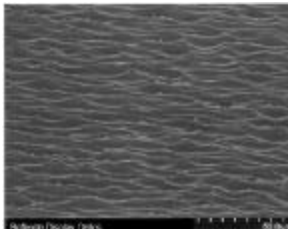


SEM Symmetric Surface Relief Diffuser

Reflexite Display Optics has made major advances in diffusion technology, with the introduction of Surface Relief Diffusive Microstructures (SRDM). SRDM's are engineered to spread light into a predetermined gain distribution. SRDM's are highly efficient and their properties are tailorable.

Because there is very little scattering loss, throughput efficiencies over 90% are possible with SRDM technology¹.

Various horizontal and vertical gain profiles, both symmetric and asymmetric, can be produced using a holographic mastering process. Contrast and peak gain can be balanced using neutral density contrast enhancing tints in the material. Two key quality criteria to minimize in a surface relief diffuser are graininess and periodicity that creates interference with a pixelated image.



SEM Asymmetric Surface Relief Diffuser

Current applications of this architecture are focusing screens for cameras, collimating diffusers for certain backlit displays and imaging screens for small rear projection systems, such as desktop monitors.

¹Transmission efficiency of single component with SRDM on one or both sides, measured with integrating sphere

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Reflexite Display Optics now offers a small selection of “standard designs”, which are available as off-the-shelf items. Additional SRDM's are currently being designed and prototyped. Parts produced from “standard designs” can be custom trimmed to any size up to the maximum size shown in the table below. Larger sizes and custom diffusion profiles are also possible.

Please contact our sales team for details on other designs in process or custom designs for specific applications.

Current Standard SRDM Products

Symmetric Diffusers

Part Number	Acrylic Material		Polycarbonate Material		Maximum Size (mm)
	Peak Gain	Symmetric Half Angle	Peak Gain	Symmetric Half Angle	
BP304	32	± 7.4°	23	± 8.5°	200 Ø
SN1334	32	± 8°	NA	NA	215 x 215
BP331	44	± 5.0°	31.7	± 6.0°	400 Ø
BP336	67.5	± 3.9°	43.6	± 4.8°	400 Ø
SN1333	90	± 4.75°	NA	NA	215 x 215
BP302	109	± 3.8°	NA	NA	125 x 125
BP321	200	< ± 2.8°	133	± 3.0°	400 Ø
BP311	560	< ± 2.5°	150	± 3.0°	300 Ø

Asymmetric Diffusers

Part Number	Acrylic Material			Maximum Size (mm)
	Peak Gain	Half Angle Vertical	Half Angle Horizontal	
SN1331	1.35	± 70°	± 48°	215 x 215
SN1332	1.45	± 62°	± 52°	215 x 215
SN1330	2.26	± 65°	± 25°	215 x 215
SN1311	2.35	± 63°	± 19°	215 x 215
SN1377	2.45	± 75°	± 21°	215 x 215
SN1316	6.8	± 37°	± 12°	125 x 125
SN1375	13	± 33°	± 7°	215 x 215

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