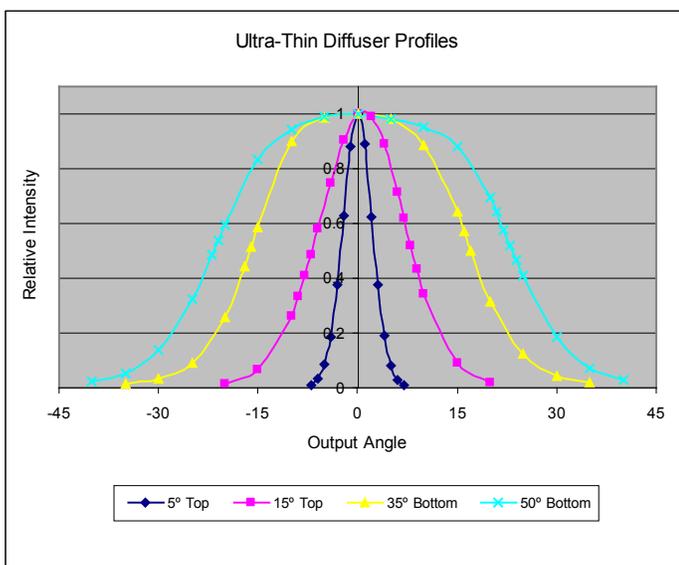


Ultra-thin Tailored Micro Diffusers (UTMD)

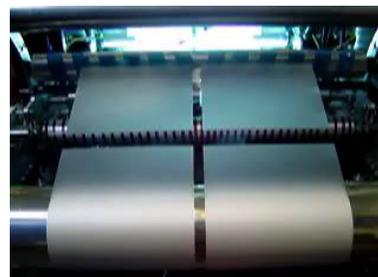
Ultrathin Tailored Micro-structured Diffuser (UTMD) films are replicated onto various polymer materials using proprietary methods which include holographically recorded master tools. In very high production volumes UTMD's are replicated via a continuous web process at very low costs volumes.

WFT is currently producing Ultrathin Tailored Micro-structured Diffuser (UTMD) film to service our customers in the LCD marketplace. WFT is also a leading supplier of holographic packaging film for the display packaging industry.

UTMD Films	Top	Bottom
Substrate	PET	PET
Substrate Thickness	12.5 - 25 um	12.5 - 25 um
Total Thickness	25 - 35um	25 - 35um
Hardness	2H	2H
Transmittance	>90%	80-90%
Haze	50-75%	>95%
High Temperature / Humidity: 60°C/90%RH 240 hours		
Transmittance	<1%	<1%
Haze	<1%	<1%
Thermal Cycling: 50 cycles: -30°C-+80°C/10min		
Transmittance	<1%	<1%
Haze	<1%	<1%



The graph above represents data gathered from a collimated point source normal to the TMD.



R-2-R Diffuser Production

SEM of 50 degree TMD

