

CORNING

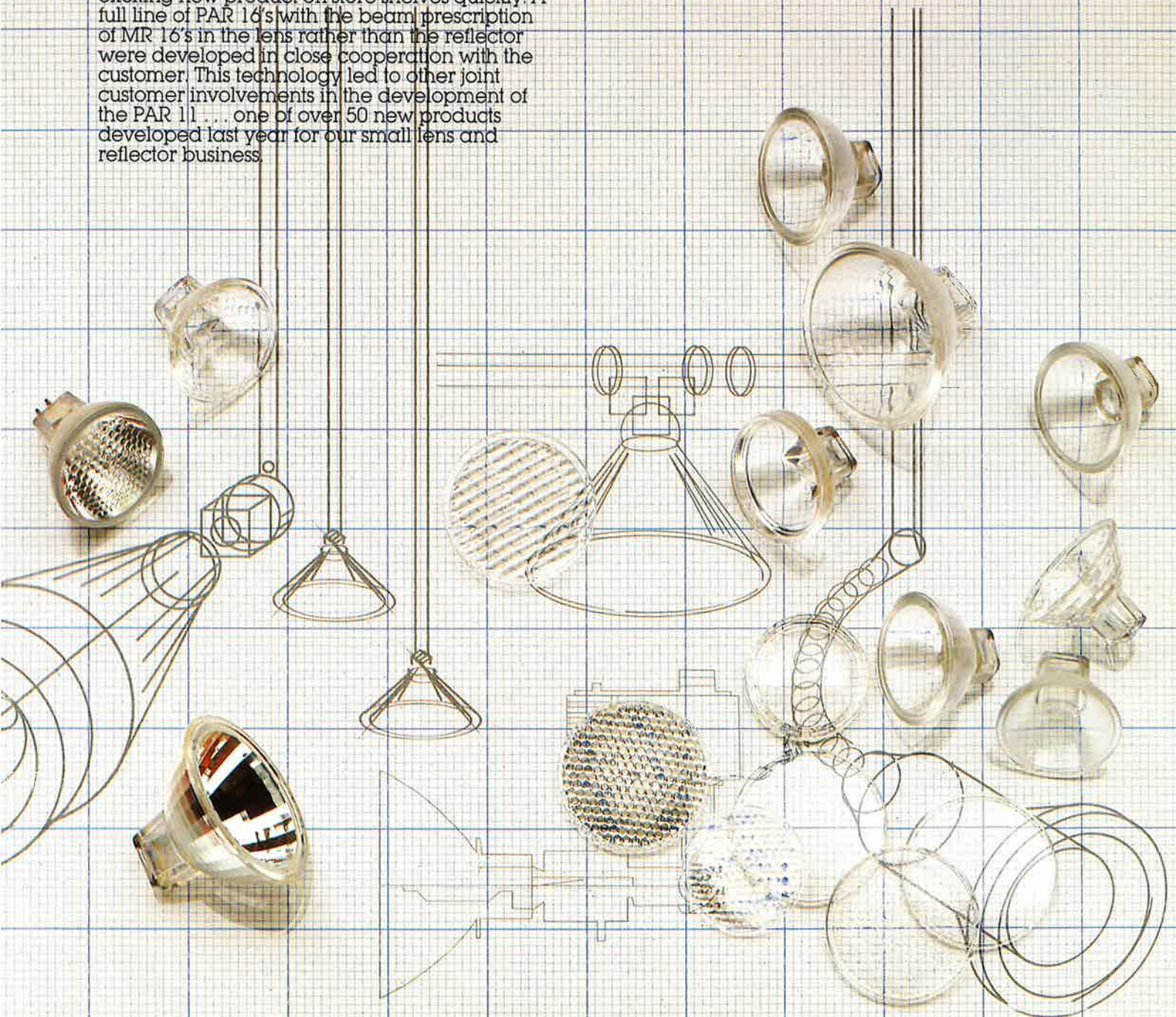
Small Glass Lenses and Reflectors

Since the invention of electric lighting, Corning has provided components to help brighten the world. Thomas Edison asked us for a clear, strong, heat resistant glass envelope. We delivered. Later, when Corning developed the ribbon glass machine for high speed bulb production, incandescent lighting became affordable for everyone.

Inventive solutions from creative minds continue at Corning today. Optics for the PAR 20 & PAR 30 were rapidly developed from concept to full product. This helped our customer get this exciting new product on store shelves quickly. A full line of PAR 16's with the beam prescription of MR 16's in the lens rather than the reflector were developed in close cooperation with the customer. This technology led to other joint customer involvements in the development of the PAR 11 ... one of over 50 new products developed last year for our small lens and reflector business.

Our scientists and engineers are anxious to help you discover bright new horizons for the lighting needs of tomorrow.

Corning's next lighting innovation can begin with your inquiry for a new lighting component. Our engineers and designers will interact with yours to develop solutions to your lighting challenge.



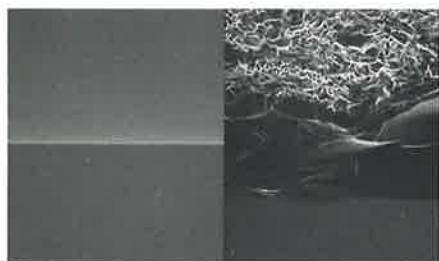
Small Glass Lenses and Reflectors

Unique Manufacturing Processes

As the world's most advanced glass manufacturer, Corning provides a unique array of processes that gives unmatched finished product quality. Some examples:

● Hot hole punch process

Reflector holes are punched immediately after reflectors are formed. This eliminates the need for grinding, washing, and rehandling. Therefore, glazed hole surfaces are free of potential break sources.



Less surface damage means fewer break sources. Compare the smooth, defect-free surface from Corning's hot forming process (left) with the competitive ground surface (right). 100x magnification of a MR16 reflector.

● Uniform stress

No finishing is done after parts are annealed, eliminating stress differences with the pieces.

● SPC (Statistical Process Control)

This manufacturing control technique insures consistent glass properties, dimensions, and photometric performance.

With high speed presses producing components to tight tolerances, Corning provides maximum uniformity in high volumes.

● Tooling

Corning has developed innovative tooling technology which provides state-of-the-art repeatability, specular surfaces, facet definition at competitive costs.

Glass Properties

Code 7251	Softening Point	Anneal Point	Strain Point	Expansion
	781°C	540°C	493°C	36 x 10 ⁻⁷ /°C
7251 borosilicate glass is also used for automotive sealed beam and PAR 38-64 products. Corning is the world volume leader in borosilicate glass pressing.				



Put the prescription where you want it... clear cover glasses for faceted reflectors or active lenses with prisms or lenticules.



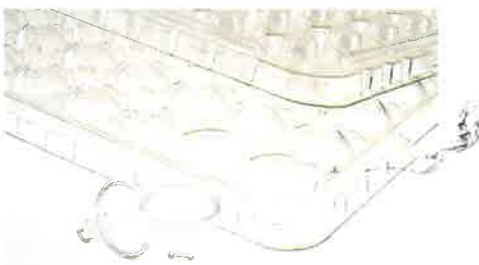
Smooth, faceted and lenticular reflectors... pressed rims to accommodate cover glass... hot formed neck slots... Corning product engineering adds value to your products.

Think Small

Corning can help you with big ideas in small lighting. Look to Corning for small glass parts in PAR 30's, 20's, 16's, 11's... and whatever you perceive to be the next generations of small lighting components.

The market trend is toward smaller lamps with higher light output. And as the global market for halogen display lighting products continues to expand, there is room for a variety of specialty niches and volume oriented products.

The first in this market with the new product enjoys the position and profits of market share leadership. Let Corning help you gain that advantage.



High packing density, transparent packing material, for lower shipping cost, improved inspection, and easier processing.

Imagine What We Can Do Together...

The problem solvers at Corning are customer oriented. We listen to your needs... and respond to them. Many of Corning's greatest innovations and inventions are the result of customer requests.

Corning is recognized as the leader in glass technology with the most extensive and advanced glass laboratory facilities in the world. You can put Corning's expertise to work for you. Our engineers will work with yours to meet your specifications and help turn drawing board visions into realities.

CORNING