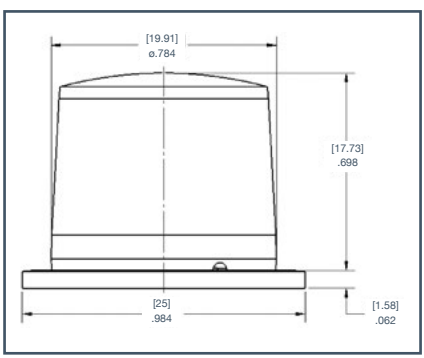
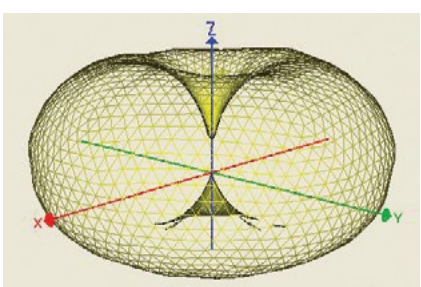
# Mini HEOC

The High Efficiency Optical Coupler (HEOC) is a patented design created to convert an LED point source to a distributed source, similar to an incandescent bulb.

The design of the HEOC utilizes two moldable optical materials that are overmolded to produce the single part.




HEOC




HEOC pattern

The top and bottom white reflective parts are molded first. These parts are then set into a second mold and the center clear section is injected between them and cured. The complete part is then post-cured and the resulting assembly has a robust interface without a need for additional adhesive.

In high volume production, a rotating mold and second injection unit could be added to the press to allow co-molding of the part. This process would eliminate the handling of the top and bottom reflector needed in the overmolding process used to create these sample parts.

The sample HEOC is created with a clear center portion. In its production form, the center section could include phosphor and utilize a blue LED to produce a variety of emission outputs. This alternative allows the single design to produce warm white light, cool white light, daylight, or a specialized grow or biologic spectra from the same LED electronics, or molds by varying the phosphor used.

## Points to note:

- This is an overmolded part—no adhesive is used for assembly.
- Production parts could include different phosphors to produce varying spectra from a standard platform.
- Light output is omni-directional.
- The bottom reflector has a small groove in its base for adhesive attachment to the board.

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