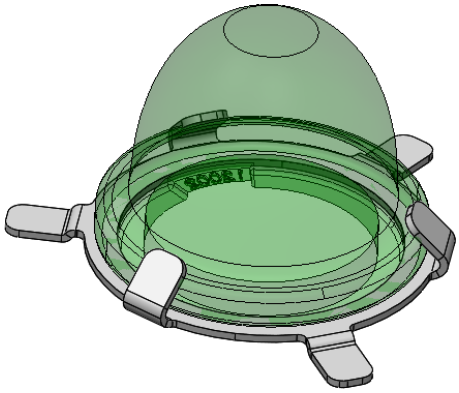
Surface Mounted Optic (SMO)

10mm Round Bullet Collimator

Rev 1.0 – 05/13/21



CoreLED P/N 12002

- Narrow Flood Collimating Optic
- Compatible with following LED products
  - 2020 LED package and smaller
  - 3535 LED package (no dome)
  - Other LED packages may be compatible (Contact CoreLed Engineering for requests)

Product Description:

The SMO product family is a series of molded high-temperature silicone miniature lenses that attach directly to PCB with solder clip using standard reflow method. These components achieve high light collection efficiency, a variety of engineered beam patterns, and are supplied for high volume pick and place electronics assembly.

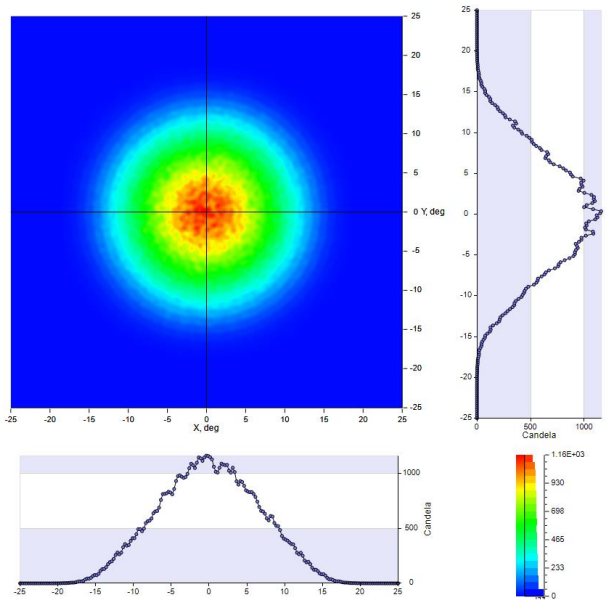
Key Features:

- Optical lens is reflow mounted at the same time as LED assembly
- Supplied in tape and reel
- Increased control of light output
- Precision alignment (within ±0.1mm)
- Family of optical beam patterns that will work using IR reflow
- Reflow solder clip directly attached to lens
- Standard pick and place equipment
- Manufactured without the need for additional components to attach the optics

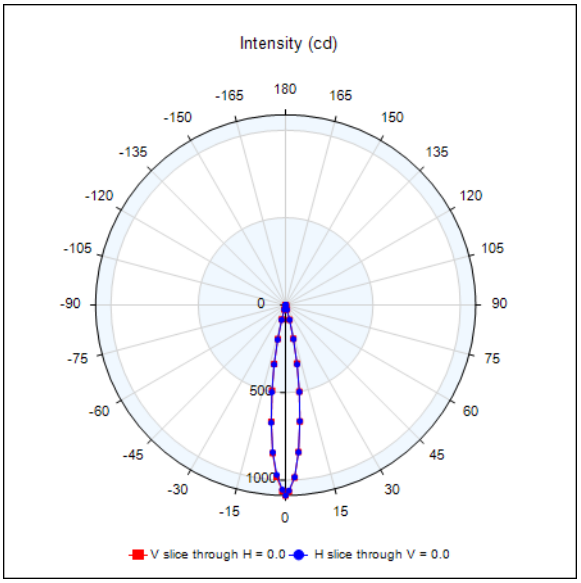
Emitted Pattern Profile

OSRAM Oslon Compact (Measured) 1519 LED package

IES NEMA Type	3H x 3V
Maximum Candela	1087
Horizontal Beam Angle (50%)	17°
Vertical Beam Angle (50%)	17°
Horizontal Field Angle (10%)	29°
Vertical Field Angle (10%)	29°
Total Rated Lamp Lumens	100



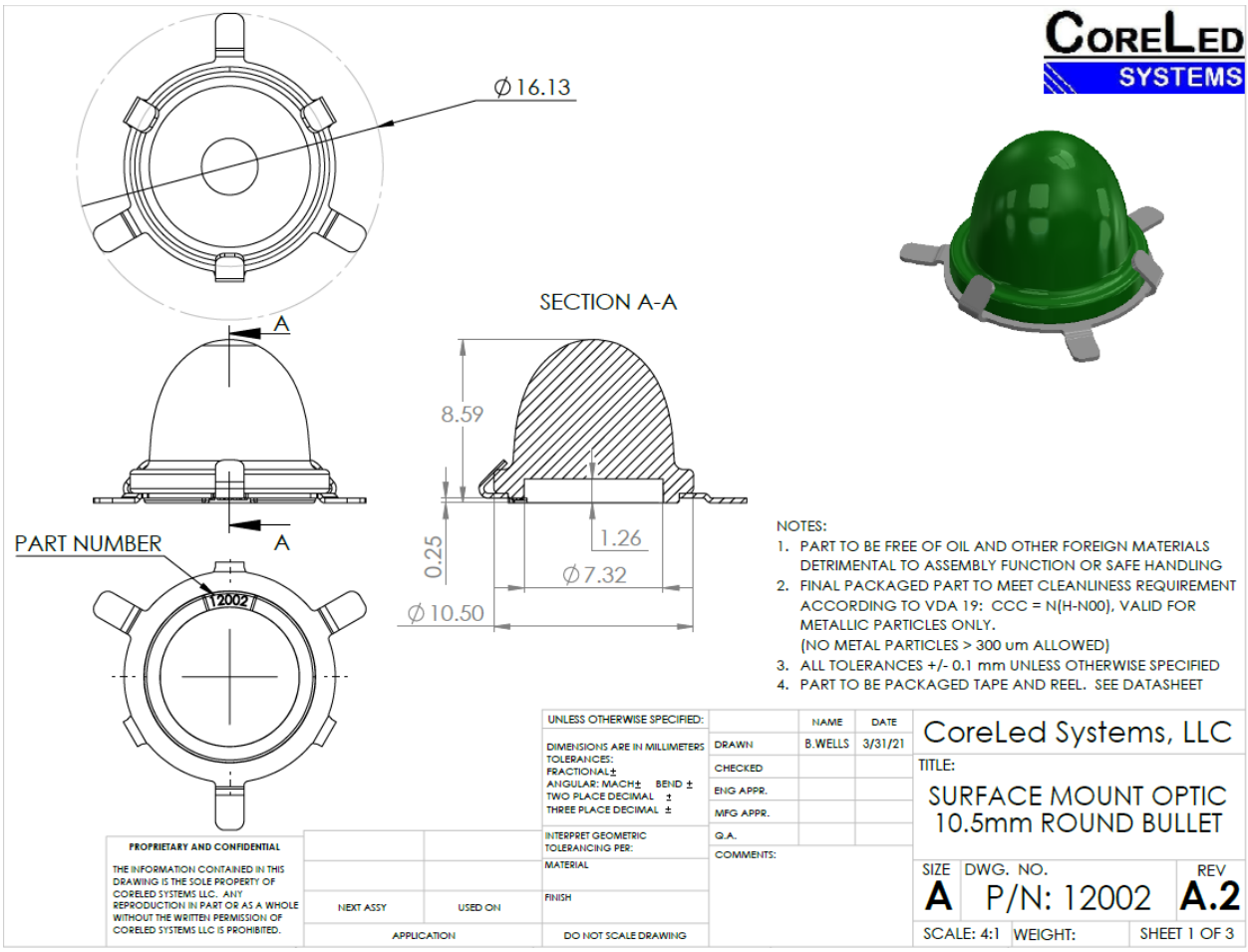
ANGULAR DISTRIBUTION OF LUMINOUS INTENSITY (cd)



POLAR INTENSITY PLOT

IES files and Raytrace models are available upon request from CoreLed Engineering.

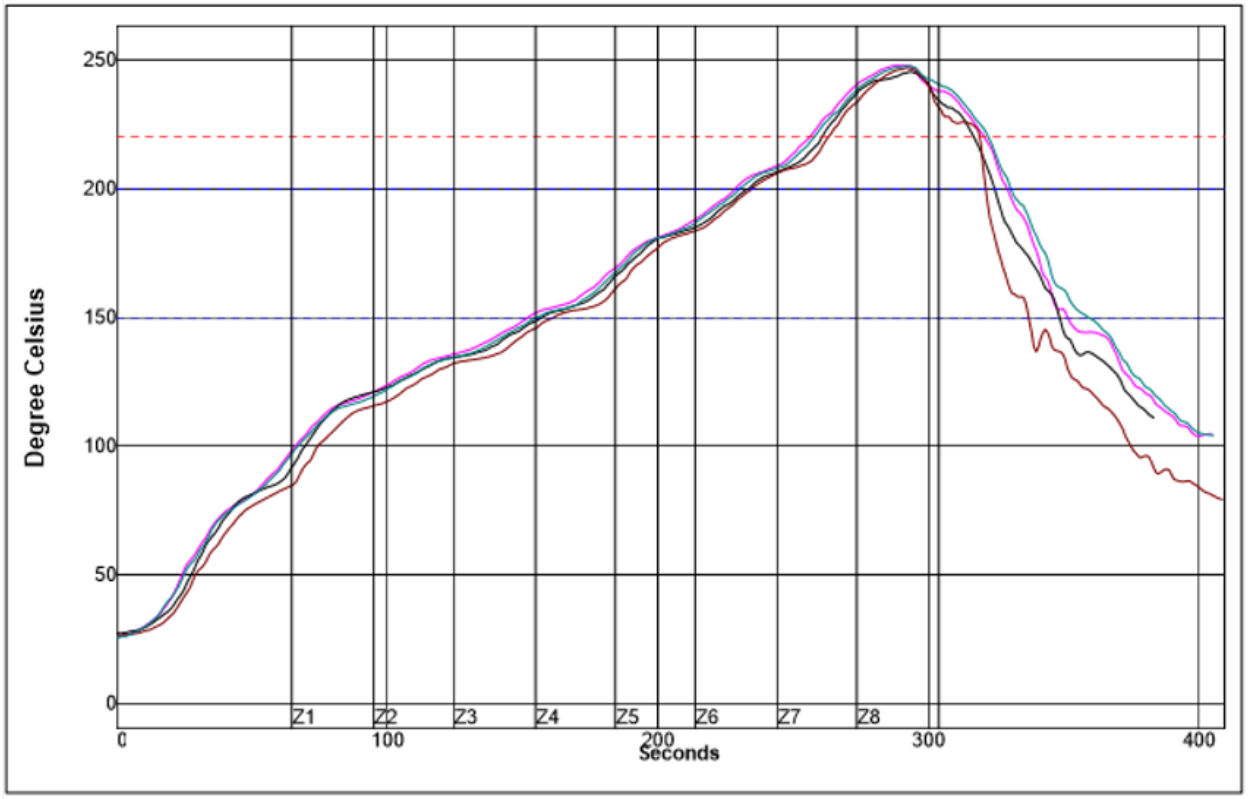
Mechanical Profile



Mechanical design features shown with solder clip

CAD files available upon request from CoreLed Engineering

Reflow Profile

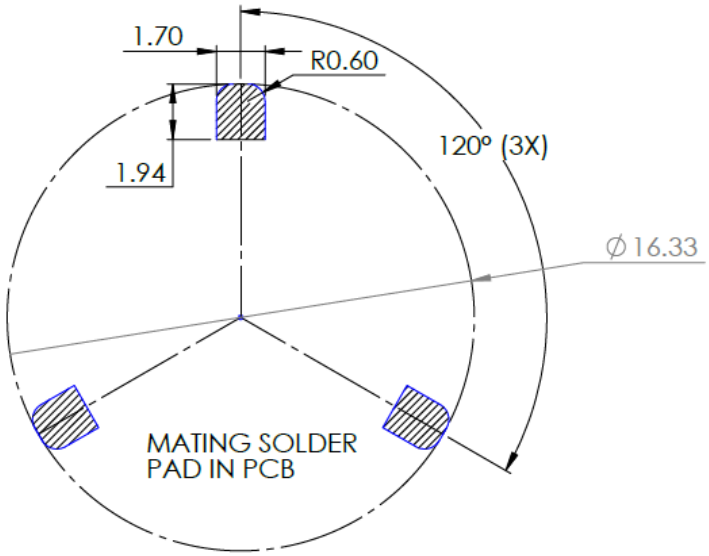


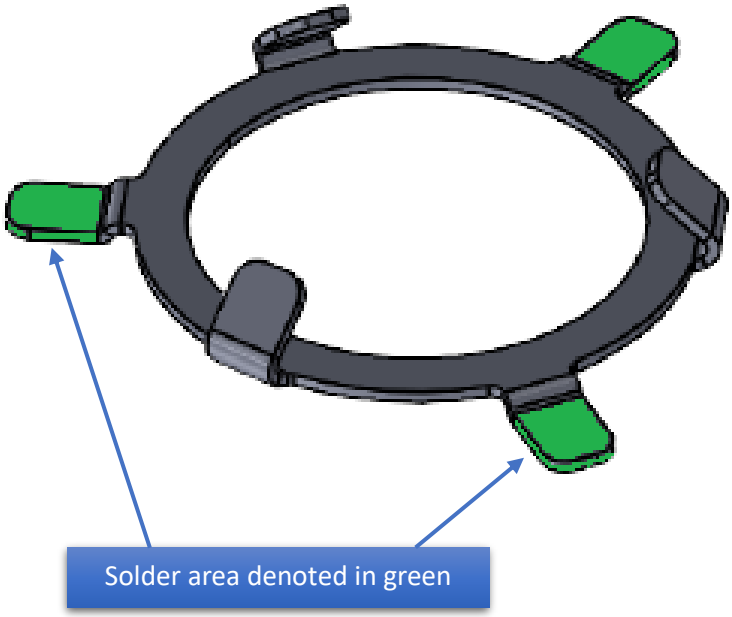
Setpoints (Degree Celsius)								
Zone	1	2	3	4	5	6	7	8
Top	125	148	152	173	210	235	268	257
Bottom	125	148	152	173	210	235	268	257
Conveyor Speed	50.0 cm/min							

Example Reflow profile used for testing of SMO units by CoreLed

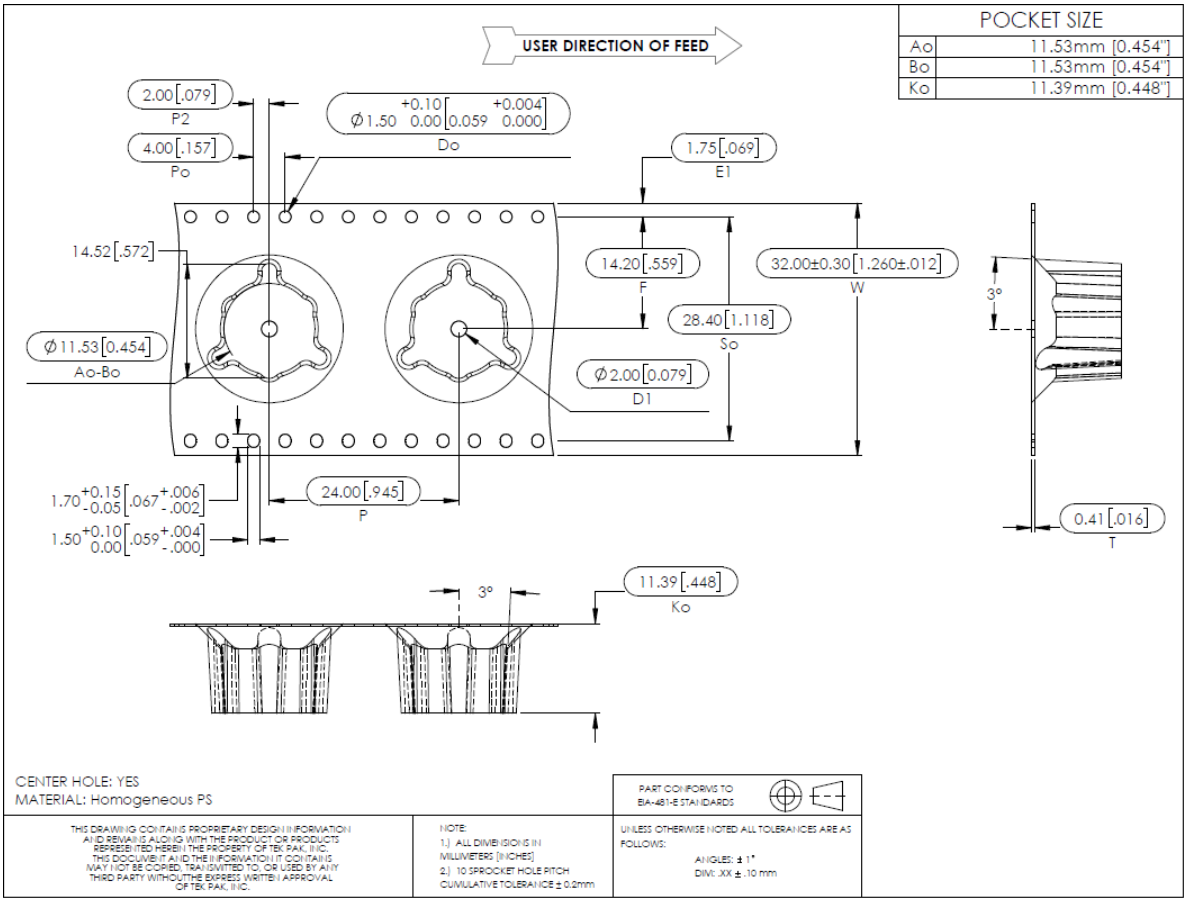
Solder Pad drawing

Dimensions are in **mm**





Packaging



Packaging information for tape and reel delivery.