**\subsubsection{Light Fixture Housing}**

The following represents the model for the light fixtures (a total count of 4). This design is intended to highlight the project as whole and to house the important components such the LED bulbs and controller. The plate is to act as a mount for the LED bulbs. The cutoff was designed as a pathway for the wires connecting to the shield. The middle is designed to hold the plate, LED bulbs and the heat sink. A lip was created in the bottom to catch and hold the LED plate in place. There is a 10 mm wide thread that will be used to screw onto the top housing which in then will hold the microprocessor.

\begin{figure}[H]

\centering

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part1revised".png}

\caption{Solid model}

**\label{fig:sub1}**

\end{subfigure}%

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part1revisedwire".png}

\caption{Wireframe with hidden edges}

**\label{fig:sub2}**

\end{subfigure}

\caption{3D CAD Model for LED plate}

**\label{fig:test}**

\end{figure}

\begin{figure}[H]

\centering

**\includegraphics**[width=.50\textwidth]{"imgs/ledplate".png}\par

\vspace{0.1cm}

\caption{3D printed LED plate}

\end{figure}

\begin{figure}[H]

\centering

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part2revised".png}

\caption{Solid model}

**\label{fig:sub1}**

\end{subfigure}%

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part2revisedwire".png}

\caption{Wireframe with hidden edges}

**\label{fig:sub2}**

\end{subfigure}

\caption{3D CAD Model for middle housing}

**\label{fig:test}**

\end{figure}

\begin{figure}[H]

\centering

**\includegraphics**[width=.50\textwidth]{"imgs/middle".png}\par

\vspace{0.1cm}

\caption{3D printed middle housing}

\end{figure}

\begin{figure}[H]

\centering

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part3revised".png}

\caption{Solid model}

**\label{fig:sub1}**

\end{subfigure}%

\begin{subfigure}{.5\textwidth}

\centering

**\includegraphics**[width=1\linewidth]{"imgs/Part3revisedwire".png}

\caption{Wireframe with hidden edges}

**\label{fig:sub2}**

\end{subfigure}

\caption{3D CAD Model for top housing}

**\label{fig:test}**

\end{figure}

\newpage