The Nissan Leaf was selected as the electric vehicle of choice. We are assuming that lot F will primarily be used sometime in the morning after the car owner has arrived for work or school and is in need of charging to get back home. We are also assuming that all car has used 60% of the battery and using the Nissan Leaf as a worst case type scenario since its battery is larger than hybrid vehicles and thus takes longer to charge. In this case, 60% of the Nissan Leaf’s battery is 30 kWh. The charging station used is the GE Durastation Duel EV Charger and all cars will use the level 2 charging port for faster charging speeds. The Durastation requires 240 V input at 30 A or 7.2 kW. At a rate of 7.2 kW an hour and while the system is idle will consume 5W, it will roughly take four hours to completely charge the battery. Shown in table 1 is a breakdown of the power drawn throughout the day. Figure 1 is a graph depicting the total load on the system. Table 2 depicts the power consumption to charge the car for 50 50 week span which is 10080kW.