**1. Introduction**

This report provides a comprehensive overview of the Chicago Eclipse dataset, which was recorded during the recent eclipse event. The data was originally split across 19 CSV files that have now been merged into a single dataset for analysis. In this report, we describe the process of combining the data, cleaning it, and generating summary statistics. Additionally, several visualizations have been created to highlight trends, distributions, and relationships within the dataset.

**2. Data Merging and Cleaning**

The Chicago Eclipse dataset was originally split into 19 separate CSV files. These files were first uploaded into a Google Colab environment. Each CSV file, sharing the same column structure, was then read into a table. All the tables were sequentially merged into one comprehensive dataset, resulting in a combined table with 259,062 rows before any cleaning was applied.

To ensure the integrity of the data, a cleaning process was performed by filtering out any rows that contained invalid entries in key columns. Specifically, the following columns were checked: **City**, **DeviceId**, **LocationName**, and **ReadingDateTimeUTC**. A row was retained only if each of these columns had valid data (i.e., values were not missing, not empty, and not marked as "NA" or "NAN" in any case).

After applying these cleaning criteria, the dataset still contained 259,062 rows, confirming that all critical fields were complete and valid. This careful merging and cleaning process ensured that the dataset was robust and ready for further analysis, including the generation of summary statistics and visualizations.