

# Fiberassign performance

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## Abstract

In this document I show that fiberassign meets the desired performance in terms of fiber usage for science targets, calibration targets, sky-monitoring locations and Guide/Focus/Alignment targets.

## 1 Introduction

fiberassign is the software that performs the assignment of fibers to DESI targets.

The following are the minimal requirements on its performance

- Fiber assignment uses required fraction of fibers IN.DAT-7002
- Fiber assignment provides sufficient calibration fibers IN.DAT-7003

In this document I present the results of running fiberassign on targets from DR7 to demonstrate how the two requirements mentioned above are met. Furthermore I list some computational performance results to understand how long does it take to run the code and how many resources does it use.

## 2 Software and input data

For this report I use tag 0.10.1 of fiberassign.

The input targetting data comes from DR7. On NERSC the files can be found here: `/project/projectdirs/desi/target/catalogs/dr7.1/PR372/`

The targetting files need to be prepared in order to pass them to fiberassign. The code that prepares the data and runs fiberassign can be found here: <https://github.com/forero/testfiber/blob/master/main.py>. The script needs to be executed as `python main.py --program dark --size large` to produce the outputs analyzed in this report.

### 3 Results

We only use target that can be observed in dark time. With this restriction we end up with 7098 DESI tiles that correspond to dark time and overlap with the DR7.1 footprint. This selection returns 36M targets, 1.3M standard stars and 25M sky locations.