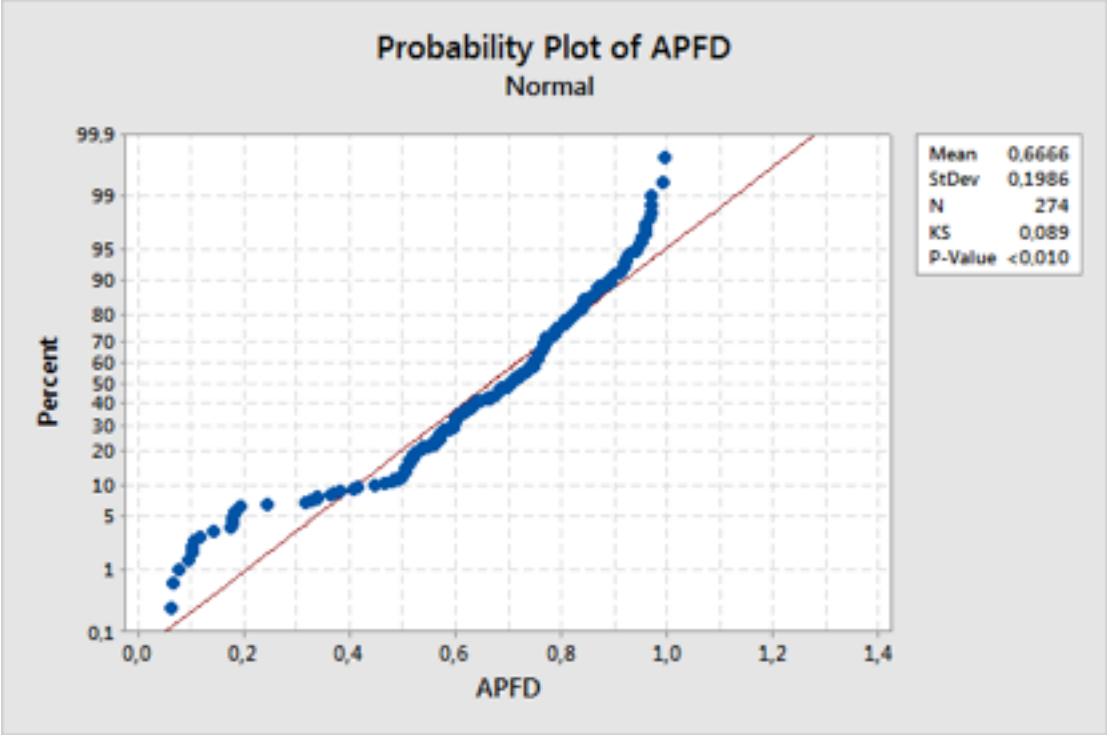
Analysis 1 – Fault type impact on APFD.
1 factor (fault type) and 2 treatments (seeded or real)

H0 – The means of TCP techniques execution results obtained using seeded and real faults are equal.
H1 – The means of TCP techniques execution results obtained using seeded and real faults are significantly different.

Data is displayed into factor_analysis_data/fault_type.pdf.

Normality test for APFD variable:
As the sample has 274 values, Kolmogorov-Smirnov test is used.



Given that the p-value is < 0.010, which is less than the established level of significance 0.05, the sample has a non normal distribution.

As the distribution is not normal, a non-parametric hypothesis test is used. In this case, we use Kruskal-Wallis test.

Kruskal-Wallis Test: APFD versus FAULT_TYPE

```
Kruskal-Wallis Test on APFD

FAULT_TYPE     N  Median  Ave Rank      Z
real          14  0,9190     214,3   3,72
seeded       260  0,7005     133,4  -3,72
Overall      274             137,5

H = 13,87  DF = 1  P = 0,000
H = 13,87  DF = 1  P = 0,000  (adjusted for ties)
```

A p-value of 0,00, which is less than the established significance level of 0.05, indicates that the null hypothesis can be rejected, thus, accepting the alternative hypothesis that fault type has a significant effect on APFD results.