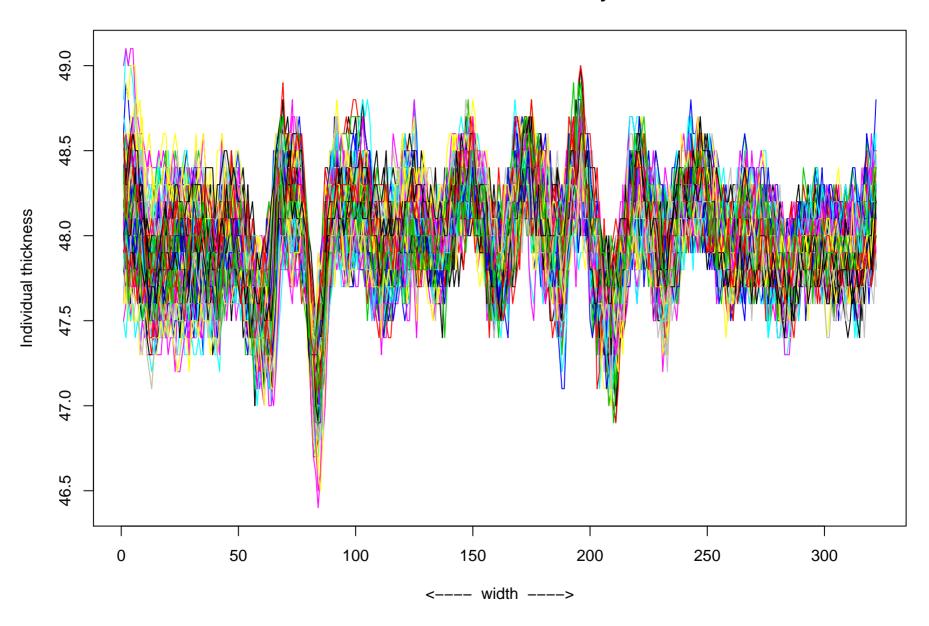
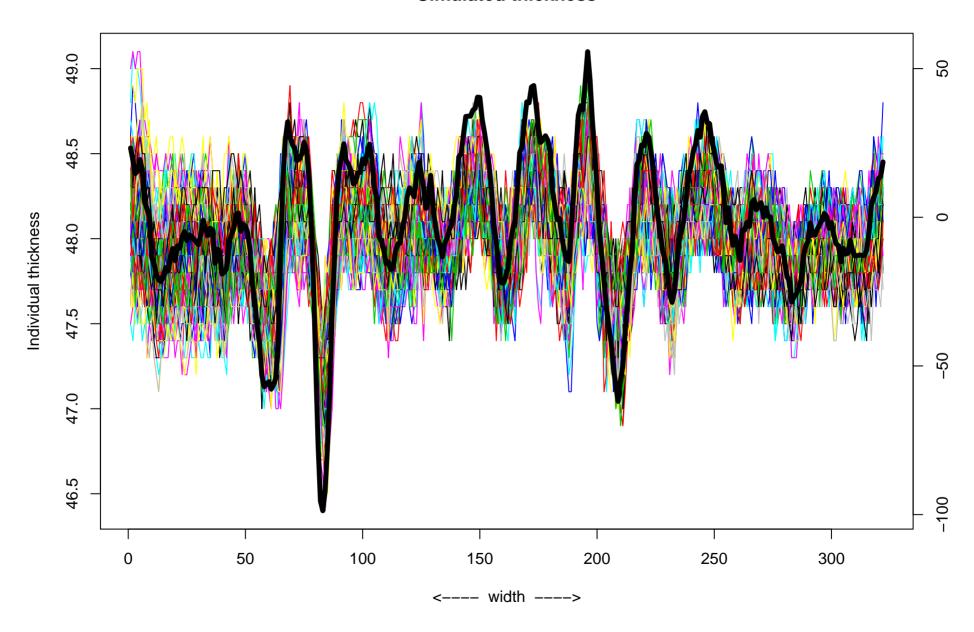
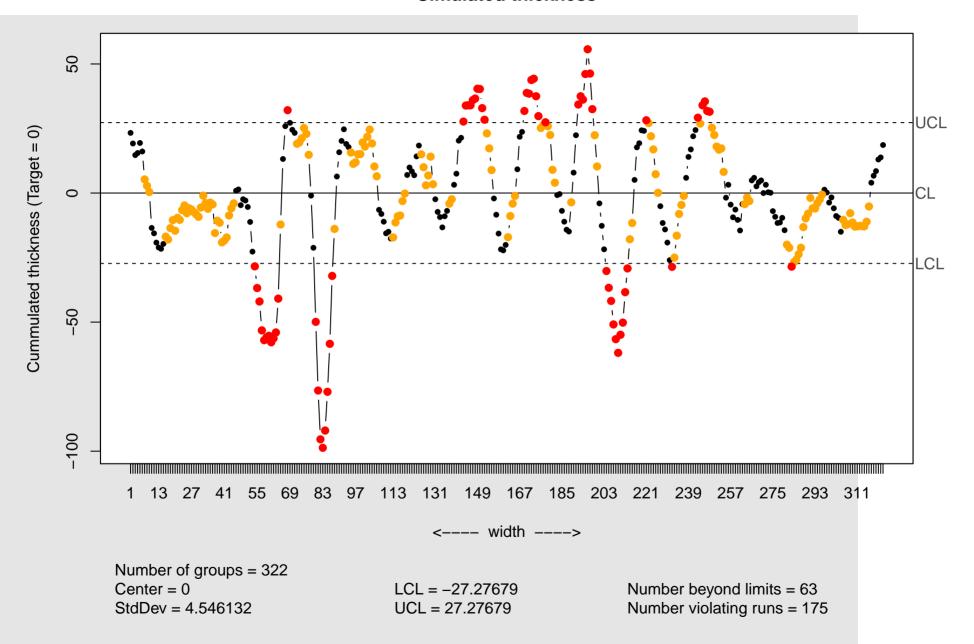
# Individual thickness only



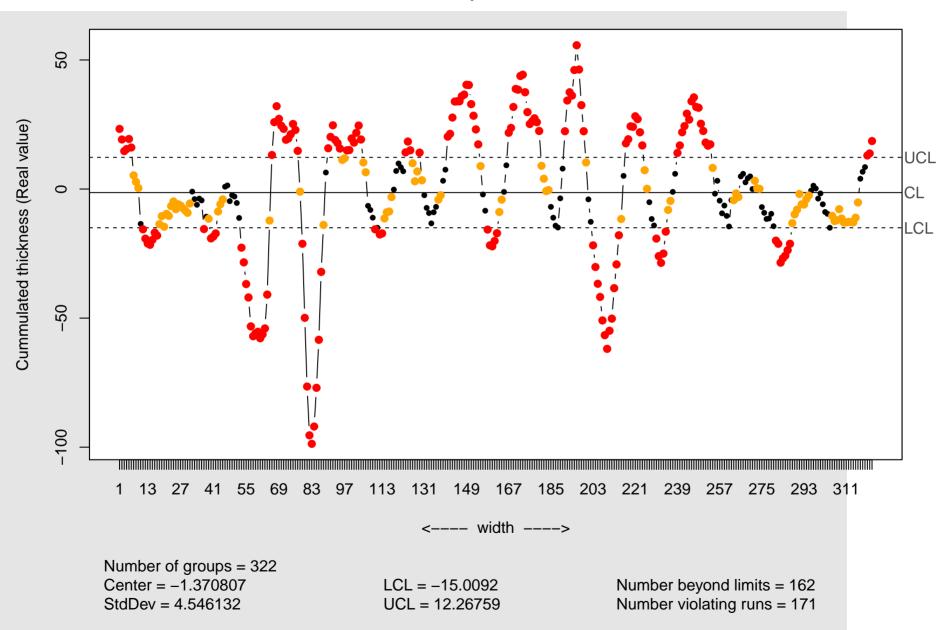
# Simulated thickness



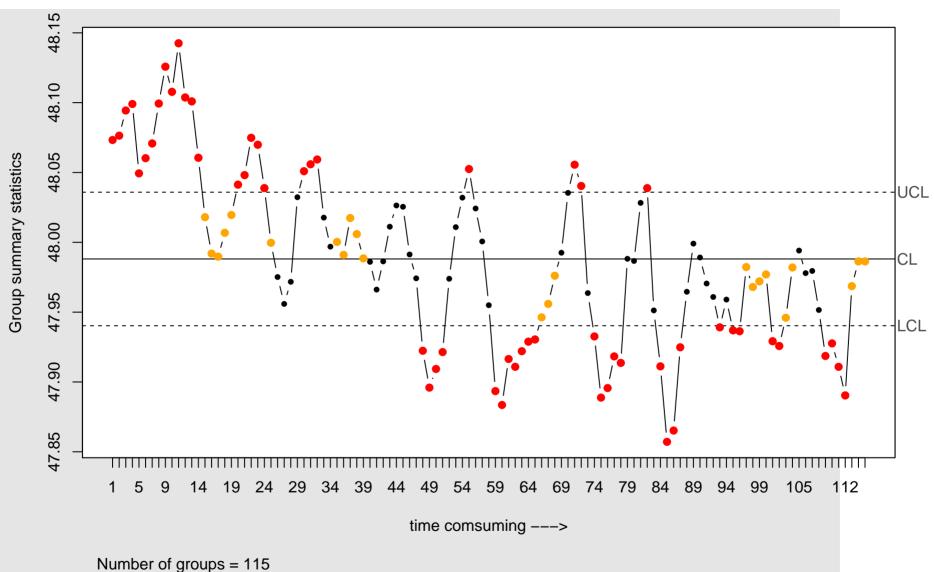
#### Simulated thickness



### Simulated thickness: Cpk is 0.4334 and z is -0.1999.



### X-bar chart for a given dataset

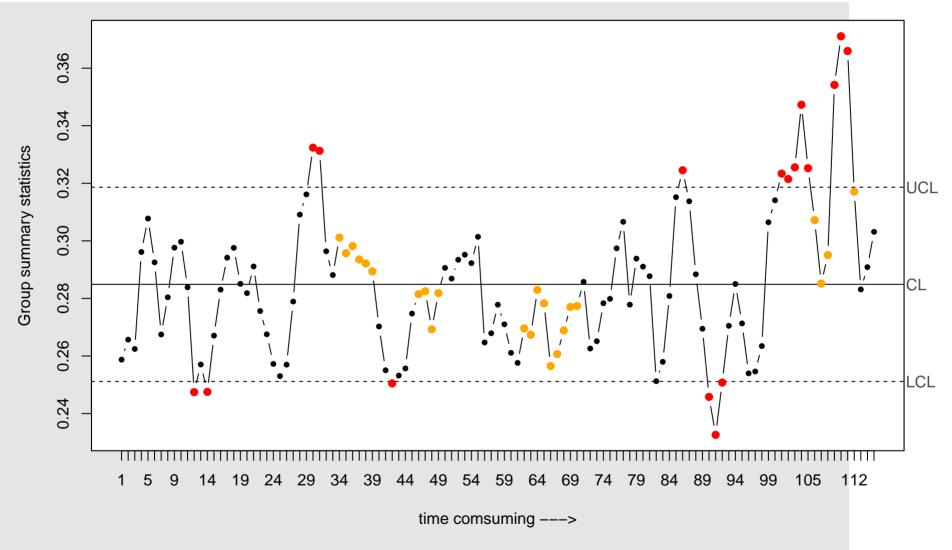


Number of groups = 115 Center = 47.98808 StdDev = 0.2860255

LCL = 47.94026 UCL = 48.0359

Number beyond limits = 55 Number violating runs = 41

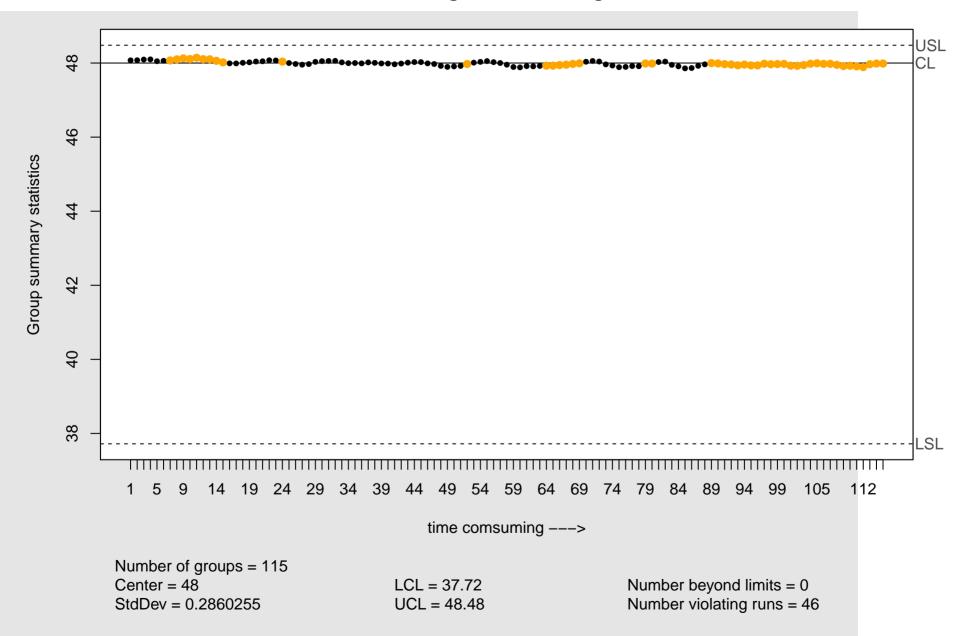
## S chart for a given dataset

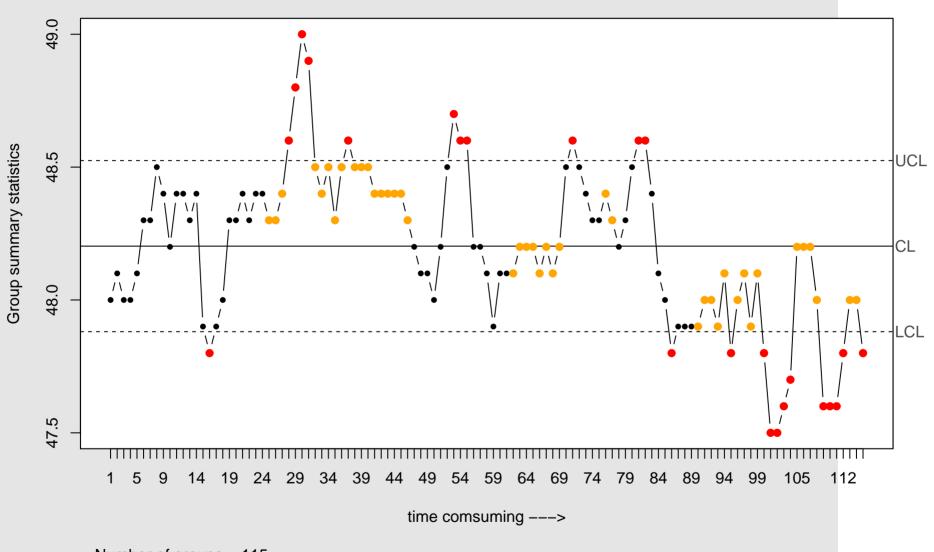


Number of groups = 115 Center = 0.2848948 StdDev = 0.2851167

LCL = 0.25115 UCL = 0.3186396 Number beyond limits = 17 Number violating runs = 27

### X-bar chart using USL/LSL for a given dataset

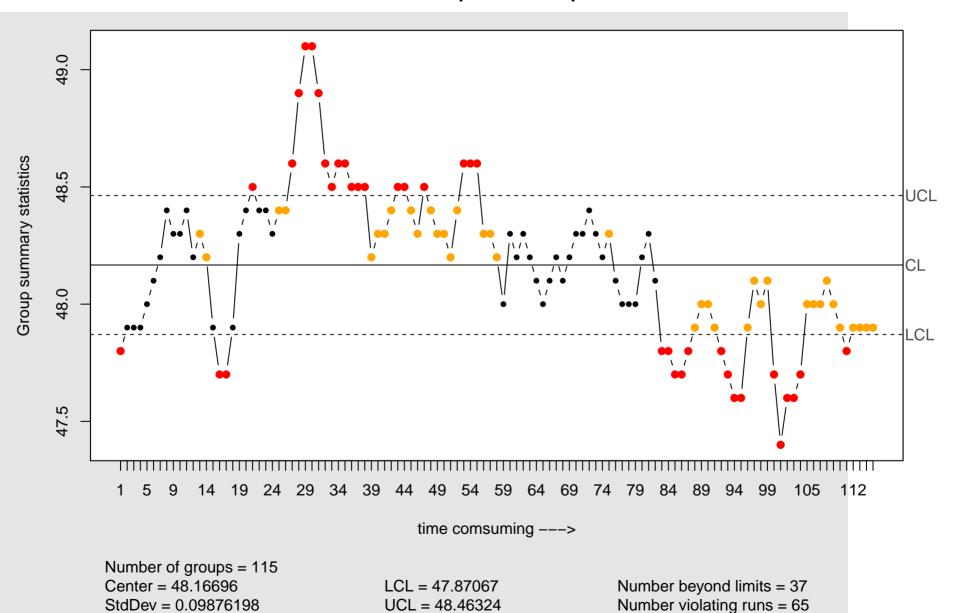


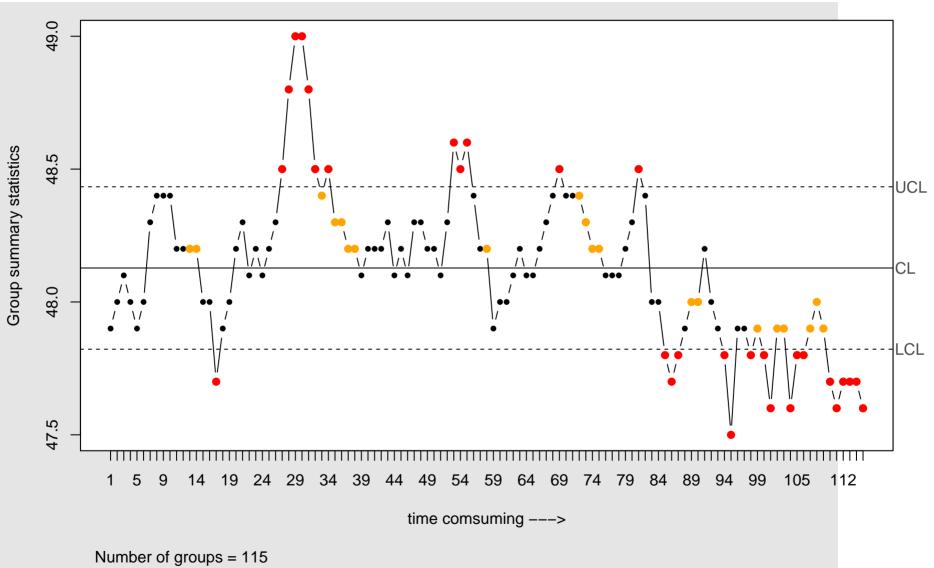


Number of groups = 115 Center = 48.20261 StdDev = 0.1073162

LCL = 47.88066 UCL = 48.52456

Number beyond limits = 24 Number violating runs = 58

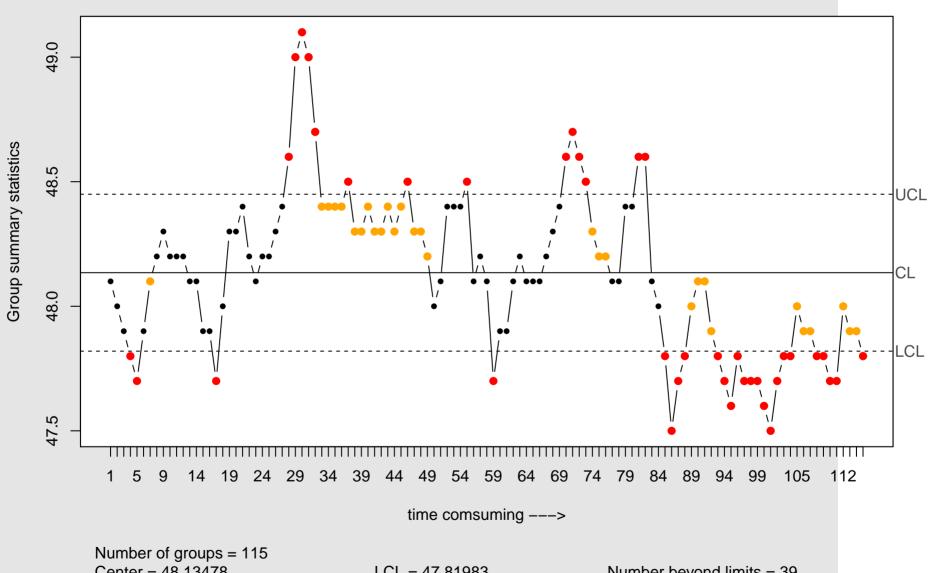




Number of groups = 115 Center = 48.12783 StdDev = 0.1018726

LCL = 47.82221 UCL = 48.43344

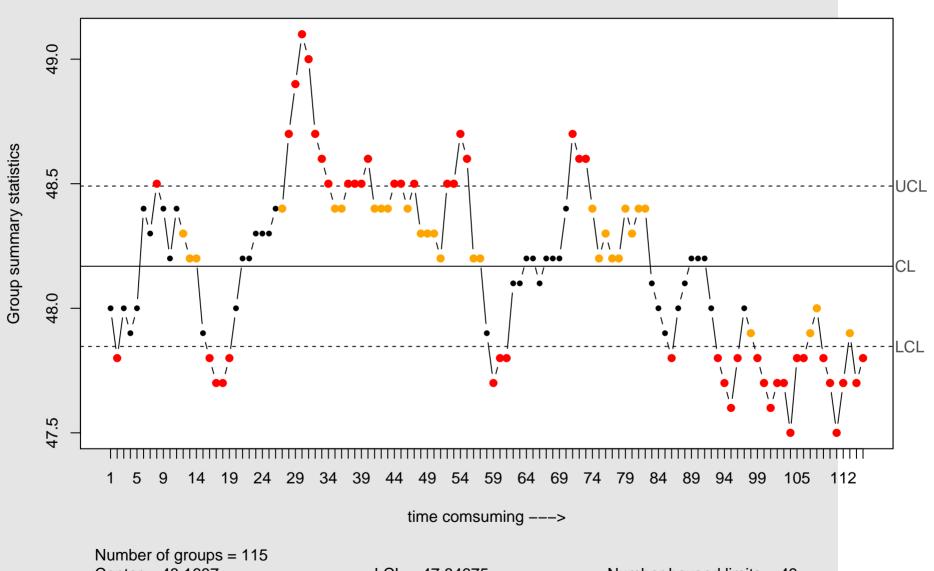
Number beyond limits = 30 Number violating runs = 35



Center = 48.13478StdDev = 0.1049832

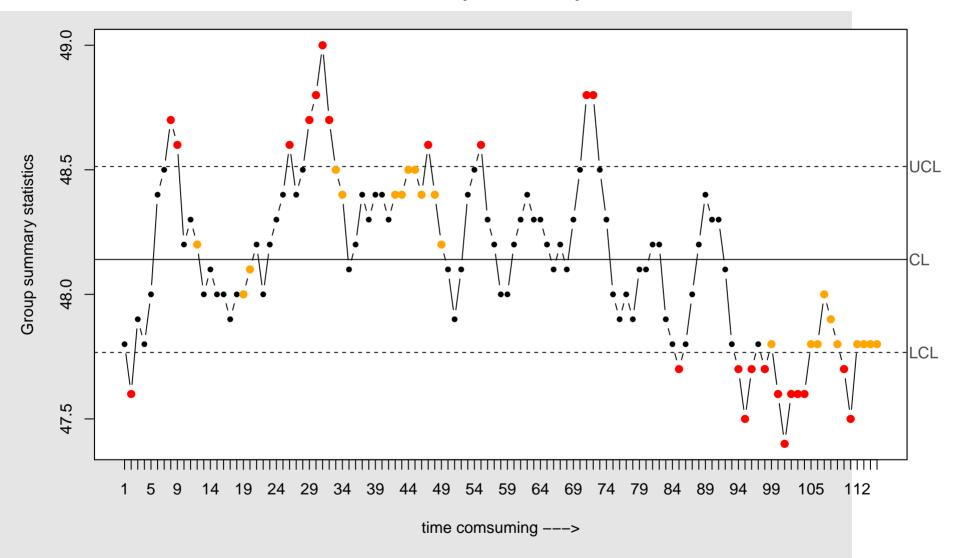
LCL = 47.81983UCL = 48.44973

Number beyond limits = 39 Number violating runs = 52



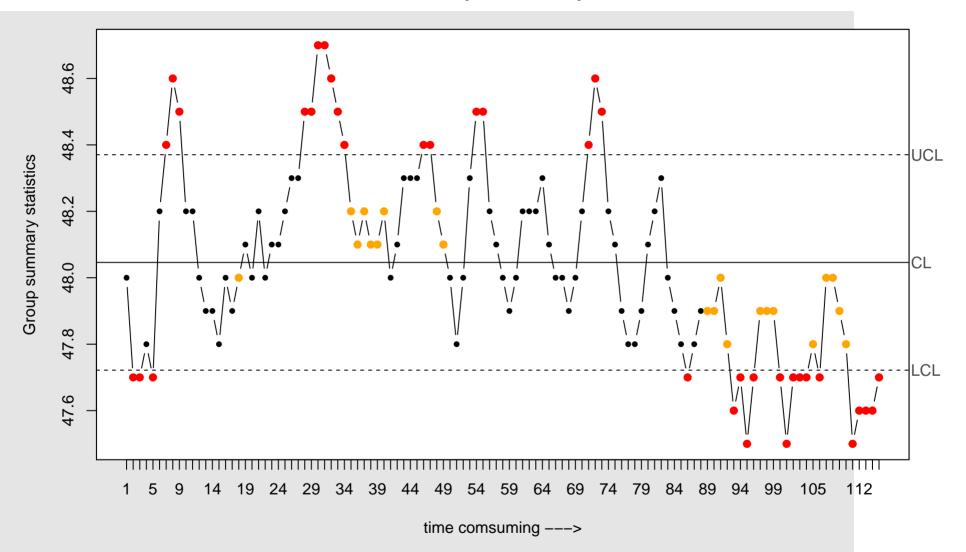
Number of groups = 115 Center = 48.1687 StdDev = 0.1073162

LCL = 47.84675 UCL = 48.49064 Number beyond limits = 49 Number violating runs = 62



Number of groups = 115 Center = 48.14 StdDev = 0.1244245

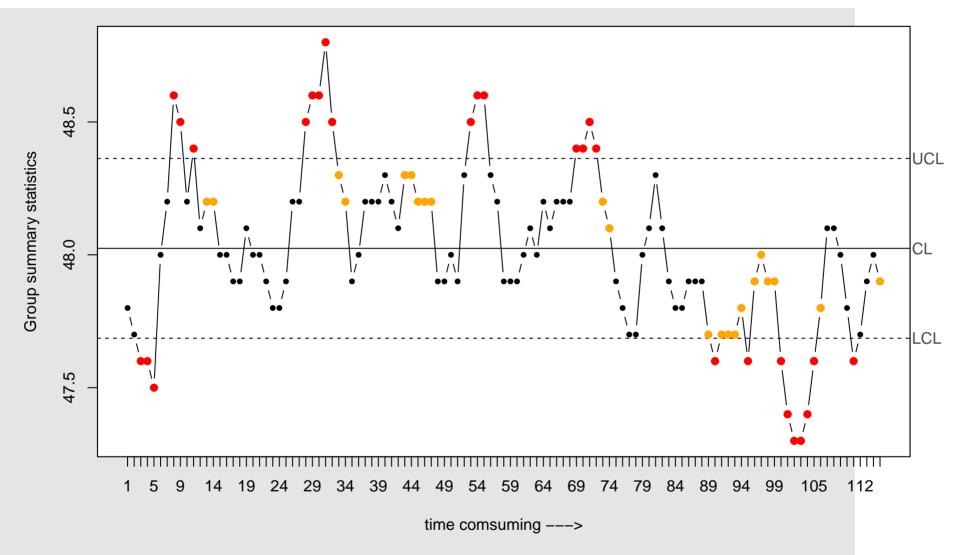
LCL = 47.76673 UCL = 48.51327 Number beyond limits = 24 Number violating runs = 35



Number of groups = 115 Center = 48.04609 StdDev = 0.1080938

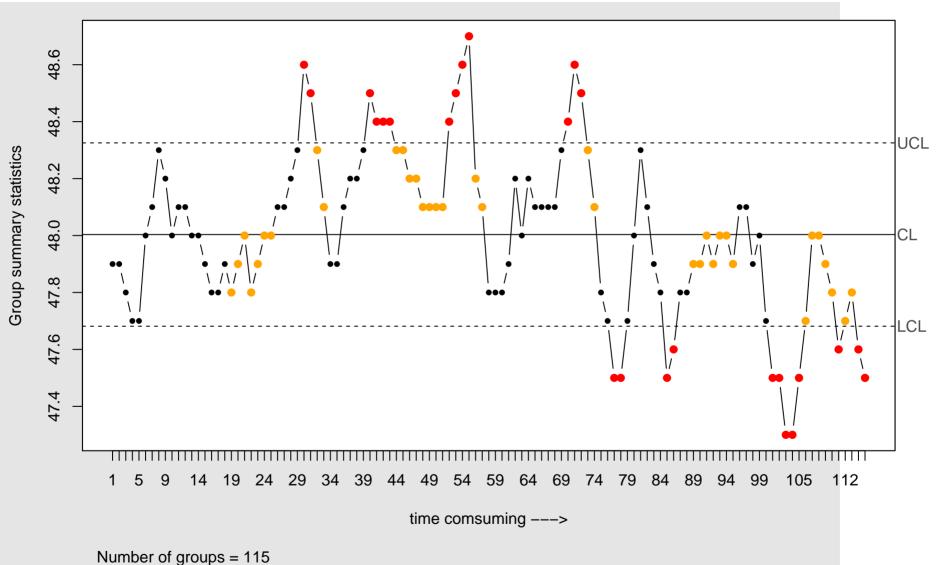
LCL = 47.72181 UCL = 48.37037

Number beyond limits = 36 Number violating runs = 42



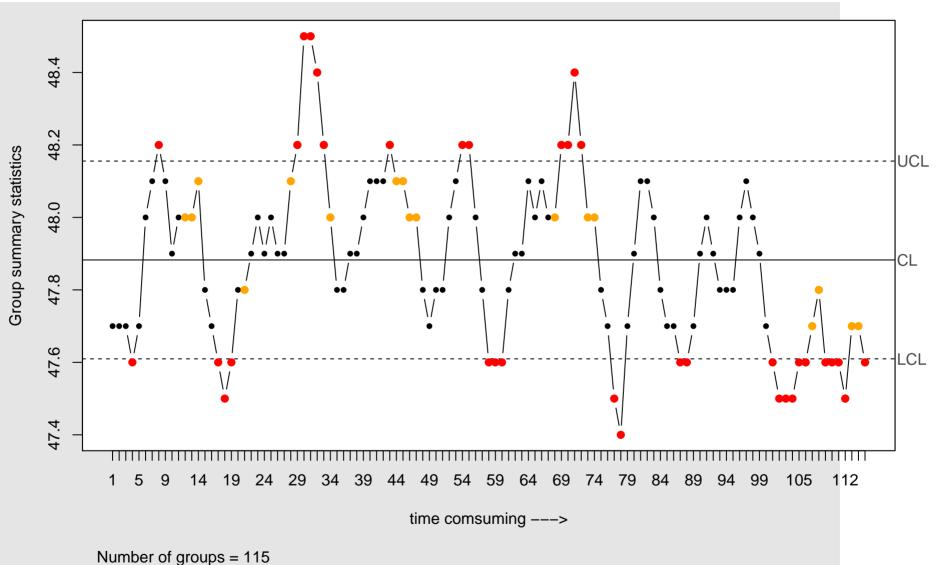
Number of groups = 115 Center = 48.02435 StdDev = 0.1127597

LCL = 47.68607 UCL = 48.36263 Number beyond limits = 27 Number violating runs = 34



Number of groups = 115 Center = 48.00348 StdDev = 0.1073162

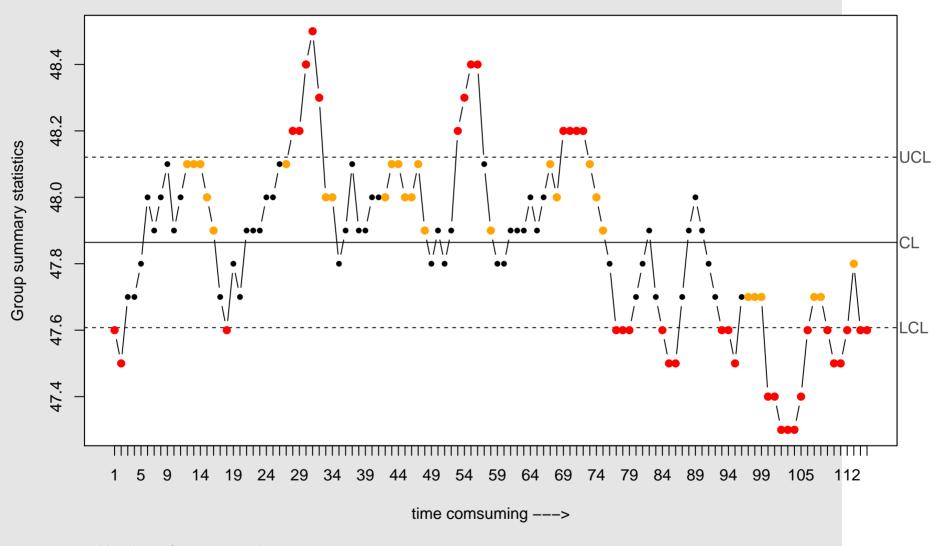
LCL = 47.68153 UCL = 48.32543 Number beyond limits = 25 Number violating runs = 49



Number of groups = 115 Center = 47.88261 StdDev = 0.09098544

LCL = 47.60965 UCL = 48.15557

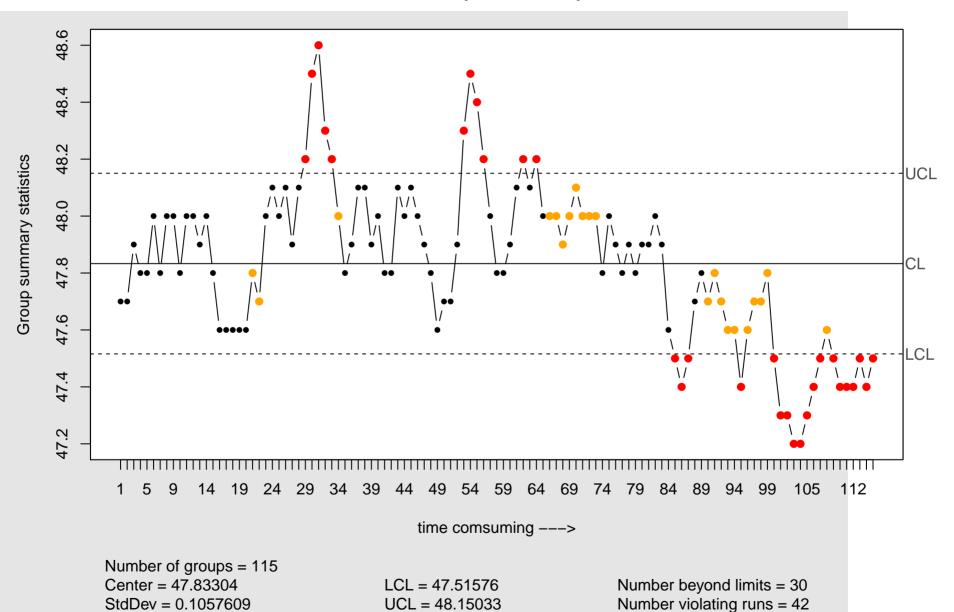
Number beyond limits = 35 Number violating runs = 33

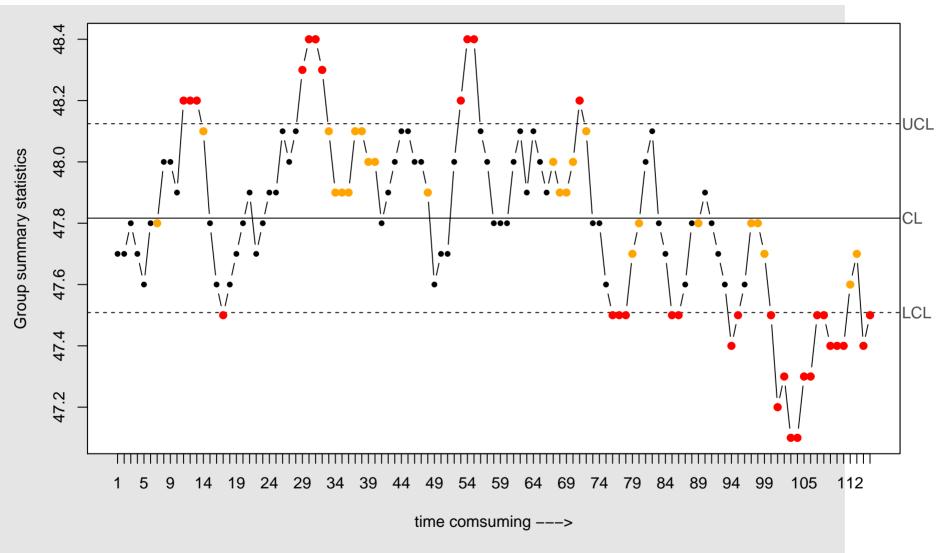


Number of groups = 115 Center = 47.86435 StdDev = 0.08554187

LCL = 47.60772 UCL = 48.12097

Number beyond limits = 38 Number violating runs = 49

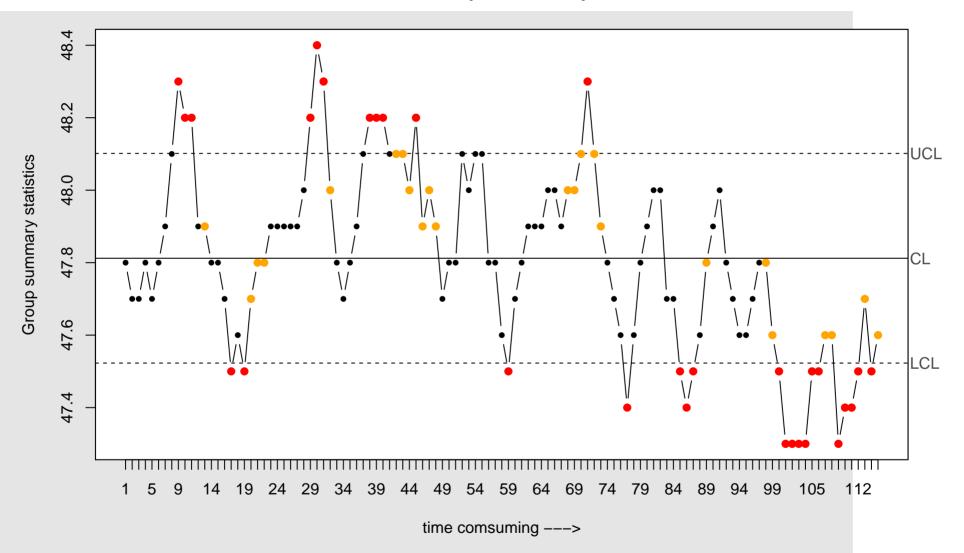




Number of groups = 115 Center = 47.81652 StdDev = 0.1026502

LCL = 47.50857 UCL = 48.12447

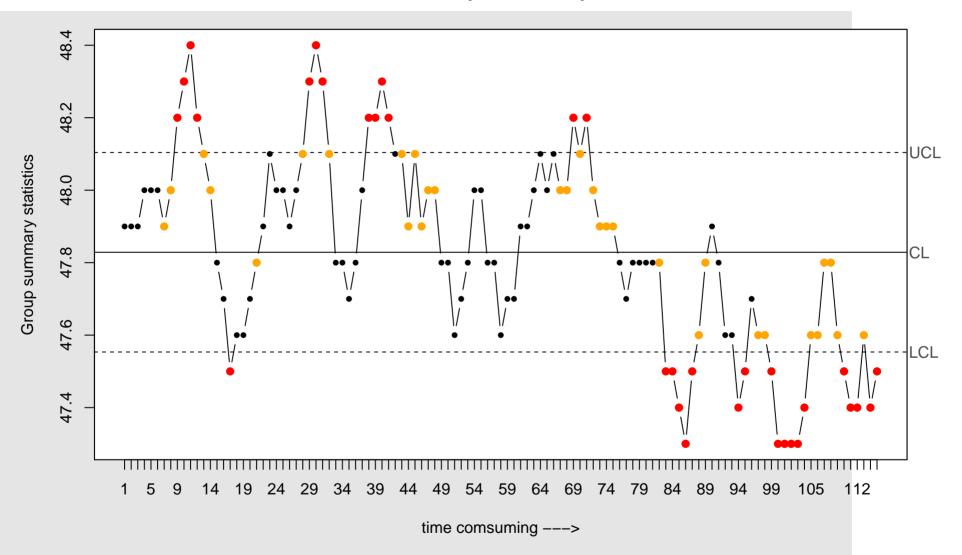
Number beyond limits = 33 Number violating runs = 42



Number of groups = 115 Center = 47.81217 StdDev = 0.09642902

LCL = 47.52289 UCL = 48.10146

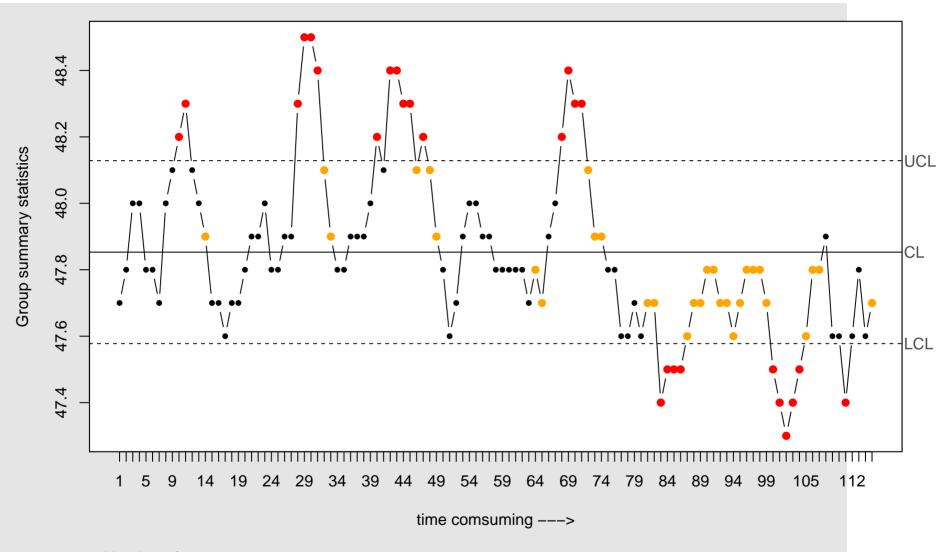
Number beyond limits = 30 Number violating runs = 40



Number of groups = 115 Center = 47.8287 StdDev = 0.0917631

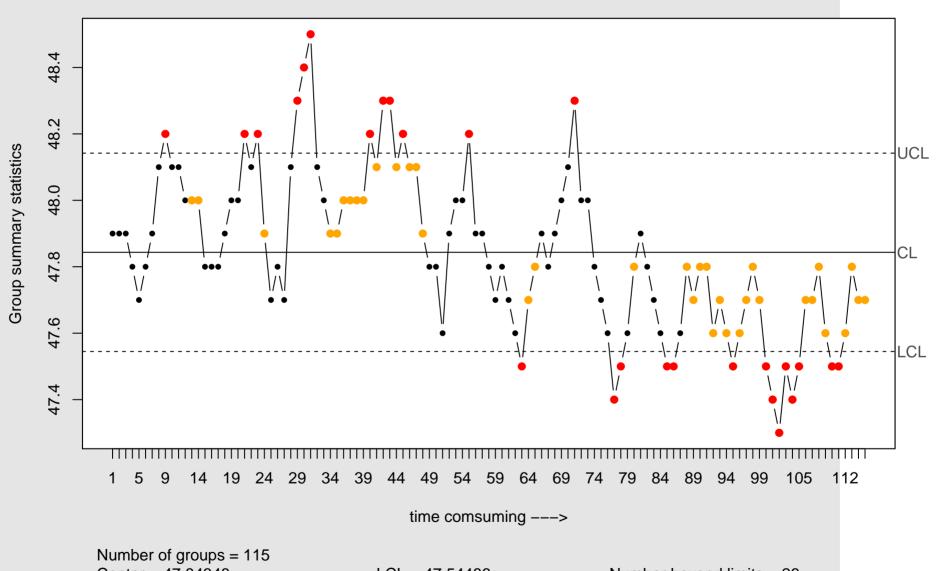
LCL = 47.55341 UCL = 48.10398

Number beyond limits = 32 Number violating runs = 56



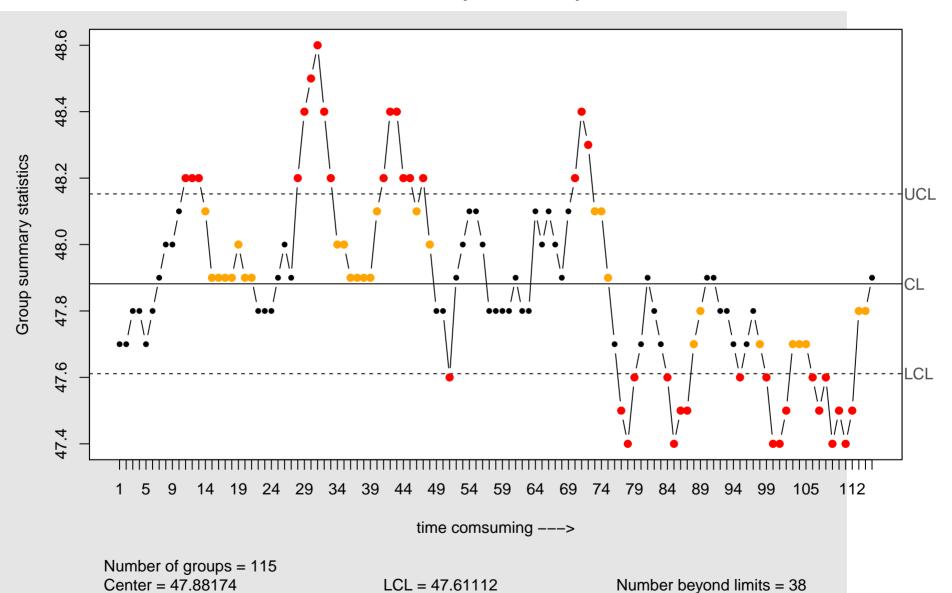
Number of groups = 115 Center = 47.85304 StdDev = 0.0917631

LCL = 47.57775 UCL = 48.12833 Number beyond limits = 26 Number violating runs = 44



Number of groups = 115 Center = 47.84348 StdDev = 0.09953963

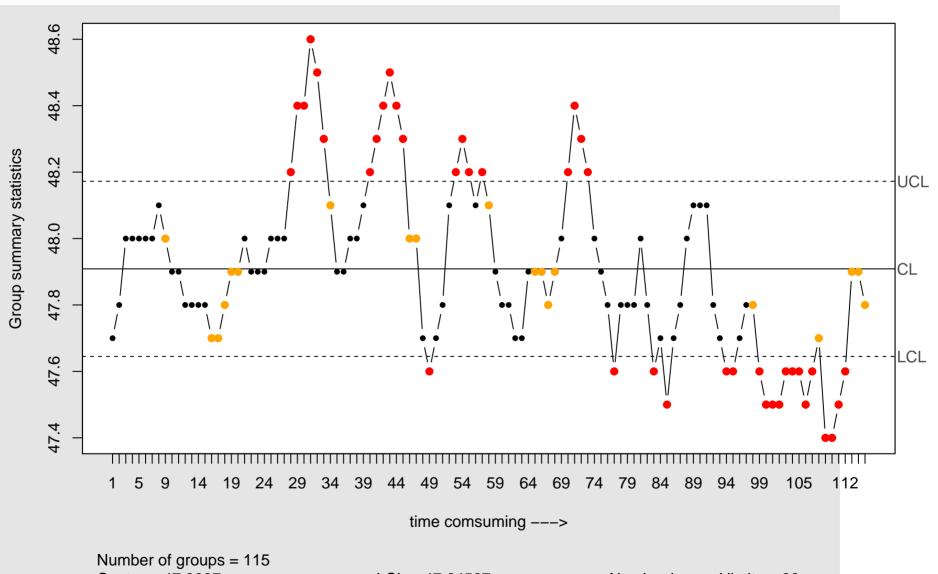
LCL = 47.54486 UCL = 48.1421 Number beyond limits = 26 Number violating runs = 49



UCL = 48.15236

Number violating runs = 52

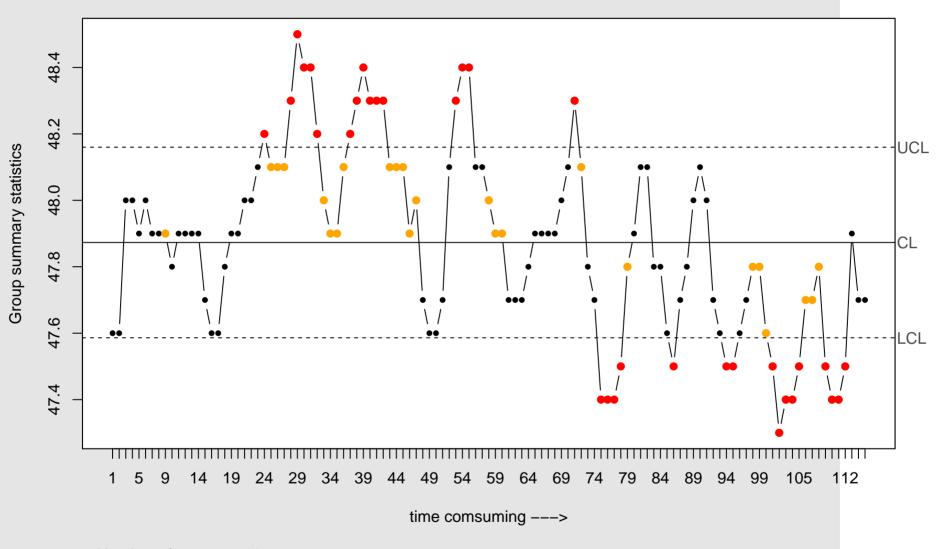
StdDev = 0.09020779



Number of groups = 115 Center = 47.9087 StdDev = 0.08787483

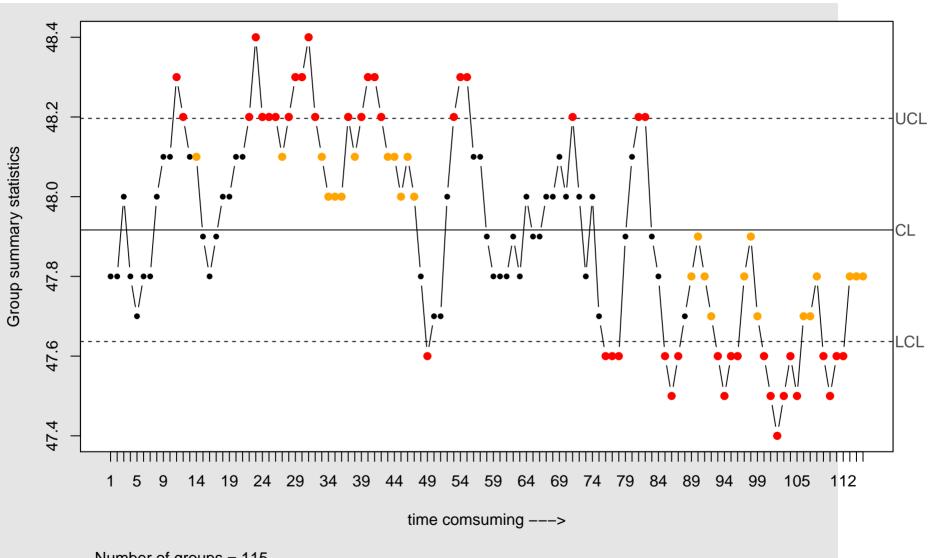
LCL = 47.64507 UCL = 48.17232

Number beyond limits = 39 Number violating runs = 38



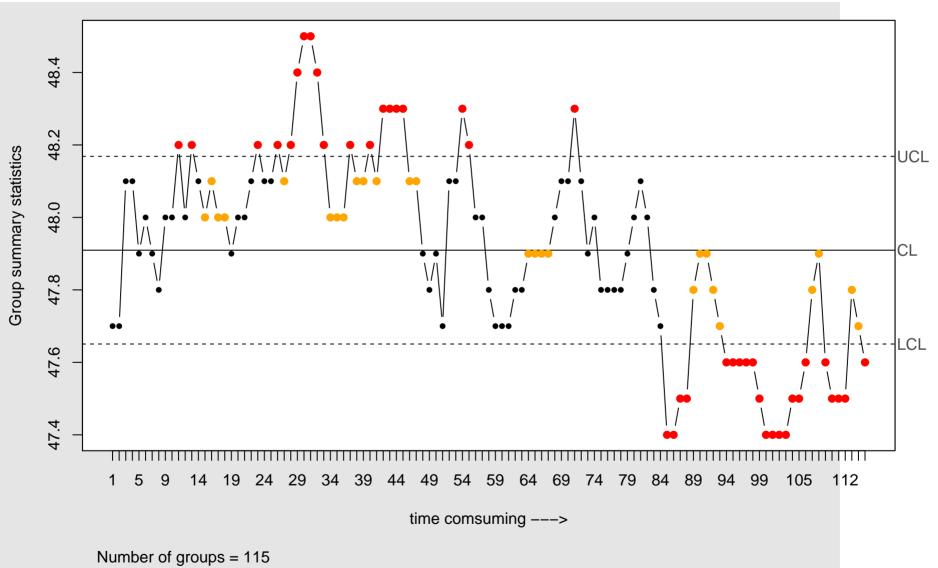
Number of groups = 115 Center = 47.87304 StdDev = 0.09565136

LCL = 47.58609 UCL = 48.16 Number beyond limits = 32 Number violating runs = 45



Number of groups = 115 Center = 47.91652 StdDev = 0.0933184

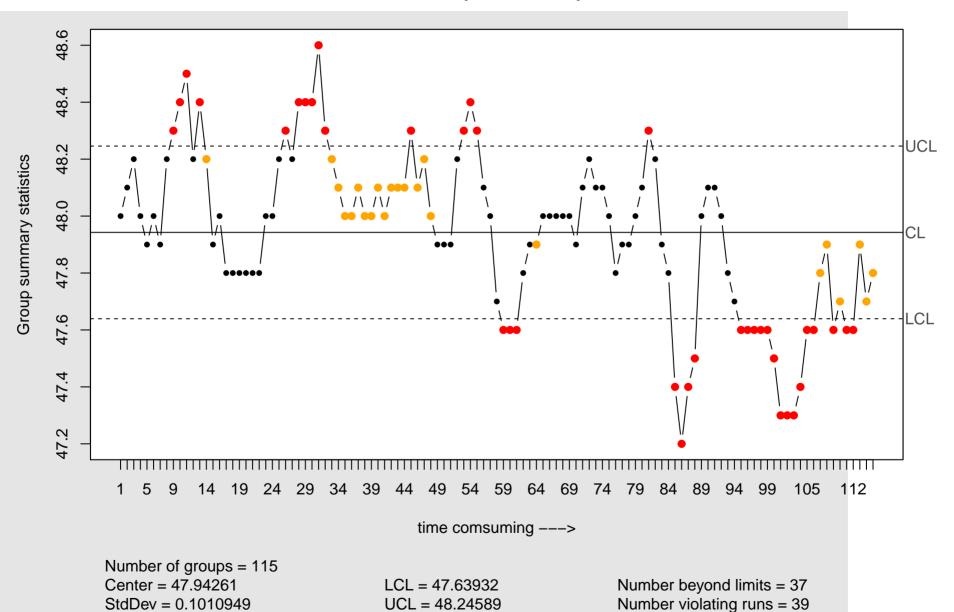
LCL = 47.63657 UCL = 48.19648 Number beyond limits = 44 Number violating runs = 52

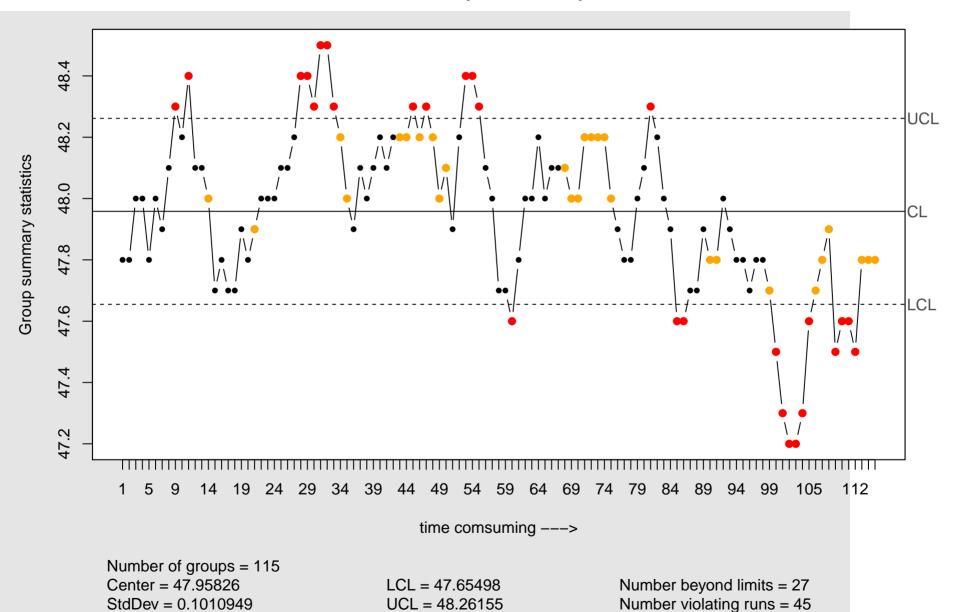


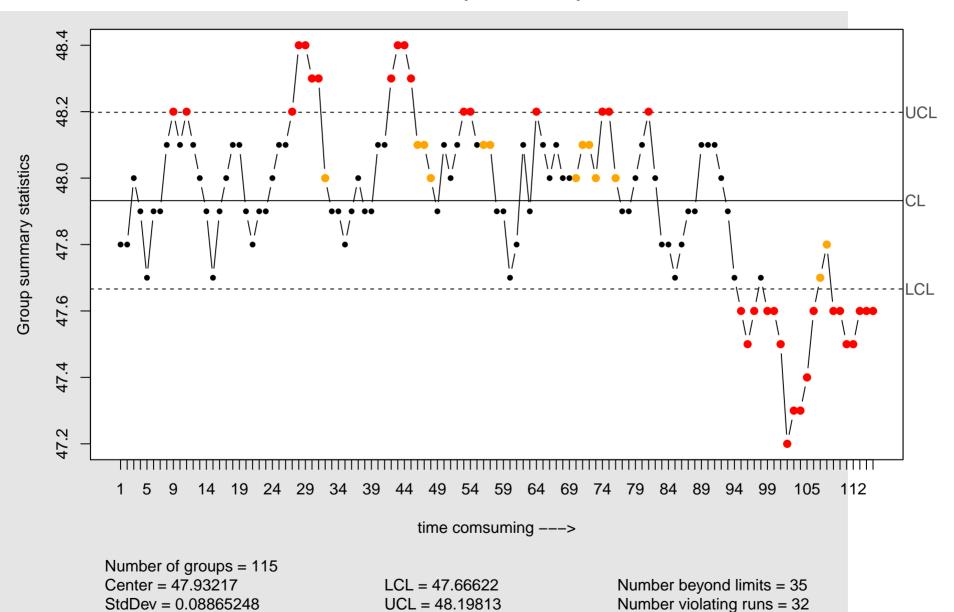
Number of groups = 115 Center = 47.90957 StdDev = 0.08631952

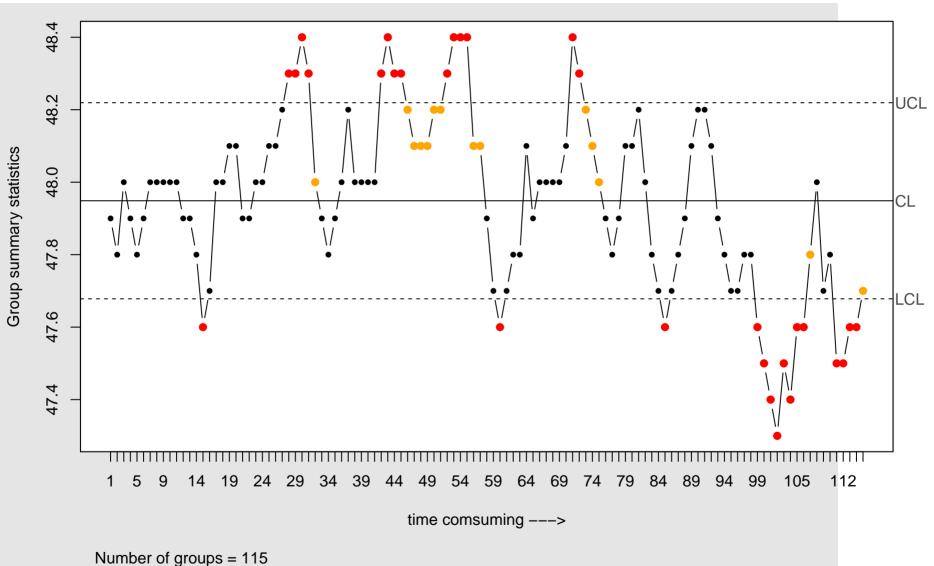
LCL = 47.65061 UCL = 48.16852

Number beyond limits = 41 Number violating runs = 57





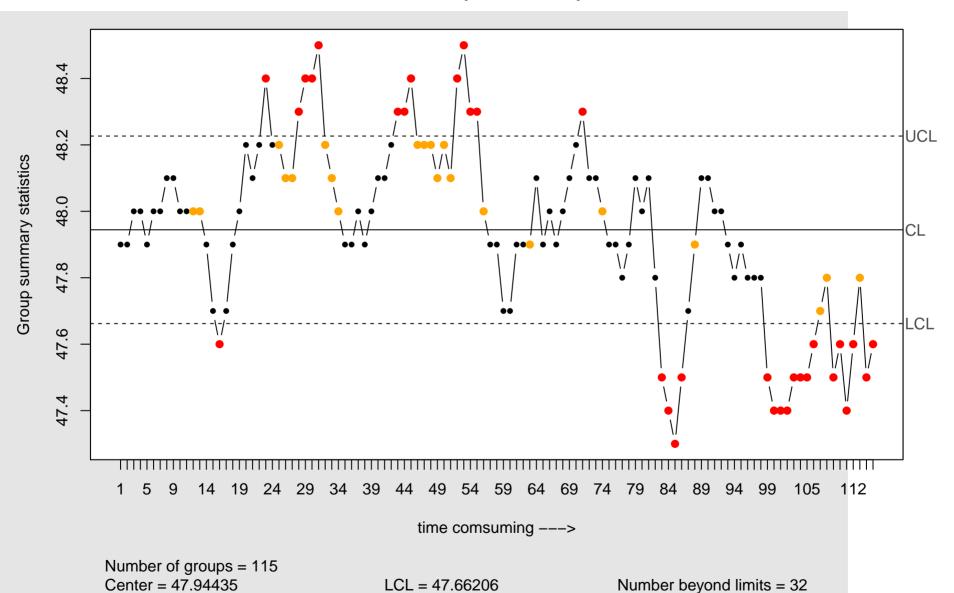




Number of groups = 115 Center = 47.9487 StdDev = 0.09020779

LCL = 47.67807 UCL = 48.21932

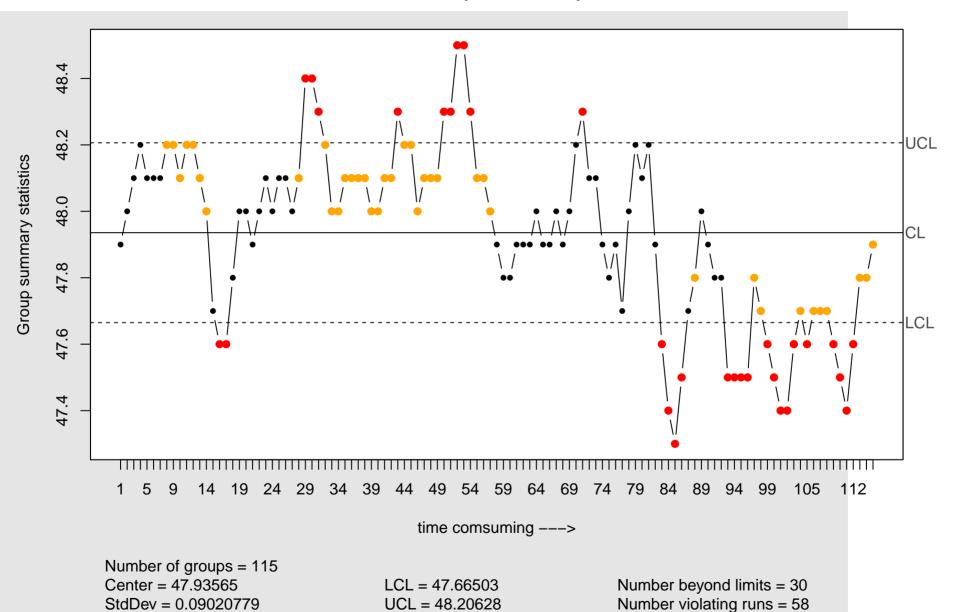
Number beyond limits = 29 Number violating runs = 34

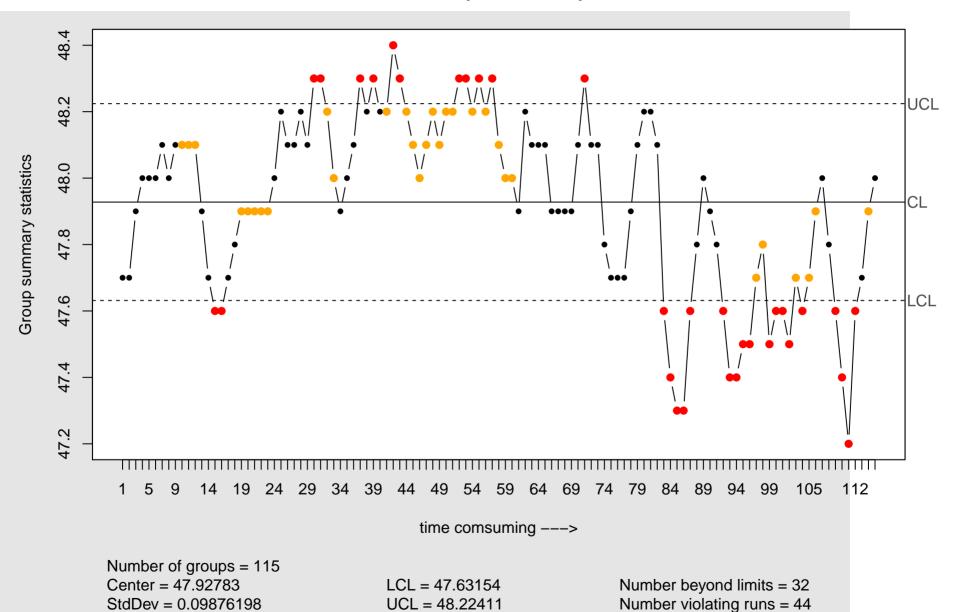


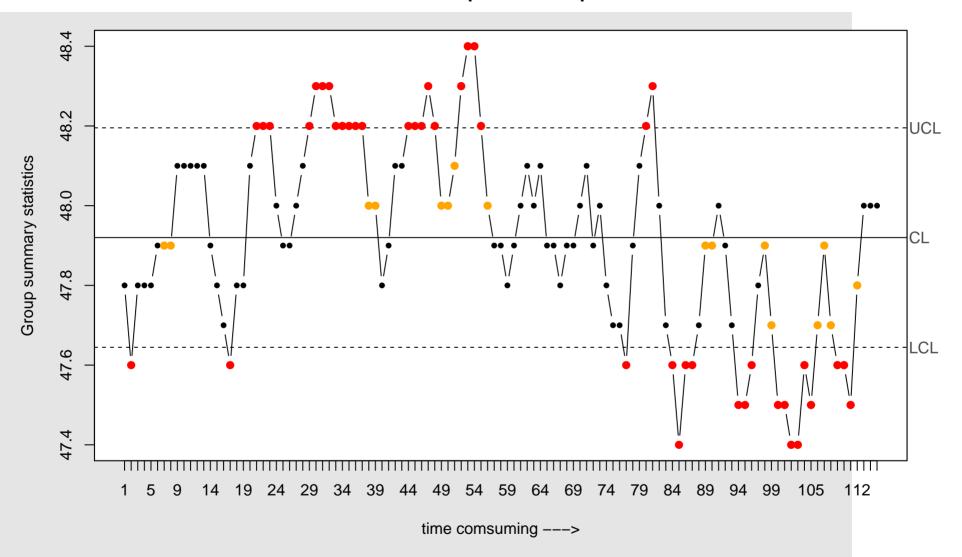
UCL = 48.22664

Number violating runs = 44

StdDev = 0.09409606



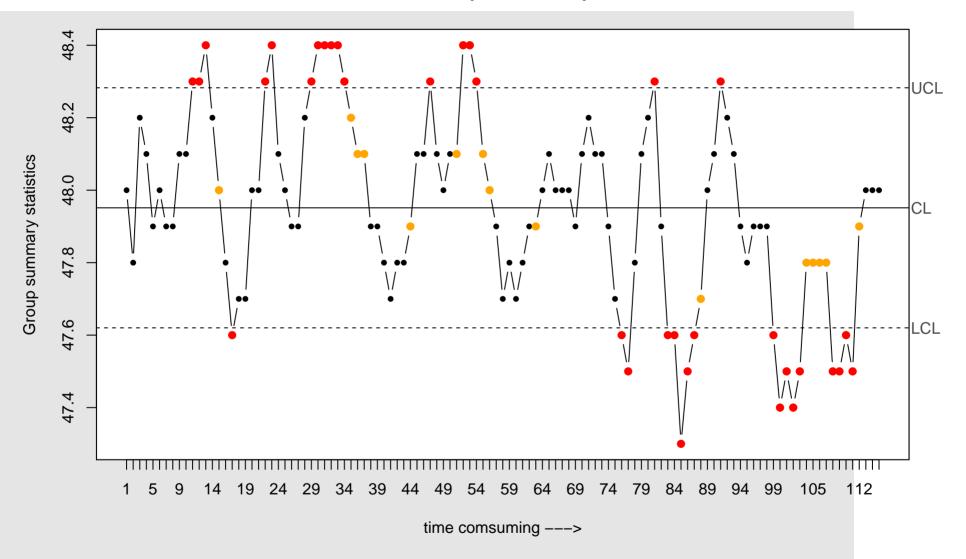




Number of groups = 115 Center = 47.92

StdDev = 0.0917631

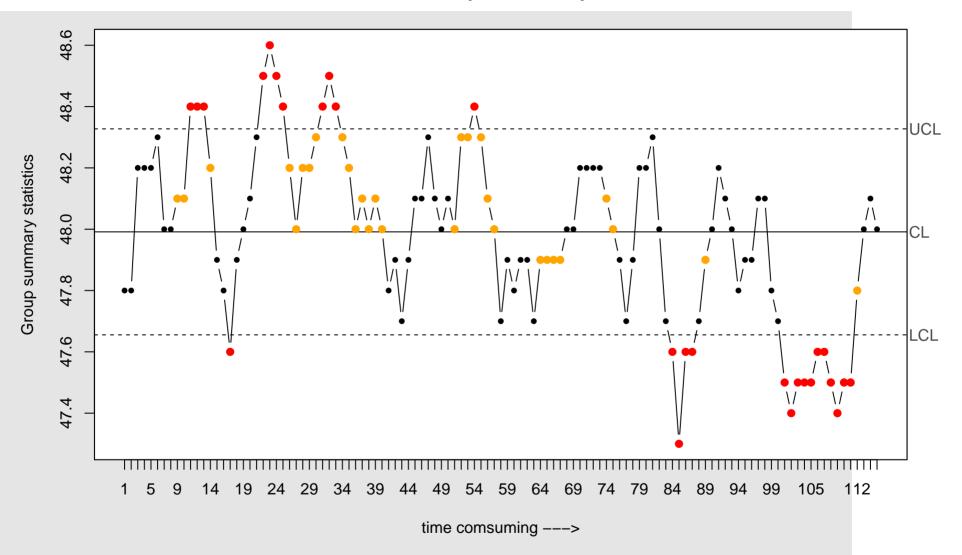
LCL = 47.64471 UCL = 48.19529 Number beyond limits = 42 Number violating runs = 35



Number of groups = 115 Center = 47.9513 StdDev = 0.1104268

LCL = 47.62002 UCL = 48.28258

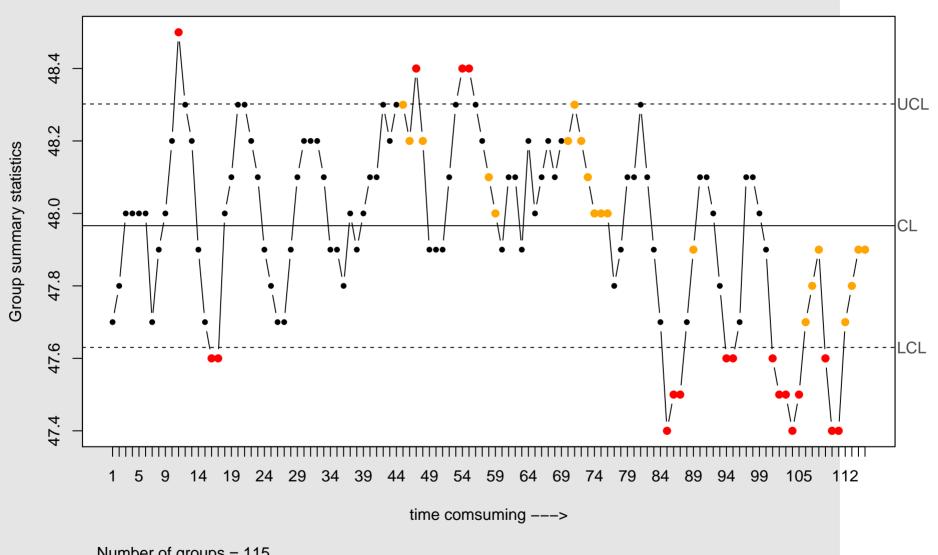
Number beyond limits = 34 Number violating runs = 27



Number of groups = 115 Center = 47.9913 StdDev = 0.1119821

LCL = 47.65536 UCL = 48.32725

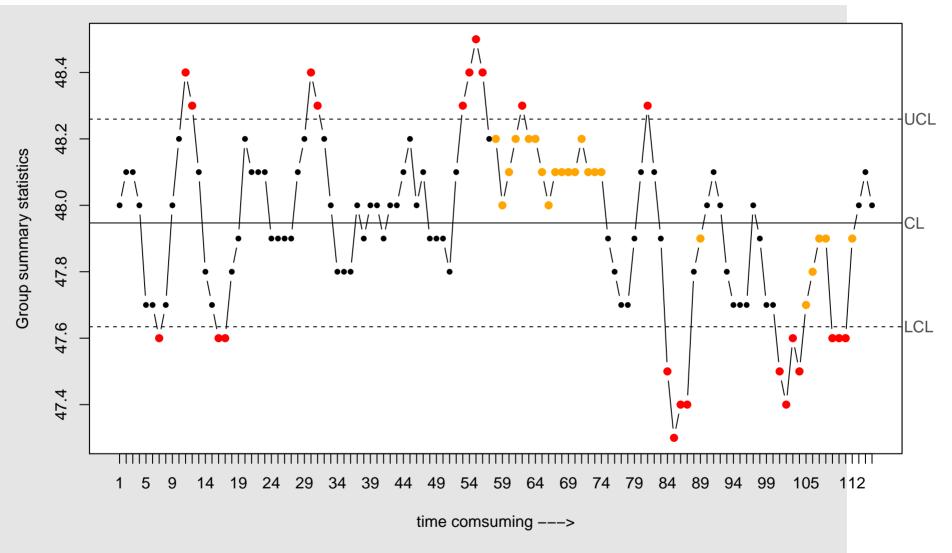
Number beyond limits = 27 Number violating runs = 44



Number of groups = 115 Center = 47.96609 StdDev = 0.1119821

LCL = 47.63014 UCL = 48.30203

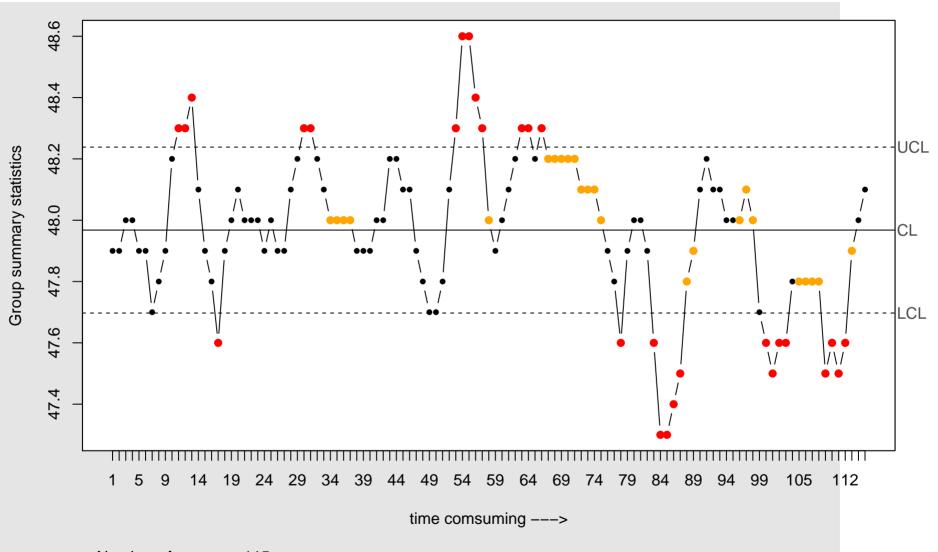
Number beyond limits = 19 Number violating runs = 24



Number of groups = 115 Center = 47.94696 StdDev = 0.1042055

LCL = 47.63434 UCL = 48.25957

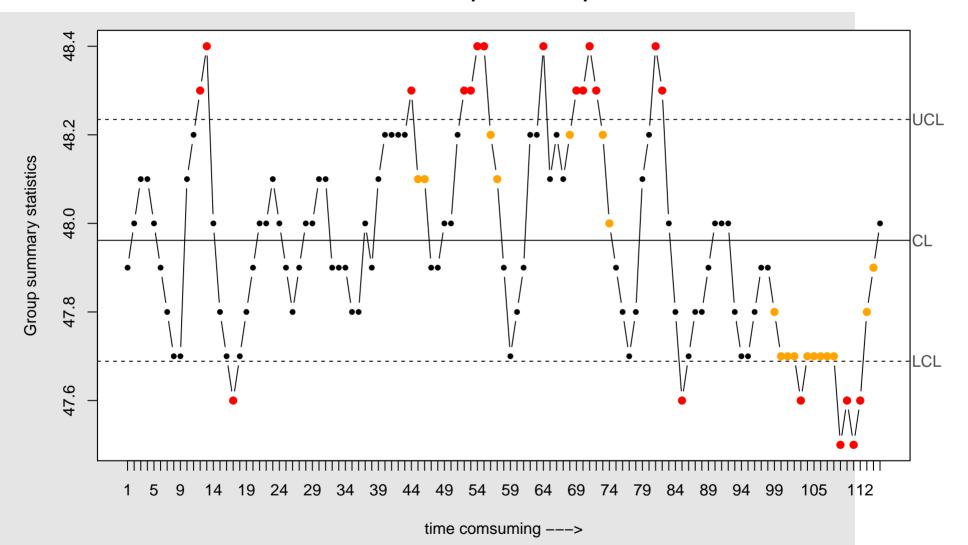
Number beyond limits = 24 Number violating runs = 27



Number of groups = 115 Center = 47.96783 StdDev = 0.09020779

LCL = 47.6972 UCL = 48.23845

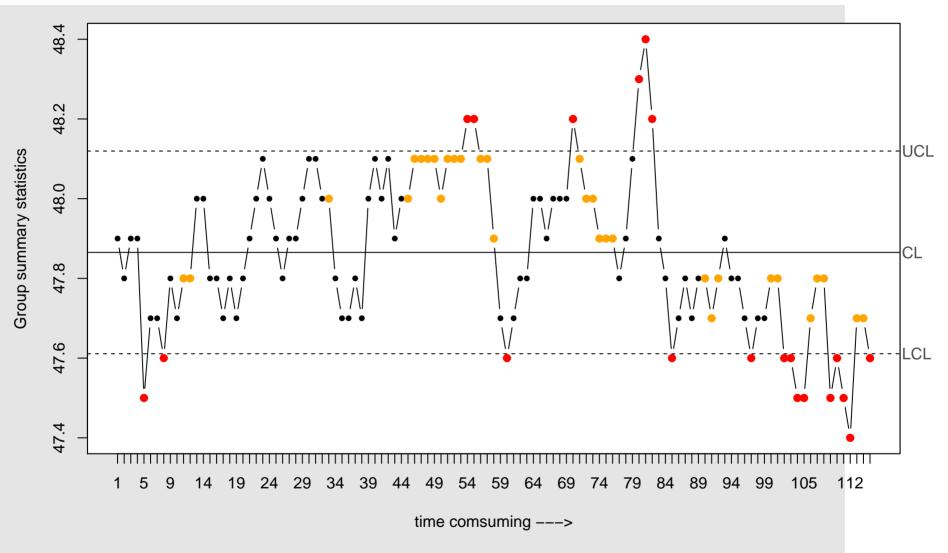
Number beyond limits = 28 Number violating runs = 29



Number of groups = 115 Center = 47.96174

StdDev = 0.09098544

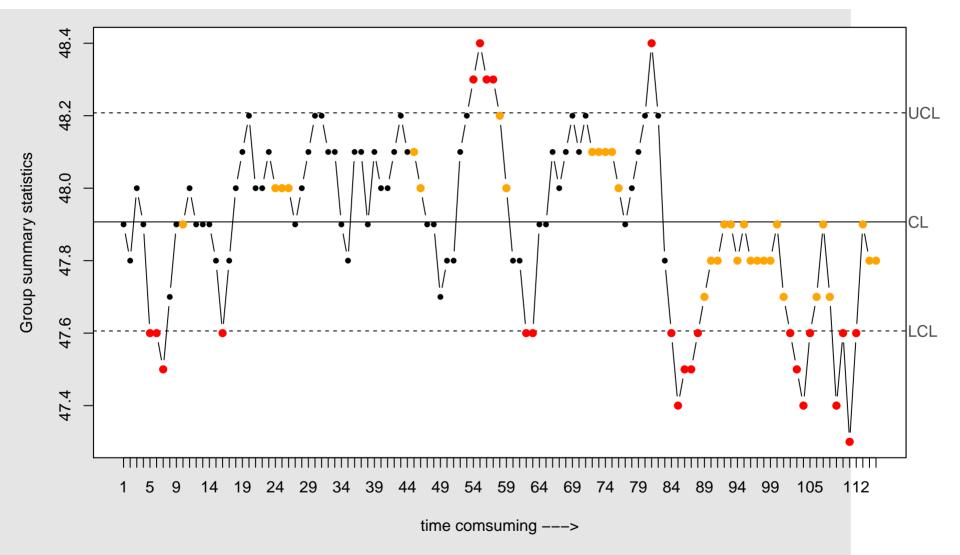
LCL = 47.68878 UCL = 48.2347 Number beyond limits = 21 Number violating runs = 28



Number of groups = 115 Center = 47.86522 StdDev = 0.08476422

LCL = 47.61092 UCL = 48.11951

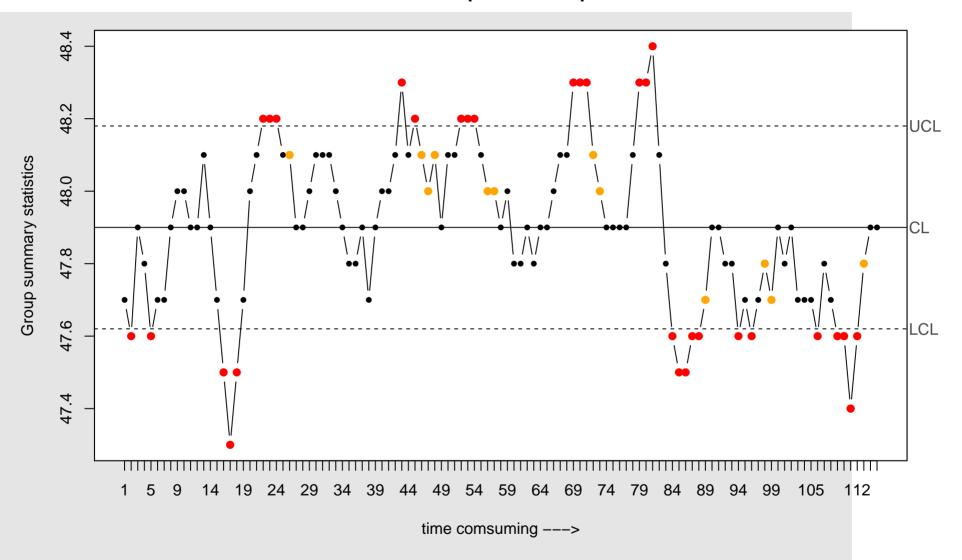
Number beyond limits = 20 Number violating runs = 43



Number of groups = 115 Center = 47.90696 StdDev = 0.1003173

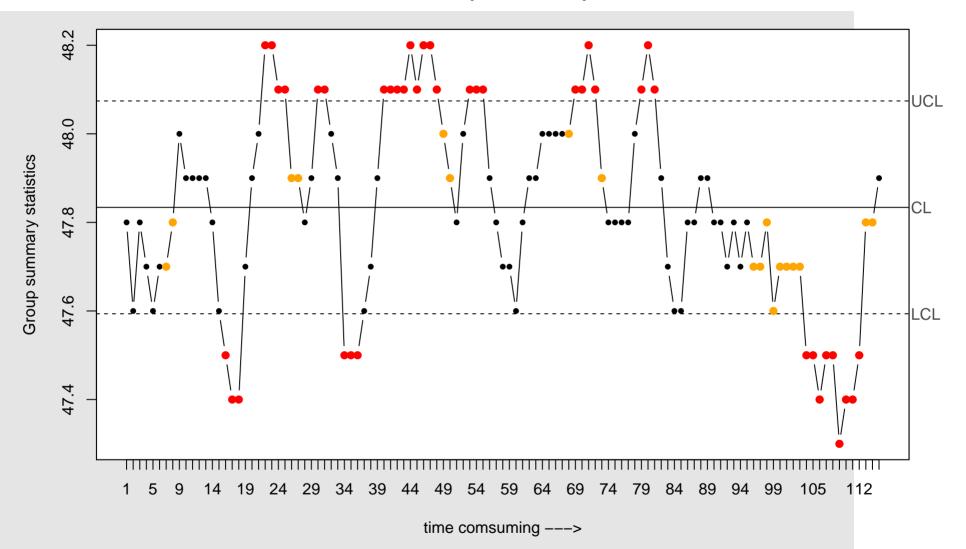
LCL = 47.606 UCL = 48.20791

Number beyond limits = 24 Number violating runs = 40



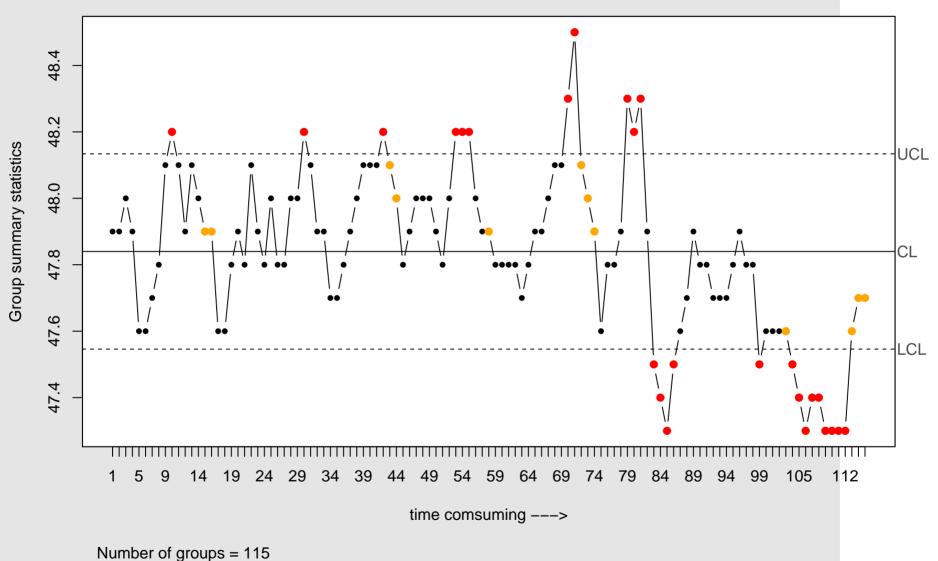
Number of groups = 115 Center = 47.9 StdDev = 0.0933184

LCL = 47.62004 UCL = 48.17996 Number beyond limits = 31 Number violating runs = 16



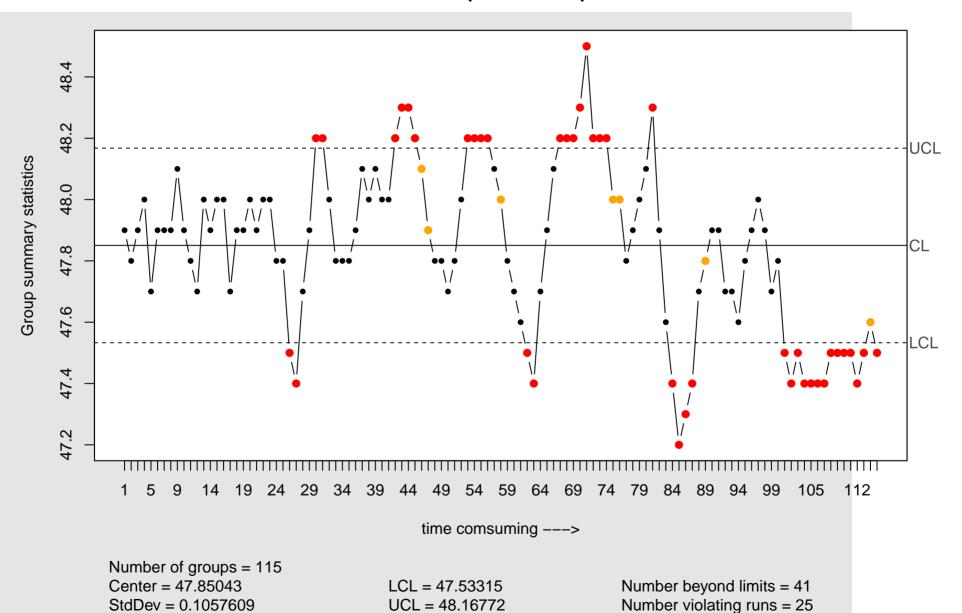
Number of groups = 115 Center = 47.83391 StdDev = 0.0800983

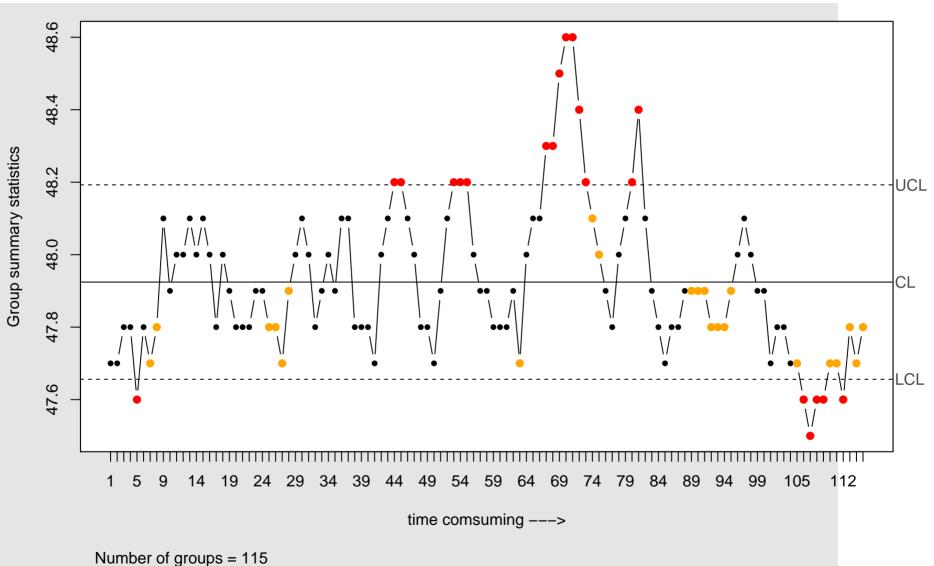
LCL = 47.59362 UCL = 48.07421 Number beyond limits = 40 Number violating runs = 35



Number of groups = 115 Center = 47.84 StdDev = 0.09798432

LCL = 47.54605 UCL = 48.13395 Number beyond limits = 25 Number violating runs = 22

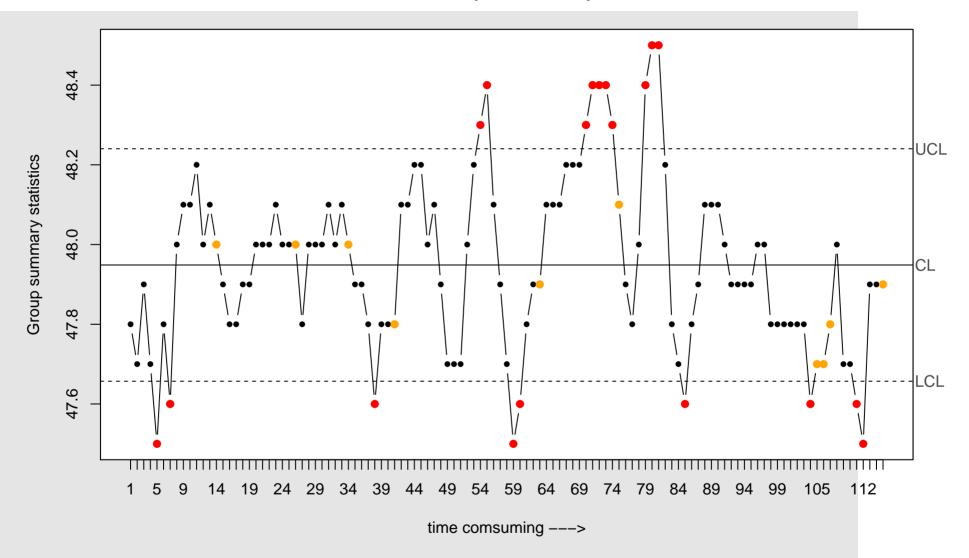




Number of groups = 115 Center = 47.92435 StdDev = 0.08943014

LCL = 47.65606 UCL = 48.19264

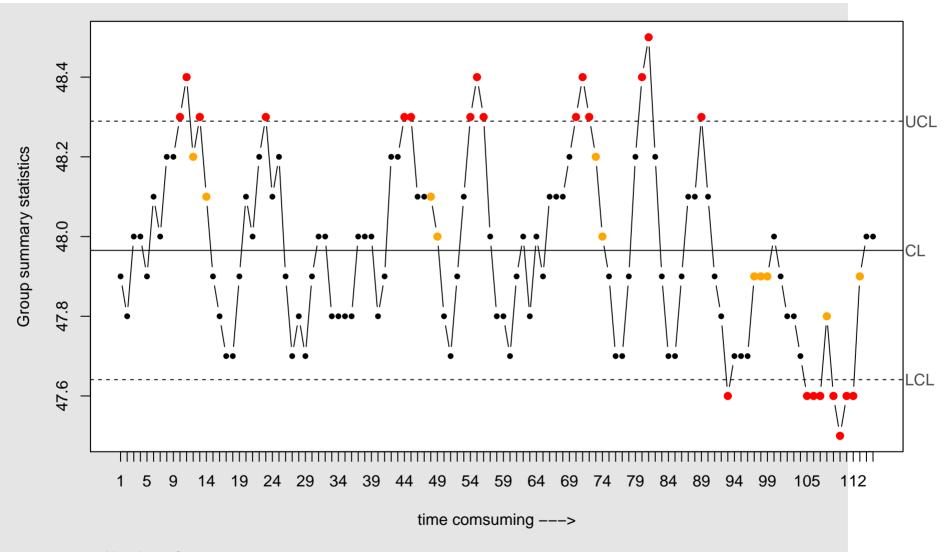
Number beyond limits = 20 Number violating runs = 31



Number of groups = 115 Center = 47.9487 StdDev = 0.09720667

LCL = 47.65708 UCL = 48.24032

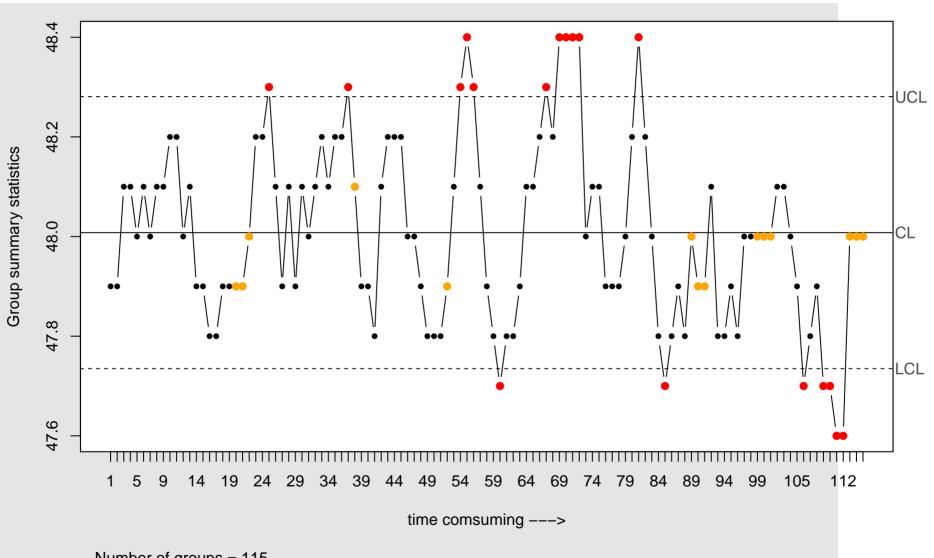
Number beyond limits = 19 Number violating runs = 17



Number of groups = 115 Center = 47.96522 StdDev = 0.1080938

LCL = 47.64094 UCL = 48.2895

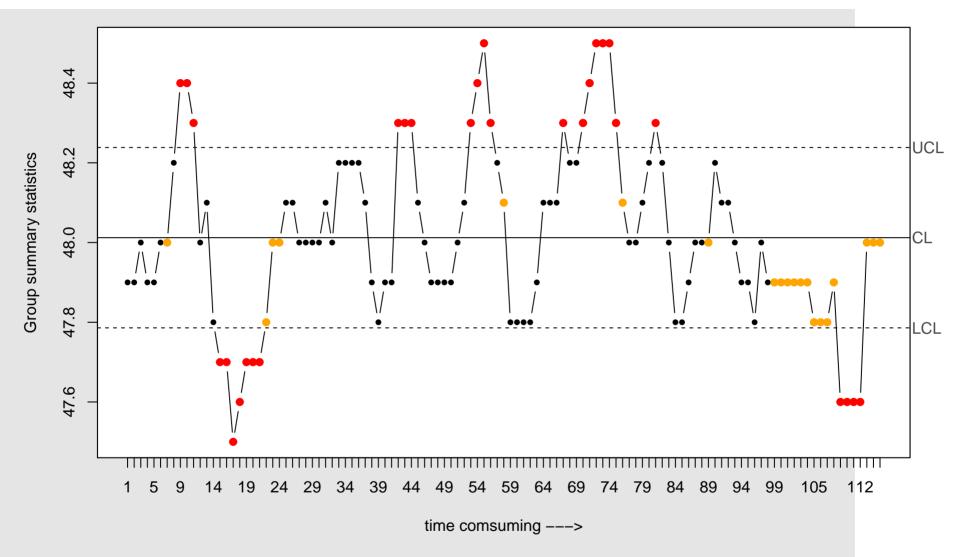
Number beyond limits = 23 Number violating runs = 18



Number of groups = 115 Center = 48.00783 StdDev = 0.09098544

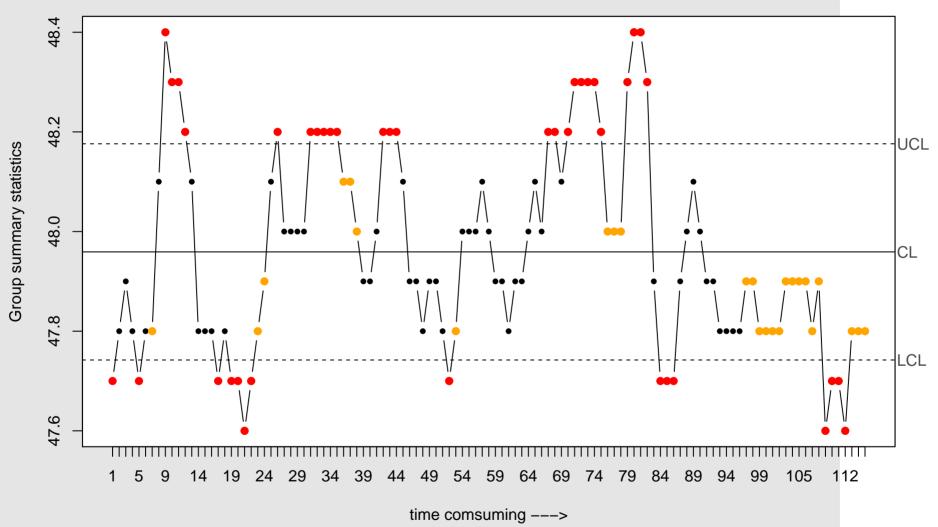
LCL = 47.73487 UCL = 48.28078

Number beyond limits = 18 Number violating runs = 20



Number of groups = 115 Center = 48.01217 StdDev = 0.07543238

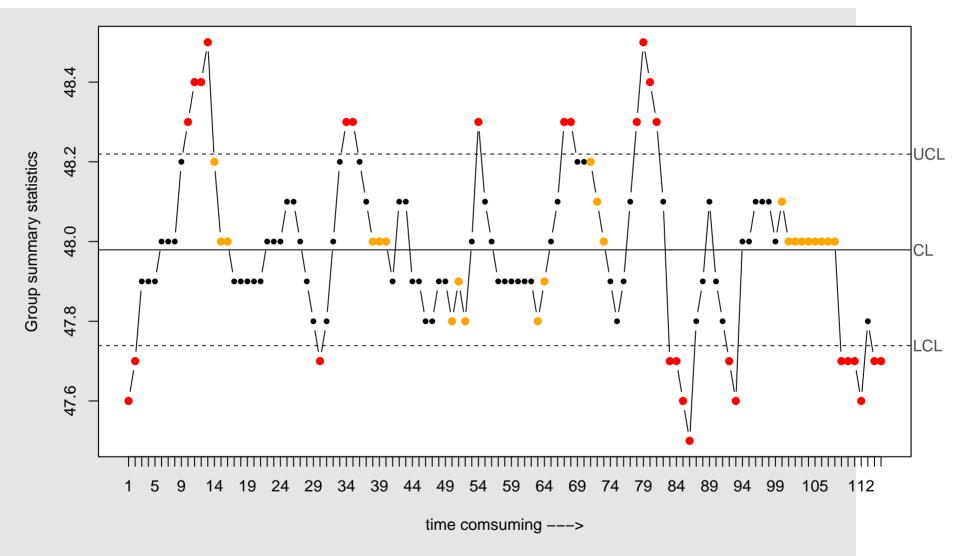
LCL = 47.78588 UCL = 48.23847 Number beyond limits = 29 Number violating runs = 32



Number of groups = 115 Center = 47.95913StdDev = 0.07232176

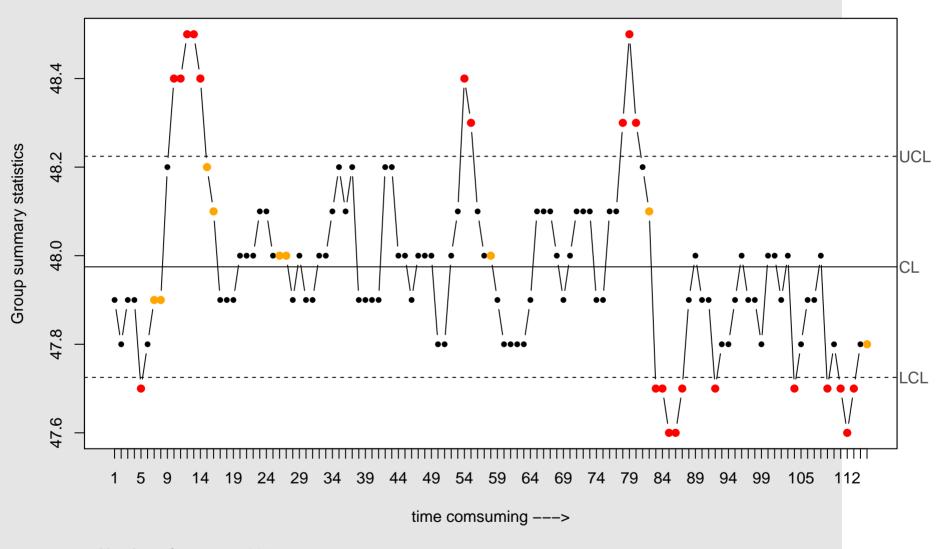
LCL = 47.74217UCL = 48.1761

Number beyond limits = 40 Number violating runs = 48



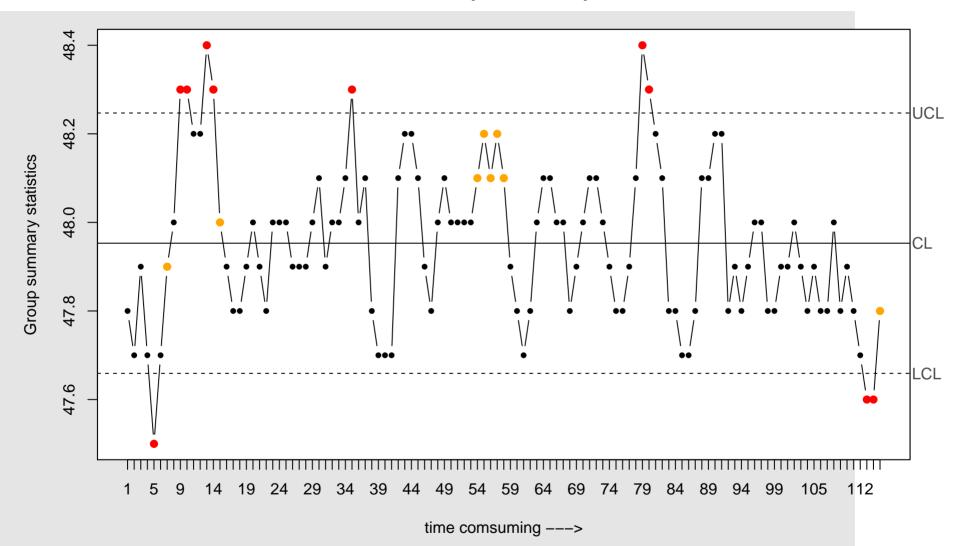
Number of groups = 115 Center = 47.97913 StdDev = 0.0800983

LCL = 47.73884 UCL = 48.21943 Number beyond limits = 28 Number violating runs = 26



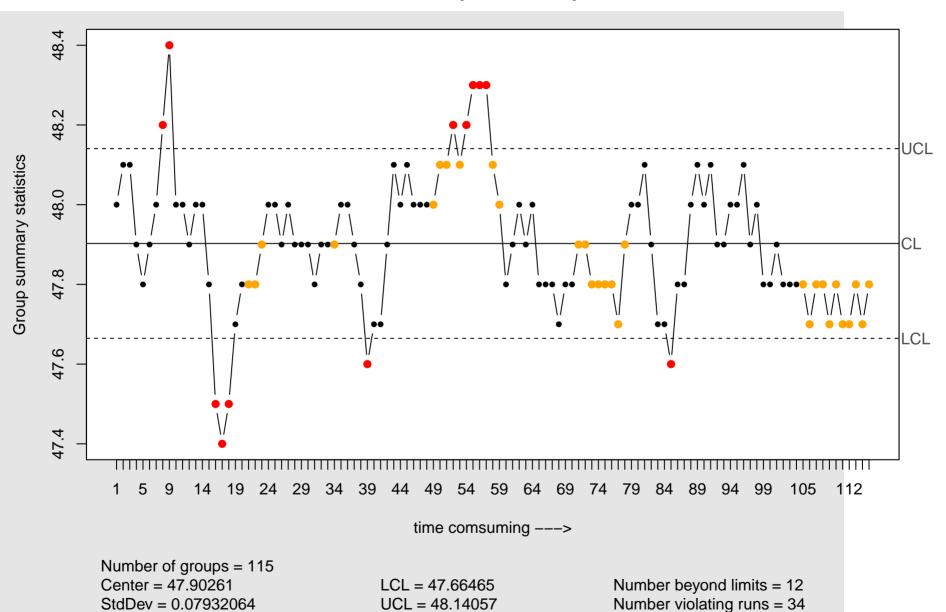
Number of groups = 115 Center = 47.97478 StdDev = 0.08320891

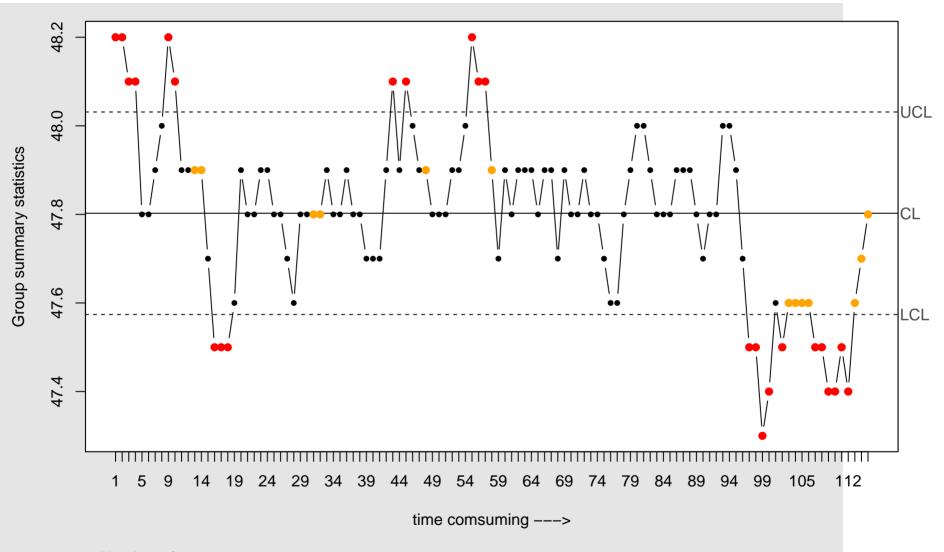
LCL = 47.72516 UCL = 48.22441 Number beyond limits = 22 Number violating runs = 9



Number of groups = 115 Center = 47.95304 StdDev = 0.09798432

LCL = 47.65909 UCL = 48.247 Number beyond limits = 10 Number violating runs = 9

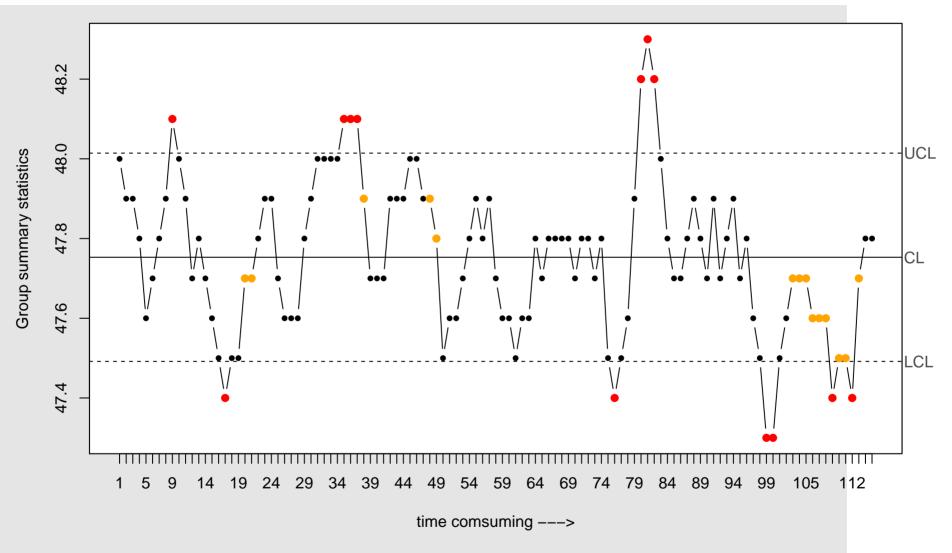




Number of groups = 115 Center = 47.80261 StdDev = 0.07621003

LCL = 47.57398 UCL = 48.03124

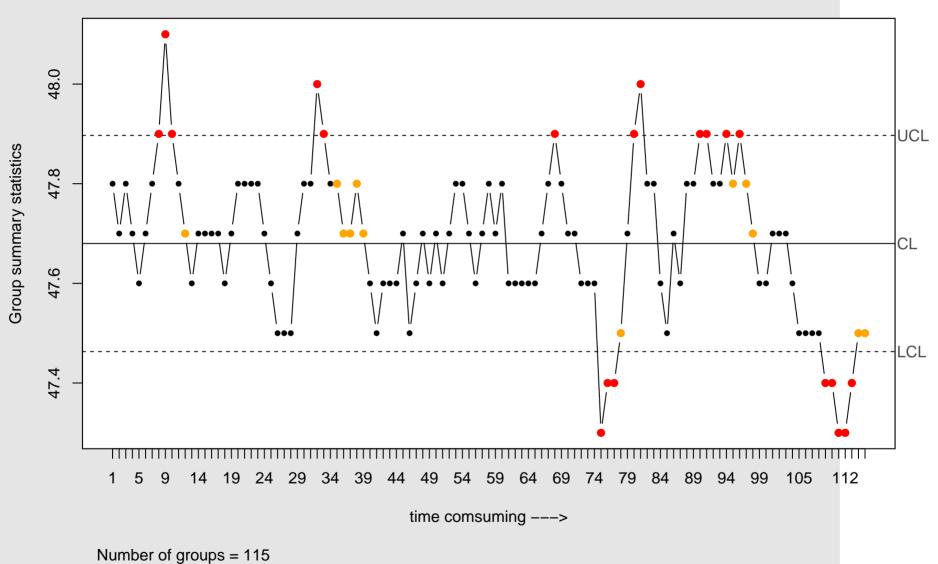
Number beyond limits = 25 Number violating runs = 20



Number of groups = 115 Center = 47.75304 StdDev = 0.08709718

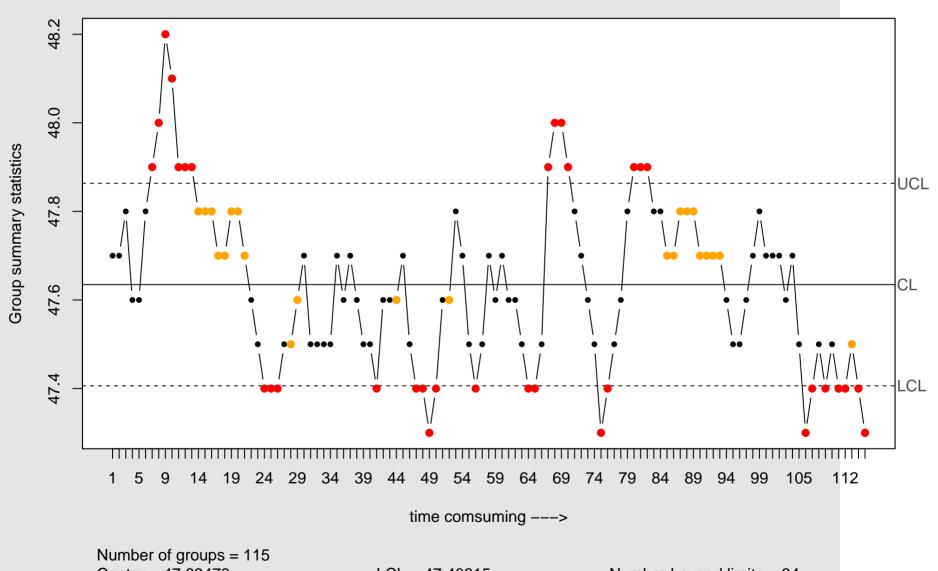
LCL = 47.49175 UCL = 48.01434

Number beyond limits = 13 Number violating runs = 19



Number of groups = 115 Center = 47.68 StdDev = 0.07232176

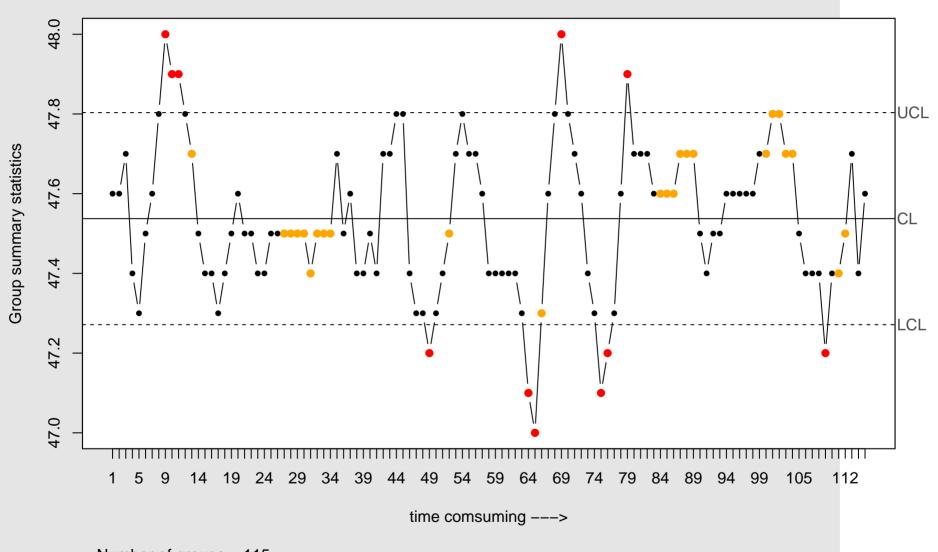
LCL = 47.46303 UCL = 47.89697 Number beyond limits = 20 Number violating runs = 18



Number of groups = 115 Center = 47.63478 StdDev = 0.07621003

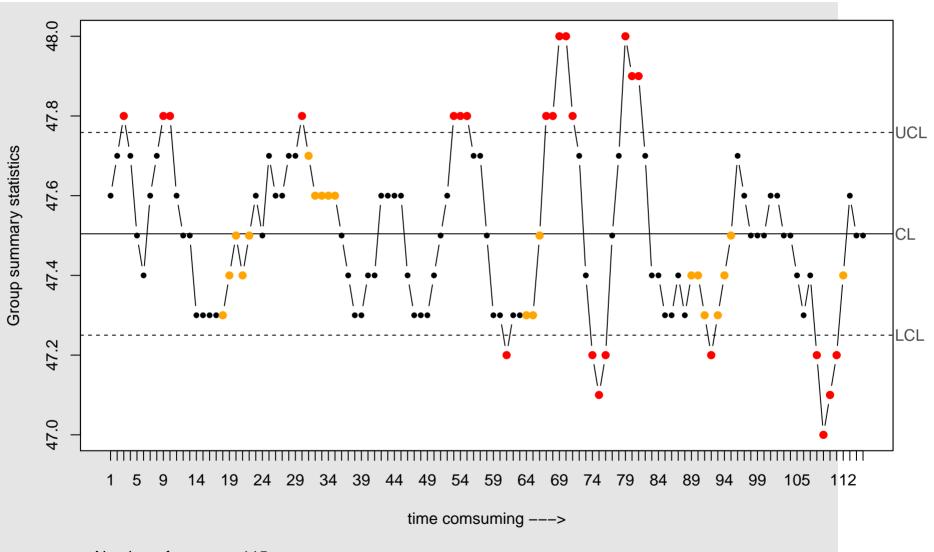
LCL = 47.40615 UCL = 47.86341

Number beyond limits = 34 Number violating runs = 28



Number of groups = 115 Center = 47.53739 StdDev = 0.08865248

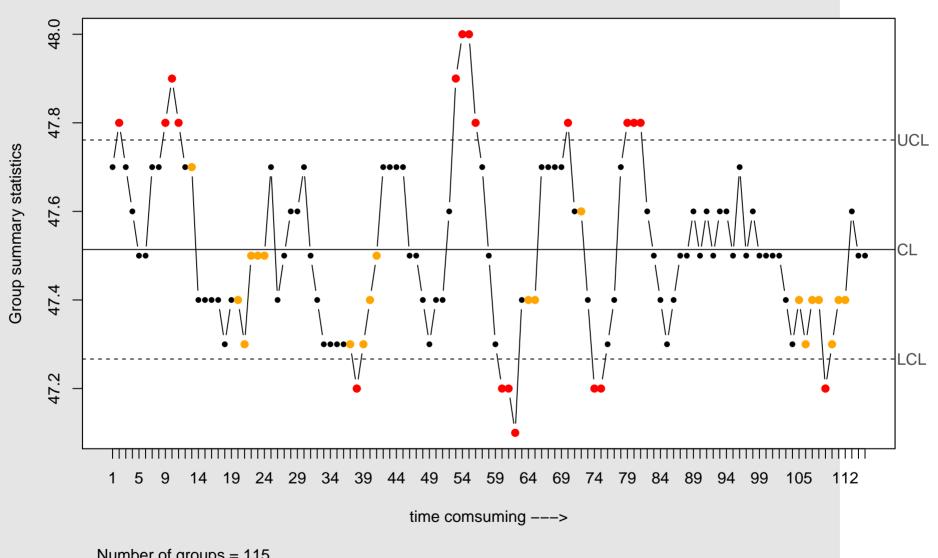
LCL = 47.27143 UCL = 47.80335 Number beyond limits = 11 Number violating runs = 26



Number of groups = 115 Center = 47.50435 StdDev = 0.08476422

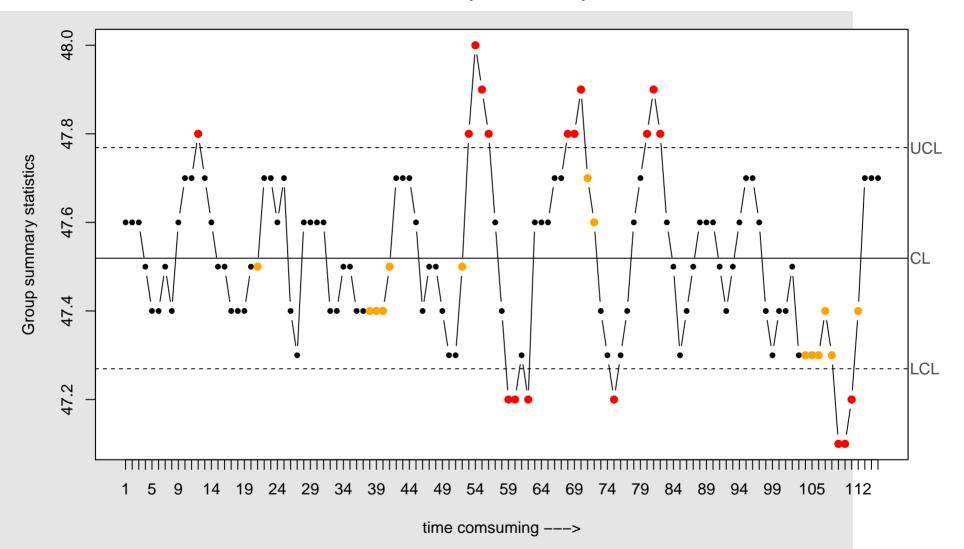
LCL = 47.25006 UCL = 47.75864

Number beyond limits = 24 Number violating runs = 24



Number of groups = 115 Center = 47.51391 StdDev = 0.08243126

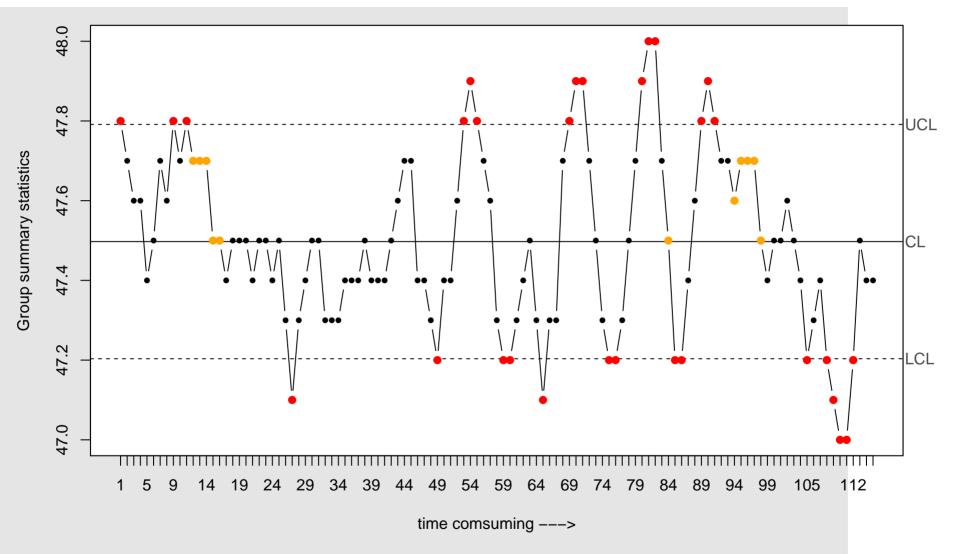
LCL = 47.26662 UCL = 47.76121 Number beyond limits = 19 Number violating runs = 22



Number of groups = 115 Center = 47.51913 StdDev = 0.08320891

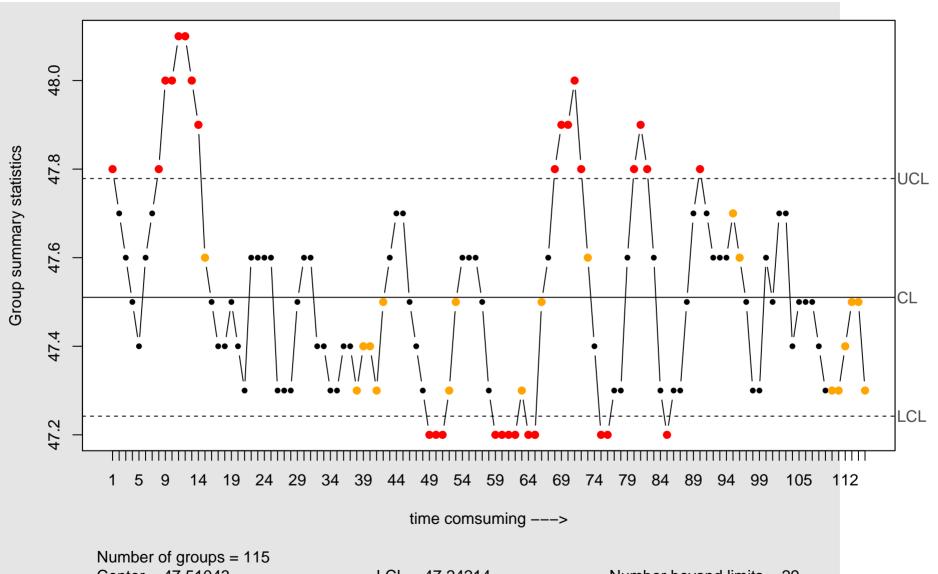
LCL = 47.2695 UCL = 47.76876

Number beyond limits = 18 Number violating runs = 19



Number of groups = 115 Center = 47.49739 StdDev = 0.09798432

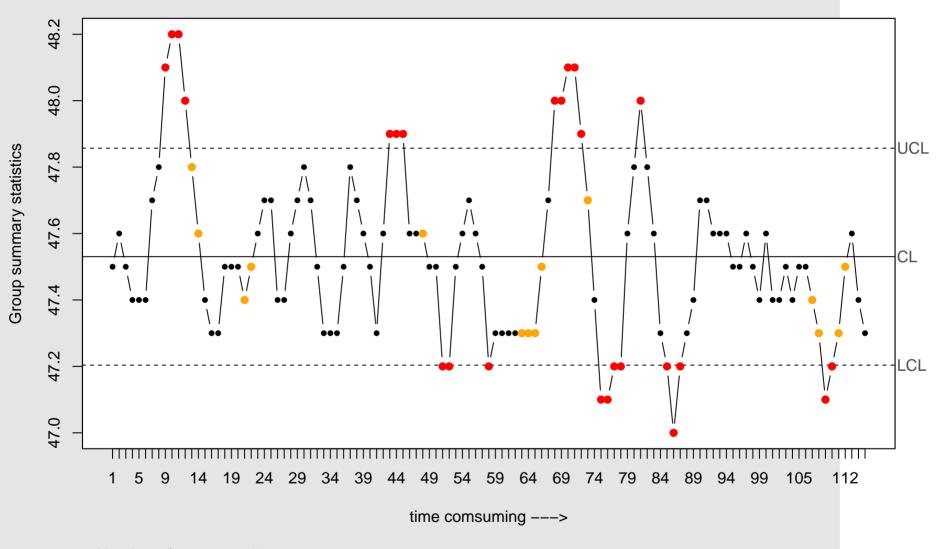
LCL = 47.20344 UCL = 47.79134 Number beyond limits = 30 Number violating runs = 14



Number of groups = 115 Center = 47.51043 StdDev = 0.08943014

LCL = 47.24214 UCL = 47.77873

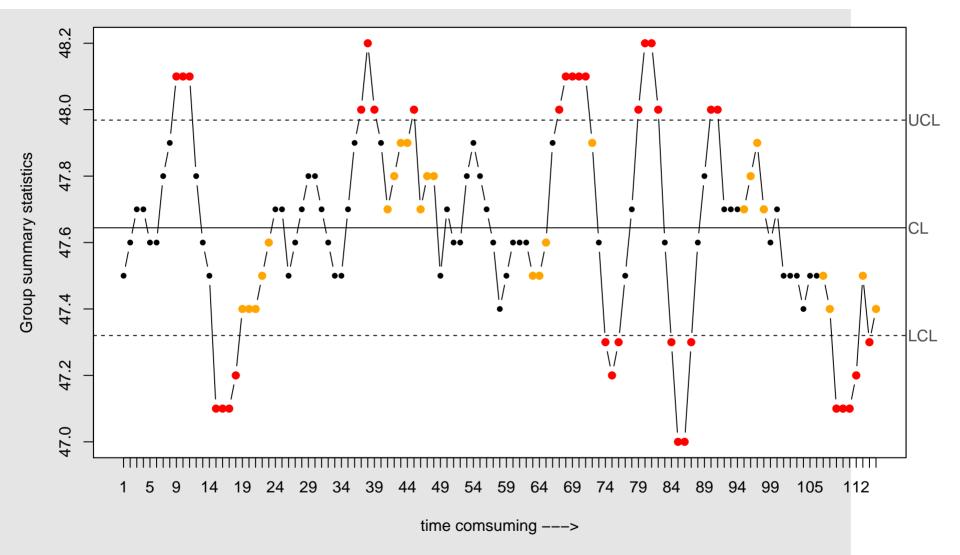
Number beyond limits = 29 Number violating runs = 24



Number of groups = 115 Center = 47.53043 StdDev = 0.1088715

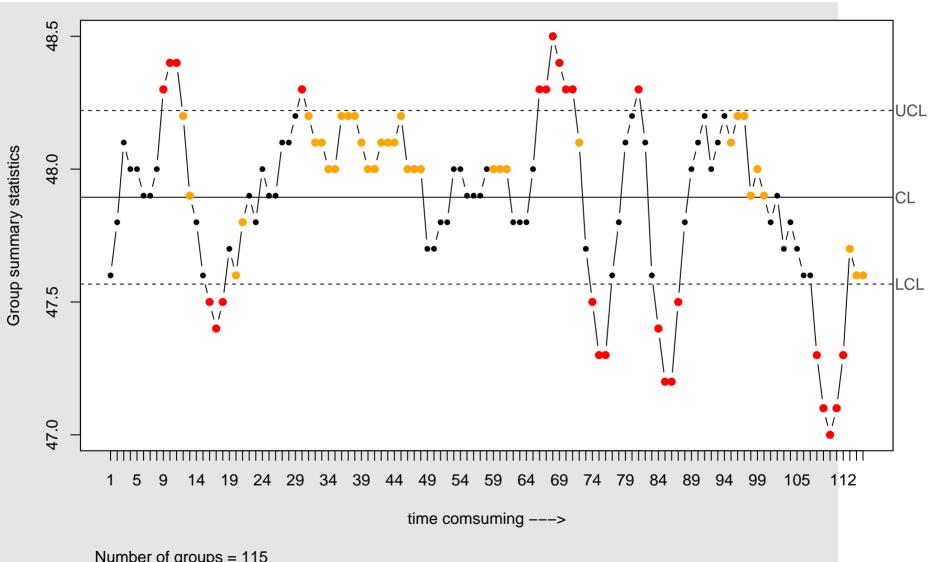
LCL = 47.20382 UCL = 47.85705

Number beyond limits = 25 Number violating runs = 16



Number of groups = 115 Center = 47.64435 StdDev = 0.1080938

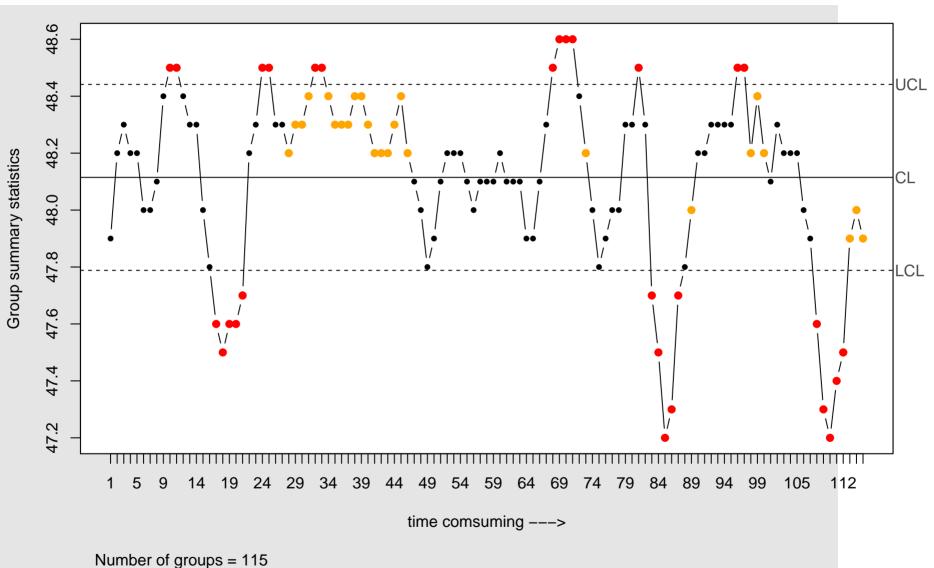
LCL = 47.32007 UCL = 47.96863 Number beyond limits = 34 Number violating runs = 30



Number of groups = 115 Center = 47.89391 StdDev = 0.1088715

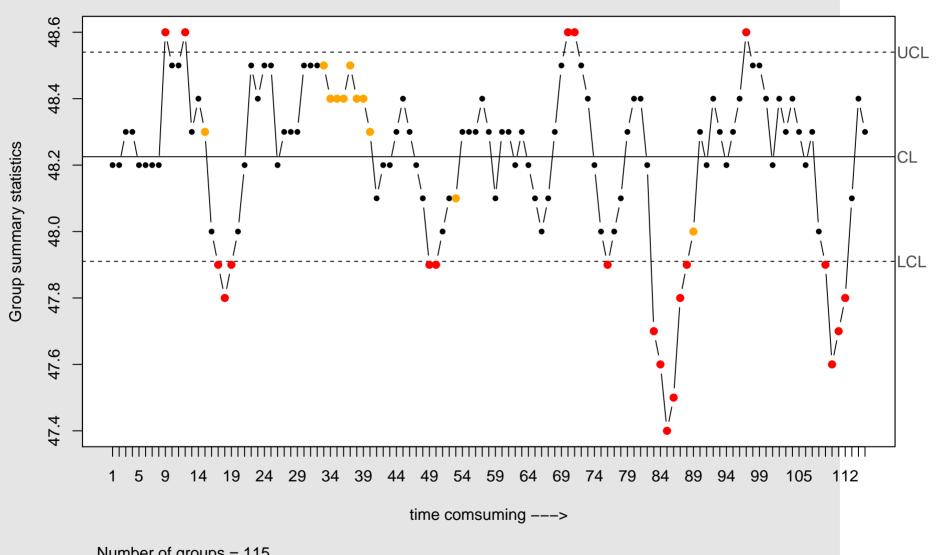
LCL = 47.5673 UCL = 48.22053

Number beyond limits = 26 Number violating runs = 44



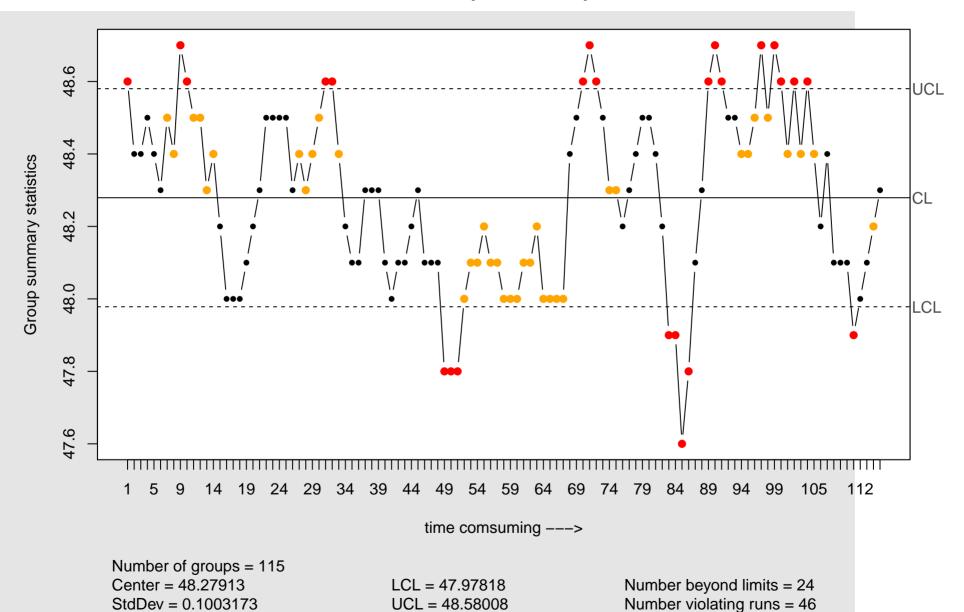
Number of groups = 115 Center = 48.11478 StdDev = 0.1088715

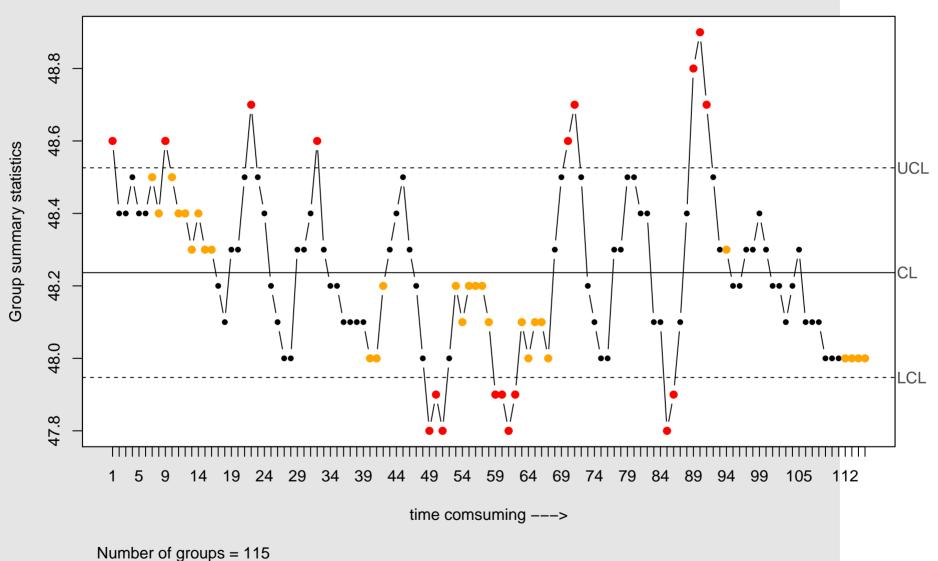
LCL = 47.78817 UCL = 48.4414 Number beyond limits = 28 Number violating runs = 31



Number of groups = 115 Center = 48.22522 StdDev = 0.1049832

LCL = 47.91027 UCL = 48.54017 Number beyond limits = 21 Number violating runs = 12

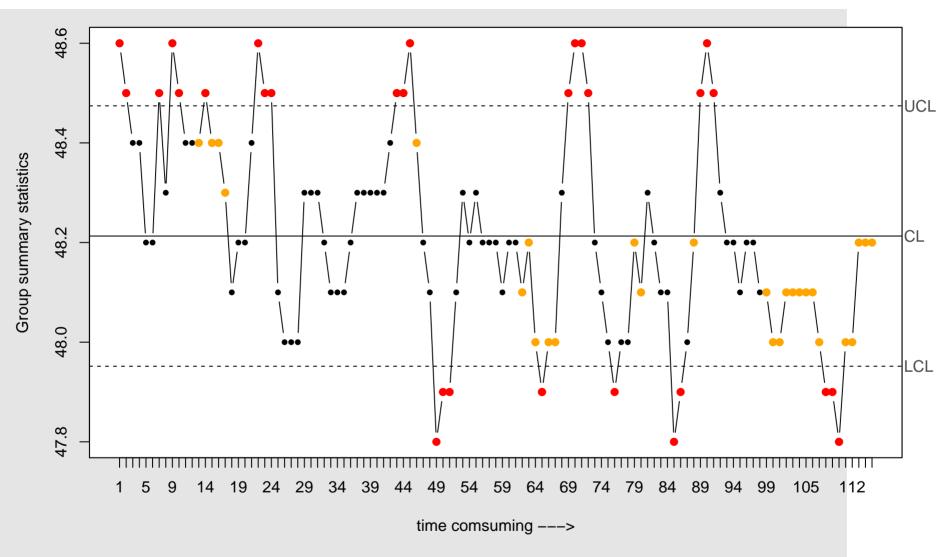




Number of groups = 115 Center = 48.23652 StdDev = 0.09642902

LCL = 47.94723 UCL = 48.52581

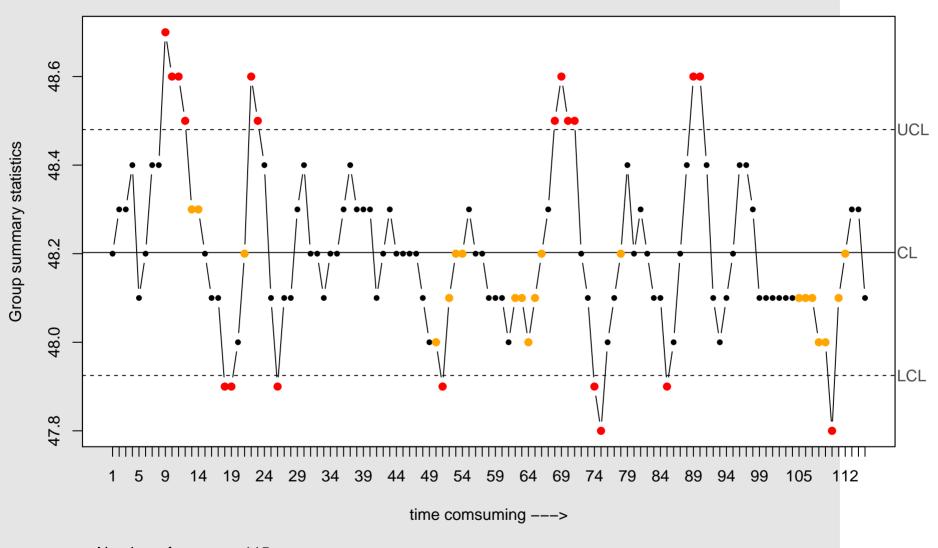
Number beyond limits = 18 Number violating runs = 33



Number of groups = 115 Center = 48.21304 StdDev = 0.08709718

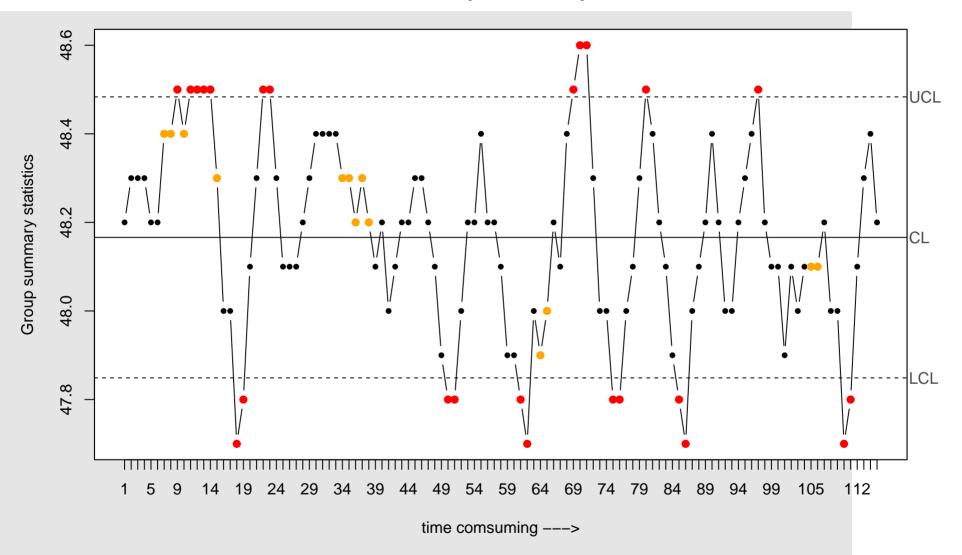
LCL = 47.95175 UCL = 48.47434

Number beyond limits = 29 Number violating runs = 35



Number of groups = 115 Center = 48.20261 StdDev = 0.09254075

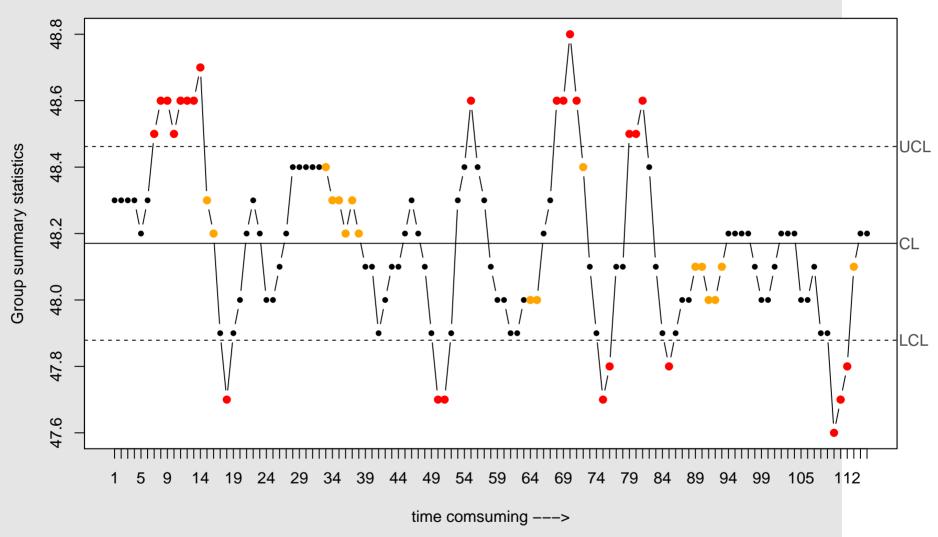
LCL = 47.92499 UCL = 48.48023 Number beyond limits = 20 Number violating runs = 22



Number of groups = 115 Center = 48.16609 StdDev = 0.1057609

LCL = 47.8488 UCL = 48.48337

Number beyond limits = 24 Number violating runs = 18



Number of groups = 115

Center = 48.17043

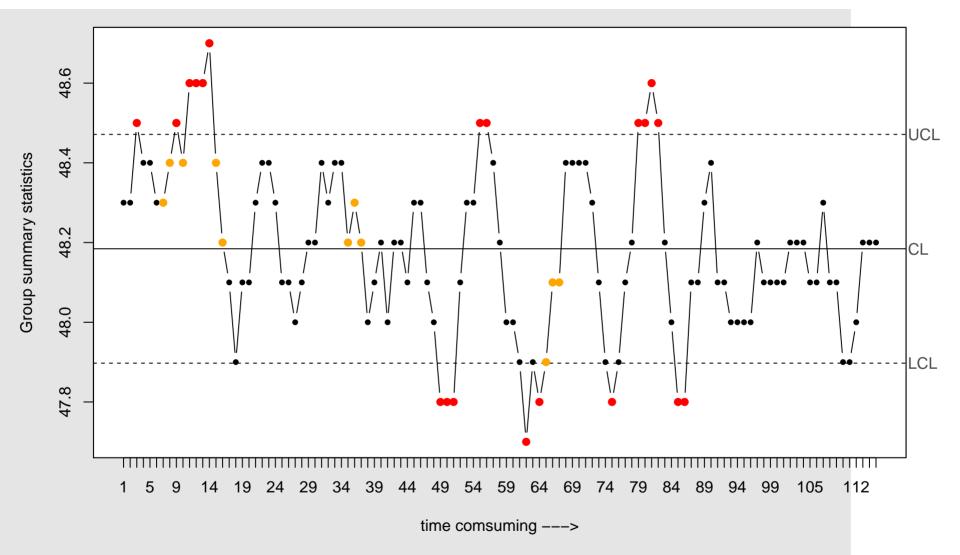
StdDev = 0.09720667

LCL = 47.87881

UCL = 48.46205

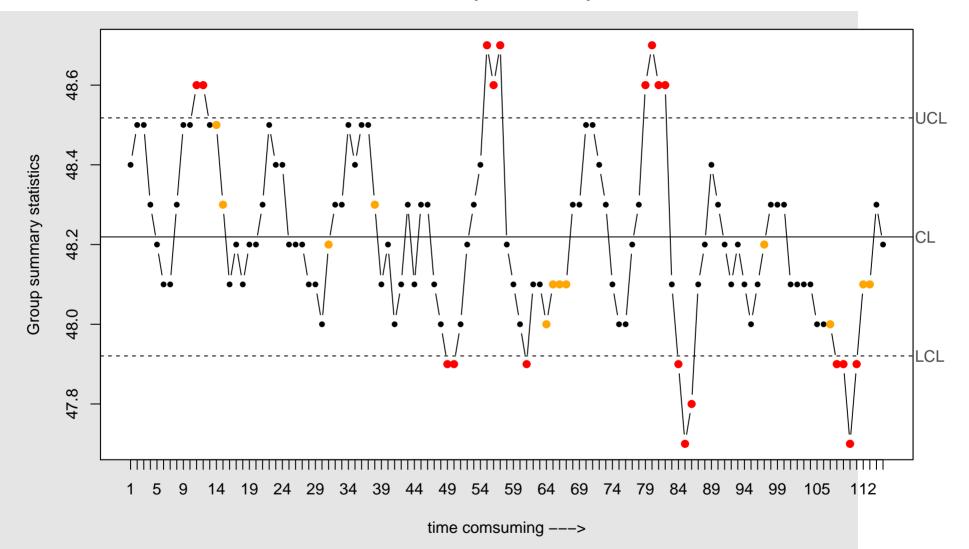
Number beyond limits = 25

Number violating runs = 27



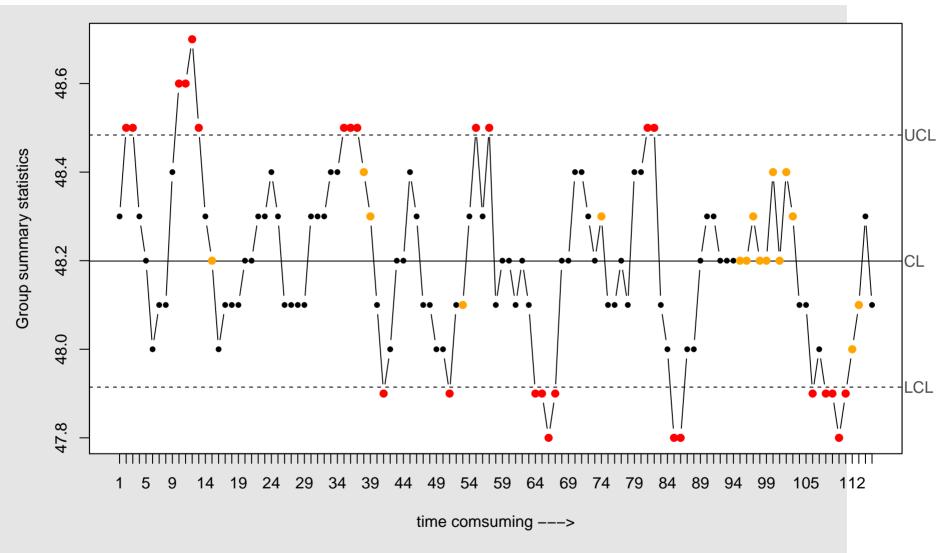
Number of groups = 115 Center = 48.18435 StdDev = 0.09565136

LCL = 47.89739 UCL = 48.4713 Number beyond limits = 20 Number violating runs = 16



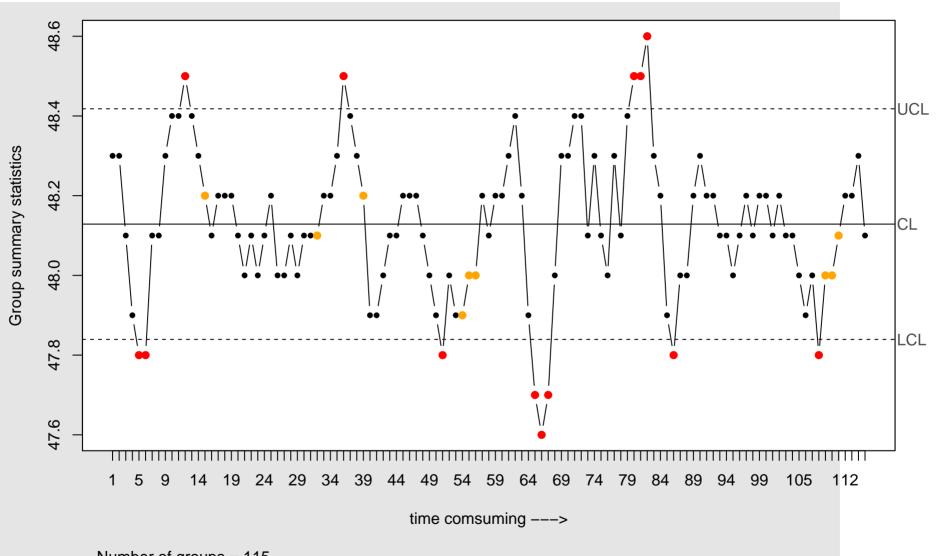
Number of groups = 115 Center = 48.21913 StdDev = 0.09953963

LCL = 47.92051 UCL = 48.51775 Number beyond limits = 19 Number violating runs = 16



Number of groups = 115 Center = 48.19913 StdDev = 0.09487371

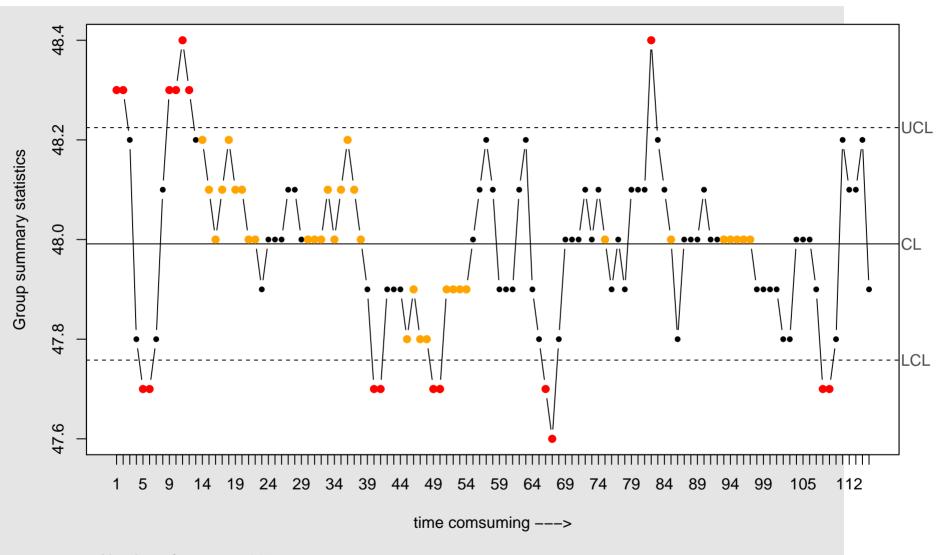
LCL = 47.91451 UCL = 48.48375 Number beyond limits = 26 Number violating runs = 20



Number of groups = 115 Center = 48.1287 StdDev = 0.09642902

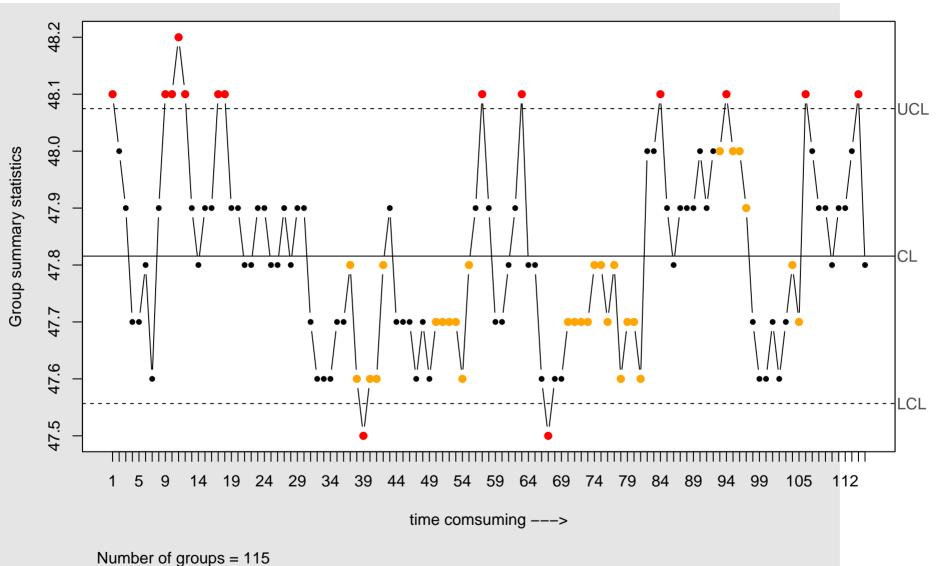
LCL = 47.83941 UCL = 48.41798

Number beyond limits = 13 Number violating runs = 9



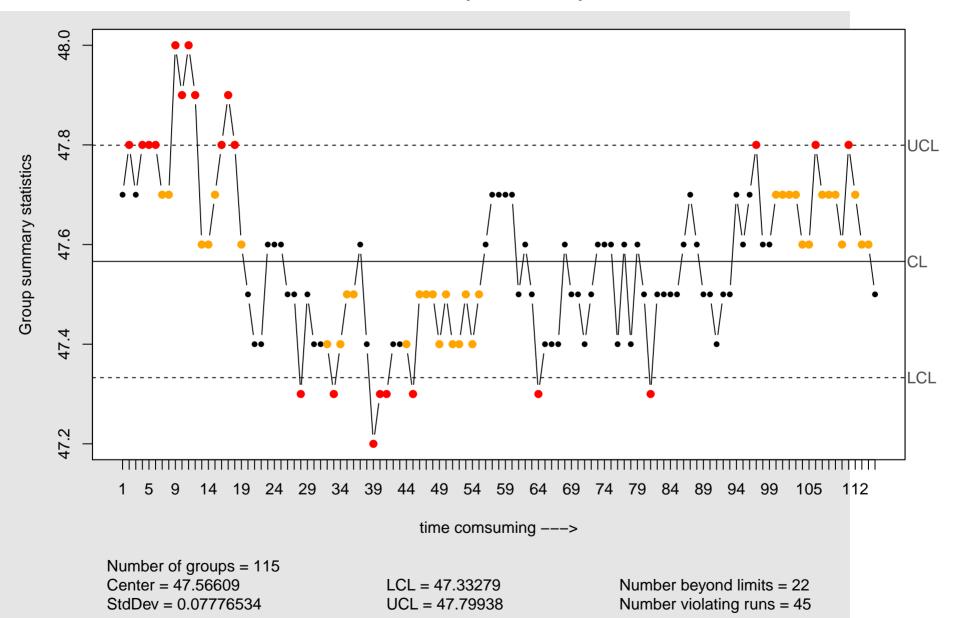
Number of groups = 115 Center = 47.9913 StdDev = 0.07776534

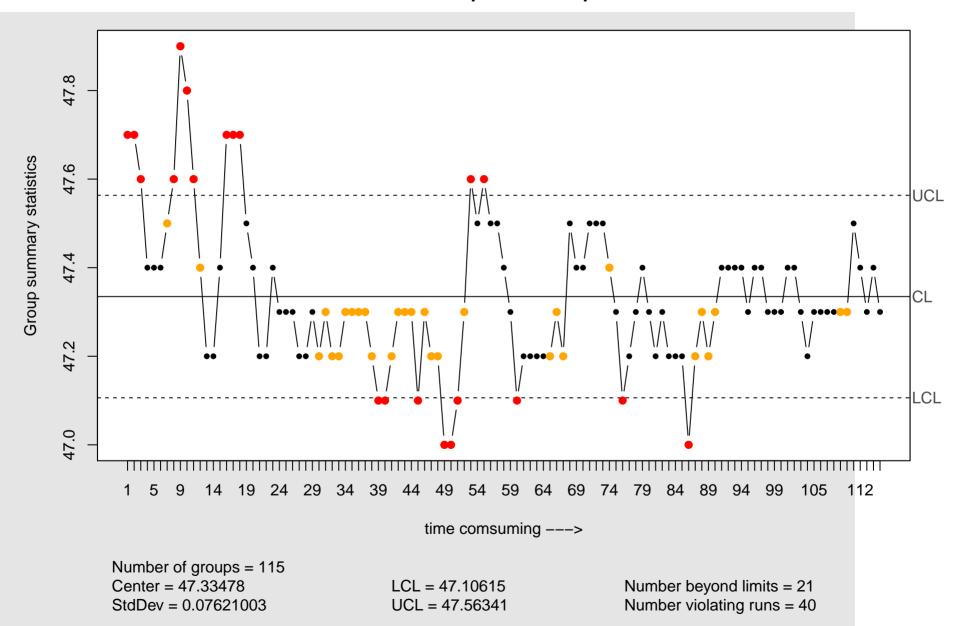
LCL = 47.75801 UCL = 48.2246 Number beyond limits = 17 Number violating runs = 35

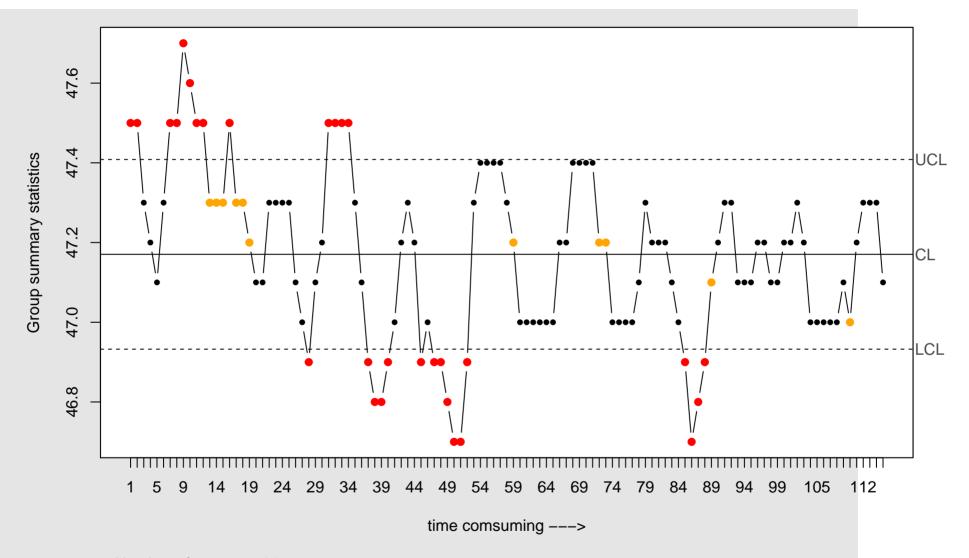


Number of groups = 115 Center = 47.81565 StdDev = 0.08631952

LCL = 47.55669 UCL = 48.07461 Number beyond limits = 15 Number violating runs = 31

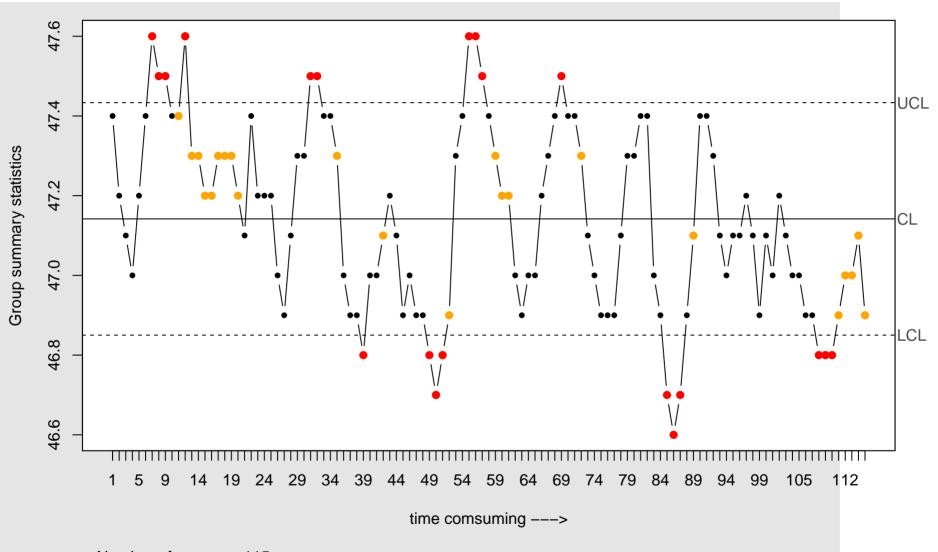






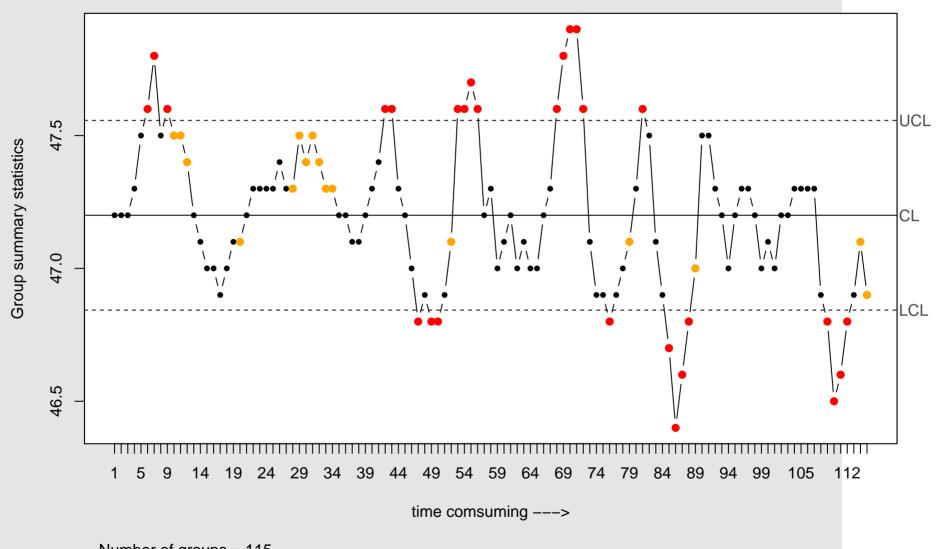
Number of groups = 115 Center = 47.17043 StdDev = 0.07932064

LCL = 46.93247 UCL = 47.4084 Number beyond limits = 29 Number violating runs = 15



Number of groups = 115 Center = 47.14174 StdDev = 0.09720667

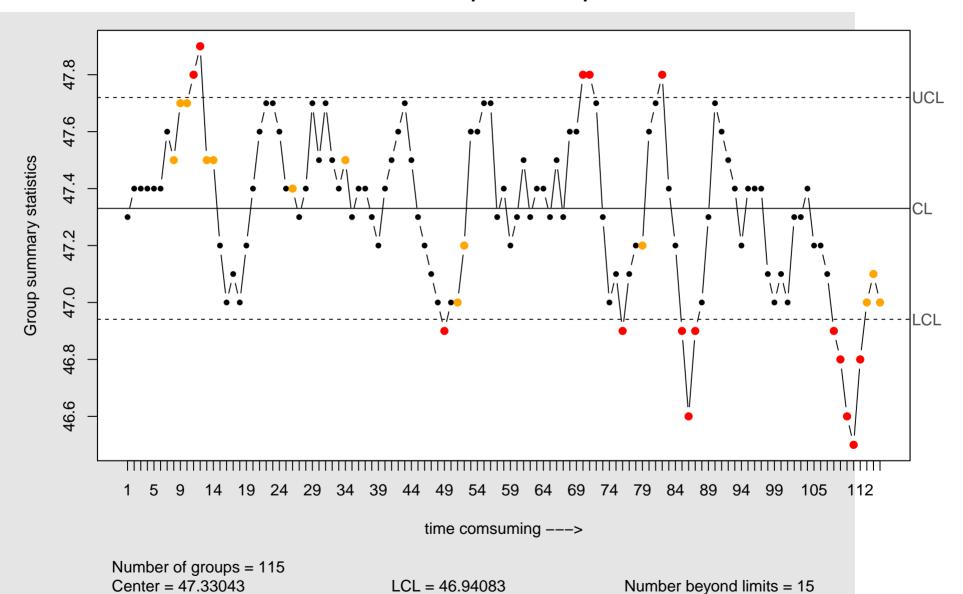
LCL = 46.85012 UCL = 47.43336 Number beyond limits = 20 Number violating runs = 27



Number of groups = 115 Center = 47.2 StdDev = 0.118981

LCL = 46.84306 UCL = 47.55694

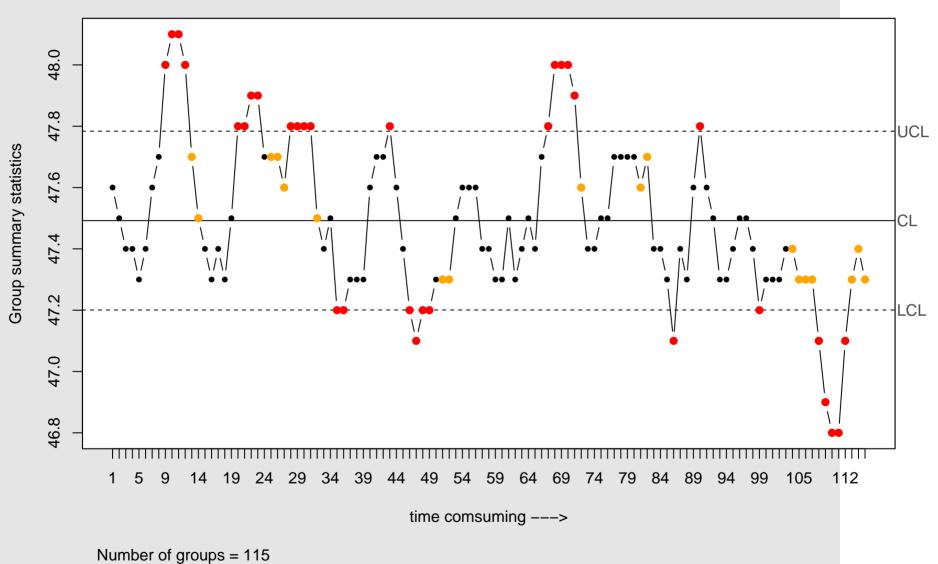
Number beyond limits = 27 Number violating runs = 16



UCL = 47.72004

Number violating runs = 17

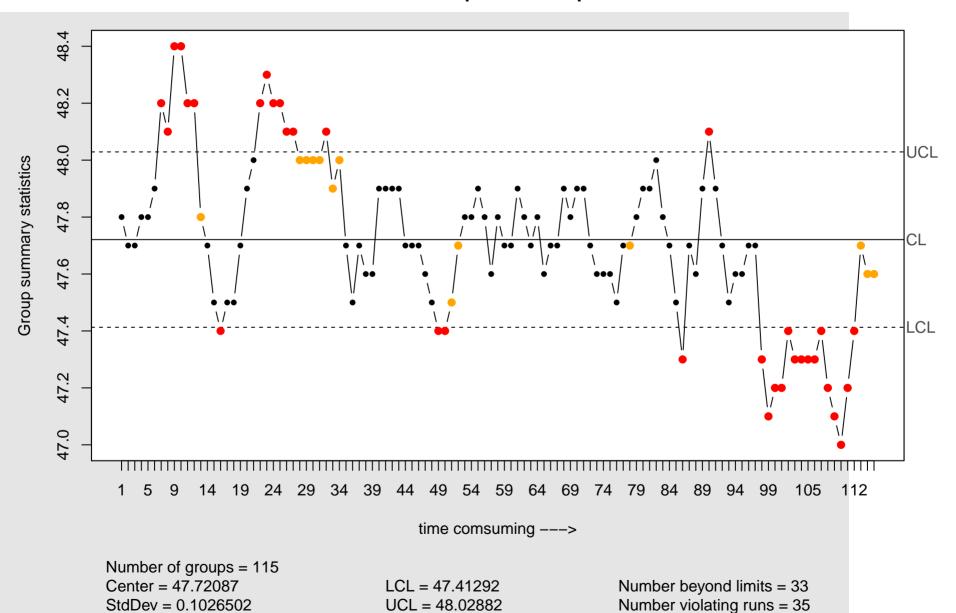
StdDev = 0.1298681



Number of groups = 115 Center = 47.49217 StdDev = 0.09720667

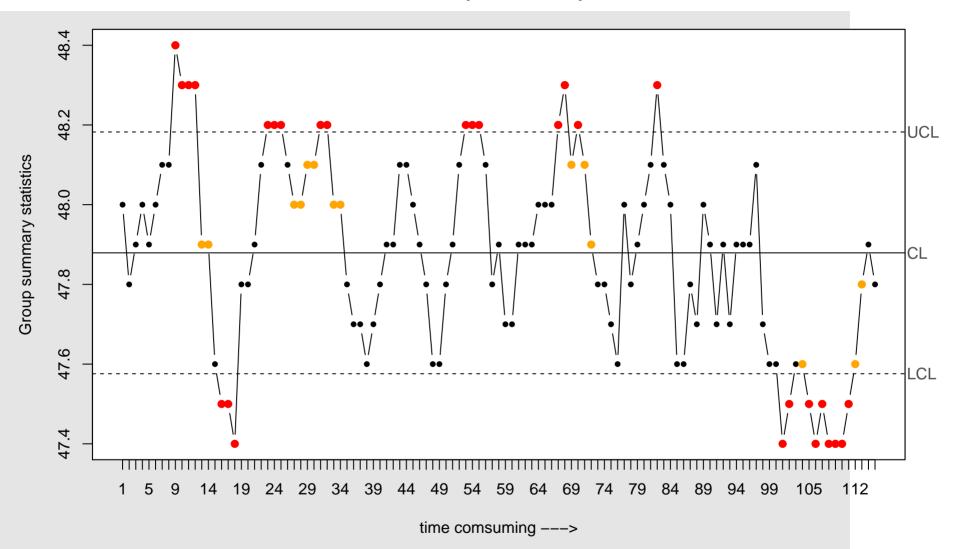
LCL = 47.20055 UCL = 47.78379

Number beyond limits = 32 Number violating runs = 27



Number violating runs = 35

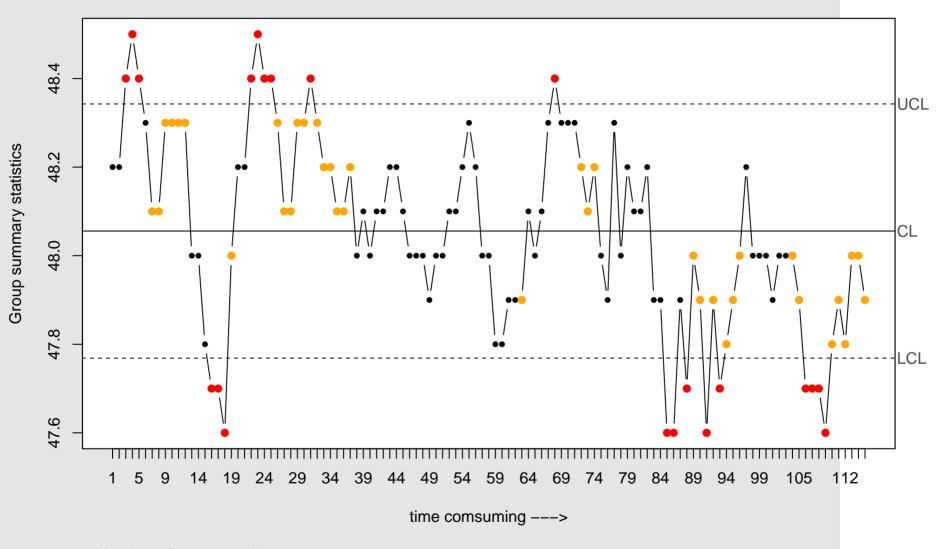
StdDev = 0.1026502



Number of groups = 115 Center = 47.87913 StdDev = 0.1010949

LCL = 47.57585 UCL = 48.18242

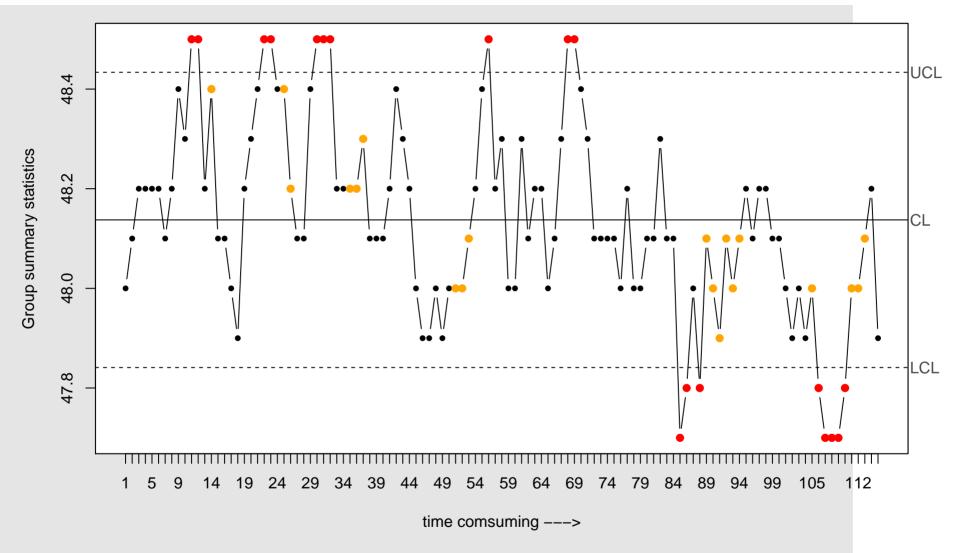
Number beyond limits = 28 Number violating runs = 30



Number of groups = 115 Center = 48.05565 StdDev = 0.09565136

LCL = 47.7687 UCL = 48.34261

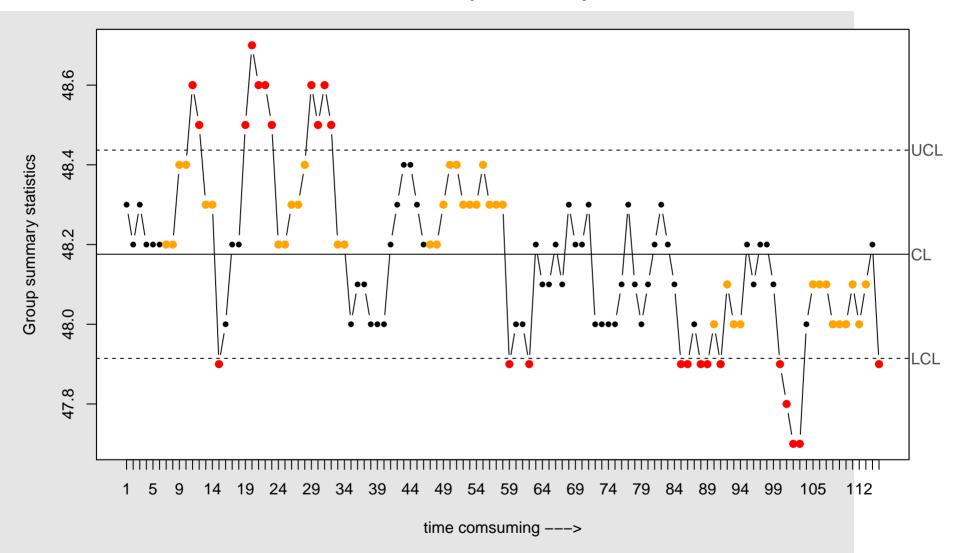
Number beyond limits = 21 Number violating runs = 43



Number of groups = 115 Center = 48.13739 StdDev = 0.09876198

LCL = 47.84111 UCL = 48.43368

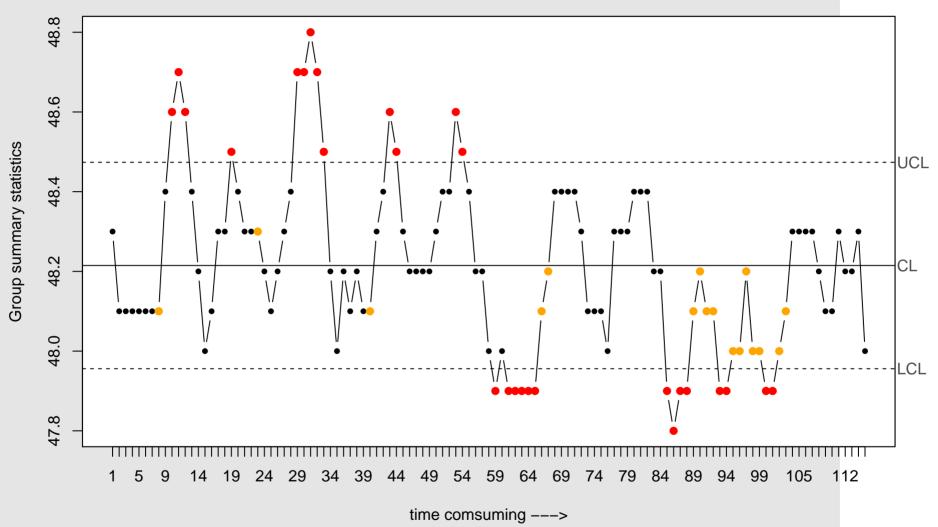
Number beyond limits = 18 Number violating runs = 24



Number of groups = 115 Center = 48.17565 StdDev = 0.08709718

LCL = 47.91436 UCL = 48.43694

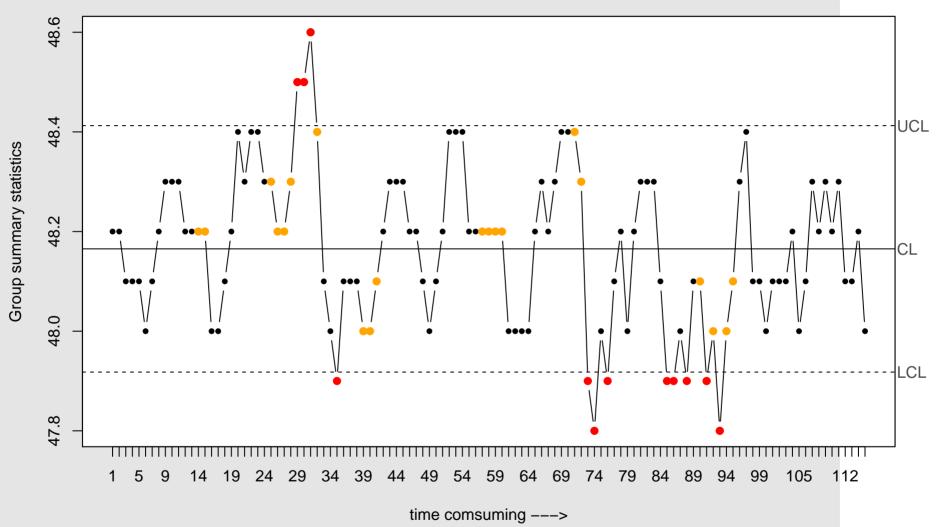
Number beyond limits = 24 Number violating runs = 46



Number of groups = 115 Center = 48.21478StdDev = 0.08631952

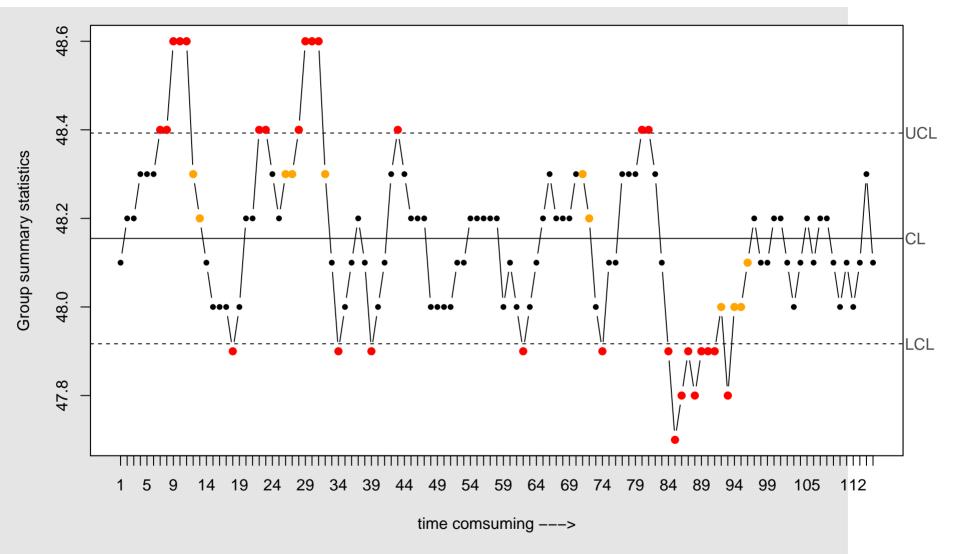
LCL = 47.95582UCL = 48.47374

Number beyond limits = 27 Number violating runs = 25



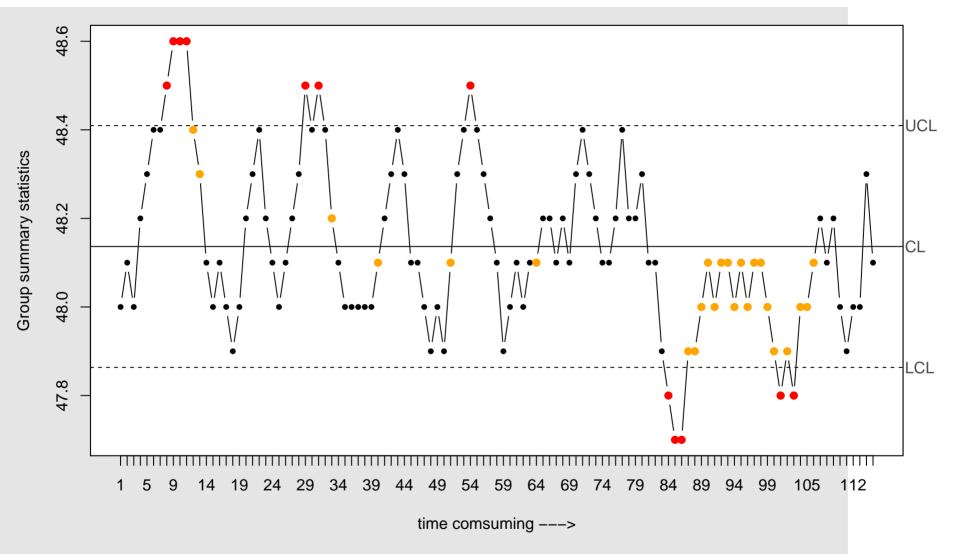
Number of groups = 115 Center = 48.16522 StdDev = 0.08243126

LCL = 47.91792 UCL = 48.41251 Number beyond limits = 12 Number violating runs = 25



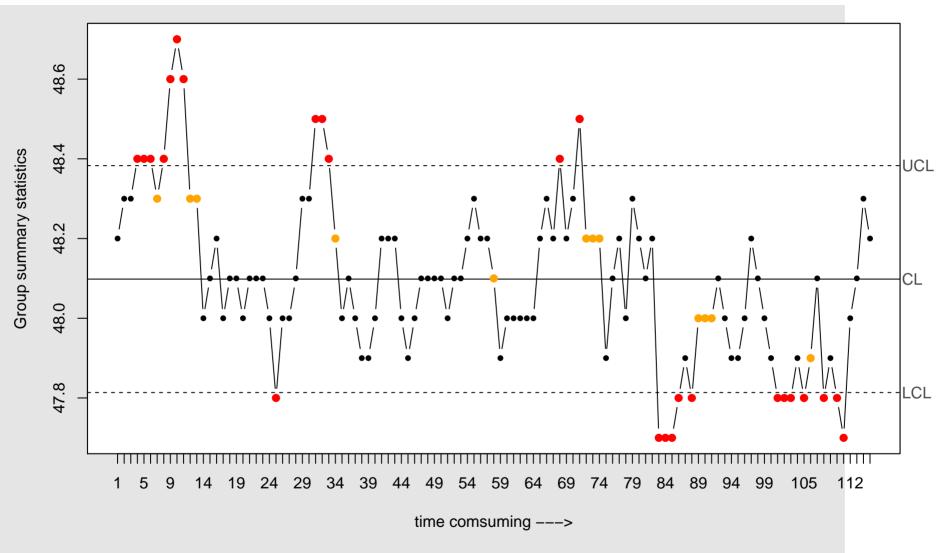
Number of groups = 115 Center = 48.15478 StdDev = 0.07932064

LCL = 47.91682 UCL = 48.39274 Number beyond limits = 28 Number violating runs = 23



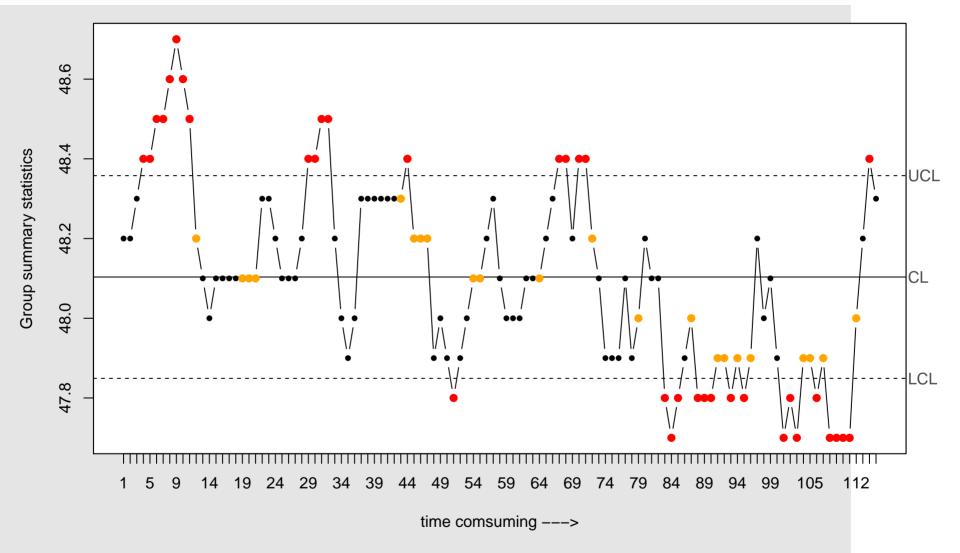
Number of groups = 115 Center = 48.13652 StdDev = 0.09098544

LCL = 47.86357 UCL = 48.40948 Number beyond limits = 12 Number violating runs = 28



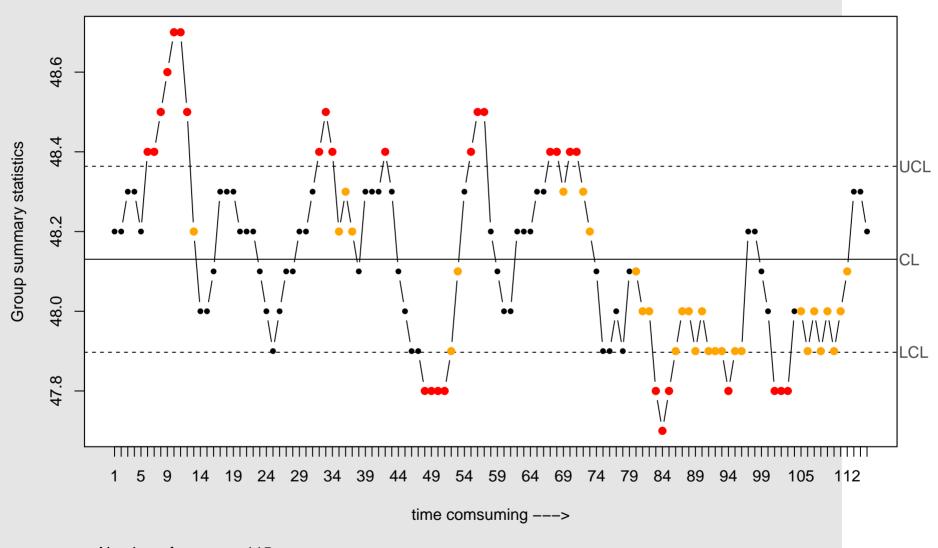
Number of groups = 115 Center = 48.09826 StdDev = 0.09487371

LCL = 47.81364 UCL = 48.38288 Number beyond limits = 25 Number violating runs = 18



Number of groups = 115 Center = 48.10348 StdDev = 0.08476422

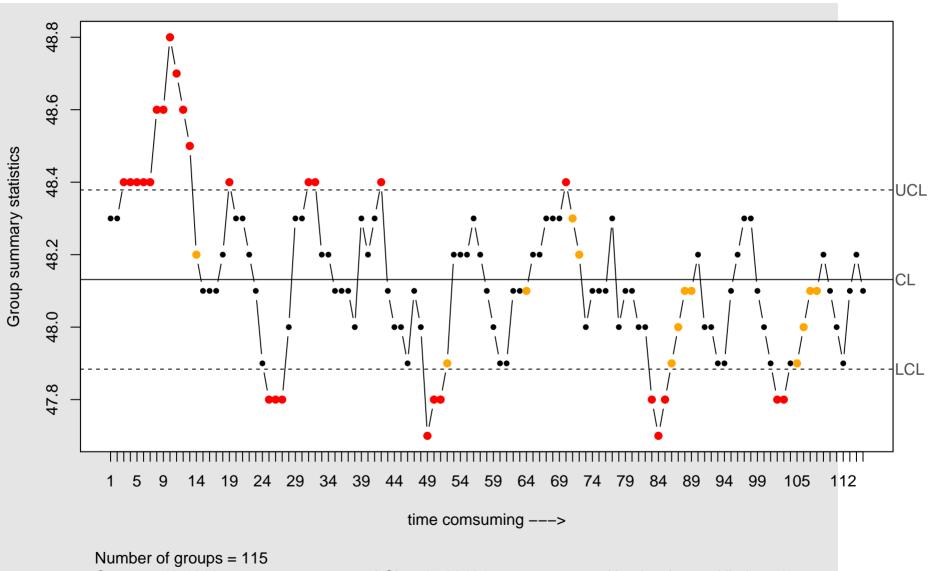
LCL = 47.84919 UCL = 48.35777 Number beyond limits = 35 Number violating runs = 39



Number of groups = 115 Center = 48.13043 StdDev = 0.07776534

LCL = 47.89714 UCL = 48.36373

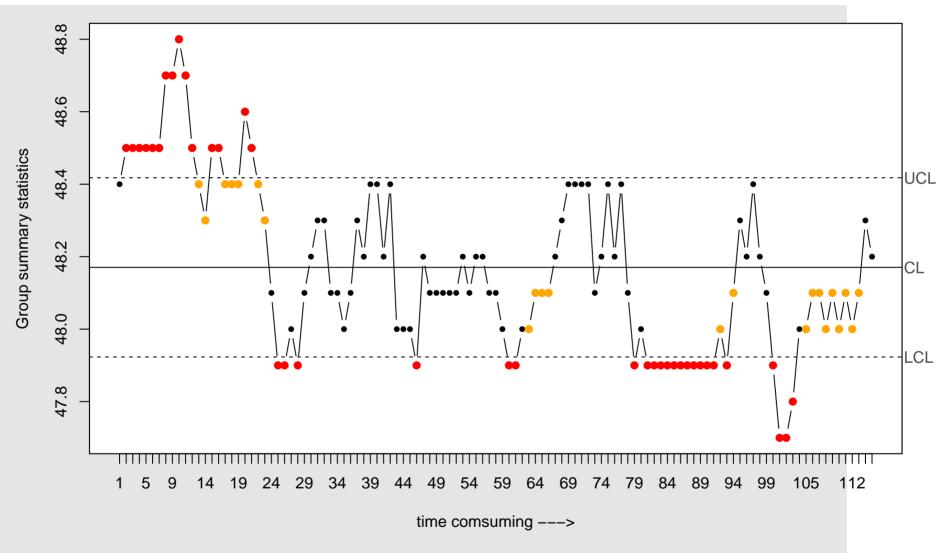
Number beyond limits = 29 Number violating runs = 45



Number of groups = 115 Center = 48.1313 StdDev = 0.08243126

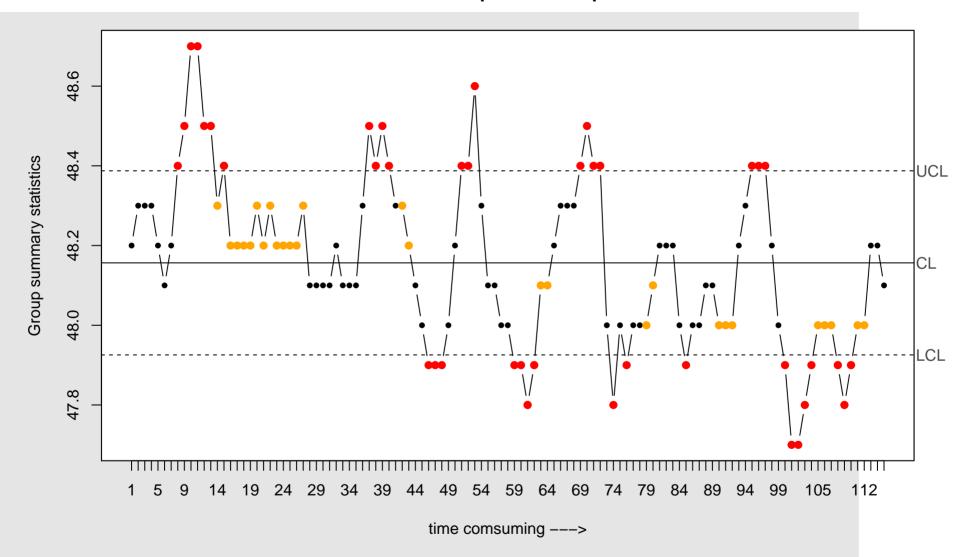
LCL = 47.88401 UCL = 48.3786

Number beyond limits = 27 Number violating runs = 25



Number of groups = 115 Center = 48.17043 StdDev = 0.08243126

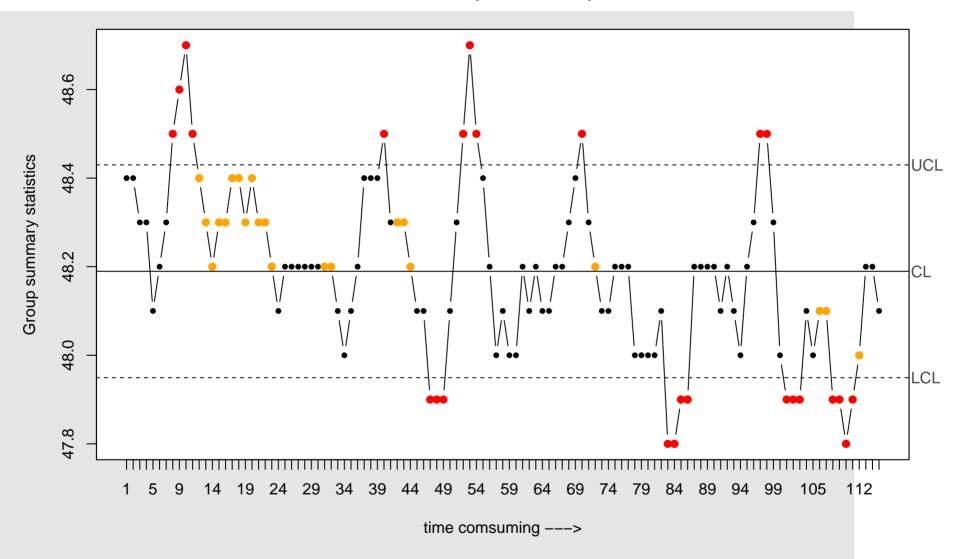
LCL = 47.92314 UCL = 48.41773 Number beyond limits = 38 Number violating runs = 41



Number of groups = 115 Center = 48.15652 StdDev = 0.07698768

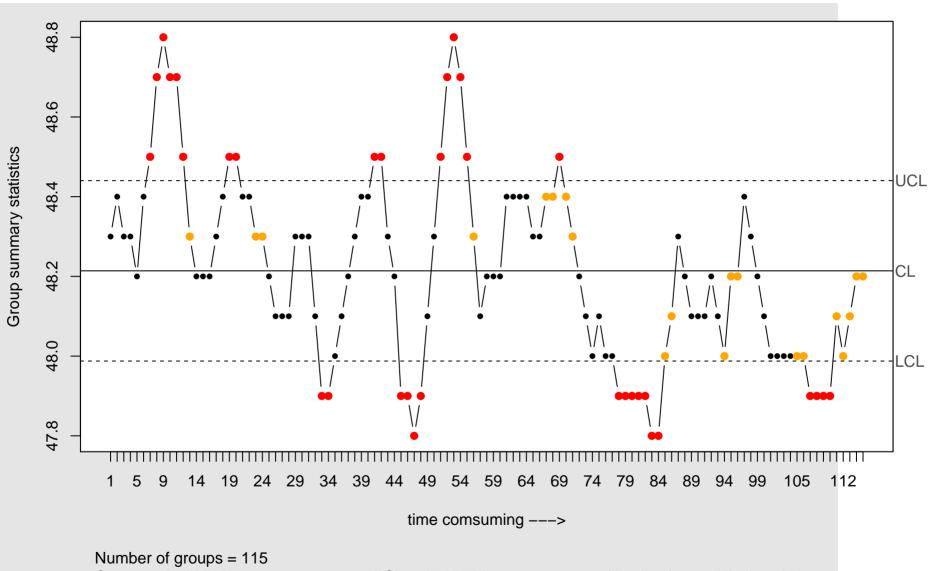
LCL = 47.92556 UCL = 48.38748

Number beyond limits = 39 Number violating runs = 36



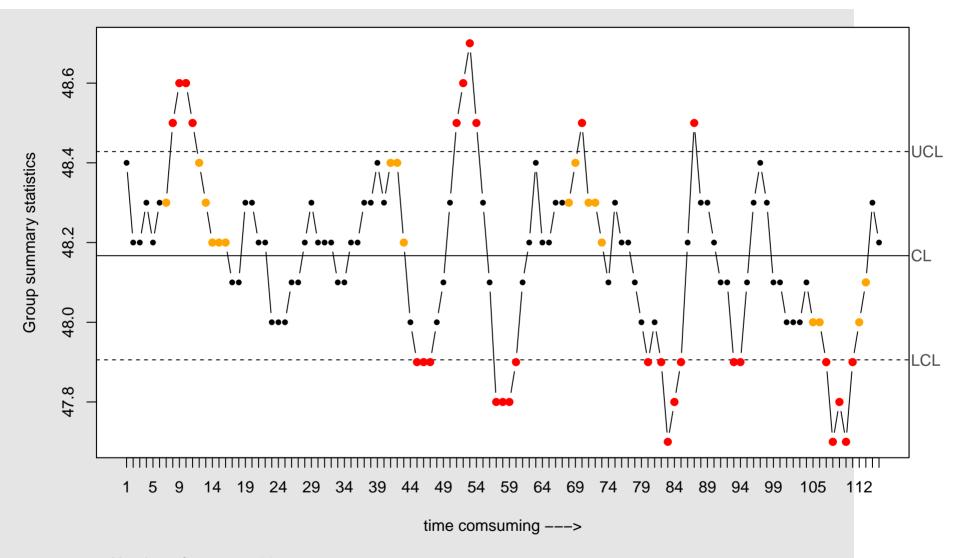
Number of groups = 115 Center = 48.18957 StdDev = 0.0800983

LCL = 47.94927 UCL = 48.42986 Number beyond limits = 25 Number violating runs = 28



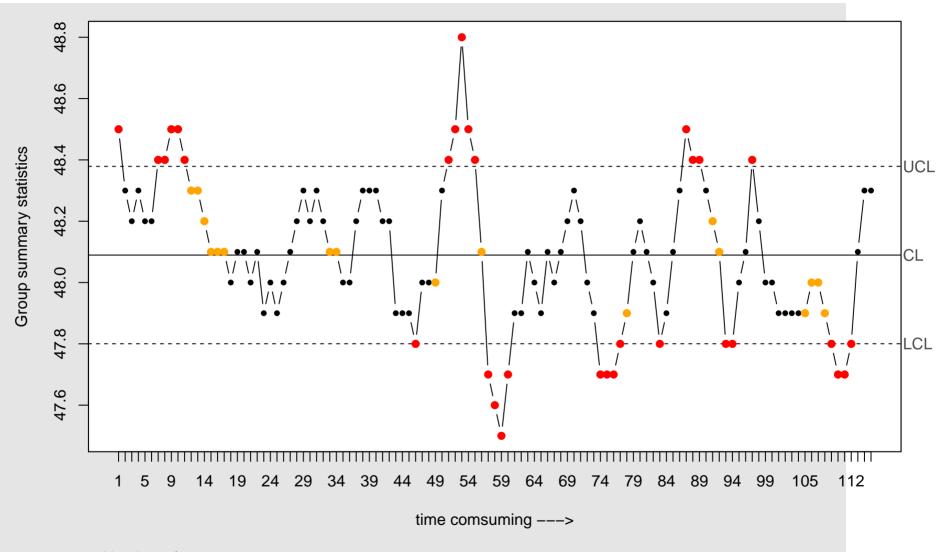
Number of groups = 115 Center = 48.21391 StdDev = 0.07543238

LCL = 47.98762 UCL = 48.44021 Number beyond limits = 33 Number violating runs = 33



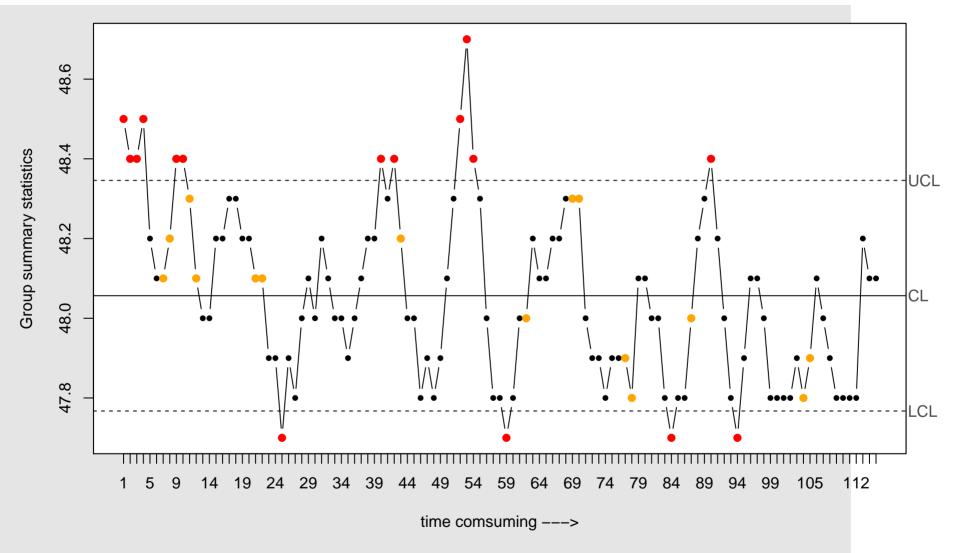
Number of groups = 115 Center = 48.16696 StdDev = 0.08709718

LCL = 47.90566 UCL = 48.42825 Number beyond limits = 29 Number violating runs = 30



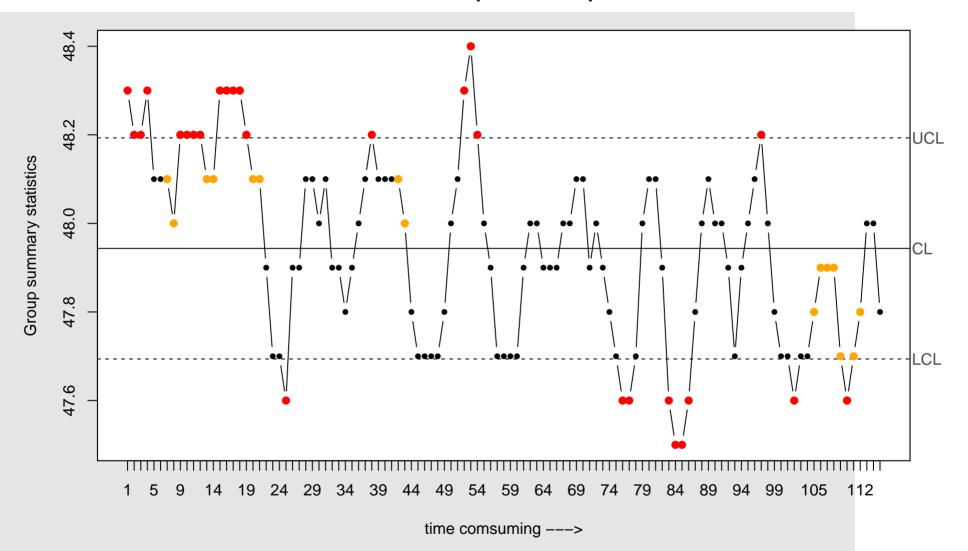
Number of groups = 115 Center = 48.08957 StdDev = 0.09642902

LCL = 47.80028 UCL = 48.37885 Number beyond limits = 31 Number violating runs = 26



Number of groups = 115 Center = 48.05652 StdDev = 0.09642902

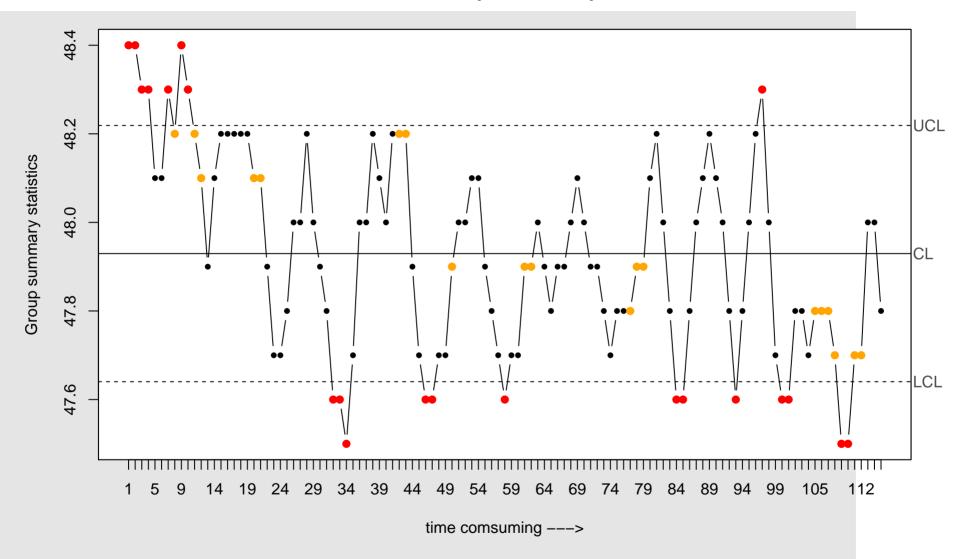
LCL = 47.76723 UCL = 48.34581 Number beyond limits = 16 Number violating runs = 17



Number of groups = 115 Center = 47.94348 StdDev = 0.08320891

LCL = 47.69385 UCL = 48.1931

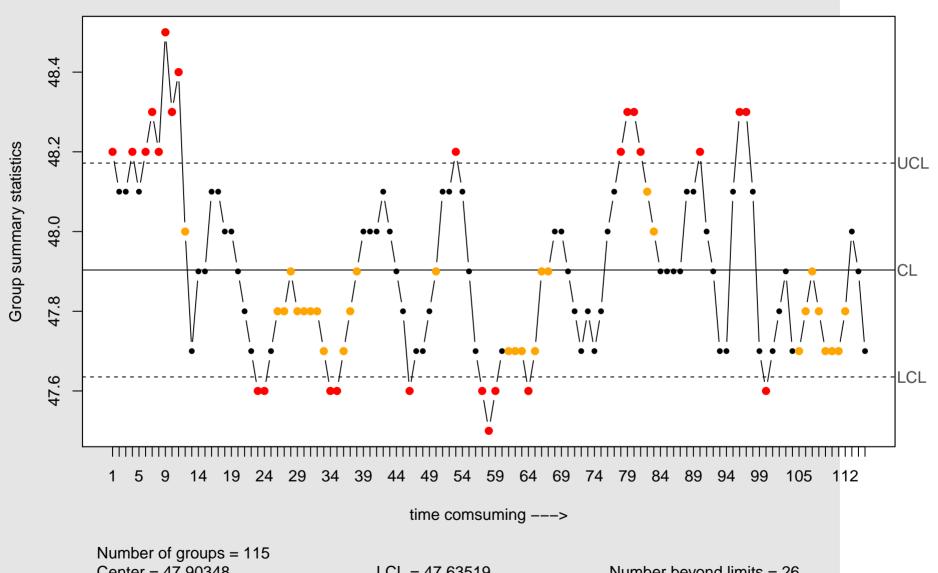
Number beyond limits = 27 Number violating runs = 25



Number of groups = 115 Center = 47.92957 StdDev = 0.09642902

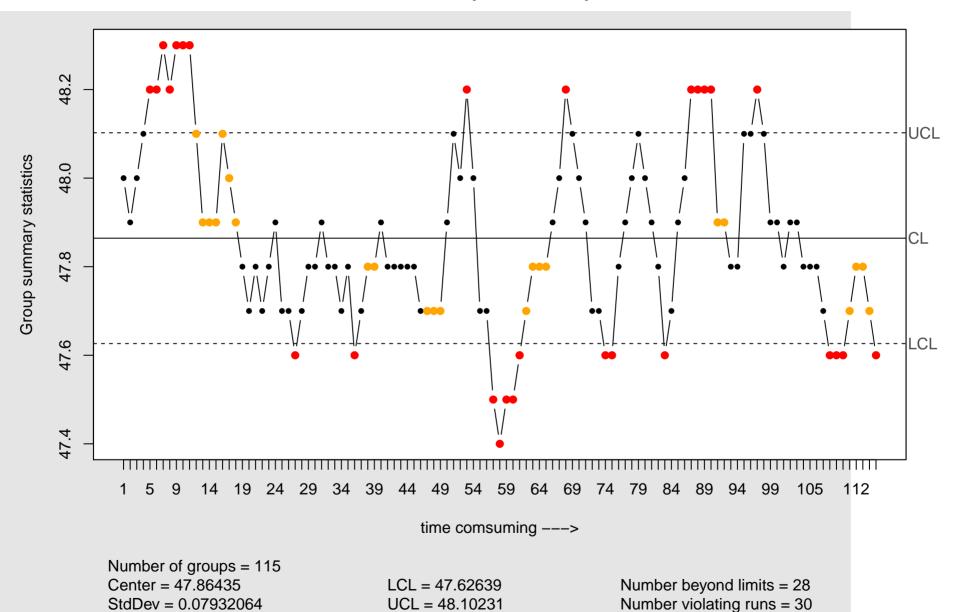
LCL = 47.64028 UCL = 48.21885

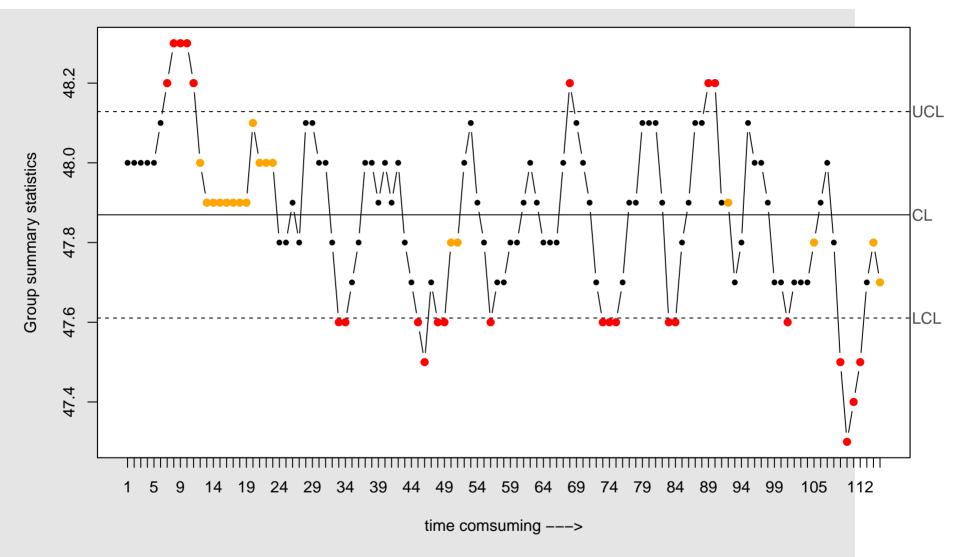
Number beyond limits = 21 Number violating runs = 24



Center = 47.90348StdDev = 0.08943014

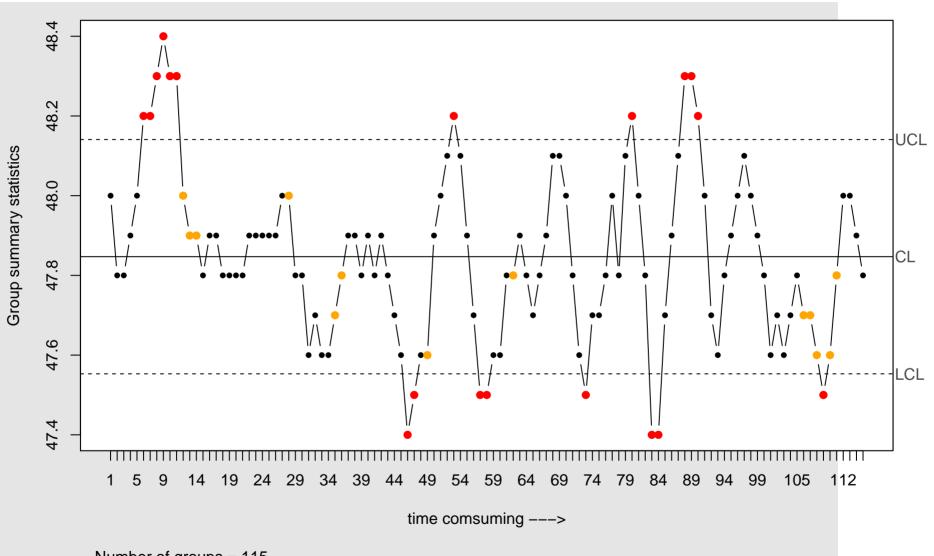
LCL = 47.63519UCL = 48.17177 Number beyond limits = 26 Number violating runs = 37





Number of groups = 115 Center = 47.86957 StdDev = 0.08631952

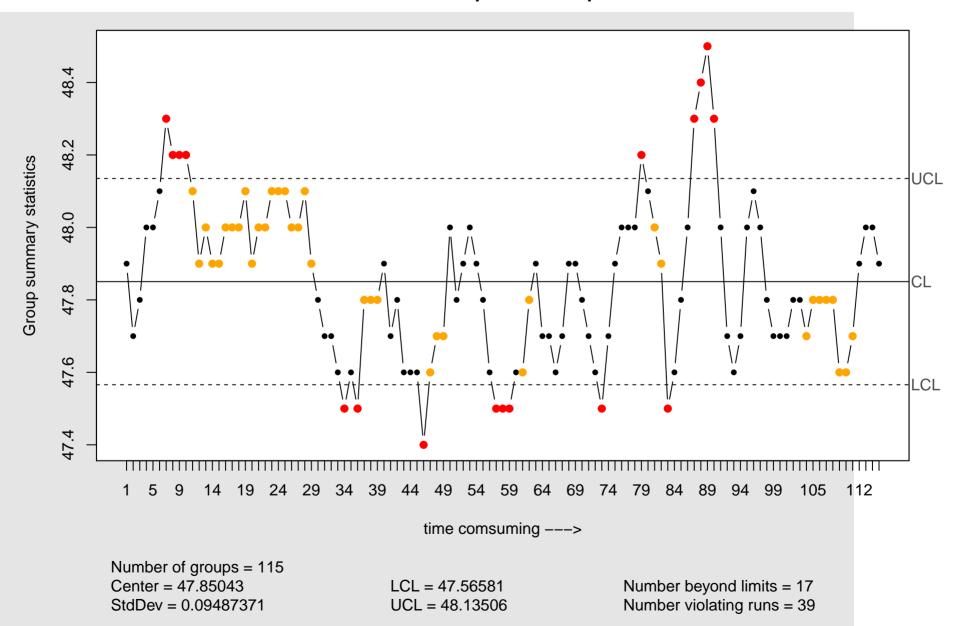
LCL = 47.61061 UCL = 48.12852 Number beyond limits = 25 Number violating runs = 24

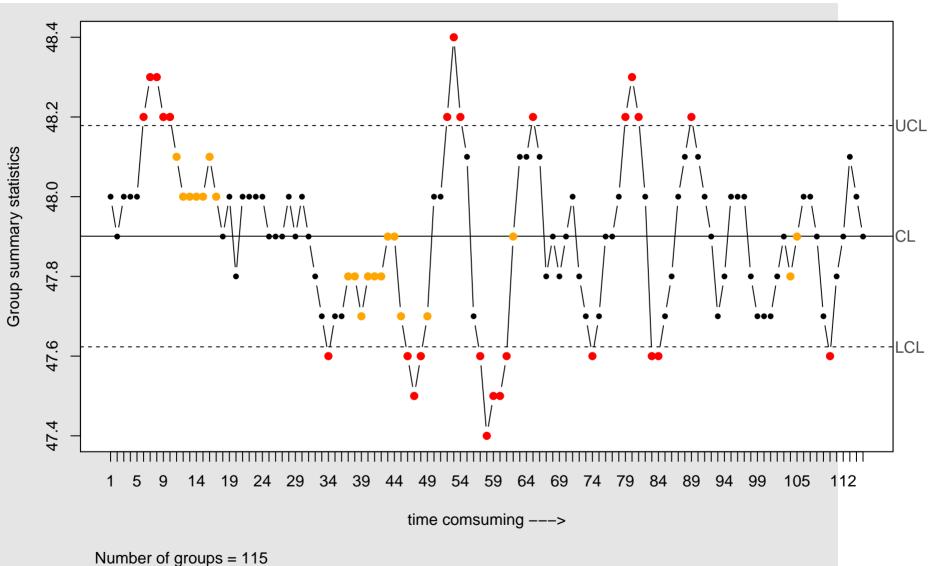


Number of groups = 115 Center = 47.84696 StdDev = 0.09798432

LCL = 47.553 UCL = 48.14091

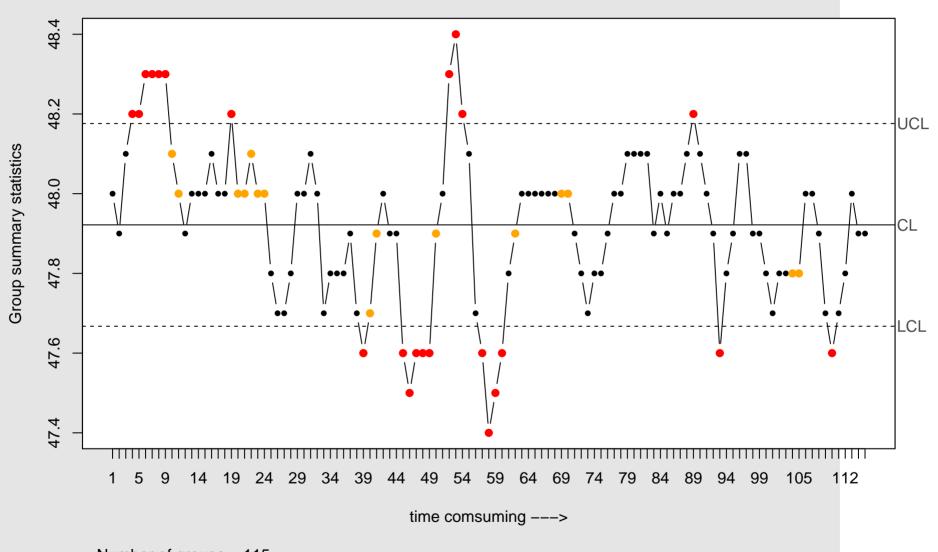
Number beyond limits = 19 Number violating runs = 16





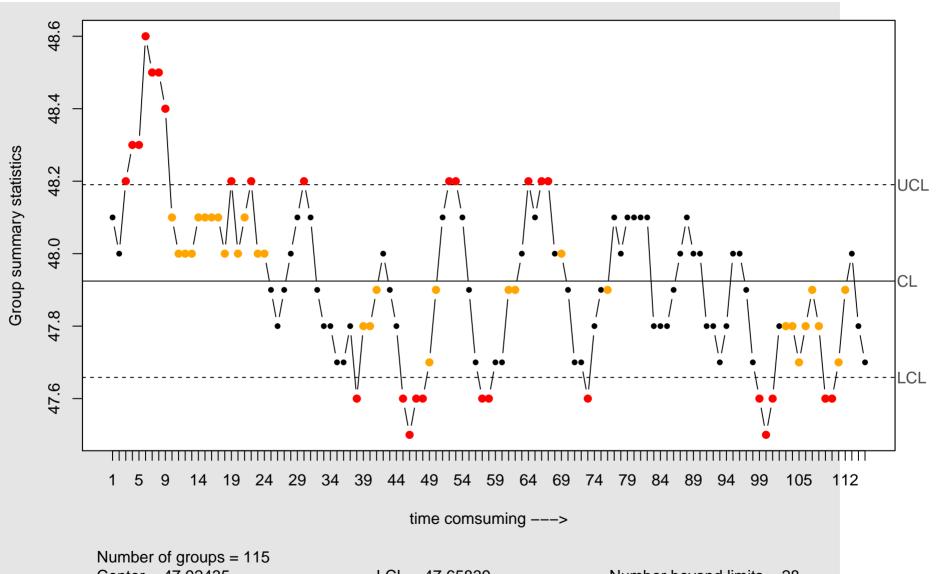
Number of groups = 115 Center = 47.90087 StdDev = 0.09254075

LCL = 47.62325 UCL = 48.17849 Number beyond limits = 26 Number violating runs = 25



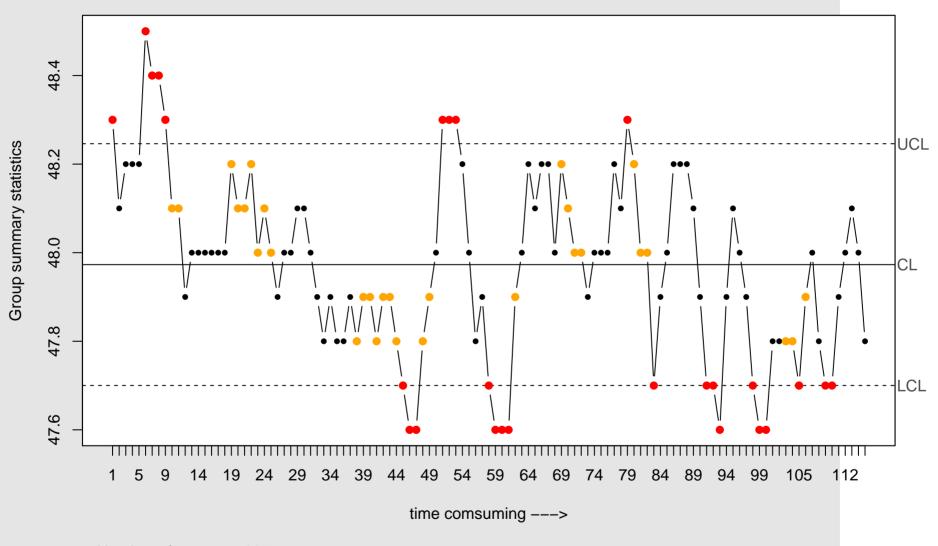
Number of groups = 115 Center = 47.92174 StdDev = 0.08476422

LCL = 47.66745 UCL = 48.17603 Number beyond limits = 23 Number violating runs = 19



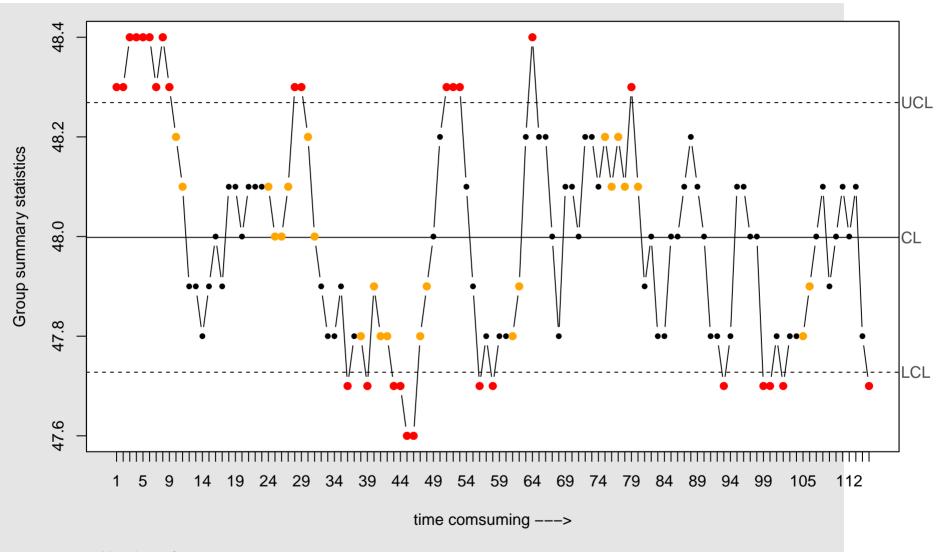
Number of groups = 115 Center = 47.92435 StdDev = 0.08865248

LCL = 47.65839 UCL = 48.19031 Number beyond limits = 28 Number violating runs = 38



Number of groups = 115 Center = 47.97304 StdDev = 0.09098544

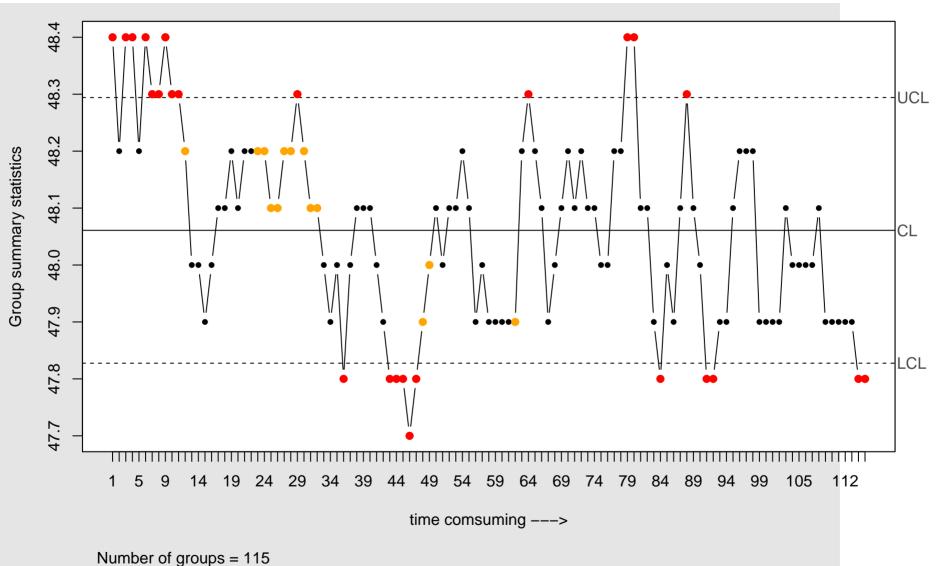
LCL = 47.70009 UCL = 48.246 Number beyond limits = 26 Number violating runs = 36



Number of groups = 115 Center = 47.99826 StdDev = 0.09020779

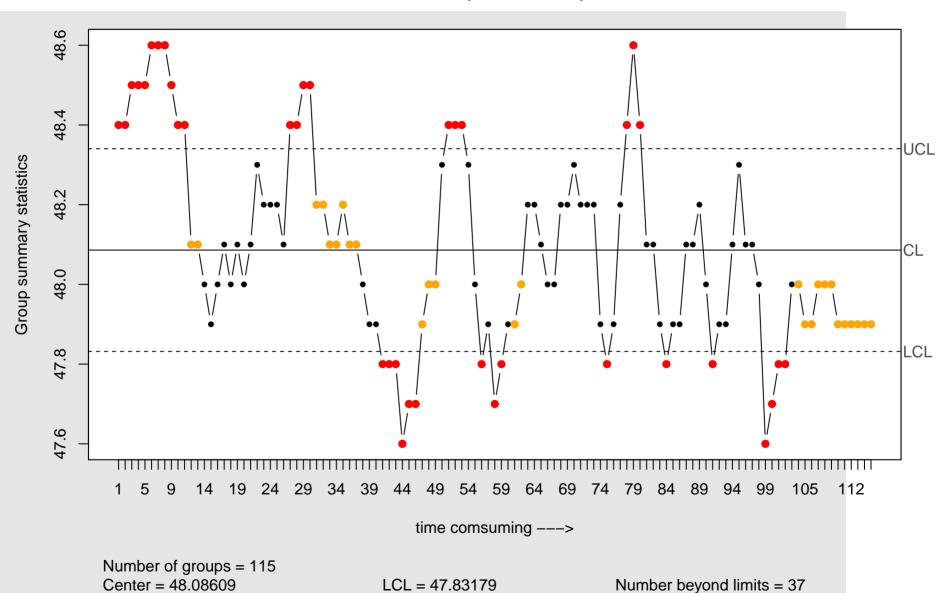
LCL = 47.72764 UCL = 48.26888

Number beyond limits = 29 Number violating runs = 34



Number of groups = 115 Center = 48.06087 StdDev = 0.07776534

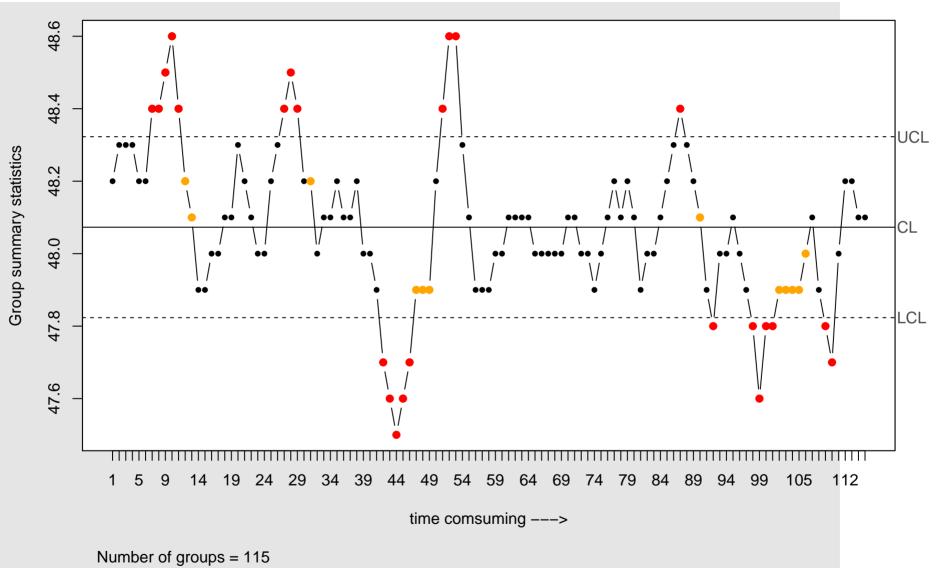
LCL = 47.82757 UCL = 48.29417 Number beyond limits = 25 Number violating runs = 21



UCL = 48.34038

Number violating runs = 38

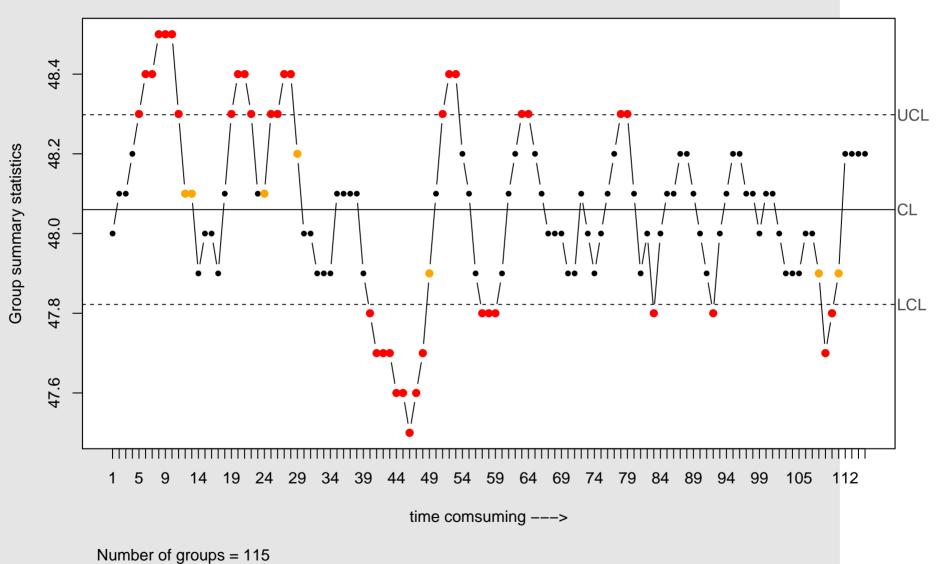
StdDev = 0.08476422



Number of groups = 115 Center = 48.07304 StdDev = 0.08320891

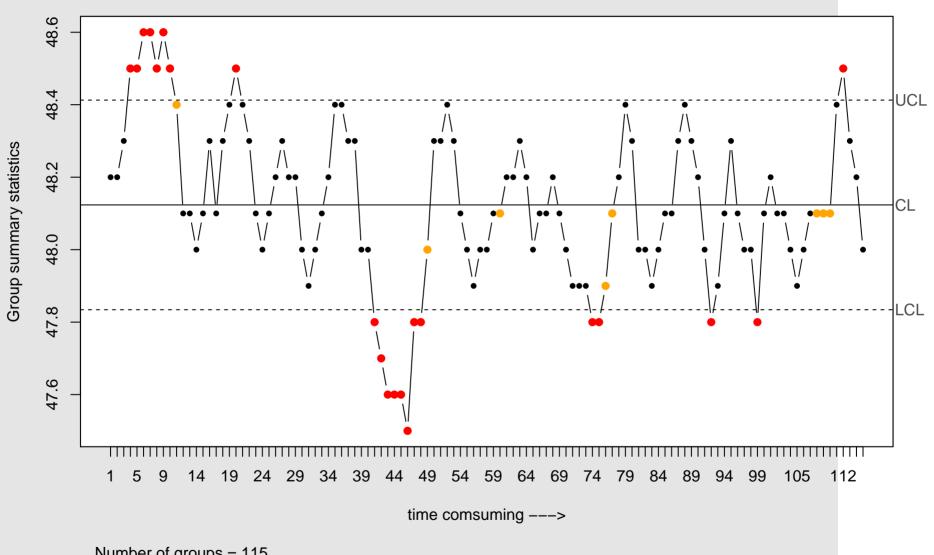
LCL = 47.82342 UCL = 48.32267

Number beyond limits = 24 Number violating runs = 19



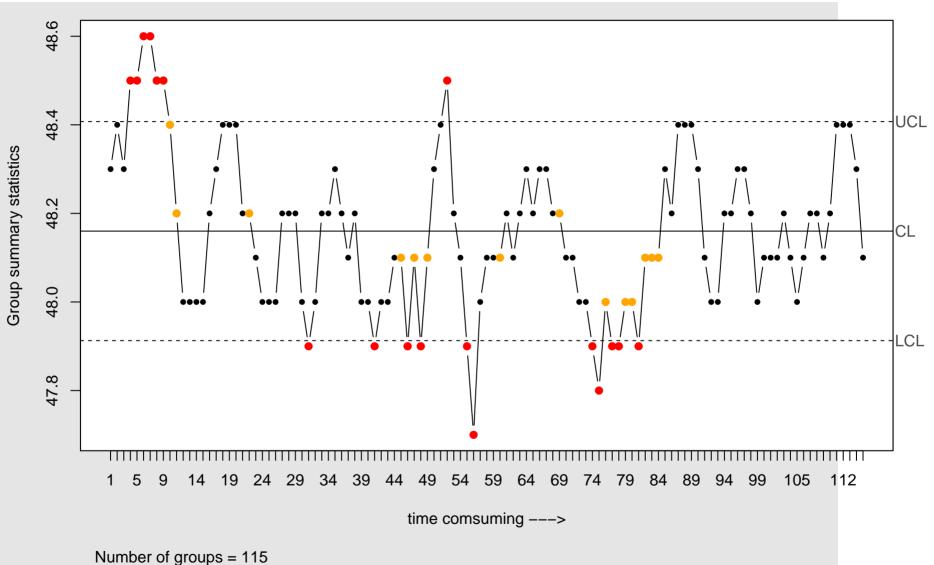
Number of groups = 115 Center = 48.06 StdDev = 0.07932064

LCL = 47.82204 UCL = 48.29796 Number beyond limits = 38 Number violating runs = 21



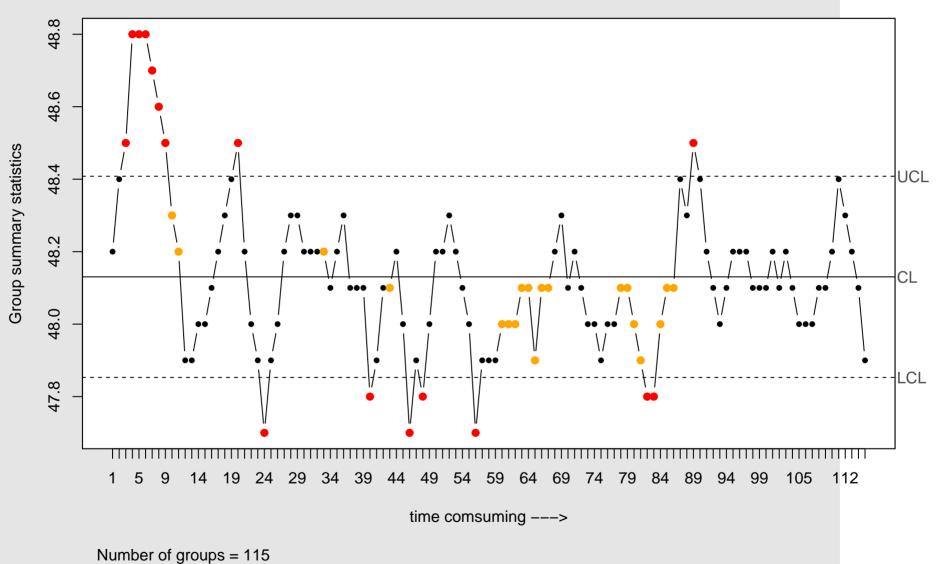
Number of groups = 115 Center = 48.12348 StdDev = 0.09642902

LCL = 47.83419 UCL = 48.41277 Number beyond limits = 21 Number violating runs = 17



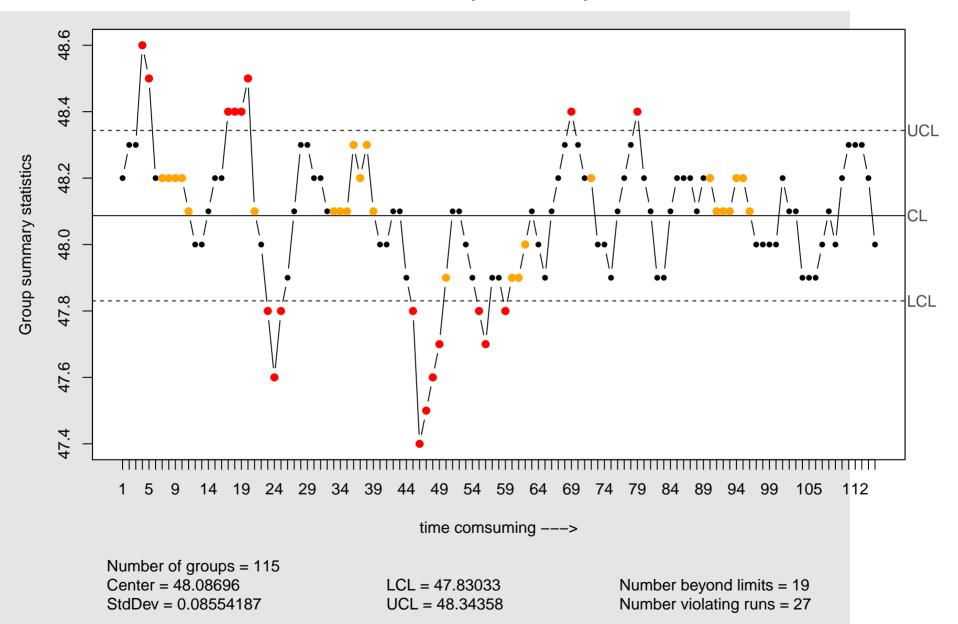
Number of groups = 115 Center = 48.16 StdDev = 0.08243126

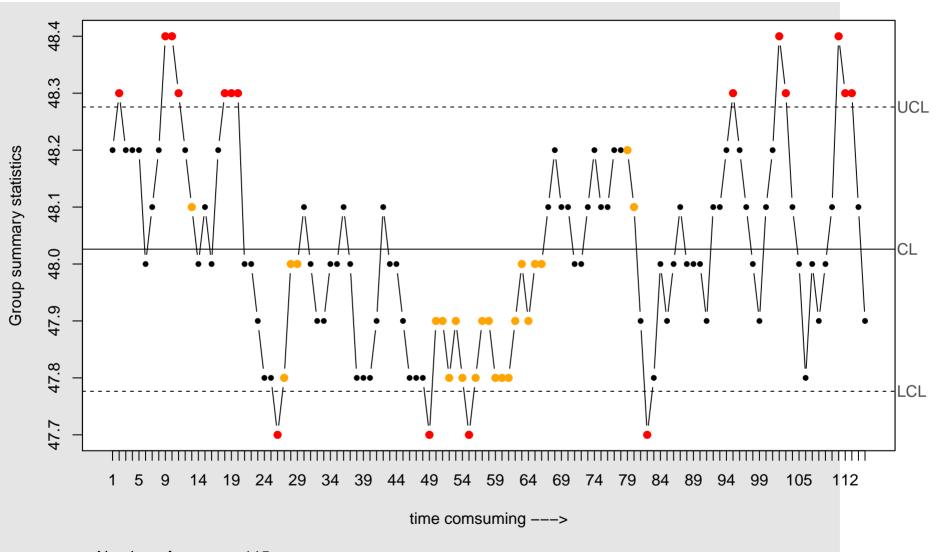
LCL = 47.91271 UCL = 48.40729 Number beyond limits = 18 Number violating runs = 22



Number of groups = 115 Center = 48.13043 StdDev = 0.09254075

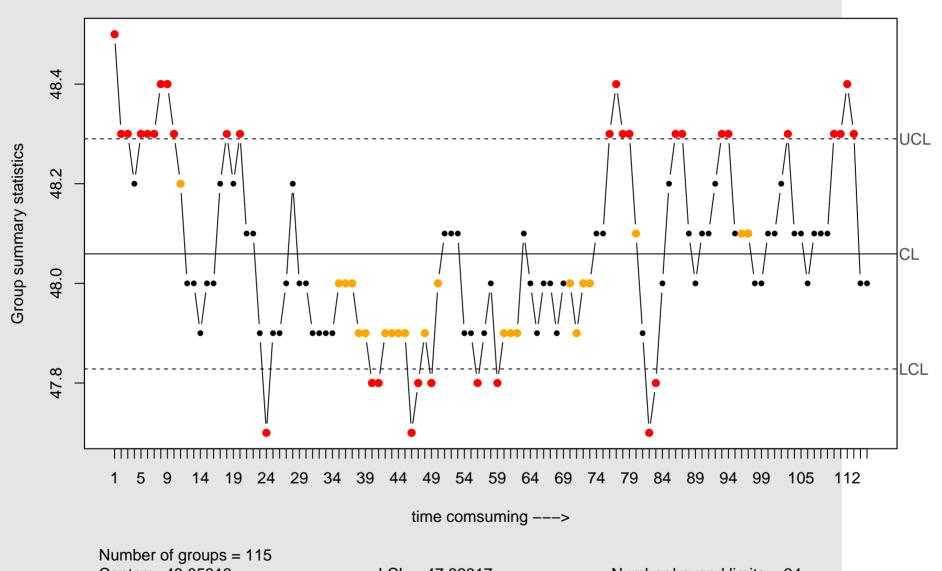
LCL = 47.85281 UCL = 48.40806 Number beyond limits = 16 Number violating runs = 24





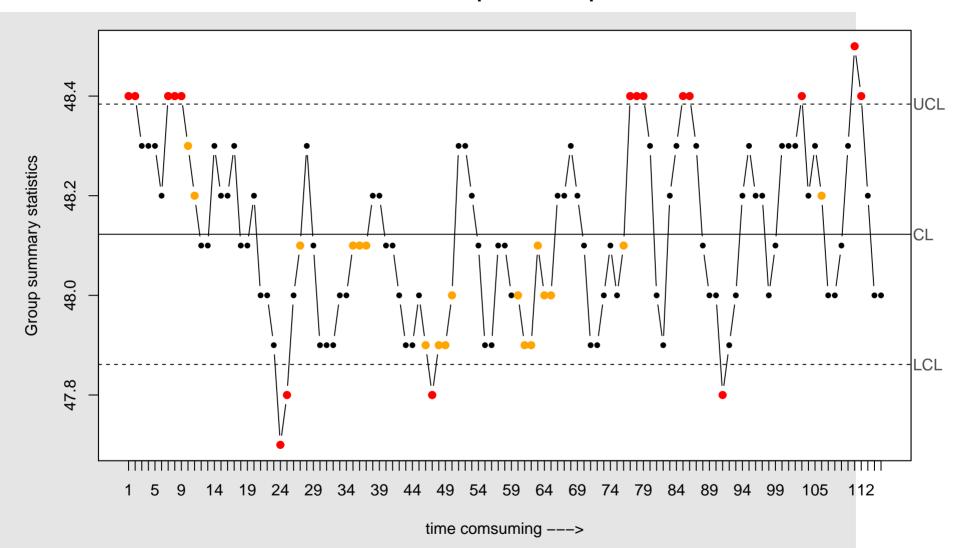
Number of groups = 115 Center = 48.02609 StdDev = 0.08320891

LCL = 47.77646 UCL = 48.27571 Number beyond limits = 17 Number violating runs = 24



Number of groups = 115 Center = 48.05913 StdDev = 0.07698768

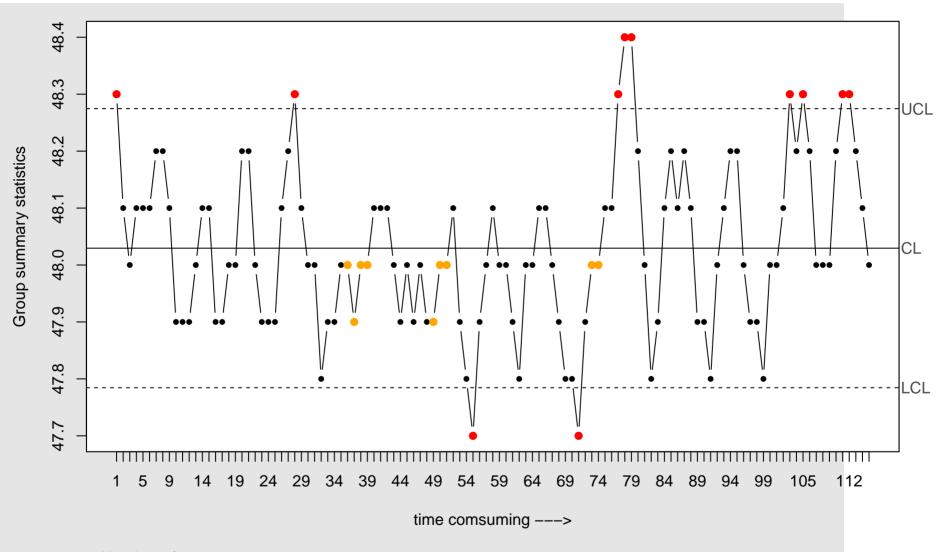
LCL = 47.82817 UCL = 48.29009 Number beyond limits = 34 Number violating runs = 32



Number of groups = 115 Center = 48.12261 StdDev = 0.08709718

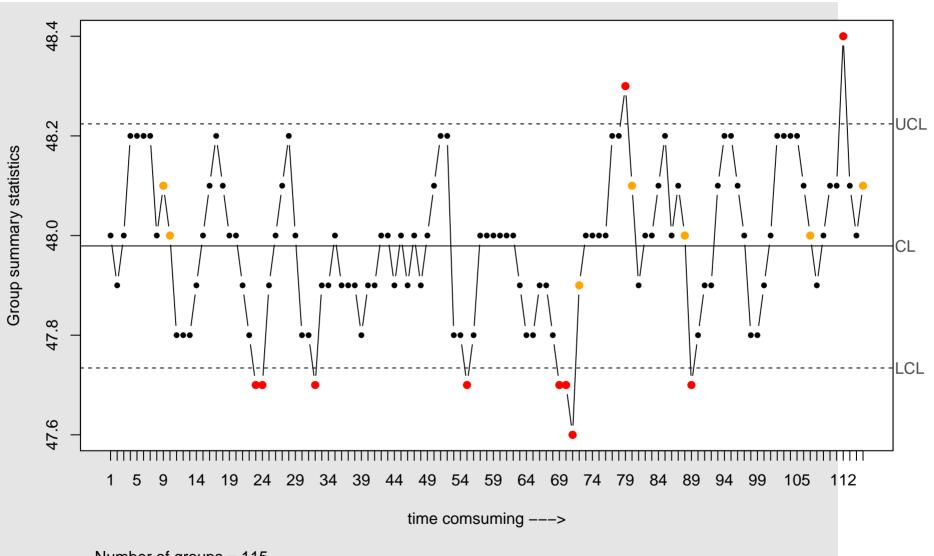
LCL = 47.86132 UCL = 48.3839

Number beyond limits = 17 Number violating runs = 22



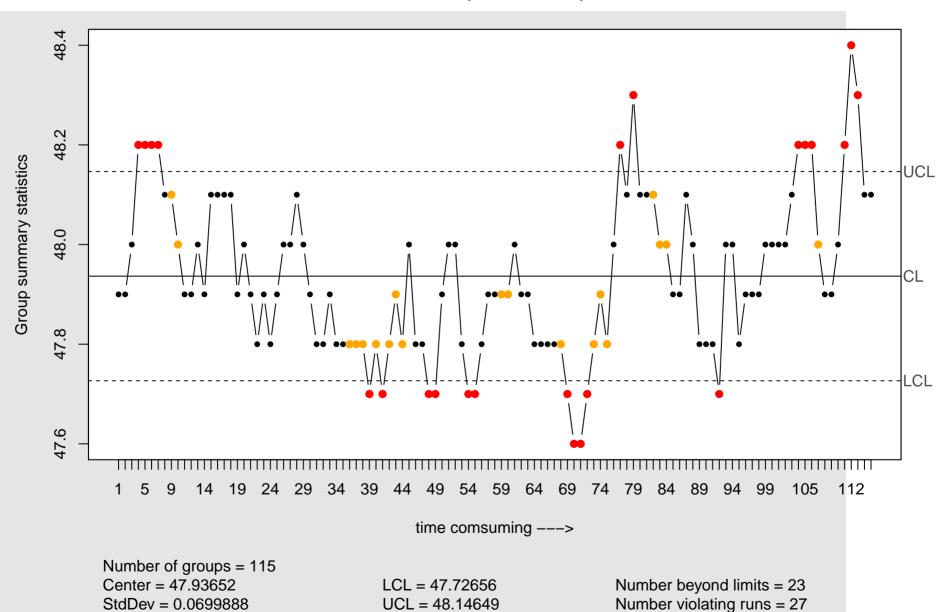
Number of groups = 115 Center = 48.02957 StdDev = 0.0816536

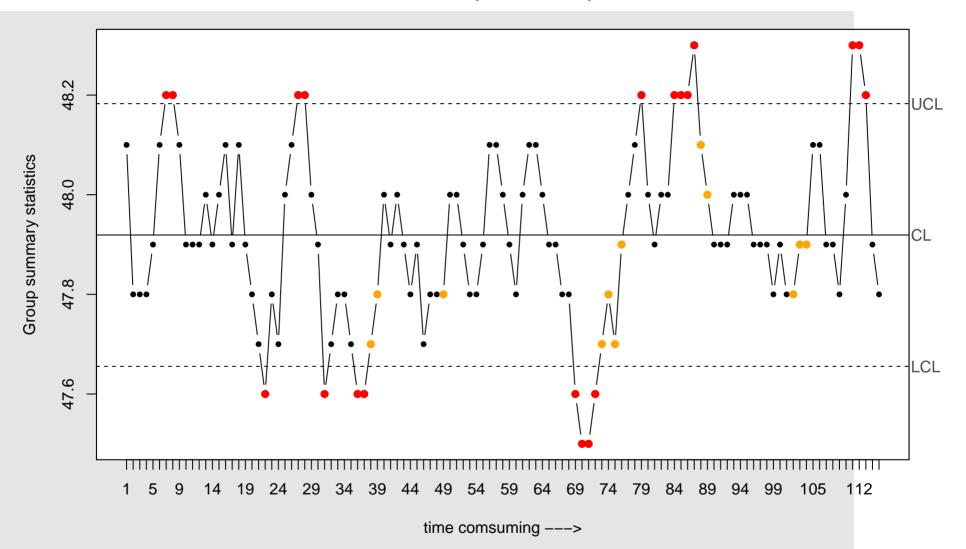
LCL = 47.7846 UCL = 48.27453 Number beyond limits = 11 Number violating runs = 9



Number of groups = 115 Center = 47.97913 StdDev = 0.0816536

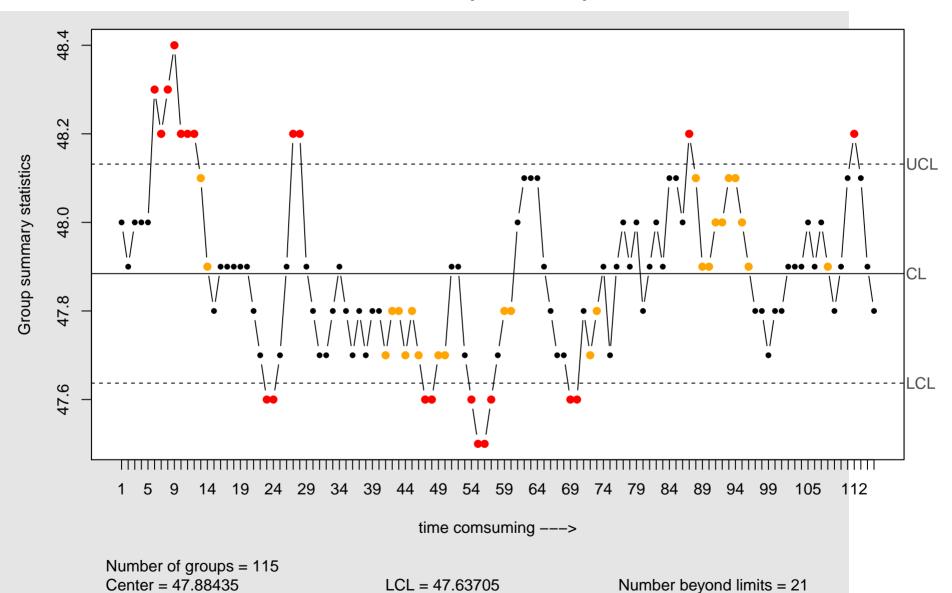
LCL = 47.73417 UCL = 48.22409 Number beyond limits = 10 Number violating runs = 11





Number of groups = 115 Center = 47.91913 StdDev = 0.08787483

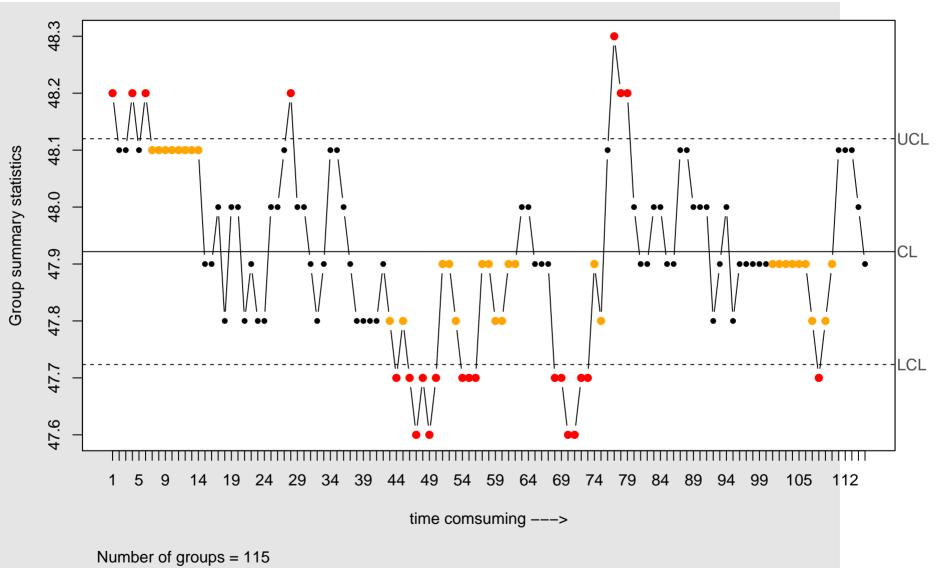
LCL = 47.65551 UCL = 48.18275 Number beyond limits = 20 Number violating runs = 16



UCL = 48.13164

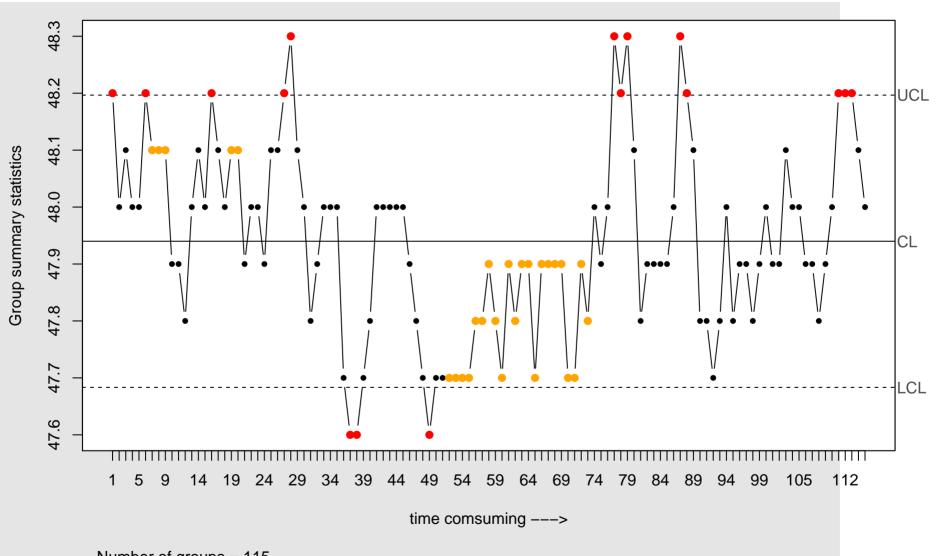
Number violating runs = 33

StdDev = 0.08243126



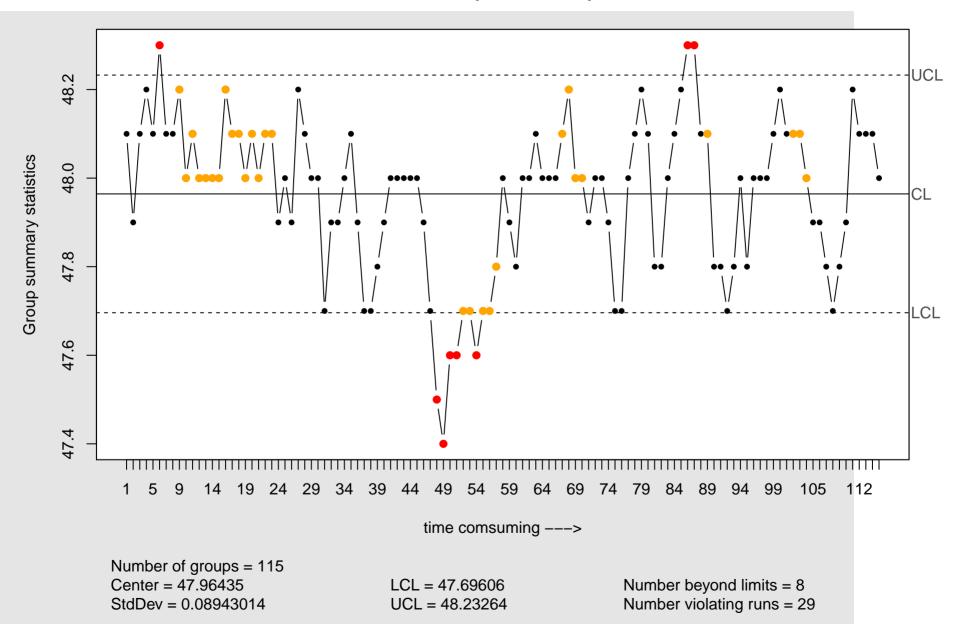
Number of groups = 115 Center = 47.92174 StdDev = 0.06610054

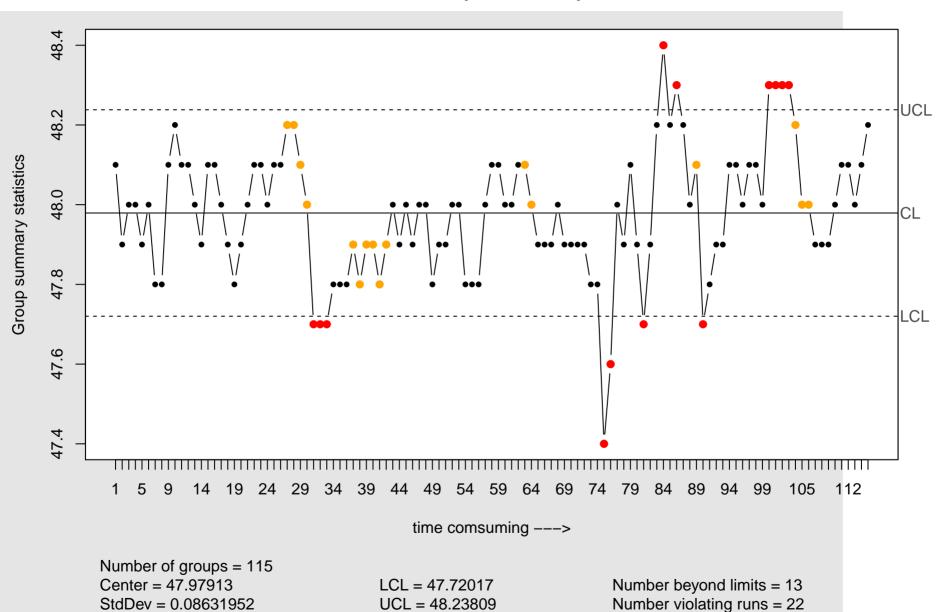
LCL = 47.72344 UCL = 48.12004 Number beyond limits = 23 Number violating runs = 43

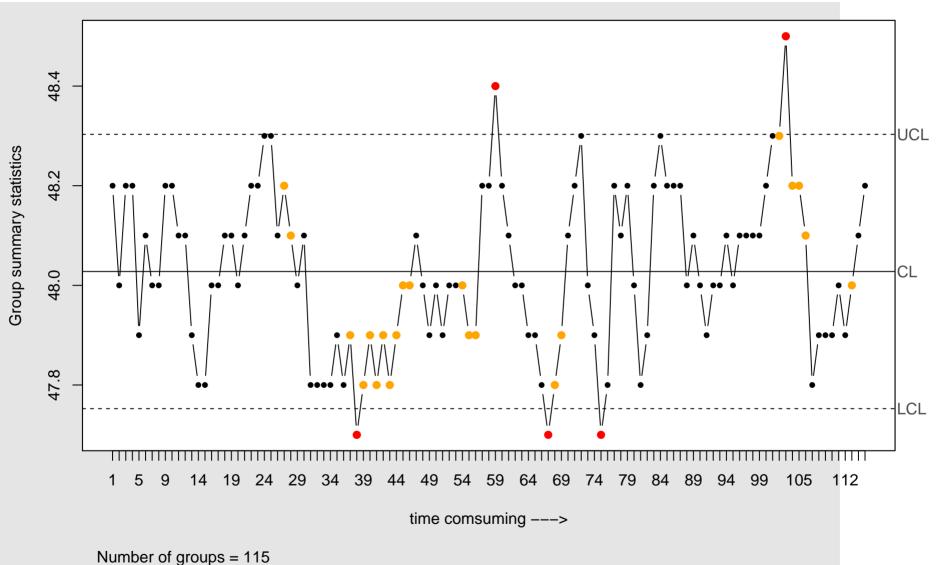


Number of groups = 115 Center = 47.94 StdDev = 0.08554187

LCL = 47.68337 UCL = 48.19663 Number beyond limits = 16 Number violating runs = 27



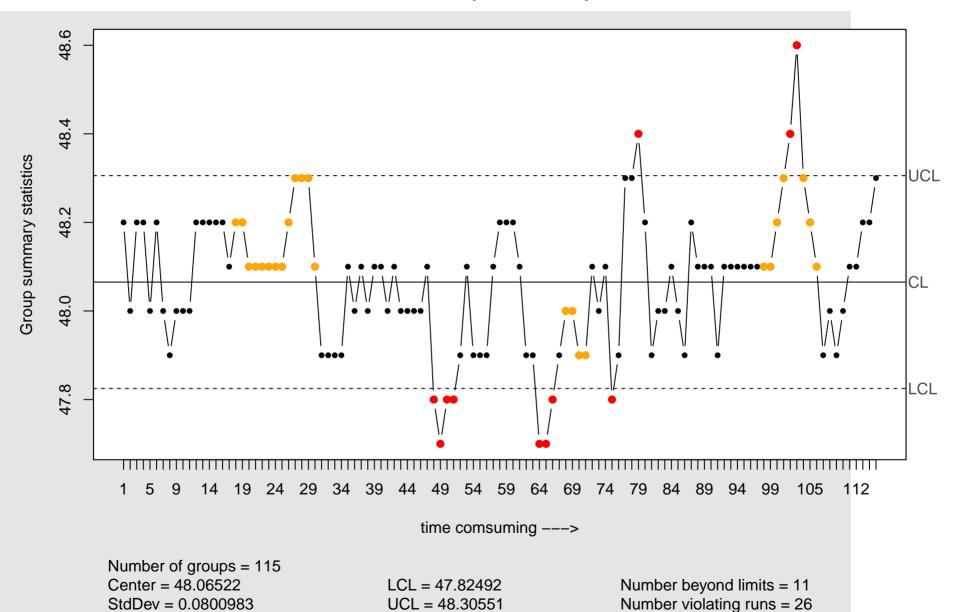


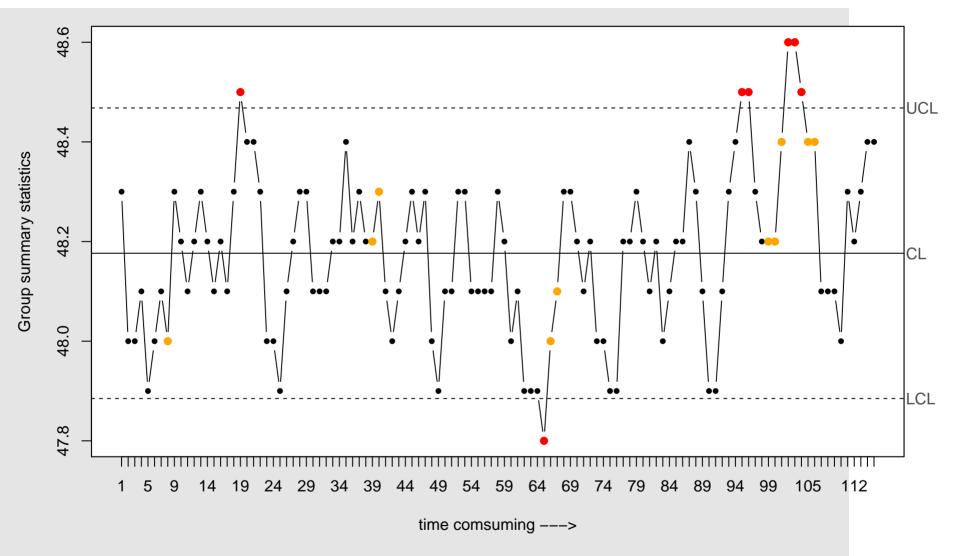


Number of groups = 115 Center = 48.02783 StdDev = 0.0917631

LCL = 47.75254 UCL = 48.30312

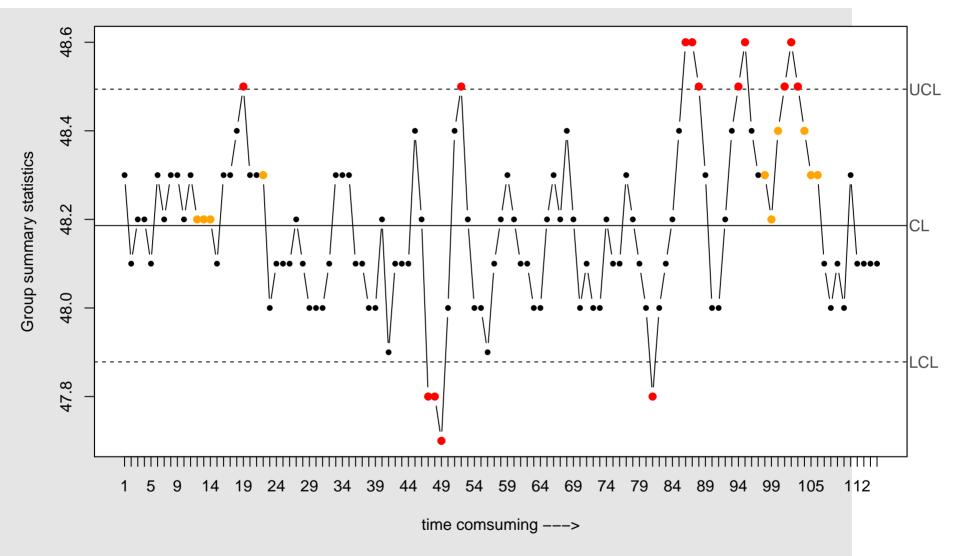
Number beyond limits = 5 Number violating runs = 23





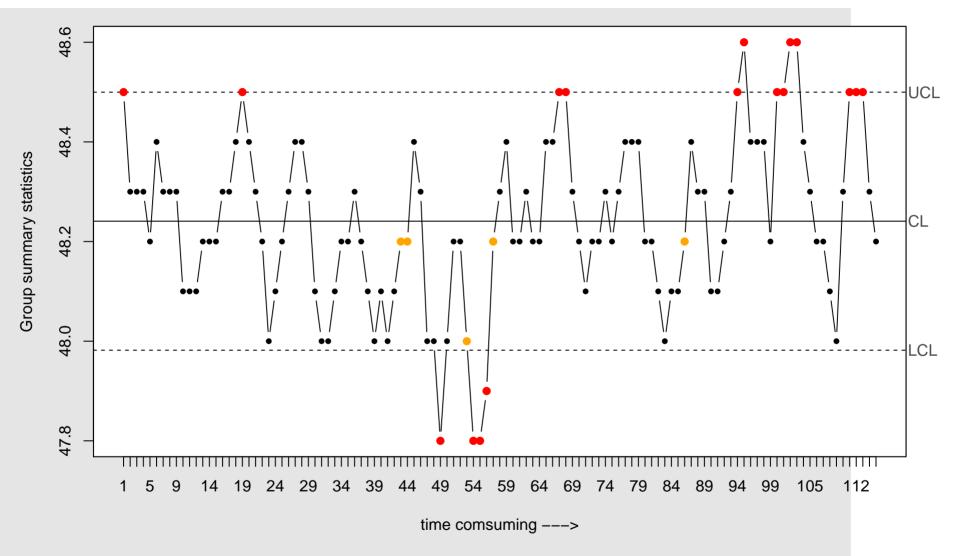
Number of groups = 115 Center = 48.17652 StdDev = 0.09720667

LCL = 47.8849 UCL = 48.46814 Number beyond limits = 7 Number violating runs = 13



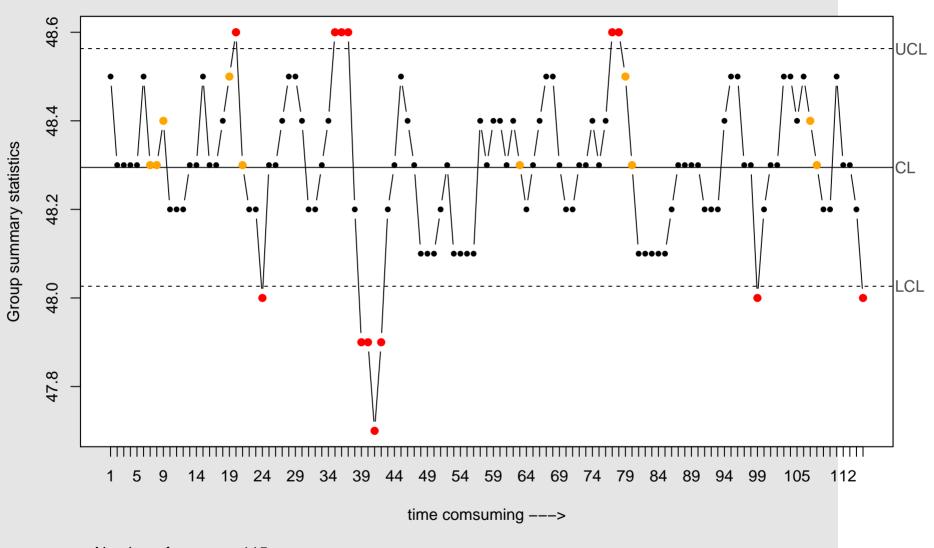
Number of groups = 115 Center = 48.18609 StdDev = 0.1026502

LCL = 47.87814 UCL = 48.49404 Number beyond limits = 14 Number violating runs = 13



Number of groups = 115 Center = 48.24087 StdDev = 0.08631952

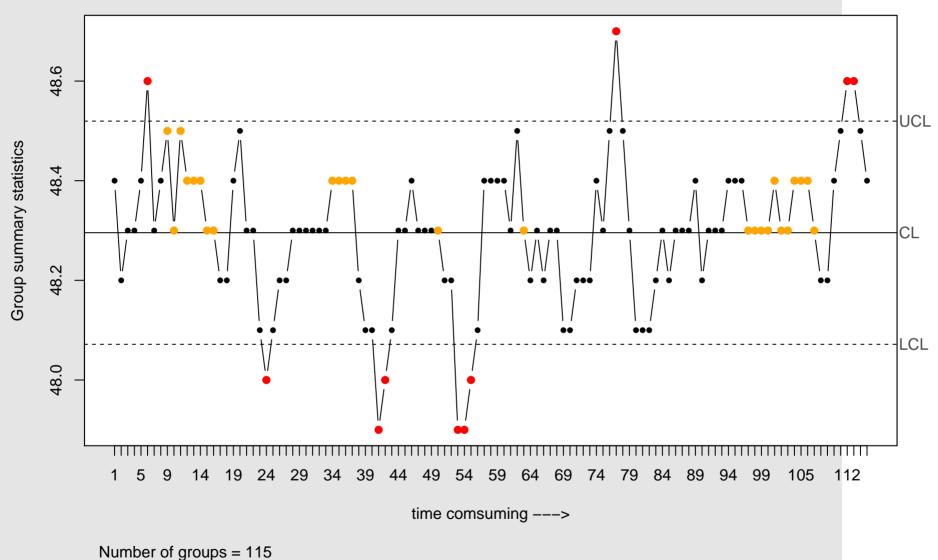
LCL = 47.98191 UCL = 48.49983 Number beyond limits = 17 Number violating runs = 8



Number of groups = 115 Center = 48.29478 StdDev = 0.08943014

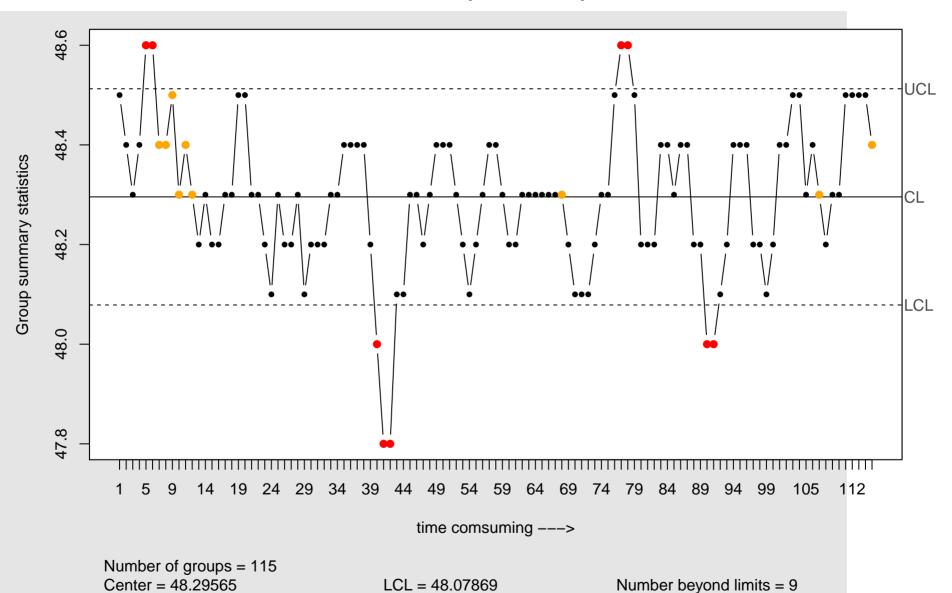
LCL = 48.02649 UCL = 48.56307

Number beyond limits = 13 Number violating runs = 12



Number of groups = 115 Center = 48.29565 StdDev = 0.07465472

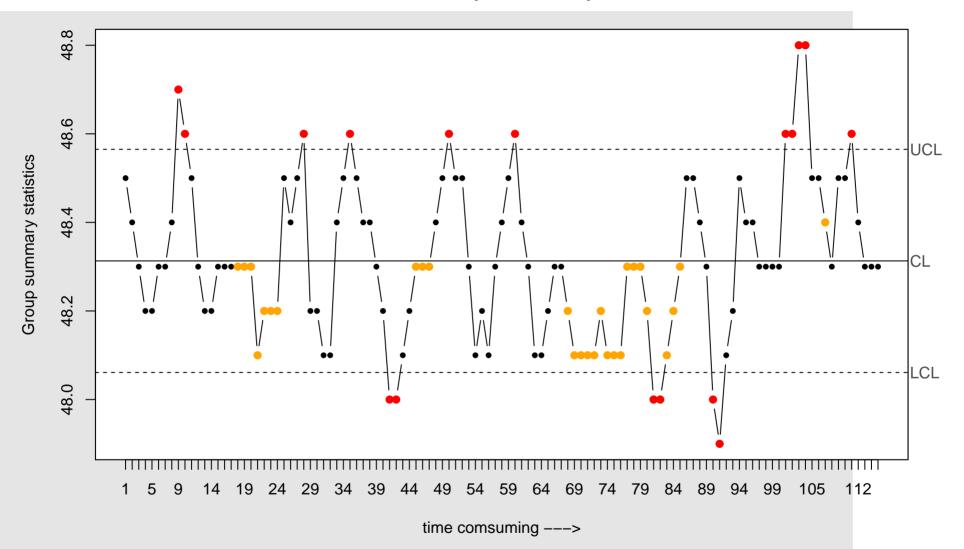
LCL = 48.07169 UCL = 48.51962 Number beyond limits = 10 Number violating runs = 25



UCL = 48.51262

Number violating runs = 9

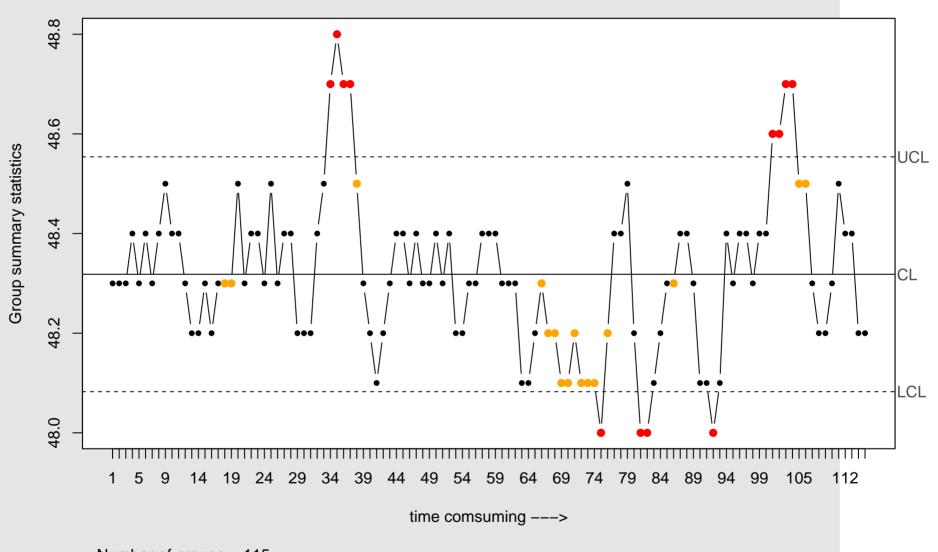
StdDev = 0.07232176



Number of groups = 115 Center = 48.31304 StdDev = 0.08398656

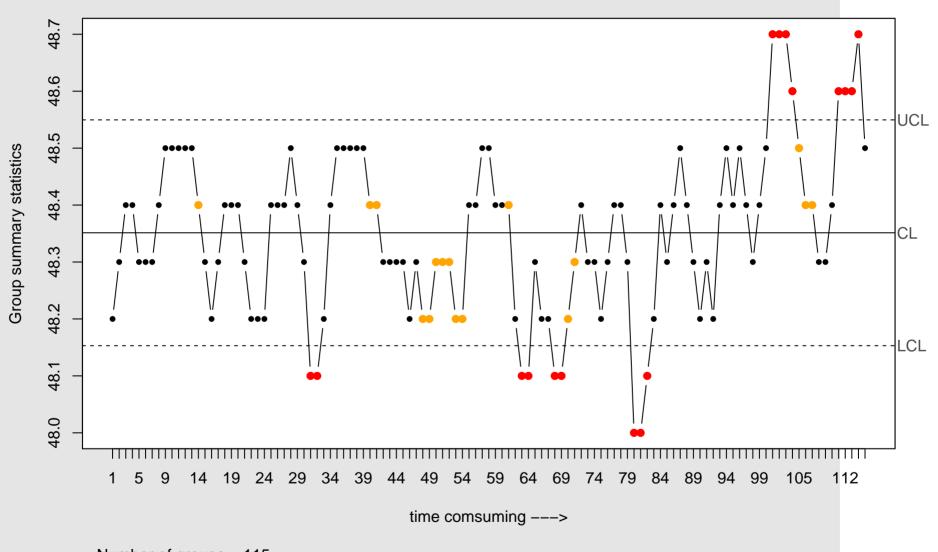
LCL = 48.06108 UCL = 48.565

Number beyond limits = 17 Number violating runs = 29



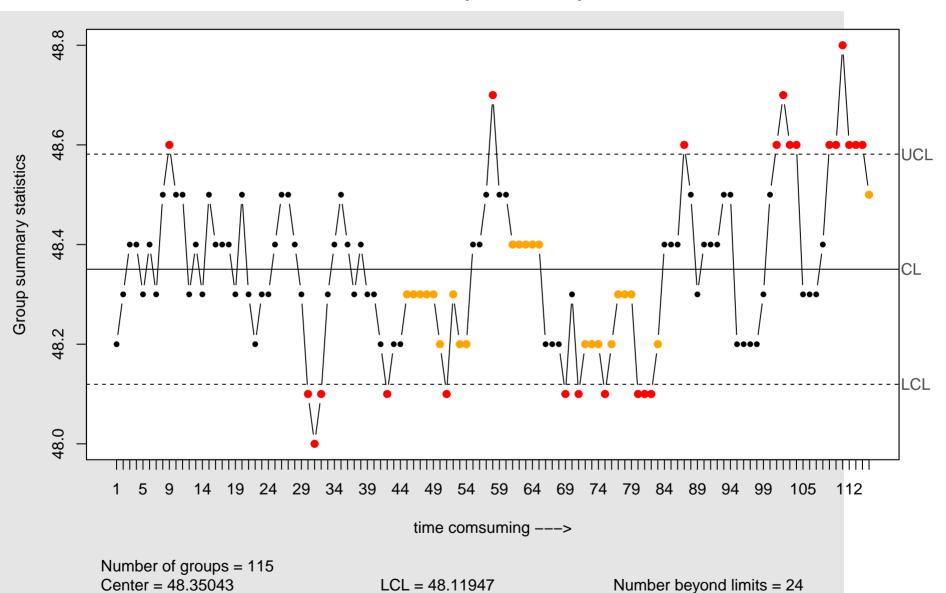
Number of groups = 115 Center = 48.31826 StdDev = 0.07854299

LCL = 48.08263 UCL = 48.55389 Number beyond limits = 12 Number violating runs = 17



Number of groups = 115 Center = 48.3513 StdDev = 0.06610054

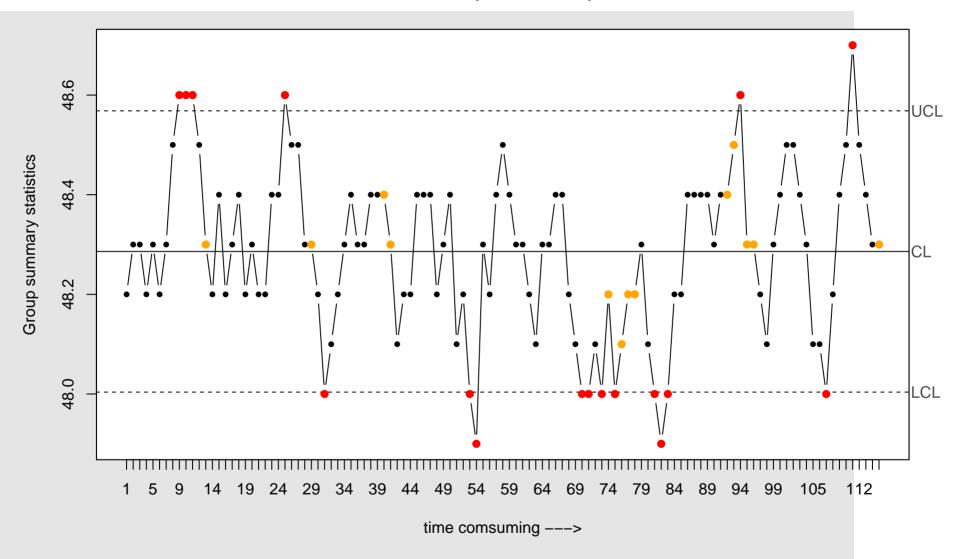
LCL = 48.153 UCL = 48.54961 Number beyond limits = 17 Number violating runs = 18



UCL = 48.5814

Number violating runs = 29

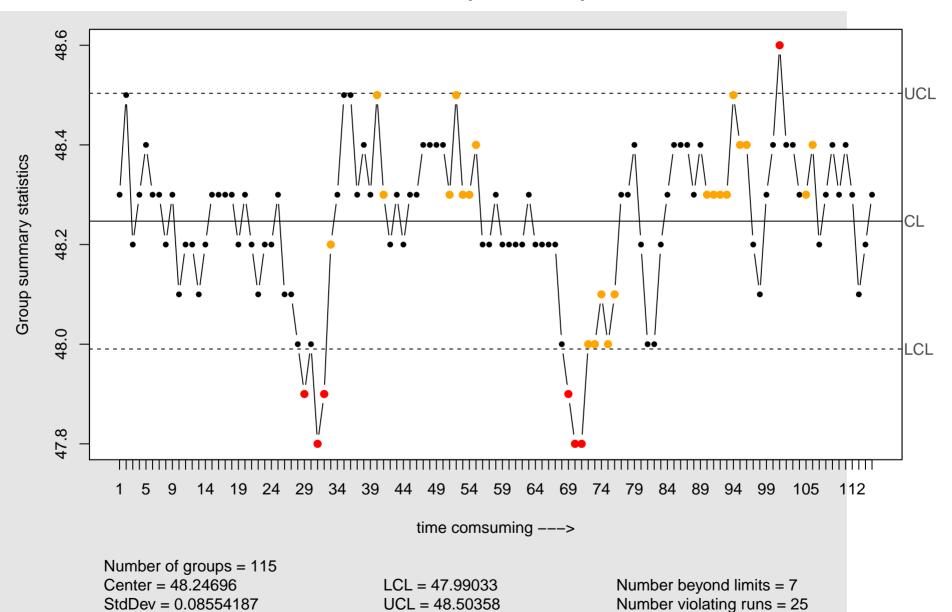
StdDev = 0.07698768

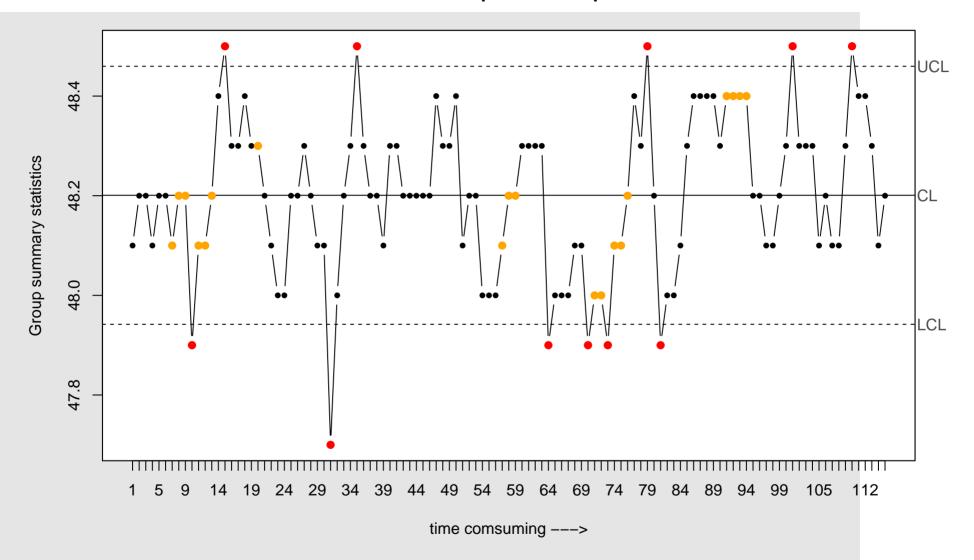


Number of groups = 115 Center = 48.28609 StdDev = 0.09409606

LCL = 48.0038 UCL = 48.56838

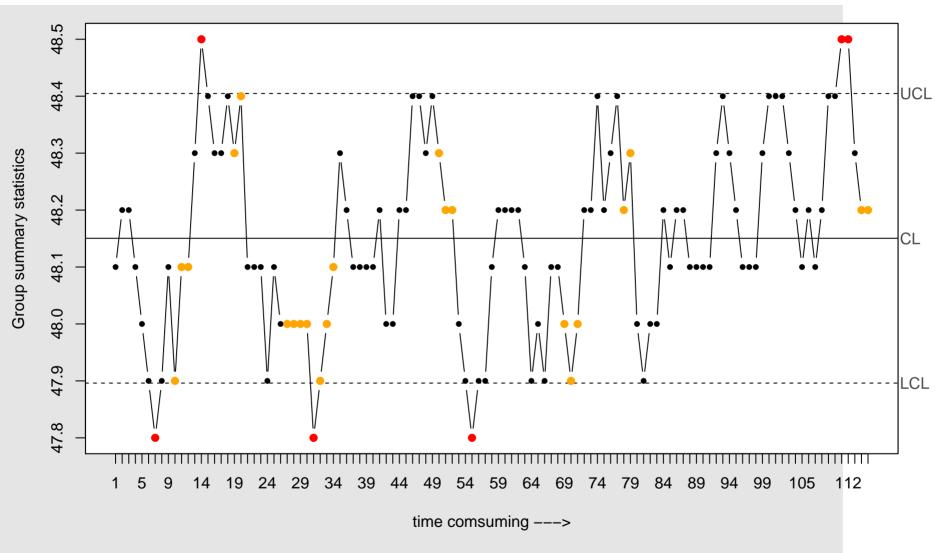
Number beyond limits = 17 Number violating runs = 15





Number of groups = 115 Center = 48.20087 StdDev = 0.08631952

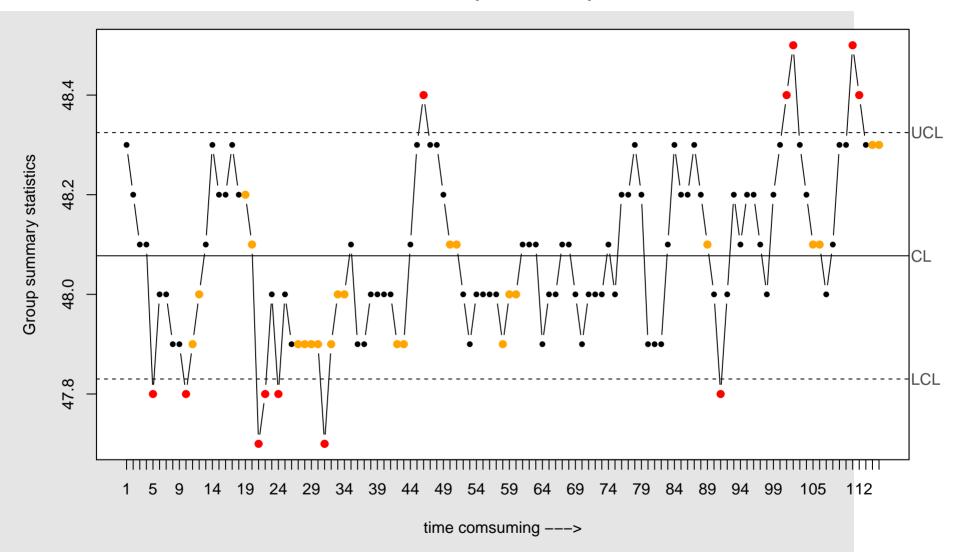
LCL = 47.94191 UCL = 48.45983 Number beyond limits = 11 Number violating runs = 22



Number of groups = 115 Center = 48.15043 StdDev = 0.08476422

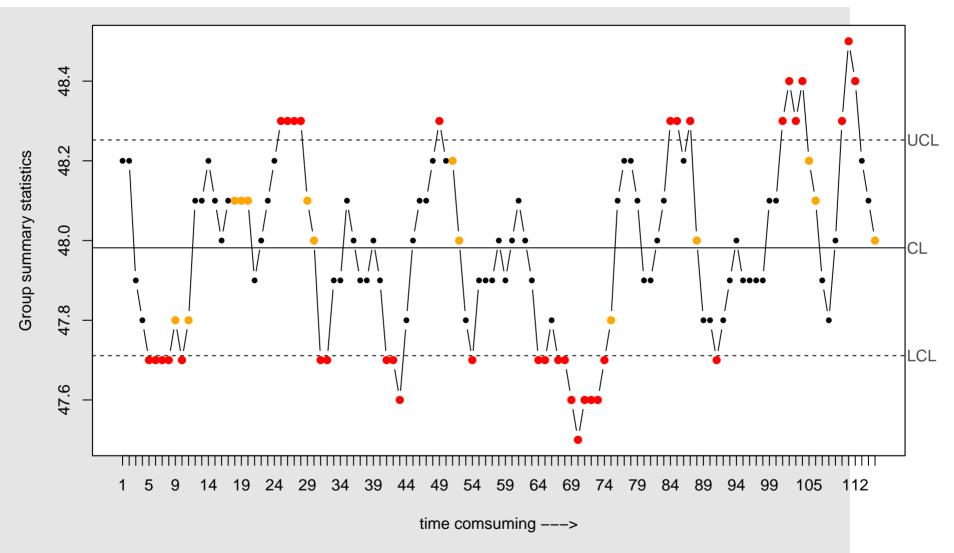
LCL = 47.89614 UCL = 48.40473

Number beyond limits = 6 Number violating runs = 23



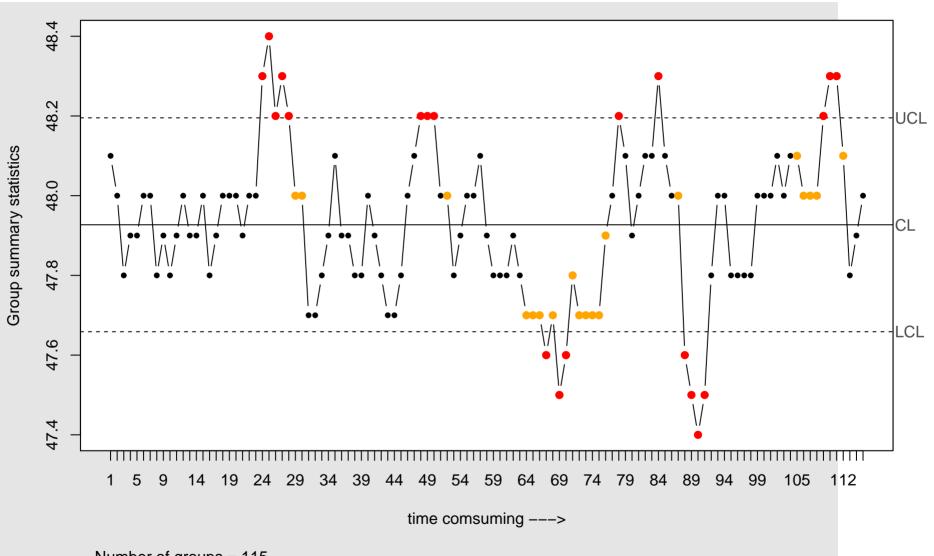
Number of groups = 115 Center = 48.07739 StdDev = 0.08243126

LCL = 47.8301 UCL = 48.32469 Number beyond limits = 12 Number violating runs = 24



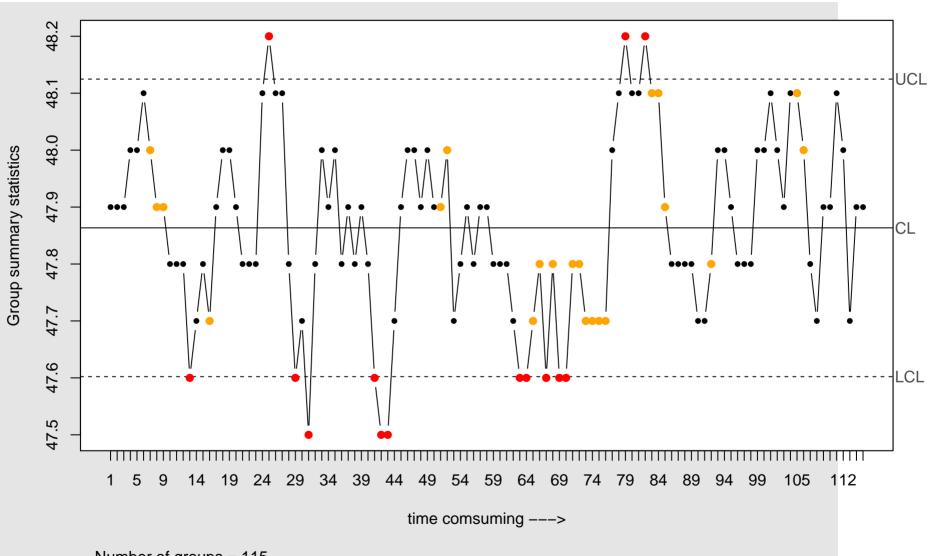
Number of groups = 115 Center = 47.98174 StdDev = 0.09020779

LCL = 47.71112 UCL = 48.25236 Number beyond limits = 37 Number violating runs = 22



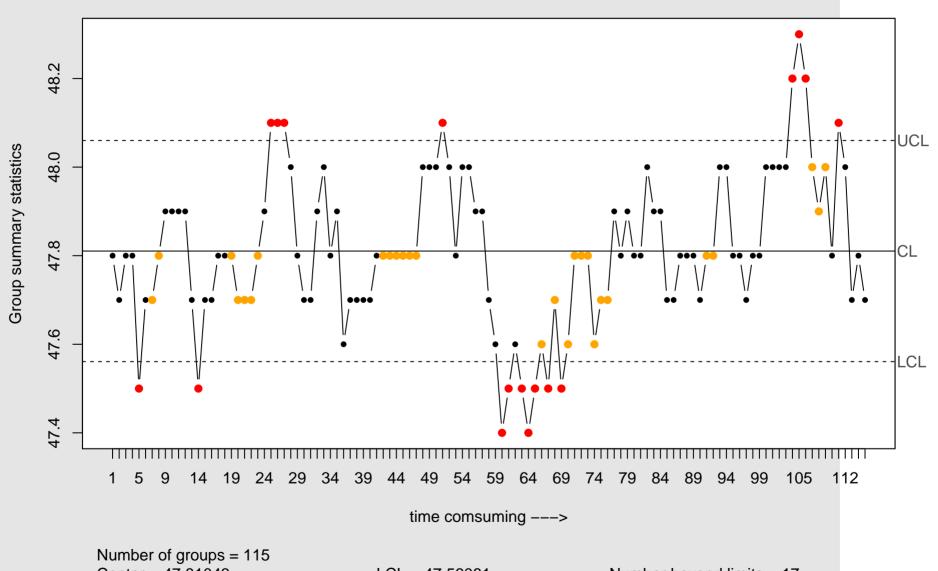
Number of groups = 115 Center = 47.92696 StdDev = 0.08943014

LCL = 47.65867 UCL = 48.19525 Number beyond limits = 20 Number violating runs = 26



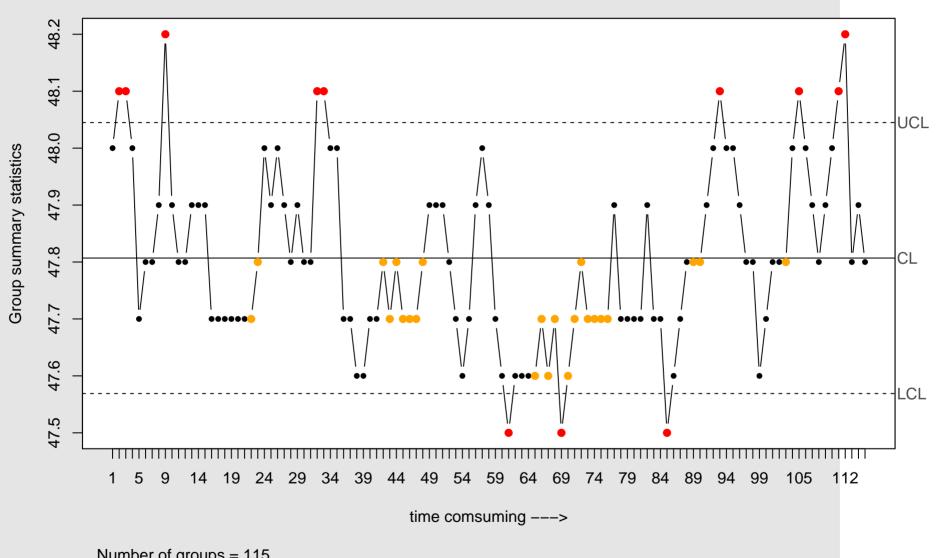
Number of groups = 115 Center = 47.86348 StdDev = 0.08709718

LCL = 47.60219 UCL = 48.12477 Number beyond limits = 14 Number violating runs = 24



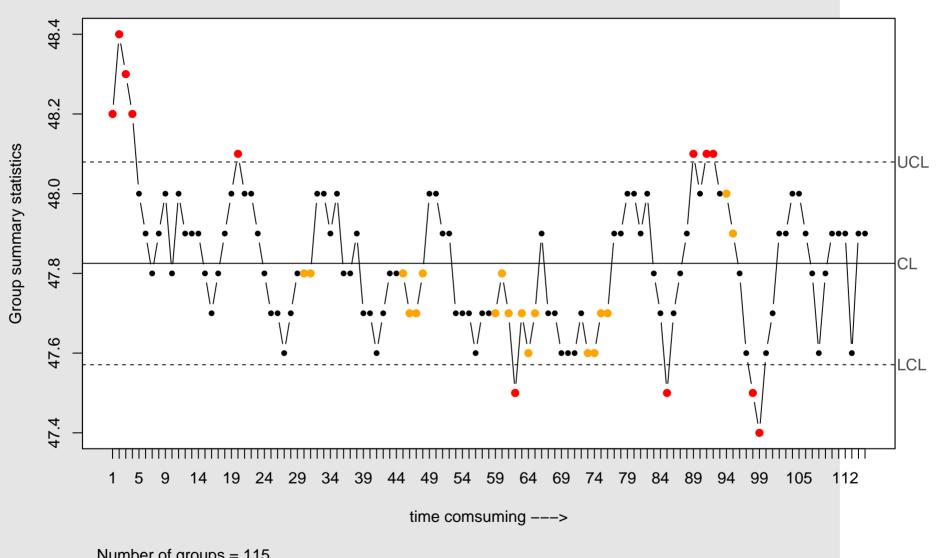
Number of groups = 115 Center = 47.81043 StdDev = 0.08320891

LCL = 47.56081 UCL = 48.06006 Number beyond limits = 17 Number violating runs = 32



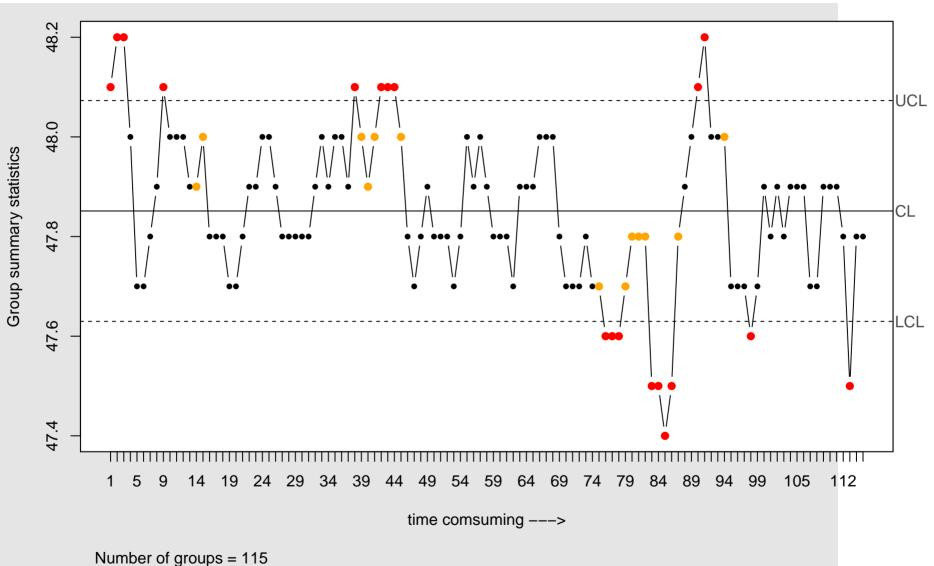
Number of groups = 115 Center = 47.80696 StdDev = 0.07932064

LCL = 47.56899 UCL = 48.04492 Number beyond limits = 12 Number violating runs = 24



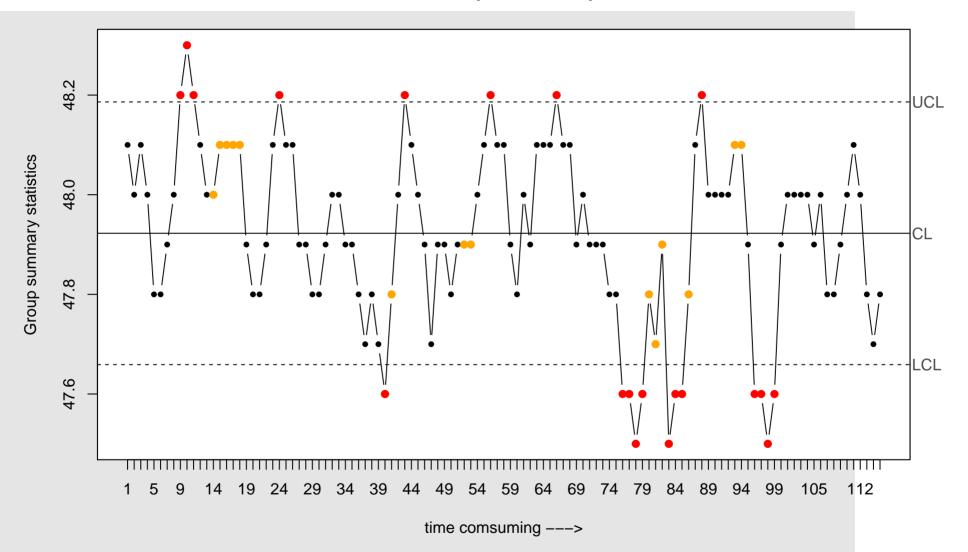
Number of groups = 115 Center = 47.82522 StdDev = 0.08476422

LCL = 47.57092 UCL = 48.07951 Number beyond limits = 12 Number violating runs = 19



Number of groups = 115 Center = 47.8513 StdDev = 0.07387707

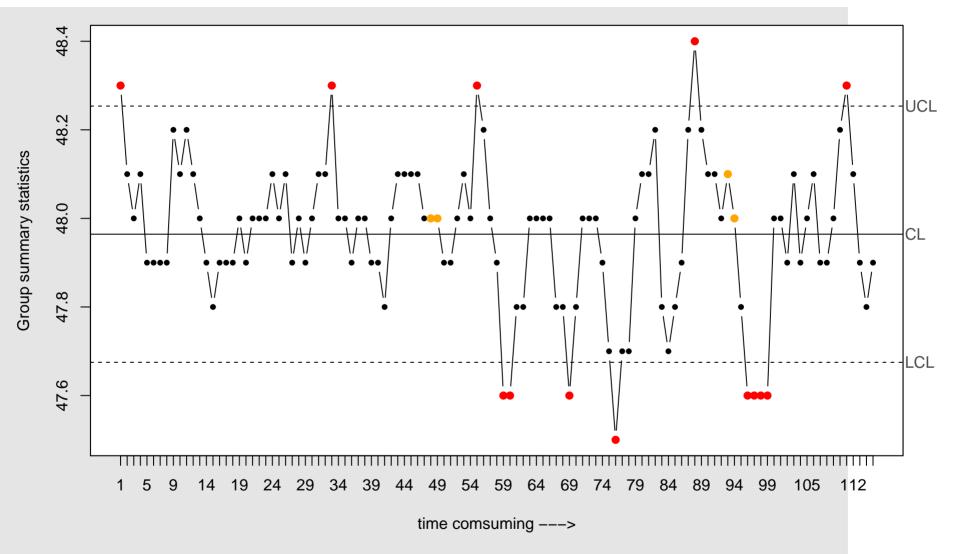
LCL = 47.62967 UCL = 48.07294 Number beyond limits = 19 Number violating runs = 24



Number of groups = 115 Center = 47.92261

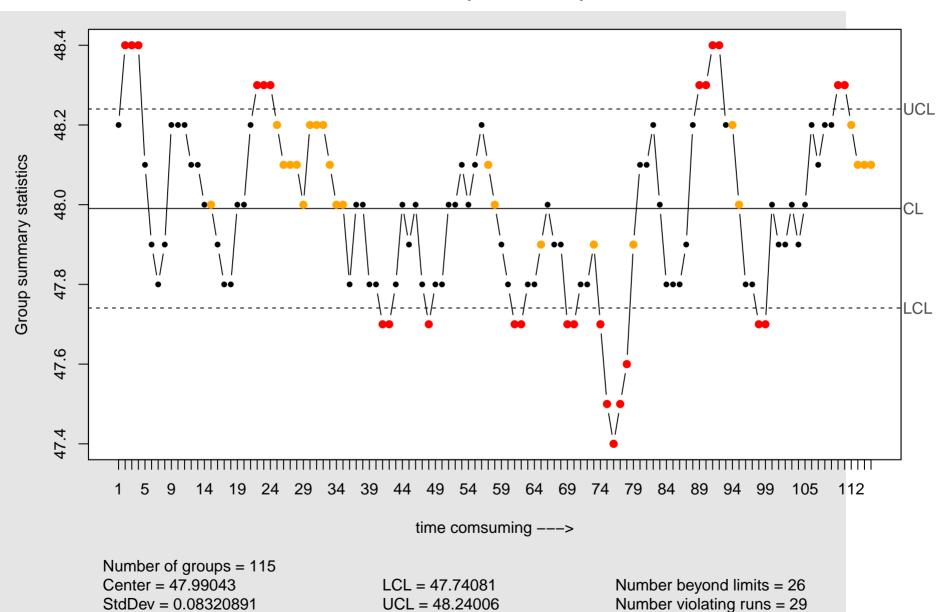
StdDev = 0.08787483

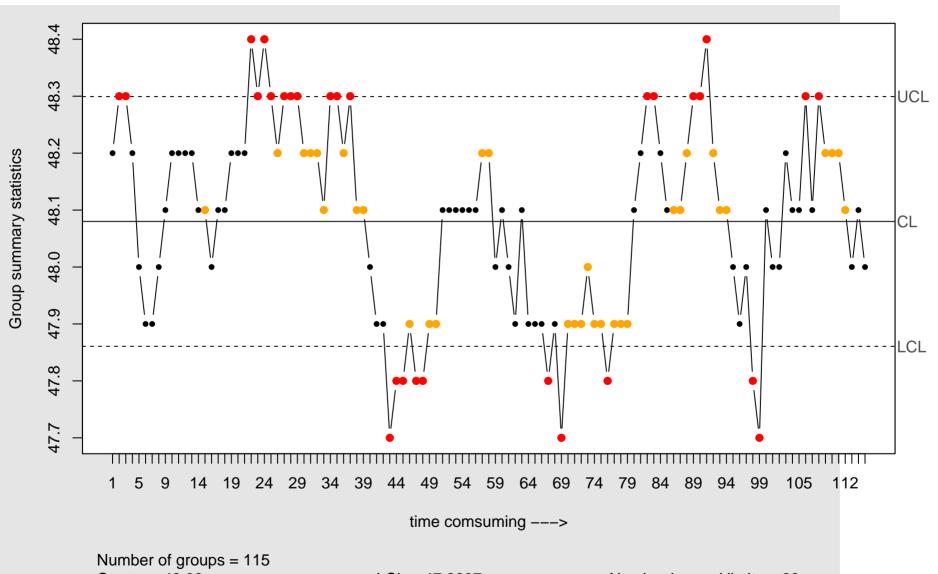
LCL = 47.65898 UCL = 48.18623 Number beyond limits = 20 Number violating runs = 21



Number of groups = 115 Center = 47.96435 StdDev = 0.09642902

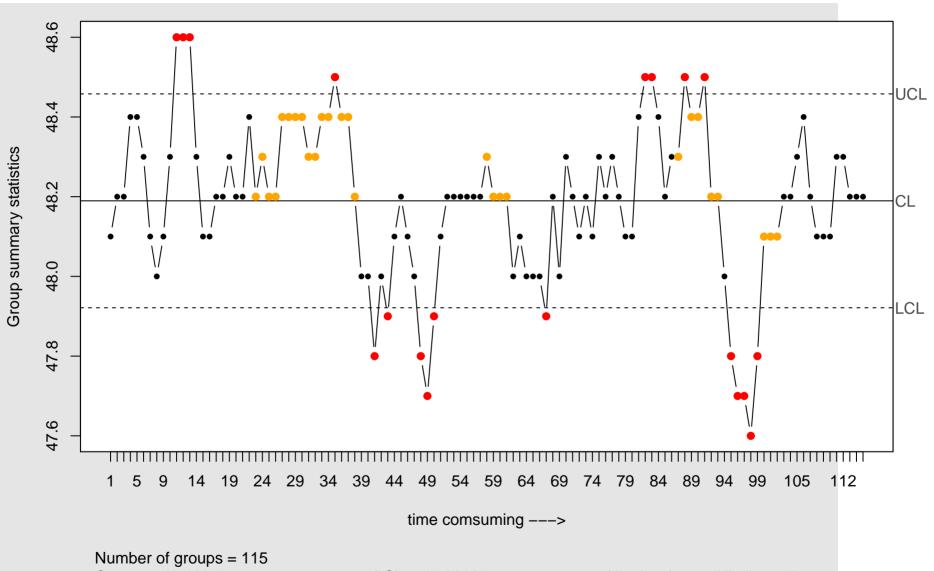
LCL = 47.67506 UCL = 48.25363 Number beyond limits = 13 Number violating runs = 4





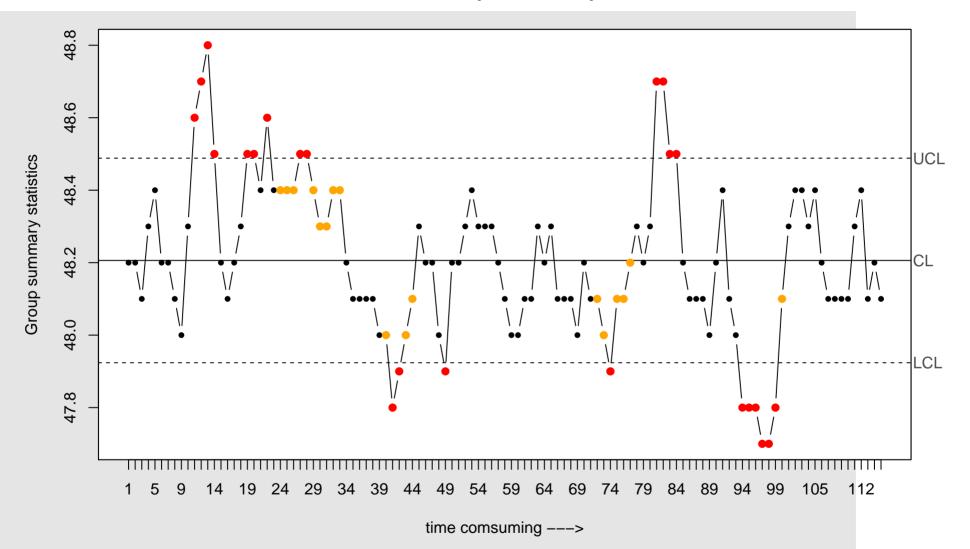
Number of groups = 115 Center = 48.08 StdDev = 0.07309942

LCL = 47.8607 UCL = 48.2993 Number beyond limits = 29 Number violating runs = 48



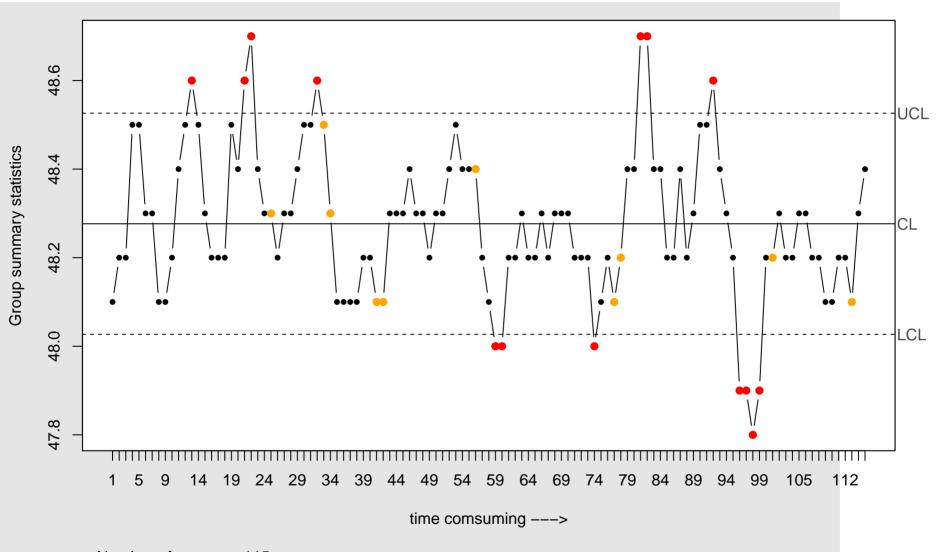
Number of groups = 115 Center = 48.18957 StdDev = 0.08943014

LCL = 47.92127 UCL = 48.45786 Number beyond limits = 19 Number violating runs = 30



Number of groups = 115 Center = 48.20609 StdDev = 0.09409606

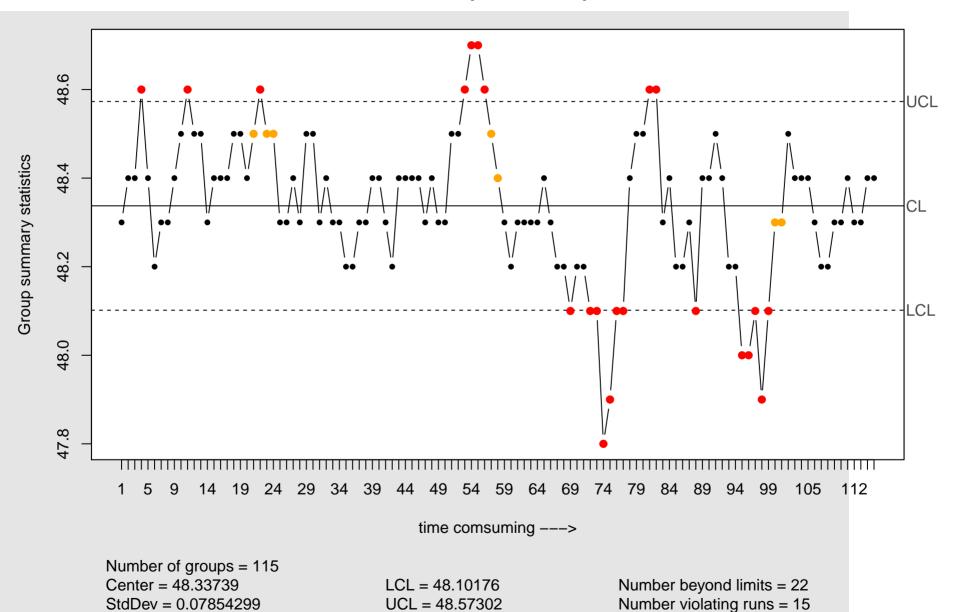
LCL = 47.9238 UCL = 48.48838 Number beyond limits = 23 Number violating runs = 24

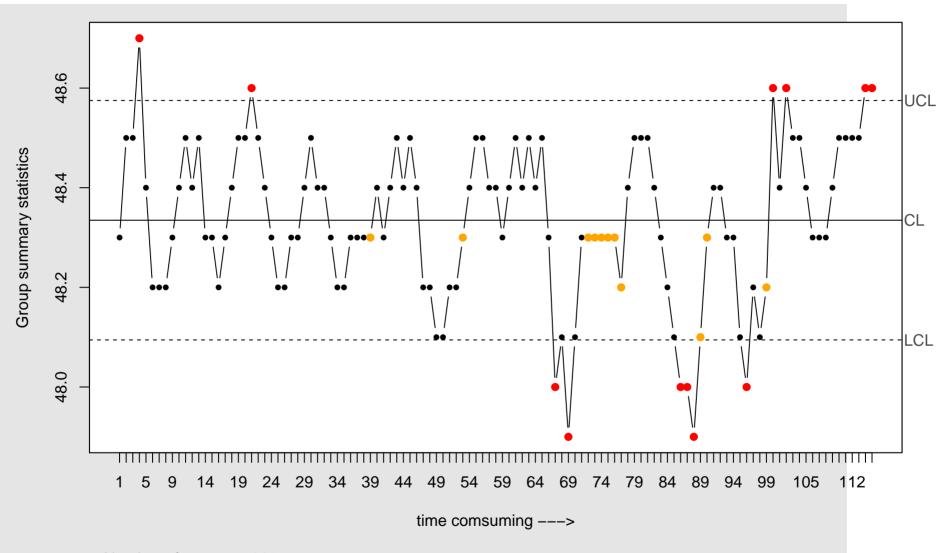


Number of groups = 115 Center = 48.27652 StdDev = 0.08320891

LCL = 48.0269 UCL = 48.52615

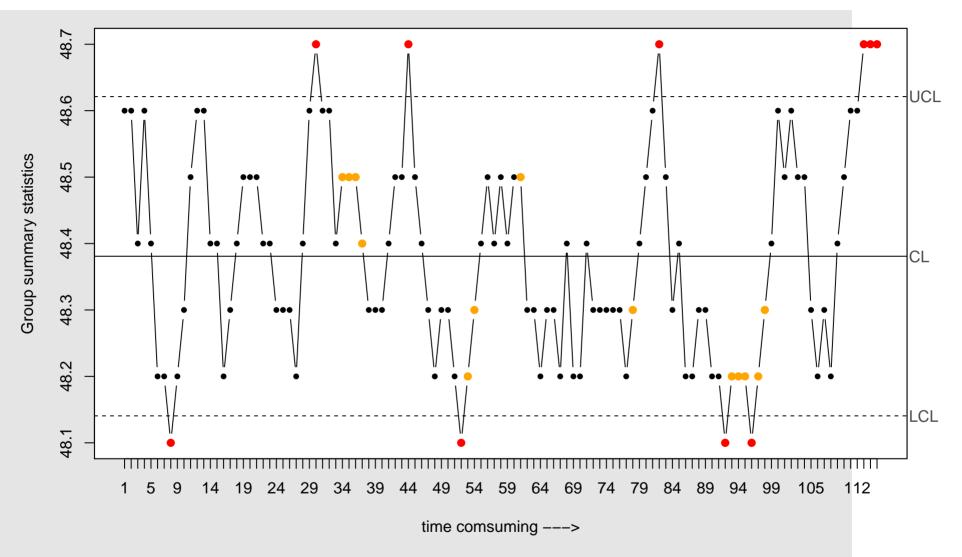
Number beyond limits = 14 Number violating runs = 10





Number of groups = 115 Center = 48.33478 StdDev = 0.0800983

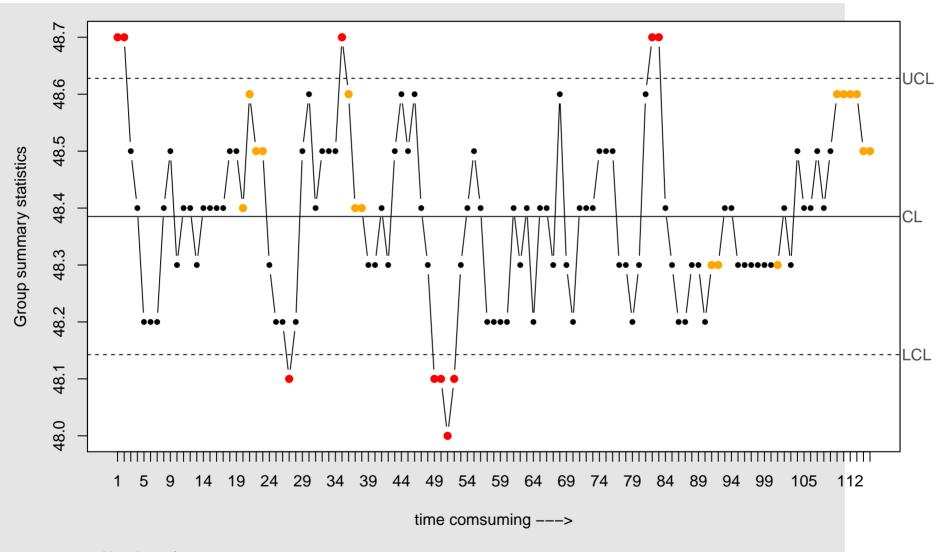
LCL = 48.09449 UCL = 48.57508 Number beyond limits = 12 Number violating runs = 12



Number of groups = 115 Center = 48.38087 StdDev = 0.0800983

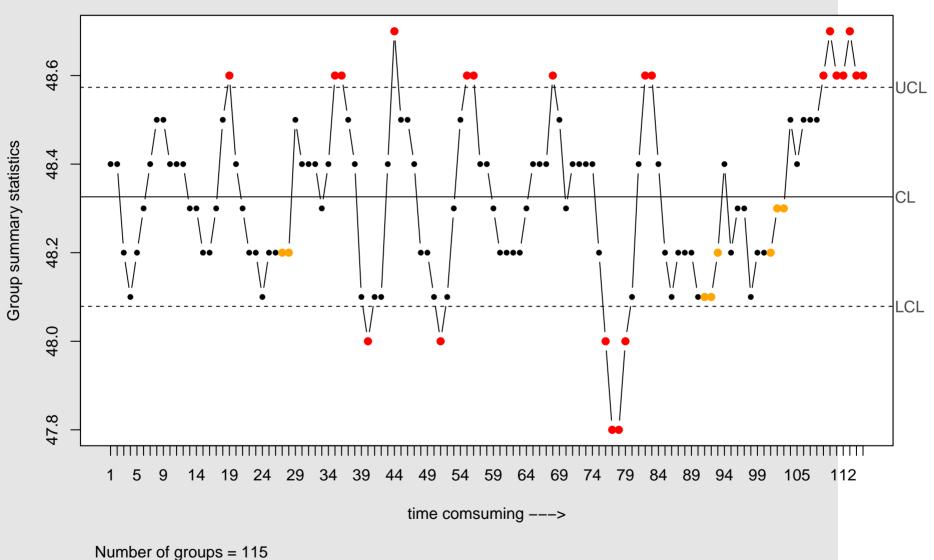
LCL = 48.14057 UCL = 48.62116

Number beyond limits = 10 Number violating runs = 16



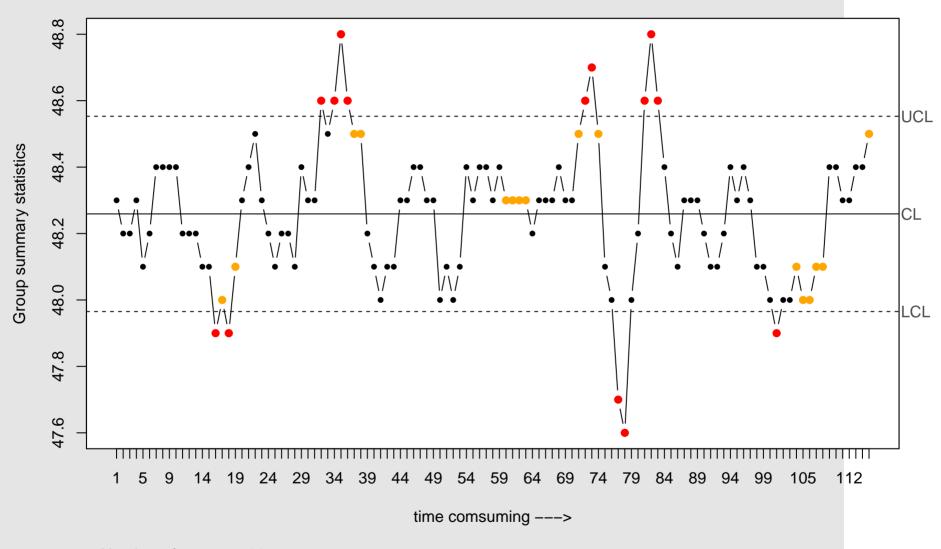
Number of groups = 115 Center = 48.38522 StdDev = 0.08087595

LCL = 48.14259 UCL = 48.62785 Number beyond limits = 10 Number violating runs = 17



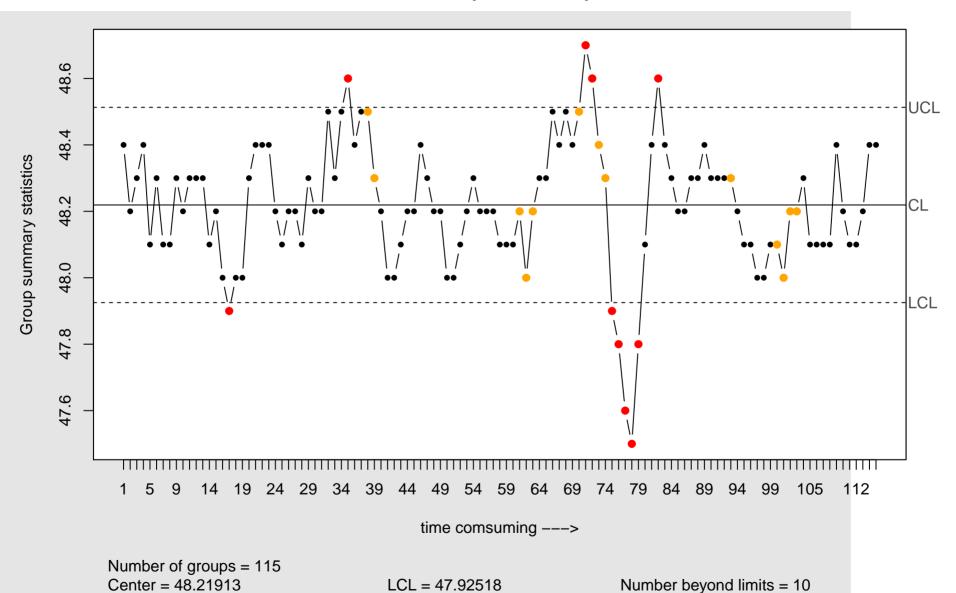
Number of groups = 115 Center = 48.32609 StdDev = 0.08243126

LCL = 48.07879 UCL = 48.57338 Number beyond limits = 22 Number violating runs = 14



Number of groups = 115 Center = 48.25913 StdDev = 0.09798432

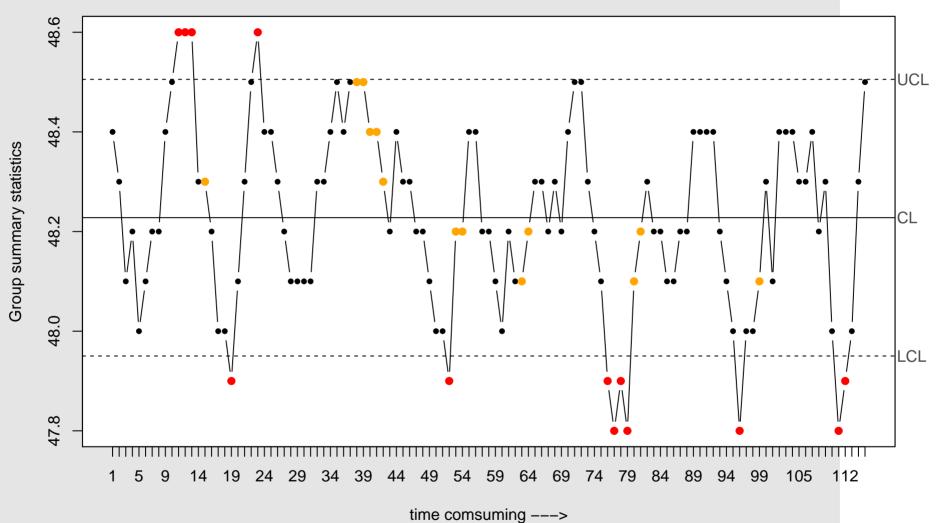
LCL = 47.96518 UCL = 48.55308 Number beyond limits = 14 Number violating runs = 21



UCL = 48.51308

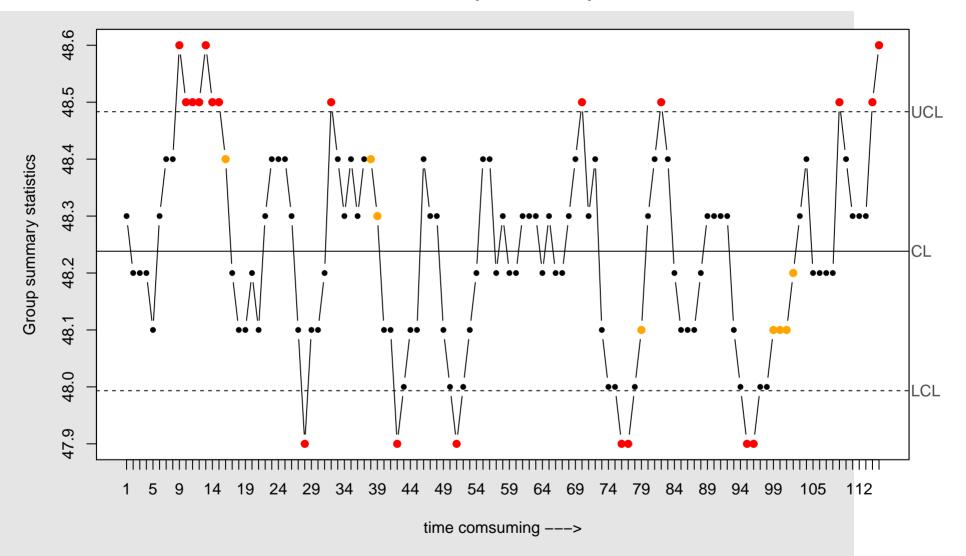
Number violating runs = 15

StdDev = 0.09798432



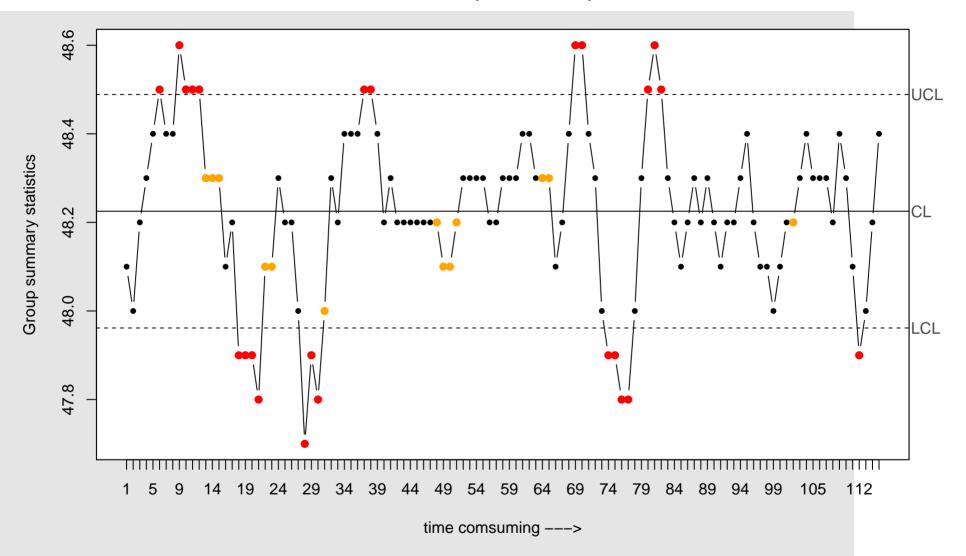
Number of groups = 115 Center = 48.22783StdDev = 0.09254075

LCL = 47.9502UCL = 48.50545 Number beyond limits = 13 Number violating runs = 13



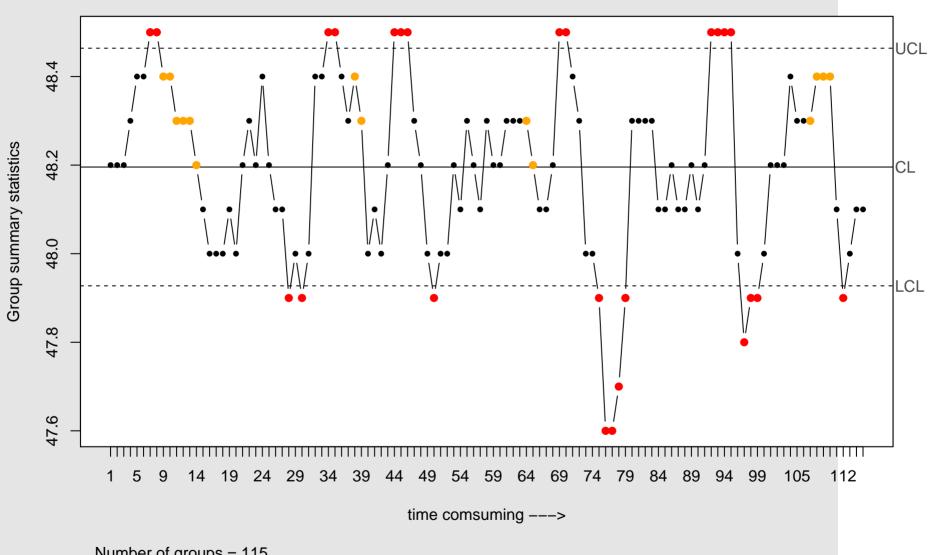
Number of groups = 115 Center = 48.23826 StdDev = 0.0816536

LCL = 47.9933 UCL = 48.48322 Number beyond limits = 20 Number violating runs = 13



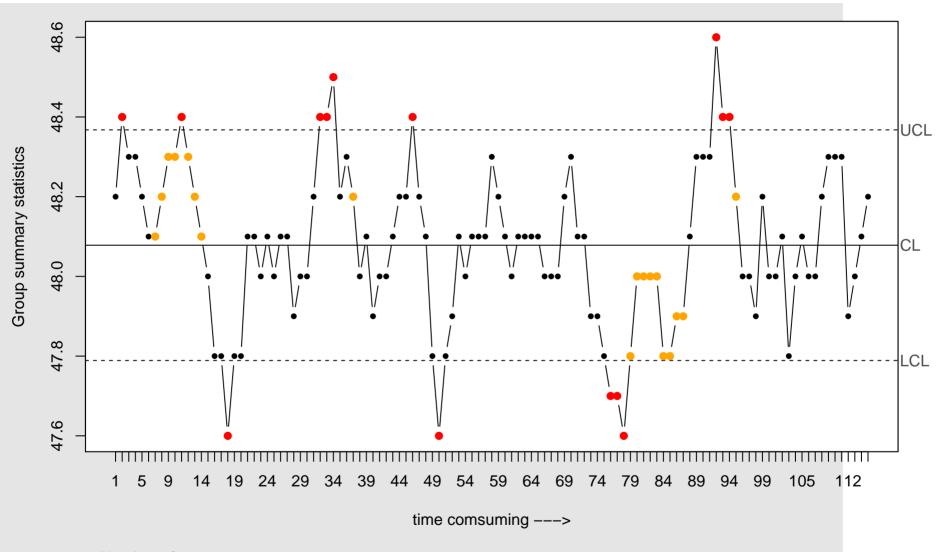
Number of groups = 115 Center = 48.22522 StdDev = 0.08787483

LCL = 47.96159 UCL = 48.48884 Number beyond limits = 24 Number violating runs = 16



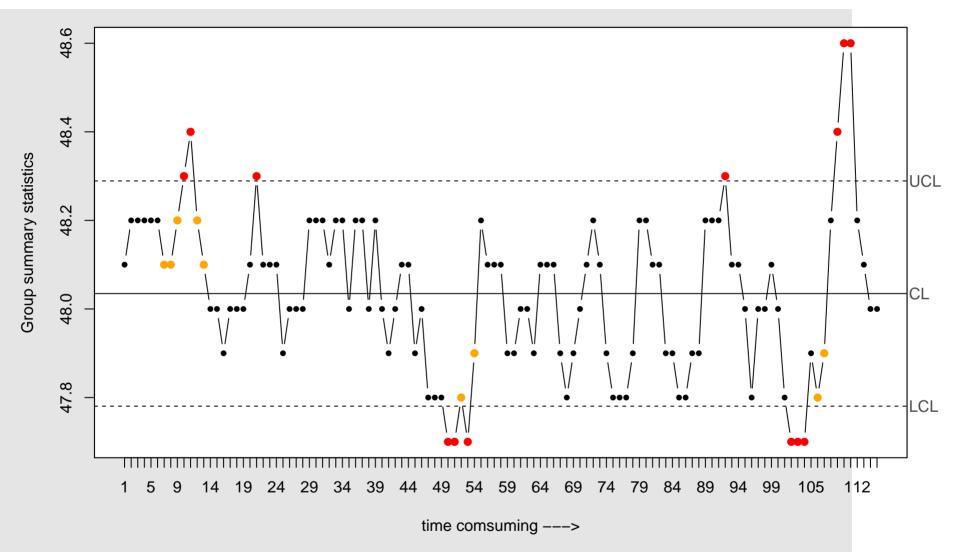
Number of groups = 115 Center = 48.19565 StdDev = 0.08943014

LCL = 47.92736 UCL = 48.46394 Number beyond limits = 25 Number violating runs = 17



Number of groups = 115 Center = 48.07826 StdDev = 0.09642902

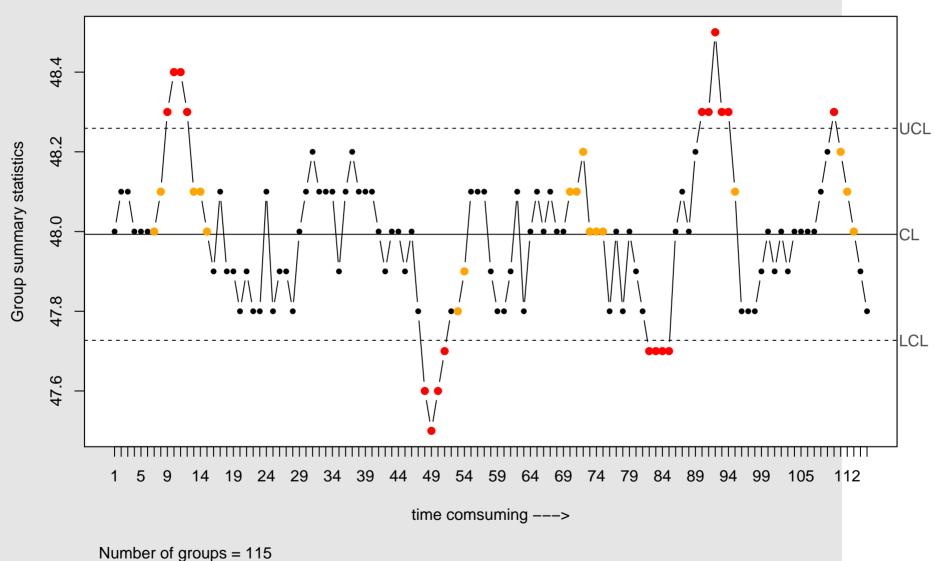
LCL = 47.78897 UCL = 48.36755 Number beyond limits = 14 Number violating runs = 20



Number of groups = 115 Center = 48.03478

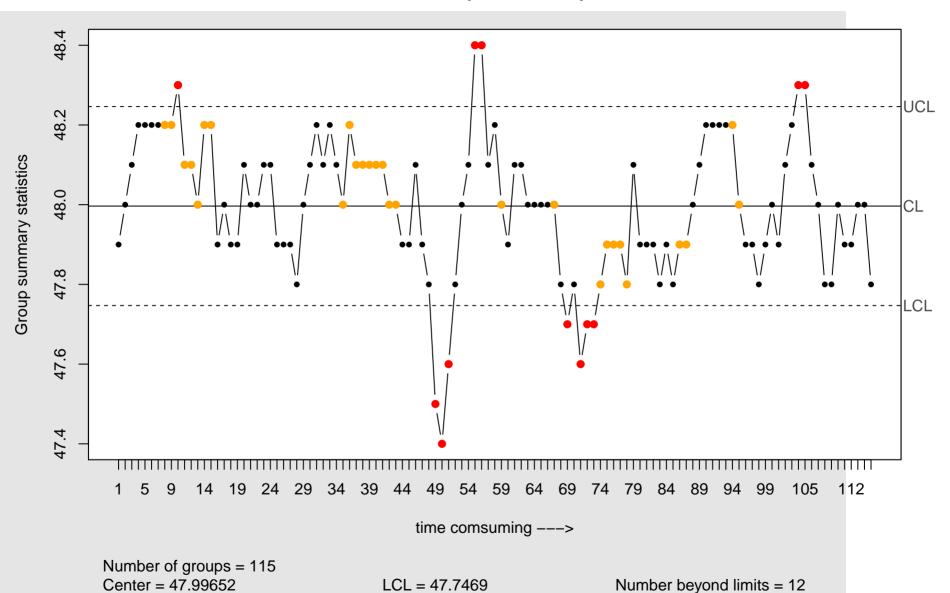
StdDev = 0.08476422

LCL = 47.78049 UCL = 48.28908 Number beyond limits = 13 Number violating runs = 13



Number of groups = 115 Center = 47.99304 StdDev = 0.08865248

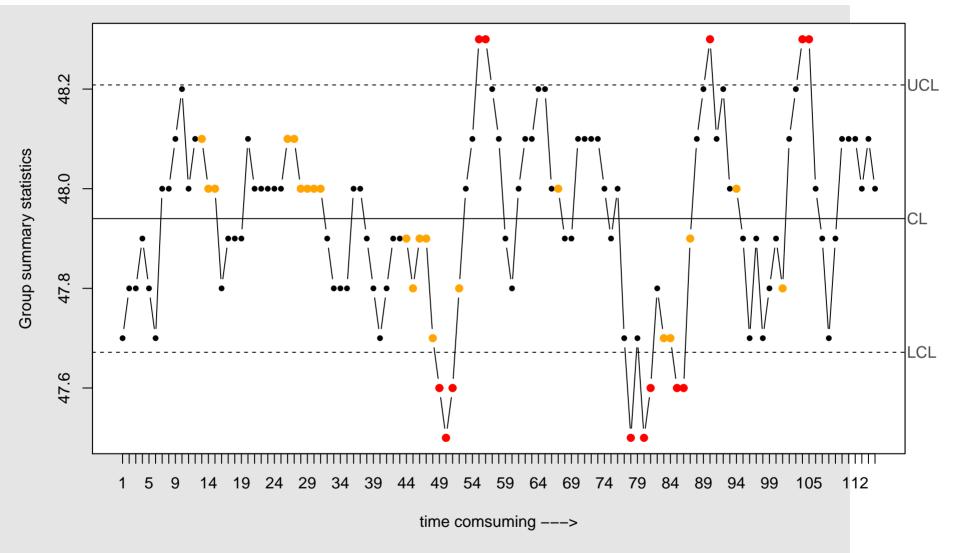
LCL = 47.72709 UCL = 48.259 Number beyond limits = 18 Number violating runs = 25



UCL = 48.24615

Number violating runs = 28

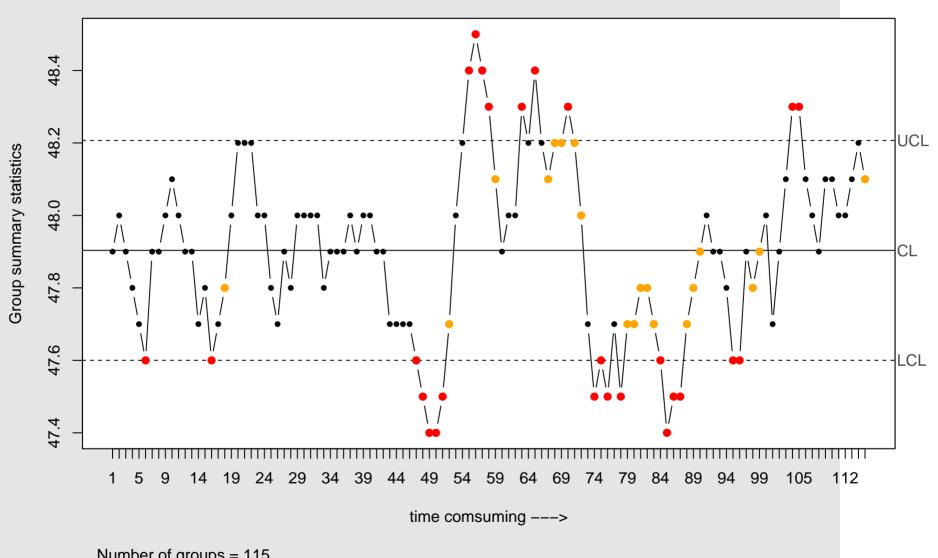
StdDev = 0.08320891



Number of groups = 115 Center = 47.94 StdDev = 0.08943014

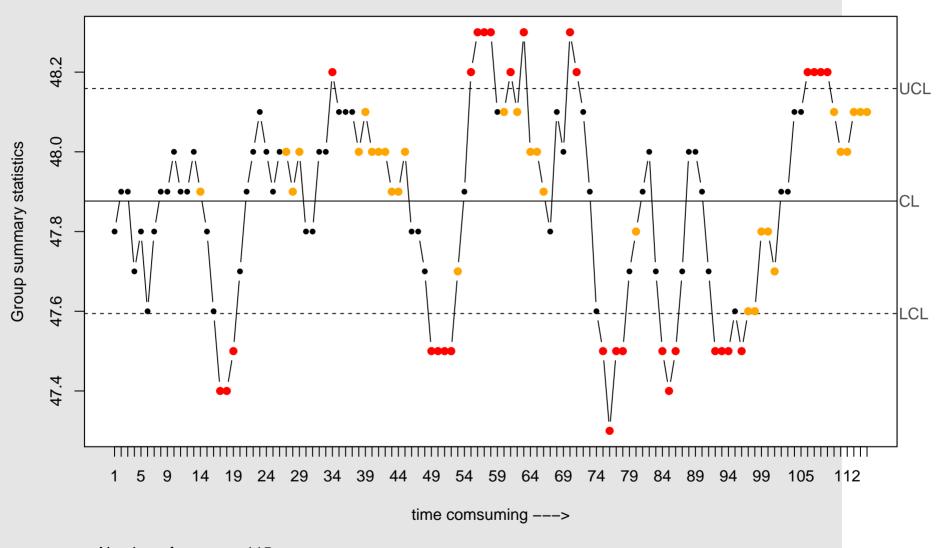
LCL = 47.67171 UCL = 48.20829

Number beyond limits = 13 Number violating runs = 26



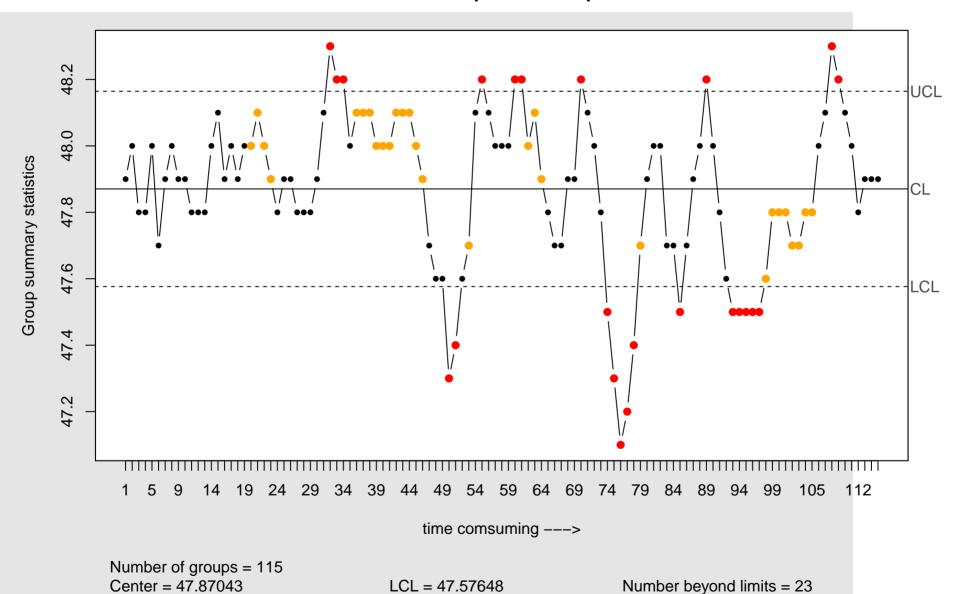
Number of groups = 115 Center = 47.90348 StdDev = 0.1010949

LCL = 47.60019 UCL = 48.20676 Number beyond limits = 26 Number violating runs = 29



Number of groups = 115 Center = 47.87652 StdDev = 0.09409606

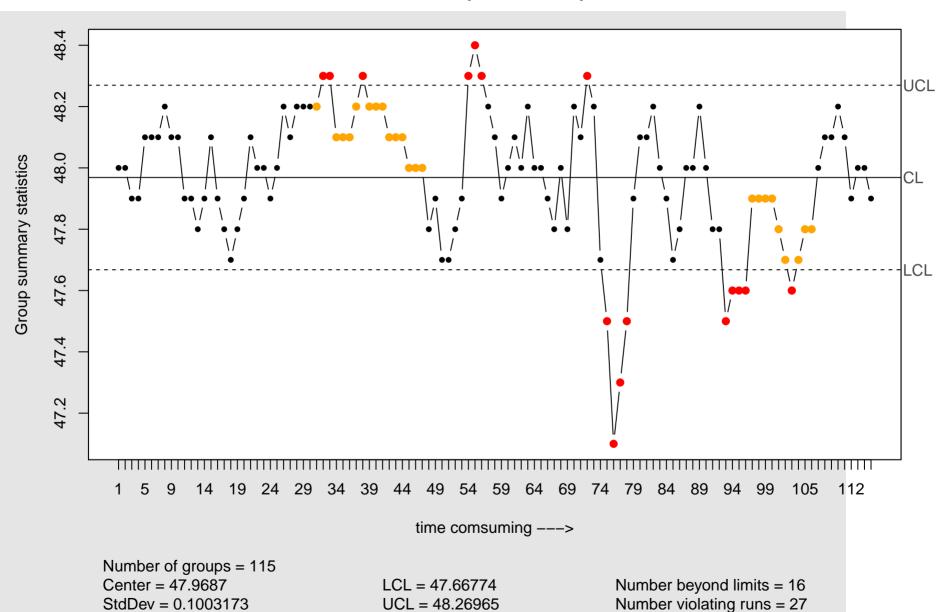
LCL = 47.59423 UCL = 48.15881 Number beyond limits = 31 Number violating runs = 35

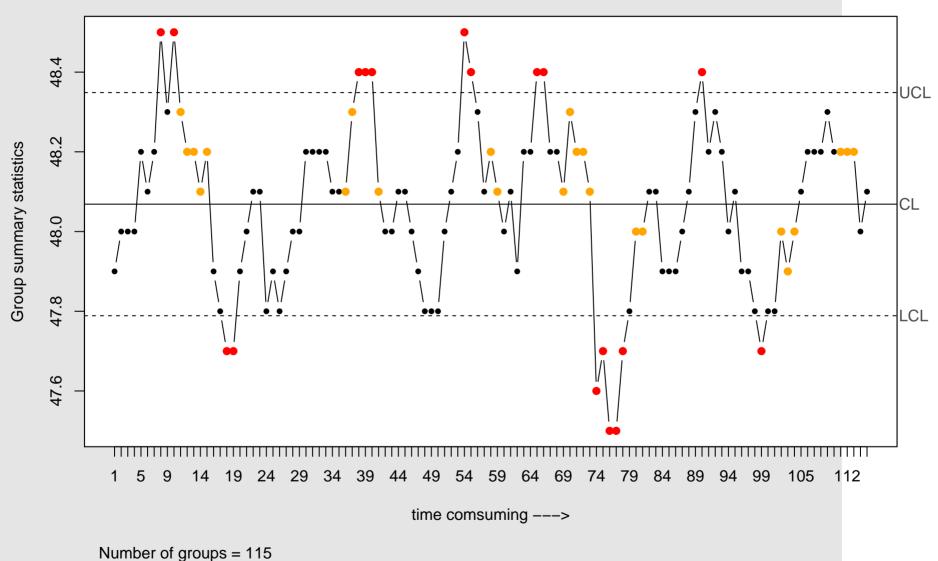


UCL = 48.16439

Number violating runs = 31

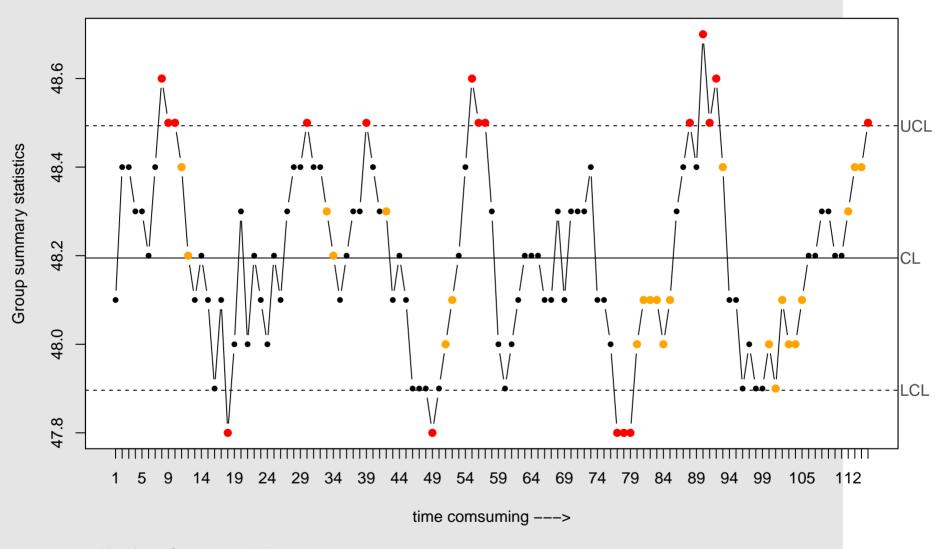
StdDev = 0.09798432





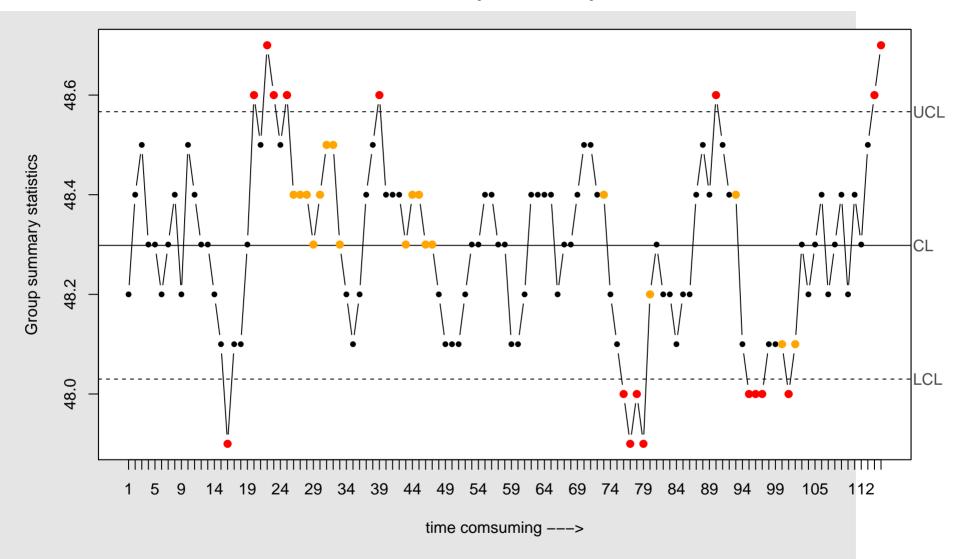
Number of groups = 115 Center = 48.0687 StdDev = 0.0933184

LCL = 47.78874 UCL = 48.34865 Number beyond limits = 18 Number violating runs = 26



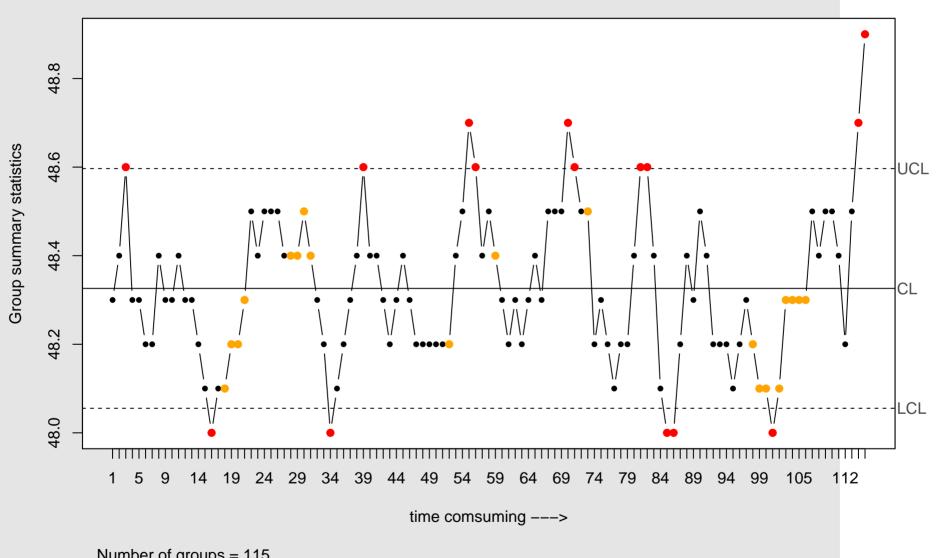
Number of groups = 115 Center = 48.19478 StdDev = 0.09953963

LCL = 47.89616 UCL = 48.4934 Number beyond limits = 18 Number violating runs = 28



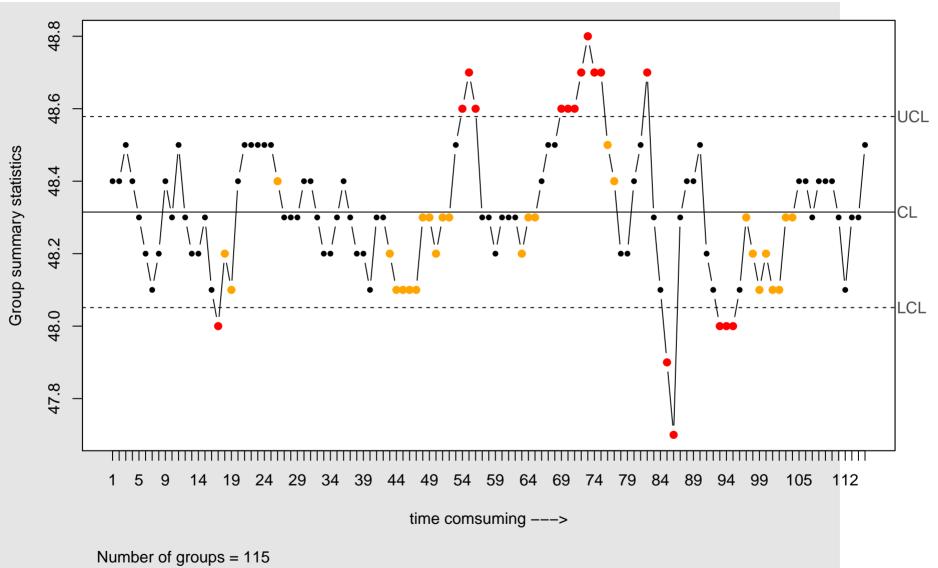
Number of groups = 115 Center = 48.29826 StdDev = 0.08943014

LCL = 48.02997 UCL = 48.56655 Number beyond limits = 17 Number violating runs = 20



Number of groups = 115 Center = 48.32609 StdDev = 0.09020779

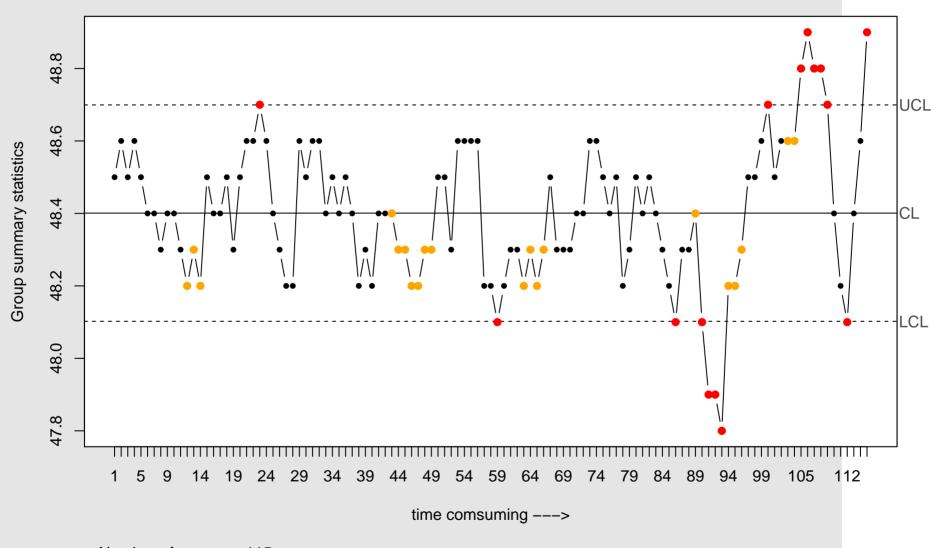
LCL = 48.05546 UCL = 48.59671 Number beyond limits = 15 Number violating runs = 20



Number of groups = 115 Center = 48.31478 StdDev = 0.08787483

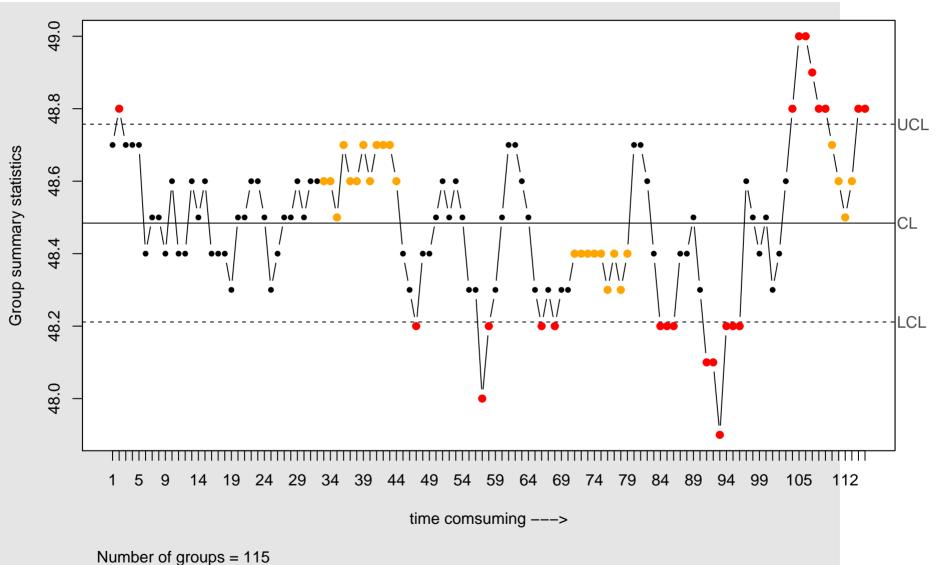
LCL = 48.05116 UCL = 48.57841

Number beyond limits = 17 Number violating runs = 30



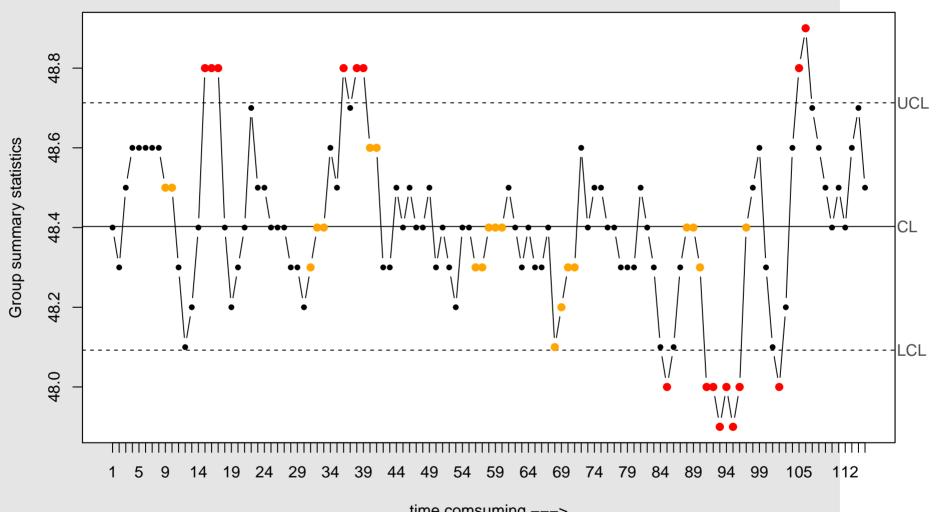
Number of groups = 115 Center = 48.40087 StdDev = 0.09953963

LCL = 48.10225 UCL = 48.69949 Number beyond limits = 15 Number violating runs = 29



Number of groups = 115 Center = 48.48435 StdDev = 0.09098544

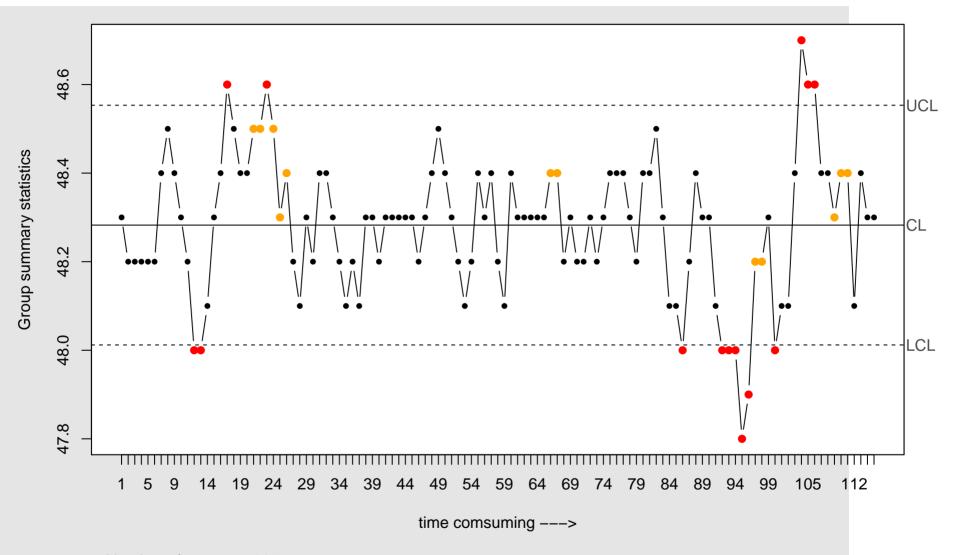
LCL = 48.21139 UCL = 48.7573 Number beyond limits = 23 Number violating runs = 29



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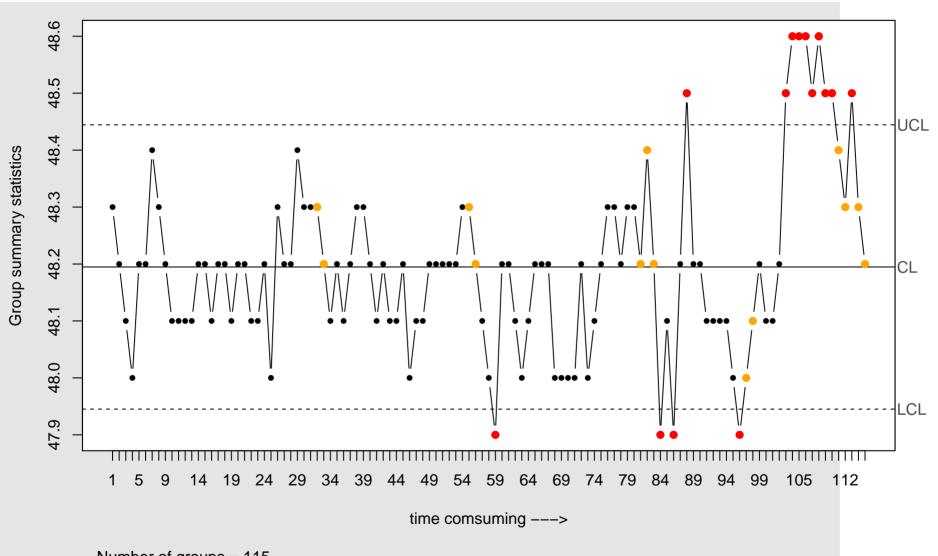
Number of groups = 115 Center = 48.40261StdDev = 0.1034279

LCL = 48.09233UCL = 48.71289 Number beyond limits = 16 Number violating runs = 26



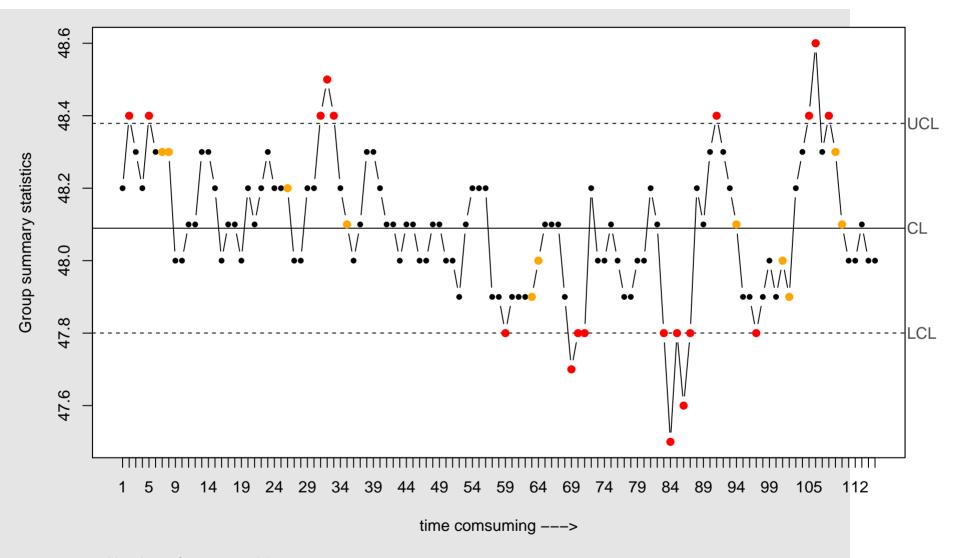
Number of groups = 115 Center = 48.28261 StdDev = 0.09020779

LCL = 48.01199 UCL = 48.55323 Number beyond limits = 14 Number violating runs = 13



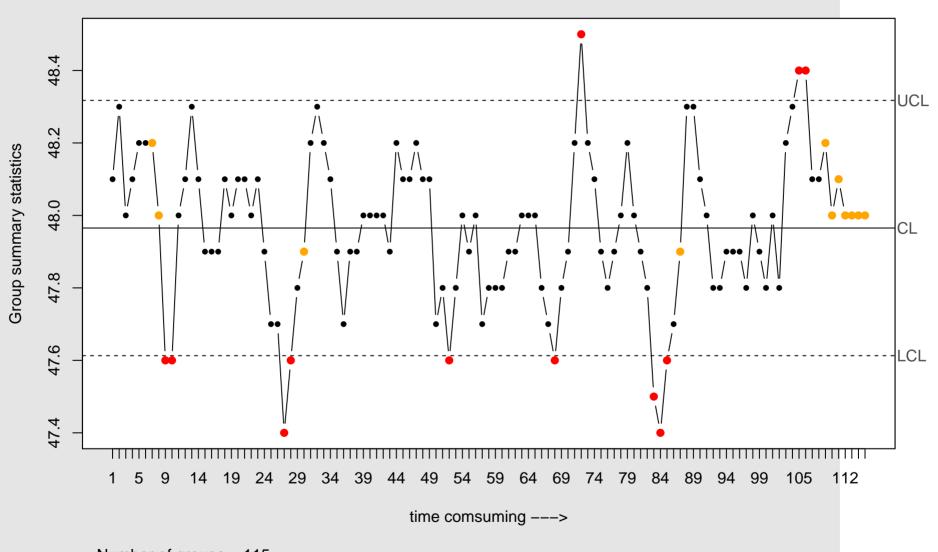
Number of groups = 115 Center = 48.19478 StdDev = 0.08320891

LCL = 47.94516 UCL = 48.44441 Number beyond limits = 14 Number violating runs = 17



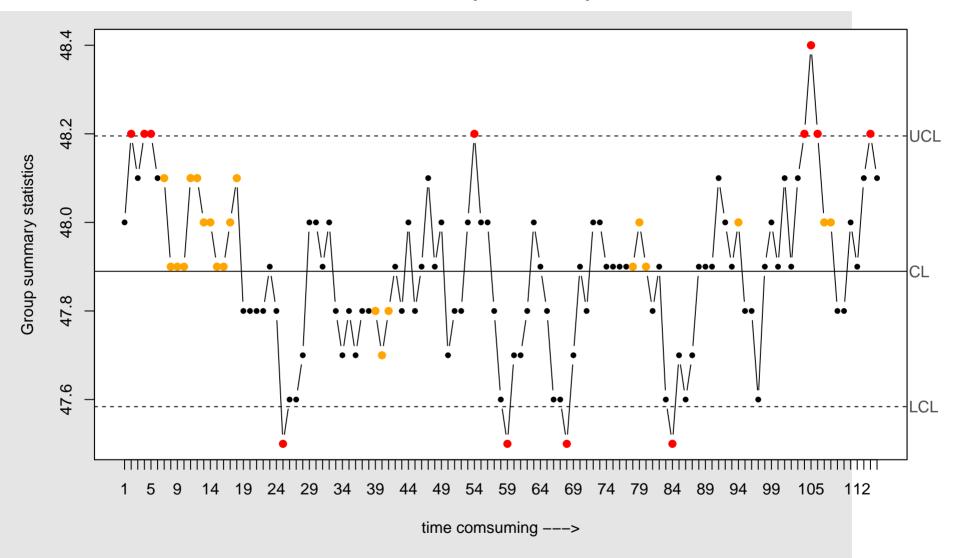
Number of groups = 115 Center = 48.08957 StdDev = 0.09642902

LCL = 47.80028 UCL = 48.37885 Number beyond limits = 19 Number violating runs = 11



Number of groups = 115 Center = 47.96522 StdDev = 0.1174257

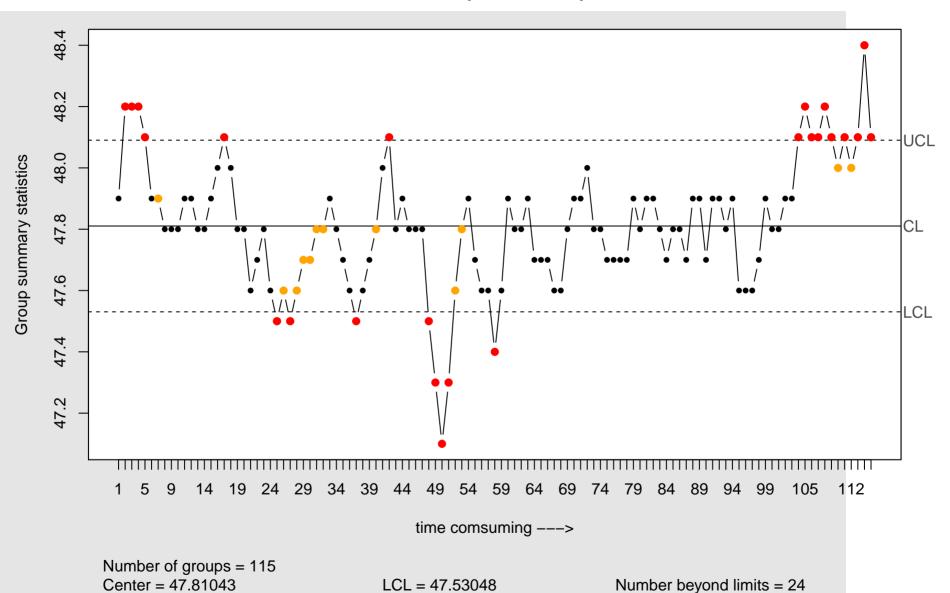
LCL = 47.61294 UCL = 48.31749 Number beyond limits = 12 Number violating runs = 11



Number of groups = 115 Center = 47.88957 StdDev = 0.1018726

LCL = 47.58395 UCL = 48.19518

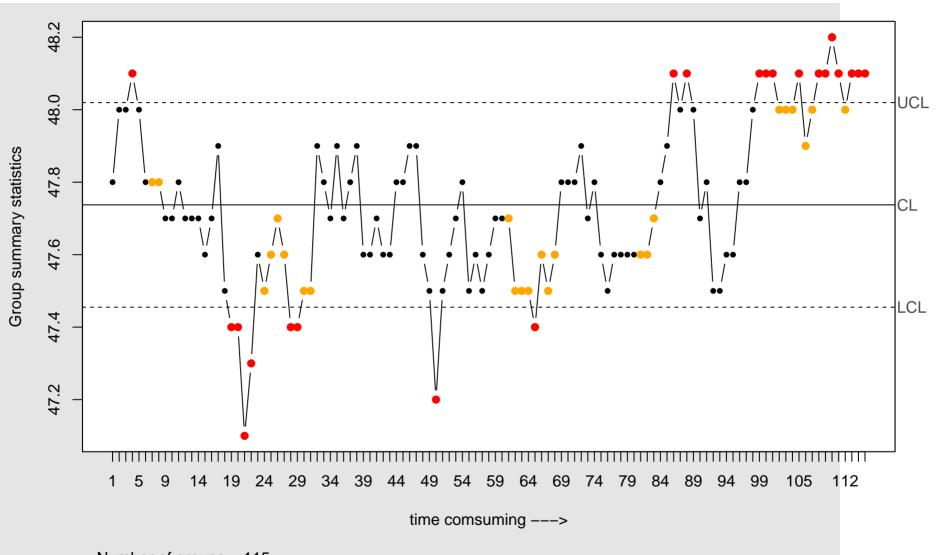
Number beyond limits = 12 Number violating runs = 24



UCL = 48.09039

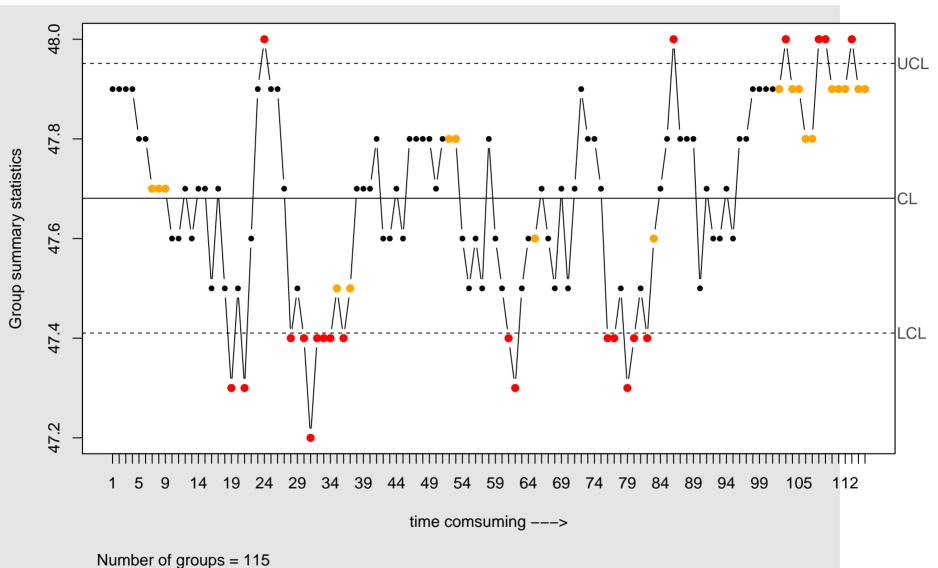
Number violating runs = 21

StdDev = 0.0933184



Number of groups = 115 Center = 47.73739 StdDev = 0.09409606

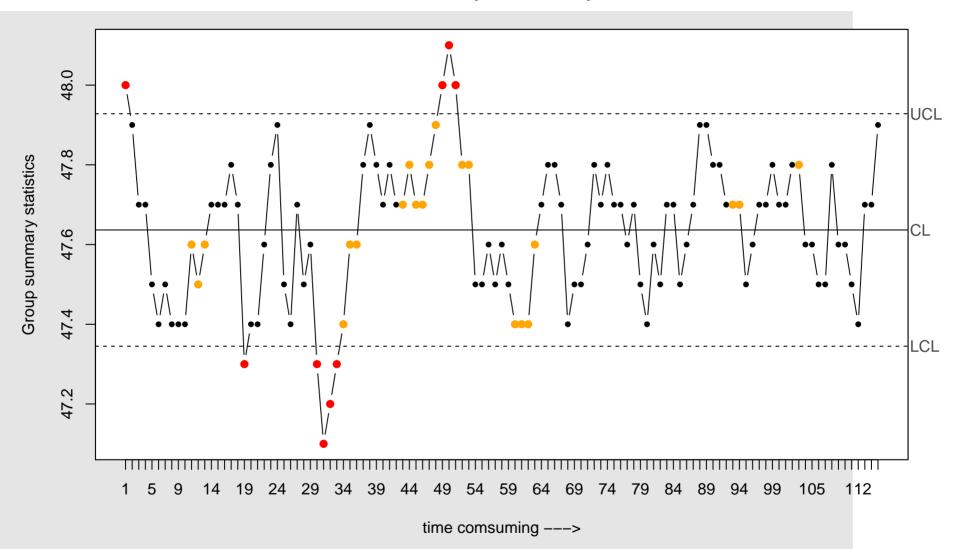
LCL = 47.4551 UCL = 48.01968 Number beyond limits = 22 Number violating runs = 35



Number of groups = 115 Center = 47.68087 StdDev = 0.09020779

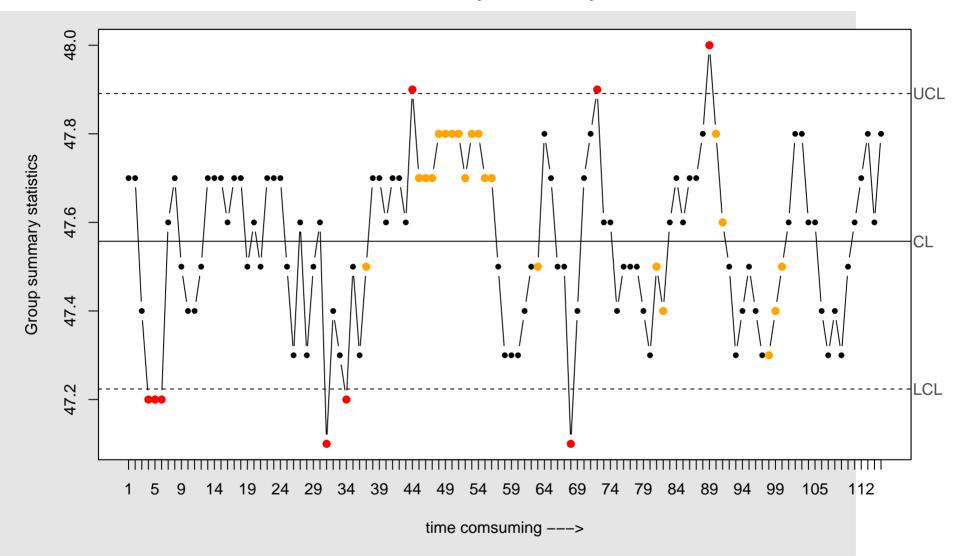
LCL = 47.41025 UCL = 47.95149

Number beyond limits = 22 Number violating runs = 26



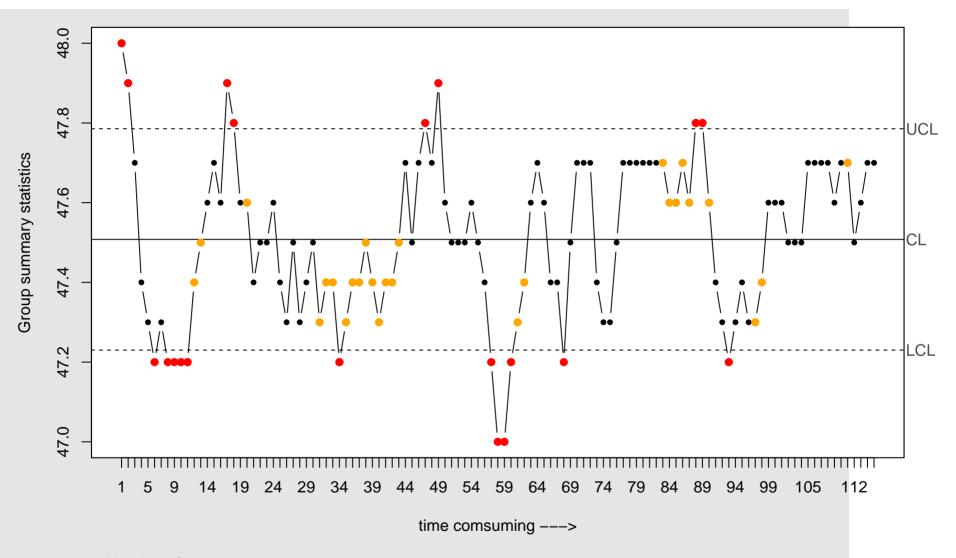
Number of groups = 115 Center = 47.63652 StdDev = 0.09720667

LCL = 47.3449 UCL = 47.92814 Number beyond limits = 9 Number violating runs = 24



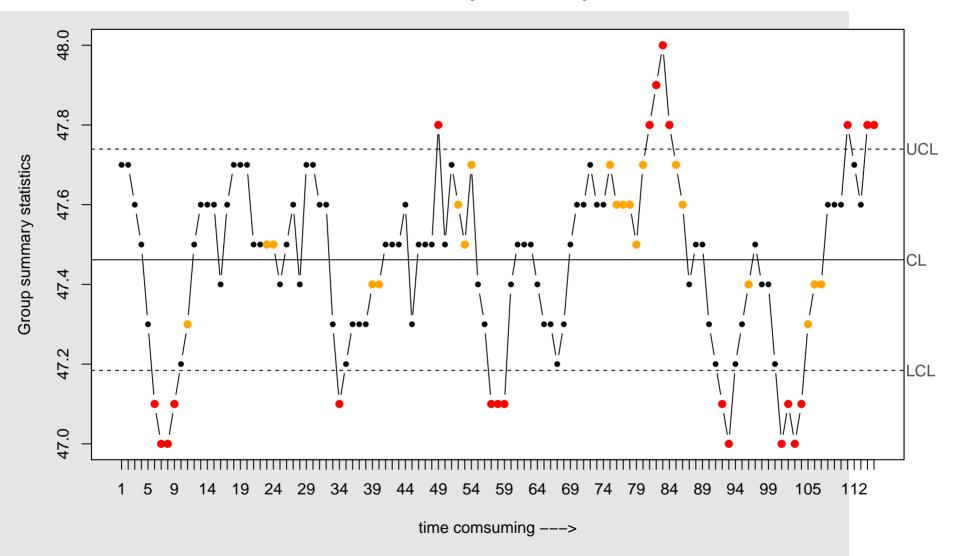
Number of groups = 115 Center = 47.55739 StdDev = 0.1112044

LCL = 47.22378 UCL = 47.891 Number beyond limits = 9 Number violating runs = 23



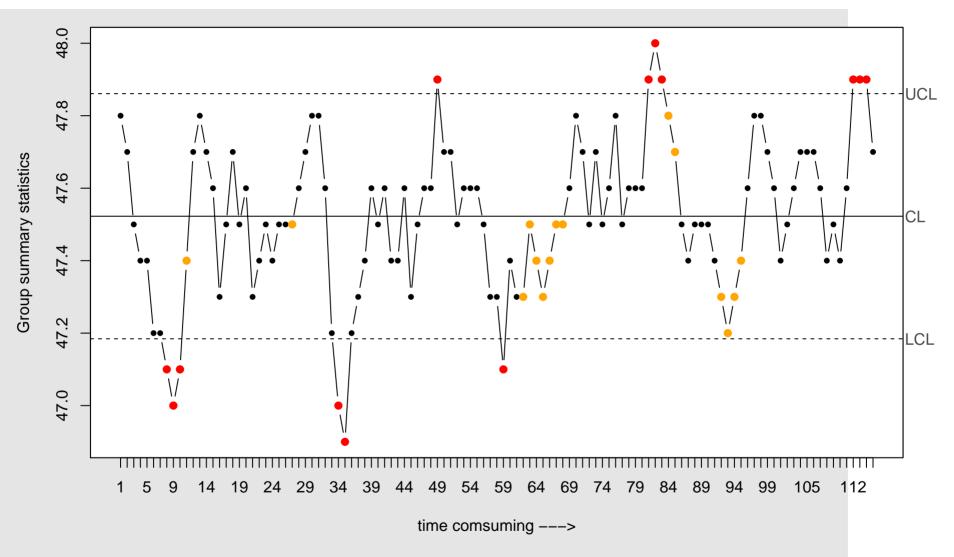
Number of groups = 115 Center = 47.50783 StdDev = 0.09254075

LCL = 47.2302 UCL = 47.78545 Number beyond limits = 20 Number violating runs = 31



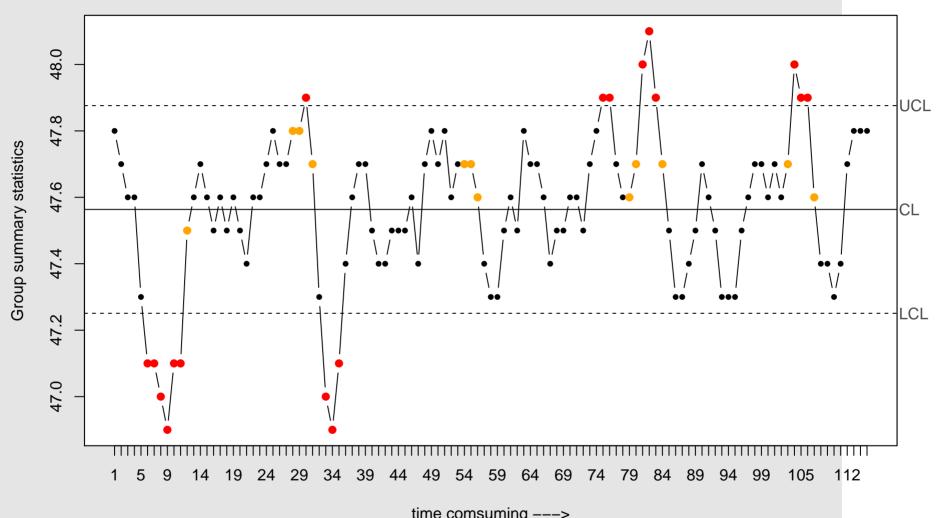
Number of groups = 115 Center = 47.46174 StdDev = 0.09254075

LCL = 47.18412 UCL = 47.73936 Number beyond limits = 22 Number violating runs = 27



Number of groups = 115 Center = 47.52261 StdDev = 0.1127597

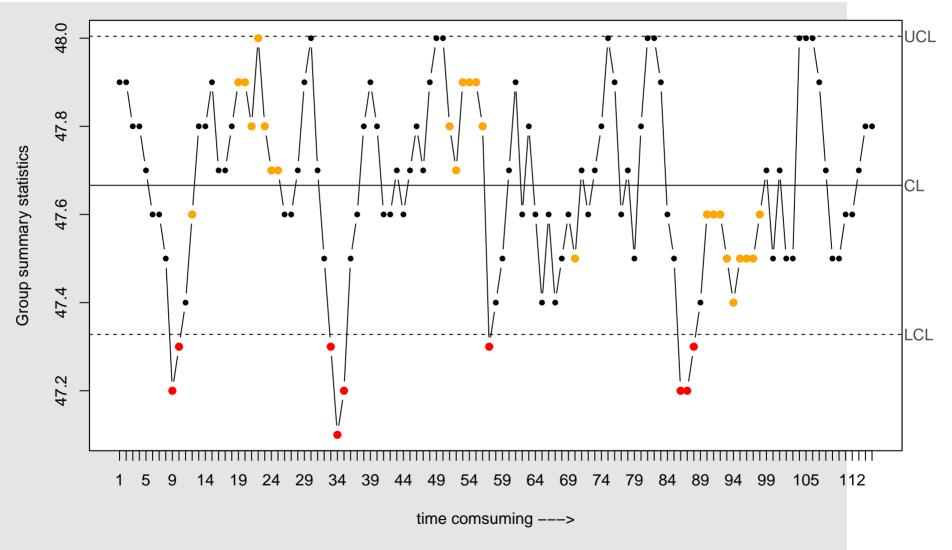
LCL = 47.18433 UCL = 47.86089 Number beyond limits = 13 Number violating runs = 17



time comsuming --->

Number of groups = 115 Center = 47.56348StdDev = 0.1042055

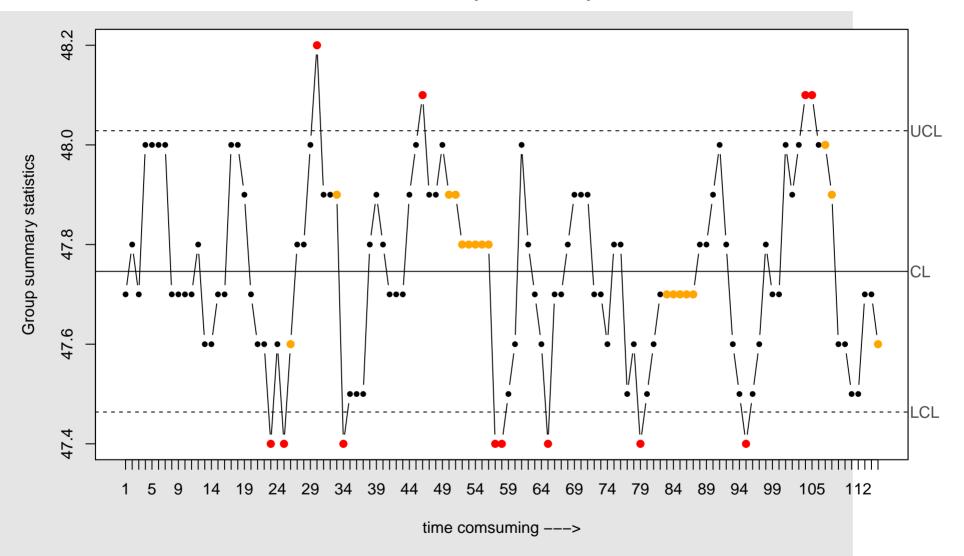
LCL = 47.25086UCL = 47.87609 Number beyond limits = 18 Number violating runs = 20



Number of groups = 115 Center = 47.66609 StdDev = 0.1127597

LCL = 47.32781 UCL = 48.00437

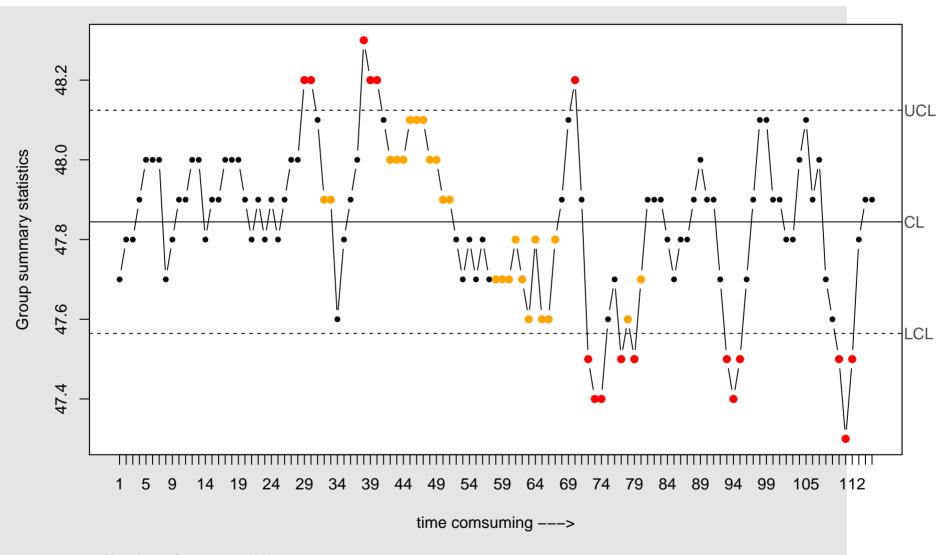
Number beyond limits = 9 Number violating runs = 24



Number of groups = 115 Center = 47.74609 StdDev = 0.09409606

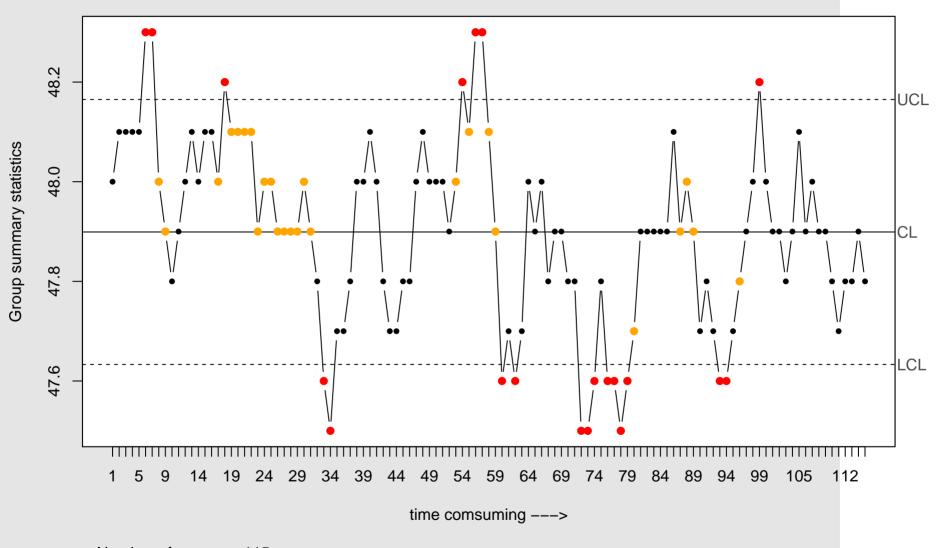
LCL = 47.4638 UCL = 48.02838

Number beyond limits = 12 Number violating runs = 17



Number of groups = 115 Center = 47.84435 StdDev = 0.0933184

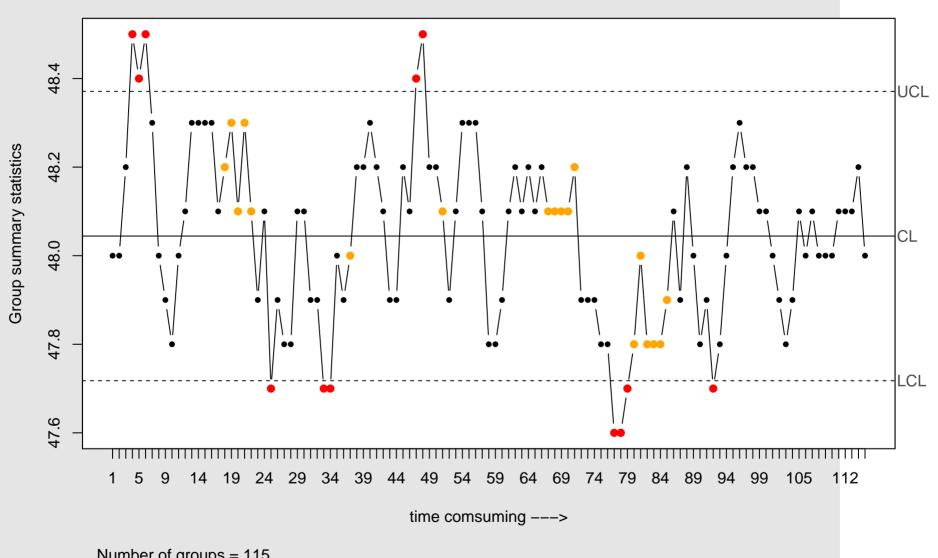
LCL = 47.56439 UCL = 48.1243 Number beyond limits = 17 Number violating runs = 25



Number of groups = 115 Center = 47.89913 StdDev = 0.08865248

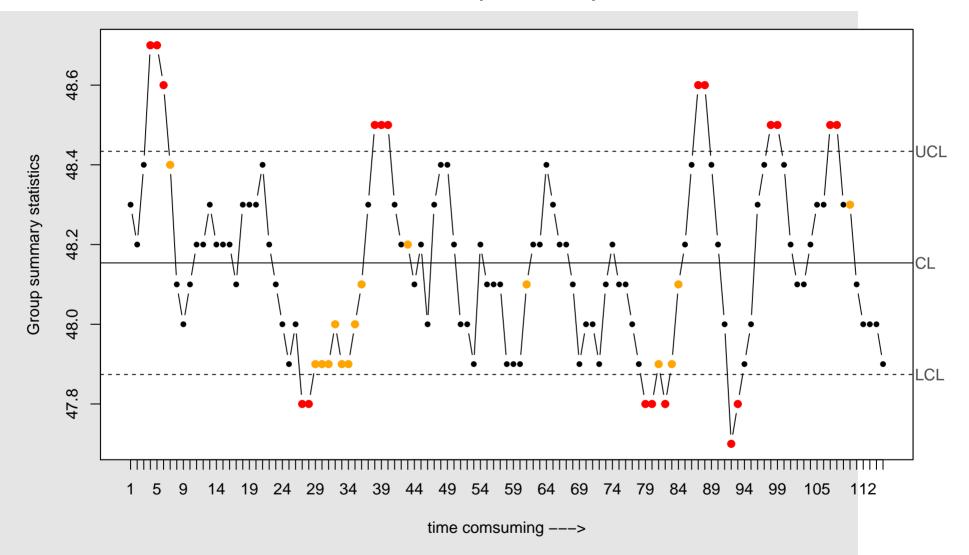
LCL = 47.63317 UCL = 48.16509

Number beyond limits = 20 Number violating runs = 34



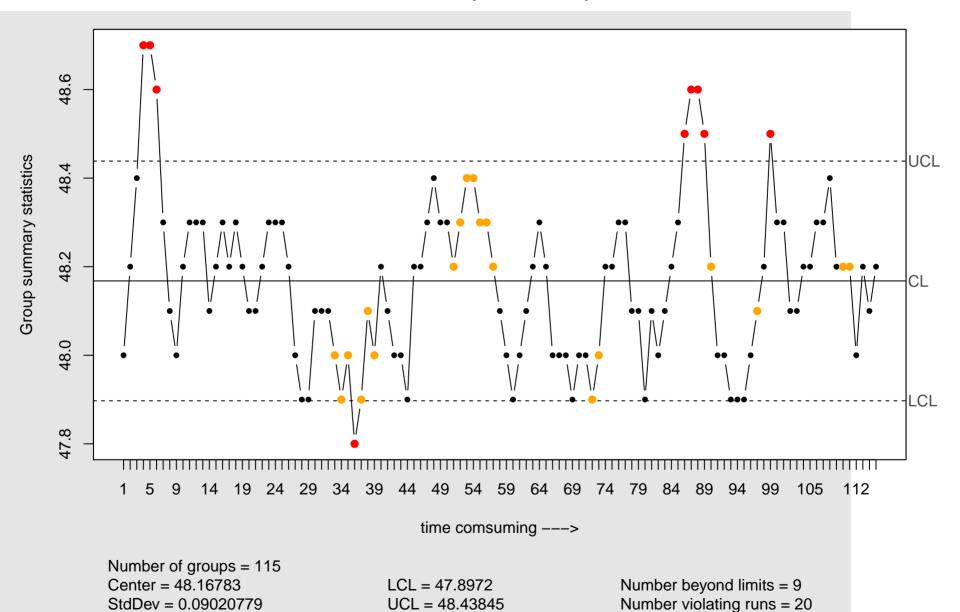
Number of groups = 115 Center = 48.04435 StdDev = 0.1088715

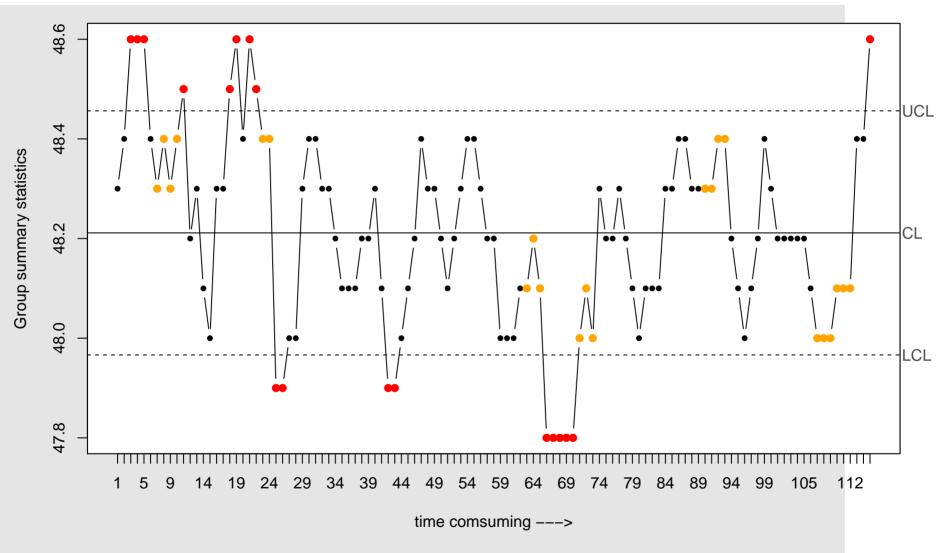
LCL = 47.71773 UCL = 48.37096 Number beyond limits = 12 Number violating runs = 20



Number of groups = 115 Center = 48.15391 StdDev = 0.0933184

LCL = 47.87396 UCL = 48.43387 Number beyond limits = 19 Number violating runs = 16

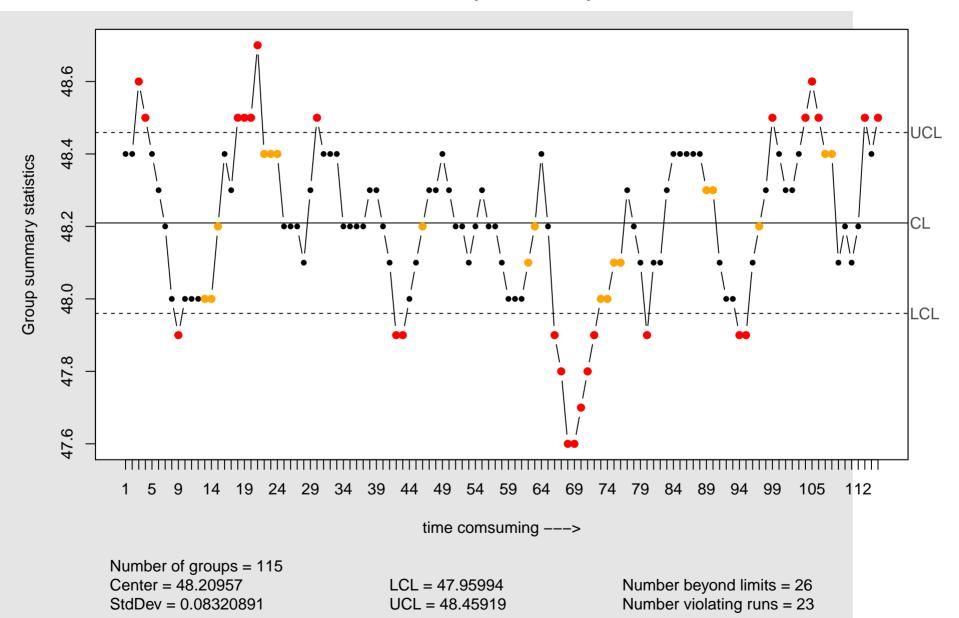


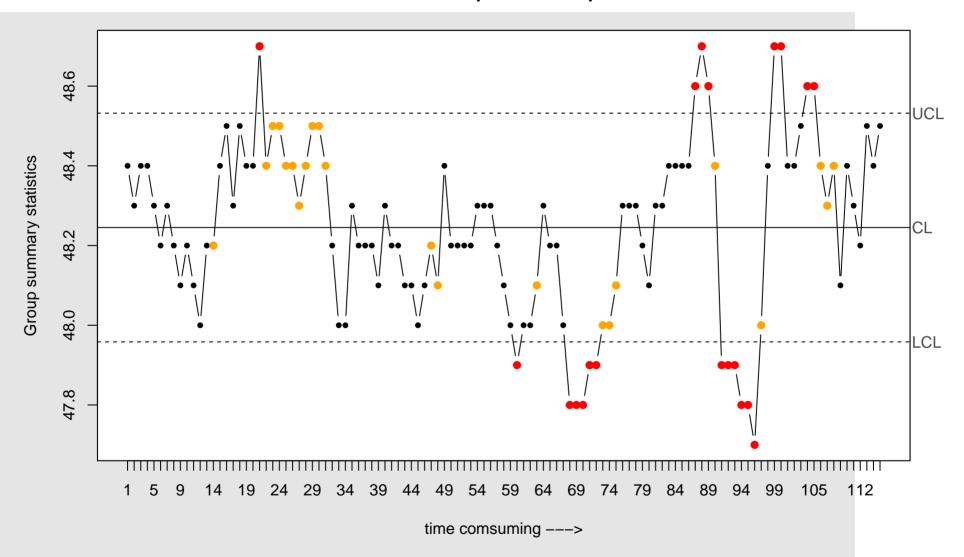


Number of groups = 115 Center = 48.2113 StdDev = 0.0816536

LCL = 47.96634 UCL = 48.45627

Number beyond limits = 18 Number violating runs = 29

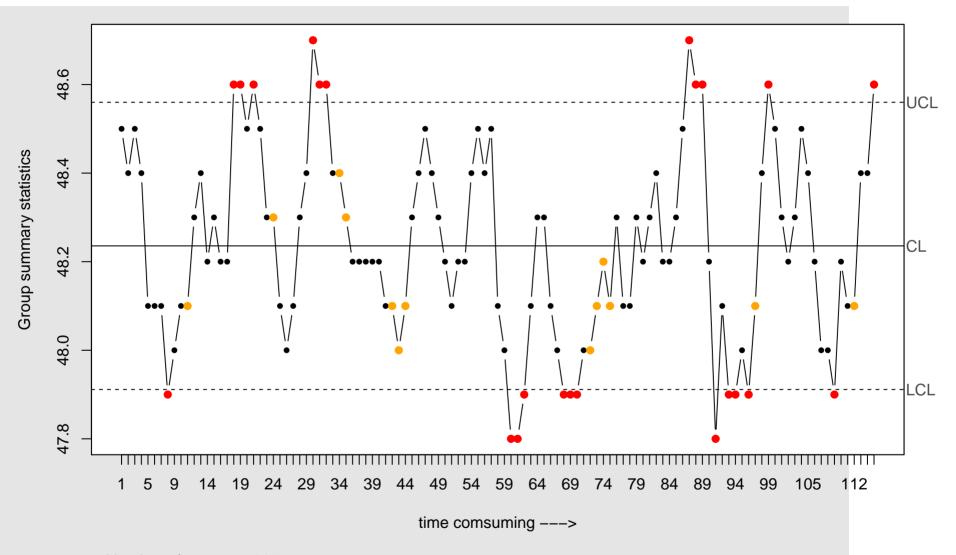




Number of groups = 115 Center = 48.24522 StdDev = 0.09565136

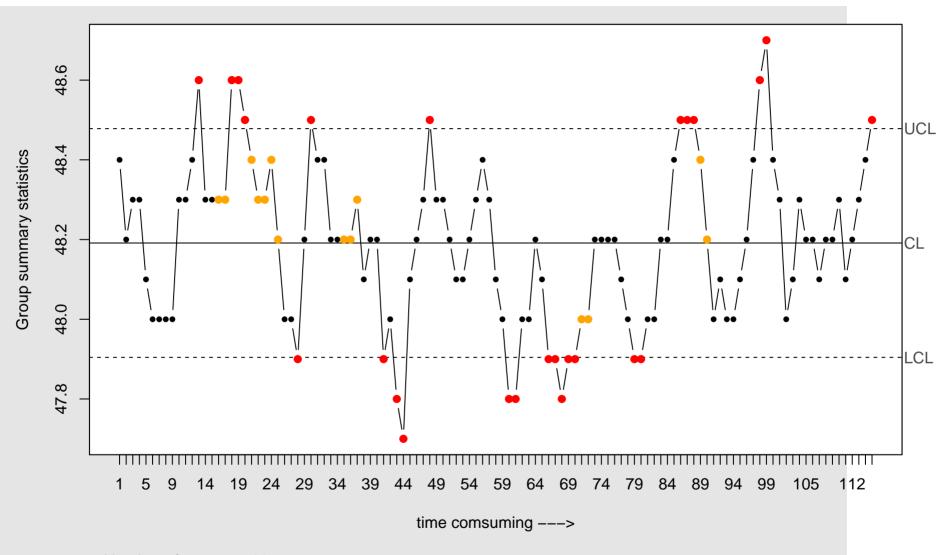
LCL = 47.95826 UCL = 48.53217

Number beyond limits = 20 Number violating runs = 30



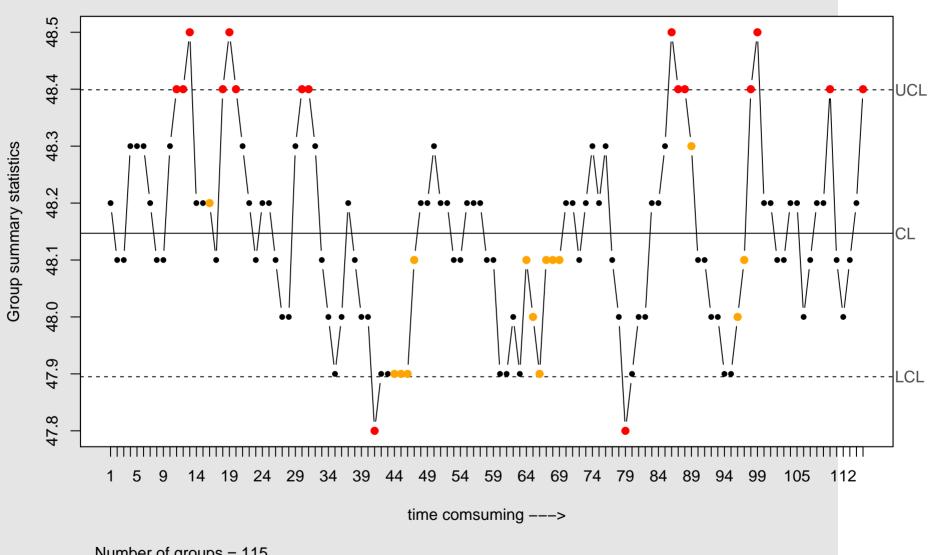
Number of groups = 115 Center = 48.23565 StdDev = 0.1080938

LCL = 47.91137 UCL = 48.55993 Number beyond limits = 23 Number violating runs = 14



Number of groups = 115 Center = 48.1913 StdDev = 0.09565136

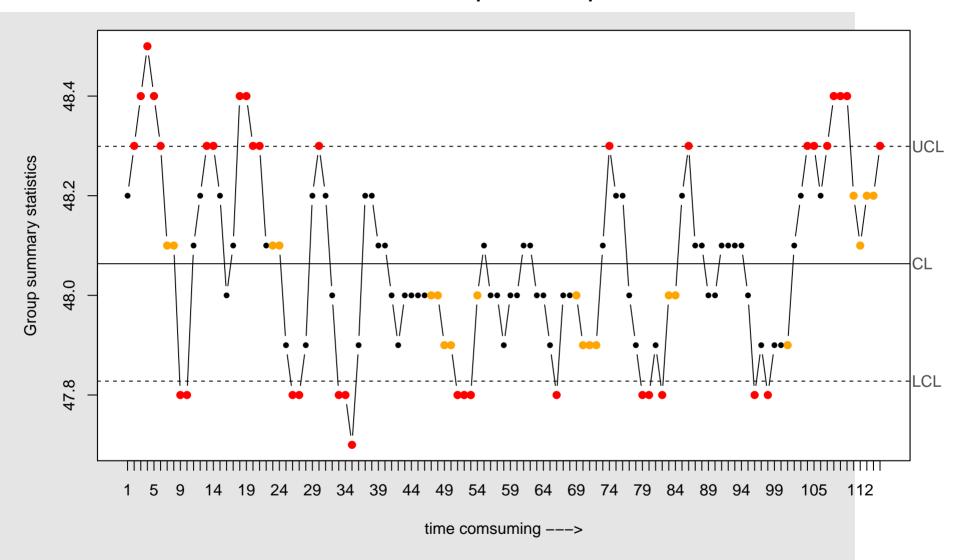
LCL = 47.90435 UCL = 48.47826 Number beyond limits = 25 Number violating runs = 17



Number of groups = 115 Center = 48.14696 StdDev = 0.08398656

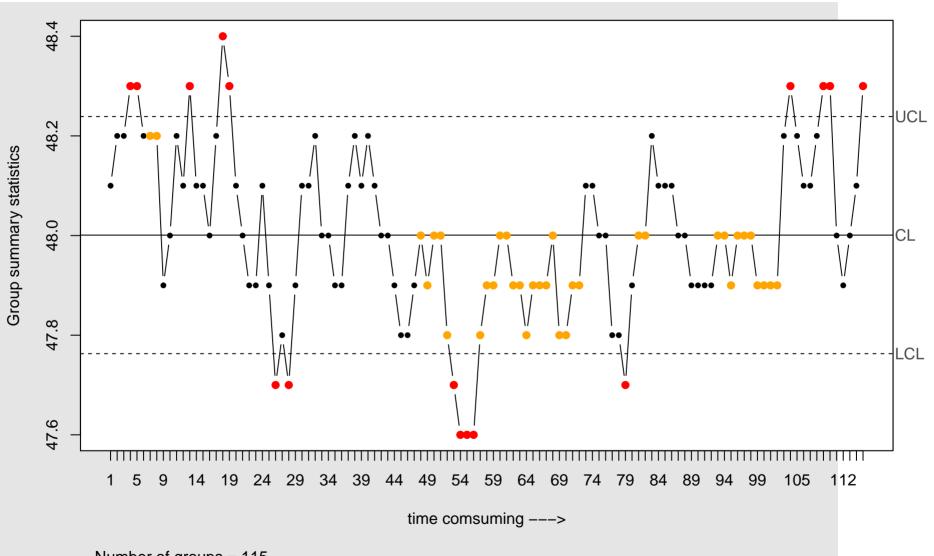
LCL = 47.895 UCL = 48.39892

Number beyond limits = 17 Number violating runs = 14



Number of groups = 115 Center = 48.06348 StdDev = 0.07854299

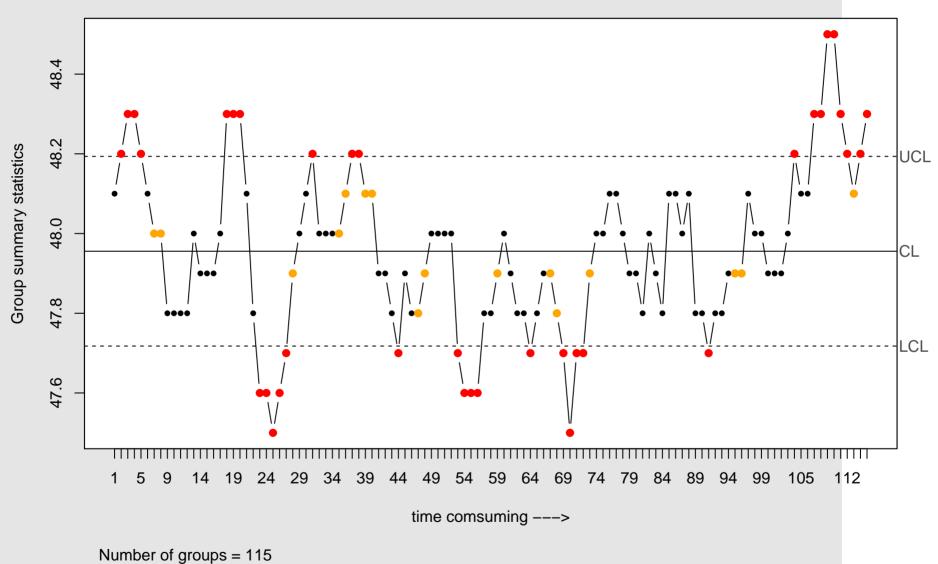
LCL = 47.82785 UCL = 48.29911 Number beyond limits = 37 Number violating runs = 27



Number of groups = 115 Center = 48.00087 StdDev = 0.07932064

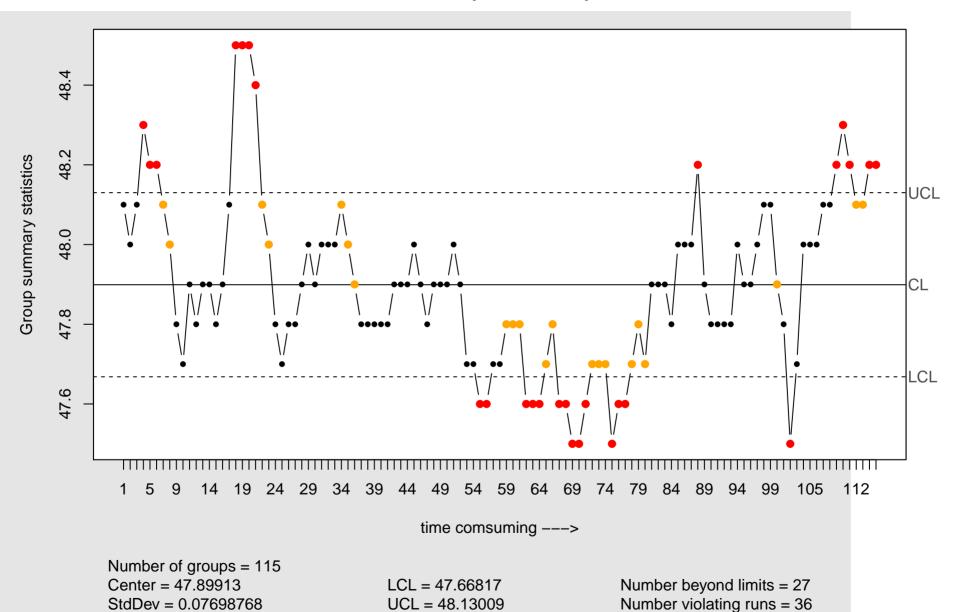
LCL = 47.76291 UCL = 48.23883

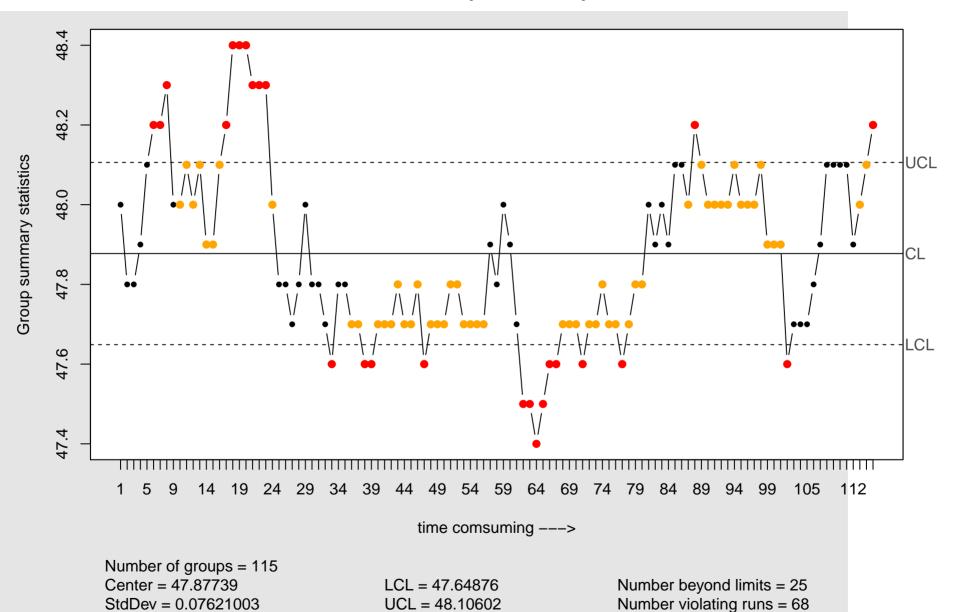
Number beyond limits = 16 Number violating runs = 41

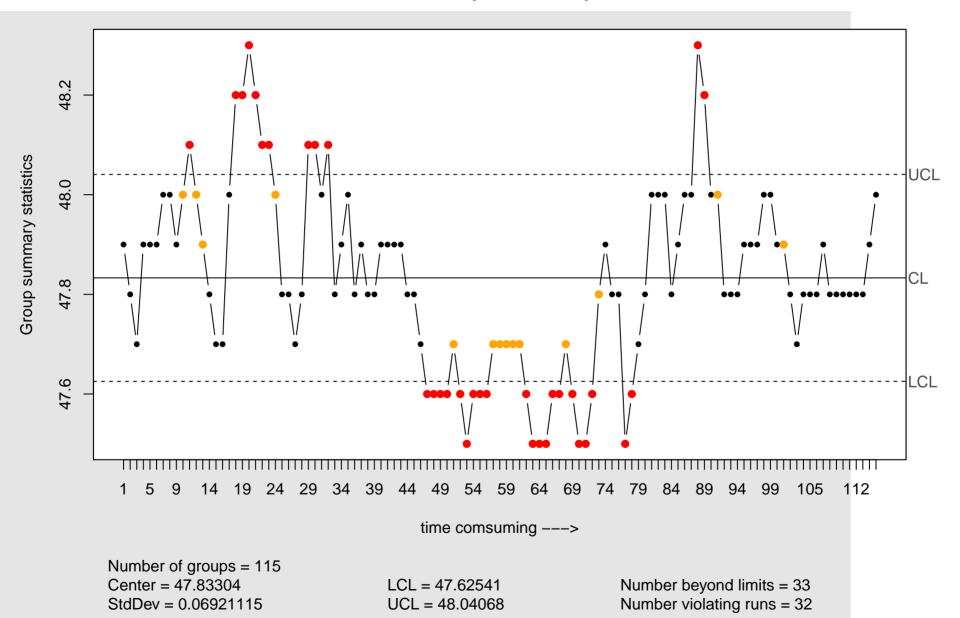


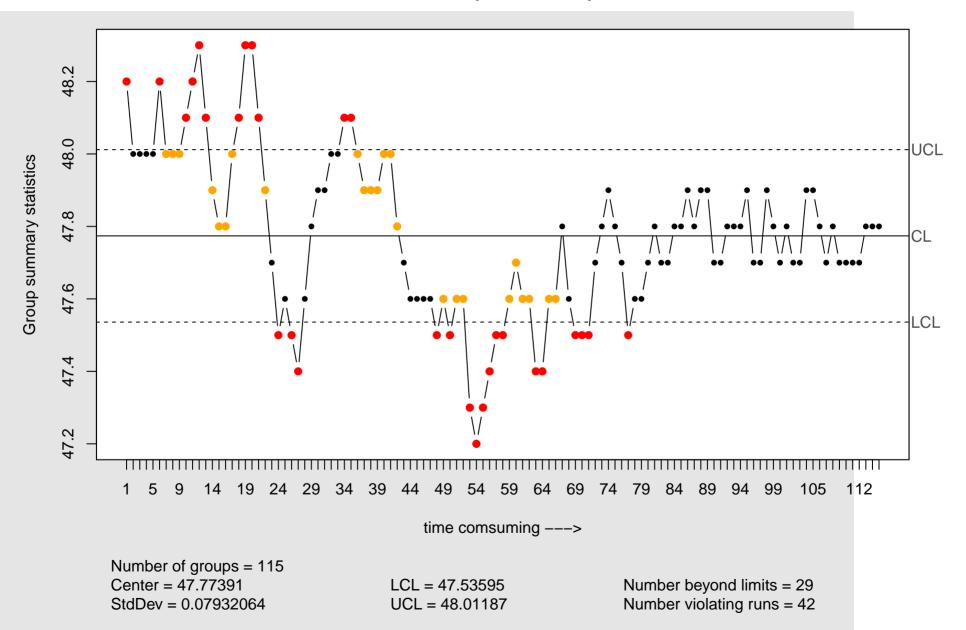
Number of groups = 115 Center = 47.95565 StdDev = 0.07932064

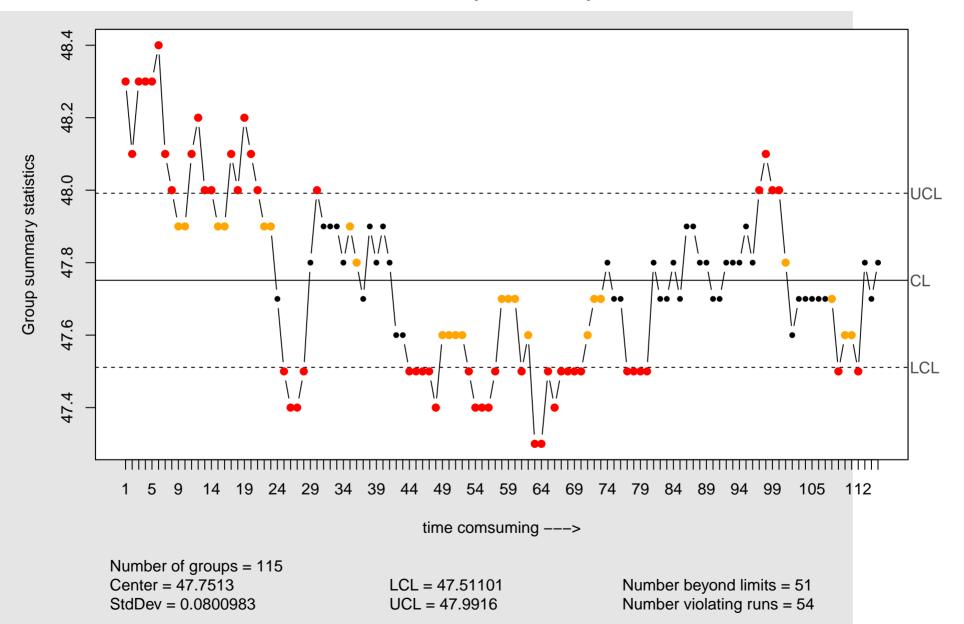
LCL = 47.71769 UCL = 48.19361 Number beyond limits = 35 Number violating runs = 28

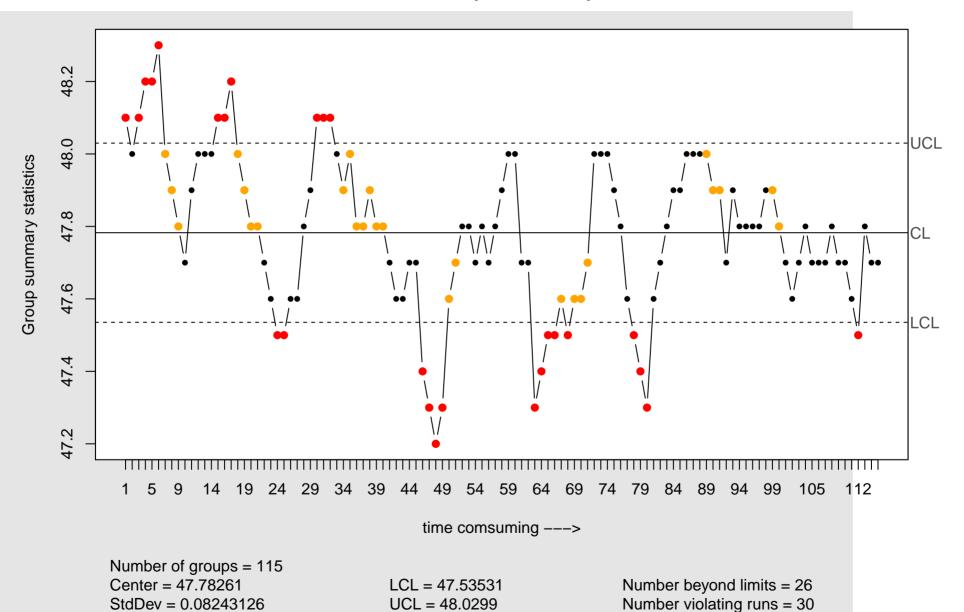


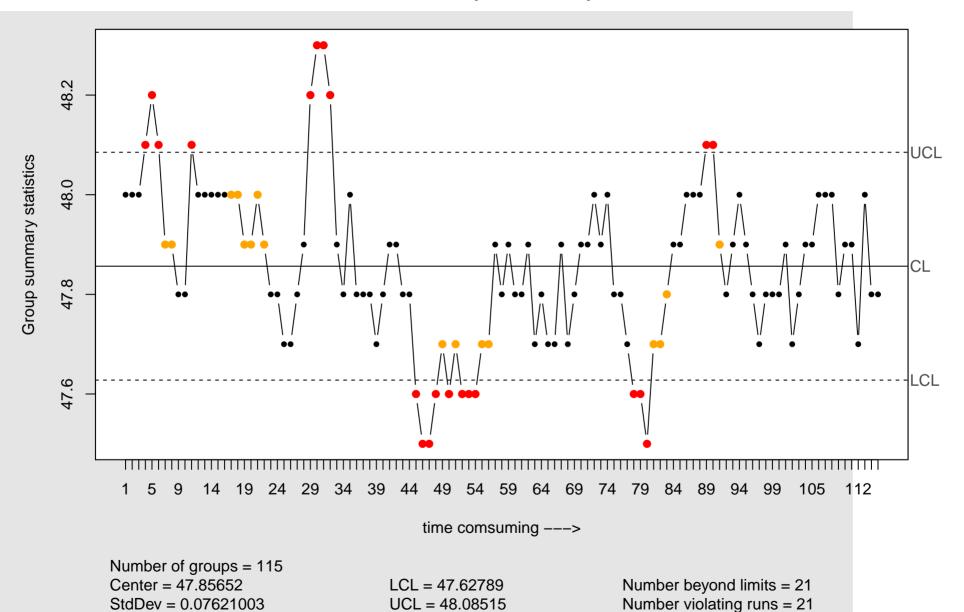


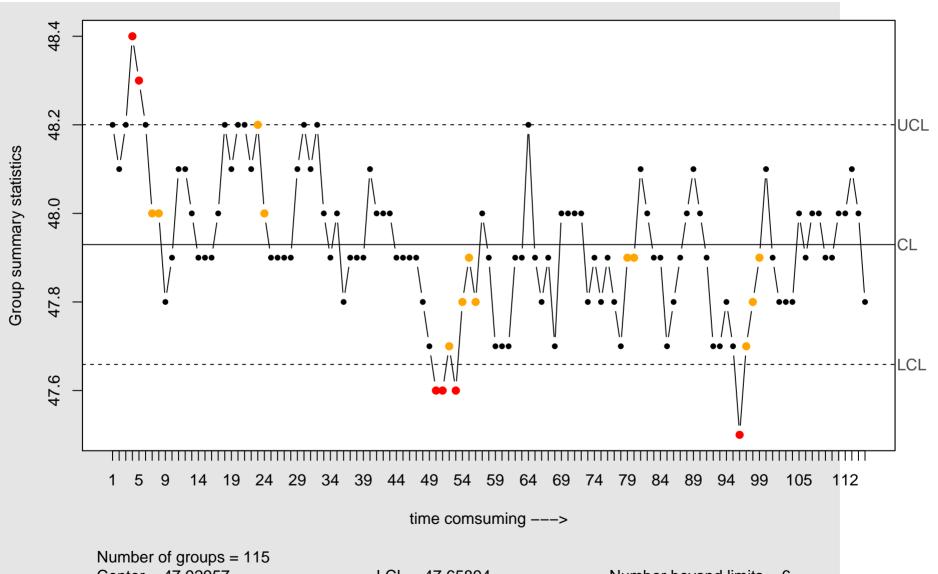








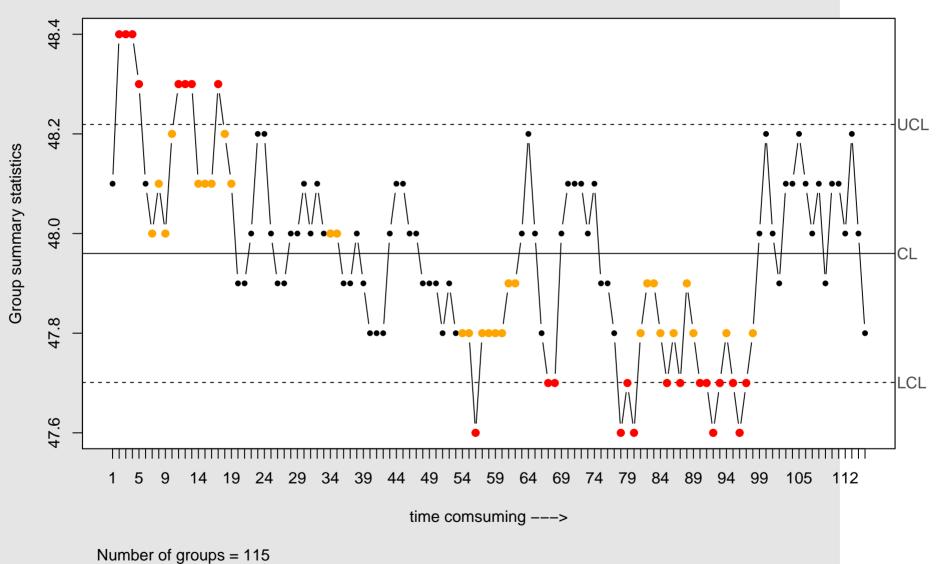




Number of groups = 115 Center = 47.92957 StdDev = 0.09020779

LCL = 47.65894 UCL = 48.20019

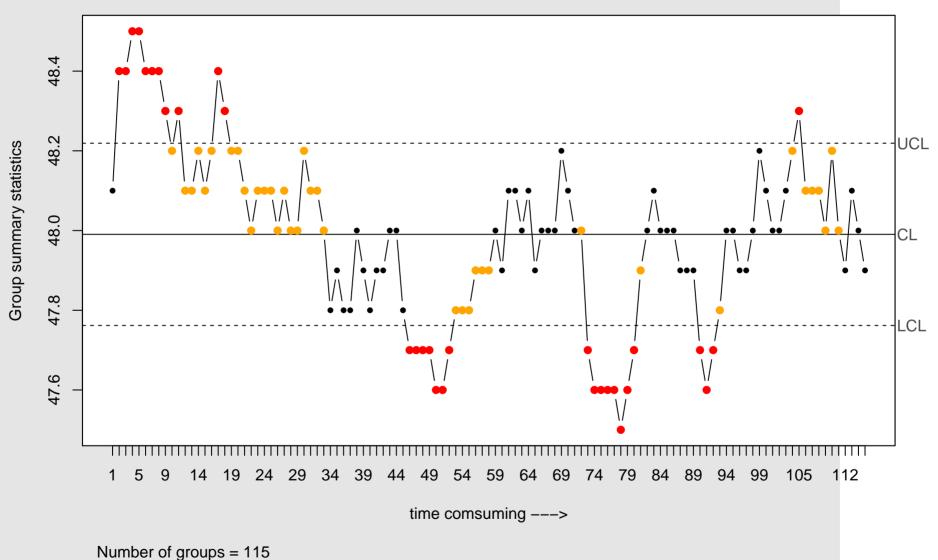
Number beyond limits = 6 Number violating runs = 16



Number of groups = 115 Center = 47.96 StdDev = 0.08631952

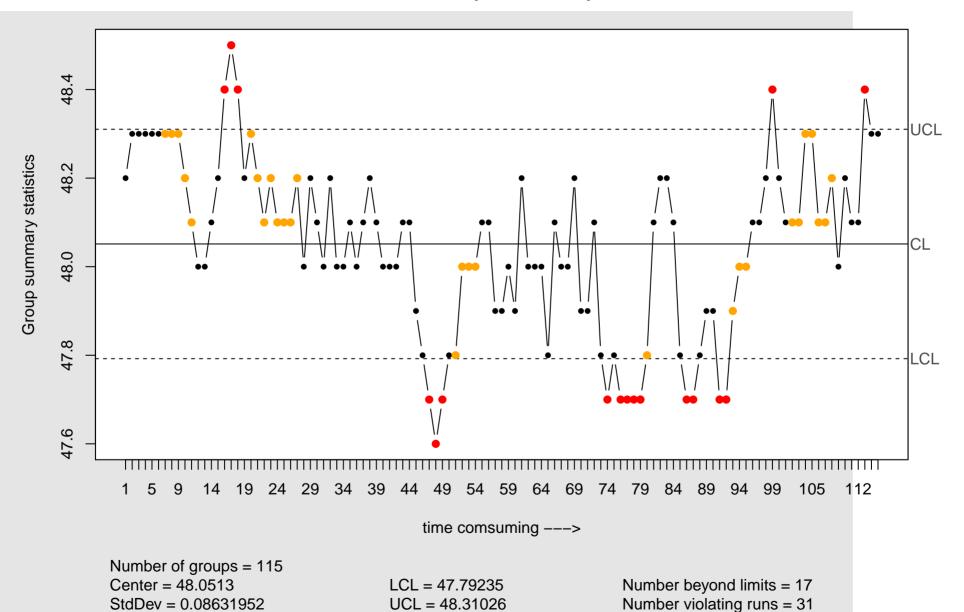
LCL = 47.70104 UCL = 48.21896

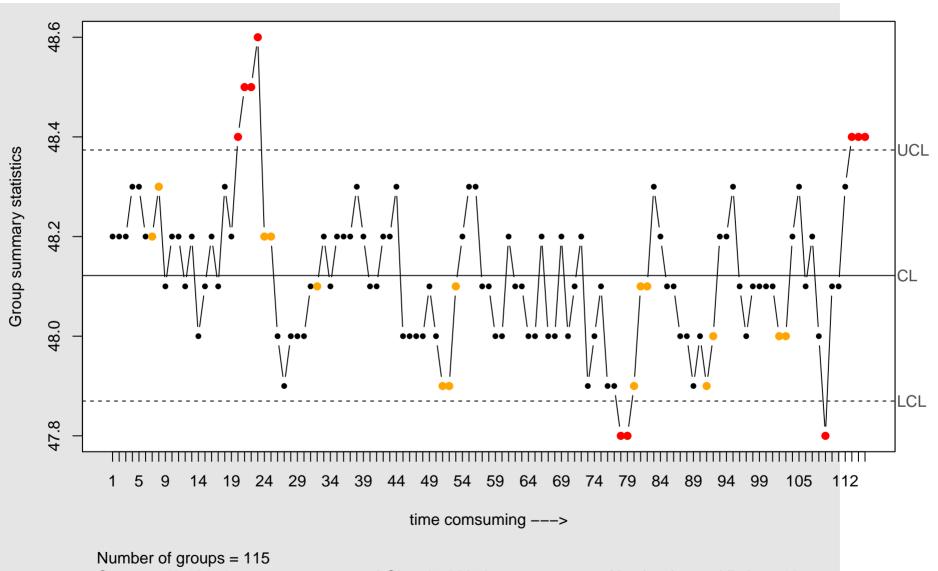
Number beyond limits = 23 Number violating runs = 42



Number of groups = 115 Center = 47.99043 StdDev = 0.07621003

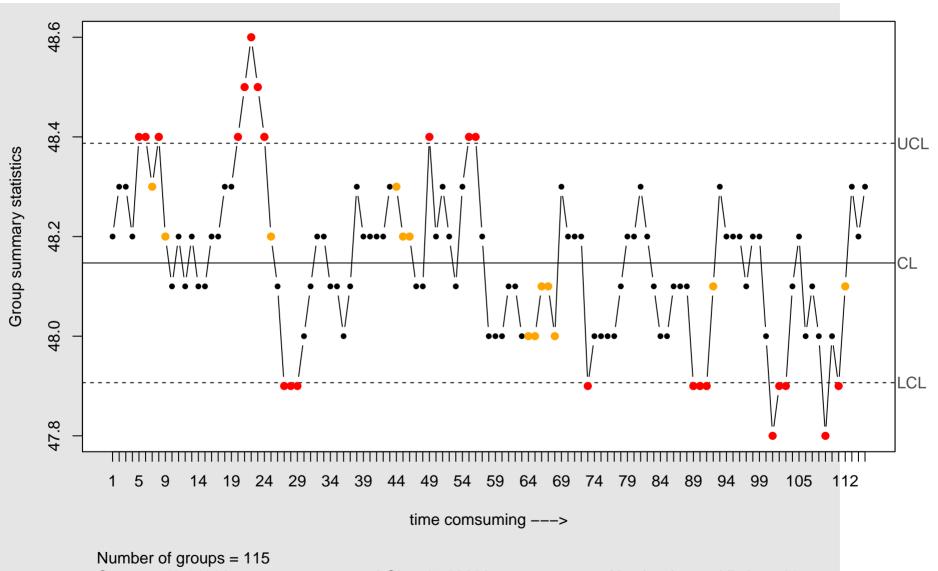
LCL = 47.7618 UCL = 48.21906 Number beyond limits = 30 Number violating runs = 48





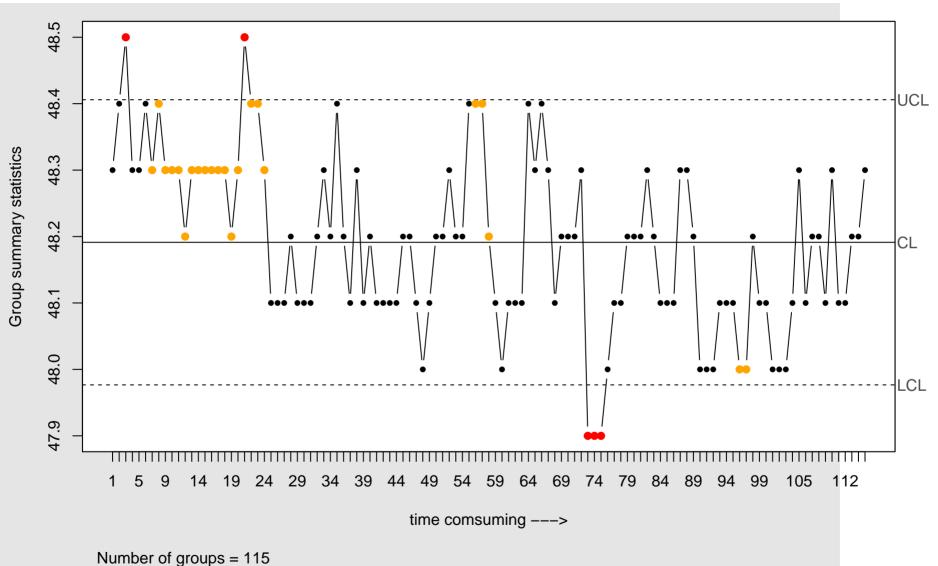
Number of groups = 115 Center = 48.12174 StdDev = 0.08398656

LCL = 47.86978 UCL = 48.3737 Number beyond limits = 10 Number violating runs = 16



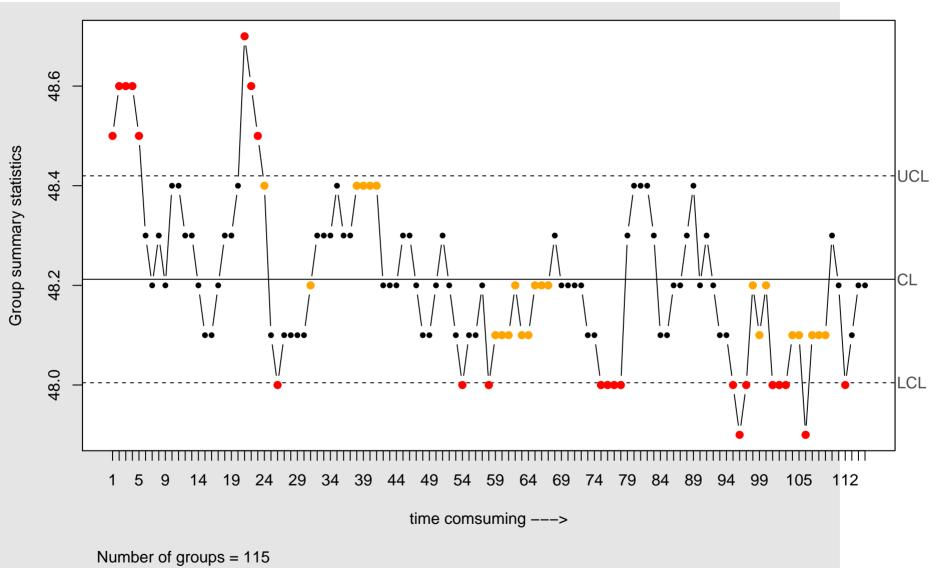
Number of groups = 115 Center = 48.14696 StdDev = 0.0800983

LCL = 47.90666 UCL = 48.38725 Number beyond limits = 23 Number violating runs = 20



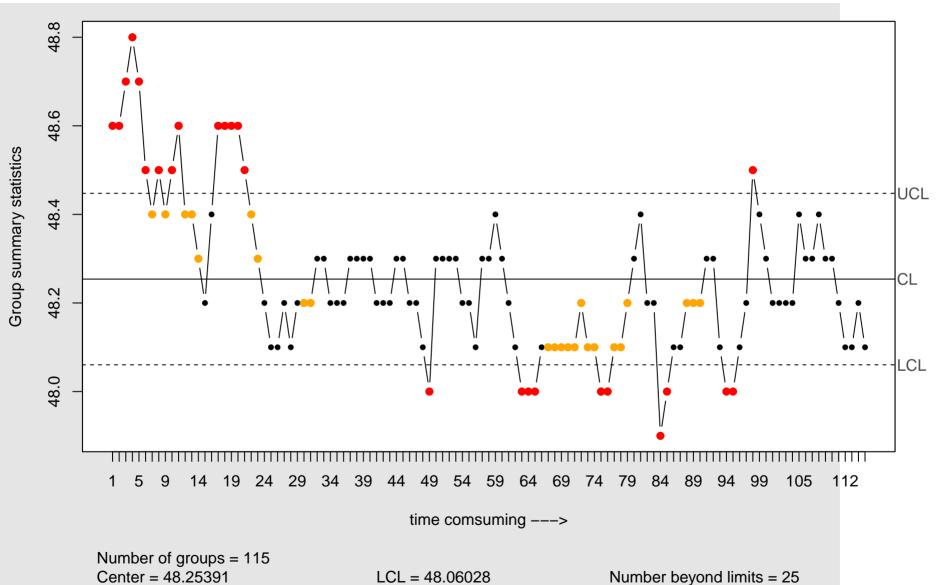
Number of groups = 115 Center = 48.1913 StdDev = 0.07154411

LCL = 47.97667 UCL = 48.40594 Number beyond limits = 5 Number violating runs = 23



Number of groups = 115 Center = 48.21217 StdDev = 0.06921115

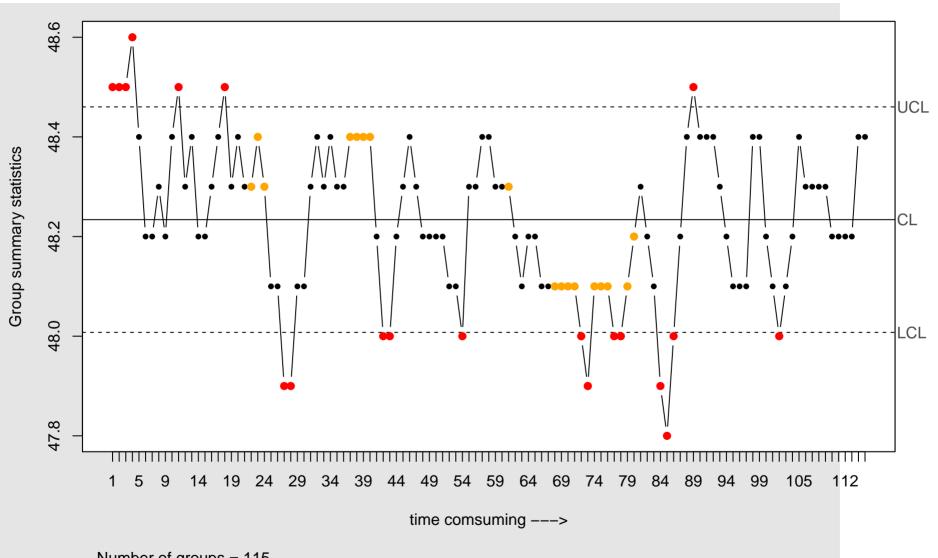
LCL = 48.00454 UCL = 48.41981 Number beyond limits = 23 Number violating runs = 32



Center = 48.25391StdDev = 0.06454523

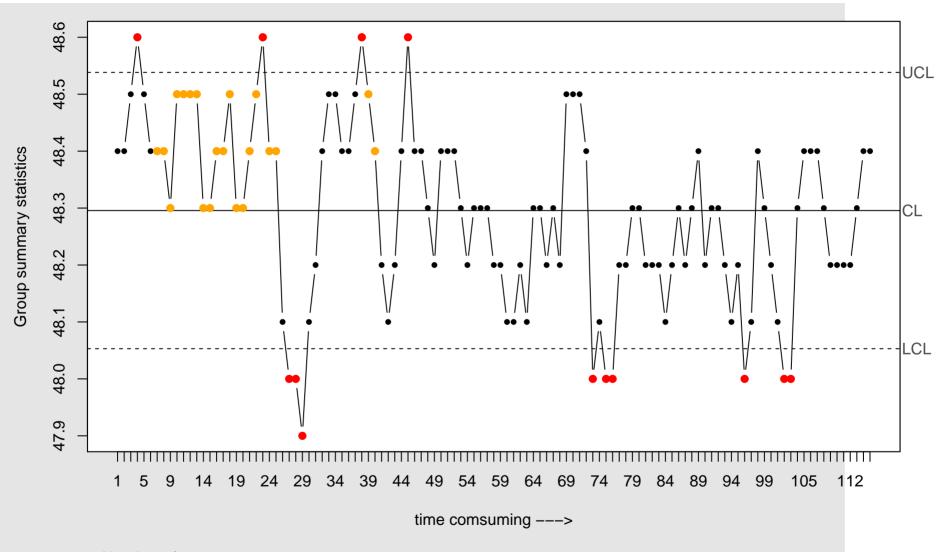
LCL = 48.06028UCL = 48.44755

Number violating runs = 28



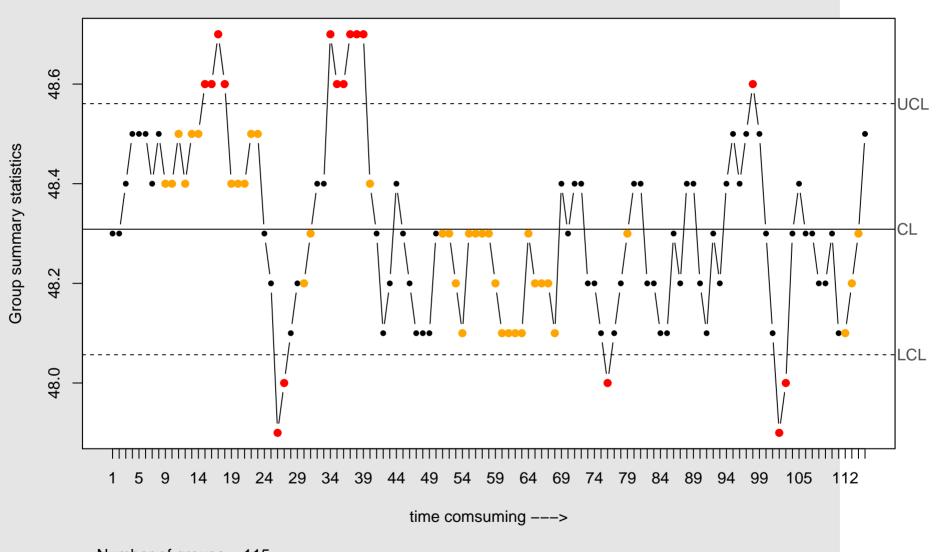
Number of groups = 115 Center = 48.23391 StdDev = 0.07543238

LCL = 48.00762 UCL = 48.46021 Number beyond limits = 20 Number violating runs = 22



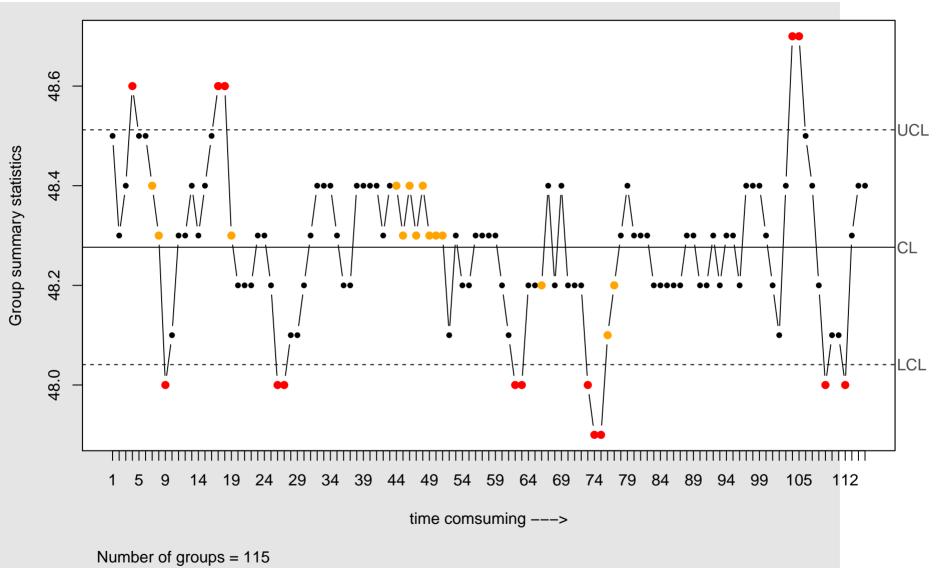
Number of groups = 115 Center = 48.29565 StdDev = 0.08087595

LCL = 48.05302 UCL = 48.53828 Number beyond limits = 13 Number violating runs = 22



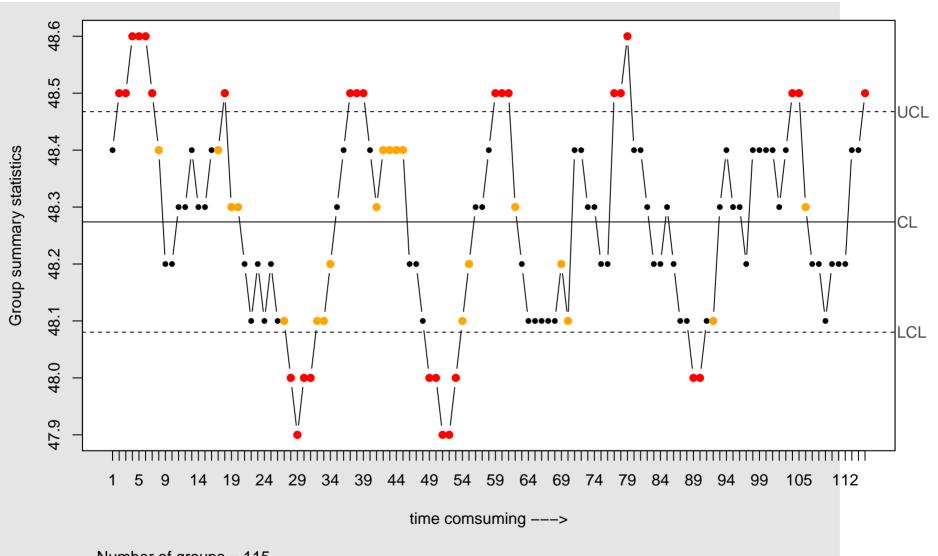
Number of groups = 115 Center = 48.3087 StdDev = 0.08398656

LCL = 48.05674 UCL = 48.56066 Number beyond limits = 16 Number violating runs = 42



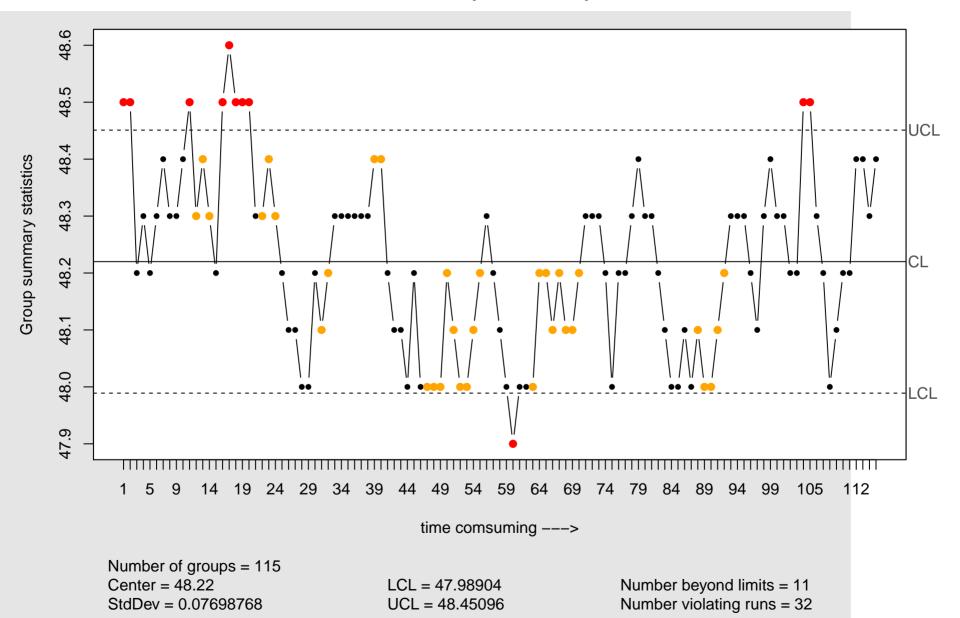
Number of groups = 115 Center = 48.27652 StdDev = 0.07854299

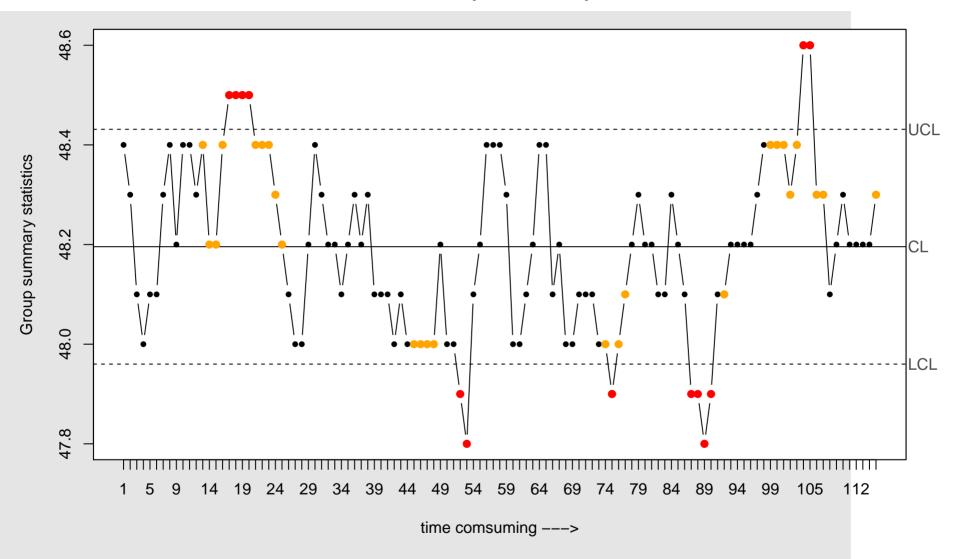
LCL = 48.04089 UCL = 48.51215 Number beyond limits = 15 Number violating runs = 16



Number of groups = 115 Center = 48.27391 StdDev = 0.06454523

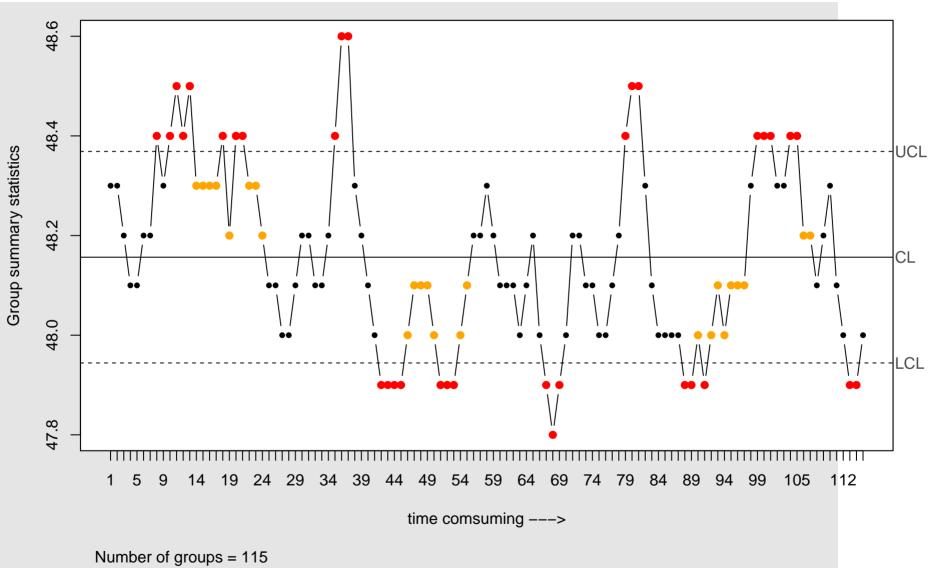
LCL = 48.08028 UCL = 48.46755 Number beyond limits = 30 Number violating runs = 30





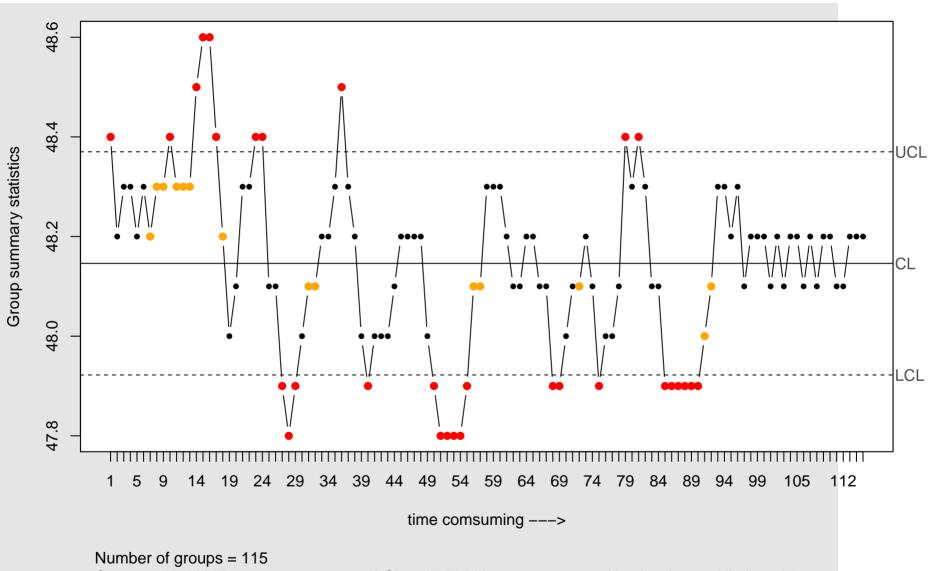
Number of groups = 115 Center = 48.19565 StdDev = 0.07854299

LCL = 47.96002 UCL = 48.43128 Number beyond limits = 13 Number violating runs = 32



Number of groups = 115 Center = 48.15652 StdDev = 0.07076646

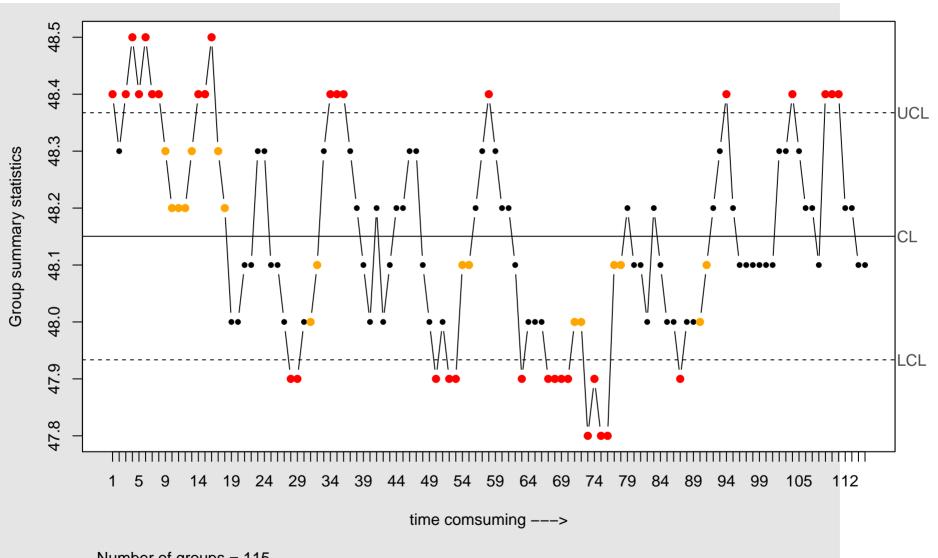
LCL = 47.94422 UCL = 48.36882 Number beyond limits = 34 Number violating runs = 36



Number of groups = 115 Center = 48.14609 StdDev = 0.07465472

LCL = 47.92212 UCL = 48.37005

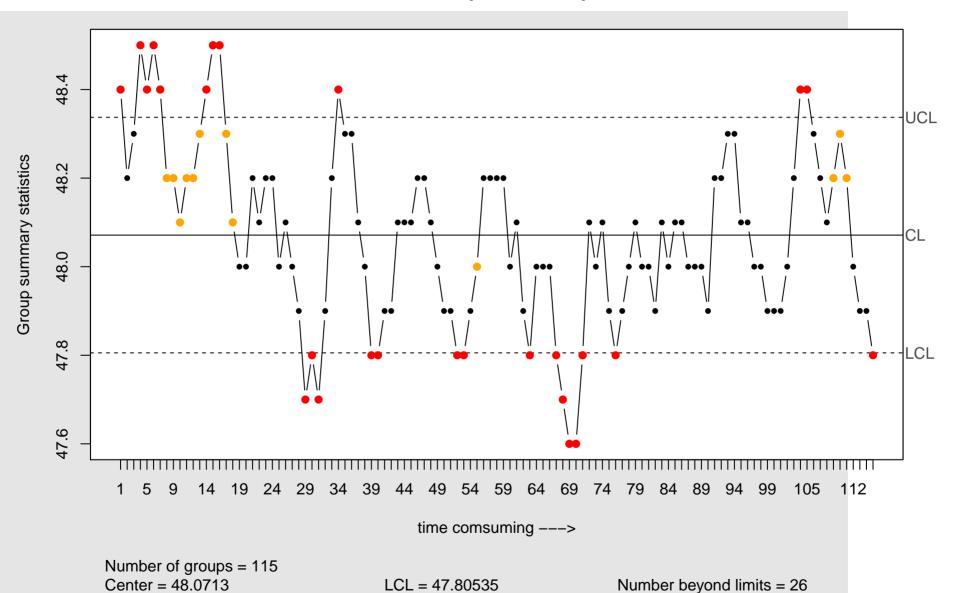
Number beyond limits = 30 Number violating runs = 22



Number of groups = 115 Center = 48.15043 StdDev = 0.07232176

LCL = 47.93347 UCL = 48.3674

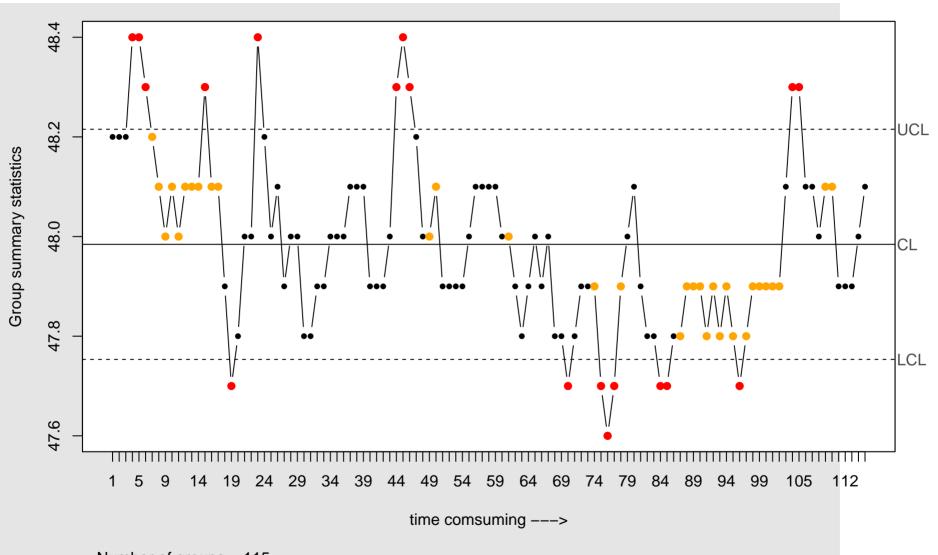
Number beyond limits = 34 Number violating runs = 29



UCL = 48.33726

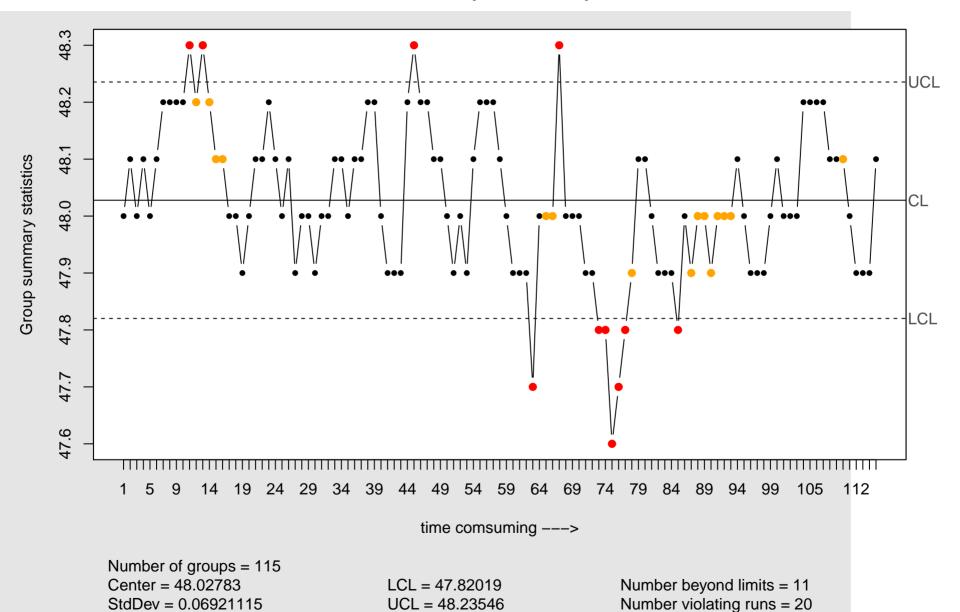
Number violating runs = 20

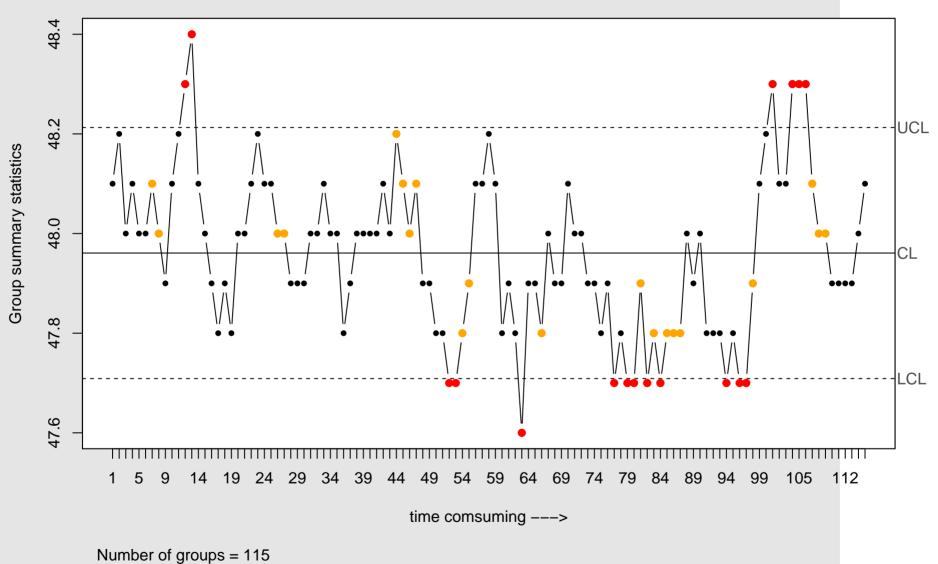
StdDev = 0.08865248



Number of groups = 115 Center = 47.98435 StdDev = 0.07698768

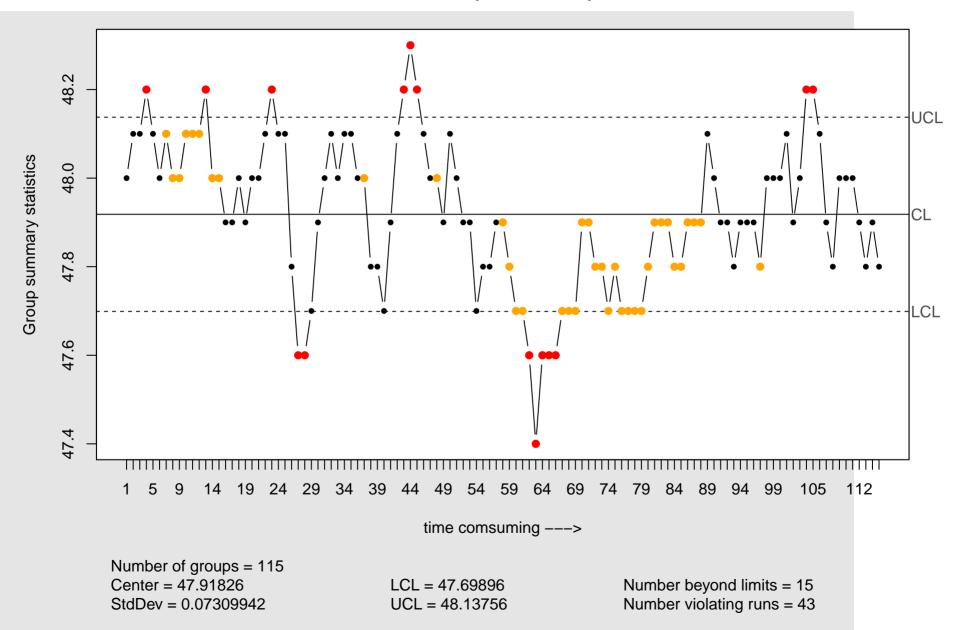
LCL = 47.75338 UCL = 48.21531 Number beyond limits = 18 Number violating runs = 37

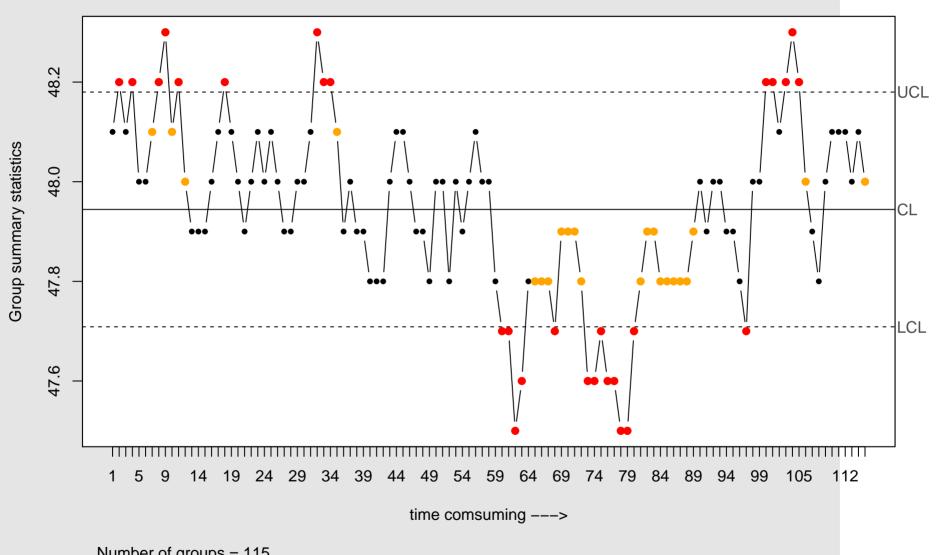




Number of groups = 115 Center = 47.96087 StdDev = 0.08398656

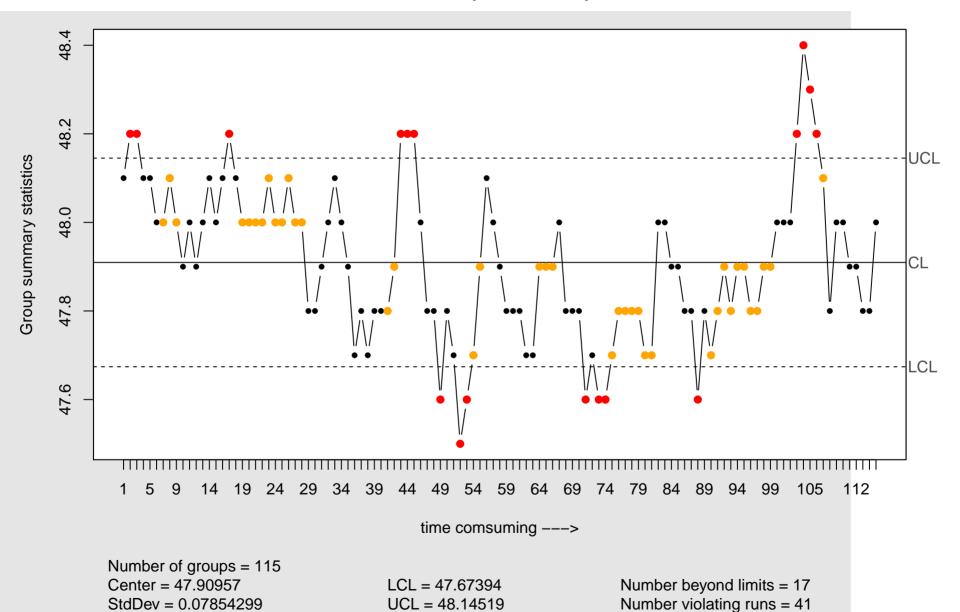
LCL = 47.70891 UCL = 48.21283 Number beyond limits = 17 Number violating runs = 27

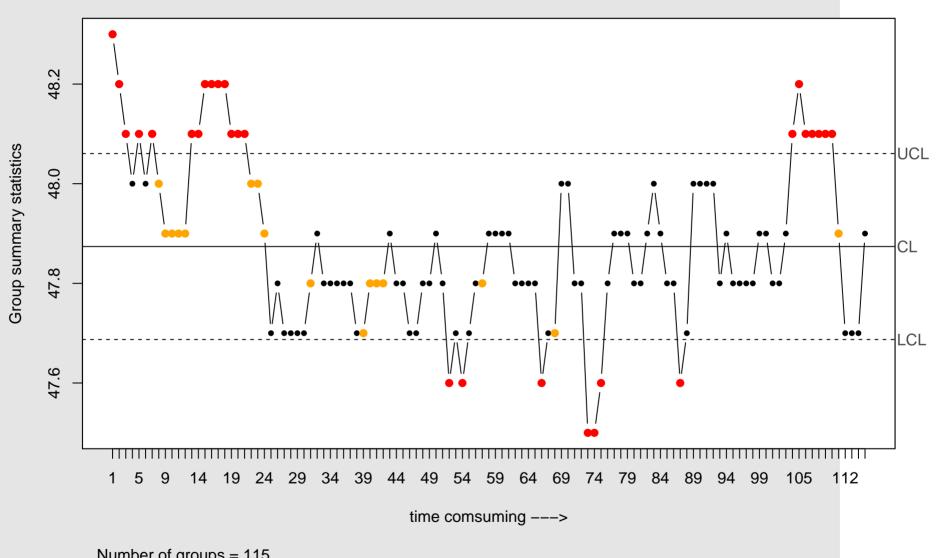




Number of groups = 115 Center = 47.94435 StdDev = 0.07854299

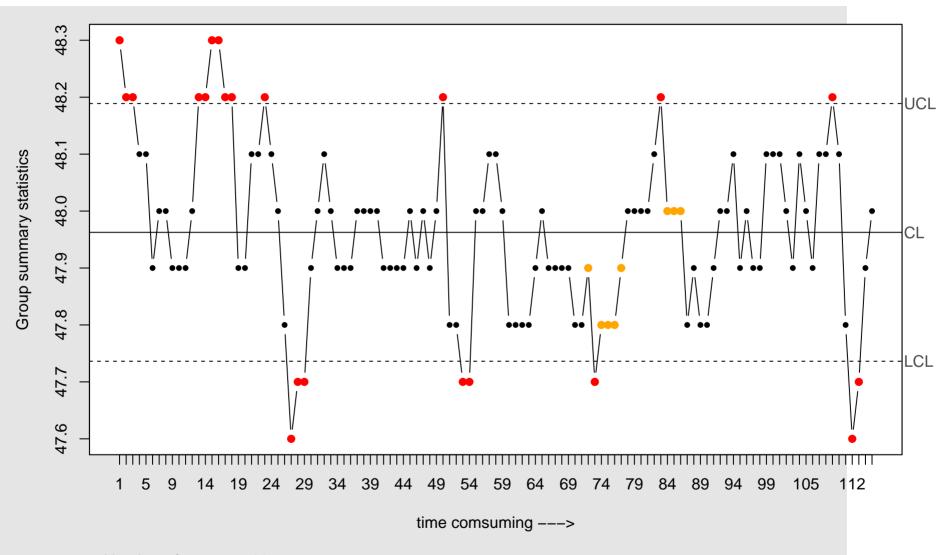
LCL = 47.70872 UCL = 48.17998 Number beyond limits = 28 Number violating runs = 36





Number of groups = 115 Center = 47.87391 StdDev = 0.06221227

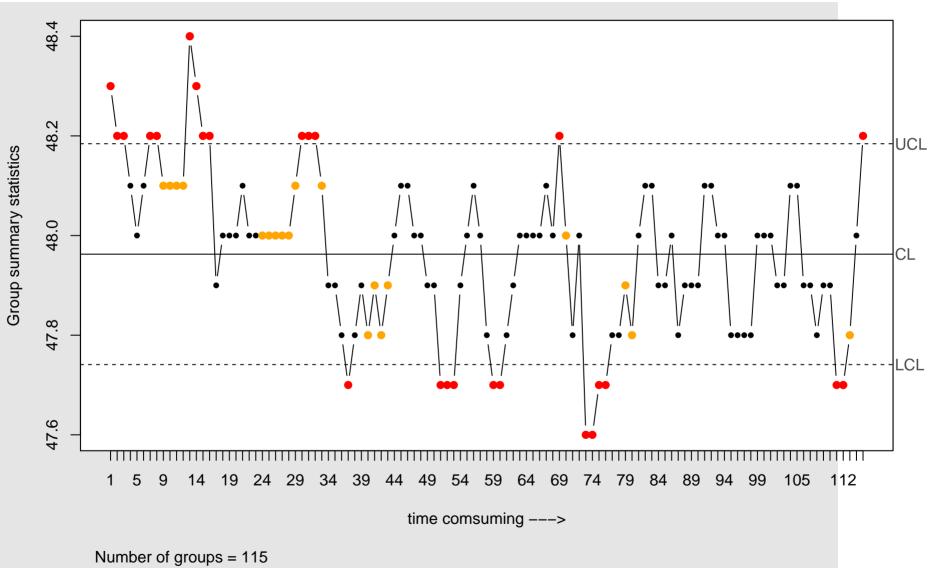
LCL = 47.68728 UCL = 48.06055 Number beyond limits = 28 Number violating runs = 28



Number of groups = 115 Center = 47.96261 StdDev = 0.07543238

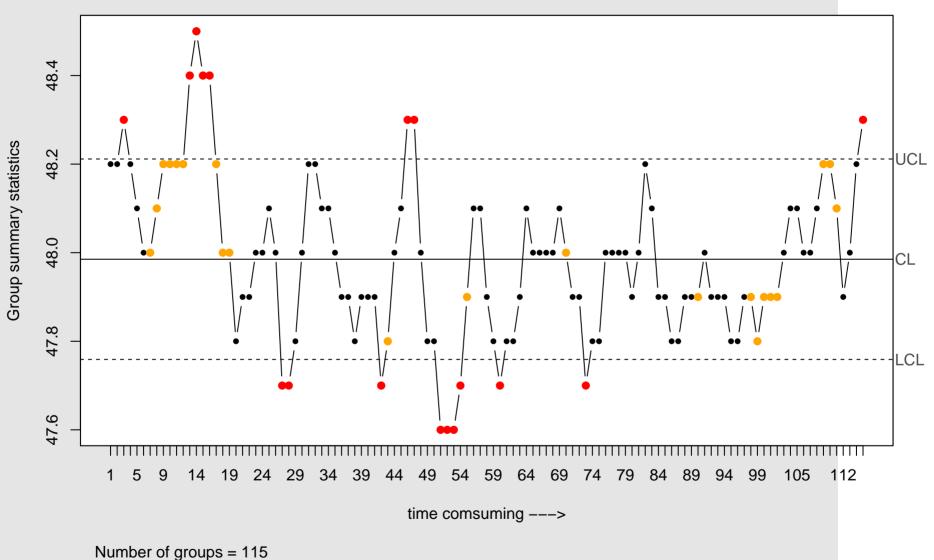
LCL = 47.73631 UCL = 48.18891

Number beyond limits = 21 Number violating runs = 10



Number of groups = 115 Center = 47.96261 StdDev = 0.07387707

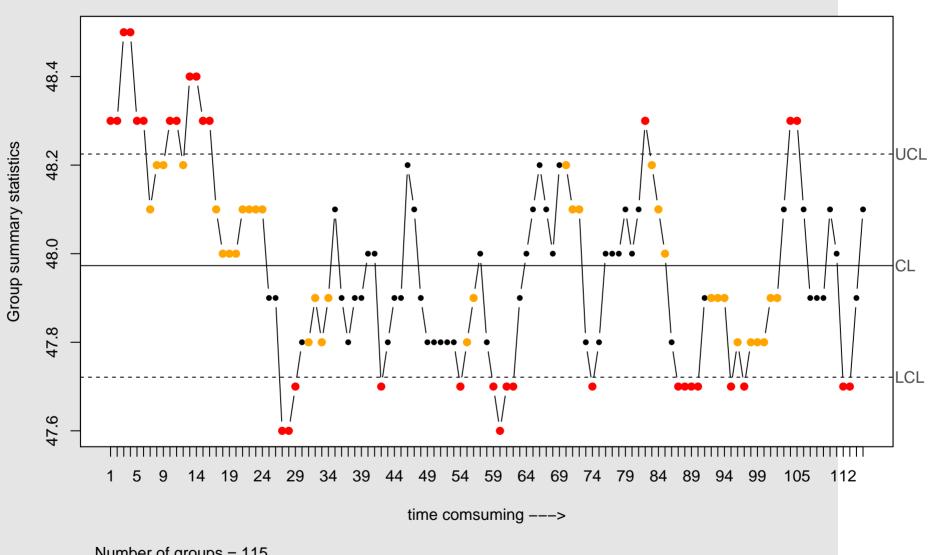
LCL = 47.74098 UCL = 48.18424 Number beyond limits = 26 Number violating runs = 30



Number of groups = 115 Center = 47.98522 StdDev = 0.07543238

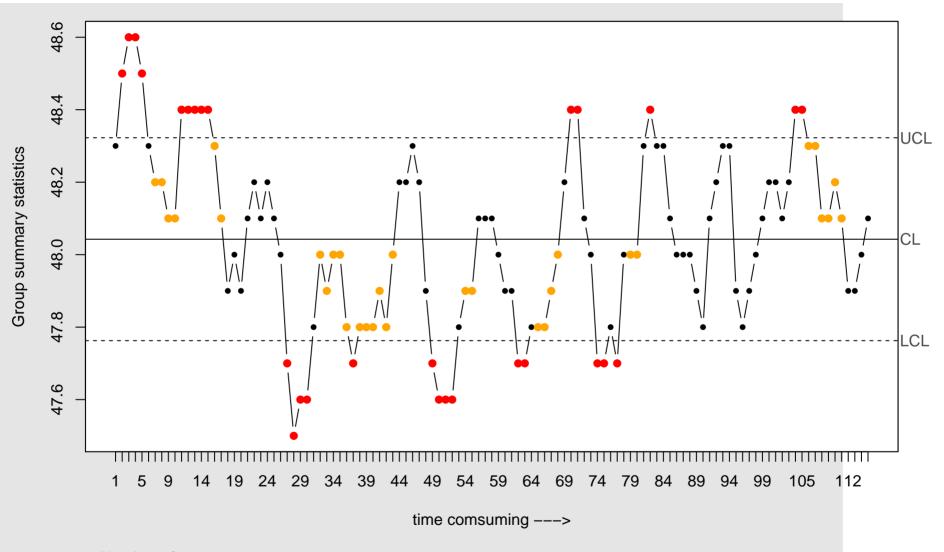
LCL = 47.75892 UCL = 48.21151

Number beyond limits = 17 Number violating runs = 26



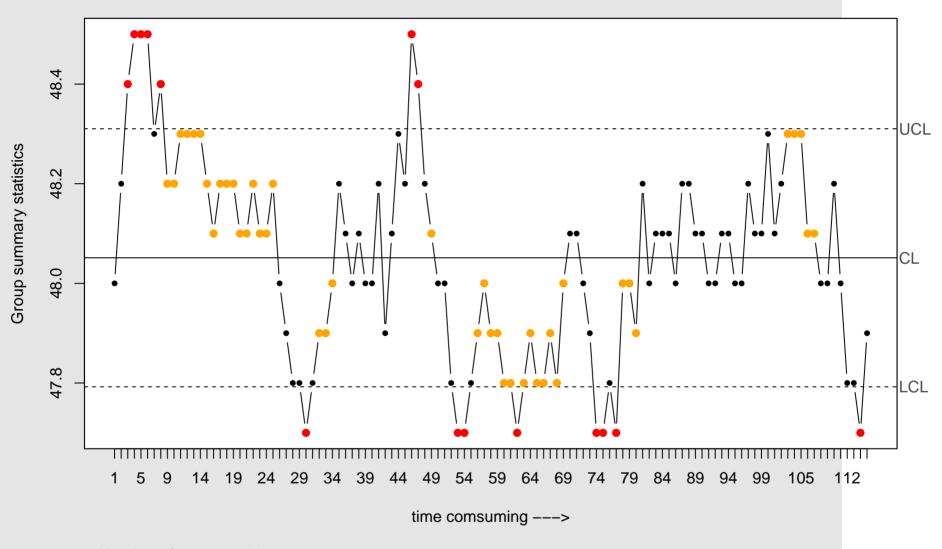
Number of groups = 115 Center = 47.97304 StdDev = 0.08398656

LCL = 47.72108 UCL = 48.225 Number beyond limits = 33 Number violating runs = 43



Number of groups = 115 Center = 48.04261 StdDev = 0.0933184

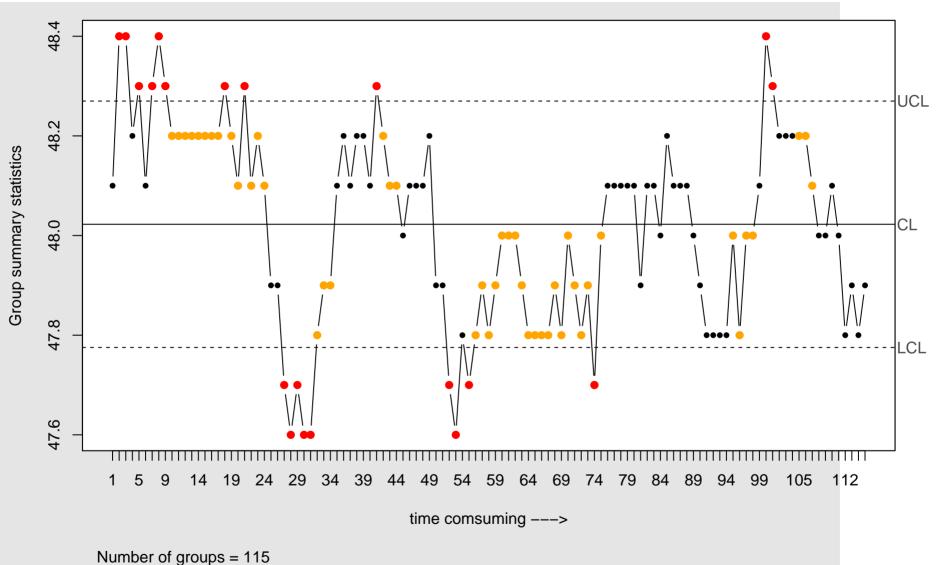
LCL = 47.76265 UCL = 48.32256 Number beyond limits = 28 Number violating runs = 38



Number of groups = 115 Center = 48.0513 StdDev = 0.08631952

LCL = 47.79235 UCL = 48.31026

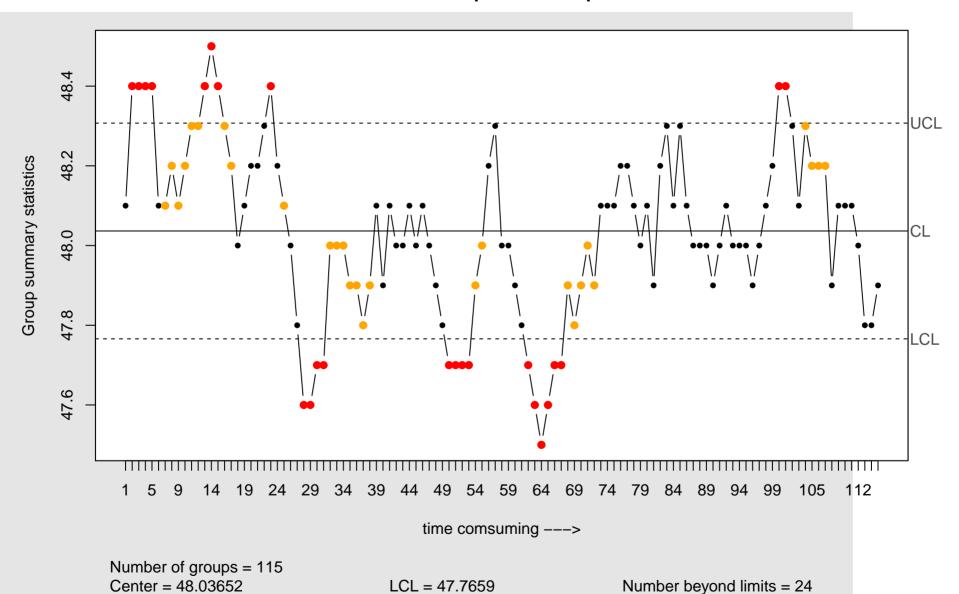
Number beyond limits = 15 Number violating runs = 44



Number of groups = 115 Center = 48.02261 StdDev = 0.08243126

LCL = 47.77531 UCL = 48.2699

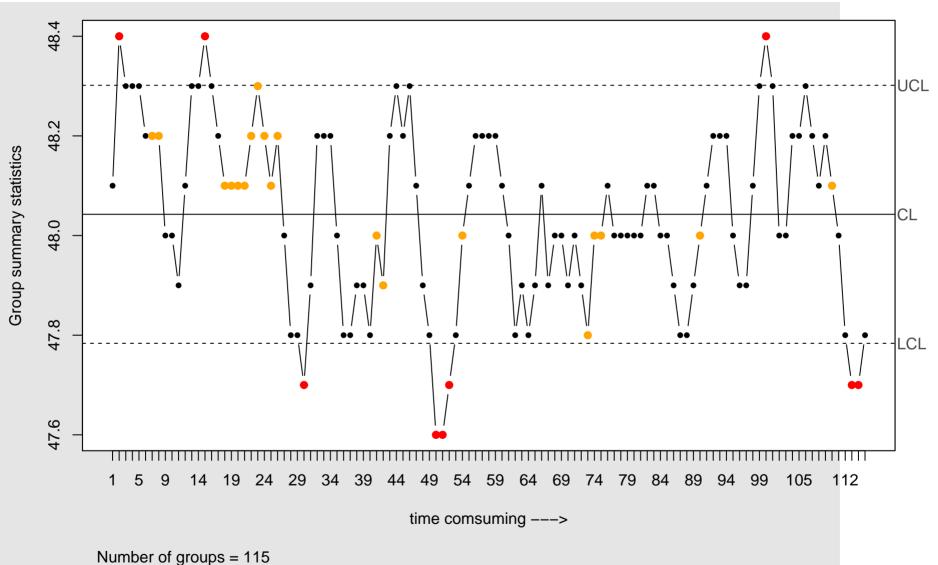
Number beyond limits = 20 Number violating runs = 53



UCL = 48.30715

Number violating runs = 35

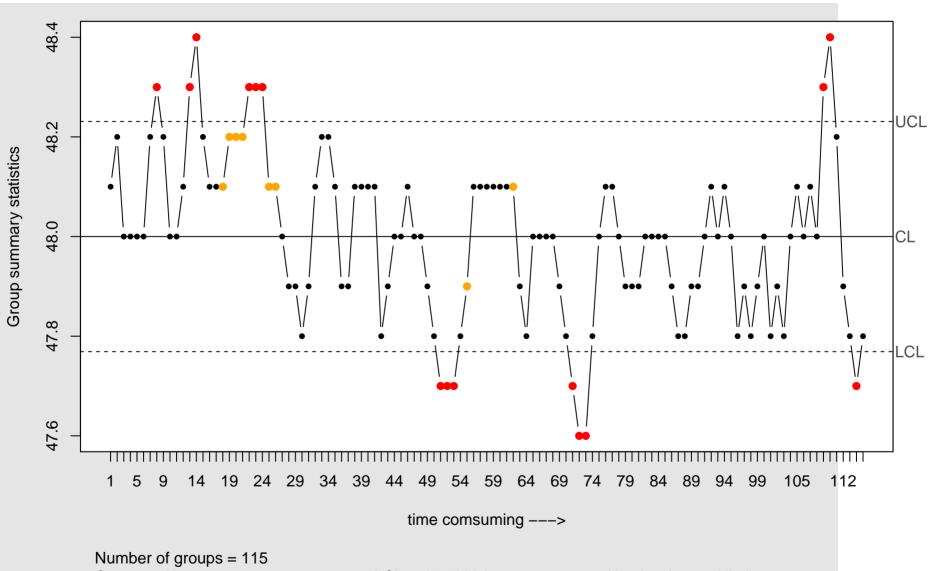
StdDev = 0.09020779



Number of groups = 115 Center = 48.04261 StdDev = 0.08631952

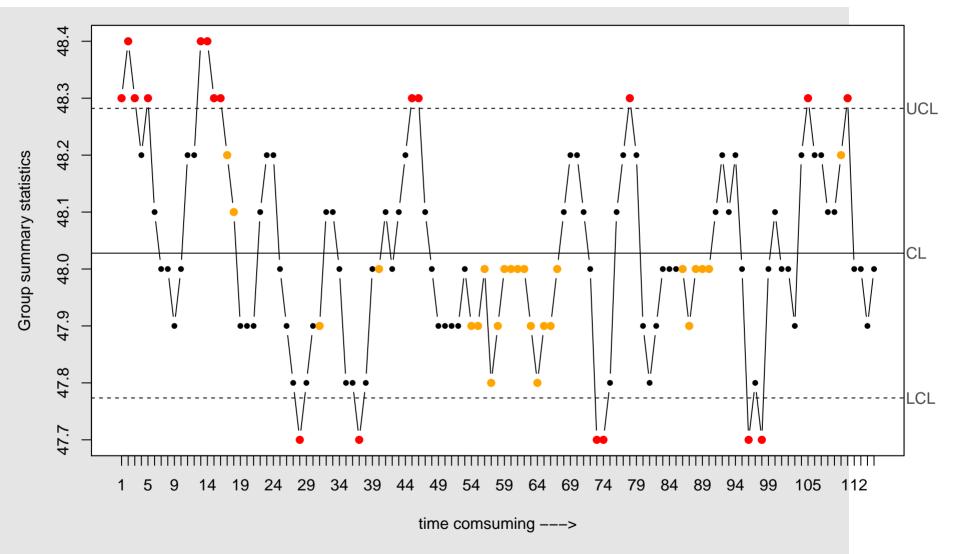
LCL = 47.78365 UCL = 48.30157

Number beyond limits = 9 Number violating runs = 19



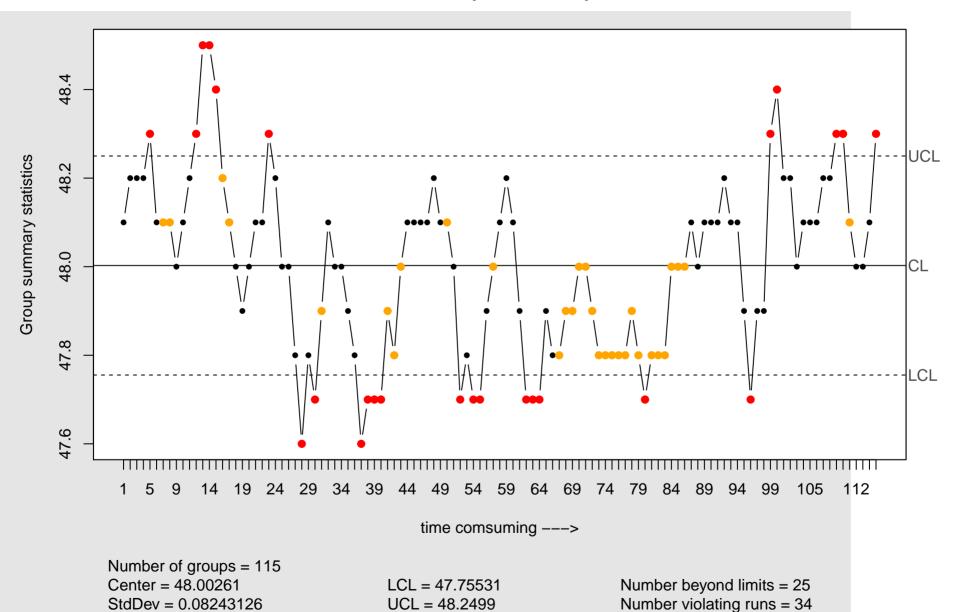
Number of groups = 115 Center = 48 StdDev = 0.07698768

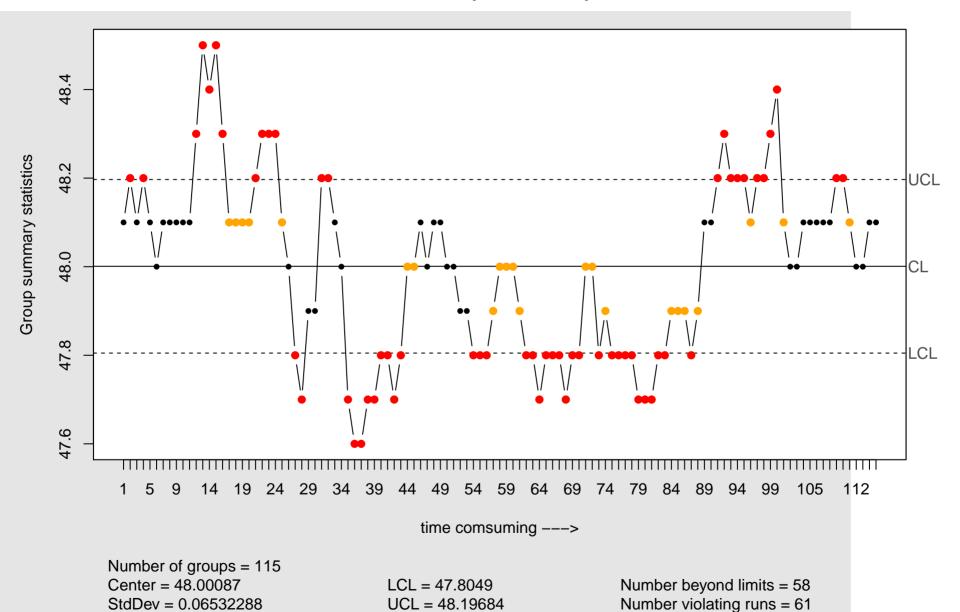
LCL = 47.76904 UCL = 48.23096 Number beyond limits = 15 Number violating runs = 11

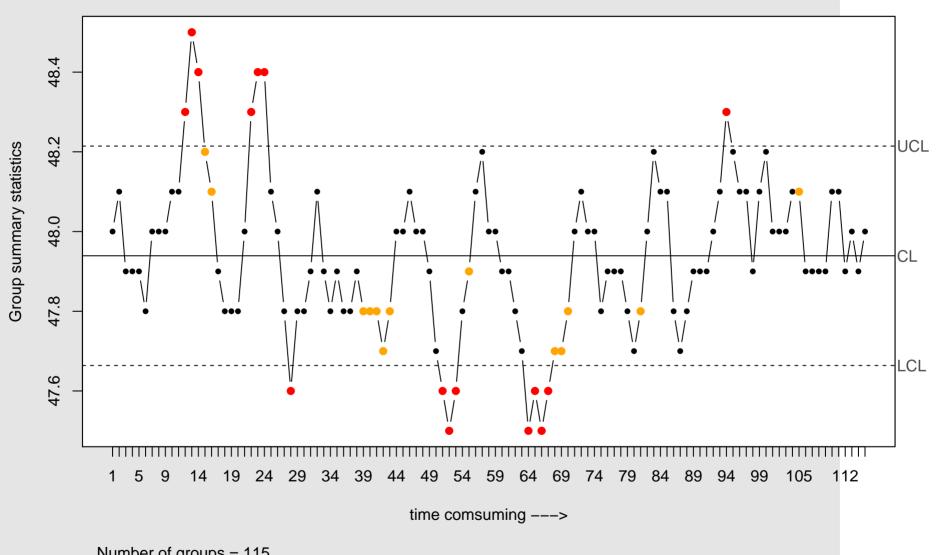


Number of groups = 115 Center = 48.02783 StdDev = 0.08476422

LCL = 47.77353 UCL = 48.28212 Number beyond limits = 19 Number violating runs = 25



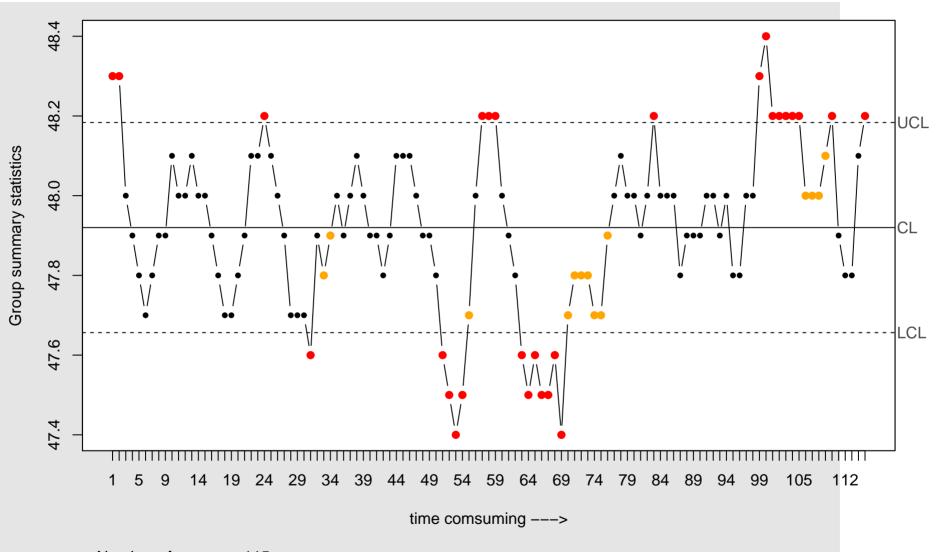




Number of groups = 115 Center = 47.93913 StdDev = 0.0917631

LCL = 47.66384 UCL = 48.21442

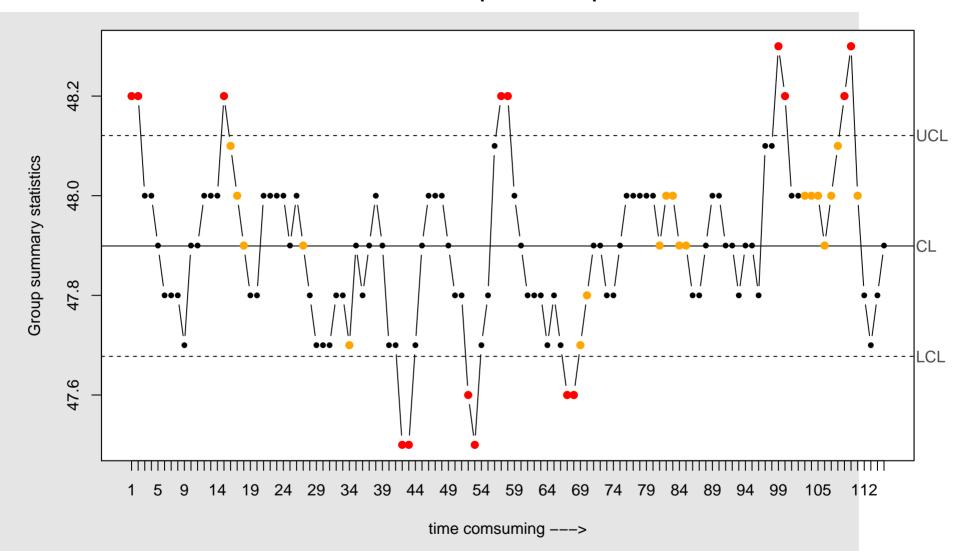
Number beyond limits = 15 Number violating runs = 17



Number of groups = 115 Center = 47.92 StdDev = 0.08787483

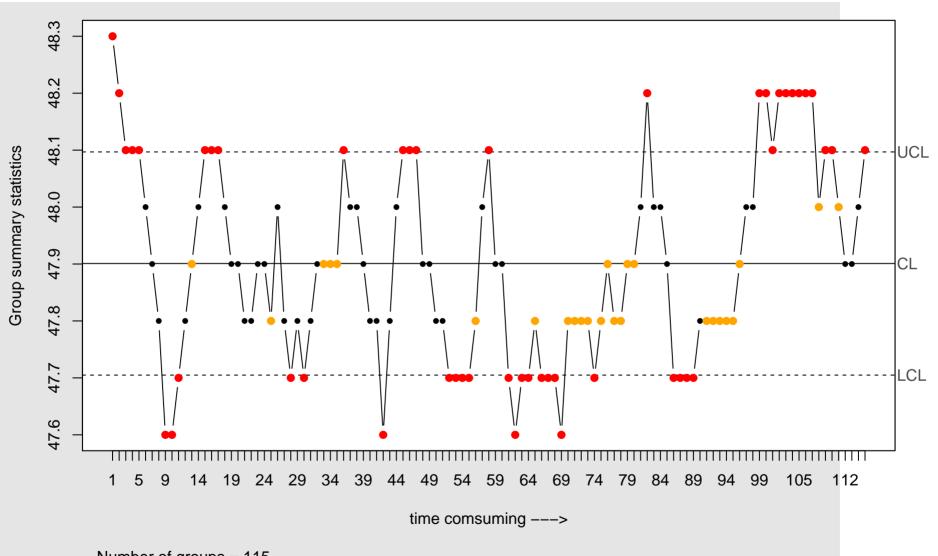
LCL = 47.65638 UCL = 48.18362

Number beyond limits = 28 Number violating runs = 22



Number of groups = 115 Center = 47.89913 StdDev = 0.07387707

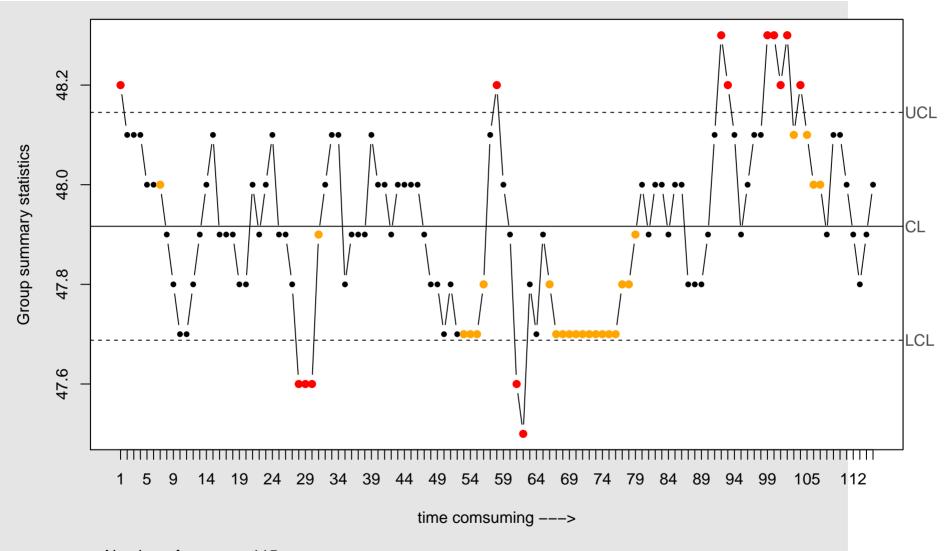
LCL = 47.6775 UCL = 48.12076 Number beyond limits = 15 Number violating runs = 23



Number of groups = 115 Center = 47.90087 StdDev = 0.06532288

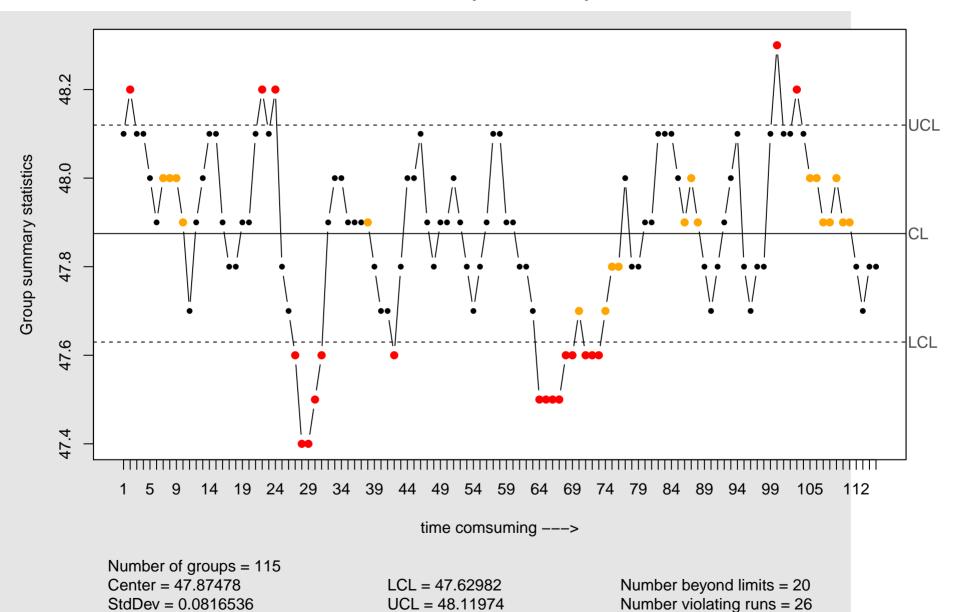
LCL = 47.7049 UCL = 48.09684

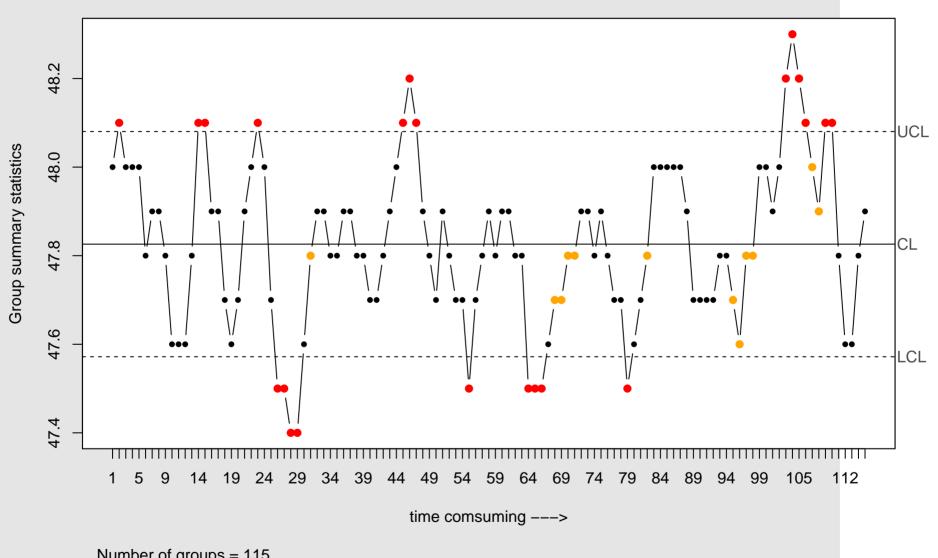
Number beyond limits = 49 Number violating runs = 39



Number of groups = 115 Center = 47.91652 StdDev = 0.07621003

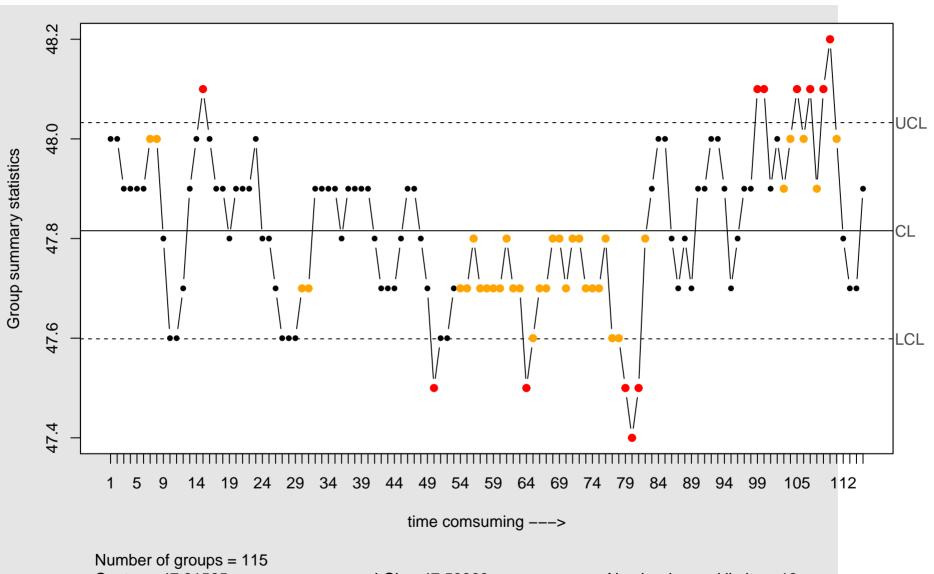
LCL = 47.68789 UCL = 48.14515 Number beyond limits = 14 Number violating runs = 26





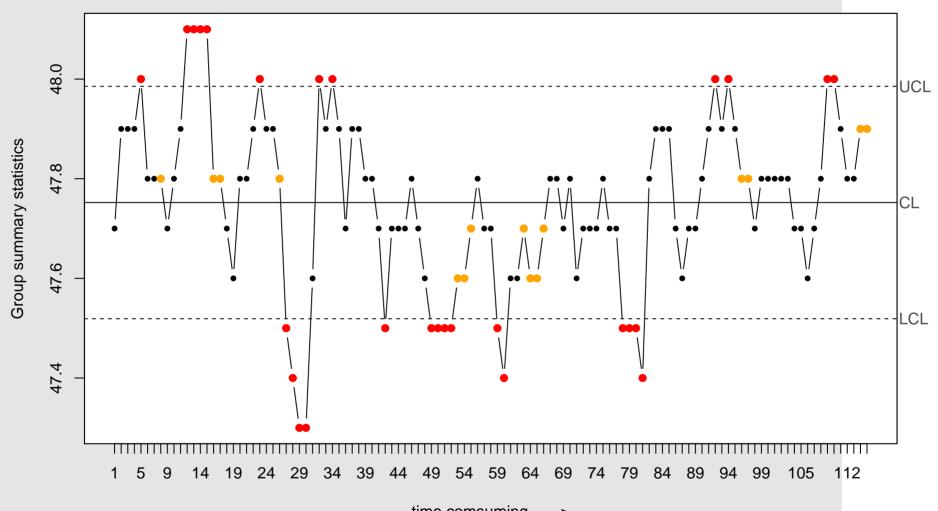
Number of groups = 115 Center = 47.82609 StdDev = 0.08476422

LCL = 47.57179 UCL = 48.08038 Number beyond limits = 22 Number violating runs = 16



Number of groups = 115 Center = 47.81565 StdDev = 0.07232176

LCL = 47.59869 UCL = 48.03262 Number beyond limits = 12 Number violating runs = 42

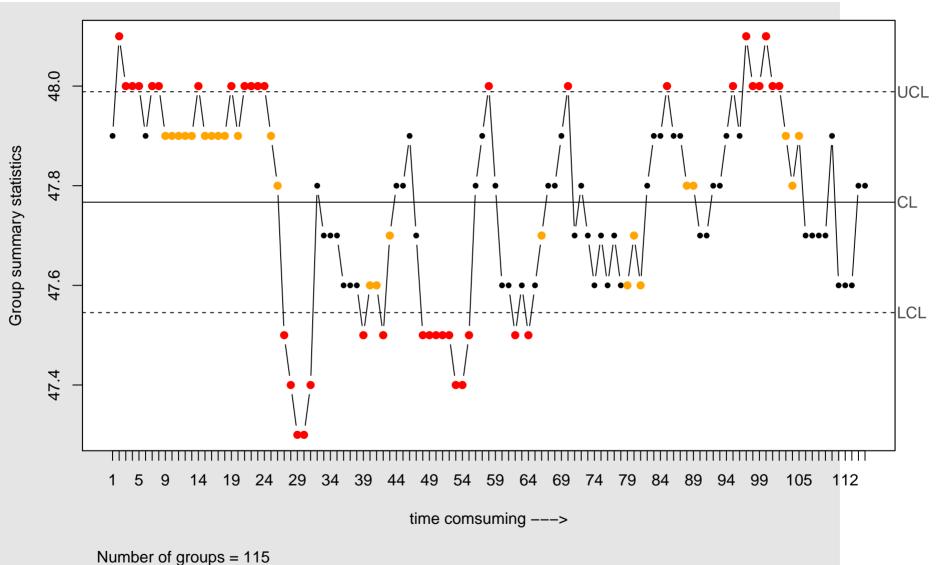


time comsuming --->

Number of groups = 115 Center = 47.75217 StdDev = 0.07776534

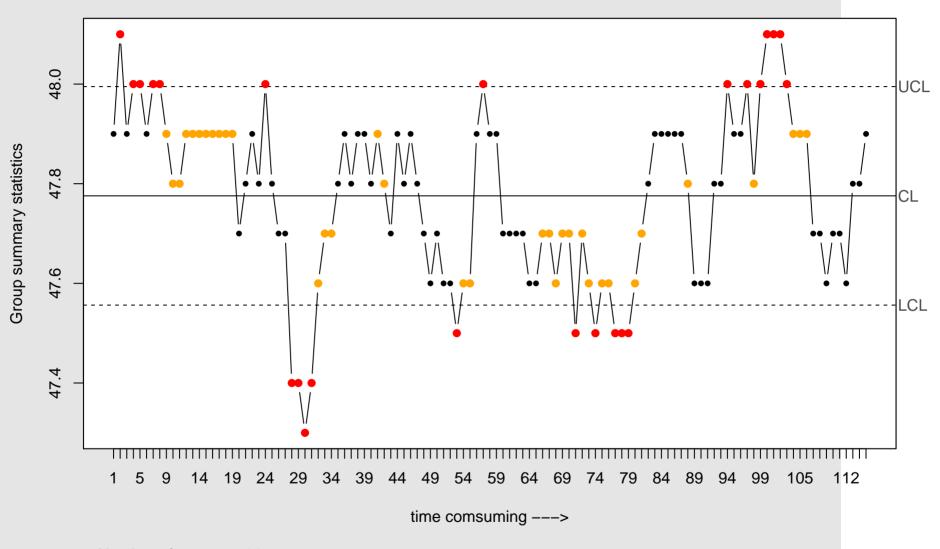
LCL = 47.51888 UCL = 47.98547

Number beyond limits = 27 Number violating runs = 15



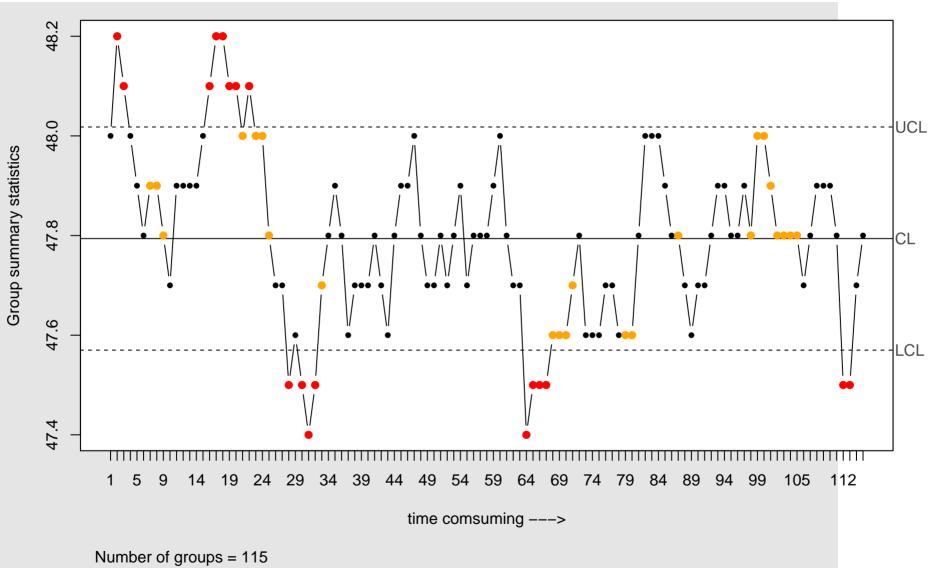
Number of groups = 115 Center = 47.76696 StdDev = 0.07387707

LCL = 47.54533 UCL = 47.98859 Number beyond limits = 39 Number violating runs = 42



Number of groups = 115 Center = 47.77565 StdDev = 0.07309942

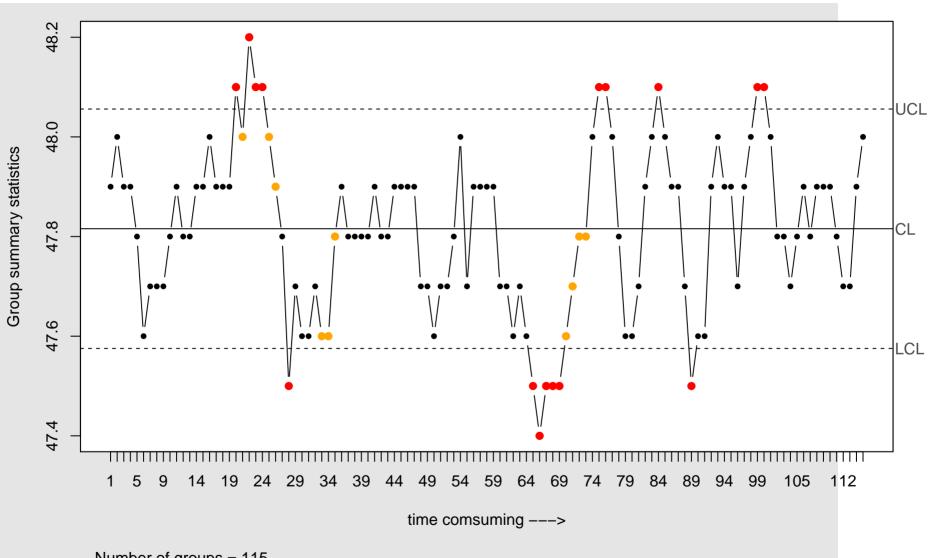
LCL = 47.55635 UCL = 47.99495 Number beyond limits = 24 Number violating runs = 46



Number of groups = 115 Center = 47.79391 StdDev = 0.07465472

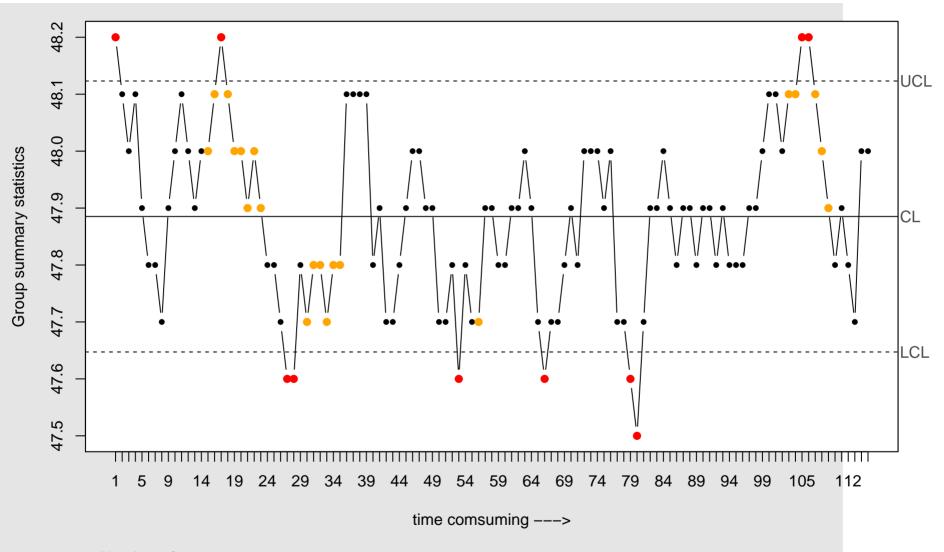
LCL = 47.56995 UCL = 48.01788

Number beyond limits = 18 Number violating runs = 29



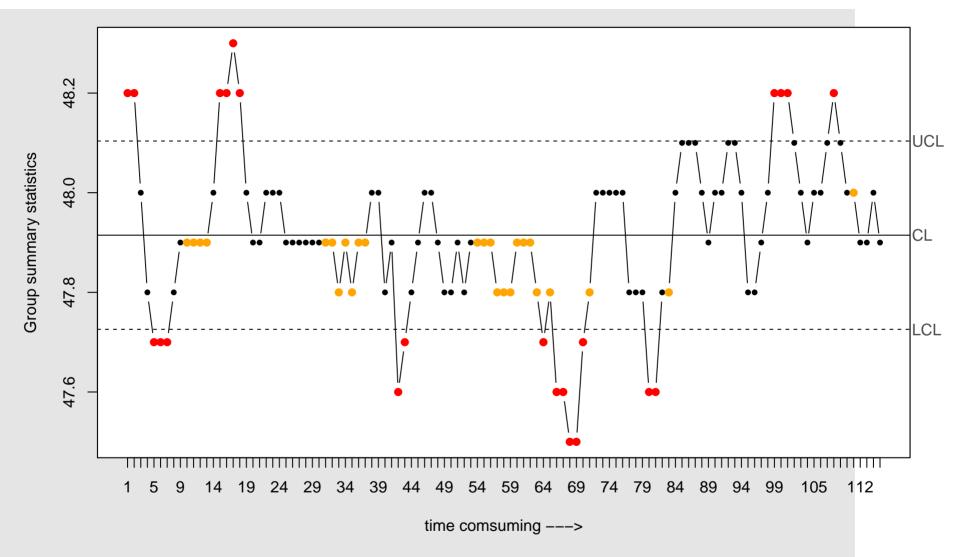
Number of groups = 115 Center = 47.81565 StdDev = 0.0800983

LCL = 47.57536 UCL = 48.05595 Number beyond limits = 16 Number violating runs = 18



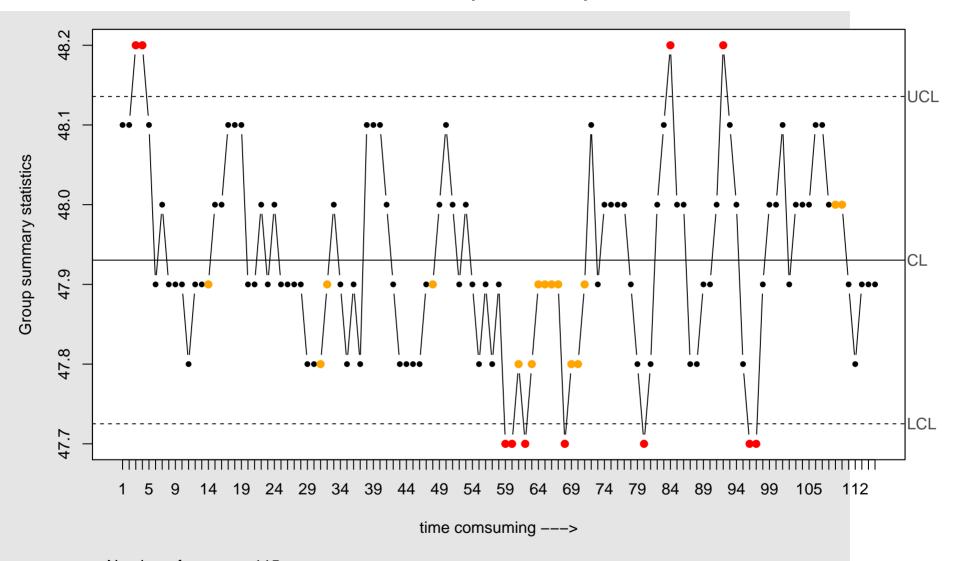
Number of groups = 115 Center = 47.88522 StdDev = 0.07932064

LCL = 47.64726 UCL = 48.12318 Number beyond limits = 10 Number violating runs = 23



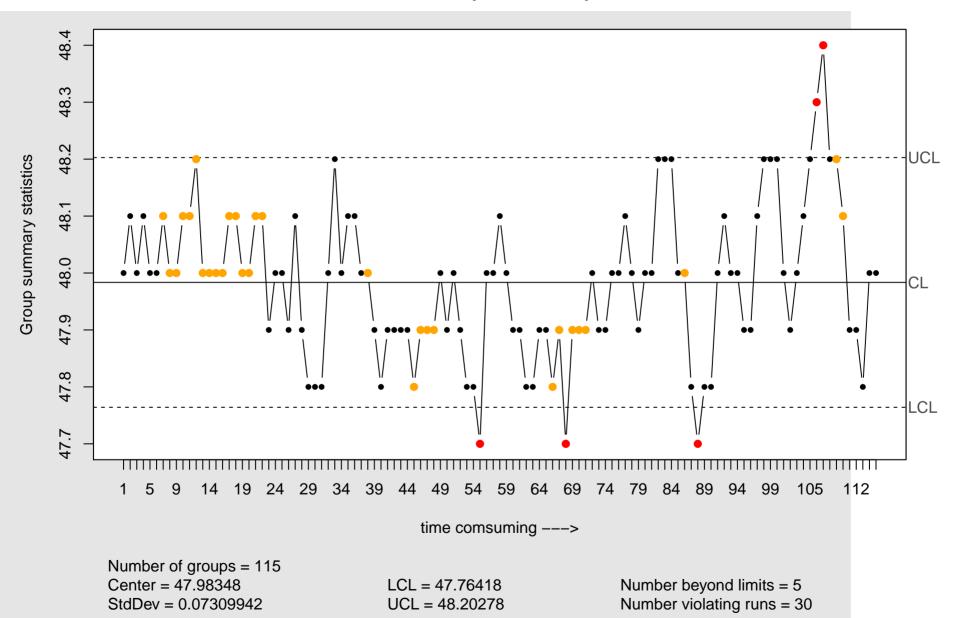
Number of groups = 115 Center = 47.91478 StdDev = 0.06298992

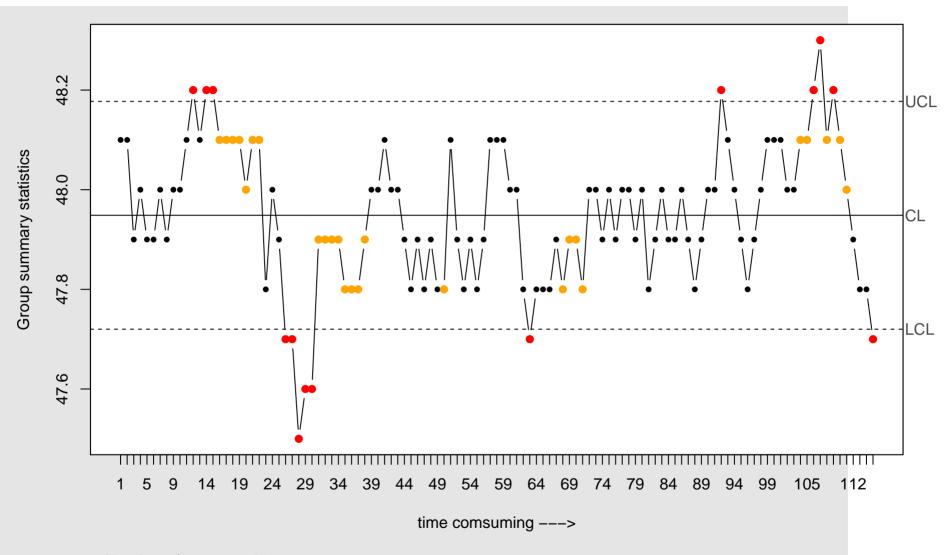
LCL = 47.72581 UCL = 48.10375 Number beyond limits = 23 Number violating runs = 31



Number of groups = 115 Center = 47.93043 StdDev = 0.0684335

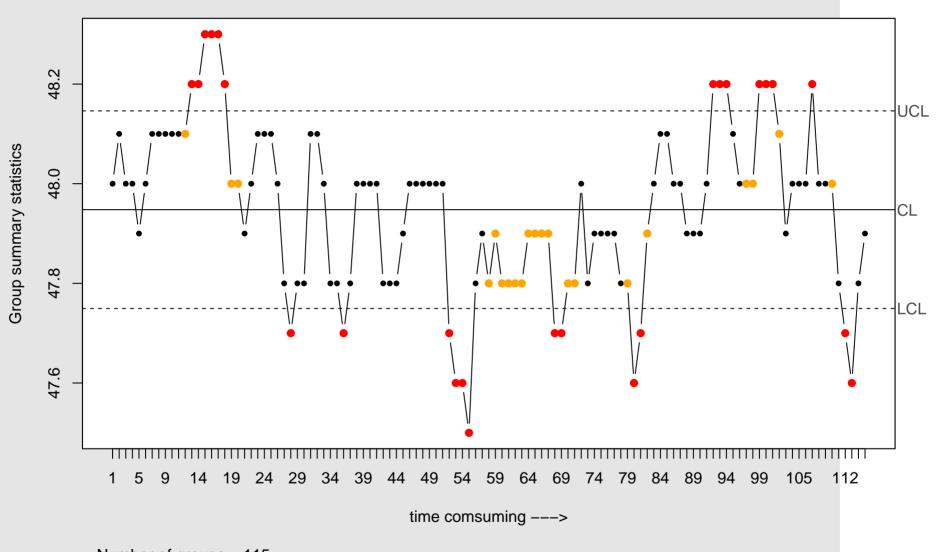
LCL = 47.72513 UCL = 48.13574 Number beyond limits = 11 Number violating runs = 18





Number of groups = 115 Center = 47.9487 StdDev = 0.07621003

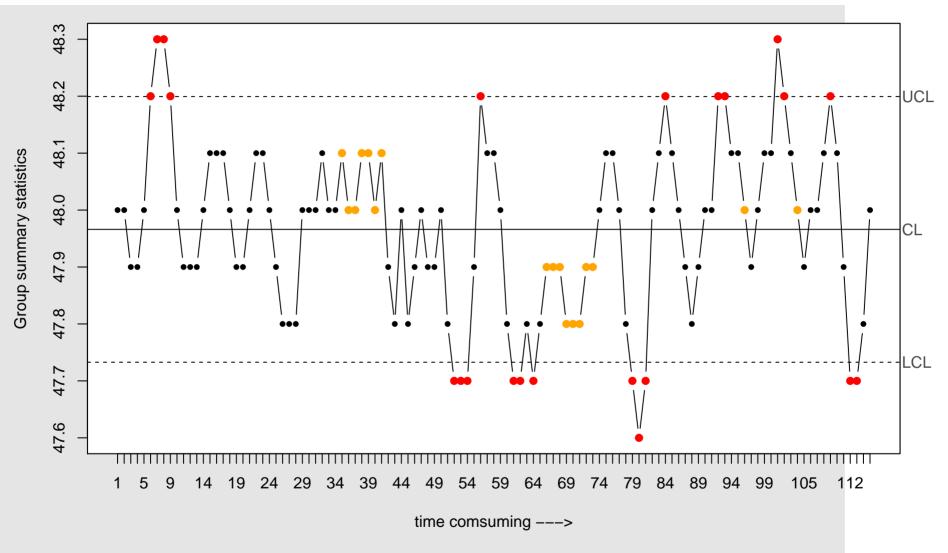
LCL = 47.72007 UCL = 48.17733 Number beyond limits = 14 Number violating runs = 29



Number of groups = 115 Center = 47.94783 StdDev = 0.06610054

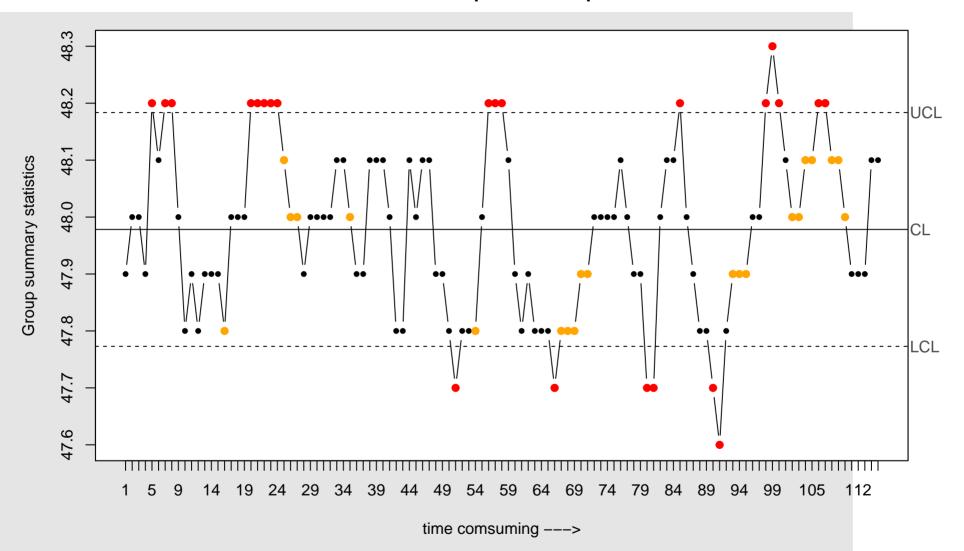
LCL = 47.74952 UCL = 48.14613

Number beyond limits = 25 Number violating runs = 34



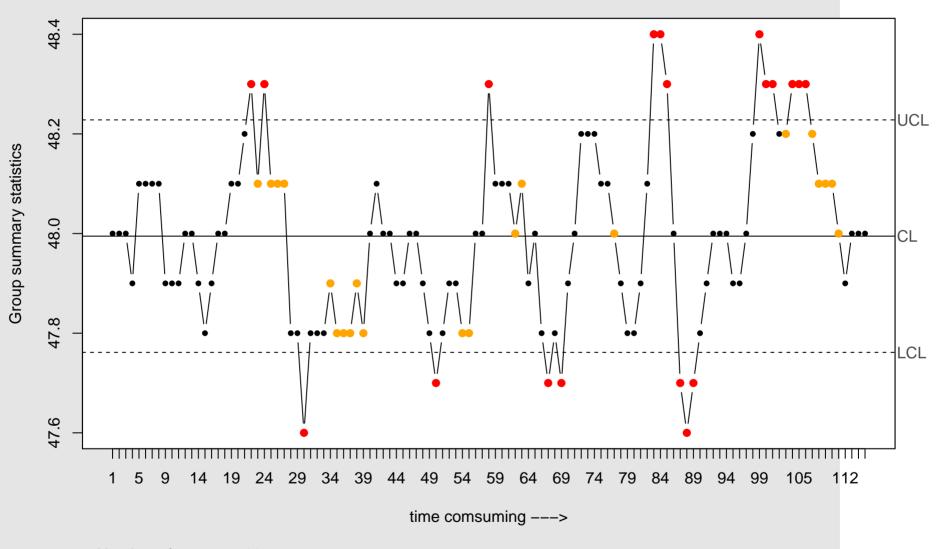
Number of groups = 115 Center = 47.96609 StdDev = 0.07776534

LCL = 47.73279 UCL = 48.19938 Number beyond limits = 22 Number violating runs = 17



Number of groups = 115 Center = 47.97826 StdDev = 0.0684335

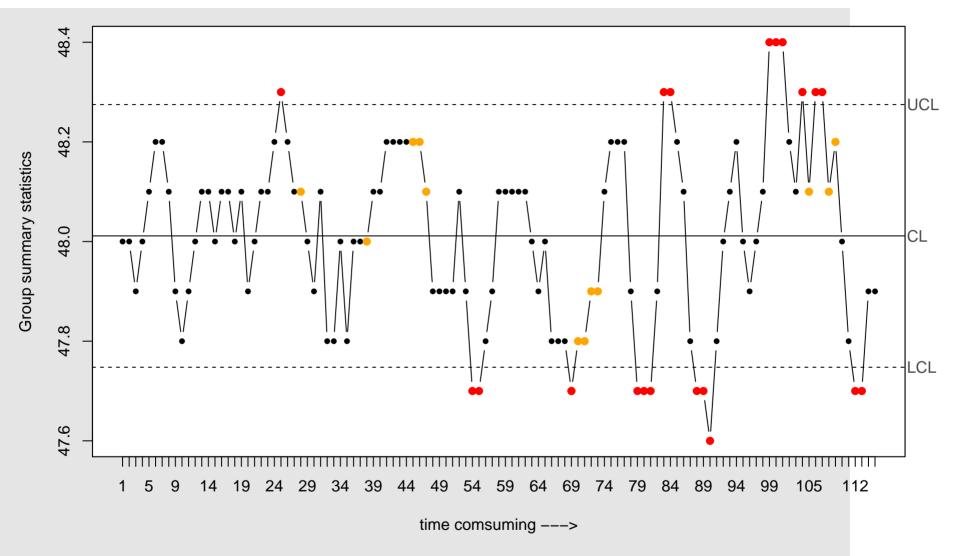
LCL = 47.77296 UCL = 48.18356 Number beyond limits = 23 Number violating runs = 26



Number of groups = 115 Center = 47.99478 StdDev = 0.07776534

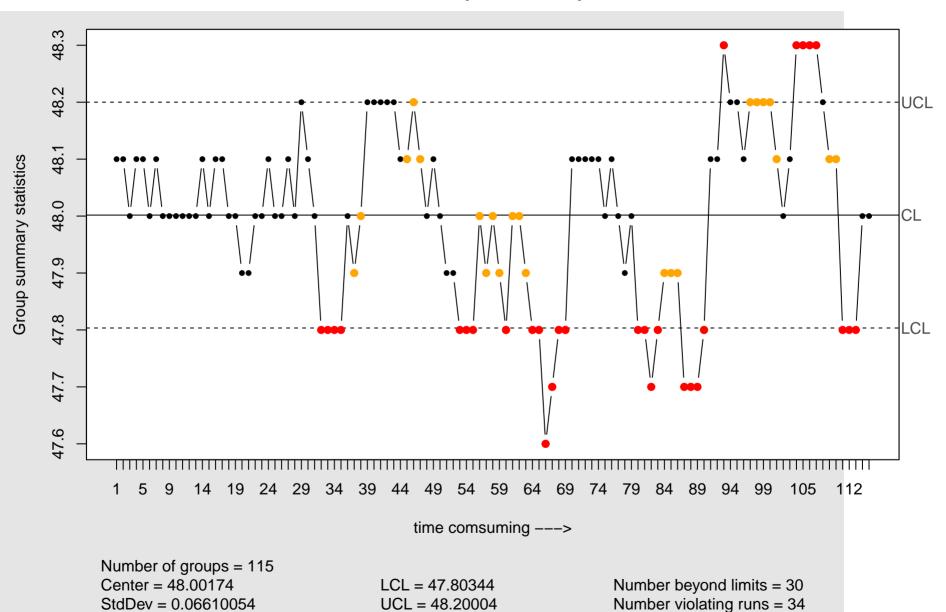
LCL = 47.76149 UCL = 48.22808

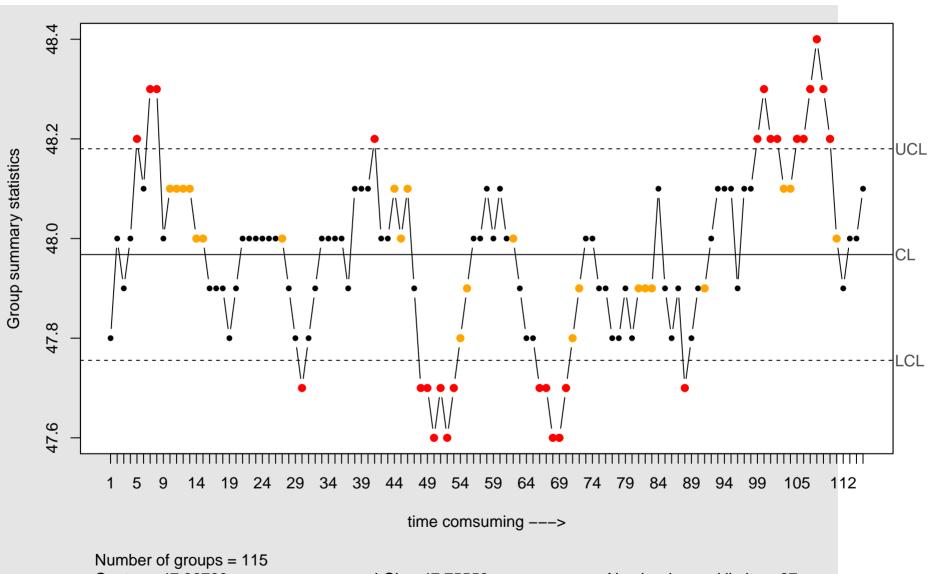
Number beyond limits = 19 Number violating runs = 25



Number of groups = 115 Center = 48.0113 StdDev = 0.08787483

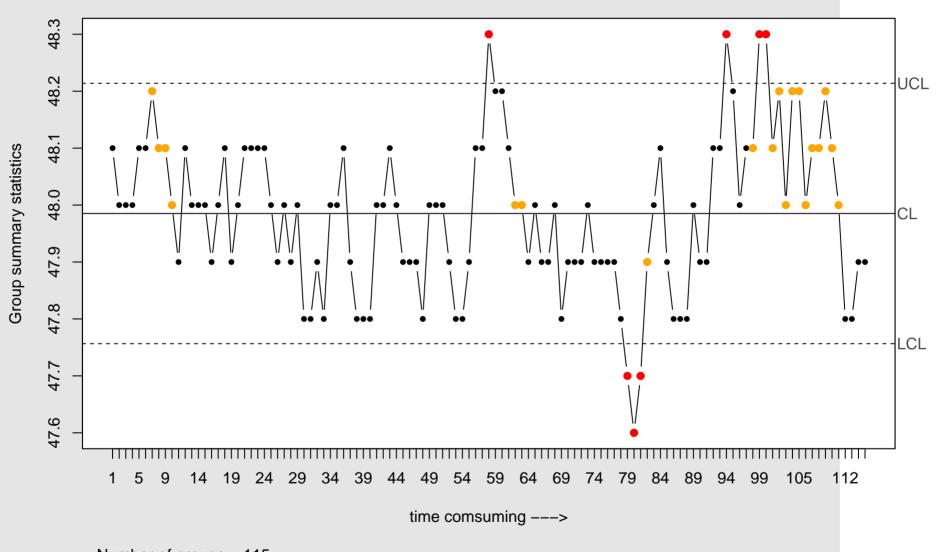
LCL = 47.74768 UCL = 48.27493 Number beyond limits = 20 Number violating runs = 16





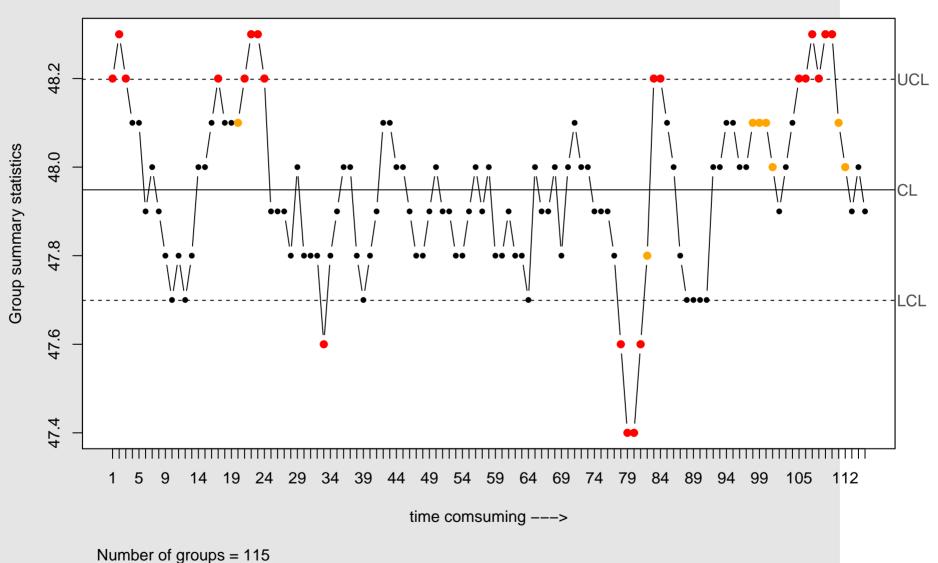
Number of groups = 115 Center = 47.96783 StdDev = 0.07076646

LCL = 47.75553 UCL = 48.18013 Number beyond limits = 27 Number violating runs = 31



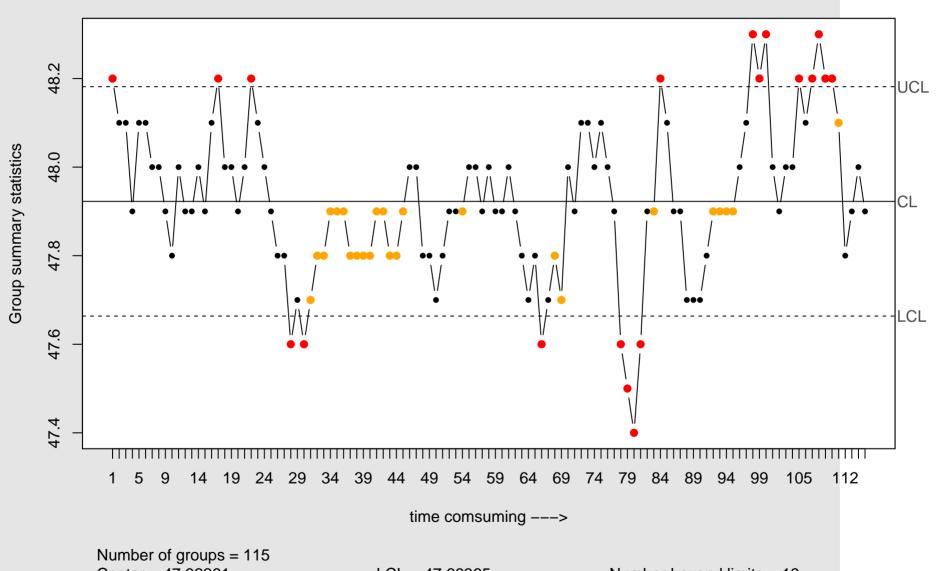
Number of groups = 115 Center = 47.98522 StdDev = 0.07621003

LCL = 47.75659 UCL = 48.21385 Number beyond limits = 7 Number violating runs = 23



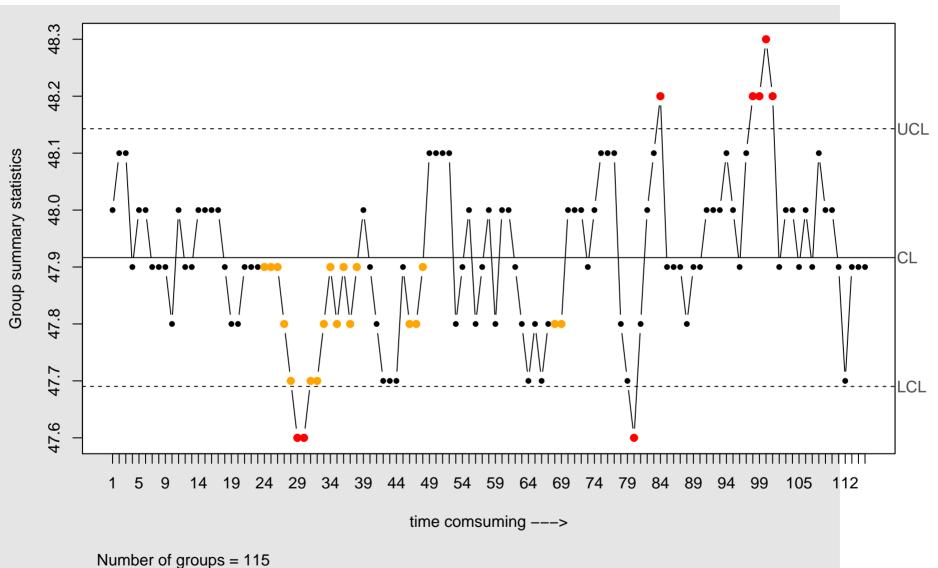
Number of groups = 115 Center = 47.9487 StdDev = 0.08320891

LCL = 47.69907 UCL = 48.19832 Number beyond limits = 21 Number violating runs = 16



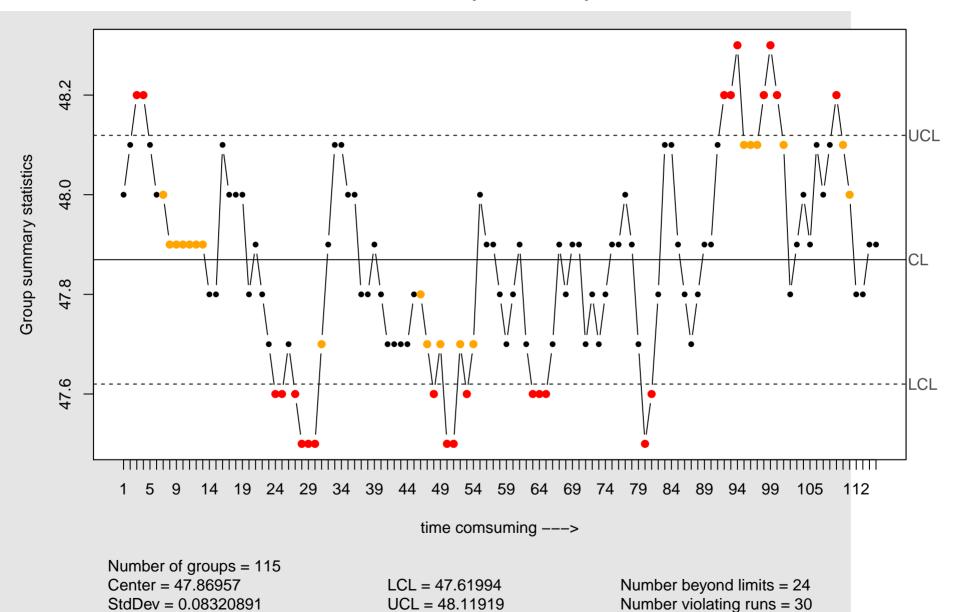
Number of groups = 115 Center = 47.92261 StdDev = 0.08631952

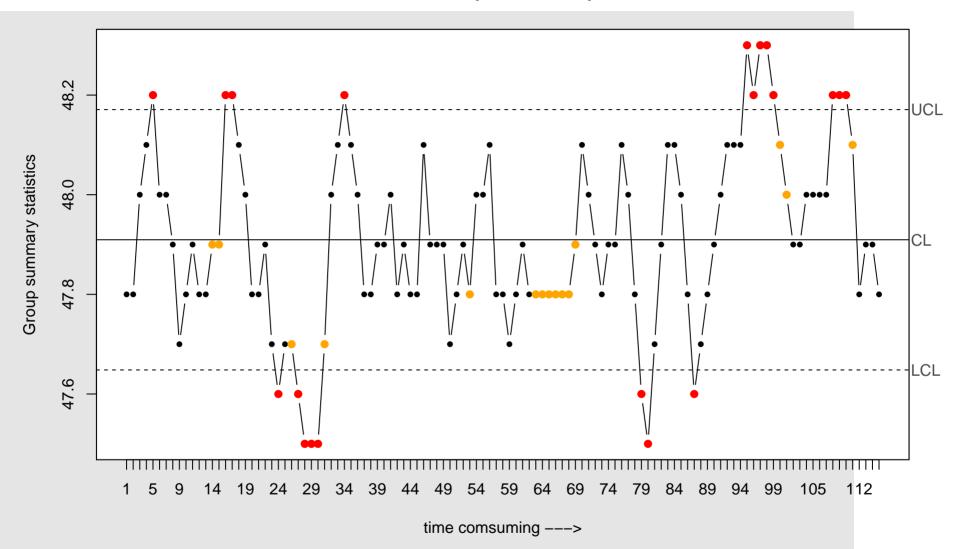
LCL = 47.66365 UCL = 48.18157 Number beyond limits = 19 Number violating runs = 26



Number of groups = 115 Center = 47.91652 StdDev = 0.07543238

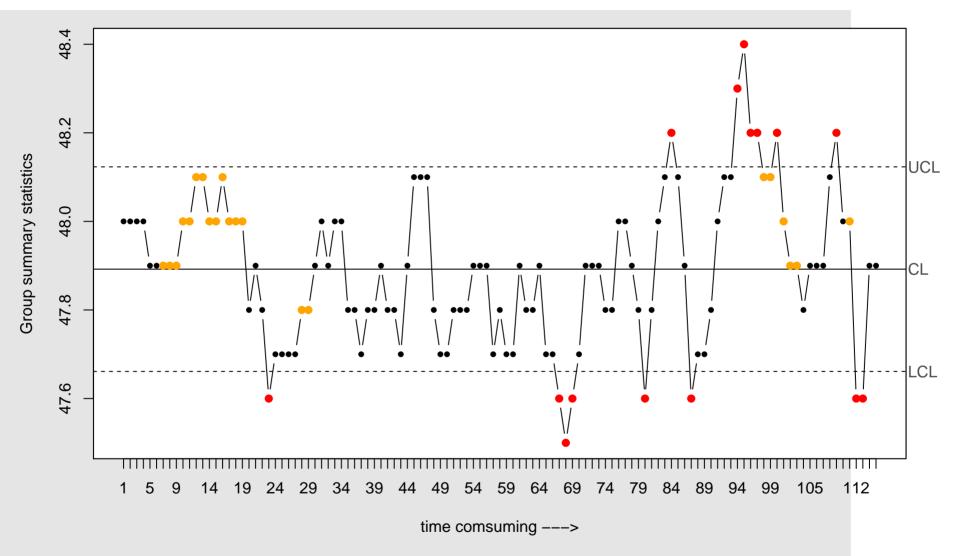
LCL = 47.69022 UCL = 48.14282 Number beyond limits = 8 Number violating runs = 20





Number of groups = 115 Center = 47.90957 StdDev = 0.08709718

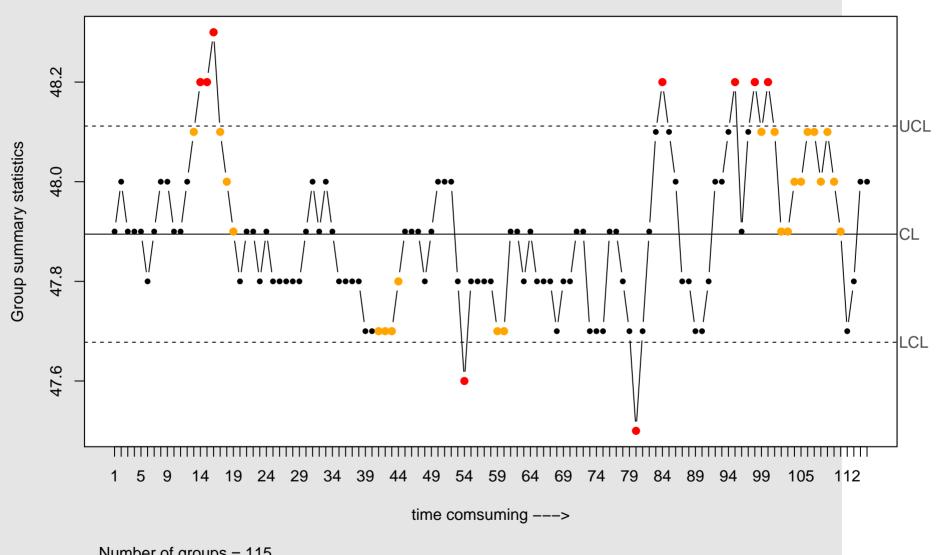
LCL = 47.64827 UCL = 48.17086 Number beyond limits = 20 Number violating runs = 23



Number of groups = 115 Center = 47.89217 StdDev = 0.07698768

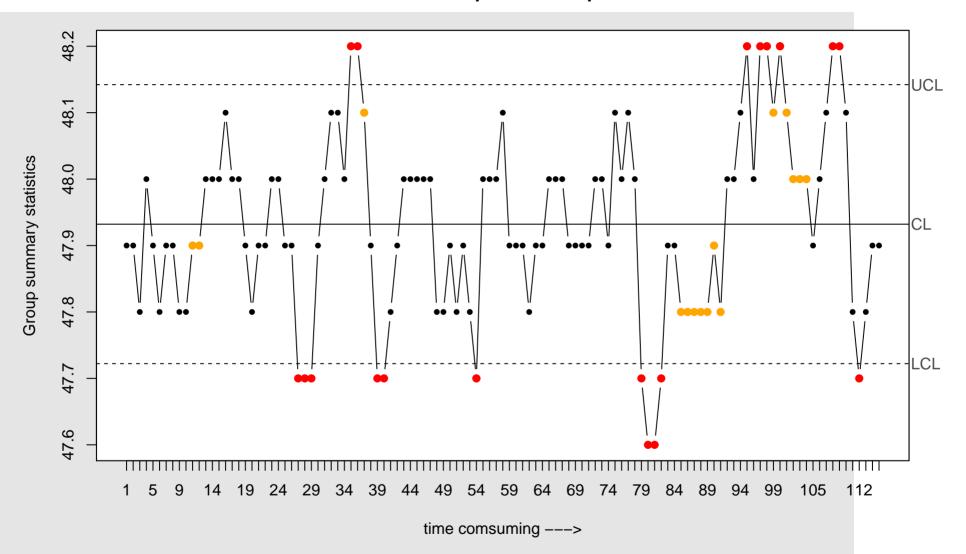
LCL = 47.66121 UCL = 48.12314

Number beyond limits = 15 Number violating runs = 23



Number of groups = 115 Center = 47.89478 StdDev = 0.07232176

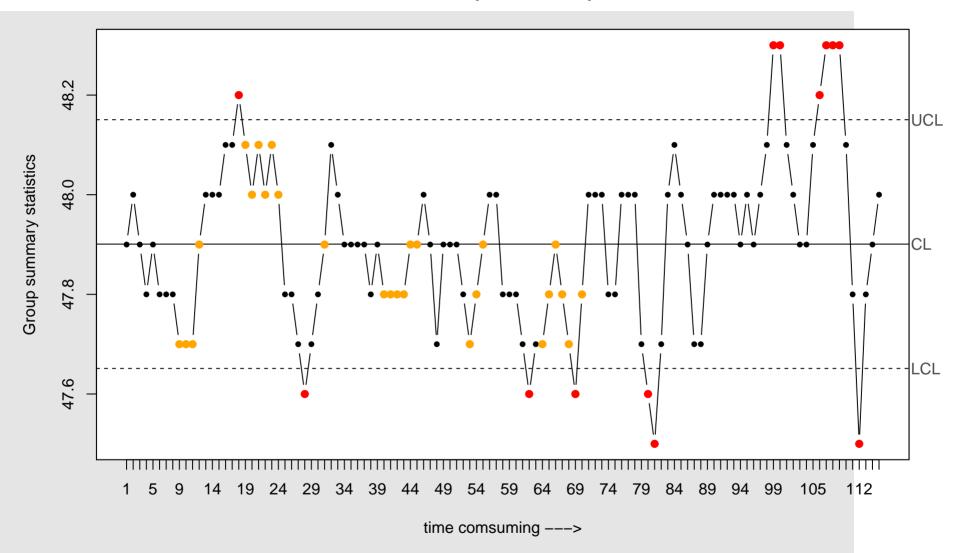
LCL = 47.67782 UCL = 48.11175 Number beyond limits = 9 Number violating runs = 27



Number of groups = 115 Center = 47.93217

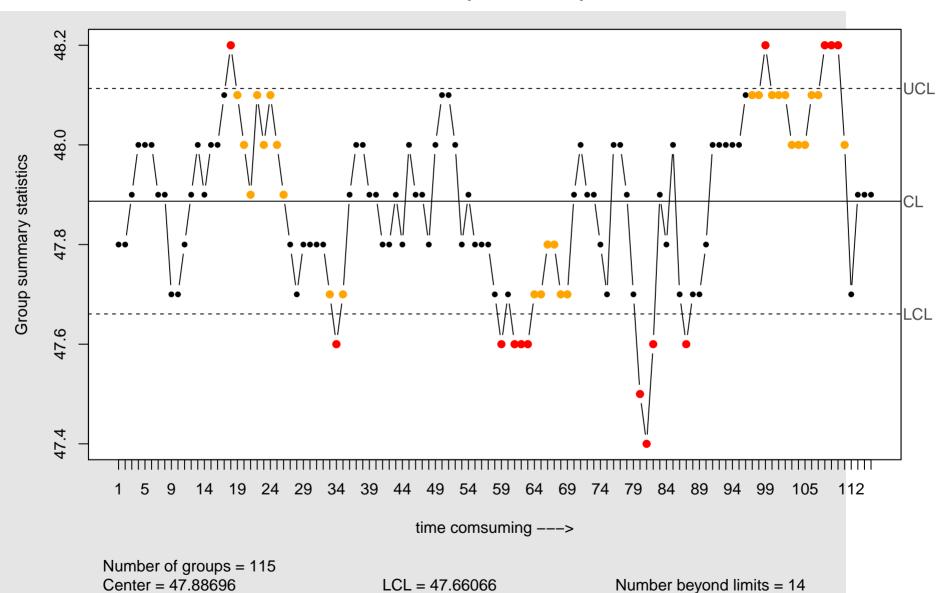
StdDev = 0.0699888

LCL = 47.72221 UCL = 48.14214 Number beyond limits = 19 Number violating runs = 18



Number of groups = 115 Center = 47.90087 StdDev = 0.08320891

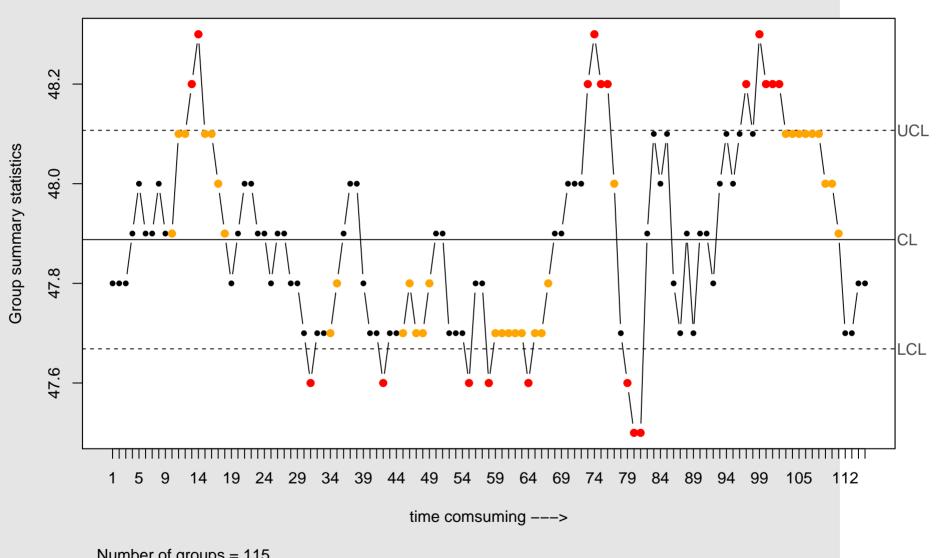
LCL = 47.65124 UCL = 48.1505 Number beyond limits = 13 Number violating runs = 27



UCL = 48.11325

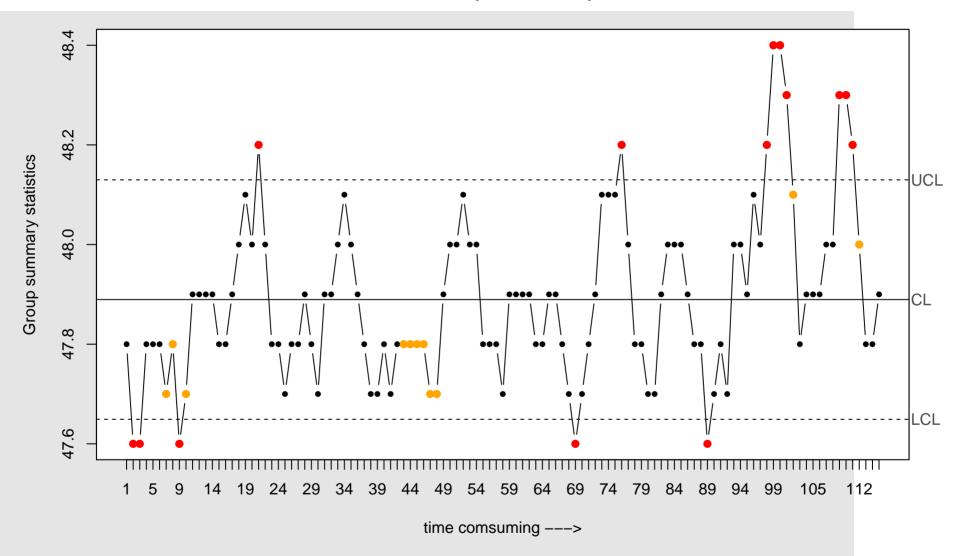
Number violating runs = 36

StdDev = 0.07543238



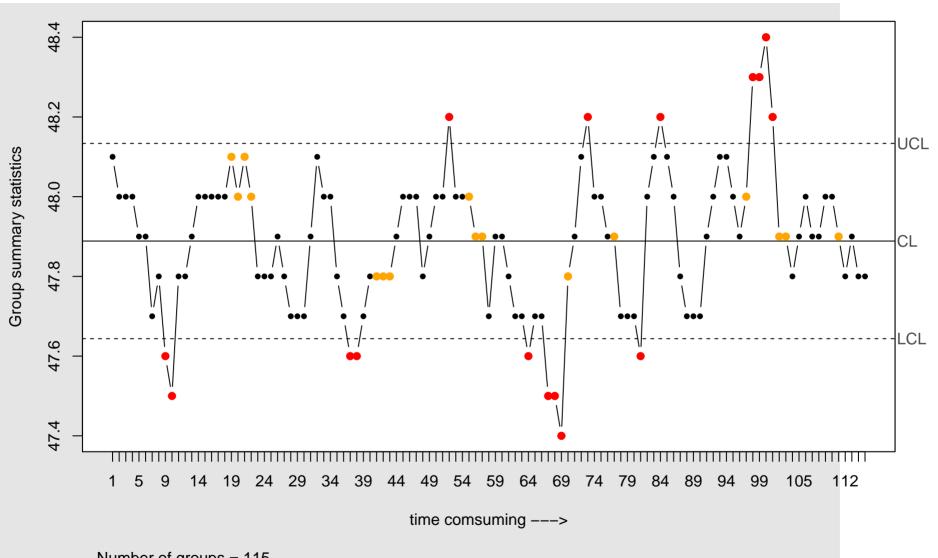
Number of groups = 115 Center = 47.88783 StdDev = 0.07309942

LCL = 47.66853 UCL = 48.10712 Number beyond limits = 19 Number violating runs = 43



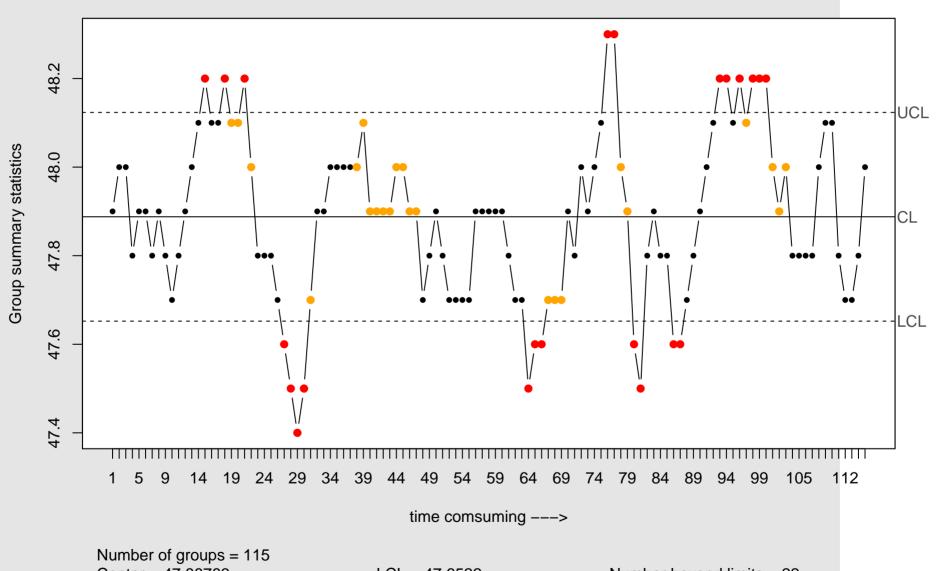
Number of groups = 115 Center = 47.88957 StdDev = 0.0800983

LCL = 47.64927 UCL = 48.12986 Number beyond limits = 14 Number violating runs = 17



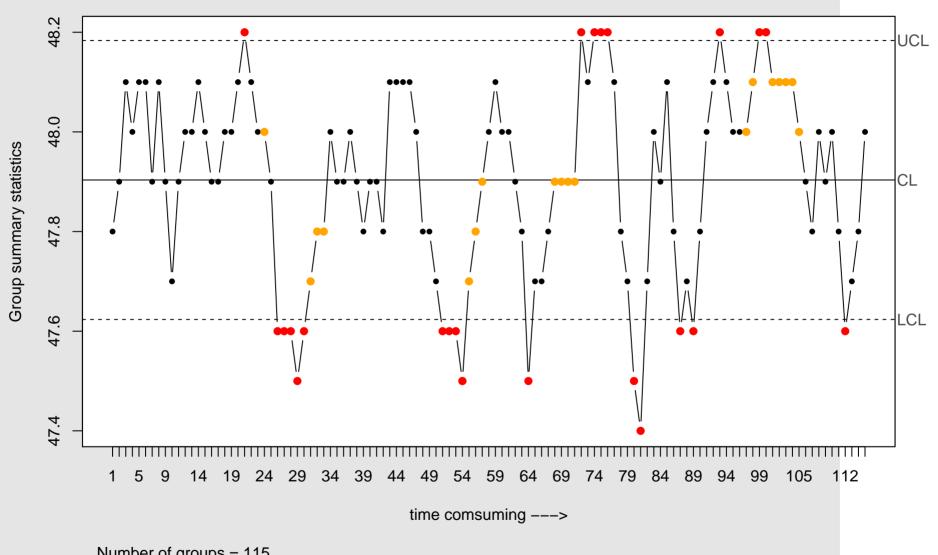
Number of groups = 115 Center = 47.8887 StdDev = 0.0816536

LCL = 47.64373 UCL = 48.13366 Number beyond limits = 16 Number violating runs = 23



Number of groups = 115 Center = 47.88783 StdDev = 0.07854299

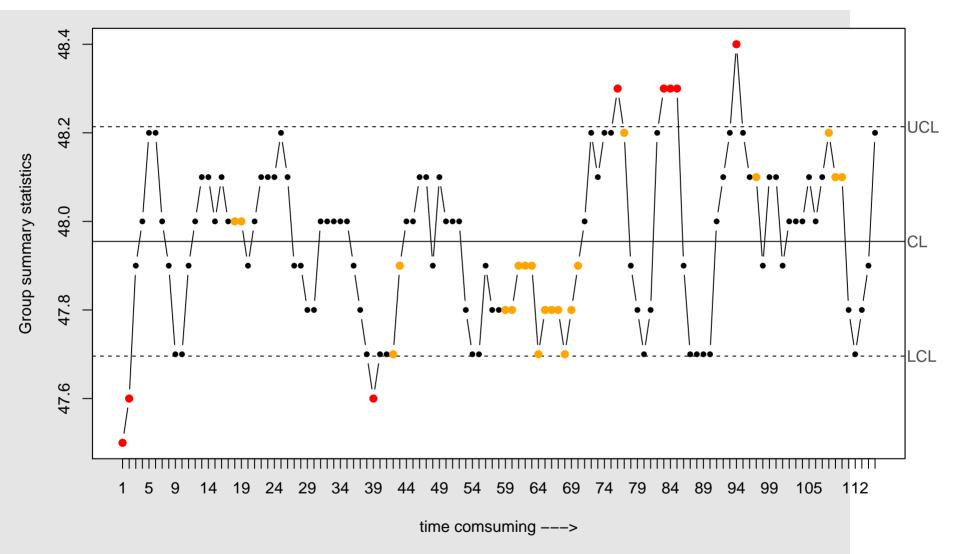
LCL = 47.6522 UCL = 48.12346 Number beyond limits = 22 Number violating runs = 31



Number of groups = 115 Center = 47.90348 StdDev = 0.0933184

LCL = 47.62352 UCL = 48.18343

Number beyond limits = 23 Number violating runs = 21



Number of groups = 115 Center = 47.95478

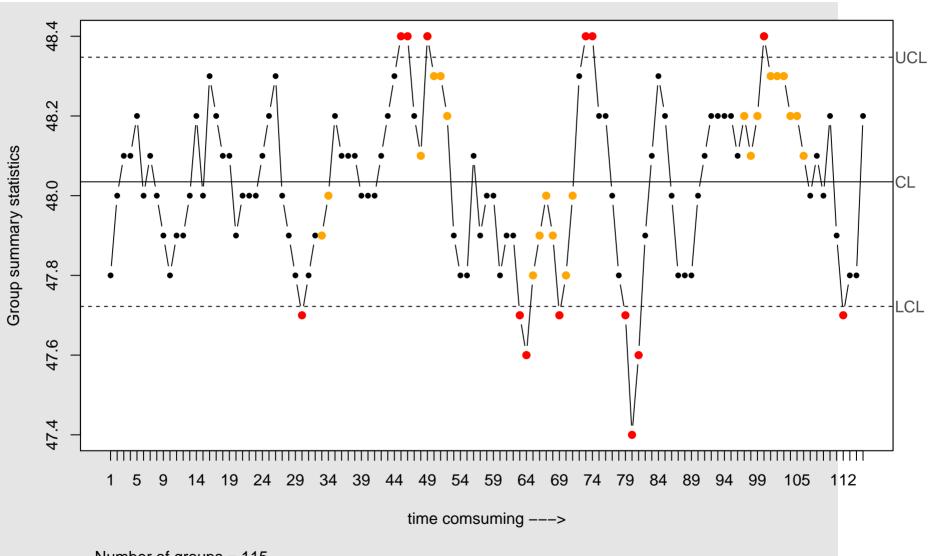
StdDev = 0.08631952

LCL = 47.69582

UCL = 48.21374

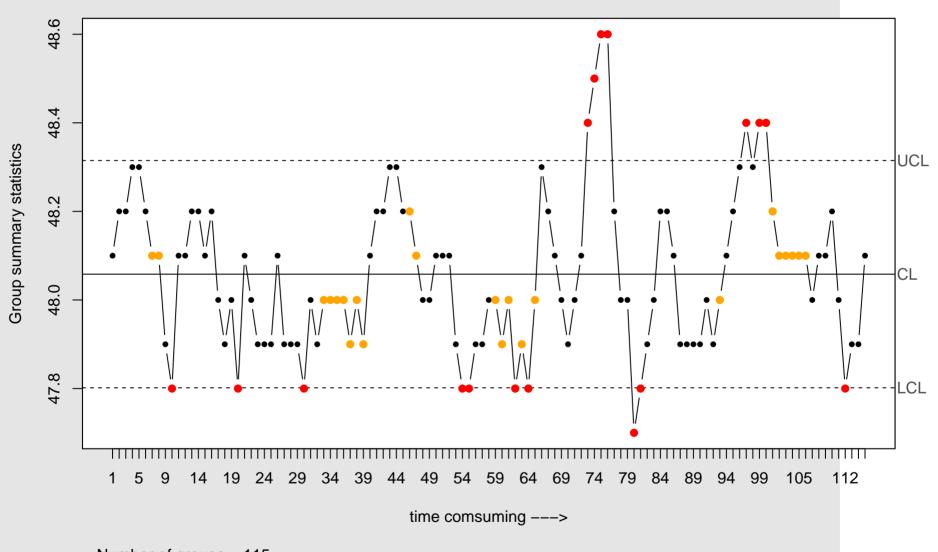
Number beyond limits = 8

Number violating runs = 21



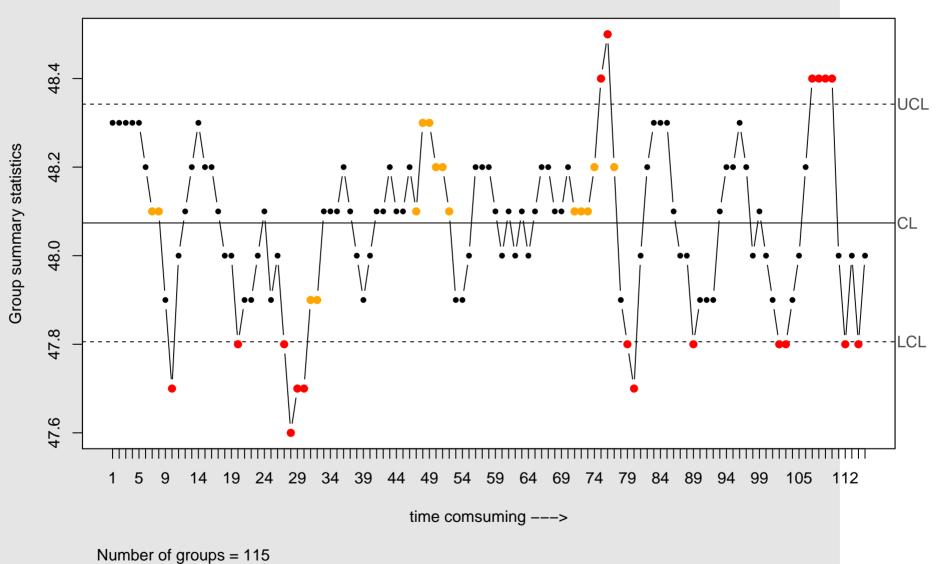
Number of groups = 115 Center = 48.03478 StdDev = 0.1042055

LCL = 47.72217 UCL = 48.3474 Number beyond limits = 14 Number violating runs = 26



Number of groups = 115 Center = 48.05826 StdDev = 0.08554187

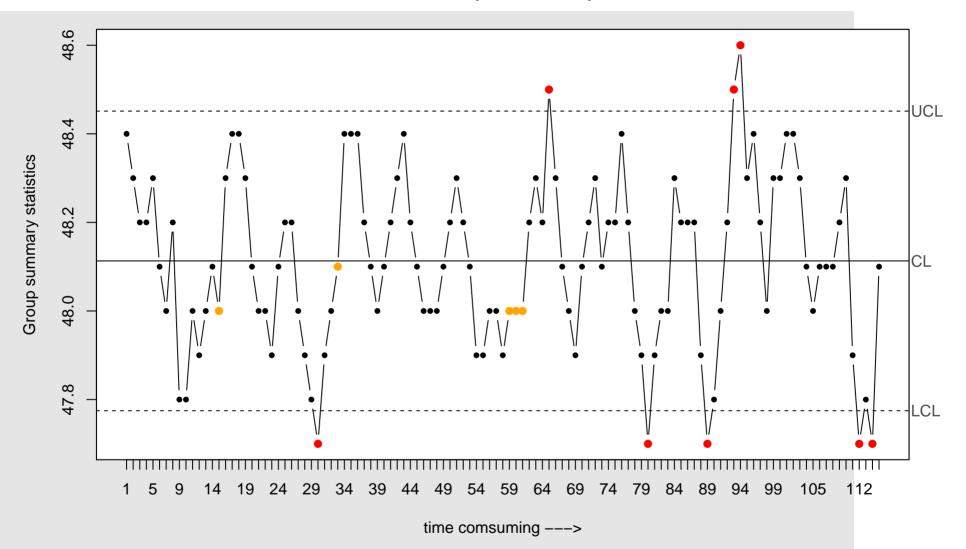
LCL = 47.80164 UCL = 48.31489 Number beyond limits = 17 Number violating runs = 26



Number of groups = 115 Center = 48.07391 StdDev = 0.08943014

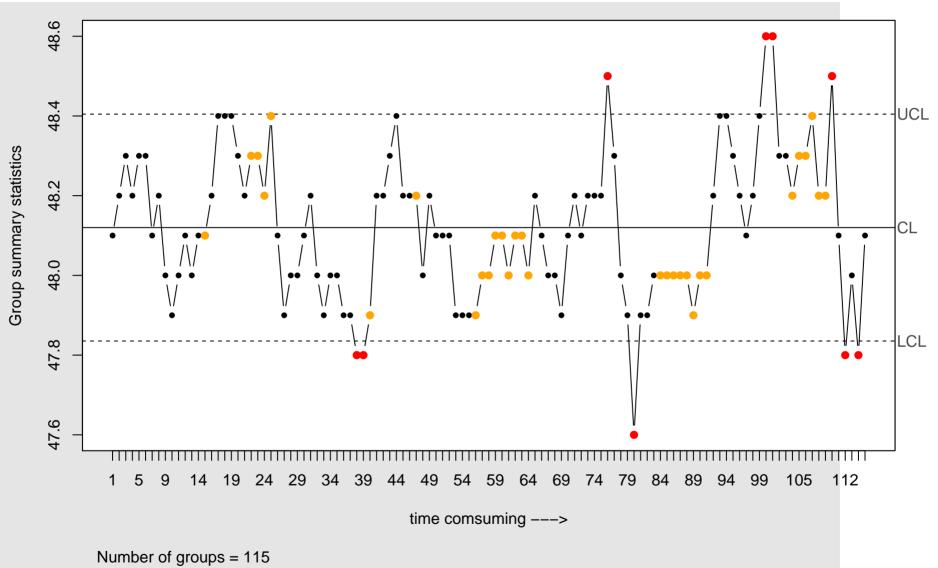
LCL = 47.80562 UCL = 48.3422

Number beyond limits = 19 Number violating runs = 17



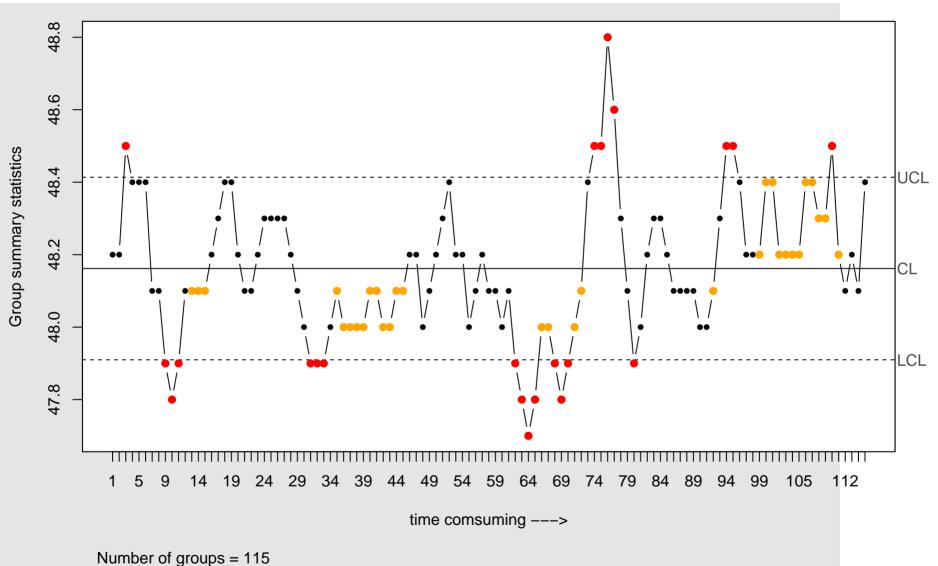
Number of groups = 115 Center = 48.11304 StdDev = 0.1127597

LCL = 47.77476 UCL = 48.45132 Number beyond limits = 8 Number violating runs = 5



Number of groups = 115 Center = 48.12 StdDev = 0.09487371

LCL = 47.83538 UCL = 48.40462 Number beyond limits = 9 Number violating runs = 33



Number of groups = 115 Center = 48.16174 StdDev = 0.08398656

LCL = 47.90978 UCL = 48.4137 Number beyond limits = 22 Number violating runs = 37