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C-Rate Analysis:
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0.3C Rate:
  - Plateau Start: ~3.25V
  - Plateau End: ~3.45V
  - Final Voltage: 4.2V
  - Est. Charge Time: 9.3 hours

0.5C Rate:
  - Plateau Start: ~3.25V
  - Plateau End: ~3.45V
  - Final Voltage: 4.2V
  - Est. Charge Time: 5.6 hours

0.8C Rate:
  - Plateau Start: ~3.25V
  - Plateau End: ~3.45V
  - Final Voltage: 4.2V
  - Est. Charge Time: 2.8 hours

1.0C Rate:
  - Plateau Start: ~3.26V
  - Plateau End: ~3.46V
  - Final Voltage: 4.2V
  - Est. Charge Time: 2.2 hours

2.0C Rate:
  - Plateau Start: ~3.28V
  - Plateau End: ~3.47V
  - Final Voltage: 4.2V
  - Est. Charge Time: 0.9 hours

Key LiFePO4 Characteristics Observed:
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1. Rapid initial voltage rise from 2.7V to plateau (~3.25V)
2. Extended flat plateau region (3.25V to 3.45V)
3. Sharp voltage increase from 3.45V to 4.2V (final 10%)
4. Higher C-rates show elevated plateau voltage due to overpotential
5. All curves converge at 4.2V maximum voltage
6. Voltage range strictly maintained: 2.7V - 4.2V

Analysis Complete - All plots generated successfully!
Main plot shows charging curves from 2.7V to 4.2V
Additional analysis shows time, current, and power profiles
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