



The Toro Company

## UN 38.3 Lithium Ion Battery Test Summary

### Cell, Battery or Product Model Number

**Item number:** 88640 [also may be shipped under part number 139-9800]

**Item description:** BATTERY-LI ION, 60V 4.0 AH [216Wh]

### Cell, battery or product manufacturer's contact information

**Name:** The Toro Company

**Address:** 8111 Lyndale Avenue South

**City:** Bloomington **State:** Minnesota **ZIP:** 55420-1196 **Country:** USA

**Telephone:** (952) 888-8801

**Email:** HealthandSafety@toro.com

**Website:** <https://www.toro.com/>

### Test Laboratory

**Name:** Shanghai Research Institute of Chemical Industry Testing

**Address:** No. 345 East Yun Ling Road

**City:** Shanghai **State:**

**ZIP:** 200062

**Country:** P. R. China

### Cell or Battery Description

**Cell or Battery:** 60 V / 4.0 Ah

**Cell or Battery Type:** Lithium Ion

**Watt-hour Rating or Lithium Content:** 216 Wh

**Complete Cell or Battery Weight:** 2157 g

| Serial range     | Test Report # | Report date |
|------------------|---------------|-------------|
| 321001541 and up | 1120040213    | 5/20/2020   |
| Up to 321001540  | 1119070024    | 8/9/2019    |

**Physical Description:** Red cover w/ black handle. cells (green color) 15 series / 2 parallel

Finished Assembly: W: 151 mm H: 203 mm L: 86 mm

### List of Tests Completed

| YES                                         | NO |                                  | Pass | Fail | Additional comments (or indicate compliance with other stds.) |
|---------------------------------------------|----|----------------------------------|------|------|---------------------------------------------------------------|
| X                                           |    | Test T.1: Altitude simulation    | X    |      | 38.3.4.1 T1                                                   |
| X                                           |    | Test T.2: Thermal test           | X    |      | 38.3.4.2 T2                                                   |
| X                                           |    | Test T.3: Vibration              | X    |      | 38.3.4.3 T3                                                   |
| X                                           |    | Test T.4: Shock                  | X    |      | 38.3.4.4 T4                                                   |
| X                                           |    | Test T.5: External short circuit | X    |      | 38.3.4.5 T5                                                   |
| X                                           |    | Test T.6: Impact/Crush           | X    |      | 38.3.4.6 T6                                                   |
| X                                           |    | Test T.7: Overcharge             | X    |      | 38.3.4.7 T7                                                   |
| X                                           |    | Test T.8: Forced discharge       | X    |      | 38.3.4.8 T8                                                   |
| Assembled Battery Testing requirements:     |    |                                  |      |      | Per 38.3.3 (f)                                                |
| Revision level and Amendments of UN Manual: |    |                                  |      |      | UN Manual Test and Criteria Revision 6, Amendment 1           |

Signature with name and title of signatory as an indication of the validity of information provided:

Rolfe Otterness, Principal Standards Engineer, The Toro Company

Date: January 8, 2021