Module 4b experiment

Aluminium cylinder with 4 mm diameter and 33 mm length. The thermocouple voltage can be converted to temperature. Determine the co-efficient of thermal expansion and compare it with that in literature.

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| Voltage(mv) | Temperature [25\*V(in mV)+30] | Delta L(μm) |
| 0 | 30 | 0 |
| 0.2 | 35 | 0 |
| 0.4 | 40 | 0 |
| 0.6 | 45 | 6 |
| 0.8 | 50 | 13 |
| 1 | 55 | 19 |
| 1.2 | 60 | 25 |
| 1.4 | 65 | 31 |
| 1.61 | 70 | 38 |
| 1.81 | 75 | 42 |
| 2.02 | 80 | 48 |
| 2.23 | 85 | 54 |
| 2.43 | 90 | 60 |
| 2.64 | 95 | 65 |
| 2.85 | 100 | 71 |
| 3.05 | 105 | 79 |
| 3.26 | 110 | 84 |
| 3.47 | 115 | 92 |
| 3.68 | 120 | 97 |
| 3.89 | 125 | 104 |
| 4.1 | 130 | 111 |
| 4.31 | 135 | 117 |
| 4.51 | 140 | 125 |
| 4.72 | 145 | 131 |
| 4.92 | 150 | 138 |
| 5.13 | 155 | 145 |
| 5.33 | 160 | 151 |
| 5.53 | 165 | 157 |
| 5.73 | 170 | 163 |
| 5.93 | 175 | 170 |
| 6.13 | 180 | 178 |
| 6.33 | 185 | 184 |
| 6.53 | 190 | 192 |
| 6.73 | 95 | 199 |
| 6.93 | 200 | 205 |
| 7.13 | 205 | 213 |
| 7.33 | 210 | 220 |