Lab 4

CECS 347

Peter Doan

Naoaki Takatsu

Chart:

|  |  |  |
| --- | --- | --- |
| cm | Volt | ADC |
| 5 | 3.06 | 3850 |
| 6 | 3.06 | 3850 |
| 7 | 3.054 | 3837 |
| 8 | 2.862 | 3588 |
| 9 | 2.625 | 3310 |
| 10 | 2.424 | 3044 |
| 11 | 2.248 | 2820 |
| 12 | 2.085 | 2624 |
| 13 | 1.954 | 2450 |
| 14 | 1.832 | 2300 |
| 15 | 1.724 | 2169 |
| 16 | 1.633 | 2052 |
| 17 | 1.538 | 1927 |
| 18 | 1.47 | 1834 |
| 19 | 1.41 | 1764 |
| 20 | 1.337 | 1698 |
| 21 | 1.282 | 1615 |
| 22 | 1.261 | 1588 |
| 23 | 1.204 | 1514 |
| 24 | 1.167 | 1466 |
| 25 | 1.13 | 1412 |
| 26 | 1.092 | 1368 |
| 27 | 1.054 | 1324 |
| 28 | 1.016 | 1280 |
| 29 | 0.998 | 1250 |
| 30 | 0.955 | 1194 |
| 31 | 0.936 | 1184 |
| 32 | 0.898 | 1121 |
| 33 | 0.879 | 1110 |
| 34 | 0.86 | 1086 |
| 35 | 0.841 | 1055 |
| 36 | 0.822 | 1039 |
| 37 | 0.803 | 1016 |
| 38 | 0.784 | 995 |
| 39 | 0.765 | 958 |
| 40 | 0.746 | 936 |
| 41 | 0.727 | 924 |
| 42 | 0.71 | 906 |
| 43 | 0.705 | 900 |
| 44 | 0.69 | 862 |
| 45 | 0.665 | 839 |
| 46 | 0.655 | 832 |
| 47 | 0.646 | 812 |
| 48 | 0.626 | 796 |
| 49 | 0.626 | 794 |
| 50 | 0.607 | 773 |
| 51 | 0.603 | 760 |
| 52 | 0.588 | 738 |
| 53 | 0.58 | 728 |
| 54 | 0.568 | 711 |
| 55 | 0.56 | 706 |
| 56 | 0.549 | 692 |
| 57 | 0.54 | 681 |
| 58 | 0.53 | 662 |
| 59 | 0.528 | 666 |
| 60 | 0.511 | 644 |
| 61 | 0.511 | 640 |
| 62 | 0.491 | 624 |
| 63 | 0.491 | 623 |
| 64 | 0.488 | 618 |
| 65 | 0.472 | 602 |
| 66 | 0.472 | 601 |
| 67 | 0.453 | 577 |
| 68 | 0.453 | 580 |
| 69 | 0.451 | 574 |
| 70 | 0.433 | 543 |
| 71 | 0.433 | 543 |
| 72 | 0.424 | 543 |
| 73 | 0.414 | 534 |
| 74 | 0.413 | 526 |
| 75 | 0.4 | 514 |
| 76 | 0.394 | 505 |
| 77 | 0.394 | 502 |
| 78 | 0.385 | 486 |
| 79 | 0.375 | 472 |
| 80 | 0.37 | 470 |
| 81 | 0.356 | 436 |
| 82 | 0.35 | 428 |
| 83 | 0.339 | 420 |
| 84 | 0.333 | 415 |
| 85 | 0.316 | 399 |
| 86 | 0.304 | 390 |
| 87 | 0.29 | 364 |
| 88 | 0.276 | 334 |
| 89 | 0.255 | 318 |
| 90 | 0.236 | 300 |
| 91 | 0.214 | 287 |
| 92 | 0.19 | 236 |
| 93 | 0.17 | 214 |
| 94 | 0.15 | 199 |
| 95 | 0.13 | 172 |

Equation (data used 10cm-80cm):

dist = -3.3654785 + (40628.2059 / ADCvalue)

Video:

<https://www.youtube.com/watch?v=5_SlJaxhSN8>