

Figure 2: The final tenfold current source circuit is based on Figure 1.

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### The Circuit

The circuit shown in **Figure 2** is just a simple tenfold copy/paste of the basic circuit. The value of resistors R11 to R20 is set to 30 kΩ (available in the E24 range of values), while R1 to R10 are 15 Ω to provide a suggested current of 20 mA for the LEDs. Choosing 1% tolerance resistors ensures the current through all the LEDs will be closely matched thereby minimizing differences in brightness.

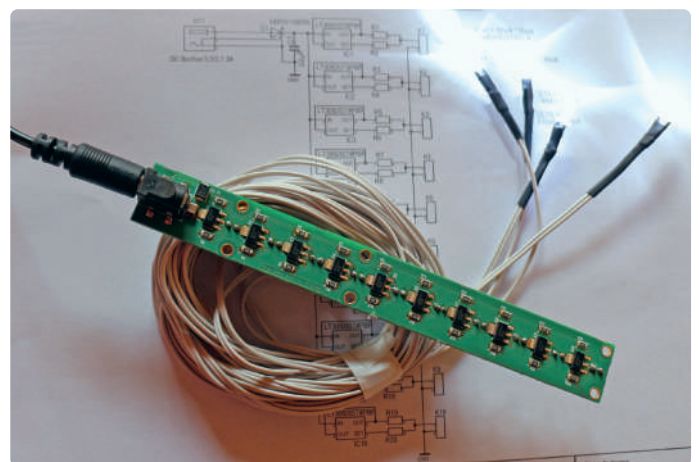


Figure 3: The author's prototype.