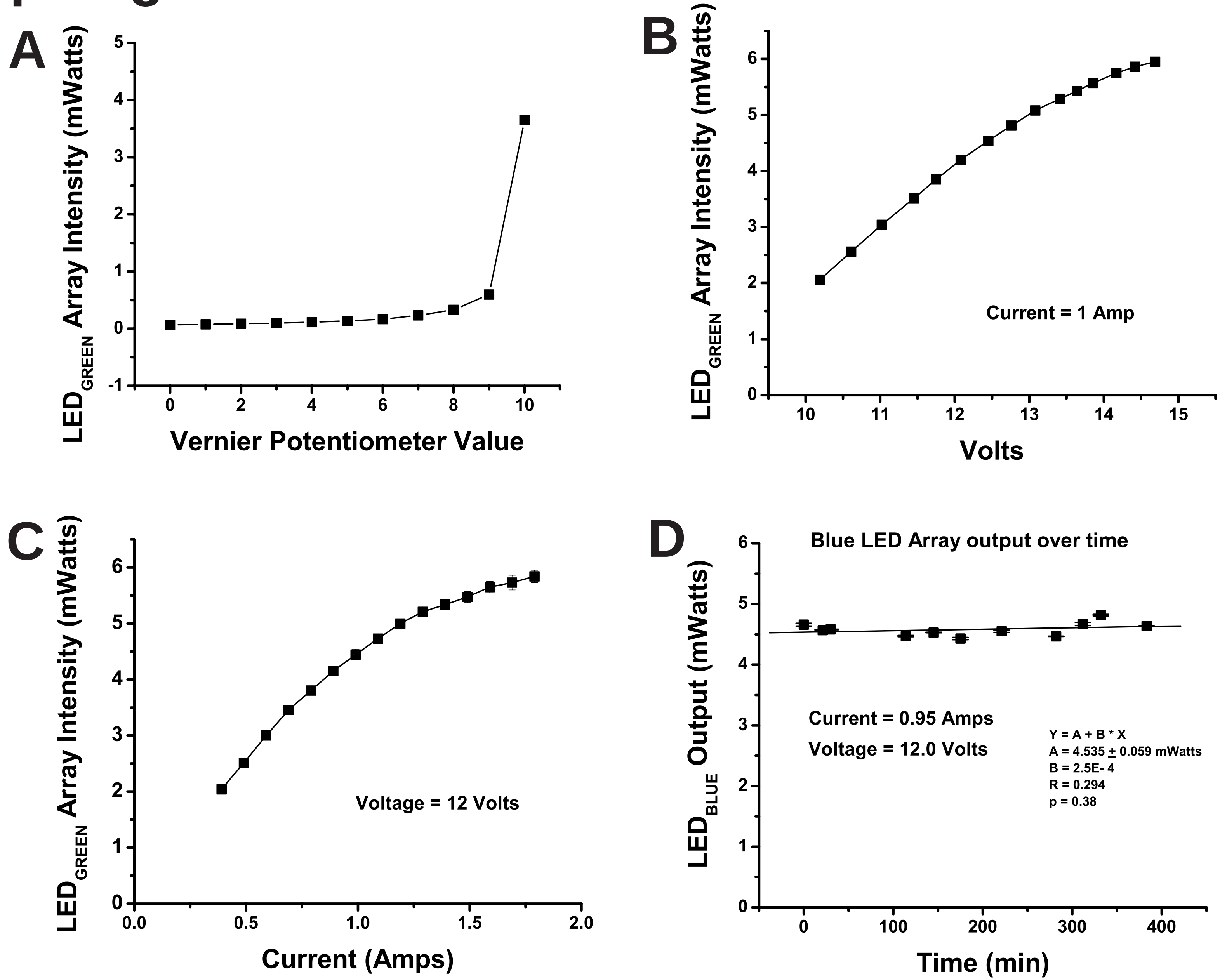
Supp. Fig. 1


A
LED GREEN Array Intensity (mWatts)
Vernier Potentiometer Value
B
LED GREEN Array Intensity (mWatts)
Volts
Current = 1 Amp
C
LED GREEN Array Intensity (mWatts)
Current (Amps)
Voltage = 12 Volts
D
Blue LED Array output over time
LED BLUE Output (mWatts)
Time (min)
Current = 0.95 Amps
Voltage = 12.0 Volts
Y = A + B * X
A = 4.535 ± 0.059 mWatts
B = 2.5E- 4
R = 0.294
p = 0.38

Supplementary Figure S1. DC power control over LED array optical output. (**A**) The original power source was used to drive the 525 nm array. Use of the linear potentiometer allows proportional increase in LED output. At a setting of approximately 10 light intensity increases markedly. The latter effect was due to poor voltage control in the driving power supply at high current demand. (**B**) With the linear controlled power supply the $LED_{525\ nm}$ array begins to conduct current and generate light below 10 VDC driving force. The voltage source must exceed the gang driving voltage (V_f) for the LEDs to conduct. At constant current (I = 1 Amps) increase in constant voltage (10-15 volts) drives greater light emission toward saturation for the $LED_{526\ nm}$ green LED array in a hyperbolic relationship, which was not subjected to nonlinear curve fitting. Output is proportional until saturation. (**C**) The same linear DC power supply was used to drive the $LED_{525\ nm}$ green array under constant voltage conditions (V = 12V) over a range of constant 0-2 amperes. Again, LED array output is linear with respect to current up to saturation. For Figs 5B and 5C there was some drop in potential and voltage at high LED drive into saturation due to the strong nonlinearity of the LED device I-V curves. (**D**) The output of the $LED_{470\ nm}$ array was measured over time from several points just above the LED surface of the array. Output is essentially constant over time.