



Parts:

- R1 Cadmium Sulfide Photocell
- R2 4.7 kOhm
- R3 15 kOhm
- C1 0.1 uF
- U1 Op-Amp (LM741 or equivalent)
- B1, B2 9V Transistor Batteries
- Other: 9V battery leads, small breadboard or protoboard, analog/digital voltmeter

Photocell:

- Dark R > 2 MOhms
- Room Light R ~ 20 kOhms
- Bright Light (near 40 W bulb) ~ 100 Ohms

Circuit Output:

- Dark Output < 3 mV
- Room Light ~ 2.2 V
- Saturation output at ~ (Vb - 1) Volts

Notes:

1. If photocell resistance is substantially different than noted above, R2 must be adjusted to give corresponding circuit output.
2. The circuit components are chosen to provide useful metering for indoor lighting. If sensitivity to a narrower or wider range of light level is desired, adjust R2 accordingly.
3. The output should be fairly linear over its operating range, except near the saturation level of the op-amp. Typical CdS photocells have slow response (tens of milli-seconds), so such a detector is not useful for detecting modulated light except at very low frequencies.

TITLE Light Meter	
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