



Gooch & Housego

The brightness of celestial bodies is usually measured in magnitudes. The scale of magnitudes is adjusted so that a star of magnitude +1.00 (first Magnitude) gives a luminous flux of 0.832×10^{-10} lumen cm^{-2} at a point outside the atmosphere of the earth.

Stellar Magnitudes

The relation between the visible light received from two stars and their magnitudes is expressed by the formula

$$\log_{10} \frac{I_1}{I_2} = 0.4(m_2 - m_1)$$

$$\text{or } m_2 = m_1 + 2.5 \log_{10} \left(\frac{0.832 \times 10^{-10}}{I_2} \right)$$

$$\text{or } I_2 = \frac{0.832 \times 10^{-10}}{10^{0.4(m_2-1)}}$$

where I_1 = illuminance (0.832×10^{-10})
 m_1 = magnitude (1.0)

<u>M_2 (Magnitude)</u>	<u>I_2 (lumens / cm^2)</u>	<u>M_2 (Magnitude)</u>	<u>I_2 (lumens / cm^2)</u>
-11	0.525×10^{-05}	1	0.832×10^{-10}
-10	0.209×10^{-05}	2	0.331×10^{-10}
-9	0.832×10^{-06}	3	0.132×10^{-10}
-8	0.331×10^{-06}	4	0.525×10^{-11}
-7	0.132×10^{-06}	5	0.209×10^{-11}
-6	0.525×10^{-07}	6	0.832×10^{-12}
-5	0.209×10^{-07}	7	0.331×10^{-12}
-4	0.832×10^{-08}	8	0.132×10^{-12}
-3	0.331×10^{-08}	9	0.525×10^{-13}
-2	0.132×10^{-08}	10	0.209×10^{-13}
-1	0.525×10^{-09}	11	0.832×10^{-14}
0	0.209×10^{-09}	12	0.331×10^{-14}

Contact: orlandosales@goochandhousego.com

www.GHinstruments.com

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time

