fluence rate, E_o

Also contains definitions of: radiant energy fluence rate, spherical irradiance

Total radiant power, P, incident from <u>all directions</u> onto a small sphere divided by the cross-sectional area of that sphere. SI unit is W m^{-2}.

Notes:

1. Mathematical definition: $E_o = \frac{dP}{dS} = \frac{dH_o}{dt}$. If the radiant power is constant over the area S, $E_o = \frac{P}{S}$. Equivalent definition: $E_o = \int_{4\pi} L d\Omega$, with Ω the solid angle of each beam passing through the given point on the surface and L the radiance of the beam at that point.

2. Fluence rate is identical to spherical irradiance and reduces to irradiance, E, for a parallel and perpendicularly incident beam <u>not scattered or reflected</u> by the target or its surroundings.

Source:
PAC, 2007, *79*, 293 *(Glossary of terms used in photochemistry, 3rd edition (IUPAC Recommendations 2006))* on page 340