Best Practices for Communicating Sign Brightness

July 08
2025

Mark.Mikulka@currentlighting.com

Topics

- Units of light measurement
- How light is measured
- Why nits (cd/m²) can be misinterpreted
- Suggestion for communicating internal lighting requirements

Current◉

Units of Light

- Lumen (lm)
  - Total quantity of visible light
- Candela (cd):
  - Luminous intensity
  - Measures light intensity in a given direction
- Lux (lx) lm/m² or foot-candle (fc) lm/ft²
  - Illuminance
  - Light falling on a surface
- Nit (nt) cd/m²
  - Luminance
  - Light emitted or reflected from a surface

Current⊚

How Light is Measured

- Lumen (lm)
  - Integrating Sphere

- Candela (cd):
  - Goniophotometer

- Lux (lx) lm/m² or foot-candle (fc) lm/ft²
  - Illuminance meter

- Nit (nt) cd/m²
  - Luminance meter

Why nits (cd/m²) Can be Misinterpreted

- Measurement equipment is expensive.
  - Not everyone has the ability to measure nits.
- Sign characteristics affect the actual light output of a sign
  - Face material
  - Geometry
  - Paint
- If a module manufacturer is given a nit target, there is a decent chance you will get different answers from each manufacturer.

Current ◎

How to be on the same page...

- Module manufacturers sell lumens (lumens/module)

- The most straight forward way to communicate is in terms of lumens.

- Testing can be done to corelate a desired brightness (nits) to a total amount of light per surface area of a sign.
  - I call this lumen density (lumens/ft^2)
  - Lumen density can be translated across a program
  - Lumen density can be called out on module layouts

Current ◎