

Lighting Load Calculator

Estimates connected and adjusted lighting VA and current from area, project load-density basis, demand factor, continuous-load factor, voltage, and phase.

Generated October 10, 2026

<https://www.elecatrix.com/commercial-industrial-loads/lighting-load-nec-calculator/>

Inputs

Input	Value	Unit
Area	2500	sq ft
Lighting load density	1.3	VA/sq ft
Demand factor	100	%
Continuous multiplier	125	%
System voltage	277	V
Phase	Single-phase	

Results

Result	Value	Unit
Connected lighting load	3250	VA
Demand lighting load	3250	VA
Adjusted lighting load	4062.5	VA
Lighting current	14.6661	A
Phase multiplier	1	x

Calculation details

Detail	Value	Unit
Calculation basis	Lighting load equals entered area times entered VA per square foot, adjusted by entered demand and continuous-load factors.	
Selection boundary	Lighting load estimate only; no occupancy table, lighting energy code, branch-circuit count, conductor, breaker, or code-compliance result is made.	

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Formulas

Connected lighting VA = area x VA per square foot

Demand lighting VA = connected lighting VA x (demand factor (%)/100)

Adjusted lighting VA = demand lighting VA x (continuous multiplier (%)/100)

Lighting current = (adjusted lighting VA/phase multiplier x voltage)

Phase multiplier = 1 for single-phase, or sqrt(3) for balanced three-phase

Warnings and limitations

This lighting load estimate uses user-entered area, load density, and factors. It does not apply occupancy tables, energy-code rules, branch-circuit sizing, or code compliance.