

The Energy Code Ace Indoor Lighting Wheel is designed as a quick reference to check whether an indoor lighting installation in various areas of a nonresidential building meets 2019 Title 24, Part 6 requirements – without the need to dive into the Standards language itself. It covers the following for both new construction and alterations:

- Allowed lighting power (W/ft²) for a given lighting area category
 - Prescriptive Area Category Allowance: §140.6(c)2
- Lighting controls necessary for a given area category
 - Mandatory Lighting Controls §130.1(a)-(e); Prescriptive Lighting Controls §140.6(d)
- Special considerations and exceptions for the above
 - Alterations §141.0(b)2I including Table 141.0-F

Overview

Features 2 sides with 3 movable layers that interact with each other:

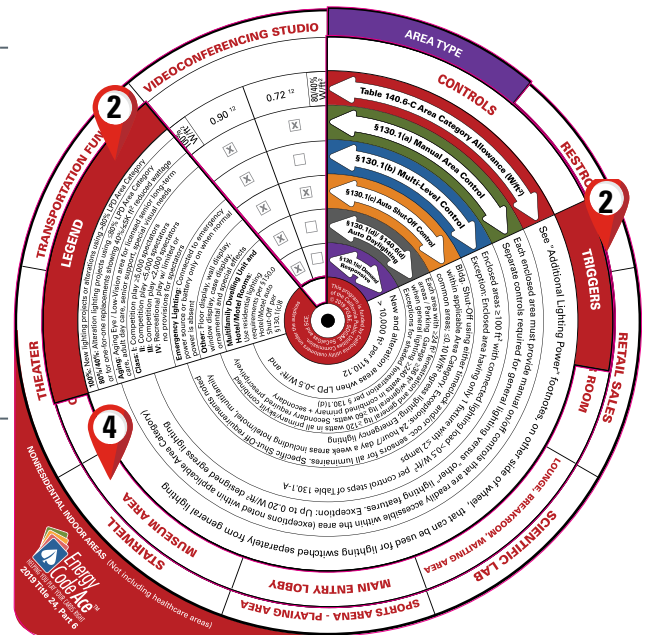
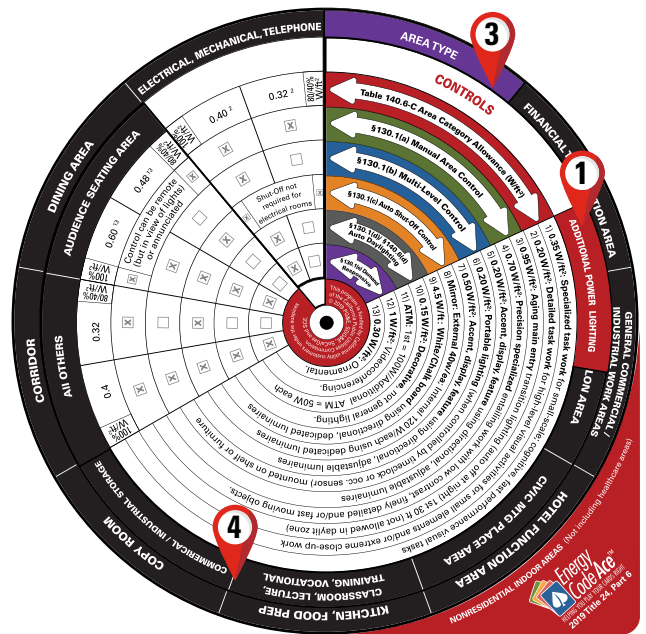
1. Front side includes Additional Power Lighting and organizes area types alphabetically “All Others” through “Kitchen, Food Prep”
2. Back side includes a “Legend” and “Triggers,” and supports area types “Laundry” through “Videoconferencing Studio”
3. Top layer on each side has “Controls” section with arrows pointing to lighting area types (“area categories” in the Standards) on the left
4. Different area types printed on the middle and bottom layers

To use:

- Rotate top layer so its cutout lines up with an area type section on middle layer

OR

- Line up cutouts on both top and middle layers to see area types on bottom layer



Lighting Controls Requirements

1. All Mandatory and Prescriptive controls associated with indoor lighting included, along with code sections
2. Control exceptions, or options, applicable to the area type also listed
3. Check boxes show when a lighting control is required:

- Required: The check box is filled.
- Not required: The check box is left blank.

Control Triggers

1. Triggers to control requirements included per control type

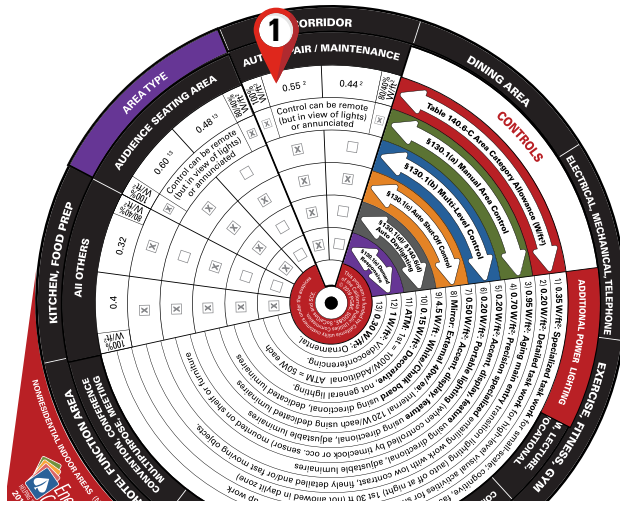
Example: Multi-level controls are triggered when a space is 100 ft² or greater, AND has more than 1 fixture (with 2 lamps or more) AND has lighting power density (LPD) greater than 0.5 W/ft².
2. *Alterations triggers are specific to the control requirements associated with alterations

Example: In an alteration using the Reduced Wattage Method, multi-level controls are NOT required.

Additional Power Lighting

1. Additional Lighting Power allowances per Table 140.6-C indicated in the "Table 140.6-C Area Category Allowance" line on both sides of wheel

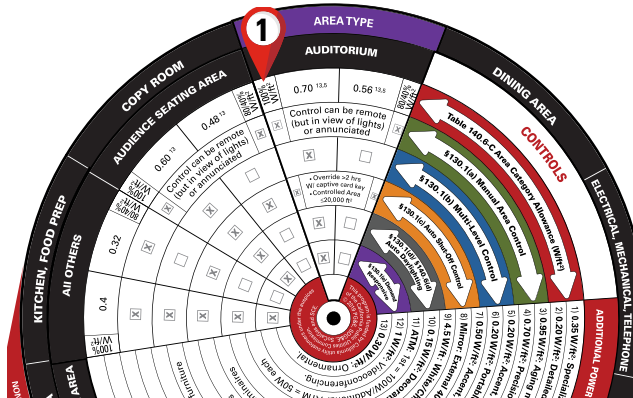
Example: In an Auto Repair Area, footnote "2" applies, which states that an additional 0.20 W/ft² is allowed for detailed task work. This task lighting must be switched separately from general lighting and is a "use it or lose" wattage allowance.



New Lighting/Increased Lighting Load Projects

1. "100%" column must be used to determine wattage allowance and applicable controls (when triggered) for new lighting installations or lighting alterations that add to the connected load

Example: An auditorium space in a new building is allowed 0.70 W/ft², and all Mandatory and Prescriptive lighting controls may be required depending on the triggers.

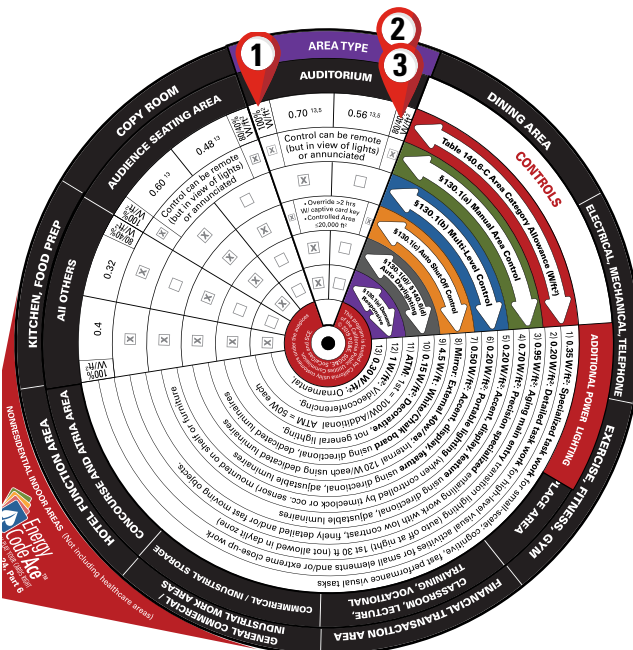


Lighting Alteration Projects

3 compliance methods for lighting alterations indicated:

1. >80% but <100% of Allowed LPD of the Area Category Method (wattage provided)
All Mandatory controls required (if applicable)
Box with an "x" = required
2. 80% or less of Allowed LPD of the Area Category Method
Not all Mandatory controls are required (if triggered)
Blank box without an "x" = not required
3. One-for-One Method: 40% wattage reduction limited to buildings/tenant spaces 5,000 ft² or less

Example: The lighting system of a 4,000ft² office building is being altered and it can be shown that the altered luminaires are 40% less in wattage than the pre-altered system, thereby avoiding multilevel and daylighting control requirements.



Want to Learn More?

- Ask an Energy Code Ace Rep for a demo!
- Watch our video demonstration of using the 2016 Lighting Wheel on the Energy Code Ace YouTube Channel:
youtube.com/channel/UCQW7cjrRM1sr9Pjw-7FF9CQ
- Order up to 5 wheels free of charge by emailing info@EnergyCodeAce.com. Include your name and shipping address.



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