



STATE OF WASHINGTON
STATE BUILDING CODE COUNCIL

May 2018
Log No. _____

1. State Building Code to be Amended:

- | | |
|---|---|
| <input checked="" type="checkbox"/> International Building Code | <input type="checkbox"/> International Mechanical Code |
| <input type="checkbox"/> ICC ANSI A117.1 Accessibility Code | <input type="checkbox"/> International Fuel Gas Code |
| <input type="checkbox"/> International Existing Building Code | <input type="checkbox"/> NFPA 54 National Fuel Gas Code |
| <input type="checkbox"/> International Residential Code | <input type="checkbox"/> NFPA 58 Liquefied Petroleum Gas Code |
| <input checked="" type="checkbox"/> International Fire Code | <input type="checkbox"/> Wildland Urban Interface Code |
| <input type="checkbox"/> Uniform Plumbing Code | |

For the Washington State Energy Code, please see specialized [energy code forms](#)

Section(s): 2024 IBC 1008.2.1, 2024 IFC 1008.2.1

Title: Measurement of illumination on stairways (REVISED VERSION 10-31-2024)

2. Proponent Name (Specific local government, organization or individual):

Proponent(s): Micah Chappell, Angela Haupt and Jon Siu on behalf of the Washington Association of Building Officials Technical Code Development Committee

Title: Micah Chappell, WABO Technical Code Development Committee Chairperson; Angela Haupt, WABO Technical Code Development Egress Committee Chair; Jon Siu, Jon Siu Consulting

Date: September 11, 2024

3. Designated Contact Person:

Name: Jenifer Gilliland

Title: Senior Technical Codes Analyst, Seattle Department of Construction and Inspections

Address: 500 7th Ave Seattle, WA

Office Phone: (206) 233-2766

Cell: ()

E-Mail address: jenifer.gilliland@seattle.gov

4. Proposed Code Amendment.

Code(s) **2024 International Building Code**
power

Section(s) 1008.2.1 Illumination level under normal

Green shaded text shows revisions from original submittal based on 2024 ICC CAH #2 results

2024 International Building Code

Revise as follows:

1008.2.1 Illumination level under normal power. The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the stairway is in use. Illumination levels on stairways shall be measured at the nosing of each landings, at the lowest nosing in each flight, and at one nosing in the middle of each flight, and treads at a horizontal distance 12 inches (305 mm) to 14 inches (356 mm) from the stair side of each handrail.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' fire alarm system:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of ramps shall be permitted to be marked with self-luminous materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems listed in accordance with UL 1994.

2024 International Fire Code

Revise as follows:

[BE] 1008.2.1 Illumination level under normal power. The means of egress illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along exit access stairways, exit stairways and at their required landings, the illumination level shall be not less than 10 footcandles (108 lux) at the walking surface when the stairway is in use. Illumination levels on stairways shall be measured at the nosing of each landings, at the lowest nosing in each flight, and at one nosing in the middle of each flight, and treads at a horizontal distance 12 inches (305 mm) to 14 inches (356 mm) from the stair side of each handrail.

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5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.

1. To enhance safety by improving the visibility of stairs. Visibility is improved when there is visual contrast between the nosing and the portion of the tread near the riser. With overhead lighting, this contrast is created by
 - (a) contrasting materials, and
 - (b) the shadow created by the riser.

If the 10fc minimum is interpreted to be measured in the shadow adjacent to the riser, then lighting will be designed to minimize this shadow and reduce contrast and hence reduce visibility.

2. To provide for greater consistency in application and enforcement of the code by specifying where readings are to be taken. There is a fair amount of disagreement about how far into the darkest corner a light meter should be placed when searching for the point with minimum illuminance. The proposal puts the lighting levels on the walkline within reach of the handrail - this is where the lighting is most needed.

3. The original submittal to the WSBC required measurement of illumination at the lowest and middle nosing of **each** flight and at **each** landing nosing. The revised proposal replaces this requirement with more general language saying that the measurement of the illumination should be done at the nosing of landing and treads. The change emphasizes that the whole stairway has to meet the requirement not just the three points in the original proposal. The original proposal gets into unnecessary detail and could result in lengthy inspections for some buildings because the illumination must be measured in multiple locations on the stairway regardless of whether there is an issue or not. The modification steps this back by only requiring measurement from nosings of the stairs or landings.

6. Specify what criteria this proposal meets. You may select more than one.

- The amendment is needed to address a critical life/safety need.
- The amendment clarifies the intent or application of the code.
- The amendment is needed to address a specific state policy or statute.
- The amendment is needed for consistency with state or federal regulations.
- The amendment is needed to address a unique character of the state.
- The amendment corrects errors and omissions.

7. Is there an economic impact: Yes No

If no, state reason: Currently there is no code language on how to address the condition. Many jurisdictions may already be using this interpretation. It simply addresses what must be done for a condition that has not had specific code language previously. If anything, it may simplify construction by explicitly allowing a one-story unit Type A unit where multi-story Type A units are provided.

If yes, provide economic impact, costs and benefits as noted below in items a – f.

- a. **Life Cycle Cost.** Use the OFM Life Cycle Cost [Analysis tool](#) to estimate the life cycle cost of the proposal using one or more typical examples. Reference these [Instructions](#); use these [Inputs](#). Webinars on the tool can be found [Here](#) and [Here](#)). If the tool is used, submit a copy of the excel file with your proposal submission. If preferred, you may submit an alternate life cycle cost analysis.
- b. **Construction Cost.** Provide your best estimate of the construction cost (or cost savings) of your code change proposal.

\$[Click here to enter text.](#)/square foot

(For residential projects, also provide \$[Click here to enter text.](#)/ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages
- c. **Code Enforcement.** List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application:
- d. **Small Business Impact.** Describe economic impacts to small businesses:
- e. **Housing Affordability.** Describe economic impacts on housing affordability:

- f. ***Other.*** Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.