



Canadian Grain
Commission

Commission canadienne
des grains

Standard for Grading Lights

Version 1.0

June 2026

Canada 

Table of Contents

1.0	Purpose	3
2.0	Definitions	3
3.0	General guidelines	3
4.0	Grading light specifications	3
5.0	Verification of grading lights	4
6.0	Maintenance and repairs	4

1.0 Purpose

- 1.1** The Standard for Grading Lights provides guidance to the grain industry on the lighting specifications required for grain inspection. Compliance with the standard will help ensure that practices are consistent, and that results are comparable and repeatable.

2.0 Definitions

2.1 Colour rendering index

A measure of how accurately a light source shows the colour of an object compared to daylight at noon, reported on a scale of 0 to 100.

2.2 Colour temperature

A measure of how warm or cool light appears to the human eye, reported on the Kelvin (K) scale.

2.3 Grading light

A light fixture placed one metre above a grading bench.

2.4 Illumination

The amount of light falling on a surface, measured in lux.

2.5 Lamp

The specific part of a lighting fixture that emits light, sometimes referred to as a bulb.

2.6 Light meter

An instrument for measuring the qualities of light, including colour rendering index, colour temperature and illumination.

2.7 Verification

The process of confirming that a piece of equipment operates according to the required specifications and performs without any error.

3.0 General guidelines

- 3.1** T8 light-emitting diode (LED) lamps are recommended for grain grading.
- 3.2** Lamps may be added, removed or changed to attain the required light specifications.
- 3.3** Diffusers should be cleaned as required to ensure an even distribution of light.
- 3.4** The standard will be evaluated on a regular basis and amended when necessary.

4.0 Grading light specifications

4.1 LED fixture:

4.1.1 Lamp: T8 type

4.1.2 Reflectors: heat resistant, non-yellowing, white enamel

4.1.3 Diffusers: styrene prismatic

4.2 LED lamp:

4.2.1 Colour rendering index: 90 or greater

4.2.2 Colour temperature: 4000 to 5500 K

4.2.3 Illuminance: 3000 to 5500 lux

5.0 Verification of grading lights

5.1 Check equipment and ambient lighting conditions.

5.1.1 Visually inspect the grading light, including ballast and LED lamps (see 6.1).

5.1.2 Visually inspect the diffuser and clean it if necessary to ensure the even distribution of light.

5.1.3 Ensure the front edge of the grading light is plumb with the front edge of the grading bench and positioned one metre above the grading bench.

5.1.4 Eliminate all outside light influence, including closing window blinds. All interior room lights and other grading lights should be turned on.

5.2 Measure the light quality.

5.2.1 Use a calibrated light meter. Light meters should be calibrated by an external third party every three years.

5.2.2 Measure the colour rendering index, colour temperature and illumination to determine if they are within the specified ranges (see 4.2).

5.3 If specifications are not met, add, remove or change lamps to attain the required light specifications.

5.4 The verification of grading lights should occur every six months.

6.0 Maintenance and repairs

6.1 Visually inspect grading lights before they are used.

6.1.1 Lamps should produce a consistent light with no flickering or dimming.

6.1.2 Lamps should not hold residual light when they are turned off.

6.1.3 Connectors or sockets should have no damage, discoloration or cracking.

6.1.4 Lamps should be properly seated.

6.2 All repairs must be performed by a qualified electrician.