

# LumiLab

## Luminance Reflectance Value (LRV) Test Report

LRV Testing of Flooring Sample  
Grand Oak Flooring, Noble Black Opal

Dated: 14 March 2023

Reference: EG-23935-LL

LumiLab

LRV  
Tests

Luminance  
Contrast

14 March 2023

Tested for: Australian Select Timbers

## Luminance Reflectance Value (LRV) Test Report Grand Oak Flooring, Noble Black Opal

### Background

Australian Select Timbers has engaged LumiLab to provide a Luminance Reflectance Value (LRV) Test Report for a flooring sample provided to our office.

### Description of Sample

Five (5) samples were provided, each sample is a 189mm long x 99mm wide and 14.5mm thick piece of engineered plywood tongue and groove flooring. The surface has a matte finish & wire brushed, with a UV lacquer with 8-10 lacquer coats (as described on the back of the sample).



### Technical Reference

This report references the following:

- Appendix B of Australian Standard (AS) 1428.1-2009 'Design for access and mobility, Part 1: General requirements for access – New building work' (**AS 1428.1**)
- Appendix E of Australian Standard AS/NZS 1428.4.1-2009 'Design for access and mobility, Part 4.1: Means to assist the orientation of people with vision impairment—Tactile ground surface indicators' (**AS/NZS 1428.4.1**)

## Laboratory Testing Equipment

LumiLab uses compliant testing apparatus meeting AS 1428.1 Appendix B requirements:

- Model: Konica Minolta CR-400 tristimulus colorimeter
- Illuminating and viewing system: Diffuse illumination/0° (d/0) viewing angle, specular component included. Conforms to JIS Z 8722 condition c standard
- Light source: Pulsed xenon lamp
- Measurement time: 1 second
- Minimum measurement interval: 3 seconds
- Measurement / illumination area;  $\varnothing$  8mm
- Observer: 2° Closely matches CIE 1931 Standard Observer
- Illuminant used: CIE Standard Illuminant D65
- Color space and colorimetric data: CIE for Yxy

## Testing Methodology

The following is a summary of the laboratory testing methodology, conducted in accordance with requirements of AS 1428.1, Clause B3.3 and AS/NZS 1428.4.1, Clause E3.3:

- The apparatus was first calibrated in accordance with the manufacturer's instructions.
- The tristimulus value 'Y' (LRV measurements) were taken in five (5) random locations in a dry condition.
- A further twenty (20) random locations were measured equally across the five (5) samples.
- Areas of damage or wear were avoided during the testing process.

## Definitions

The following terms are used in this report:

Term	Definition
Luminance contrast	The light reflected from one surface or component, compared to the light reflected from another surface or component.
LRV	Luminance reflective value
Bowman-Sapolinski equation	To determine the luminance contrast between the samples tested, the LRVs are entered into the Bowman-Sapolinski equation: $C = 125 (Y_2 - Y_1) / (Y_1 + Y_2 + 25)$ , where: C = luminance contrast Y1 and Y2 = LRV of each surface

## Testing Conditions

The testing was undertaken under the following conditions:

- Date tested: 13 March 2023
- Consultant: Lee Wilson
- Temperature: 24.5°C
- Humidity: 45.5%





## LRV Test Results

The following are the test results of the tristimulus value Y (LRV):

LRV Measurements (Yd)						
5.11	5.02	5.09	5.11	5.05		
4.94	5.26	4.88	5.40	5.10		
4.92	4.87	5.01	4.81	4.73		
5.20	5.43	5.07	5.66	5.02		
5.21	5.01	5.27	4.99	4.68	<b>Yd</b>	<b>5.07</b>

Grand Oak Flooring,  
Noble Black Opal

LRV mean average

The LRV mean dry average is: **5.07**

Please contact the undersigned to discuss this report.

Yours sincerely,

**Lee Wilson, Director / Access Consultant**

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It is important to note that the material tested is naturally subject to surface variations and Egress Group Pty Ltd / LumiLab cannot be held accountable or responsible for any variations in LRVs across different samples of the same material tested.

LumiLab is not currently accredited by the National Association of Testing Authorities (NATA).