

# RSNI

Rancangan Standar Nasional Indonesia

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Eco-Labeling Criteria - Outdoor Lighting

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## Foreword

This Product Criteria Document (PCD) is created to support the implementation of environmental labeling for products and services that are preferred to the environment in Indonesia. The need for environmental labeling has been identified in order to meet the demands of both domestic and international consumers. The criteria were developed using globally recognized labeling ideas. On the other hand, the evaluation methods are chosen based on life cycle evaluation and consideration of international or other recognized standards.

Through consultation with industry players and other stakeholders, this eco-labelling criteria document is being revised to reflect changing needs and conditions. Users and other interested parties are welcome to submit comments on the content of this document so that future revisions can be included ecological uses.

# Committee Representation

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# Introduction

Outdoor lighting is essential for creating safe, secure, and functional public spaces, but it also presents unique challenges, particularly in Indonesia. Rapid urbanization, coupled with the need for well-lit streets, parks, and infrastructure, has led to increased energy consumption and environmental concerns. Many outdoor lighting systems in Indonesia still rely on inefficient technologies, contributing to excessive electricity use and greenhouse gas emissions.

One significant issue is the lack of standardization and awareness regarding environmentally friendly lighting solutions. Outdated lighting systems often use materials that are difficult to recycle or dispose of responsibly, further exacerbating environmental problems. Additionally, light pollution, a growing concern in urban and suburban areas, disrupts ecosystems and affects biodiversity, especially in regions with rich natural habitats.

To address these issues, adopting eco-labeled outdoor lighting solutions offers a promising path forward. Ecolabels provide a clear and credible way to identify products that meet high standards of energy efficiency, sustainability, and environmental performance.

This document outlines the criteria for outdoor lighting products, with a focus on addressing these challenges through sustainable and innovative solutions. By emphasizing performance, durability, and environmental responsibility, the criteria aim to guide stakeholders in making informed choices that benefit both people and the planet.

## 1. Scope

This document applies to outdoor lighting systems which comprise luminaire and casing cover for outdoor use in public, commercial, and recreational spaces.

## 2. Normative References

- 1) The Republic of Indonesia Government Regulation No. 28 of 2021 concerning the Implementation of the Industrial Sector.
- 2) ISO 14020 of 2022 concerning Environmental statements and programs for products — Principles and general requirements.
- 3) SNI ISO 50001 of 2018 concerning Energy management systems —Requirements with guidance for use
- 4) Regulation of the Minister of Energy and Mineral Resources No. 21 of 2012 concerning Amendments to Regulation of the Minister of Energy and Mineral Resources No. 17 of 2009 concerning the Implementation of Indonesian National Standards for Luminaires as Mandatory Standards
- 5) SNI 6197 of 2020 concerning Energy Conservation on Lighting System
- 6) SNI 03-6652-2002: Procedures for building protection planning and equipment against lightning strikes.
- 7) Interim Specifications, Ministry of Public Works and Public Housing Directorate General of Highways, PJU-TS SKh-1.9.7 of 2022 concerning Solar Powered Public Street Lighting (pju-ts).
- 8) SNI 04-6973.2.3-2005, Luminaires - Part 2-3: Particular requirements - Luminaires for public road lighting.
- 9) SNI 6197 of 2020 concerning Energy Conservation on Lighting System

## 3. Terms and Definitions

- 3.1. **Outdoor Lighting System.** Fixed lighting was installed with the intention of providing good visibility to users of outdoor public areas and roads during the hours of darkness

to support safety, traffic flow, and public security, such as amenities lighting, road lighting, etc.

- 3.2. Luminaire.** A lamp housing used to control and distribute light emitted by the lamps installed inside, equipped with equipment to protect the lamps and electrical control equipment (SNI 6197 of 2020, Energy conservation in lighting systems).
- 3.3. Luminance.** The ratio of the light intensity in a particular direction to the area of the light source projected into or onto that direction, expressed in units of candela per m<sup>2</sup> (cd/m<sup>2</sup>) (SNI 6197 of 2020, Energy conservation in lighting systems).

## 4. Eco-Labeling Criteria

### 4.1. General Requirements

- 4.1.1.** The manufacturer shall be able to provide relevant documentation, analyses, test reports, and/or other evidence to show compliance with the criteria (Government Regulation no 28 of 2021 concerning Organizing Industrial sector or ISO 14001 of 2015 concerning Environmental management systems or ISO 14020 of 2022 concerning Environmental statements and programs for products — Principles and general requirements).
- 4.1.2.** The production process shall comply with relevant national or local regulations (Republic of Indonesia Government Regulation No. 28 of 2021 concerning Organization of the Industrial Field).
- 4.1.3.** The product shall comply with Indonesia National Standard about Luminer (but not limited) (Regulation of the Minister of Energy and Mineral Resources No. 21 of 2012 concerning Amendments to Regulation of the Minister of Energy and Mineral Resources No. 17 of 2009 concerning the Implementation of Indonesian National Standards for Luminaires as Mandatory Standards).

### 4.2. Environmental Requirement

#### 4.2.1. The product criteria

- 4.2.1.1. The product shall have a color restriction temperature is 2000K – 6500K in sensitive areas to minimize blue light, which disrupts nocturnal ecosystems (SNI 6197 of 2020 concerning Energy Conservation on Lighting System).
- 4.2.1.2. The product shall have a lumen efficiency is 130 lumen/watt (Interim Specifications, Ministry of Public Works and Public Housing Directorate General of Highways, PJU-TS SKh-1.9.7 of 2022 concerning Solar Powered Public Street Lighting (pju-ts)).
- 4.2.1.3. The product shall have a lifespan is 36,000 hours (Interim Specifications, Ministry of Public Works and Public Housing Directorate General of Highways, PJU-TS SKh-1.9.7 of 2022 concerning Solar Powered Public Street Lighting (pju-ts)).

#### **4.2.2. Packaging**

All packaging i.e. plastic, paper (not limited to) of outdoor lighting system facilities must be made of recycleable materials.

## **5. Marking**

Each product should be clearly and indelibly marked with the following:

- a) Manufacturer's name and/or trade mark
- b) Product name
- c) Batch or lot number
- d) Eco-labelling mark

## **6. Certification Mark**

Each product, may by arrangement with xxxxxxxxxx, be marked with its eco-labeling certification mark, provided the product conforms to the requirements of this criteria document.



## Bibliography

1. ASHRAE 90.1: Energy standards for buildings, including outdoor lighting.
2. IES LM-79: Testing methods for photometric performance of LED lighting.
3. IES LM-80: Measuring lumen maintenance of LED light sources over time.
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5. SNI 04-6959.1-2003, Equipment - Lighting control - Part 1: General and safety requirements
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7. SNI IEC 61215-1-1-2016, Terrestrial photovoltaic (FV) modules – Design qualification and type approval – Part 1-1: Particular requirements for testing of crystalline silicon photovoltaic (FV) modules
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12. SNI 9178 of 2023 concerning Ambient air: Performance test of air quality monitoring devices using low-cost sensors
13. Government Regulation of the Republic of Indonesia No. 41 of 1999 concerning Air Pollution Management