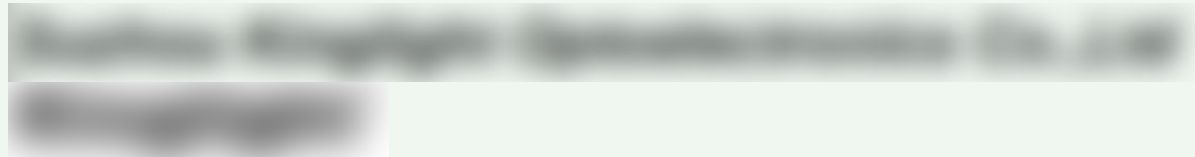


Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

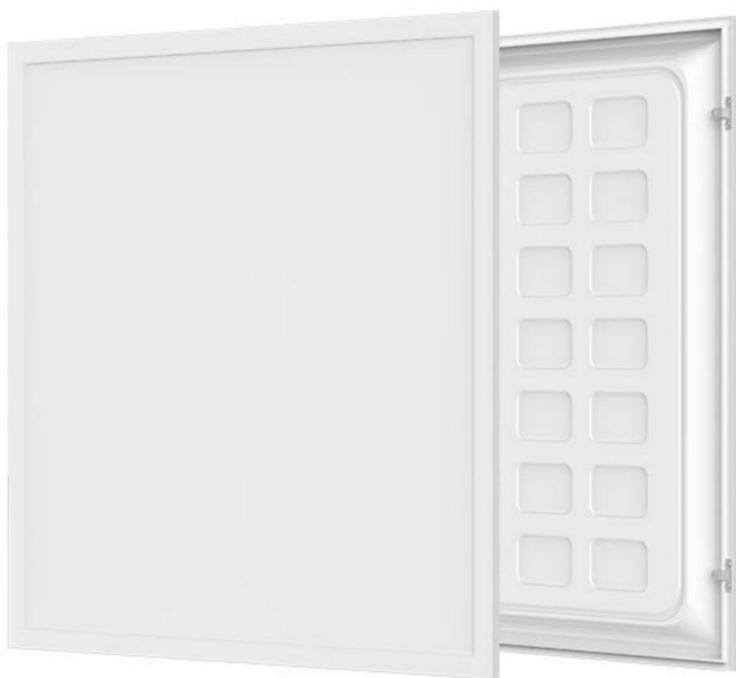
LED PANEL LIGHT

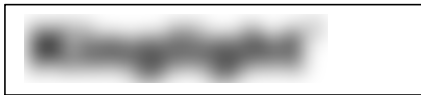
from



Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products, based on worst-case results
EPD registration number:	EPD-IES-0031317:001
Version date:	2026-05-21
Validity date:	2031-05-20

An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com





GENERAL INFORMATION

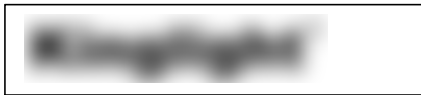
Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
E-mail:	support@environdec.com

Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction Products, version 2.0.1 (valid until 2030-04-07), CEN standard EN 15804 serves as the core PCR. UN CPC of declared products: 4653 Lighting Equipment
PCR review was conducted by: Rob Rouwette (chair) and Noa Meron (co-chair) who can be contacted via support@environdec.com .

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:
☒ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: Rui Wang, IVL Swedish Environmental Research Institute Approved by: International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier:
☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.



INFORMATION ABOUT EPD OWNER

Owner of the EPD:

Address: East side of Quaker North Road Yanggao Town,

Contact: 1361 0426 88 1827282112 1827282112

Address and contact information of the LCA practitioner c
applicable: Jiangyin City LCA Certification Co., Ltd. Jiang

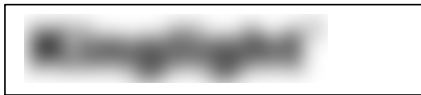
Description of the organisation:

It is a leading LCA expert of LCA lighting fixtures, Jiang
Jiangyin City LCA Certification Co., Ltd. The project is technology of
the global stage.

Product-related or management system-related certifications:

ISO 9001:2015 – Quality Management Service

ISO 14001:2015 – Environmental Management System



PRODUCT INFORMATION

Product name: LED PANEL LIGHT

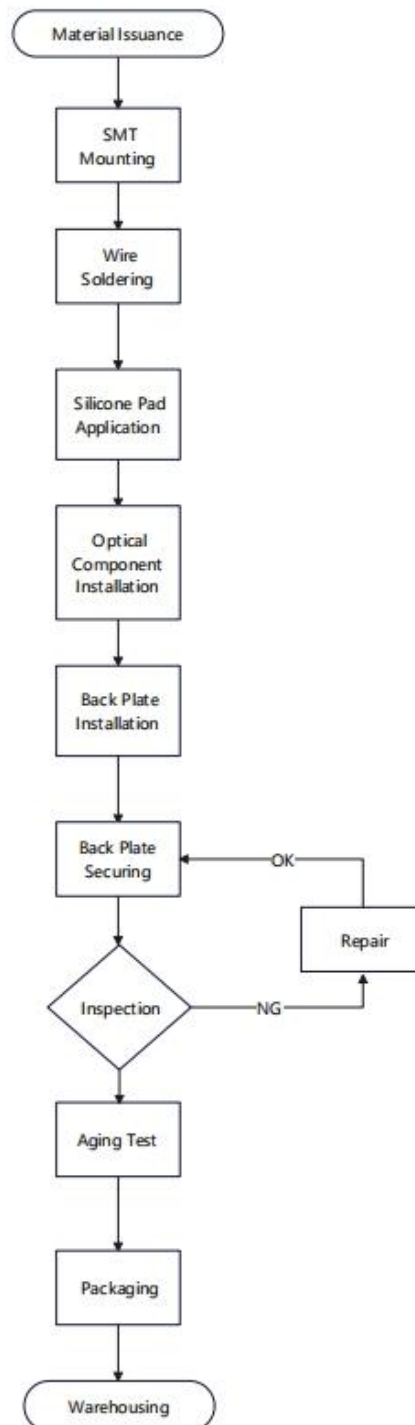
Product identification:

PRODUCT MODEL		
PL-3030-BL-XX	PL-6060-BL-CB-XX	PL-6262-XX
PL-3060-BL-XX	PL-6060-BL-CB-36S	PL-30120-XX
PL-6060-BL-XX	PL-6767-BL-CB-XX	PL-60120-XX
PL-6060-BL-36S	PL-6262-BL-CB-XX	PL-3030-CB-XX
PL-6262-BL-XX	PL-30120-BL-CB-XX	PL-3060-CB-XX
PL-30120-BL-XX	PL-60120-BL-CB-XX	PL-6060-CB-XX
PL-6767-BL-XX	PL-3030-XX	PL-6060-CB-36
PL-60120-BL-XX	PL-3060-XX	PL-6262-CB-XX
PL-3030-BL-CB-XX	PL-6060-XX	PL-30120-CB-XX
PL-3060-BL-CB-XX	PL-6060-36	PL-60120-CB-XX

Visual representation of the products



Manufacturing Process: This EPD is based on the worst-case product, which is PL-60120-CB-XX, according to the weight and power of the product. The products are manufactured in the same site and have the same major steps in the core manufacturing processes, including SMT Mounting, wire soldering, Optical Component Installation, Back Plate Installation, inspection, aging test, and packaging etc.





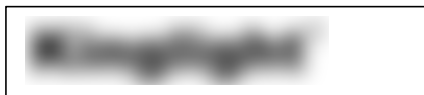
UN CPC code:

4653 Lighting Equipment

Product description:

Our LED panel lights are divided into edge-lit and back-lit types. Both support three installation methods: recessed, surface-mounted and suspended. They are equipped with flicker-free drivers, available in multiple power options from 18W to 72W and a wide CCT range of 3000K to 6500K. Dimmable versions are also available. The diffuser adopts TPA fire-rated material, with a front ingress protection rating up to IP54 for dust and water splash resistance, offering ideal lighting solutions for offices, corridors and a wide range of commercial spaces.

Name and location of production site(s): *Guangdong Kinglight Optoelectronics Co., Ltd. East side of Shunde North Road, Foshan Town, Shunde, Jiangmen City, Guangdong P.R. China*



CONTENT DECLARATION

The mass (weight) of one unit of a product, as per declared unit: One piece of PL-60120-CB-XX (worst case), weight: 5.10 kg (Excl. packaging), power per luminaire: 72W, with the package materials averaging 0.79 kg. The product lifespan is 100,000 hours. As the share of bio-based/recycled material is unknown, this part of the content declaration is declared as 0% as a conservative estimation.

The result of this study is calculated based on the worst-case results of the product group. The content declaration below is in reference to worst-case content of the product group.

Product: Content of worst-case product - PL-60120-CB-XX:

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Aluminium alloy	2.4258	0	0	0
cast iron	0.0212	0	0	0
driver	0.2360	0	0	0
Electric connector	0.1007	0	0	0
Light emitting diode	0.0044	0	0	0
Polycarbonate	0.0023	0	0	0
Polyethylene terephthalate	0.2252	0	0	0
polymethyl methacrylate	1.3578	0	0	0
Polystyrene	0.6728	0	0	0
polysulfone	0.0004	0	0	0
Silicone product	0.0028	0	0	0
Steel, chromium steel 18/8	0.0438	0	0	0
Tin	0.0077	0	0	0
TOTAL	5.1009	0	0	0

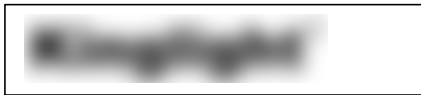
Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Corrugated board box	0.7600	0.27%	0
Paper, woodcontaining	0.0137	14.90%	0
Polyethylene, low density	0.06	0.27%	0
TOTAL	0.79	15.49%	0

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	Mass-% per product or declared unit
None	-	-	-

Trulite Lighting International Co. Ltd. declares that their products covered by the study do not contain substances of very high concern (SVHC) as defined and listed in the European Chemicals



Agency (ECHA) Candidate List of substances of very high concern for Authorization, in levels above 0.01% by weight for the products.



LCA INFORMATION

Declared unit: One piece of LED PANEL LIGHT (PL-60120-CB-XX) product, the weight of the worst-case product per declared unit is 5.10 kg (Excl. packaging).

Reference service life: 100,000 Hours

Time representativeness: From 1st January 2025 to 31st December 2025

Geographical scope:

Modules A1-A3: CN

Modules A4: GLO

Modules A5: ZA

Modules B and C: ZA

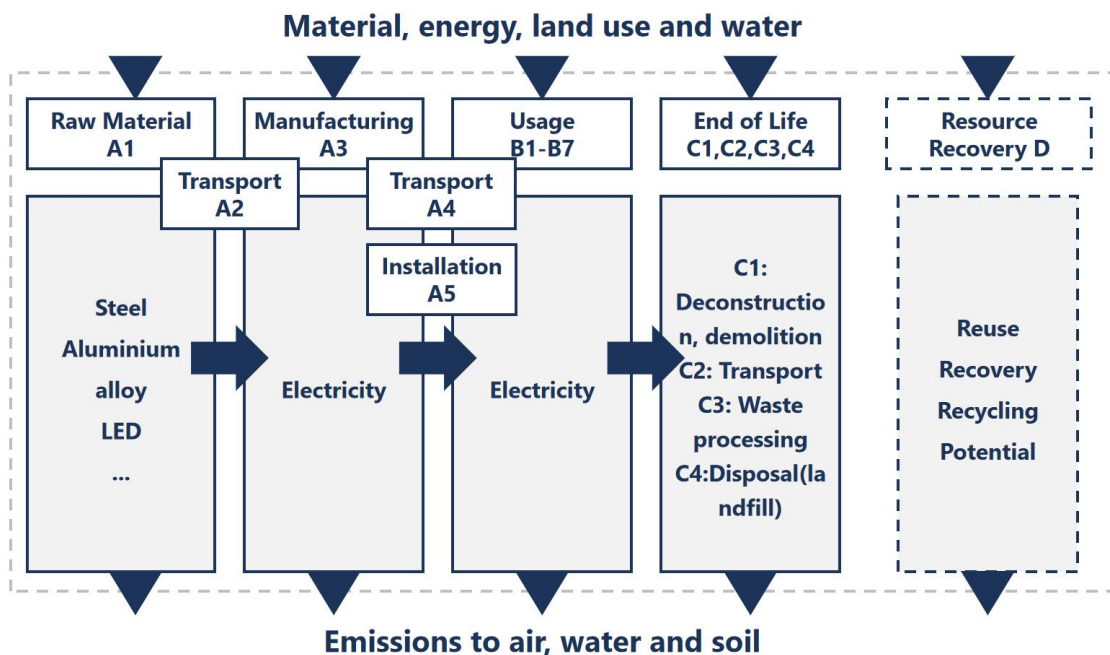
Database(s) and LCA software used: Database: Ecoinvent 3.10 and software: Simapro 9.6

Description of system boundaries:

Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + A4+A5 + C + D and B)

Process flow diagram:

Process flow diagram of the product system, divided into the life-cycle stages and modules, showing the main processes included and the system boundary of the LCA.



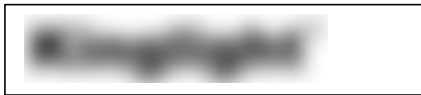
Assumptions:

In construction process stage A5, the product is assembled using cordless power tools. It is assumed that 0.02 kWh of electricity will be used to install one luminaire.

In end-of-life stage C2, an average distance of 100 km is assumed for transporting the used products to the recycling facility and incineration/landfill site.

In end-of-life stage C3, it is assumed that processes such as crushing are included (diesel consumption).

In end-of-life stage C4, 80% scrap metal from the waste products is collected and recycled, with the waste paper, waste plastic and other components recycling rates standing at 58%, 43.7% and 9% respectively. Unrecyclable product components not entering the recycling system are ultimately sent for landfill. Also, the corresponding 100% scenarios (100% recycling and 100% landfill) are declared.



Cut-off criteria:

In the event of insufficient input data or data gaps for a unit process, the cut-off criteria should be set at 1% for both renewable and non-renewable primary energy usage, as well as 1% for the total mass input of that unit process. The cumulative neglected input flows A1-A3, A4-A5, B1-B7, C1-C4 and module D, shall not exceed 5% of energy usage and mass. In addition, the consumption and emissions of roads and plants' infrastructure, capital goods, equipment of each process, personnel and living facilities in the plants were excluded.

Allocation rules:

In this assessment, the allocation of energy consumption, resource use, emissions and wastes from the manufacturing process are based on mass (physical properties) of the products when they leave the unit process, which is the weight of PL-60120-CB-XX and other products, which are from the same manufacturing site of [LED Panel Light Components Co., Ltd.](#)

Additional information:

In this EPD, the EN 15804 reference package is based on EF 3.1

In this EPD, the worst-case product PL-60120-CB-XX has a power of 72W and a design life of 100,000 h, so the power consumption over the product's lifetime is 7200 kWh.

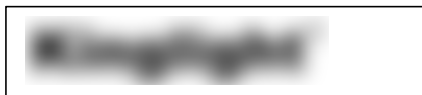
In this EPD, the benefits associated with the recycling of 80% of scrap metal, 58% of waste paper, 43.7% of waste plastic and 9% of other components from LED PANEL LIGHT product are included in module D.

The data for the generation of electricity applied in A3 is electricity mixes on the market, namely "electricity, low voltage in China" in the Ecoinvent 3.10 (cut-off) database. Its GWP-GHG impact is 0.96 kgCO₂eq/kWh. The reference year of electricity dataset is 2015-2023.

The data for the generation of electricity applied in A5 and B6 is electricity mixes on the market, namely the South Africa Power Grid Mix in the Ecoinvent 3.10 database. Its GWP-GHG impact is 1.18 kgCO₂eq/kWh. The reference year of electricity dataset is 2020.

Conversion Factor:

PRODUCT	WEIGHT (KG/DECLARED UNIT)	CONVERSION FACTOR
LED PANEL LIGHT (PL-60120-CB-XX)	5.10	5.10



Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

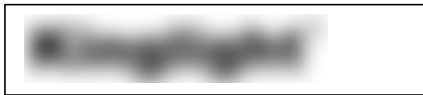
	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling- potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	CN	CN	CN	GLO	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA	ZA
Share of primary data	1.84%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	-84.00%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Data quality:

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Generation of electricity used in manufacturing of product	Database	Ecoinvent V3.10	2025	Primary data	1.54%
Transport of raw materials to manufacturing site-lorry	Database	Ecoinvent V3.10	2025	Primary data	0.30%
Transport of raw materials to manufacturing site-aircraft	Database	Ecoinvent V3.10	2025	Primary data	0.01%
Total share of primary data, of GWP-GHG results for A1-A3					1.84%

Referring to EN 15804:2012+A2:2019/AC:2021, datasets for which at least 80% of the absolute impact of the core environmental indicator contributes, shall be analyzed for data quality. The data quality assessment was conducted in accordance with Table E.1 in Annex E of EN 15804:2012+A2:2019/AC:2021. The quality of the collected data was assessed for the use stage (more than 80% of the total stages), see results in the following table:



Life cycle stage	Unit process	Geographical representativeness	Technical representativeness	Time representativeness	Reason for level	Relevance
B6	Operational electricity use	Good	Good	Fair	South Africa Power Grid Mix based on data from 2020	99% of GWP, 79%-99% of other core impacts



ENVIRONMENTAL PERFORMANCE

LCA results of the product(s) - main environmental performance results

Mandatory impact category indicators according to EN 15804

Results per declared unit																
Indicat or	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP- fossil	kg CO ₂ eq	7.22E+01	1.56E+00	2.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E+03	0.00E+00	0.00E+00	9.19E-02	3.28E-04	1.49E-01	-4.10E+01
GWP- biogeni c	kg CO ₂ eq	-5.44E-01	-2.12E-04	5.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.61E-02	0.00E+00	0.00E+00	4.57E-06	6.95E-08	3.01E+00	2.97E-01
GWP- luluc	kg CO ₂ eq	1.61E-01	7.28E-04	2.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E+01	0.00E+00	0.00E+00	3.75E-05	8.21E-08	1.02E-06	-1.13E-01
GWP- total	kg CO ₂ eq	7.19E+01	1.56E+00	5.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E+03	0.00E+00	0.00E+00	9.20E-02	3.28E-04	3.16E+00	-4.08E+01
ODP	kg CFC11 eq	3.92E-06	2.25E-08	4.17E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-05	0.00E+00	0.00E+00	1.34E-09	2.06E-11	1.80E-10	-1.72E-06
AP	mol H ⁺ eq	5.07E-01	2.65E-02	3.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E+02	0.00E+00	0.00E+00	4.18E-04	1.51E-06	1.94E-04	-2.75E-01
EP- freshwa ter	kg P eq	2.52E-02	8.71E-05	1.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E+00	0.00E+00	0.00E+00	7.38E-06	1.86E-08	1.78E-04	-1.25E-02
EP- marine	kg N eq	7.75E-02	7.05E-03	4.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E+01	0.00E+00	0.00E+00	1.57E-04	2.32E-07	2.49E-03	-4.49E-02
EP- terrestri al	kg N eq	7.96E-01	7.81E-02	4.59E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E+02	0.00E+00	0.00E+00	1.71E-03	2.47E-06	5.47E-04	-4.56E-01
POCP	kg NMVOC eq	2.69E-01	2.22E-02	1.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.39E+01	0.00E+00	0.00E+00	5.90E-04	2.82E-06	1.16E-03	-1.51E-01
ADP- mineral &metal s	kg Sb eq	3.83E-03	3.17E-06	8.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-02	0.00E+00	0.00E+00	2.87E-07	2.56E-10	4.10E-09	-2.27E-03
ADP- fossil	MJ	8.62E+02	2.06E+01	3.12E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+05	0.00E+00	0.00E+00	1.31E+00	2.04E-02	1.54E-01	-4.58E+02
WDP*	m ³ depriv.	1.91E+01	9.26E-02	3.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E+03	0.00E+00	0.00E+00	7.57E-03	2.36E-05	4.51E-04	-1.10E+01
Acrony ms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.



The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3).

Additional mandatory and voluntary impact category indicators

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ¹	kg CO ₂ eq.	7.24E+01	1.56E+00	2.36E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E+03	0.00E+00	0.00E+00	9.20E-02	3.28E-04	1.49E-01	-4.11E+01

Resource use indicators

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	8.71E+01	2.21E-01	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.23E+03	0.00E+00	0.00E+00	1.78E-02	5.63E-05	9.45E-04	-4.99E+01
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	8.71E+01	2.21E-01	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.23E+03	0.00E+00	0.00E+00	1.78E-02	5.63E-05	9.45E-04	-4.99E+01
PENRE	MJ	8.62E+02	2.06E+01	3.12E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+05	0.00E+00	0.00E+00	1.31E+00	2.04E-02	1.54E-01	-4.59E+02
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	8.62E+02	2.06E+01	3.12E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+05	0.00E+00	0.00E+00	1.31E+00	2.04E-02	1.54E-01	-4.59E+02
SM	kg	9.50E-01	9.49E-03	2.68E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.65E+00	0.00E+00	0.00E+00	5.83E-04	1.85E-06	6.42E-05	-4.63E-01
RSF	MJ	9.43E-02	7.24E-05	2.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.03E-02	0.00E+00	0.00E+00	7.40E-06	1.27E-08	1.67E-07	-5.06E-02
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m ³	4.85E-01	2.26E-03	8.07E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E+01	0.00E+00	0.00E+00	1.85E-04	5.80E-07	1.10E-05	-2.79E-01
Acronyms	PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water															

¹ This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero.



Waste indicators

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1.05E+01	3.22E-02	3.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E+03	0.00E+00	0.00E+00	2.30E-03	7.93E-06	1.72E-04	-6.60E+00
Non-hazardous waste disposed	kg	1.29E+02	5.38E-01	8.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.92E+04	0.00E+00	0.00E+00	4.33E-02	1.18E-04	2.42E+00	-6.58E+01
Radioactive waste disposed	kg	6.98E-04	3.40E-06	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.71E-02	0.00E+00	0.00E+00	2.77E-07	1.06E-09	1.70E-08	-3.68E-04

Output flow indicators

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.47E+00
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00



Additional LCA results

The environmental impact indicators of 100% recycling scenario in end-of-life stage:

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq	7.22E+01	1.56E+00	2.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E+03	0.00E+00	0.00E+00	9.19E-02	3.28E-04	0.00E+00	-6.29E+01
GWP-biogenic	kg CO ₂ eq	-5.44E-01	-2.12E-04	5.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.61E-02	0.00E+00	0.00E+00	4.57E-06	6.95E-08	0.00E+00	5.34E-01
GWP-luluc	kg CO ₂ eq	1.61E-01	7.28E-04	2.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E+01	0.00E+00	0.00E+00	3.75E-05	8.21E-08	0.00E+00	-1.54E-01
GWP-total	kg CO ₂ eq	7.19E+01	1.56E+00	5.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E+03	0.00E+00	0.00E+00	9.20E-02	3.28E-04	0.00E+00	-6.25E+01
ODP	kg CFC11 eq	3.92E-06	2.25E-08	4.17E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-05	0.00E+00	0.00E+00	1.34E-09	2.06E-11	0.00E+00	-3.84E-06
AP	mol H ⁺ eq	5.07E-01	2.65E-02	3.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E+02	0.00E+00	0.00E+00	4.18E-04	1.51E-06	0.00E+00	-4.67E-01
EP-freshwater	kg P eq	2.52E-02	8.71E-05	1.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E+00	0.00E+00	0.00E+00	7.38E-06	1.86E-08	0.00E+00	-2.25E-02
EP-marine	kg N eq	7.75E-02	7.05E-03	4.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E+01	0.00E+00	0.00E+00	1.57E-04	2.32E-07	0.00E+00	-6.95E-02
EP-terrestrial	kg N eq	7.96E-01	7.81E-02	4.59E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E+02	0.00E+00	0.00E+00	1.71E-03	2.47E-06	0.00E+00	-7.13E-01
POCP	kg NMVOC eq	2.69E-01	2.22E-02	1.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.39E+01	0.00E+00	0.00E+00	5.90E-04	2.82E-06	0.00E+00	-2.41E-01
ADP-minerals&metals	kg Sb eq	3.83E-03	3.17E-06	8.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-02	0.00E+00	0.00E+00	2.87E-07	2.56E-10	0.00E+00	-3.80E-03
ADP-fossil	MJ	8.62E+02	2.06E+01	3.12E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+05	0.00E+00	0.00E+00	1.31E+00	2.04E-02	0.00E+00	-7.46E+02
WDP*	m ³ depriv.	1.91E+01	9.26E-02	3.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E+03	0.00E+00	0.00E+00	7.57E-03	2.36E-05	0.00E+00	-1.79E+01
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															



The environmental impact indicators of 100% landfill scenario in end-of-life stage:

Results per declared unit																
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-fossil	kg CO ₂ eq	7.22E+01	1.56E+00	2.35E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E+03	0.00E+00	0.00E+00	9.19E-02	0.00E+00	3.63E-01	0.00E+00
GWP-biogenic	kg CO ₂ eq	-5.44E-01	-2.12E-04	5.11E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.61E-02	0.00E+00	0.00E+00	4.57E-06	0.00E+00	7.32E+00	0.00E+00
GWP-luluc	kg CO ₂ eq	1.61E-01	7.28E-04	2.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E+01	0.00E+00	0.00E+00	3.75E-05	0.00E+00	2.49E-06	0.00E+00
GWP-total	kg CO ₂ eq	7.19E+01	1.56E+00	5.35E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.49E+03	0.00E+00	0.00E+00	9.20E-02	0.00E+00	7.69E+00	0.00E+00
ODP	kg CFC 11 eq	4E-06	2.25E-08	4.17E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-05	0.00E+00	0.00E+00	1.34E-09	0.00E+00	4.39E-10	0.00E+00
AP	mol H ⁺ eq	5.07E-01	2.65E-02	3.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E+02	0.00E+00	0.00E+00	4.18E-04	0.00E+00	4.73E-04	0.00E+00
EP-freshwater	kg P eq	2.52E-02	8.71E-05	1.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.21E+00	0.00E+00	0.00E+00	7.38E-06	0.00E+00	4.34E-04	0.00E+00
EP-marine	kg N eq	7.75E-02	7.05E-03	4.37E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E+01	0.00E+00	0.00E+00	1.57E-04	0.00E+00	6.06E-03	0.00E+00
EP-terrestrial	kg N eq	7.96E-01	7.81E-02	4.59E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E+02	0.00E+00	0.00E+00	1.71E-03	0.00E+00	1.33E-03	0.00E+00
POCP	kg NMV OC eq	2.69E-01	2.22E-02	1.22E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.39E+01	0.00E+00	0.00E+00	5.90E-04	0.00E+00	2.83E-03	0.00E+00
ADP-minerals&metals	kg Sb eq	3.83E-03	3.17E-06	8.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-02	0.00E+00	0.00E+00	2.87E-07	0.00E+00	1.00E-08	0.00E+00
ADP-fossil	MJ	8.62E+02	2.06E+01	3.12E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.12E+05	0.00E+00	0.00E+00	1.31E+00	0.00E+00	3.74E-01	0.00E+00
WDP*	m ³ depri v.	1.91E+01	9.26E-02	3.44E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E+03	0.00E+00	0.00E+00	7.57E-03	0.00E+00	1.10E-03	0.00E+00
Acronyms	GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption															



ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
GHG	Greenhouse gas
GWP	Global Warming Potential (kg CO ₂ eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO ₂ eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO ₂ eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO ₂ eq.)
GWP-total	Total Global Warming Potential (kg CO ₂ eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO ₂ eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H ⁺ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m ³)
PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERM	Use of renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m ³)



REFERENCES

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations

Principles and procedures.

ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

EN 15804:2012 +A2:2019/AC:2021 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products.

EPD System PCR 2019:14 Construction products (EN 15804+A2) 2.0.1.

LIFE CYCLE ASSESSMENT of LED PANEL LIGHT for Environmental Product Declaration



VERSION HISTORY

Original Version of the EPD, 2026-05-21

