Environmental product declaration

in accordance with ISO 14025 and EN 15804+A2

Ring Plafond 400mm

EPD-Global

Owner of the declaration:
Aneta Lighting AS

Product:
Ring Plafond 400mm

Declared unit:
1 pcs

This declaration is based on Product Category Rules:
CEN Standard EN 15804:2012+A2:2019 serves as core PCR
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Program operator:
EPD-Global

Declaration number:
NEPD-15098-17829

Issue date:
16.07.2026

Latest revision
v1.0 Date: 09.07.2026

Valid to:
16.07.2031

EPD software:
LCAno EPD generator ID: 1672624

General information

Product

Ring Plafond 400mm

Owner of the declaration:

Aneta Lighting AS
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Program operator:

EPD-Global
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Manufacturer:

Aneta Lighting AS
Bymoen 23
4618 Kristiansand, Norway

Declaration number:

NEPD-15098-17829

Place of production:

Aneta Lighting AS production site (China)
China

This declaration is based on Product Category Rules:

CEN Standard EN 15804:2012+A2:2019 serves as core PCR
IBU PCR - Part B for luminaires, lamps, and components for luminaires

Management system:

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. EPD-Global shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Organisation no:

953 832 488

Declared unit:

1 pcs Ring Plafond 400mm

Issue date:

16.07.2026

Declared unit with option:

A1, A2, A3, A4, A5, B1, B2, B3, B4, B5, B6, B7, C1, C2, C3, C4, D

Valid to:

16.07.2031

Year of study:

2024

Functional unit:

1 RING 400mm LED luminaire manufactured and installed, used according to a specific lighting regime over a lifetime of 15 years, including waste treatment at end-of-life.

Comparability:

EPDs of construction products may not be comparable if they do not comply with EN 15804 and are not viewed in a building context.

General information on verification of EPD from EPD tools:

Independent verification of data, other environmental information and the declaration according to ISO 14025:2010, § 8.1.3 and § 8.1.4. Verification of each EPD is made according to EPD-Global's guidelines for verification and approval requiring that tools are i) integrated into the company's environmental management system, ii) the procedures for use of the EPD tool are approved by EPD-Global, and iii) the process is reviewed annually by an independent third party verifier. See Appendix G of EPD-Global's General Programme Instructions for further information on EPD tools

Development and verification of EPD:

The declaration is created using EPD tool lca.tools ver EPD2022.03, developed by LCA.no. The EPD tool is integrated in the company's management system, and has been approved by EPD-Global. Approval number: NEPDT138

Developer of EPD: Cecilia Nygaard

Reviewer of company-specific input data and EPD: Aleksander Klev

Verification of EPD tool:

Independent third party verification of the EPD tool, background data and test-EPD in accordance with EPD-Global's procedures and guidelines for verification and approval of EPD tools. Approval number: NEPDT41.

Third party verifier:

Vito D'Incognito, Take Care International, Take Care International

(no signature required)

Approved:

Håkon Hauan, CEO EPD-Global

Product

Product description:

The upgraded RING evo fixture is smarter, stronger, and more flexible than ever! With its sleek, modern design and high luminous output, it is perfect for both residential and professional environments. No matter the space, the RING ensures optimal lighting thanks to flexible mounting options, high color rendering (CRI >90), and an impressive lifespan of 165,000 hours. Installation is quick and easy! RING comes with a bracket for ceiling or wall mounting, as well as a distance bracket for cable side entry. Specially developed with the electrician in mind, it ensures smooth and hassle-free installation.

On the back, you'll find a convenient switch to easily select the color temperature (2700K, 3000K, or 4000K), allowing you to tailor the light to your needs. If you choose the DALI version, you get even more flexibility with adjustable color temperatures ranging from 2700K to 6500K (Tunable White). RING is available in several variations, offering different sizes and luminous outputs. For additional functionality, you can choose a model with a motion sensor, DALI control, or a wire kit for suspended mounting.

Upgrade to RING evo – the perfect combination of style, brightness, and user-friendliness!

This EPD covers below products:
7041661283213 - Ring 20/400 Evo, black
7041661283220 - Ring 20/400 Evo, white
7041661273764 - Ring 20/400 DALI, white
7041661273498 - Ring 20/400, black
7041661270664 - Ring 20/400, white
7041661273504 - Ring 30/400, white

As Norway is our main market, the Norwegian energy mix has been applied for Module B6. If an EPD with a specific energy mix is required for other markets, please contact us.

Product specification

Materials	kg	%
Electronic - Cable	0.007	0.5117
Electronic - LED driver	0.08	5.85
Electronic - LED plate	0.025	1.83
Electronic - Switch	0.007	0.5117
Kraft paper - Unbleached	0.011	0.8041
Metal - Aluminium	0.037	2.70
Metal - Stainless steel	0.031	2.27
Plastic - Ethylene vinyl acetate (EVA)	0.011	0.8041
Plastic - Plexiglass (PMMA)	0.243	17.76
Plastic - Polycarbonate (PC)	0.806	58.92
Plastic - Polyethylene terephthalate (PET)	0.011	0.8041
Plastic - Polystyrene (PS)	0.095	6.94
Tape	0.004	0.2924
Total	1.37	100.00

Packaging	kg	%
Packaging - Cardboard	0.328	98.80
Packaging - Paper	0.004	1.20
Total incl. packaging	1.70	100.00

Technical data:

Link to product group in Aneta website:
https://anetaprofessional.com/en/store/filters/product-group/ring/webpage-category-professi/ceiling-lamps/

Market:

Nordic

Reference service life, product

15 years. Estimated based on the characteristics of the product and the intended application.

Reference service life, building or construction works

60 years. Standard service life for buildings according to the PCR Part A of EPD Norway.

LCA: Calculation rules

Declared unit:

1 pcs Ring Plafond 400mm

Cut-off criteria:

All major raw materials and all the essential energy is included. The production processes for raw materials and energy flows with very small amounts (less than 1%) can be excluded. These cut-off criteria do not apply for hazardous materials and substances.

Allocation:

The allocation is made in accordance with the provisions of EN 15804. Incoming energy and water and waste production in-house is allocated equally among all products through mass allocation. Effects of primary production of recycled materials is allocated to the main product in which the material was used. The recycling process and transportation of the material is allocated to this analysis.

Data quality:

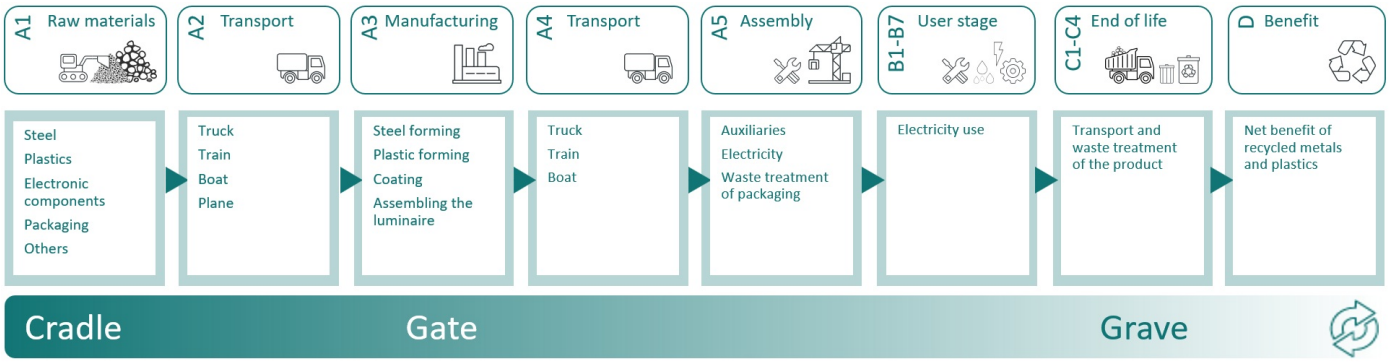
Specific data for the product composition are provided by the manufacturer. The data represent the production of the declared product and were collected for EPD development in the year of study. Background data is based on EPDs according to EN 15804 and different LCA databases. The data quality of the raw materials in A1 is presented in the table below.

Materials	Source	Data quality	Year
Electronic - Cable	Ecoinvent 3.6	Database	2019
Electronic - LED driver	Product composition + ecoinvent 3.6	Supplier data + database	2019
Electronic - LED plate	ecoinvent 3.6	Database	2019
Electronic - Switch	Product composition + ecoinvent 3.6	Supplier data + database	2019
Kraft paper - Unbleached	ecoinvent 3.6	Database	2019
Metal - Aluminium	Modified ecoinvent 3.6	Database	2019
Metal - Stainless steel	ecoinvent 3.6	Database	2019
Metal - Stainless steel	Modified ecoinvent 3.6	Database	2019
Packaging - Cardboard	ecoinvent 3.6	Database	2019
Packaging - Paper	ecoinvent 3.6	Database	2019
Plastic - Ethylene vinyl acetate (EVA)	ecoinvent 3.6	Database	2019
Plastic - Plexiglass (PMMA)	Product composition + ecoinvent 3.6	Supplier data + database	2019
Plastic - Polycarbonate (PC)	ecoinvent 3.6	Database	2019
Plastic - Polyethylene terephthalate (PET)	ecoinvent 3.6	Database	2019
Plastic - Polystyrene (PS)	ecoinvent 3.6	Database	2019
Tape	Ecoinvent 3.6	Database	2019

System boundaries (X=included, MND=module not declared, MNR=module not relevant)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

System boundary:



Additional technical information:

Datasheets, manuals, certificates etc. can be found at our website. Please visit:
https://anetaprofessional.com/en/store/filters/product-group/ring/webpage-category-professi/ceiling-lamps/

LCA: Scenarios and additional technical information

The following information describe the scenarios in the different modules of the EPD.

Module A4 = Transportation by truck (40 km) from the production site in Guandong, China to the harbor in Shenzhen, China. After this the goods are transported by ship (18300 km) from Shenzhen, China to Rotterdam, Netherlands. Then with ship (950 km) from Rotterdam, Netherlands to the port in Kristiansand, Norway. From Kristiansand to our warehouse by truck (5km). Average distribution into the Nordic market (300 km).

Modules A5 = Installation is performed in the Nordic Market and done by manual labor, with the use of electrical machines, that fall under the cut-off criteria of 1% and is therefore neglected. Packaging of the final product consist of a corrugated board box.

Module B6 = The operational energy use of the luminaire is calculated based on the methodology provided in IBU PCR Part B for luminaires, lamps, and components for luminaires. The energy consumption model for luminaire used in the PCR follows the application scenarios developed in EN 15193:2007. To calculate the electricity use of the luminaire, the following scenario parameters have been applied:
- Active power of the luminaire (Pa) = 20 watt
- Passive power of the luminaire (Pp) = 0 watt
- Daylight time usage (tD) = 2250 hours
- Non-daylight time usage (tN) = 250 hours
- Standard year time (ty) = 8760 hours
- The occupancy depency factor (FO) = 0,9 (factor, no unit)
- The daylight dependency factor (FD) = 0,9 (factor, no unit)
- The product specific constant illuminance factor (FCP) = 1 (factor, no unit)
- The non-daylight dimming factor (FN) = 1 (factor, no unit)
- The application specific empiric lifetime of the luminaire in years (a) = 15 years (corresponding to the reference service life of the product).

The luminaire Ring 30/400 has a different result in module B6 due to a higher rated power. While the calculation methodology and all scenario parameters remain identical, the active power (Pa) for Ring 30/400 is 30 W, compared to 20 W for the reference luminaire. Based on the same usage scenario and a reference service life of 15 years, this results in an operational electricity consumption of 921.38 kWh for Ring 30/400 in module B6.

Module C1 = The de-installation of the luminaire is carried out manually, with the assistance of electrical tools. The energy consumption of portable electrical devices (e.g., drills) is typically low, falling below the 1% cut-off criterion, and is therefore disregarded.

Module C2 = Transportation from building site to the waste treatment facility with an average distance of 85km.

Modules C3 and C4 = Waste treatment of the product follows the default values provided in EN 50693, Product Category Rules for life cycle assessments of electronic and electrical products and systems, table G.4. This table specified how different types of raw materials used in A1 will likely be treated during the end-of-life of the product. Waste treatments in C3 include material recycling and incineration with and without energy recovery and fly ash extraction. Disposal in C4 consist of landfilling of different waste fractions and of ashes.

Module D = The recyclability of metals, plastics, and electronic components allows the producers a credit for the net scrap that is produced at the end of a product's life. The benefits from recycling of net scrap are described in formula from EN 15804:2012+A2:2019. Substitution of heat and electricity generated by the incineration with energy recovery of plastic insulation and other parts is also calculated in module D.

Transport from production place to user (A4)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Ship, Coastal Barge (km)	71.0 %	950.00	0.011	l/tkm	10.45
Ship, Freight, Transoceanic (km)	65.0 %	18300.00	0.003	l/tkm	54.90
Truck, 16-32 tonnes, EURO 4 (km) - Rest of World	38.8 %	40.00	0.045	l/tkm	1.80
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36.7 %	304.90	0.043	l/tkm	13.11

Assembly (A5)	Unit	Value			
Waste, packaging, folding boxboard, to average treatment (kg) - RoW, A5, incl. 85 km transp.	kg	0.243			
Waste, packaging, paper printed, to average treatment (kg) - RoW, A5, incl. 85 km transp.	kg	0.04			
Waste, cardboard and paper, to average treatment - A5 including transport (kg)	kg	0.007			

Operational energy (B6)	Unit	Value			
Electricity, Norway (kWh)	kWh	614.25			

Transport to waste processing (C2)	Capacity utilisation (incl. return) %	Distance (km)	Fuel/Energy Consumption	Unit	Value (Liter/tonne)
Truck, 16-32 tonnes, EURO 6 (km) - Europe	36.7 %	85.00	0.043	l/tkm	3.66

Waste processing (C3)	Unit	Value			
Aluminium to recycling (kg)	kg	0.0413			
Steel to recycling (kg)	kg	0.05195			
Waste treatment per kg used electronic components, manual seperation (kg)	kg	0.043			
Waste treatment per kg used PWB, shredding and separation - C3 (kg)	kg	0.03667			
Waste treatment per kg electronics scrap from PWB, with components, recycling of metals C3 (kg)	kg	0.01184			
Copper to recycling (kg)	kg	0.00096			
Waste treatment of plastic mixture, incineration with energy recovery and fly ash extraction (kg)	kg	0.8491			
Waste treatment per kg electronics scrap from LED plate, without components, recycling of copper - C3 (kg)	kg	0.0065			

Disposal (C4)	Unit	Value			
Landfilling of aluminium (kg)	kg	0.0177			
Landfilling of steel (kg)	kg	0.01299			
Landfilling of hazardous waste (kg)	kg	0.01834			
Landfilling of copper (kg)	kg	0.00064			
Landfilling of plastic mixture (kg)	kg	0.8491			
Landfilling of ashes from incineration of Plastic mixture, process per kg ashes and residues (kg)	kg	0.02969			

Benefits and loads beyond the system boundaries (D)	Unit	Value			
Substitution of primary aluminium with net scrap (kg)	kg	0.0118			
Substitution of primary steel with net scrap (kg)	kg	0.00112			
Substitution of primary metals with net scrap from PWB, with components (kg)	kg	0.00348			
Substitution of primary copper with net scrap (kg)	kg	0.00096			
Substitution of electricity (MJ)	MJ	1.30			
Substitution of thermal energy, district heating (MJ)	MJ	19.74			
Substitution of copper with net scrap from PWB, without components (kg)	kg	0.00065			

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact

Indicator	Unit	A1	A2	A3	A4	A5	B1	B2	B3
GWP-total	kg CO_2 -eq	1.91E+01	7.28E-03	1.67E+00	4.65E-01	5.06E-01	0	0	0
GWP-fossil	kg CO_2 -eq	1.96E+01	7.27E-03	1.67E+00	4.65E-01	4.69E-03	0	0	0
GWP-biogenic	kg CO_2 -eq	-5.40E-01	2.81E-06	2.35E-03	1.80E-04	5.02E-01	0	0	0
GWP-luluc	kg CO_2 -eq	1.67E-02	2.63E-06	2.23E-04	3.77E-04	1.55E-06	0	0	0
ODP	kg CFC11 -eq	7.08E-07	1.61E-09	1.56E-08	9.69E-08	9.91E-10	0	0	0
AP	mol H+ -eq	1.19E-01	3.72E-05	8.75E-03	1.06E-02	2.22E-05	0	0	0
EP-FreshWater	kg P -eq	1.64E-03	6.78E-08	3.66E-05	2.95E-06	3.85E-08	0	0	0
EP-Marine	kg N -eq	1.76E-02	1.24E-05	1.79E-03	2.73E-03	7.35E-06	0	0	0
EP-Terrestial	mol N -eq	1.97E-01	1.37E-04	1.97E-02	3.04E-02	7.95E-05	0	0	0
POCP	kg NMVOC -eq	6.69E-02	3.90E-05	5.10E-03	7.95E-03	2.29E-05	0	0	0
ADP-minerals&metals[1]	kg Sb-eq	1.95E-03	1.93E-07	5.16E-06	5.46E-06	1.14E-07	0	0	0
ADP-fossil[1]	MJ	2.43E+02	1.08E-01	1.47E+01	6.17E+00	6.56E-02	0	0	0
WDP[1]	m^3	3.37E+02	3.49E-02	1.48E+00	3.62E+00	8.32E-02	0	0	0

Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO_2 -eq	0	0	1.49E+01	0	0.00E+00	2.36E-02	2.02E+00	1.01E-01	-4.29E-01
GWP-fossil	kg CO_2 -eq	0	0	1.45E+01	0	0.00E+00	2.36E-02	2.02E+00	1.01E-01	-4.22E-01
GWP-biogenic	kg CO_2 -eq	0	0	4.00E-01	0	0.00E+00	9.77E-06	6.69E-05	1.21E-05	-1.29E-03
GWP-luluc	kg CO_2 -eq	0	0	5.98E-02	0	0.00E+00	8.40E-06	3.98E-05	3.66E-05	-6.22E-03
ODP	kg CFC11 -eq	0	0	9.93E-07	0	0.00E+00	5.35E-09	5.15E-09	2.98E-09	-8.34E-03
AP	mol H+ -eq	0	0	1.13E-01	0	0.00E+00	6.78E-05	4.89E-04	8.78E-05	-1.49E-02
EP-FreshWater	kg P -eq	0	0	1.04E-03	0	0.00E+00	1.89E-07	7.63E-07	2.71E-07	-8.79E-05
EP-Marine	kg N -eq	0	0	1.24E-02	0	0.00E+00	1.34E-05	2.19E-04	1.29E-04	-1.06E-03
EP-Terrestial	mol N -eq	0	0	1.62E-01	0	0.00E+00	1.50E-04	2.26E-03	3.16E-04	-1.35E-02
POCP	kg NMVOC -eq	0	0	4.35E-02	0	0.00E+00	5.75E-05	5.49E-04	1.19E-04	-3.87E-03
ADP-minerals&metals[1]	kg Sb-eq	0	0	1.08E-03	0	0.00E+00	6.52E-07	3.16E-07	9.06E-08	-3.02E-04
ADP-fossil[1]	MJ	0	0	1.98E+02	0	0.00E+00	3.57E-01	3.97E-01	2.49E-01	-5.60E+00
WDP[1]	m^3	0	0	7.71E+02	0	0.00E+00	3.45E-01	3.22E+00	1.95E+00	-8.62E+01

GWP-total = Global Warming Potential total; 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

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. 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

Remarks to environmental impacts

Additional environmental impact indicators

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PM	Disease incidence	1.21E-06	5.09E-10	1.18E-07	7.61E-09	3.28E-10	0	0	0
	IRP[2]	kgBq U235 -eq	4.38E-01	4.49E-04	1.06E-02	2.68E-02	2.81E-04	0	0	0
	ETP-fw[1]	CTUe	9.01E+02	8.70E-02	4.40E+01	4.00E+00	8.75E-02	0	0	0
	HTP-c[1]	CTUh	1.48E-08	0.00E+00	4.32E-10	0.00E+00	3.00E-12	0	0	0
	HTP-nc[1]	CTUh	6.20E-07	8.30E-11	1.87E-08	1.17E-09	1.10E-10	0	0	0
	SQP[1]	dimensionless	8.35E+01	7.30E-02	3.14E+00	2.27E+00	4.40E-02	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PM	Disease incidence	0	0	8.11E-07	0	0.00E+00	1.45E-09	2.26E-09	1.73E-09	-9.06E-08
	IRP[2]	kgBq U235 -eq	0	0	3.59E+00	0	0.00E+00	1.56E-03	1.32E-03	1.08E-03	-2.59E-02
	ETP-fw[1]	CTUe	0	0	9.01E+02	0	0.00E+00	2.65E-01	4.47E+00	1.97E+01	-1.06E+02
	HTP-c[1]	CTUh	0	0	4.30E-08	0	0.00E+00	0.00E+00	3.24E-10	2.20E-11	-9.36E-10
	HTP-nc[1]	CTUh	0	0	1.01E-06	0	0.00E+00	2.89E-10	1.76E-08	2.85E-10	-4.79E-08
	SQP[1]	dimensionless	0	0	9.96E+01	0	0.00E+00	2.50E-01	7.99E-02	8.68E-01	-1.29E+01

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

1. 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
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	PERE	MJ	1.95E+01	1.21E-03	1.49E+00	7.05E-02	1.08E-03	0	0	0
	PERM	MJ	5.43E+00	0.00E+00	0.00E+00	0.00E+00	-9.15E+00	0	0	0
	PERT	MJ	2.50E+01	1.21E-03	1.49E+00	7.05E-02	-9.15E+00	0	0	0
	PENRE	MJ	2.10E+02	1.08E-01	1.47E+01	6.17E+00	6.56E-02	0	0	0
	PENRM	MJ	3.32E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0
	PENRT	MJ	2.43E+02	1.08E-01	1.47E+01	6.17E+00	6.56E-02	0	0	0
	SM	kg	2.44E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0
	RSF	MJ	1.52E-01	2.36E-05	8.27E-04	2.88E-03	3.58E-05	0	0	0
	NRSF	MJ	2.48E-02	2.00E-04	8.90E-03	1.49E-02	1.48E-04	0	0	0
	FW	m^3	1.56E-01	1.19E-05	1.70E-02	5.30E-04	3.10E-05	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	PERE	MJ	0	0	2.56E+03	0	0.00E+00	5.11E-03	3.38E-02	2.56E-02	-1.08E+01
	PERM	MJ	0	0	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	PERT	MJ	0	0	2.56E+03	0	0.00E+00	5.11E-03	3.38E-02	2.56E-02	-1.08E+01
	PENRE	MJ	0	0	1.98E+02	0	0.00E+00	3.57E-01	3.97E-01	2.49E-01	-5.61E+00
	PENRM	MJ	0	0	0.00E+00	0	0.00E+00	0.00E+00	-4.55E+01	0.00E+00	0.00E+00
	PENRT	MJ	0	0	1.98E+02	0	0.00E+00	3.57E-01	-4.51E+01	2.49E-01	-5.61E+00
	SM	kg	0	0	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	3.96E-04	6.71E-04
	RSF	MJ	0	0	2.01E+00	0	0.00E+00	1.83E-04	6.03E-04	2.50E-04	-1.86E-03
	NRSF	MJ	0	0	5.01E+00	0	0.00E+00	6.53E-04	-1.27E-05	3.84E-03	-5.97E-01
	FW	m^3	0	0	1.91E+01	0	0.00E+00	3.82E-05	2.43E-03	2.80E-04	-1.68E-02

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 materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Waste

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	HWD	kg	6.37E-02	9.64E-06	5.05E-03	3.04E-04	0.00E+00	0	0	0
	NHWD	kg	1.56E+00	5.10E-03	1.39E-01	8.35E-02	2.90E-01	0	0	0
	RWD	kg	3.46E-04	7.10E-07	9.22E-06	4.24E-05	0.00E+00	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	HWD	kg	0	0	1.27E-01	0	0.00E+00	1.84E-05	6.14E-06	2.03E-02	-3.93E-04
	NHWD	kg	0	0	1.52E+01	0	0.00E+00	1.74E-02	8.32E-03	8.83E-01	-1.04E-01
	RWD	kg	0	0	1.77E-03	0	0.00E+00	2.43E-06	3.10E-07	1.36E-06	-2.23E-05

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

End of life - Output flow

Indicator		Unit	A1	A2	A3	A4	A5	B1	B2	B3
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0
	MFR	kg	0.00E+00	0.00E+00	1.10E-02	0.00E+00	2.70E-01	0	0	0
	MER	kg	0.00E+00	0.00E+00	1.93E-02	0.00E+00	2.03E-02	0	0	0
	EEE	MJ	0.00E+00	0.00E+00	1.33E-02	0.00E+00	1.66E-02	0	0	0
	EET	MJ	0.00E+00	0.00E+00	2.01E-01	0.00E+00	2.51E-01	0	0	0

Indicator		Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
	CRU	kg	0	0	0.00E+00	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0	0	0.00E+00	0	0.00E+00	0.00E+00	9.42E-02	7.62E-05	-2.63E-05
	MER	kg	0	0	0.00E+00	0	0.00E+00	0.00E+00	8.49E-01	1.86E-06	-3.46E-06
	EEE	MJ	0	0	0.00E+00	0	0.00E+00	0.00E+00	1.30E+00	1.21E-04	-8.47E-06
	EET	MJ	0	0	0.00E+00	0	0.00E+00	0.00E+00	1.97E+01	1.83E-03	-1.28E-04

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0*10-3 = 0.009"

Biogenic Carbon Content

Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	5.24E-03
Biogenic carbon content in accompanying packaging	kg C	1.57E-01

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO2

Additional requirements

Greenhouse gas emissions from the use of electricity in the manufacturing phase

National production mix from import, low voltage (production of transmission lines, in addition to direct emissions and losses in grid) of applied electricity for the manufacturing process (A3).

Electricity mix	Source	Amount	Unit
Electricity, China (kWh)	ecoinvent 3.6	1102.91	g CO2-eq/kWh

Dangerous substances

The product contains no substances given by the REACH Candidate list.

Indoor environment

Not relevant

Additional Environmental Information

Additional environmental impact indicators required in NPCR Part A for construction products

Indicator	Unit	A1	A2	A3	A4	A5	B1	B2	B3
GWPIOBC	kg CO_2 -eq	1.97E+01	7.28E-03	1.67E+00	4.65E-01	4.69E-03	0	0	0

Indicator	Unit	B4	B5	B6	B7	C1	C2	C3	C4	D
GWPIOBC	kg CO_2 -eq	0	0	1.49E+01	0	0.00E+00	2.36E-02	2.02E+00	1.02E-01	-4.22E-01

GWP-IOBC: Global warming potential calculated according to the principle of instantaneous oxidation. In order to increase the transparency of biogenic carbon contribution to climate impact, the indicator GWP-IOBC is required as it declares climate impacts calculated according to the principle of instantaneous oxidation. GWP-IOBC is also referred to as GWP-GHG in context to Swedish public procurement legislation.

Bibliography

ISO 14025:2010. Environmental labels and declarations - Type III environmental declarations - Principles and procedures. International Organization for Standardization.
ISO 14044:2006. Environmental management - Life cycle assessment - Requirements and guidelines. International Organization for Standardization.
EN 15804:2012+A2:2019. Environmental product declaration - Core rules for the product category of construction products. European Committee for Standardization.
ISO 21930:2017. Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products. International Organization for Standardization.
EN 50693:2019. Product category rules for life cycle assessments of electronic and electrical products and systems. European Committee for Standardization.
Ecoinvent v3, 2019. Allocation, cut-off by classification. Swiss Centre of Life Cycle Inventories.
Iversen et al., (2021). eEPD v2021.09, background information for EPD generator tool system verification, LCA.no. Report number: 07.21. System verification report.
Philis et al., (2022). EPD generator for IBU PCR part B for luminaires, lamps, and components for luminaires, background information for EPD generator application and LCA data, LCA.no. Report number: 04.22. PCR verification report.
EPD Norway (2022). NPCR Part A: Construction products and services. The Norwegian EPD foundation. Version 2.0 published 24.03.2021.
IBU (2017). PCR part B for luminaires, lampes and components for luminaires. Institut Bauen und Umwelt e.V. Version 1.7, published 30.11.2017.

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