

Schröder

Experts in lightability™

Product Environmental Profile

LED luminaire

IZYLUM 3



About the EPD

Declaration owner

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Declaration provider

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Conformity

The Life Cycle Assessment provided by this declaration follows the principles of the standards ISO 14040:2006 and EN 15804:2012 + A2:2019.

No third party verification.

Validity

Publication date : 14-12-23
Period of validity : 5 years

Schröder's Environmental Commitment

Sustainability has always been one of Schröder's fundamental values. As a responsible lighting manufacturer, we promote environmental protection practices throughout the entire product lifecycle, from the selection of the raw materials, through the manufacturing of the luminaire, to its use and its end-of-life treatment.

Our commitment is to develop products with the lowest environmental impact and be transparent about it.

What is Life Cycle Assessment ?

Life cycle assessment (LCA) is the most advanced tool for a comprehensive, multi-criteria assessment of environmental impacts. This standardised method makes it possible to measure the quantifiable effects of products or services on the environment.

It is a decision-making tool. Its results can be used for the purposes of ecodesign, environmental labelling or public policy orientation. The objective of LCA is to present a global vision of the potential impacts generated by products (goods, services or processes) throughout the life cycle of a product, i.e. from the production of raw materials to its end-of-life management (this is known as cradle-to-grave analysis).

LCA establishes a quantitative balance of all the incoming (water, energy, raw materials) and outgoing (water, air, waste) flows at each stage of a product's life cycle. This makes it possible to identify a large number of impacts (or pollution) on the environment.

Product description

Product name: IZYLUM 3

Luminaire description

- Housing: Aluminium, Stainless steel
- LEDs: 60
- Driver current: 700 mA
- Electronic power supply
- Protector: Yes
- Pole: None

Bill of materials

Material	Weight (kg)	%
Aluminium	5.7	70%
Steel	0.4	5%
Glass	0.8	10%
Plastics	0.2	2%
Electronics	1.0	12%
Others	0.0	0%
Total	8.1	100%

RoHS 2 conformity

This product is designed in conformity with the requirements of the RoHS 2 European Directive. It does not contain, or in the authorised proportions the restricted substances as mentioned in the Directive.

Life cycle Assessment Scope

Functional unit

Generate a lighting that provides an artificial luminous flux during the lifetime foreseen by the manufacturer.

Lifetime (hours): 0

In comparison with products belonging to the same product category, a lifetime of 100.000 hours is equivalent to a product life span of 25 years.

The environmental analysis has been calculated taking into account the entire life cycle of the product from specifications to end-of-life (cradle to grave).

Manufacturing

All our factories are ISO 14001:2015 and ISO 9001:2015 certified.

All the materials, processes and transport requirements (from the suppliers to the assembly factory) are carefully examined and integrated into this life cycle step.

This life cycle stage is part of modules A1 to A3 according to EN 15 804.

Distribution

The transport of the luminaire from the factory to the installation site is taken into account as follows:

Transport	Distance (km)
Lorry	1000
Train	0
Boat	0
Plane	0

This life cycle stage is part of module A4 according to EN 15 804.

Installation

Estimation has been made in order to estimate installation process. The consumption of the elevating platform has been approximated by the one of a lorry in the urban area. This life cycle stage is part of module A5 according to EN 15 804.

Use phase

A dimming system is applied during the use phase in order to save energy.

This life cycle stage is part of *module B* according to EN 15804.

No repair, refurbishment or water consumption has been taken into account as part of the use phase.

Dimmer	Mode	Real Power
1	On	128 W
2	On	64 W
3	Off	-
4	Off	-

End-of-life scenarios

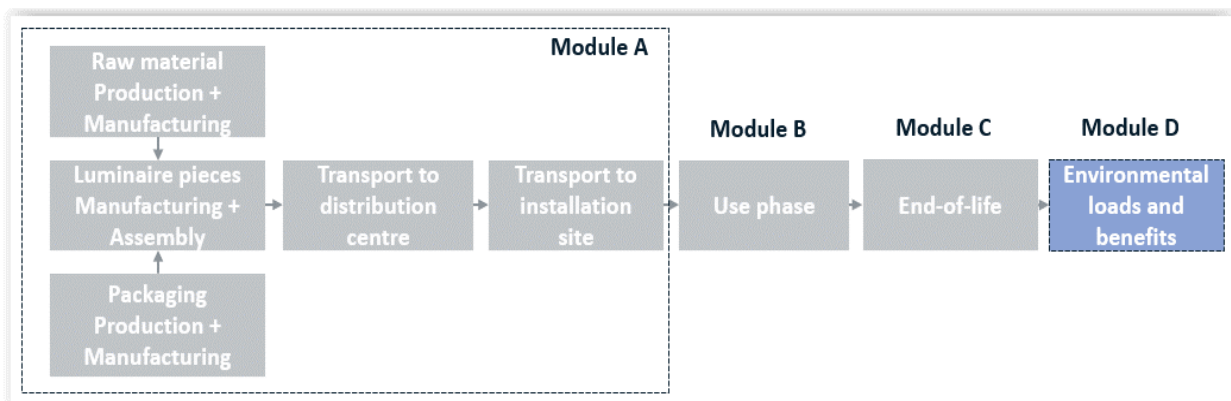
The luminaire is compliant with the Waste from Electrical and Electronic Equipment Directive 2012/19/EU which aims to minimise the impact of end-of-life electrical and electronic equipment on human health and the environment. The following end-of-life scenario is taken into account:

Material	Recycling	Incineratio	Landfill
	rate	n rate	rate
Aluminium	85%	0%	15%
Steel	95%	0%	5%
Copper	95%	0%	5%
Others	0%	0%	100%

This life cycle stage is part of *module C* according to EN 15 804.

Environmental credits due to recycling

Recycling removes waste from the final end-of-life treatments and avoids the production of virgin raw materials. These benefits are calculated in accordance with modelling rules from European Commission within the context of the Product Environmental Footprint project (PEF project). The so-called "Circular Footprint Formula (CFF)" is applied. This life cycle stage is part of *module D* according to EN 15 804.



Additional LCA information

Primary data has been directly encoded by Schröder, and secondary data is provided by internationally recognised databases such as Ecoinvent v3.5.

This assessment takes into account the manufacturing (including the processing of raw materials), transport, utilisation due to electric consumption and maintenance and the end-of-life phases.

Any inflows that have not been incorporated account for less than 1% of the total mass and the total primary energy flow. All together, they account for less than 5% of the total mass or 5% of the total energy or 5% of the environmental impact.

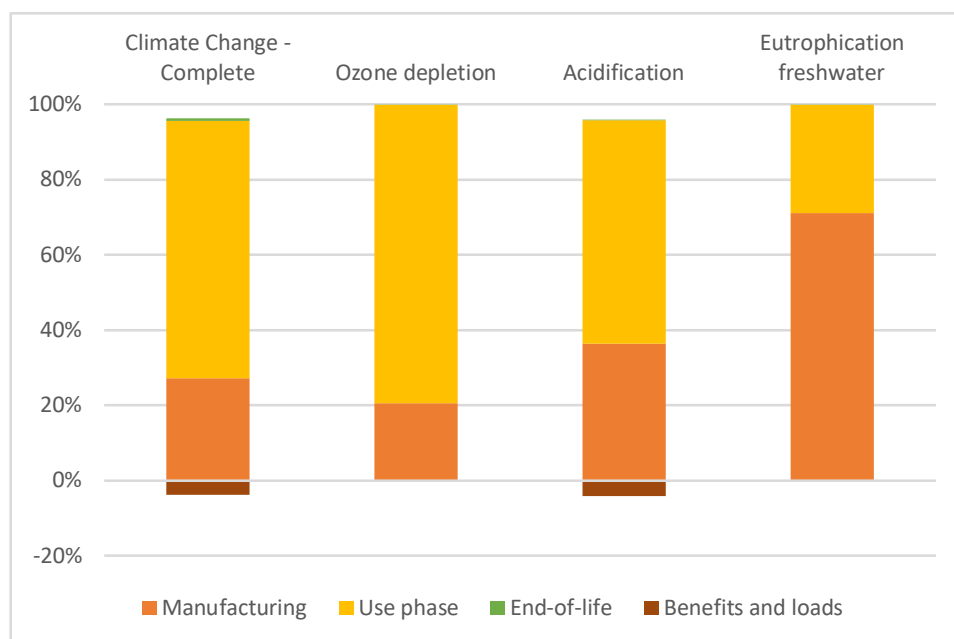
The LCA was realised using RangeLCA software, developed and owned by RDC Environment who conducted the LCA study. For further information please consult the associated methodological report.

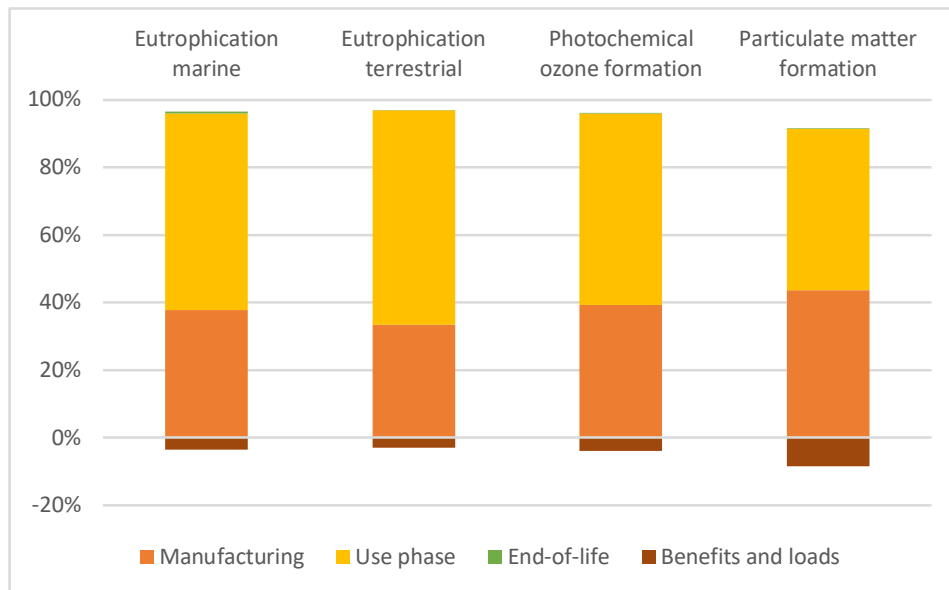
LCA Results

Impact categories presented in the following table and figure are the most up-to-date recommended indicators from the JRC (Joint Research Center) of the European Commission.

According to EN 15 804, these indicators are not subject to caution due to high uncertainty.

Environmental impact indicator	Manufacturing	Use phase	End-of-life	Benefits and loads	Total
Climate Change - Complete	29.3%	74.1%	0.6%	-4.1%	100%
Ozone depletion	20.5%	79.5%	0.1%	-0.1%	100%
Acidification	39.7%	64.7%	0.1%	-4.5%	100%
Eutrophication freshwater	71.4%	28.8%	0.0%	-0.2%	100%
Eutrophication marine	40.7%	62.7%	0.5%	-3.8%	100%
Eutrophication terrestrial	35.5%	67.5%	0.2%	-3.2%	100%
Photochemical ozone formation	42.5%	61.5%	0.2%	-4.2%	100%
Particulate matter formation	52.6%	57.3%	0.3%	-10.2%	100%





Weighted results - Environmental cost

The following indicators aim at expressing the environmental impacts of the product life cycle on the human well-being in a unique score (in €). The first indicator corresponds to a scenario where the global environmental policy is not ambitious (weak), as opposed to the second one which relies on an ambitious (strong) global environmental policy. In the weak policy scenario, the monetary value of carbon dioxide emission is 264 € per tonne whereas in the strong scenario, the carbon dioxide tonne is valued at 55 €.

Environmental impact indicator - Unit	Manufacturing	Use phase	End-of-life	Benefits and loads
Total environmental cost (Weak policy) - €	266.78	451.68	69.93	-19.48
Total environmental cost (Strong policy) - €	214.19	318.78	68.79	-12.20

Appendix

This section presents the full list of environmental and flow indicators that shall be calculated according to EN 15804.

Environmental impact indicator - Unit	Manufacturing	Use phase	End-of-life	Benefits and loads
Climate Change - Fossil - kg CO2 eq.	2.6E+02	6.4E+02	3.1E+00	-3.6E+01
Climate Change - Biogenic - kg CO2 eq.	-2.3E+00	4.4E+00	1.8E+00	4.1E-01
Climate Change - LU and LUC - kg CO2 eq.	3.6E-01	6.5E+00	3.4E-03	-2.4E-02
Resource use, minerals and metals - kg Sb	5.6E-02	2.7E-03	2.7E-06	-5.7E-05
Resource use, fossils - MJ	3.9E+03	2.3E+04	4.0E+01	-4.5E+02
Water use - Volume m ³ eq.	8.9E+01	7.5E+02	3.1E-01	-6.1E+00
Ionising radiation - kBq U235 eq.	3.4E+01	1.1E+03	1.0E+00	-5.0E+00
Ecotoxicity freshwater - CTUe	4.8E+02	2.8E+02	3.9E+01	1.5E+00
Cancer human health effects - CTUh	4.8E-06	1.0E-05	5.6E-08	2.5E-07
Non-cancer human health effects - CTUh	8.0E-05	1.1E-04	2.9E-07	-2.8E-07
Land Use - pt	2.3E+03	3.0E+04	1.3E+01	-2.4E+02
Resource use - Unit	Manufacturing	Use phase	End-of-life	Benefits and loads
Use of renewable primary energy excluding renewable primary energy resources used as raw materials - MJ	5.0E+02	5.9E+03	1.9E+00	-2.0E+02
Use of renewable primary energy resources used as raw materials - MJ	5.9E+00	0.0E+00	0.0E+00	0.0E+00
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw materials) - MJ	5.0E+02	5.9E+03	1.9E+00	-2.0E+02
Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials - MJ	3.8E+03	2.3E+04	4.0E+01	-4.5E+02
Use of non renewable primary energy resources used as raw materials - MJ	8.7E+00	0.0E+00	0.0E+00	0.0E+00
Total use of non renewable primary energy resources (primary energy and primary energy resources used as raw materials) - MJ	3.9E+03	2.3E+04	4.0E+01	-4.5E+02
Use of secondary material - kg	5.7E+00	0.0E+00	0.0E+00	0.0E+00
Net use of fresh water - m ³	2.4E+00	1.7E+01	7.1E-03	-4.9E-01
Waste production - Unit	Manufacturing	Use phase	End-of-life	Benefits and loads
Hazardous waste - kg	1.8E-02	2.3E-02	8.0E-06	-1.2E-04
Non hazardous waste - kg	3.3E+02	2.4E+02	4.8E+00	-1.6E+00
Radioactive waste - kg	1.0E-02	2.3E-01	2.2E-05	-1.1E-04
Outflows - Unit	Manufacturing	Use phase	End-of-life	Benefits and loads
Components for re-use - kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Material for recycling - kg	0.0E+00	0.0E+00	0.0E+00	6.0E+00
Material for energy recovery - kg	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Exported electric energy - MJ	0.0E+00	0.0E+00	1.6E+00	0.0E+00
Exported thermal energy - MJ	0.0E+00	0.0E+00	4.8E+00	0.0E+00