

Programme:

The International EPD[®] System:
www.environdec.com

In accordance with ISO 14025:2006 and
EN15804:2012+A2:2019/AC:2021 for:

Programme Operator:

EPD International AB

EPD Registration Number:

EPD-IES-0017781

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2029-12-24

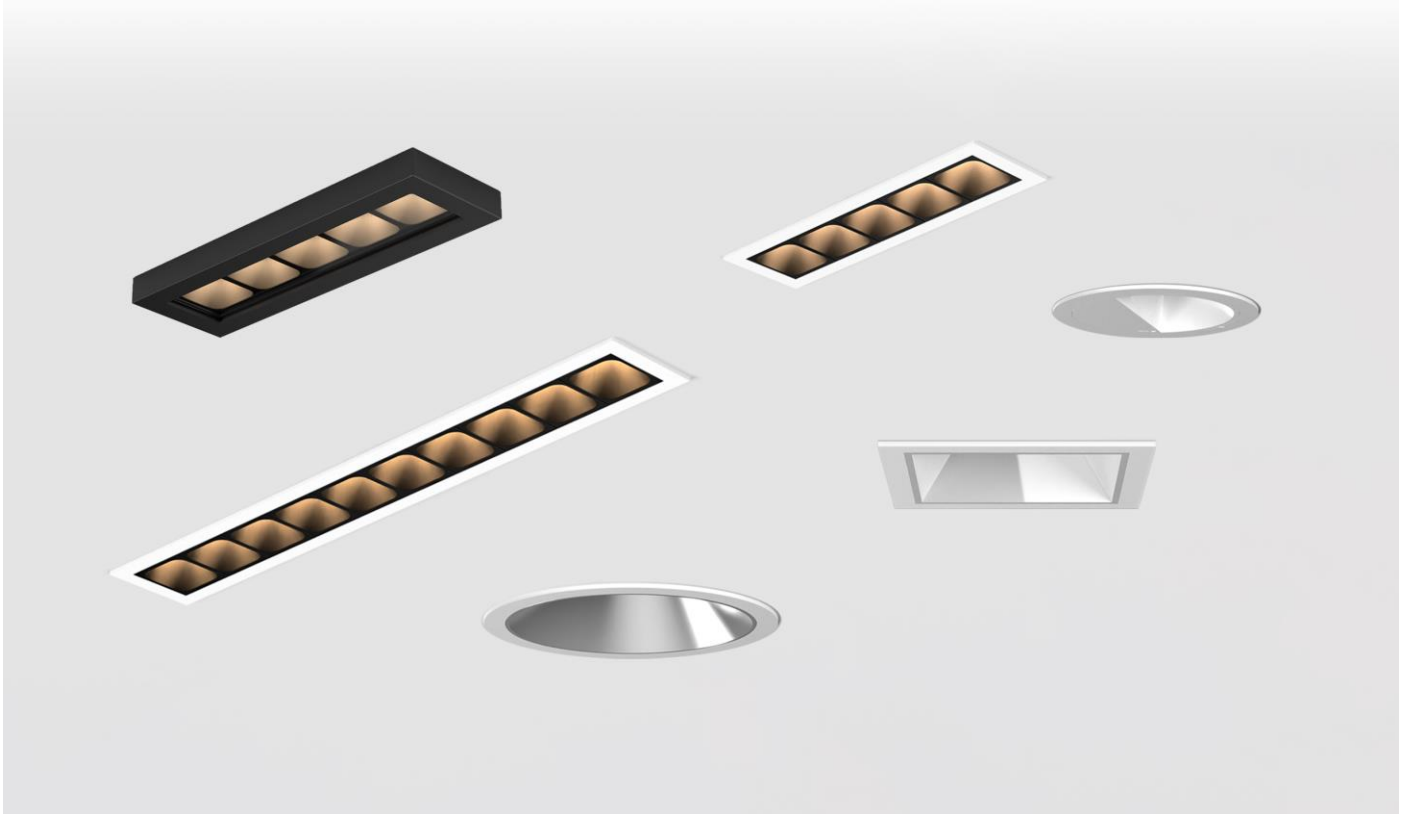
ORION & GRAFIK

From Orlight Limited

EPD of multiple products, based on a representative product

Product model:

ORION-ROUND, ORION-SQUARE, ORIONWFX, GRAFIK5, GRAFIK5-IP65, GRAFIK10



An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



Programme Information:

| | | | |
|------------------|---|----------------|---------------------|
| Programme | The International EPD® System | Website | www.environdec.com |
| Address | EPD International AB Box 210 60 SE-100 31 Stockholm Sweden | E-mail | info@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 (EN 15804:A2) (1.3.4)
This EPD follows additional requirements for construction products considered as Electronic or Electric Equipment

PCR review was conducted by:

The Technical Committee of the International EPD® System. See www.environdec.com/TC for a list of members. Review chair: Claudia A. Peña, University of Concepción, Chile. The review panel may be contacted via the Secretariat www.environdec.com/contact

Life Cycle Assessment (LCA) accountability:

Xiaoying Li, CTI Certification Co., Ltd

Third party verification:

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

EPD verification by individual verifier

Third-party verifier: Rui Wang, IVL Swedish Environmental Research Institute

Approved by: The 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 registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same 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 equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.



Owner of the EPD: ORLIGHT LIMITED **Contact:** Wilson Mendes **E-mail:** info@orlight.com

About Us

Orlight, your premier turn-key lighting supply partner. Established in 1997, Orlight has become a dominant force in the architectural lighting market, consistently adding value to our clients' propositions with unparalleled lighting products and services. Our unique approach to the ever-evolving industry has made us a trusted name among developers and construction firms.

Our Mission

We pride ourselves on being 100% in command of our supply chain, from quality control and product innovation to research, development and procurement. With no third-party involvement, we deliver superior products at competitive prices. Our substantial stock holdings in the UK and Europe ensure swift dispatch, minimising waiting times and providing a distinct advantage to our clients.

Market Sector and Credibility

Orlight caters to large-scale residential and commercial developments, in response to market demand, we expanded from a predominantly residential lighting business into the commercial lighting sector for data centres, office spaces and other commercial environments, which has proven a success for us. Our growing commercial product range combines high-specification LED technology with aesthetic appeal, ensuring first-class offerings that maintain critical performance values. Our reputation, built over more than 25 years, is reinforced by long-standing relationships with major developers and construction firms. We also serve a diverse portfolio of clients, with projects extending globally to the Middle East, Europe and China.

Sustainability Commitment

At Orlight, sustainability is a core value that informs all aspects of our business. We take our environmental responsibilities seriously, integrating eco-friendly practices throughout our supply chain and manufacturing processes. We are committed to reducing our carbon footprint and improving operational efficiency. We continuously seek ways to enhance our sustainability efforts, ensuring that our products are not only high-quality but also environmentally responsible.

Value Proposition and Deliverability

To streamline processes, we offer direct credit accounts to M&E Contractors, Electrical Installers and Construction Companies, now extending these facilities to North America, Europe and the Middle East. By eliminating third parties, we help clients control costs effectively. With stocks exceeding £10M and a fleet of vehicles, our FORS Gold Accredited operation guarantees high performance, safety and efficiency, reinforcing our commitment to a reliable Source to Site® service.

The Complete Project from Concept to Delivery

Orlight's Source to Site business model is rooted in value, quality and efficiency. Our comprehensive in-house departments provide a full spectrum of services, from initial design to bespoke product manufacturing and technical support. Our adaptability allows us to tackle various projects, including luxury Apartments, Commercial & Hospitality developments, Gyms, Spas, Data Centres and other areas located both internally and externally. This flexibility and control over our manufacturing process make Orlight a sought-after partner for high-end projects across London and beyond.

At Orlight, our commitment to innovation, quality, sustainability and client satisfaction drives us to deliver exceptional lighting solutions for every project. Join us in illuminating the future with excellence.

Product-related or management system-related certifications

- ISO 9001:2015 – Quality Management Service
- ISO 14001:2015 – Environmental Management System

Name and location of production site:

Huizhou, China

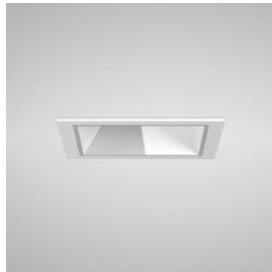
Product Name:

This EPD[®] represents Recessed Downlight products, ORION and GRAFIK family from Orlight, including the following models:

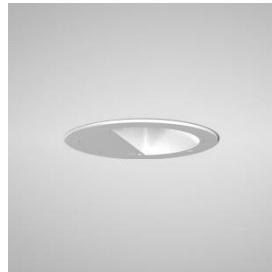
ORION Family



ORION-ROUND

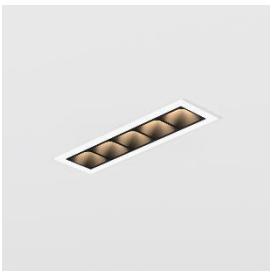


ORION-SQUARE



ORIONWFX

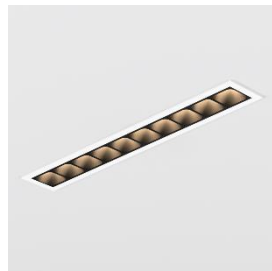
GRAFIK Family



GRAFIK5



GRAFIK5-IP65



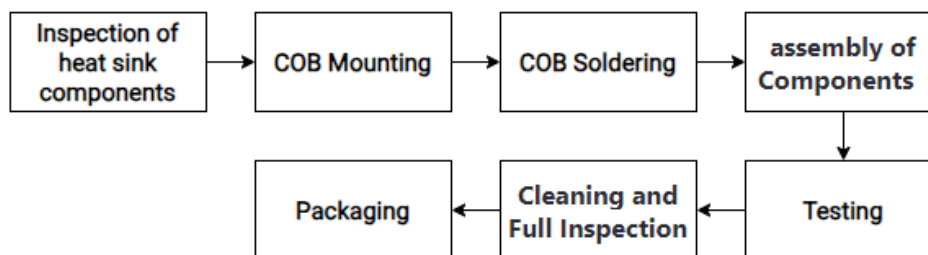
GRAFIK10

Product Identification

| PRODUCT | WATTAGE | COLOUR TEMPERATURE | MOUNTING | IP RATING | ACCESSORY |
|--------------|----------|-----------------------|----------|-------------|--------------------------------------|
| ORION-ROUND | VARIABLE | 2700K / 3000K / 4000K | RECESSED | IP20 / IP54 | LENS / REFLECTORS / TRIMLESS HOUSING |
| ORION-SQUARE | VARIABLE | 2700K / 3000K / 4000K | RECESSED | IP20 / IP54 | LENS / REFLECTORS / TRIMLESS HOUSING |
| ORIONWFX | VARIABLE | 2700K / 3000K / 4000K | RECESSED | IP20 | REFLECTORS |
| GRAFIK-5 | 13W | 2700K / 3000K / 4000K | RECESSED | IP20 / IP65 | REFLECTORS |
| GRAFIK5-IP65 | 13W | 2700K / 3000K / 4000K | RECESSED | IP65 | REFLECTORS |
| GRAFIK-10 | 26W | 2700K / 3000K / 4000K | RECESSED | IP20 | REFLECTORS |

The test standard of products refers to: IES LM-79-08, ANSI C78.377-2017

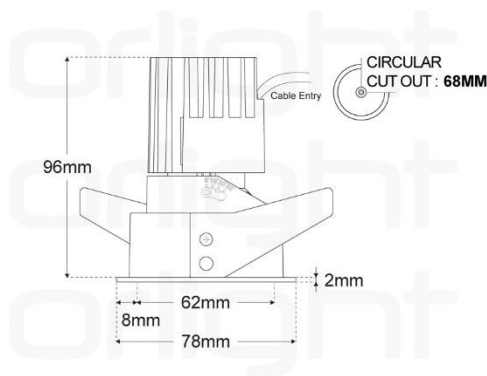
Manufacturing Process:



The Recessed Downlight products of ORION and GRAFIK family from Orlight are manufactured in the same site and have the same major steps in the core manufacturing processes, including Inspection of heat sink components, COB Mounting, COB Soldering, assembly of components, testing and full inspection, packaging, etc. The main difference between those families is that they are not the same size and shape.

This EPD of multiple products is based on the representative product, which is **ORION-ROUND-13W**, according to sales revenue.

Product Description:



ORION-ROUND

The Orion Round fixture is expertly designed to combine advanced thermal management with a high-performance LED chipset, delivering exceptional performance through a passive cooling system. Constructed from robust aluminium, this fixture includes a secondary reflector to effectively reduce glare.

The precision-engineered adjustment mechanism allows for easy customisation, offering a 30° tilt and 355° rotation for optimal directional lighting. With a Colour Rendering Index (CRI) greater than 90, the Orion ensures superior light quality. Consistency is further maintained through a stringent 3-Step MacAdams Ellipse binning process.

The Orion fixture is available in versatile configurations, including round, square, and trimless versions. To cater to diverse aesthetic preferences and functional requirements, it also offers a variety of coloured reflectors and lenses.

UN CPC Code:

4653 Lighting Equipment

Geographical Scope:

Modules A1-A3: CN
Modules A4-A5: GLO
Modules B and C: UK

Declared Unit:

1 piece of Recessed Downlight product. The weight of the representative product ORION-ROUND per declared unit is 0.325 kg.

Reference service life:

50,000 hours. In normal operational regime of 8 hours per day for 250 working days per year, the product lasts up to 25 years.

Time representativeness:

From 1st January 2023 to 31st December 2023

Database(s) and LCA software used:

Database Ecoinvent 3.10 and Simapro 9.6

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.

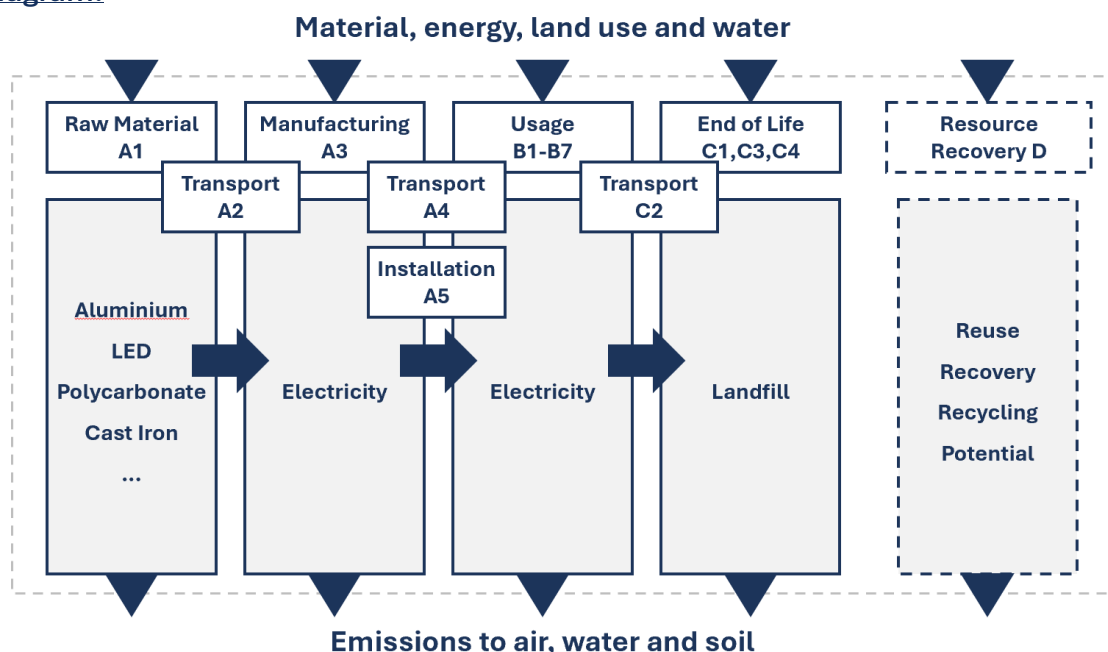
Allocation rules:

In this assessment, the allocation of energy consumption, resource use, emissions and wastes from the manufacturing process are based on economic values of the products when they leave the unit process, which is the revenue generated by ORION-ROUND Recessed Downlight and the other products, which are from the same manufacturing site of Orlight Limited. The revenue is the product annual average price multiplied by the output volume of products.

Description of system boundaries:

Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D + A4–A5 and B1-B7)

System diagram:



Assumptions:

At construction process stage A5, the transportation of the product to the customer or building site is considered, with the transport distance assumed to be 100 km. The product is installed manually.

In Module B6 operational energy use, the wattage of representative product is 13W. In normal operational regime of 8 hours per day for 250 working days per year, the product lasts up to 25 years, 50,000 hours in total.

At end-of-life stage C2, an average distance of 100 km is assumed for transport to the recycling facility and landfill site.

Additional information:

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

In this EPD, the benefits of 100% of scrap metal and 65% of the rest part from Recessed Downlight product are included in module D. The same approach has been applied to packaging materials because all the packaging materials are 100% recycled by Orlight.

The data for the generation of electricity applied in A3 is electricity mixes on the market, namely the China Southern Power Grid Mix in the Ecoinvent 3.10 (cut-off) database. Its GWP-GHG impact is 0.703 kgCO₂eq/kWh. The reference year of electricity dataset is 2014-2022.

The data for the generation of electricity applied in B6 is electricity mixes on the market, namely the United Kingdom Power Grid Mix in the Ecoinvent 3.10 (cut-off) database. Its GWP-GHG impact is 0.261 kgCO₂eq/kWh. The reference year of electricity dataset is 2020-2023.

Conversion Factor:

| PRODUCT | WEIGHT(KG) | CONVERSION FACTOR |
|-------------|------------|-------------------|
| ORION-ROUND | 0.325 | 0.325 |

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

| | Product stage | | | Construction process stage | | Use stage | | | | | | | End of life stage | | | | Resource recovery stage | |
|----------------------|---------------------|-----------|---------------|----------------------------|---------------------------|-----------|-------------|--------|-------------|---------------|------------------------|-----------------------|----------------------------|-----------|------------------|----------|------------------------------------|---|
| | 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 | X |
| Geography | CN | CN | CN | GLO | GLO | UK | UK | UK | UK | UK | UK | UK | UK | UK | UK | UK | UK | |
| Specific data used | 21.33% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Variation – products | -8.63%/82.49% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| Variation – sites | 0% | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

The content information below is based on 1 piece of ORION-ROUND, which is the representative product within the product family. The product weight is 0.325 kg, excluding packaging materials. As the share of bio-based/recycled material is unknown, this part of the content declaration is declared as 0% as a conservative estimation.

| Product components | Weight, kg | Post-consumer material, weight-% | Biogenic material, weight-% and kg C/kg |
|------------------------|------------|----------------------------------|---|
| Aluminum Alloy | 2.50E-01 | 0 | 0 |
| Cable | 1.35E-02 | 0 | 0 |
| Cast Iron | 1.95E-02 | 0 | 0 |
| Epoxy resin | 5.41E-04 | 0 | 0 |
| Ethylene vinyl acetate | 1.08E-03 | 0 | 0 |
| LED | 8.12E-04 | 0 | 0 |
| Nylon | 1.08E-03 | 0 | 0 |
| Polycarbonate | 2.22E-02 | 0 | 0 |
| Silicone product | 3.25E-03 | 0 | 0 |
| Steel | 1.31E-02 | 0 | 0 |
| TOTAL | 3.25E-01 | 0 | 0 |
| Packaging materials | Weight, kg | Weight-% (versus the product) | Weight biogenic carbon, kg C/kg |
| Corrugated Board Box | 1.61E-01 | 49.5% | 0 |
| Polyethylene | 3.00E-03 | 0.9% | 0 |
| Polymer foaming | 5.00E-03 | 1.5% | 0 |
| Printed paper | 2.71E-04 | 0.1% | 0 |
| TOTAL | 1.69E-01 | 52.1% | 0 |

| Dangerous substances from the candidate list of SVHC for Authorisation | EC No. | CAS No. | Weight-% per functional or declared unit |
|--|--------|---------|--|
| None | - | - | - |

The product does not include in its life cycle any dangerous substances included in the "Very High Impact Candidate List for Authorization (SVHC)" in a percentage greater than 0.1% of the weight of the product.

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804:

| 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. | 2.81E+00 | 2.45E+00 | 9.04E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.69E+02 | 0.00E+00 | 0.00E+00 | 4.97E-03 | 0.00E+00 | 9.56E-04 | -1.77E+00 |
| GWP-biogenic | kg CO ₂ eq. | -1.04E-01 | 2.72E-04 | 1.23E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.20E-01 | 0.00E+00 | 0.00E+00 | 3.02E-06 | 0.00E+00 | 1.93E-02 | 3.70E-02 |
| GWP-luluc | kg CO ₂ eq. | 5.84E-03 | 1.62E-04 | 2.37E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.06E-01 | 0.00E+00 | 0.00E+00 | 1.69E-06 | 0.00E+00 | 6.55E-09 | -4.20E-03 |
| GWP-total | kg CO ₂ eq. | 2.71E+00 | 2.45E+00 | 2.13E-01 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.70E+02 | 0.00E+00 | 0.00E+00 | 4.98E-03 | 0.00E+00 | 2.02E-02 | -1.74E+00 |
| ODP | kg CFC 11 eq. | 3.03E-08 | 3.76E-08 | 1.61E-10 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 8.57E-06 | 0.00E+00 | 0.00E+00 | 9.99E-11 | 0.00E+00 | 1.15E-12 | -1.64E-08 |
| AP | mol H ⁺ eq. | 2.16E-02 | 1.14E-02 | 6.09E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 6.28E-01 | 0.00E+00 | 0.00E+00 | 2.24E-05 | 0.00E+00 | 1.25E-06 | -1.43E-02 |
| EP-freshwater | kg P eq. | 1.25E-03 | 3.27E-05 | 7.68E-06 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.04E-02 | 0.00E+00 | 0.00E+00 | 3.42E-07 | 0.00E+00 | 1.14E-06 | -8.07E-04 |
| EP-marine | kg N eq. | 3.45E-03 | 4.44E-03 | 3.16E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.36E-01 | 0.00E+00 | 0.00E+00 | 8.77E-06 | 0.00E+00 | 1.59E-05 | -1.97E-03 |
| EP-terrestrial | mol N eq. | 3.50E-02 | 4.85E-02 | 2.82E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.57E+00 | 0.00E+00 | 0.00E+00 | 9.57E-05 | 0.00E+00 | 3.51E-06 | -2.20E-02 |
| POCP | kg NMVOC eq. | 1.09E-02 | 1.53E-02 | 7.91E-05 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.40E-01 | 0.00E+00 | 0.00E+00 | 3.43E-05 | 0.00E+00 | 7.44E-06 | -6.92E-03 |
| ADP-minerals&metals* | kg Sb eq. | 9.44E-05 | 4.88E-07 | 1.99E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.84E-03 | 0.00E+00 | 0.00E+00 | 1.54E-08 | 0.00E+00 | 2.69E-11 | -6.51E-05 |
| ADP-fossil* | MJ | 3.20E+01 | 3.24E+01 | 9.69E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.59E+03 | 0.00E+00 | 0.00E+00 | 7.11E-02 | 0.00E+00 | 9.85E-04 | -1.90E+01 |
| WDP* | m ³ | 6.98E-01 | 4.33E-02 | 1.65E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.51E+01 | 0.00E+00 | 0.00E+00 | 3.11E-04 | 0.00E+00 | 2.14E-06 | -4.68E-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 | | | | | | | | | | | | | | | |
| Disclaimer: The use of the results of Modules A1-A3 (A1-A5 for services) without considering the results of Module C is discouraged. 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. | | | | | | | | | | | | | | | | |

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

Results of the environmental performance indicators

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. | 2.81E+00 | 2.45E+00 | 9.04E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.69E+02 | 0.00E+00 | 0.00E+00 | 4.97E-03 | 0.00E+00 | 9.56E-04 | -1.77E+00 |

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.

Results of the environmental performance indicators

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 | 2.91E+00 | 1.04E-01 | 2.64E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.46E+03 | 0.00E+00 | 0.00E+00 | 1.19E-03 | 0.00E+00 | 5.91E-06 | -2.00E+00 |
| PERM | MJ | 2.58E+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 | 5.49E+00 | 1.04E-01 | 2.64E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.46E+03 | 0.00E+00 | 0.00E+00 | 1.19E-03 | 0.00E+00 | 5.91E-06 | -2.00E+00 |
| PENRE | MJ | 3.18E+01 | 3.24E+01 | 9.69E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.59E+03 | 0.00E+00 | 0.00E+00 | 7.11E-02 | 0.00E+00 | 9.85E-04 | -1.90E+01 |
| PENRM | MJ | 1.28E-01 | 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 | 3.20E+01 | 3.24E+01 | 9.69E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 4.59E+03 | 0.00E+00 | 0.00E+00 | 7.11E-02 | 0.00E+00 | 9.85E-04 | -1.90E+01 |
| SM | 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 |
| RSF | 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 |
| 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 | 2.18E-02 | 1.47E-03 | 1.90E-04 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.08E+00 | 0.00E+00 | 0.00E+00 | 1.03E-05 | 0.00E+00 | 7.06E-08 | -1.55E-02 |
| 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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water | | | | | | | | | | | | | | | |

Results of the environmental performance indicators

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 | 8.86E-03 | 3.24E-04 | 3.91E-02 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 2.79E-01 | 0.00E+00 | 0.00E+00 | 1.85E-06 | 0.00E+00 | 8.99E-09 | -2.22E-03 |
| Non-hazardous waste disposed | kg | 1.38E-01 | 1.72E-02 | 7.10E-03 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 1.21E+01 | 0.00E+00 | 0.00E+00 | 4.38E-03 | 0.00E+00 | 6.04E-07 | -5.70E-02 |
| Radioactive waste disposed | kg | 3.88E-05 | 2.08E-06 | 4.85E-08 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 3.51E-02 | 0.00E+00 | 0.00E+00 | 2.34E-08 | 0.00E+00 | 1.09E-10 | -1.44E-05 |

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 | 4.79E-01 |
| 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 |

Results of the environmental performance indicators

The variation of mandatory impact category indicators according to EN 15804:

| Variation from module A to C | | | |
|------------------------------|---|------------------------------|---------|
| Indicator | Unit | Variation from module A to C | |
| GWP-fossil | kg CO ₂ eq. | -0.17% | 100.38% |
| GWP-biogenic | kg CO ₂ eq. | -2.30% | 105.19% |
| GWP-luluc | kg CO ₂ eq. | -0.37% | 98.96% |
| GWP-total | kg CO ₂ eq. | -0.18% | 100.39% |
| ODP | kg CFC 11 eq. | -0.05% | 100.25% |
| AP | mol H ⁺ eq. | -0.26% | 99.30% |
| EP-freshwater | kg P eq. | -0.16% | 99.35% |
| EP-marine | kg N eq. | -0.35% | 100.41% |
| EP-terrestrial | mol N eq. | -0.26% | 100.40% |
| POCP | kg NMVOC eq. | -0.22% | 100.82% |
| ADP-minerals&metals* | kg Sb eq. | -0.34% | 100.42% |
| ADP-fossil* | MJ | -0.05% | 100.35% |
| WDP* | m ³ | -0.17% | 98.68% |
| 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 | | |

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, version 1.3.4

General Programme Instructions of the International EPD® system. Version 5.0

LIFE CYCLE ASSESSMENT OF RECESSED DOWNLIGHT FOR Environmental Product Declaration

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