

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

## Moon Slim 380

Elektro Elco Aktiebolag



EPD HUB, HUB-2483

Published on 20.12.2024, last updated on 20.12.2024, valid until 20.12.2029

## GENERAL INFORMATION

### MANUFACTURER

|                 |                                    |
|-----------------|------------------------------------|
| Manufacturer    | Elektro Elco Aktiebolag            |
| Address         | Tallvägen5, 56435 Bankeryd, Sweden |
| Contact details | info@elco.se                       |
| Website         | www.hidealite.com                  |

### EPD STANDARDS, SCOPE AND VERIFICATION

|                    |  |
|--------------------|--|
| Program operator   | EPD Hub, hub@epdhub.com  |
| Reference standard | EN 15804+A2:2019 and ISO 14025   |
| PCR                | EPD Hub Core PCR Version 1.1, 5 Dec 2023   |
| Sector             | Electrical product   |
| Category of EPD    | Third party verified EPD   |
| Parent EPD number  | HUB-1805   |
| Scope of the EPD   | Cradle to grave, A1-C4 and D   |
| EPD author         | Emma Cunow   |
| EPD verification   | Independent verification of this EPD and data, according to ISO 14025:<br><input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification |
| EPD verifier       | Imane Uald lamkaddam, as an authorized verifier acting for EPD Hub Limited   |

The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

### PRODUCT

|                                   |                         |
|-----------------------------------|-------------------------|
| Product name                      | Moon Slim 380           |
| Additional labels                 |                         |
| Product reference                 | 7508329/4143817/3207077 |
| Place of production               | Shenzhen, China         |
| Period for data                   | 2023                    |
| Averaging in EPD                  | No averaging            |
| Variation in GWP-fossil for A1-A3 | %                       |

### ENVIRONMENTAL DATA SUMMARY

|  |                         |
|--|-------------------------|
| <b>Declared unit</b>                             | 1 unit of Moon Slim 380 |
| <b>Declared unit mass</b>                        | 1.14135 kg              |
| <b>GWP-fossil, A1-A3 (kgCO<sub>2</sub>e)</b>     | 65.9                    |
| <b>GWP-total, A1-A3 (kgCO<sub>2</sub>e)</b>      | 65.3                    |
| <b>Secondary material, inputs (%)</b>            | 100                     |
| <b>Secondary material, outputs (%)</b>           | 46                      |
| <b>Total energy use, A1-A3 (kWh)</b>             | 261                     |
| <b>Net freshwater use, A1-A3 (m<sup>3</sup>)</b> | 0.64                    |

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

With the brand Hide-a-lite, we create efficient lighting solutions for both private and public environments. In our range, you will find high-quality luminaires that are easy to install, perfect for illuminating everything from industries and residences to hotels, restaurants, offices, and shops. Over the years, we have built extensive experience and knowledge in lighting, knowledge that we gladly share with our customers. Our focus lies on technology, design, and functionality, with a commitment to sustainable development and energy efficiency adapted for the Nordic market.

### PRODUCT DESCRIPTION

Low-build LED Plafond in slim design with a pleasant upright that evens out contrasts towards the ceiling or wall. Selectable colour temperature via DIP-Switch ColourTemp 3000K or 4000K. Easily installed IP44 luminaire with long lifetime and high lumen output.

With sustainability in mind this product is made of recycled ocean plastic. You can also choose between different built-in driver for a more energy efficiency alternative; S, SC, Bluetooth, DALI.

They can also be equipped with emergency lights.

Moon Slim is available in three different sizes, 255, 320 and 380

Comes with screw holes that fit over a ceiling box, two entrances at the bottom, one of which is centred. Cable bushings for surface-mounted cable routing from two sides.

Further information can be found at [www.hidealite.com](http://www.hidealite.com).

### PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass % | Material origin |
|-----------------------|----------------|-----------------|
| Metals                | 10.01          | Global          |
| Minerals              |                |                 |
| Fossil materials      | 89.99          | Global          |
| Bio-based materials   |                |                 |

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

|  |         |
|--|---------|
| Biogenic carbon content in product, kg C   |         |
| Biogenic carbon content in packaging, kg C | 0.19745 |

### FUNCTIONAL UNIT AND SERVICE LIFE

|                               |   |
|-------------------------------|---|
| Declared unit VP-011          | 1 unit of Moon Slim 380                                     |
| Mass per declared unit VP-012 | 1.14135 kg  |
| Functional unit               | 1 unit; 2500 hours per year consuming 22 Watts for 40 years |
| Reference service life        | 40  |

### SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).

# PRODUCT LIFE-CYCLE

## SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

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

Modules not declared = MND. Modules not relevant = MNR

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

In this first stage of the product's life cycle the environmental impact considered by the materials used in manufacturing, packaging materials and production. This step also includes fuel, energy, ancillary and waste from production.

The product contains raw materials such as recycled plastic, metal and electrical components. Raw materials are transported to the factory where the production of our product then takes place. In the production, fuel, energy, and ancillary materials have been used, which, together with the waste from the production, are counted in the climate impact at this stage.

The finished product is then packaged in a corrugated cardboard box and transported to the end customer on a wooden pallet.

## TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Transport of finished product is calculated from manufactory to our warehouse in Bankeryd, Sweden and then out to installation (A4). The impact is calculated based on distance, the type of transport used, and the volume transported.

The calculation of our product is based on boat, train and road freights and it's distributed by sales per market. The transport impact that comes from the delivery of the product includes direct emissions from fuel, environmental impact from fuel production and related emissions from infrastructure.

Vehicle capacity utilization volume factor may vary in reality, but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. Empty returns are not taken into account as it is assumed that return trip is used by the transportation company to serve the needs of other clients.

Environmental impacts from installation include waste packaging materials (A5) from wood pallets and cardboard. The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

### PRODUCT USE AND MAINTENANCE (B1-B7)

Lifetime of the product is assumed to be 40 years and 2,500 hours a year and all used control factor values ,based on EN 15193-1:2017 .,At this point in time, LED output >80% of initial output (L83@100K Hours).Module B4 includes replacement of certain components occurring in set intervals to ensure functionality of the product over its lifetime of 40 years (B4). Manufacturing energy and packaging materials for production of replacement components are also included.During the use phase, the product consumes electricity from Swedish electricity grid mix(B6). Impacts due to electricity production include direct emissions to air, transformation and transmission losses.

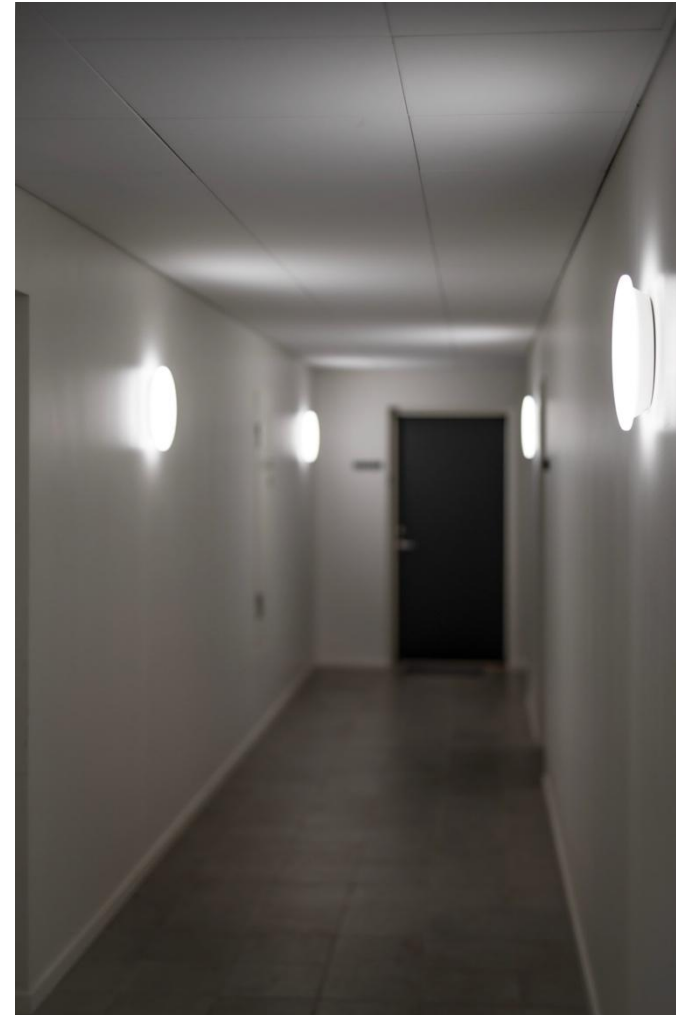
Air, soil, and water impacts during the use phase have not been studied.

### PRODUCT END OF LIFE (C1-C4, D)

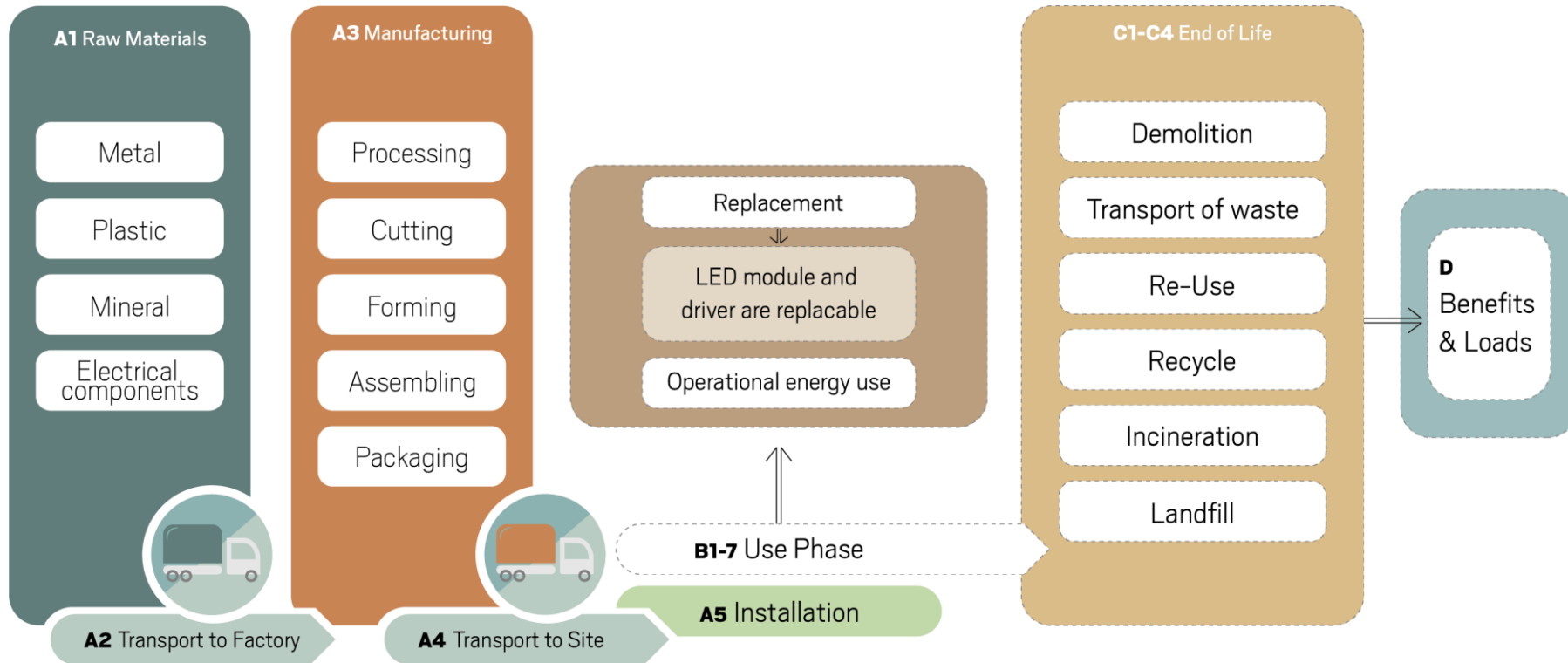
Consumption of energy in End of Life are considered, but consumption of natural resources is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment center. Transportation distance to treatment is assumed as 50 km and the transportation method is assumed to be lorry (C2). According to EN 50693:2019, the sequence of treatment operations occurring to the product shall include de-pollution, fractions separation and preparation (dismantling, crushing, shredding, sorting), recycling, other material recovery, energy recovery and disposal.

In this study, the default values from table G.4 of EN 50693 is used for sorting and treating materials in different waste treatments for recycling, incineration with energy recovery or landfill. Due to the material and energy recovery potential of parts in the lighting system, the end-of-life product is converted into recycled raw materials, while the energy recovered from incineration displaces electricity and heat

production (D). The wooden pallet and other plastic packaging used during transportation is also incinerated for energy recovery. The benefits and loads of incineration and recycling are included in Module D.



# MANUFACTURING PROCESS



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

| Data type                      | Allocation                  |
|--------------------------------|-----------------------------|
| Raw materials                  | No allocation               |
| Packaging material             | No allocation               |
| Ancillary materials            | Allocated by mass or volume |
| Manufacturing energy and waste | Allocated by mass or volume |

## AVERAGES AND VARIABILITY

|                                   |                |
|-----------------------------------|----------------|
| Type of average                   | No averaging   |
| Averaging method                  | Not applicable |
| Variation in GWP-fossil for A1-A3 | %              |

This EPD is product and factory specific and does not contain average calculations.

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. The EPD Generator uses Ecoinvent v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

| Impact category                     | Unit                   | A1       | A2       | A3        | A1-A3     | A4       | A5       | B1  | B2  | B3  | B4       | B5  | B6       | B7  | C1       | C2       | C3       | C4       | D         |
|-------------------------------------|------------------------|----------|----------|-----------|-----------|----------|----------|-----|-----|-----|----------|-----|----------|-----|----------|----------|----------|----------|-----------|
| GWP – total <sup>1)</sup>           | kg CO <sub>2</sub> e   | 6,54E+01 | 1,09E-02 | -9,20E-02 | 6,53E+01  | 4,51E-01 | 7,40E-01 | MND | MND | MND | 3,57E-01 | MND | 6,45E+01 | MND | 0,00E+00 | 5,12E-03 | 8,51E-01 | 5,02E-01 | -6,17E-01 |
| GWP – fossil                        | kg CO <sub>2</sub> e   | 6,53E+01 | 1,09E-02 | 6,29E-01  | 6,59E+01  | 4,51E-01 | 1,57E-02 | MND | MND | MND | 3,56E-01 | MND | 6,44E+01 | MND | 0,00E+00 | 5,12E-03 | 8,51E-01 | 5,02E-01 | -5,55E-01 |
| GWP – biogenic                      | kg CO <sub>2</sub> e   | 0,00E+00 | 0,00E+00 | -7,24E-01 | -7,24E-01 | 0,00E+00 | 7,24E-01 | MND | MND | MND | 0,00E+00 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | -6,14E-02 |
| GWP – LULUC                         | kg CO <sub>2</sub> e   | 1,14E-01 | 4,35E-06 | 3,26E-03  | 1,18E-01  | 3,26E-04 | 9,54E-06 | MND | MND | MND | 3,29E-04 | MND | 3,72E-02 | MND | 0,00E+00 | 1,99E-06 | 9,94E-06 | 5,67E-06 | -5,26E-04 |
| Ozone depletion pot.                | kg CFC-11e             | 5,83E-06 | 2,55E-09 | 3,96E-08  | 5,87E-06  | 8,65E-08 | 1,11E-09 | MND | MND | MND | 2,74E-08 | MND | 4,21E-06 | MND | 0,00E+00 | 1,20E-09 | 1,10E-09 | 1,32E-09 | -3,11E-08 |
| Acidification potential             | mol H <sup>+</sup> e   | 4,93E-01 | 5,85E-05 | 2,72E-03  | 4,96E-01  | 1,02E-02 | 6,87E-05 | MND | MND | MND | 4,78E-03 | MND | 1,14E+00 | MND | 0,00E+00 | 1,67E-05 | 1,82E-04 | 1,37E-03 | -7,61E-03 |
| EP-freshwater <sup>2)</sup>         | kg Pe                  | 1,36E-02 | 8,21E-08 | 3,28E-05  | 1,37E-02  | 2,92E-06 | 4,01E-07 | MND | MND | MND | 2,12E-05 | MND | 1,80E-02 | MND | 0,00E+00 | 4,34E-08 | 2,68E-07 | 7,89E-08 | -3,56E-05 |
| EP-marine                           | kg Ne                  | 8,70E-02 | 2,05E-05 | 1,27E-03  | 8,83E-02  | 2,55E-03 | 1,19E-04 | MND | MND | MND | 5,21E-04 | MND | 1,04E-01 | MND | 0,00E+00 | 3,71E-06 | 9,43E-05 | 7,51E-04 | -6,96E-04 |
| EP-terrestrial                      | mol Ne                 | 1,01E+00 | 2,25E-04 | 7,57E-03  | 1,01E+00  | 2,84E-02 | 1,98E-04 | MND | MND | MND | 6,17E-03 | MND | 3,80E+00 | MND | 0,00E+00 | 4,11E-05 | 9,12E-04 | 7,74E-03 | -8,16E-03 |
| POCP (“smog”) <sup>3)</sup>         | kg NMVOCe              | 2,61E-01 | 6,54E-05 | 1,62E-03  | 2,62E-01  | 7,46E-03 | 7,29E-05 | MND | MND | MND | 1,86E-03 | MND | 2,73E-01 | MND | 0,00E+00 | 1,59E-05 | 2,24E-04 | 2,65E-03 | -2,22E-03 |
| ADP-minerals & metals <sup>4)</sup> | kg Sbe                 | 2,76E-02 | 3,48E-08 | 3,00E-06  | 2,76E-02  | 1,01E-06 | 1,59E-07 | MND | MND | MND | 7,37E-05 | MND | 1,91E-03 | MND | 0,00E+00 | 1,25E-08 | 8,82E-08 | 1,55E-08 | -8,87E-05 |
| ADP-fossil resources                | MJ                     | 8,36E+02 | 1,64E-01 | 6,68E+00  | 8,43E+02  | 5,90E+00 | 1,33E-01 | MND | MND | MND | 4,51E+00 | MND | 1,21E+04 | MND | 0,00E+00 | 8,01E-02 | 1,42E-01 | 1,02E-01 | -6,81E+00 |
| Water use <sup>5)</sup>             | m <sup>3</sup> e depr. | 2,39E+01 | 7,79E-04 | 2,60E-01  | 2,41E+01  | 2,51E-02 | 5,60E-03 | MND | MND | MND | 1,29E-01 | MND | 2,52E+03 | MND | 0,00E+00 | 3,58E-04 | 2,83E-02 | 6,12E-03 | -8,95E-02 |

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

### ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

| Impact category                  | Unit         | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1  | B2  | B3  | B4       | B5  | B6       | B7  | C1       | C2       | C3       | C4       | D         |
|----------------------------------|--------------|----------|----------|----------|----------|----------|----------|-----|-----|-----|----------|-----|----------|-----|----------|----------|----------|----------|-----------|
| Particulate matter               | Incidence    | 3,38E-06 | 1,22E-09 | 4,53E-08 | 3,42E-06 | 2,41E-08 | 9,93E-10 | MND | MND | MND | 2,56E-08 | MND | 8,00E-06 | MND | 0,00E+00 | 5,82E-10 | 1,20E-09 | 3,39E-08 | -4,73E-08 |
| Ionizing radiation <sup>6)</sup> | kBq<br>U235e | 8,28E+00 | 8,47E-04 | 3,09E-02 | 8,31E+00 | 2,85E-02 | 1,33E-03 | MND | MND | MND | 2,21E-02 | MND | 5,86E+02 | MND | 0,00E+00 | 3,84E-04 | 3,51E-04 | 4,99E-04 | -1,17E-01 |
| Ecotoxicity (freshwater)         | CTUe         | 8,36E+03 | 1,40E-01 | 2,43E+01 | 8,38E+03 | 4,42E+00 | 8,35E-01 | MND | MND | MND | 3,57E+01 | MND | 3,76E+03 | MND | 0,00E+00 | 7,13E-02 | 4,32E-01 | 1,29E+01 | -4,72E+01 |
| Human toxicity, cancer           | CTUh         | 6,31E-08 | 4,94E-12 | 3,60E-10 | 6,35E-08 | 2,60E-10 | 2,89E-11 | MND | MND | MND | 3,18E-09 | MND | 9,18E-08 | MND | 0,00E+00 | 1,74E-12 | 4,65E-11 | 3,36E-09 | -8,50E-10 |
| Human tox. non-cancer            | CTUh         | 2,98E-06 | 1,53E-10 | 7,55E-09 | 2,99E-06 | 3,41E-09 | 6,02E-10 | MND | MND | MND | 5,59E-08 | MND | 1,89E-06 | MND | 0,00E+00 | 6,86E-11 | 2,51E-09 | 5,55E-08 | -5,34E-08 |
| SQP <sup>7)</sup>                | -            | 3,28E+02 | 1,53E-01 | 1,92E+01 | 3,47E+02 | 2,05E+00 | 1,22E-01 | MND | MND | MND | 1,89E+00 | MND | 2,22E+02 | MND | 0,00E+00 | 9,22E-02 | 8,25E-02 | 2,45E-01 | -4,55E+00 |

6) EN 15804+A2 disclaimer for Ionizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

### USE OF NATURAL RESOURCES

| Impact category                    | Unit           | A1       | A2       | A3        | A1-A3    | A4       | A5        | B1  | B2  | B3  | B4       | B5  | B6       | B7  | C1       | C2       | C3        | C4        | D         |
|------------------------------------|----------------|----------|----------|-----------|----------|----------|-----------|-----|-----|-----|----------|-----|----------|-----|----------|----------|-----------|-----------|-----------|
| Renew. PER as energy <sup>8)</sup> | MJ             | 9,16E+01 | 2,29E-03 | 4,04E+00  | 9,56E+01 | 7,22E-02 | 1,05E-02  | MND | MND | MND | 4,01E-01 | MND | 5,73E+03 | MND | 0,00E+00 | 9,02E-04 | 5,09E-03  | 2,06E-03  | -1,32E+00 |
| Renew. PER as material             | MJ             | 1,74E-01 | 0,00E+00 | 6,36E+00  | 6,53E+00 | 0,00E+00 | -6,36E+00 | MND | MND | MND | 0,00E+00 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | -8,68E-02 | -8,68E-02 | 5,23E-01  |
| Total use of renew. PER            | MJ             | 9,18E+01 | 2,29E-03 | 1,04E+01  | 1,02E+02 | 7,22E-02 | -6,35E+00 | MND | MND | MND | 4,01E-01 | MND | 5,73E+03 | MND | 0,00E+00 | 9,02E-04 | -8,17E-02 | -8,48E-02 | -7,98E-01 |
| Non-re. PER as energy              | MJ             | 8,36E+02 | 1,64E-01 | 6,62E+00  | 8,43E+02 | 5,90E+00 | 1,33E-01  | MND | MND | MND | 4,51E+00 | MND | 1,21E+04 | MND | 0,00E+00 | 8,01E-02 | 1,42E-01  | 1,02E-01  | -6,79E+00 |
| Non-re. PER as material            | MJ             | 2,12E+01 | 0,00E+00 | -9,38E-01 | 2,03E+01 | 0,00E+00 | -5,77E-02 | MND | MND | MND | 5,92E-01 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | -1,11E+01 | -9,65E+00 | 0,00E+00  |
| Total use of non-re. PER           | MJ             | 8,57E+02 | 1,64E-01 | 5,68E+00  | 8,63E+02 | 5,90E+00 | 7,51E-02  | MND | MND | MND | 5,10E+00 | MND | 1,21E+04 | MND | 0,00E+00 | 8,01E-02 | -1,10E+01 | -9,55E+00 | -6,79E+00 |
| Secondary materials                | kg             | 1,30E+00 | 5,32E-05 | 4,91E-01  | 1,80E+00 | 2,98E-03 | 2,44E-04  | MND | MND | MND | 3,80E-02 | MND | 0,00E+00 | MND | 0,00E+00 | 2,22E-05 | 3,46E-04  | 1,07E-04  | -1,26E-02 |
| Renew. secondary fuels             | MJ             | 1,45E-02 | 5,52E-07 | 3,49E-02  | 4,94E-02 | 1,46E-05 | 1,23E-06  | MND | MND | MND | 3,57E-04 | MND | 0,00E+00 | MND | 0,00E+00 | 2,24E-07 | 2,08E-06  | 1,45E-06  | -2,91E-03 |
| Non-ren. secondary fuels           | MJ             | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00 | 0,00E+00 | 0,00E+00  | MND | MND | MND | 0,00E+00 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00  | 0,00E+00  | 0,00E+00  |
| Use of net fresh water             | m <sup>3</sup> | 6,31E-01 | 2,18E-05 | 6,43E-03  | 6,37E-01 | 5,95E-04 | 9,09E-05  | MND | MND | MND | 3,51E-03 | MND | 1,42E+01 | MND | 0,00E+00 | 1,03E-05 | 3,09E-05  | 9,62E-05  | -5,68E-03 |

8) PER = Primary energy resources.

### END OF LIFE – WASTE

| Impact category     | Unit | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1  | B2  | B3  | B4       | B5  | B6       | B7  | v        | C2       | C3       | C4       | D         |
|---------------------|------|----------|----------|----------|----------|----------|----------|-----|-----|-----|----------|-----|----------|-----|----------|----------|----------|----------|-----------|
| Hazardous waste     | kg   | 5,79E+00 | 1,96E-04 | 3,18E-02 | 5,82E+00 | 9,93E-03 | 2,74E-03 | MND | MND | MND | 6,76E-02 | MND | 6,25E+00 | MND | 0,00E+00 | 1,06E-04 | 5,35E-04 | 2,73E-02 | -5,06E-02 |
| Non-hazardous waste | kg   | 1,49E+02 | 3,41E-03 | 7,23E-01 | 1,50E+02 | 1,18E-01 | 2,92E-02 | MND | MND | MND | 1,23E+00 | MND | 1,34E+02 | MND | 0,00E+00 | 1,73E-03 | 4,17E-01 | 3,79E-01 | -2,59E+00 |
| Radioactive waste   | kg   | 2,51E-03 | 1,12E-06 | 1,29E-05 | 2,52E-03 | 4,07E-05 | 6,78E-07 | MND | MND | MND | 9,70E-06 | MND | 2,24E-01 | MND | 0,00E+00 | 5,40E-07 | 9,79E-08 | 0,00E+00 | -3,46E-05 |

### END OF LIFE – OUTPUT FLOWS

| Impact category          | Unit | A1       | A2       | A3       | 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 | MND | MND | MND | 0,00E+00 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling  | kg   | 0,00E+00 | 0,00E+00 | 6,25E-02 | 6,25E-02 | 0,00E+00 | 4,10E-01 | MND | MND | MND | 1,50E-02 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 1,15E-01 | 0,00E+00 | 0,00E+00 |
| Materials for energy rec | kg   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,50E-02 | MND | MND | MND | 1,00E-02 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 4,10E-01 | 0,00E+00 | 0,00E+00 |
| Exported energy          | MJ   | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 4,60E-01 | MND | MND | MND | 9,80E-04 | MND | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 6,88E+00 | 0,00E+00 | 0,00E+00 |

### ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

| Impact category      | Unit                               | A1       | A2       | A3       | A1-A3    | A4       | A5       | B1  | B2  | B3  | B4       | B5  | B6       | B7  | C1       | C2       | C3       | C4       | D         |
|----------------------|------------------------------------|----------|----------|----------|----------|----------|----------|-----|-----|-----|----------|-----|----------|-----|----------|----------|----------|----------|-----------|
| Global Warming Pot.  | kg CO <sub>2</sub> e               | 6,39E+01 | 1,08E-02 | 6,54E-01 | 6,45E+01 | 4,47E-01 | 6,56E-02 | MND | MND | MND | 3,47E-01 | MND | 7,57E+01 | MND | 0,00E+00 | 5,07E-03 | 8,52E-01 | 4,71E-01 | -5,46E-01 |
| Ozone depletion Pot. | kg CFC <sub>11</sub> e             | 5,99E-06 | 2,02E-09 | 3,30E-08 | 6,03E-06 | 6,86E-08 | 9,18E-10 | MND | MND | MND | 2,47E-08 | MND | 3,66E-06 | MND | 0,00E+00 | 9,53E-10 | 9,52E-10 | 1,05E-09 | -2,54E-08 |
| Acidification        | kg SO <sub>2</sub> e               | 3,99E-01 | 4,41E-05 | 1,98E-03 | 4,01E-01 | 8,16E-03 | 5,35E-05 | MND | MND | MND | 4,09E-03 | MND | 7,44E-01 | MND | 0,00E+00 | 1,36E-05 | 1,28E-04 | 9,36E-04 | -6,56E-03 |
| Eutrophication       | kg PO <sub>4</sub> <sup>3</sup> e  | 3,36E-01 | 1,03E-05 | 1,47E-03 | 3,38E-01 | 9,87E-04 | 4,46E-04 | MND | MND | MND | 1,71E-03 | MND | 1,94E-01 | MND | 0,00E+00 | 2,97E-06 | 1,18E-04 | 2,40E-03 | -1,70E-03 |
| POCP ("smog")        | kg C <sub>2</sub> H <sub>4</sub> e | 1,61E-02 | 1,48E-06 | 1,23E-04 | 1,62E-02 | 2,19E-04 | 1,48E-05 | MND | MND | MND | 2,09E-04 | MND | 3,54E-02 | MND | 0,00E+00 | 6,24E-07 | 3,40E-06 | 4,90E-04 | -2,69E-04 |
| ADP-elements         | kg Sbe                             | 2,76E-02 | 3,39E-08 | 2,53E-06 | 2,76E-02 | 9,87E-07 | 1,56E-07 | MND | MND | MND | 7,34E-05 | MND | 1,91E-03 | MND | 0,00E+00 | 1,21E-08 | 8,39E-08 | 1,50E-08 | -8,85E-05 |
| ADP-fossil           | MJ                                 | 8,36E+02 | 1,64E-01 | 6,61E+00 | 8,43E+02 | 5,89E+00 | 1,33E-01 | MND | MND | MND | 4,51E+00 | MND | 1,21E+04 | MND | 0,00E+00 | 8,01E-02 | 1,42E-01 | 1,02E-01 | -6,69E+00 |

## VERIFICATION STATEMENT

### VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

### THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Imane Uald lamkaddam, as an authorized verifier acting for EPD Hub Limited  
20.12.2024



# APPENDIX

This section represents the scaling method for the B6 module, following the PEP EcoPassport PSR for luminaries (PSR-0014-ed2.0-EN-2023 07 13). The GWP results were scaled from a reference variant of a product family, based on various light management scenarios and power inputs of the luminaires within the same product family.

To calculate the Scaled Impact (SI), we have followed the below methods:

1. Calculate the power scaling factor (PSF), which is the ratio of the power input of the variant in questions  $P_{in}$  and the power input of the base variant  $P_{base}$ .
2. Calculate the Total Scaling factor by multiplying the PSF by the control scaling factor (CSF), where the CSF is determined according the relevant control factor scenario (e.g. if the luminaire has a presence detection system). The presented controls factors values in Table A1 are based on BS EN 15193-1:2017. Please refer to this publication or contact Signify directly for more information.

**Table A1 Light management functions**

| Scenario                                 | CSF  |
|--|------|
| No control                               | 1    |
| Daylight dependency factor               | 0.75 |
| Presence sensing                         | 0.75 |
| Daylight dependency and presence sensing | 0.55 |

3. Lastly, the GWP of the base variant is then scaled by the TSF

**Table A2 Scaled GWP per scaling factor**

| Product name               | E-number | Wattage | CCT             | CRI | Lumen        | Variety  | PSF=(P in/P base) | CSF  | Total Scaling Factor(TSF) | GWP B6-total kg CO2e |
|----------------------------|----------|---------|-----------------|-----|--------------|--|-------------------|------|---------------------------|----------------------|
| Moon Slim 380              | 7508329  | 22      | 3000k-4000k DIP | >80 | 2300LM-3000K | Traic dimmable   | 1.00              | 0.75 | 0.75                      | 64.50                |
| Moon Slim S 380            | 7508330  | 22      | 3000k-4000k DIP | >80 | 2300LM-3000K | With Microwave sensor  | 1.00              | 0.55 | 0.55                      | 47.30                |
| Moon Slim SC 380           | 7508332  | 23      | 3000k-4000k DIP | >80 | 2300LM-3000K | Basic Light,Microwave sensor                                   | 1.05              | 0.55 | 0.58                      | 49.45                |
| Moon Slim Bluebooth 380    | 7508334  | 23      | 3000k-4000k DIP | >80 | 2300LM-3000K | Bluetooth, Push 230V, Microwave Sensor                         | 1.05              | 0.55 | 0.58                      | 49.45                |
| Moon Slim DALI 380         | 7508336  | 22      | 3000k-4000k DIP | >80 | 2300LM-3000K | Push 230V, DALI 2  | 1.00              | 0.75 | 0.75                      | 64.50                |
| Moon Slim 380 EM           | 7808550  | 25      | 3000k-4000k DIP | >80 | 2300LM-3000K | Traic dimmable,with emergency function                         | 1.14              | 0.75 | 0.85                      | 73.30                |
| Moon Slim S EM 380         | 7808551  | 25      | 3000k-4000k DIP | >80 | 2300LM-3000K | With Microwave sensor,with emergency function                  | 1.14              | 0.55 | 0.63                      | 53.75                |
| Moon Slim SC EM 380        | 7508553  | 23      | 3000k-4000k DIP | >80 | 2300LM-3000K | Basic Light,Microwave sensor,with emergency function           | 1.05              | 0.55 | 0.58                      | 49.45                |
| Moon Slim Bluebooth EM 380 | 7508555  | 26      | 3000k-4000k DIP | >80 | 2300LM-3000K | Bluetooth, Push 230V, Microwave Sensor,with emergency function | 1.18              | 0.55 | 0.65                      | 55.90                |
| Moon Slim DALI EM 380      | 7508557  | 25      | 3000k-4000k DIP | >80 | 2300LM-3000K | Push 230V, DALI 2,with emergency function                      | 1.14              | 0.75 | 0.85                      | 73.30                |

➤ emergency power consumption do not take into consideration