

# ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

## EPD HUB, HUB-3725

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valid until 28.01.2027

## Indline G2 IP23 L

Elektro Elco Aktiebolag



### MANUFACTURER AND SITE

Manufacturer	Elektro Elco Aktiebolag
Address	TALLVÄGEN 5, , 56435, Bankeryd, , SE
Contact details	info@elco.se
Website	www.hidealite.se
Place of production	Gunagdong,China
Place(s) of raw material origin	China
Place(s) of installation and use	sweden,finland,norway,Denmark
Period for data	2025

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2 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	
Scope of the EPD	Cradle to gate with options, A4-A5, B6, and modules C1-C4, D
EPD author VP-004	Linda Peng
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier VP-055	EPD Hub Limited

### PRODUCT SPECIFICATION

Product name	Indline G2 IP23 L
Product number / reference	
Product description	Indline G2 IP23 optimises your installation with new technology smart control solutions. With push-in terminals on both sides, you can easily use existing wiring without opening the fixture, making installation quick and easy. The well-thought-out design allows for replacement of both LEDs and drivers, which simplifies maintenance. Indline G2 IP23 features high efficiency, 12 kV surge protection, DIP-Switch Power and multiple control options – a flexible lighting solution for warehouses, industries and retail. Available in On/Off or DALI control options, or alternatively Casambi with or without PIR sensor. The luminaire is adapted for installation on a luminaire rail and has key holes for ceiling installation, including system ceilings. With integrated wire suspension with hook and hook lock for easy installation on wire.
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-

This EPD is intended for business-to-business and/or business-to-consumer communication.

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1. 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 CLASSIFICATION

Declared operating voltage, Volt	230
Light source color temperature, Kelvin	4000
Protection index for water and dust (IP)	
Impact resistance index (IK)	
Luminous flux, Lumen	17800
Electrical power, Watt	97
Luminous efficiency, Lm/W	184
Additional characteristic	

## 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.

## ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass, kg	4,052
Mass of packaging, kg	1,113
Functional unit	Provide lighting that delivers an outgoing artificial luminous flux of 1,000 lumens during a reference lifetime of 35,000 hours
Reference service life (years)	25
Assigned lifetime (hours)	100000
GWP-total, A1-A3 (kg CO <sub>2</sub> e)	4,88E+01
GWP-fossil, A1-A3 (kg CO <sub>2</sub> e)	5,00E+01
Secondary material, inputs (%)	14,6
Secondary material, outputs (%)	61
Total energy use, A1-A3 (kWh)	168
Net freshwater use, A1-A3 (m <sup>3</sup> )	2,93E-01

## LIFE CYCLE ASSESSMENT

### 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	
Raw materials	X					MND	MND	MND	MND	MND	X							
Transport	X																	
Manufacturing	X																	
Transport																		
Assembly																		
Use																		
Maintenance																		
Repair																		
Replacement																		
Refurbishment																		
Operational energy																		
Operational water use																		
Deconstruct./demo.																		
Transport																		
Waste processing																		
Disposal																		
Reuse, Recovery, Recycling																		

Modules not declared = MND.

### 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. 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

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 materials	No allocation
Ancillary materials	Allocated by mass
Manufacturing energy and waste	Allocated by mass

### AVERAGES AND VARIABILITY

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

### LCA SOFTWARE AND BIBLIOGRAPHY

The LCA and EPD have been prepared according to the reference standards, EN 50693, and ISO 14040/14044. Ecoinvent v3.10.1 and One Click LCA databases were used as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, cut-off, EN 15804+A2'.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	71,53	Asia
Minerals	2,7	Asia
Fossil materials	7,7	Asia
Bio-based materials	0	
Electronic parts	18,07	Asia

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0,4364

### 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

### MANUFACTURING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production. The material losses occurring during the manufacturing processes are treated as per the waste handling practices in the factory, while scenario assumptions are made in the absence of exact data. The study also considers the fuels used by machines as well as losses during electricity transmission.

The product is made of metals, plastics, and electronic components. All components are transported to the production facility, where the main manufacturing processes are associated with assembly of different parts and components. The finished product is packaged with polyethylene, cardboard, and/or paper as packaging material before being sent to customers.

### TRANSPORT AND INSTALLATION (A4-A5)

Transportation distances from manufacturing sites to customer locations are based on sales volume-based weighted averages. In the absence of exact data, conservative assumptions are made (A4). Environmental impacts from installation include waste packaging materials (A5). The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

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

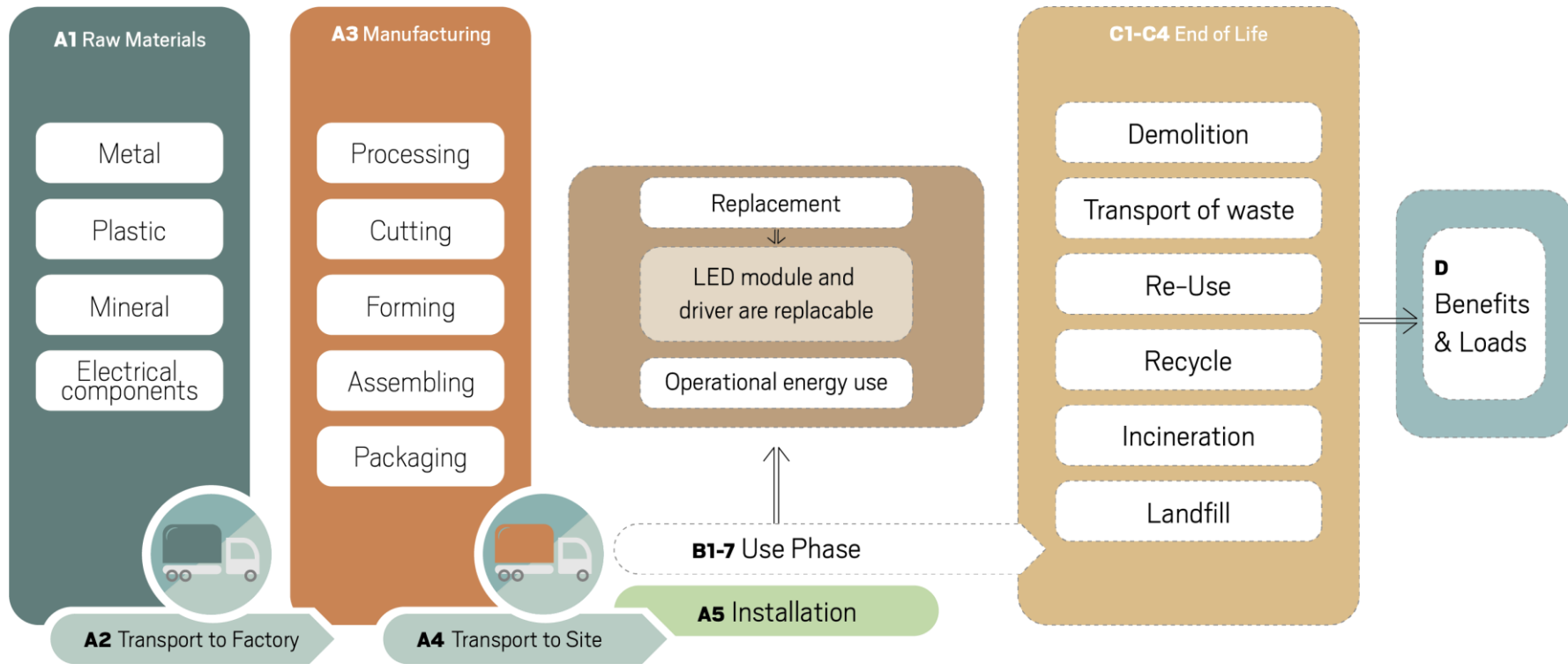
During the use phase, the product consumes electricity (B6). Impacts due to electricity production include direct emissions to air, transformation, and transmission losses.

### PRODUCT END OF LIFE (C1-C4, D) VP-049-C

Consumption of energy and natural resources in demolition process is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment centre. The transport distance is 150 km while 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 treating materials in different waste treatment methods. 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 benefits and loads of incineration and recycling are included in Module D.

# LIFE CYCLE FLOW DIAGRAM



# ENVIRONMENTAL IMPACT DATA, RESULTS PER DECLARED UNIT

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

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	4,55E+01	4,72E-01	2,81E+00	4,88E+01	1,45E+00	3,15E+00	MNR	MNR	MNR	0,00E+00	MNR	3,62E+02	MNR	0,00E+00	1,18E-01	4,77E-01	2,14E-01	-1,51E+01
GWP – fossil	kg CO <sub>2</sub> e	4,52E+01	4,71E-01	4,37E+00	5,00E+01	1,44E+00	6,13E-02	MNR	MNR	MNR	0,00E+00	MNR	3,21E+02	MNR	0,00E+00	1,18E-01	4,75E-01	2,14E-01	-1,54E+01
GWP – biogenic	kg CO <sub>2</sub> e	3,46E-01	1,13E-04	-1,60E+00	-1,26E+00	2,78E-04	3,08E+00	MNR	MNR	MNR	0,00E+00	MNR	5,82E+00	MNR	0,00E+00	2,58E-05	1,00E-03	-4,06E-05	3,19E-01
GWP – LULUC	kg CO <sub>2</sub> e	3,58E-02	2,20E-04	3,70E-02	7,31E-02	7,53E-04	3,23E-05	MNR	MNR	MNR	0,00E+00	MNR	3,60E+01	MNR	0,00E+00	5,22E-05	1,53E-04	3,16E-05	-4,21E-03
Ozone depletion pot.	kg CFC <sub>11</sub> e	5,29E-07	7,53E-09	3,98E-08	5,76E-07	2,30E-08	6,53E-10	MNR	MNR	MNR	0,00E+00	MNR	9,60E-06	MNR	0,00E+00	1,65E-09	1,11E-09	4,77E-10	-6,27E-08
Acidification potential	mol H <sup>+</sup> e	4,67E-01	1,21E-03	2,40E-02	4,93E-01	3,05E-02	2,37E-04	MNR	MNR	MNR	0,00E+00	MNR	3,93E+00	MNR	0,00E+00	3,93E-04	1,01E-03	1,74E-04	-2,53E-01
EP-freshwater <sup>2)</sup>	kg Pe	3,37E-02	3,82E-05	1,31E-03	3,51E-02	7,48E-05	9,16E-06	MNR	MNR	MNR	0,00E+00	MNR	2,84E-01	MNR	0,00E+00	9,18E-06	5,44E-05	6,44E-06	-1,38E-02
EP-marine	kg Ne	5,60E-02	3,08E-04	6,91E-03	6,32E-02	7,57E-03	2,18E-04	MNR	MNR	MNR	0,00E+00	MNR	5,79E-01	MNR	0,00E+00	1,27E-04	2,45E-04	2,37E-04	-2,22E-02
EP-terrestrial	mol Ne	6,22E-01	3,34E-03	5,69E-02	6,82E-01	8,40E-02	7,53E-04	MNR	MNR	MNR	0,00E+00	MNR	5,91E+00	MNR	0,00E+00	1,39E-03	2,61E-03	7,44E-04	-2,48E-01
POCP (“smog <sup>3)</sup> )	kg NMVOCe	1,87E-01	1,82E-03	1,58E-02	2,05E-01	2,36E-02	3,02E-04	MNR	MNR	MNR	0,00E+00	MNR	1,58E+00	MNR	0,00E+00	5,48E-04	7,47E-04	2,30E-04	-7,46E-02
ADP-minerals & metals <sup>4)</sup>	kg Sbe	2,89E-03	1,43E-06	2,07E-05	2,91E-03	2,47E-06	3,30E-07	MNR	MNR	MNR	0,00E+00	MNR	3,85E-02	MNR	0,00E+00	3,87E-07	4,33E-06	6,96E-08	-1,87E-03
ADP-fossil resources	MJ	5,21E+02	7,04E+00	4,64E+01	5,74E+02	1,86E+01	6,69E-01	MNR	MNR	MNR	0,00E+00	MNR	4,29E+04	MNR	0,00E+00	1,65E+00	1,34E+00	4,01E-01	-1,58E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	1,10E+01	3,48E-02	9,31E-01	1,20E+01	7,44E-02	1,48E-02	MNR	MNR	MNR	0,00E+00	MNR	2,37E+03	MNR	0,00E+00	7,68E-03	4,61E-02	1,60E-02	-1,78E+00

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

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	2,93E-06	4,54E-08	3,60E-07	3,34E-06	6,20E-08	3,90E-09	MNR	MNR	MNR	0,00E+00	MNR	3,27E-05	MNR	0,00E+00	9,36E-09	1,23E-08	3,29E-09	-9,48E-07
Ionizing radiation <sup>6)</sup>	kBq U235e	2,88E+00	6,21E-03	1,86E-01	3,08E+00	2,18E-02	2,57E-03	MNR	MNR	MNR	0,00E+00	MNR	3,08E+03	MNR	0,00E+00	1,34E-03	7,73E-03	4,81E-04	-9,46E-01
Ecotoxicity (freshwater)	CTUe	4,80E+02	1,00E+00	1,73E+01	4,98E+02	1,81E+00	4,70E+00	MNR	MNR	MNR	0,00E+00	MNR	5,37E+03	MNR	0,00E+00	2,62E-01	1,31E+00	2,61E+01	-1,26E+02
Human toxicity, cancer	CTUh	4,28E-08	8,74E-11	1,24E-09	4,41E-08	2,93E-10	3,11E-11	MNR	MNR	MNR	0,00E+00	MNR	6,33E-07	MNR	0,00E+00	2,01E-11	9,83E-11	8,14E-11	-1,96E-08
Human tox. non-cancer	CTUh	2,01E-06	4,53E-09	4,69E-08	2,06E-06	6,98E-09	1,68E-09	MNR	MNR	MNR	0,00E+00	MNR	3,31E-05	MNR	0,00E+00	1,04E-09	5,69E-09	3,59E-09	-1,63E-06
SQP <sup>7)</sup>	-	1,62E+02	6,81E+00	8,96E+01	2,58E+02	4,82E+00	4,49E-01	MNR	MNR	MNR	0,00E+00	MNR	1,01E+04	MNR	0,00E+00	9,88E-01	1,67E+00	6,06E-01	-8,55E+01

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 the 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	3,55E+01	9,82E-02	7,26E+00	4,29E+01	2,78E-01	-1,81E+01	MNR	MNR	MNR	0,00E+00	MNR	2,94E+04	MNR	0,00E+00	2,27E-02	1,93E-01	8,47E-03	-7,25E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,42E+01	1,42E+01	0,00E+00	-1,42E+01	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	3,55E+01	9,82E-02	2,15E+01	5,71E+01	2,78E-01	-3,23E+01	MNR	MNR	MNR	0,00E+00	MNR	2,94E+04	MNR	0,00E+00	2,27E-02	1,93E-01	8,47E-03	-7,25E+00
Non-re. PER as energy	MJ	5,09E+02	7,04E+00	4,66E+01	5,62E+02	1,86E+01	6,69E-01	MNR	MNR	MNR	0,00E+00	MNR	4,29E+04	MNR	0,00E+00	1,65E+00	-4,34E+00	-5,28E+00	-1,58E+02
Non-re. PER as material	MJ	1,23E+01	0,00E+00	1,21E-01	1,24E+01	0,00E+00	-1,29E-01	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	-5,29E+00	-6,97E+00	0,00E+00
Total use of non-re. PER	MJ	5,21E+02	7,04E+00	4,67E+01	5,75E+02	1,86E+01	5,40E-01	MNR	MNR	MNR	0,00E+00	MNR	4,29E+04	MNR	0,00E+00	1,65E+00	-9,63E+00	-1,22E+01	-1,58E+02
Secondary materials	kg	5,90E-01	0,00E+00	0,00E+00	5,90E-01	0,00E+00	0,00E+00	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Renew. secondary fuels	MJ	1,10E-02	3,82E-05	1,21E-01	1,32E-01	4,88E-05	5,43E-06	MNR	MNR	MNR	0,00E+00	MNR	3,81E-02	MNR	0,00E+00	9,47E-06	6,49E-05	6,40E-06	-7,32E-04
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,70E-01	1,06E-03	2,13E-02	2,93E-01	1,96E-03	-9,89E-05	MNR	MNR	MNR	0,00E+00	MNR	5,63E+01	MNR	0,00E+00	2,19E-04	1,02E-03	-5,54E-04	-1,14E-01

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	C1	C2	C3	C4	D
Hazardous waste	kg	7,95E+00	1,20E-02	4,70E-01	8,43E+00	2,74E-02	5,08E-03	MNR	MNR	MNR	0,00E+00	MNR	4,38E+01	MNR	0,00E+00	2,89E-03	1,60E-02	1,44E-01	-3,65E+00
Non-hazardous waste	kg	1,64E+02	2,23E-01	5,27E+00	1,69E+02	4,80E-01	7,15E-01	MNR	MNR	MNR	0,00E+00	MNR	1,45E+03	MNR	0,00E+00	5,41E-02	4,29E-01	2,44E+00	-5,31E+01
Radioactive waste	kg	7,07E-04	1,52E-06	4,46E-05	7,53E-04	5,46E-06	6,51E-07	MNR	MNR	MNR	0,00E+00	MNR	6,57E-01	MNR	0,00E+00	3,28E-07	1,90E-06	1,19E-07	-2,31E-04

### 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 reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	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	5,47E-02	5,47E-02	0,00E+00	9,13E-01	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	2,47E+00	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	0,00E+00	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	1,78E-04	1,78E-04	0,00E+00	5,13E-01	MNR	MNR	MNR	0,00E+00	MNR	0,00E+00	MNR	0,00E+00	0,00E+00	1,78E+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	4,52E+01	4,69E-01	4,50E+00	5,02E+01	1,44E+00	2,03E-01	MNR	MNR	MNR	0,00E+00	MNR	3,59E+02	MNR	0,00E+00	1,17E-01	4,75E-01	2,14E-01	-1,53E+01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	5,38E-07	6,01E-09	4,29E-08	5,87E-07	1,83E-08	5,33E-10	MNR	MNR	MNR	0,00E+00	MNR	8,32E-06	MNR	0,00E+00	1,32E-09	9,35E-10	3,88E-10	-5,78E-08
Acidification	kg SO <sub>2</sub> e	3,98E-01	9,63E-04	1,87E-02	4,18E-01	2,43E-02	1,83E-04	MNR	MNR	MNR	0,00E+00	MNR	3,29E+00	MNR	0,00E+00	3,01E-04	8,06E-04	1,27E-04	-2,20E-01
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	6,30E-02	2,32E-04	5,14E-03	6,83E-02	2,78E-03	1,66E-04	MNR	MNR	MNR	0,00E+00	MNR	4,08E-01	MNR	0,00E+00	7,33E-05	1,27E-04	5,79E-05	-1,09E-02
POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	2,39E-02	9,28E-05	1,31E-03	2,53E-02	1,25E-03	4,81E-05	MNR	MNR	MNR	0,00E+00	MNR	1,78E-01	MNR	0,00E+00	2,70E-05	4,75E-05	1,22E-05	-1,16E-02
ADP-elements	kg Sbe	2,88E-03	1,39E-06	2,06E-05	2,90E-03	2,42E-06	3,23E-07	MNR	MNR	MNR	0,00E+00	MNR	3,85E-02	MNR	0,00E+00	3,78E-07	4,31E-06	6,20E-08	-1,86E-03
ADP-fossil	MJ	4,74E+02	6,95E+00	4,33E+01	5,25E+02	1,82E+01	6,25E-01	MNR	MNR	MNR	0,00E+00	MNR	2,26E+03	MNR	0,00E+00	1,63E+00	1,21E+00	3,93E-01	-1,43E+02

## SCENARIO DOCUMENTATION

### DATA SOURCES

#### Manufacturing energy scenario documentation – A3 (Energy data source)

1. Energy supply, electricity production, solar photovoltaic, Electricity production, photovoltaic, 3kWp flat-roof installation, single-Si, World,ecoinvent 3.10.1, 0.0876 kgCO<sub>2</sub>e/kWh
2. Energy supply, electricity transformation and distribution, distribution low voltage, Market group for electricity, low voltage, China,ecoinvent 3.10.1, 1.02 kgCO<sub>2</sub>e/kWh

#### Transport scenario documentation - A4

1. Transport, freight, sea, container ship, 18932 km
2. Transport, freight train, electricity, 150 km
3. Market for transport, freight, lorry 16-32 metric ton, EURO6, 424,4 km

#### Installation scenario documentation - A5 (Energy data source)

#### Installation scenario documentation - A5 (Waste materials data source)

1. Corrugated board box production, 1.104, kg
2. Operation, printer, laser, black/white, per kg printed paper, 0.009, kg

#### Use stages scenario documentation - B4 (Installation data source)

#### Use stages scenario documentation - B6-B7 (Energy data source)

1. Energy supply, electricity transformation and distribution, distribution low voltage, Market for electricity, low voltage, Sweden, 9700.0, kWh

### TRANSPORT SCENARIO DOCUMENTATION - A4

Scenario parameter	Value
Capacity utilization (including empty return) %	50 %
Bulk density of transported products / kg/m <sup>3</sup>	0,00E+00

### USE STAGES SCENARIO DOCUMENTATION - B6-B7 USE OF ENERGY AND WATER

Scenario information	Value
Ancillary materials specified by material / kg or units as appropriate	Not applicable
Net fresh water consumption / m <sup>3</sup>	0
Power output of equipment / kW	97
Characteristic performance, e.g., energy efficiency, emissions, variation of performance with capacity utilization, etc. / Units as appropriate	-
Further assumptions for scenario development, e.g., frequency and period of use, number of occupants / Units as appropriate	-

### END OF LIFE SCENARIO DOCUMENTATION

Scenario information	Value
Collection process – kg collected separately	4,052
Collection process – kg collected with mixed waste	0
Recovery process – kg for re-use	0
Recovery process – kg for recycling	2,47E+00
Recovery process – kg for energy recovery	0
Disposal (total) – kg for final deposition	1,40E+00
Scenario assumptions e.g. transportation	Lorry, 16-32 metric ton, EURO5; 150 km

## THIRD-PARTY VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier and has been generated using an end-to-end verified tool.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification. EPD Hub confirms that it possesses sufficient knowledge and experience in construction products and the relevant standards to carry the verification.



Nemanja Nedic  
Program Manager, EPD Hub



EPD Hub has performed a detailed examination of the end-to-end verified tool and underlying data to ensure that there are no deviations in the studied Environmental Product Declaration (EPD), its Life Cycle Assessment (LCA), and project report. The tool is implemented according to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules version 1.1 and General Program Instructions version 1.2.

Tool verifier: Hai Ha Nguyen & Nemanja Nedic  
Tool verification validity: 11 July 2024 - 11 July 2027

EPD Hub has examined the company-specific data for plausibility and consistency. The declaration owner is responsible for ensuring its factual integrity and legal compliance.

## ANNEX : Scaling table with coefficients for total Indline G2 IP23 L family

This section apply the Rule(s) for extrapolation to a homogeneous environmental family" of the current PCR (PSR-0014-ED2.0-EN-2023 07 13) of the Product Environmental

Profiles (PEP). Note:The extrapolation coefficients are intended at product level(declared unit)and not at functional unit

According Extrapolation rules applied to fabrication stage (A1-A3),distribution stage(A4),Installation stage(A5),Use stage(B6),End of Life stage(C1-C4) and net benefits beyond the system boundaries stage (D).

**Table A1 Scaled GWP per scaling factor**

Product name	E-number	Wattage	CCT	CRI	Lumen	Variety	corresp onding factor A1-A3	GWP A1-A3- total kg CO2e	corresp onding factor A4	GWP A4-total kg CO2e	corresp onding factor A5	GWP A5-total kg CO2e	corresp onding factor B6	GWP B6- total kg CO2e	corresp onding factor Module C	GWP Module C-total kg CO2e	corresp onding factor Module D	GWP Module D-total kg CO2e
Indline G2 IP23 L 30°	7219968	97W	4000K	>80	19050	Reference product	1.000	48.800	1.000	1.450	1.000	3.150	1.000	362.000	1.000	0.809	1.000	-15.100
Indline G2 IP23 L 60°	7219969	97W	4000K	>80	17800	Reference product	1.000	48.800	1.000	1.450	1.000	3.150	1.000	362.000	1.000	0.809	1.000	-15.100
Indline G2 IP23 L 90°	7219970	97W	4000K	>80	17550	Reference product	1.000	48.800	1.000	1.450	1.000	3.150	1.000	362.000	1.000	0.809	1.000	-15.100
Indline G2 IP23 L 30° DALI CLO	7219972	100W	4000K	>80	19750	With DALI control driver	1.015	49.541	1.013	1.469	1.000	3.150	0.515	186.598	1.019	0.825	1.015	-15.329
Indline G2 IP23 L 60° DALI CLO	7219973	100W	4000K	>80	17700	With DALI control driver	1.015	49.541	1.013	1.469	1.000	3.150	0.515	186.598	1.019	0.825	1.015	-15.329
Indline G2 IP23 L 90° DALI CLO	7219974	100W	4000K	>80	18250	With DALI control driver	1.015	49.541	1.013	1.469	1.000	3.150	0.515	186.598	1.019	0.825	1.015	-15.329
Indline G2 IP23 L 30° Casambi	7219976	100W	4000K	>80	19750	With casambi control device	1.019	49.726	1.017	1.475	1.000	3.150	0.515	186.598	1.024	0.828	1.019	-15.387
Indline G2 IP23 L 60° Casambi	7219977	100W	4000K	>80	17700	With casambi control device	1.019	49.726	1.017	1.475	1.000	3.150	0.515	186.598	1.024	0.828	1.019	-15.387
Indline G2 IP23 L 90° Casambi	7219978	100W	4000K	>80	18250	With casambi control device	1.019	49.726	1.017	1.475	1.000	3.150	0.515	186.598	1.024	0.828	1.019	-15.387
Indline G2 IP23 L Asym	7219971	97W	4000K	>80	16350	Reference product	1.000	48.800	1.000	1.450	1.000	3.150	1.000	362.000	1.000	0.809	1.000	-15.100
Indline G2 IP23 L Asym DALI CLO	7219975	100W	4000K	>80	16850	With DALI control driver	1.015	49.541	1.013	1.469	1.000	3.150	0.515	186.598	1.019	0.825	1.015	-15.329
Indline G2 IP23 Sport L 30°	7219998	97W	4000K	>80	19050	Add sport grid on reference fixture	1.035	50.522	1.035	1.501	1.000	3.150	1.000	362.000	1.045	0.845	1.035	-15.633
Indline G2 IP23 Sport L 60°	7219999	97W	4000K	>80	17050	Add sport grid on reference fixture	1.035	50.522	1.035	1.501	1.000	3.150	1.000	362.000	1.045	0.845	1.035	-15.633
Indline G2 IP23 Sport L 90°	7220000	97W	4000K	>80	17550	Add sport grid on reference fixture	1.035	50.522	1.035	1.501	1.000	3.150	1.000	362.000	1.045	0.845	1.035	-15.633
Indline G2 IP23 Sport L Asym	7220001	97W	4000K	>80	16350	Add sport grid on reference fixture	1.035	50.522	1.035	1.501	1.000	3.150	1.000	362.000	1.045	0.845	1.035	-15.633
Indline G2 IP23 Sport L 30° DALI CLO	7220002	100W	4000K	>80	19750	With DALI control driver,Add sport grid on reference fixture	1.050	51.229	1.048	1.520	1.000	3.150	0.515	186.598	1.063	0.860	1.050	-15.852
Indline G2 IP23 Sport L 60° DALI CLO	7220003	100W	4000K	>80	17550	With DALI control driver,Add sport grid on reference fixture	1.050	51.229	1.048	1.520	1.000	3.150	0.515	186.598	1.063	0.860	1.050	-15.852
Indline G2 IP23 Sport L 90° DALI CLO	7220004	100W	4000K	>80	18250	With DALI control driver,Add sport grid on reference fixture	1.050	51.229	1.048	1.520	1.000	3.150	0.515	186.598	1.063	0.860	1.050	-15.852
Indline G2 IP23 Sport L Asym DALI CLO	7220005	100W	4000K	>80	16850	With DALI control driver,Add sport grid on reference fixture	1.050	51.229	1.048	1.520	1.000	3.150	0.515	186.598	1.063	0.860	1.050	-15.852
Indline G2 IP23 L 30° Casambi PIR	7220211	100W	4000K	>80	19750	With DALI control driver,and casambi PIR sensor	1.059	51.660	1.044	1.514	1.000	3.150	0.515	186.598	1.074	0.869	1.059	-15.985
Indline G2 IP23 L 60° Casambi PIR	7220212	100W	4000K	>80	17700	With DALI control driver,and casambi PIR sensor	1.059	51.660	1.044	1.514	1.000	3.150	0.515	186.598	1.074	0.869	1.059	-15.985
Indline G2 IP23 L 90° Casambi PIR	7220213	100W	4000K	>80	18250	With DALI control driver,and casambi PIR sensor	1.059	51.660	1.044	1.514	1.000	3.150	0.515	186.598	1.074	0.869	1.059	-15.985