ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14021 / ISO 21930

ST333T 49S/PW930UE PSU HMB T102 WH481
ST333T
Signify N.V.

EPD HUB
Publishing date 2025-07-02

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Signify
Address	5600 VB Eindhoven, The Netherlands
Contact details	sustainability@signify.com
Website	https://www.signify.com/global

EPD STANDARDS, SCOPE AND VERIFICATION

Reference standard	EN 15804+A2:2019 and ISO 14021
Sector	Electrical product
Category of EPD	Self-declared EPD
Scope of the EPD	Cradle to gate with options, A4-B7, and modules C1-C4, D
EPD author	Sustainability Signify
EPD verification	Independent verification of this EPD and data, according to ISO 14021: ☑ Internal certification ☐External verification

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 lighting products may not be comparable if they do not comply with EN 15804 and if they are not compared in a lighting context.

PRODUCT

Product name	ST333T 49S/PW930UE PSU HMB T102 WH481
Additional labels	ST333T
Product reference	910505104860
Place of production	HUNGARY
Period for data	2024
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	Not applicable

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit
Declared unit mass	0.715 kg
GWP-fossil, A1-A3 (kgCO2e)	7.94E+00
GWP-total, A1-A3 (kgCO2e)	7.38E+00
Secondary material, inputs (%)	40.5
Secondary material, outputs (%)	57.6
Total energy use, A1-A3 (kWh)	31.6
Net fresh water use, A1-A3 (m3e)	0.06

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Signify is the world leader in lighting for professionals, consumers and lighting for the Internet of Things. Our energy efficient lighting products, systems and services enable our customers to enjoy a superior quality of light, and make people's lives safer and more comfortable, businesses more productive and cities more liveable.

For more information, please visit: https://www.signify.com/global

PRODUCT DESCRIPTION

GreenSpace Evo Projector is a powerful and flexible projector for retail with a subtle and neutral design. The 3D printed housing is crafted from at least 55% recycled or bio-circular materials, while the heatsink is made from 85% recycled aluminium. Because of its circular design, the luminaire is upgradable, reusable, fully serviceable and recyclable. Combined with the high energy efficiency, this makes the GreenSpace Evo a sustainable projector choice. The PerfectAccent reflectors ensure a light effect with increased sparkle and improved shopper eye comfort. GreenSpace Evo also comes in state-of-the-art ultra-efficient variants and integrates seamlessly onto 3C- and DALI-tracks, CoreLine Trunking and Maxos fusion.
Further customization of colors and textures is possible via Philips MyCreation

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	61.47	EU , APAC
Minerals	0	Not applicable
Fossil materials	38.52	EU , APAC
Bio-based materials	0	Not applicable

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	0.142

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Unit
Mass per declared unit	0.715 kg
Functional unit	5000 Lumens over 100000 hours
Reference service life	100000 hours

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	MNR	MNR	MNR	MNR	MNR	x	MNR	MNR	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

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, electricity, and waste formed in the production processes at Signify's manufacturing facilities are included in this stage. The product is made of metals, plastics, and electronic components. All components are transported to Signify's production facility, where the main manufacturing processes primarily are associated with assembly. The finished product is packaged with polyethylene, cardboard, and/or paper as packaging material before being sent to customers. Manufacturing loss, ancillaries and wastes are calculated according to the data that each manufacturing site is sharing with Signify. The total annual amount of waste in kg is allocated to the total annual production in kg at the specific manufacturing site responsible for the production of the studied luminaire. Thus, it is possible to allocate it according to the weight of the product analysed in this study. Some of the waste are due to ancillary materials used during manufacturing while the rest is due to material losses.

TRANSPORT AND INSTALLATION (A4-A5)

Transport distances were calculated on the base of the supplier location and manufacturing location and then made a cumulative group choosing the conservative scenario. Environmental impacts from installation include waste packaging materials (A5). The impacts of energy consumption and the used ancillary materials during installation are considered negligible.

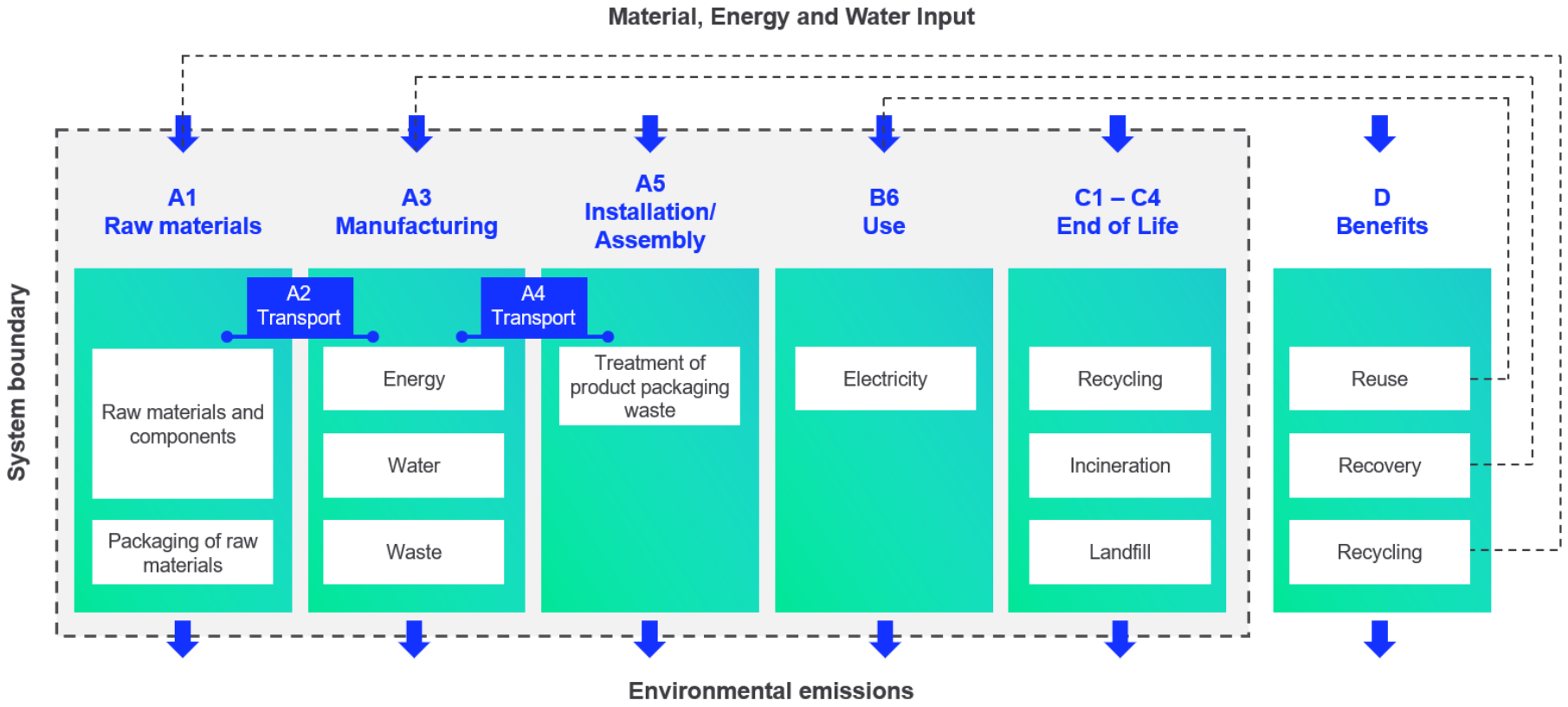
PRODUCT USE AND MAINTENANCE (B1-B7)

During the use phase, the product consumes electricity from EU's electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

PRODUCT END OF LIFE (C1-C4, D)

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. Transportation distance to treatment is assumed as 150 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 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.

SYSTEM BOUNDARY



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, ancillary materials, energy & water consumption, material loss and waste generation at the manufacturing site are attributed to the bill of materials of the products, therefore, they are allocated by partitioning the quantities on the base of the total production in kg throughout the year. Thus, allocation has been done in the following ways:

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

This EPD is created with a most conservative scenario in A1-A3 in terms of material composition.

AVERAGES AND VARIABILITY

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

This EPD is product and factory specific and does not contain average calculations. It is created with a most conservative scenario in A1-A3 in terms of material composition.

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. EcoInvent 3.10.1 database was used as the source 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[1)]	kg CO_2e	7.04E+00	2.43E-01	9.80E-02	7.38E+00	2.32E-01	5.20E-01	MNR	MNR	MNR	MNR	MNR	1.07E+03	MNR	MNR	1.36E-02	2.54E-01	2.21E-01	-1.18E+00
GWP – fossil	kg CO_2e	7.10E+00	2.43E-01	5.94E-01	7.94E+00	2.32E-01	1.19E-02	MNR	MNR	MNR	MNR	MNR	1.06E+03	MNR	MNR	1.36E-02	2.54E-01	1.35E-01	-1.18E+00
GWP – biogenic	kg CO_2e	-6.99E-02	0.00E+00	-5.08E-01	-5.78E-01	0.00E+00	5.08E-01	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	8.67E-02	-3.07E-04
GWP – LULUC	kg CO_2e	1.04E-02	1.11E-04	1.16E-02	2.21E-02	1.04E-04	3.56E-06	MNR	MNR	MNR	MNR	MNR	3.27E+00	MNR	MNR	6.09E-06	2.34E-05	7.01E-06	-3.79E-04
Ozone depletion pot.	kg CFC_{-11}e	1.30E-07	3.58E-09	1.97E-08	1.53E-07	3.42E-09	1.59E-10	MNR	MNR	MNR	MNR	MNR	1.96E-05	MNR	MNR	2.01E-10	2.20E-10	1.39E-10	-4.67E-09
Acidification potential	mol H^+e	5.62E-02	1.46E-03	2.65E-03	6.03E-02	7.91E-04	9.66E-05	MNR	MNR	MNR	MNR	MNR	6.25E+00	MNR	MNR	4.64E-05	1.78E-04	5.91E-05	-1.88E-02
EP-freshwater[2)]	kg Pe	4.28E-03	1.78E-05	2.35E-04	4.53E-03	1.81E-05	1.42E-06	MNR	MNR	MNR	MNR	MNR	9.90E-01	MNR	MNR	1.06E-06	8.04E-06	3.36E-06	-1.00E-03
EP-marine	kg Ne	7.99E-03	4.23E-04	1.20E-03	9.61E-03	2.60E-04	5.00E-05	MNR	MNR	MNR	MNR	MNR	9.81E-01	MNR	MNR	1.53E-05	5.76E-05	2.84E-04	-1.69E-03
EP-terrestrial	mol Ne	9.14E-02	4.64E-03	7.43E-03	1.03E-01	2.83E-03	4.36E-04	MNR	MNR	MNR	MNR	MNR	8.79E+00	MNR	MNR	1.66E-04	5.56E-04	2.64E-04	-1.88E-02
POCP (“smog”)[3)]	kg NMVOCe	3.13E-02	1.63E-03	2.56E-03	3.55E-02	1.17E-03	1.11E-04	MNR	MNR	MNR	MNR	MNR	2.90E+00	MNR	MNR	6.84E-05	1.52E-04	7.78E-05	-5.63E-03
ADP-minerals & metals[4)]	kg Sbe	5.63E-04	6.33E-07	3.51E-06	5.67E-04	6.47E-07	3.17E-08	MNR	MNR	MNR	MNR	MNR	1.44E-02	MNR	MNR	3.80E-08	5.67E-07	2.06E-08	-1.54E-04
ADP-fossil resources	MJ	9.67E+01	3.47E+00	8.26E+00	1.08E+02	3.37E+00	8.33E-02	MNR	MNR	MNR	MNR	MNR	2.48E+04	MNR	MNR	1.98E-01	2.22E-01	1.08E-01	-1.20E+01
Water use[5)]	m^3e depr.	2.63E+00	1.65E-02	2.36E-01	2.88E+00	1.66E-02	2.56E-02	MNR	MNR	MNR	MNR	MNR	6.75E+02	MNR	MNR	9.76E-04	1.88E-02	8.87E-03	-1.37E-01

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	4.86E-07	2.26E-08	4.70E-08	5.55E-07	2.32E-08	8.14E-10	MNR	MNR	MNR	MNR	MNR	2.23E-05	MNR	MNR	1.36E-09	1.87E-09	7.93E-10	-8.32E-08
Ionizing radiation[6)]	kBq U235e	5.40E-01	2.90E-03	2.85E-02	5.72E-01	2.93E-03	1.59E-04	MNR	MNR	MNR	MNR	MNR	6.84E+02	MNR	MNR	1.72E-04	1.20E-03	1.54E-04	-6.43E-02
Ecotoxicity (freshwater)	CTUe	1.40E+02	4.71E-01	2.87E+00	1.43E+02	4.76E-01	6.06E-01	MNR	MNR	MNR	MNR	MNR	3.77E+03	MNR	MNR	2.80E-02	5.50E-01	1.02E+01	-9.33E+00
Human toxicity, cancer	CTUh	7.65E-09	4.12E-11	3.00E-10	7.99E-09	3.83E-11	2.86E-11	MNR	MNR	MNR	MNR	MNR	3.60E-07	MNR	MNR	2.25E-12	2.97E-11	1.75E-11	-1.45E-09
Human tox. non-cancer	CTUh	2.50E-07	2.13E-09	8.17E-09	2.61E-07	2.18E-09	1.15E-09	MNR	MNR	MNR	MNR	MNR	1.86E-05	MNR	MNR	1.28E-10	1.33E-09	1.04E-09	-1.21E-07
SQP[7)]	-	4.01E+01	3.22E+00	3.31E+01	7.65E+01	3.39E+00	2.52E-02	MNR	MNR	MNR	MNR	MNR	5.51E+03	MNR	MNR	1.99E-01	2.27E-01	1.54E-01	-5.32E+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[8)]	MJ	1.07E+01	4.57E-02	2.56E+00	1.33E+01	4.61E-02	-6.23E+00	MNR	MNR	MNR	MNR	MNR	6.79E+03	MNR	MNR	2.71E-03	2.82E-02	2.72E-03	-5.94E-01
Renew. PER as material	MJ	8.30E-01	0.00E+00	4.48E+00	5.31E+00	0.00E+00	-4.48E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	-2.47E-04	-8.29E-01	0.00E+00
Total use of renew. PER	MJ	1.15E+01	4.57E-02	7.04E+00	1.86E+01	4.61E-02	-1.07E+01	MNR	MNR	MNR	MNR	MNR	6.79E+03	MNR	MNR	2.71E-03	2.79E-02	-8.27E-01	-5.94E-01
Non-re. PER as energy	MJ	8.89E+01	3.47E+00	8.07E+00	1.00E+02	3.37E+00	8.08E-02	MNR	MNR	MNR	MNR	MNR	2.48E+04	MNR	MNR	1.98E-01	-3.55E+00	-6.30E+00	-1.20E+01
Non-re. PER as material	MJ	2.86E+00	0.00E+00	3.66E-02	2.90E+00	0.00E+00	-3.66E-02	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	-7.41E-01	-2.12E+00	1.49E-01
Total use of non-re. PER	MJ	9.17E+01	3.47E+00	8.11E+00	1.03E+02	3.37E+00	4.42E-02	MNR	MNR	MNR	MNR	MNR	2.48E+04	MNR	MNR	1.98E-01	-4.30E+00	-8.42E+00	-1.19E+01
Secondary materials	kg	2.89E-01	1.49E-03	2.66E-01	5.56E-01	1.43E-03	1.22E-04	MNR	MNR	MNR	MNR	MNR	4.10E+00	MNR	MNR	8.41E-05	1.86E-04	3.92E-04	5.36E-02
Renew. secondary fuels	MJ	1.05E-02	1.75E-05	3.84E-02	4.89E-02	1.82E-05	2.00E-06	MNR	MNR	MNR	MNR	MNR	3.27E-02	MNR	MNR	1.07E-06	1.00E-05	1.67E-06	-1.57E-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	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m^3	5.72E-02	4.89E-04	5.96E-03	6.37E-02	4.98E-04	4.07E-04	MNR	MNR	MNR	MNR	MNR	2.14E+01	MNR	MNR	2.92E-05	3.55E-04	-5.13E-04	-6.91E-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	C1	C2	C3	C4	D
Hazardous waste	kg	1.08E+00	5.77E-03	3.43E-02	1.12E+00	5.70E-03	6.70E-03	MNR	MNR	MNR	MNR	MNR	6.26E+01	MNR	MNR	3.35E-04	5.46E-03	1.35E-02	-2.61E-01
Non-hazardous waste	kg	2.48E+01	1.05E-01	8.64E-01	2.57E+01	1.06E-01	3.71E-01	MNR	MNR	MNR	MNR	MNR	4.84E+03	MNR	MNR	6.20E-03	1.47E-01	1.11E+00	-4.64E+00
Radioactive waste	kg	1.36E-04	7.09E-07	6.77E-06	1.44E-04	7.18E-07	4.04E-08	MNR	MNR	MNR	MNR	MNR	1.76E-01	MNR	MNR	4.21E-08	2.96E-07	3.82E-08	-1.56E-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	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	3.12E-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	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	1.01E-01	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	3.61E-02	3.61E-02	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+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_2e	7.07E+00	2.42E-01	6.43E-01	7.96E+00	2.31E-01	1.18E-02	MNR	MNR	MNR	MNR	MNR	1.06E+03	MNR	MNR	1.35E-02	2.54E-01	1.34E-01	-1.17E+00
Ozone depletion Pot.	kg CFC_{-11}e	1.19E-07	2.85E-09	1.95E-08	1.42E-07	2.73E-09	1.42E-10	MNR	MNR	MNR	MNR	MNR	1.64E-05	MNR	MNR	1.60E-10	1.88E-10	1.15E-10	-4.25E-09
Acidification	kg SO_2e	4.69E-02	1.14E-03	1.83E-03	4.99E-02	6.04E-04	6.99E-05	MNR	MNR	MNR	MNR	MNR	5.33E+00	MNR	MNR	3.55E-05	1.38E-04	4.27E-05	-1.63E-02
Eutrophication	kg PO_4^3e	1.40E-02	2.01E-04	1.27E-03	1.54E-02	1.47E-04	2.35E-05	MNR	MNR	MNR	MNR	MNR	6.89E-01	MNR	MNR	8.64E-06	2.80E-05	2.75E-05	-9.76E-04
POCP (“smog”)	kg C_2H_4e	4.25E-03	7.90E-05	2.07E-04	4.53E-03	5.38E-05	4.97E-06	MNR	MNR	MNR	MNR	MNR	2.90E-01	MNR	MNR	3.16E-06	8.43E-06	4.90E-06	-8.45E-04
ADP-elements	kg Sbe	5.60E-04	6.18E-07	3.46E-06	5.64E-04	6.31E-07	2.17E-08	MNR	MNR	MNR	MNR	MNR	1.43E-02	MNR	MNR	3.70E-08	5.60E-07	1.75E-08	-1.54E-04
ADP-fossil	MJ	8.79E+01	3.42E+00	7.80E+00	9.91E+01	3.32E+00	8.07E-02	MNR	MNR	MNR	MNR	MNR	1.27E+04	MNR	MNR	1.95E-01	2.03E-01	1.06E-01	-1.10E+01

APPENDIX (EPD HUB ALIGNED)

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 familiy

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}.

$$PSF = \frac{P_{in}}{P_{base}}$$

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.

$$TSF = PSF * CSF$$

Table A1: Light management function (PEP EcoPassport aligned)

Scenario	Abbrev.	CSF
No control	NC	1
Daylight dependency factor	DD	0.75
Presence sensing	PS	0.75
Daylight dependency and presence sensing	DD+PS	0.55

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

$$Scaled\ Impact = GWP_{case} * TSF$$

Table A2 Scaled GWP per scaling factor (EPD Hub aligned)

Configuration	Flux [lm]	Power [W]	Efficacy [lm/W]	PSF	Total Scaling Factor (TSF)				Scaled Impacts (GWP100 B6 - kg CO2eq.)			
					NC	DD	PS	DD+PS	NC	DD	PS	DD+PS
ST333T LED27S FMT MB PSU	2600	33	78.8	1.015	1.015	0.761	0.761	0.558	1086.0	814.3	814.3	597.1
ST333T LED27S FMT MB DIA	2600	34	77.6	1.031	1.031	0.773	0.773	0.567	1103.2	827.1	827.1	606.7
ST333T LED27S FMT MB DIA-VLC	2600	36	73.2	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED27S FMT MB WIA	2600	34	75.4	1.062	1.062	0.796	0.796	0.584	1136.3	851.7	851.7	624.9
ST333T LED27S ROSE MB PSU	2600	28	92.9	0.862	0.862	0.646	0.646	0.474	922.3	691.2	691.2	507.2
ST333T LED27S ROSE MB DIA	2600	29	89.7	0.892	0.892	0.669	0.669	0.491	954.4	715.8	715.8	525.4
ST333T LED27S ROSE MB DIA-VLC	2600	30	85.2	0.938	0.938	0.704	0.704	0.516	1003.7	753.3	753.3	552.1
ST333T LED27S ROSE MB WIA	2600	30	85.2	0.938	0.938	0.704	0.704	0.516	1003.7	753.3	753.3	552.1
ST333T LED27S FR MB PSU	2800	31	90.3	0.954	0.954	0.716	0.716	0.525	1020.8	766.1	766.1	561.8
ST333T LED27S FR MB DIA	2800	32	87.5	0.985	0.985	0.739	0.739	0.542	1054.0	790.7	790.7	579.9
ST333T LED27S FR MB DIA-VLC	2800	34	83.6	1.031	1.031	0.773	0.773	0.567	1103.2	827.1	827.1	606.7
ST333T LED27S FR MB WIA	2800	33	84.8	1.015	1.015	0.761	0.761	0.558	1086.0	814.3	814.3	597.1
ST333T LED39S FR MB PSU	3900	37	105.4	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED39S FR MB DIA	3900	38	102.6	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED39S FR MB DIA-VLC	3900	40	97.5	1.231	1.231	0.923	0.923	0.677	1317.2	987.6	987.6	724.4
ST333T LED39S FR MB WIA	3900	39	100.0	1.2	1.2	0.9	0.9	0.66	1284.0	963.0	963.0	706.2
ST333T LED39S PC930 MB PSU	3900	34	114.7	1.046	1.046	0.784	0.784	0.575	1119.2	838.9	838.9	615.2

ST333T LED39S PC930 MB DIA	3900	35	111.4	1.077	1.077	0.808	0.808	0.592	1152.4	864.6	864.6	633.4
ST333T LED39S PC930 MB DIA-VLC	3900	37	105.4	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED39S PC930 MB WIA	3900	36	108.3	1.108	1.108	0.831	0.831	0.609	1185.6	889.2	889.2	651.6
ST333T LED49S 827 MB PSU	5000	37	135.1	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED49S 827 MB DIA	5000	38	131.6	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED49S 827 MB DIA-VLC	5000	40	125.0	1.231	1.231	0.923	0.923	0.677	1317.2	987.6	987.6	724.4
ST333T LED49S 827 MB WIA	5000	40	126.6	1.215	1.215	0.911	0.911	0.668	1300.1	974.8	974.8	714.8
ST333T LED49S 830 MB PSU	4900	38	128.9	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED49S 830 MB DIA	4900	39	125.6	1.2	1.2	0.9	0.9	0.66	1284.0	963.0	963.0	706.2
ST333T LED49S 830 MB DIA-VLC	4900	40	121.0	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 830 MB WIA	4900	40	122.5	1.231	1.231	0.923	0.923	0.677	1317.2	987.6	987.6	724.4
ST333T LED49S 840 MB PSU	5100	38	134.2	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED49S 840 MB DIA	5100	39	130.8	1.2	1.2	0.9	0.9	0.66	1284.0	963.0	963.0	706.2
ST333T LED49S 840 MB DIA-VLC	5100	41	124.4	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S 840 MB WIA	5100	40	125.9	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S PW930 MB PSU	5000	41	122.0	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S PW930 MB DIA	5000	40	123.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S PW930 MB DIA-VLC	5000	42	117.6	1.308	1.308	0.981	0.981	0.719	1399.6	1049.7	1049.7	769.3
ST333T LED49S PW930 MB WIA	5000	42	120.5	1.277	1.277	0.958	0.958	0.702	1366.4	1025.1	1025.1	751.1
ST333T LED49S PW940 MB PSU	5000	38	129.9	1.185	1.185	0.889	0.889	0.652	1268.0	951.2	951.2	697.6
ST333T LED49S PW940 MB DIA	5000	40	126.6	1.215	1.215	0.911	0.911	0.668	1300.1	974.8	974.8	714.8
ST333T LED49S PW940 MB DIA-VLC	5000	41	122.0	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S PW940 MB WIA	5000	41	122.0	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED27S FMT HMB PSU	2700	33	81.8	1.015	1.015	0.761	0.761	0.558	1086.0	814.3	814.3	597.1

ST333T LED27S FMT HMB DIA	2700	36	76.1	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED27S FMT HMB DIA-VLC	2700	36	76.1	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED27S FMT HMB WIA	2700	36	76.1	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED27S ROSE HMB PSU	2700	28	96.4	0.862	0.862	0.646	0.646	0.474	922.3	691.2	691.2	507.2
ST333T LED27S ROSE HMB DIA	2700	31	87.1	0.954	0.954	0.716	0.716	0.525	1020.8	766.1	766.1	561.8
ST333T LED27S ROSE HMB DIA-VLC	2700	30	88.5	0.938	0.938	0.704	0.704	0.516	1003.7	753.3	753.3	552.1
ST333T LED27S ROSE HMB WIA	2700	31	87.1	0.954	0.954	0.716	0.716	0.525	1020.8	766.1	766.1	561.8
ST333T LED27S FR HMB PSU	2700	22	125.6	0.662	0.662	0.497	0.497	0.364	708.3	531.8	531.8	389.5
ST333T LED27S FR HMB DIA	2700	24	112.5	0.738	0.738	0.553	0.553	0.406	789.7	591.7	591.7	434.4
ST333T LED27S FR HMB DIA-VLC	2700	24	114.9	0.723	0.723	0.542	0.542	0.398	773.6	579.9	579.9	425.9
ST333T LED27S FR HMB WIA	2700	24	112.5	0.738	0.738	0.553	0.553	0.406	789.7	591.7	591.7	434.4
ST333T LED39S FR HMB PSU	4000	37	108.1	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED39S FR HMB DIA	4000	38	105.3	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED39S FR HMB DIA-VLC	4000	40	100.0	1.231	1.231	0.923	0.923	0.677	1317.2	987.6	987.6	724.4
ST333T LED39S FR HMB WIA	4000	39	102.6	1.2	1.2	0.9	0.9	0.66	1284.0	963.0	963.0	706.2
ST333T LED39S PC930 HMB PSU	4000	34	117.6	1.046	1.046	0.784	0.784	0.575	1119.2	838.9	838.9	615.2
ST333T LED39S PC930 HMB DIA	4000	37	108.1	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED39S PC930 HMB DIA-VLC	4000	36	109.6	1.123	1.123	0.842	0.842	0.618	1201.6	900.9	900.9	661.3
ST333T LED39S PC930 HMB WIA	4000	37	108.1	1.138	1.138	0.853	0.853	0.626	1217.7	912.7	912.7	669.8
ST333T LED49S 827 HMB PSU	4800	38	126.3	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED49S 827 HMB DIA	4800	40	118.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 827 HMB DIA-VLC	4800	40	118.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 827 HMB WIA	4800	40	118.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 830 HMB PSU	5000	38	131.6	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0

ST333T LED49S 830 HMB DIA	5000	40	123.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 830 HMB DIA-VLC	5000	40	123.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 830 HMB WIA	5000	40	123.5	1.246	1.246	0.934	0.934	0.685	1333.2	999.4	999.4	733.0
ST333T LED49S 840 HMB PSU	5300	38	139.5	1.169	1.169	0.877	0.877	0.643	1250.8	938.4	938.4	688.0
ST333T LED49S 840 HMB DIA	5300	41	129.3	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S 840 HMB DIA-VLC	5300	41	129.3	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S 840 HMB WIA	5300	41	129.3	1.262	1.262	0.947	0.947	0.694	1350.3	1013.3	1013.3	742.6
ST333T LED49S PW930 HMB PSU	5000	38	133.3	1.154	1.154	0.865	0.865	0.635	1234.8	925.5	925.5	679.5
ST333T LED49S PW930 HMB DIA	5000	38	129.9	1.185	1.185	0.889	0.889	0.652	1268.0	951.2	951.2	697.6
ST333T LED49S PW930 HMB DIA-VLC	5000	40	125.0	1.231	1.231	0.923	0.923	0.677	1317.2	987.6	987.6	724.4
ST333T LED49S PW930 HMB WIA	5000	40	126.6	1.215	1.215	0.911	0.911	0.668	1300.1	974.8	974.8	714.8
ST333T LED49S PW940 HMB PSU	4900	34	146.3	1.031	1.031	0.773	0.773	0.567	1103.2	827.1	827.1	606.7
ST333T LED49S PW940 HMB DIA	4900	34	142.0	1.062	1.062	0.796	0.796	0.584	1136.3	851.7	851.7	624.9
ST333T LED49S PW940 HMB DIA-VLC	4900	36	136.1	1.108	1.108	0.831	0.831	0.609	1185.6	889.2	889.2	651.6
ST333T LED49S PW940 HMB WIA	4900	36	138.0	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED49S PW930 UHE HMB PSU	5000	32	153.8	1.0	1.0	0.75	0.75	0.55	1070.0	802.5	802.5	588.5
ST333T LED49S PW930 UHE HMB DIA	5000	35	142.9	1.077	1.077	0.808	0.808	0.592	1152.4	864.6	864.6	633.4
ST333T LED49S PW930 UHE HMB DIA-VLC	5000	35	142.9	1.077	1.077	0.808	0.808	0.592	1152.4	864.6	864.6	633.4
ST333T LED49S PW930 UHE HMB WIA	5000	36	140.8	1.092	1.092	0.819	0.819	0.601	1168.4	876.3	876.3	643.1
ST333T LED49S PW940 UHE HMB PSU	4900	30	160.7	0.938	0.938	0.704	0.704	0.516	1003.7	753.3	753.3	552.1
ST333T LED49S PW940 UHE HMB DIA	4900	33	148.5	1.015	1.015	0.761	0.761	0.558	1086.0	814.3	814.3	597.1
ST333T LED49S PW940 UHE HMB DIA-VLC	4900	33	148.5	1.015	1.015	0.761	0.761	0.558	1086.0	814.3	814.3	597.1
ST333T LED49S PW940 UHE HMB WIA	4900	34	144.1	1.046	1.046	0.784	0.784	0.575	1119.2	838.9	838.9	615.2

** Note that if the product is non-dimmable, only the values for "NC (No Control)" are valid; if the driver type is PSU, only the values for "NC (No Control)"and "PS (presence sensing)" for are valid.*

APPENDIX (PEP ECOPASSPORT ALIGNED)

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 refernce variant of a product family, based on various light management functions, the lumen output (O_{lum}) and reference service life (*RSL*) of each product within the same product familiy.

To calculate the Scaled Impact (SI_{pep}), 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}.

$$PSF = \frac{P_{in}}{P_{base}}$$

2. Using this scaled GWP, we then can apply the PEP Ecopassport method for calculating the environmental impact of the functional unit for a luminary (1000 lumens over 35000 hours), applied to B6, where the Functional Unit application considers the lumen output (Olum) and reference service lifetime (RSL) of the product to estimate the final environmental impact. The scaled impact (SIpep) is presented in Table A4.

$$GSF = \frac{FU_{pep}}{FU_p} = \frac{1{,}000}{O_{lum}} * \frac{35{,}000}{RSL}$$

3. Calculate the GWP scaling factor (P*GSF*), by multiplying the PSF by the GSF.

$$PGSF = PSF * GSF$$

4. 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), as presented in Table A1.

$$TSF = PGSF * CSF$$

Table A3: Light management functions (PEP EcoPassport aligned)

Scenario	Abbrev.	CSF
No control	NC	1
Daylight dependency factor	DD	0.75
Presence sensing	PS	0.75
Daylight dependency and presence sensing	DD+PS	0.55

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

$$Scaled\ GWP = GWP_{\ case} * TSF$$

As described in the EPD, calculations are made based on dataset describing electricity available on the low voltage level in Europe for year 2022 (source Ecoinvent 3.8 database). This value should be adjusted depending on specific project requirements. Presented controls factors and functional unit conversion values are based on the PEP EcoPassport PSR for luminaries (PSR-0014-ed2.0-EN-2023 07 13). Please refer to this publication or contact Signify directly for more information.

Table A4 Scale impact per scaling factor (PEP EcoPassport aligned)

Configuration	Flux [lm]	Power [W]	Efficacy [lm/W]	PSF	Total Scaling Factor (TSF)				Scaled Impacts (GWP100 B6 - kg CO2eq.)			
					NC	DD	PS	DD+PS	NC	DD	PS	DD+PS
ST333T LED27S FMT MB PSU	2600	33	78.8	1.015	0.137	0.103	0.103	0.075	146.6	110.2	110.2	80.2
ST333T LED27S FMT MB DIA	2600	34	77.6	1.031	0.139	0.104	0.104	0.076	148.7	111.3	111.3	81.3
ST333T LED27S FMT MB DIA-VLC	2600	36	73.2	1.092	0.147	0.11	0.11	0.081	157.3	117.7	117.7	86.7
ST333T LED27S FMT MB WIA	2600	34	75.4	1.062	0.143	0.107	0.107	0.079	153.0	114.5	114.5	84.5
ST333T LED27S ROSE MB PSU	2600	28	92.9	0.862	0.116	0.087	0.087	0.064	124.1	93.1	93.1	68.5

ST333T LED27S ROSE MB DIA	2600	29	89.7	0.892	0.12	0.09	0.09	0.066	128.4	96.3	96.3	70.6
ST333T LED27S ROSE MB DIA-VLC	2600	30	85.2	0.938	0.127	0.095	0.095	0.07	135.9	101.7	101.7	74.9
ST333T LED27S ROSE MB WIA	2600	30	85.2	0.938	0.127	0.095	0.095	0.07	135.9	101.7	101.7	74.9
ST333T LED27S FR MB PSU	2800	31	90.3	0.954	0.119	0.089	0.089	0.065	127.3	95.2	95.2	69.5
ST333T LED27S FR MB DIA	2800	32	87.5	0.985	0.123	0.092	0.092	0.068	131.6	98.4	98.4	72.8
ST333T LED27S FR MB DIA-VLC	2800	34	83.6	1.031	0.129	0.097	0.097	0.071	138.0	103.8	103.8	76.0
ST333T LED27S FR MB WIA	2800	33	84.8	1.015	0.127	0.095	0.095	0.07	135.9	101.7	101.7	74.9
ST333T LED39S FR MB PSU	3900	37	105.4	1.138	0.102	0.076	0.076	0.056	109.1	81.3	81.3	59.9
ST333T LED39S FR MB DIA	3900	38	102.6	1.169	0.105	0.079	0.079	0.058	112.3	84.5	84.5	62.1
ST333T LED39S FR MB DIA-VLC	3900	40	97.5	1.231	0.111	0.083	0.083	0.061	118.8	88.8	88.8	65.3
ST333T LED39S FR MB WIA	3900	39	100.0	1.2	0.108	0.081	0.081	0.059	115.6	86.7	86.7	63.1
ST333T LED39S PC930 MB PSU	3900	34	114.7	1.046	0.094	0.071	0.071	0.052	100.6	76.0	76.0	55.6
ST333T LED39S PC930 MB DIA	3900	35	111.4	1.077	0.097	0.073	0.073	0.053	103.8	78.1	78.1	56.7
ST333T LED39S PC930 MB DIA-VLC	3900	37	105.4	1.138	0.102	0.076	0.076	0.056	109.1	81.3	81.3	59.9
ST333T LED39S PC930 MB WIA	3900	36	108.3	1.108	0.1	0.075	0.075	0.055	107.0	80.2	80.2	58.9
ST333T LED49S 827 MB PSU	5000	37	135.1	1.138	0.08	0.06	0.06	0.044	85.6	64.2	64.2	47.1
ST333T LED49S 827 MB DIA	5000	38	131.6	1.169	0.082	0.061	0.061	0.045	87.7	65.3	65.3	48.1
ST333T LED49S 827 MB DIA-VLC	5000	40	125.0	1.231	0.086	0.065	0.065	0.047	92.0	69.5	69.5	50.3
ST333T LED49S 827 MB WIA	5000	40	126.6	1.215	0.085	0.064	0.064	0.047	91.0	68.5	68.5	50.3
ST333T LED49S 830 MB PSU	4900	38	128.9	1.169	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S 830 MB DIA	4900	39	125.6	1.2	0.085	0.064	0.064	0.047	91.0	68.5	68.5	50.3
ST333T LED49S 830 MB DIA-VLC	4900	40	121.0	1.246	0.088	0.066	0.066	0.048	94.2	70.6	70.6	51.4
ST333T LED49S 830 MB WIA	4900	40	122.5	1.231	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S 840 MB PSU	5100	38	134.2	1.169	0.081	0.061	0.061	0.045	86.7	65.3	65.3	48.1

ST333T LED49S 840 MB DIA	5100	39	130.8	1.2	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S 840 MB DIA-VLC	5100	41	124.4	1.262	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S 840 MB WIA	5100	40	125.9	1.246	0.086	0.065	0.065	0.047	92.0	69.5	69.5	50.3
ST333T LED49S PW930 MB PSU	5000	41	122.0	1.262	0.088	0.066	0.066	0.048	94.2	70.6	70.6	51.4
ST333T LED49S PW930 MB DIA	5000	40	123.5	1.246	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S PW930 MB DIA-VLC	5000	42	117.6	1.308	0.092	0.069	0.069	0.051	98.4	73.8	73.8	54.6
ST333T LED49S PW930 MB WIA	5000	42	120.5	1.277	0.089	0.067	0.067	0.049	95.2	71.7	71.7	52.4
ST333T LED49S PW940 MB PSU	5000	38	129.9	1.185	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S PW940 MB DIA	5000	40	126.6	1.215	0.085	0.064	0.064	0.047	91.0	68.5	68.5	50.3
ST333T LED49S PW940 MB DIA-VLC	5000	41	122.0	1.262	0.088	0.066	0.066	0.048	94.2	70.6	70.6	51.4
ST333T LED49S PW940 MB WIA	5000	41	122.0	1.262	0.088	0.066	0.066	0.048	94.2	70.6	70.6	51.4
ST333T LED27S FMT HMB PSU	2700	33	81.8	1.015	0.132	0.099	0.099	0.073	141.2	105.9	105.9	78.1
ST333T LED27S FMT HMB DIA	2700	36	76.1	1.092	0.142	0.106	0.106	0.078	151.9	113.4	113.4	83.5
ST333T LED27S FMT HMB DIA-VLC	2700	36	76.1	1.092	0.142	0.106	0.106	0.078	151.9	113.4	113.4	83.5
ST333T LED27S FMT HMB WIA	2700	36	76.1	1.092	0.142	0.106	0.106	0.078	151.9	113.4	113.4	83.5
ST333T LED27S ROSE HMB PSU	2700	28	96.4	0.862	0.112	0.084	0.084	0.062	119.8	89.9	89.9	66.3
ST333T LED27S ROSE HMB DIA	2700	31	87.1	0.954	0.124	0.093	0.093	0.068	132.7	99.5	99.5	72.8
ST333T LED27S ROSE HMB DIA-VLC	2700	30	88.5	0.938	0.122	0.091	0.091	0.067	130.5	97.4	97.4	71.7
ST333T LED27S ROSE HMB WIA	2700	31	87.1	0.954	0.124	0.093	0.093	0.068	132.7	99.5	99.5	72.8
ST333T LED27S FR HMB PSU	2700	22	125.6	0.662	0.086	0.065	0.065	0.047	92.0	69.5	69.5	50.3
ST333T LED27S FR HMB DIA	2700	24	112.5	0.738	0.096	0.072	0.072	0.053	102.7	77.0	77.0	56.7
ST333T LED27S FR HMB DIA-VLC	2700	24	114.9	0.723	0.094	0.071	0.071	0.052	100.6	76.0	76.0	55.6
ST333T LED27S FR HMB WIA	2700	24	112.5	0.738	0.096	0.072	0.072	0.053	102.7	77.0	77.0	56.7
ST333T LED39S FR HMB PSU	4000	37	108.1	1.138	0.099	0.074	0.074	0.054	105.9	79.2	79.2	57.8

ST333T LED39S FR HMB DIA	4000	38	105.3	1.169	0.102	0.076	0.076	0.056	109.1	81.3	81.3	59.9
ST333T LED39S FR HMB DIA-VLC	4000	40	100.0	1.231	0.107	0.08	0.08	0.059	114.5	85.6	85.6	63.1
ST333T LED39S FR HMB WIA	4000	39	102.6	1.2	0.104	0.078	0.078	0.057	111.3	83.5	83.5	61.0
ST333T LED39S PC930 HMB PSU	4000	34	117.6	1.046	0.091	0.068	0.068	0.05	97.4	72.8	72.8	53.5
ST333T LED39S PC930 HMB DIA	4000	37	108.1	1.138	0.099	0.074	0.074	0.054	105.9	79.2	79.2	57.8
ST333T LED39S PC930 HMB DIA-VLC	4000	36	109.6	1.123	0.098	0.074	0.074	0.054	104.9	79.2	79.2	57.8
ST333T LED39S PC930 HMB WIA	4000	37	108.1	1.138	0.099	0.074	0.074	0.054	105.9	79.2	79.2	57.8
ST333T LED49S 827 HMB PSU	4800	38	126.3	1.169	0.085	0.064	0.064	0.047	91.0	68.5	68.5	50.3
ST333T LED49S 827 HMB DIA	4800	40	118.5	1.246	0.091	0.068	0.068	0.05	97.4	72.8	72.8	53.5
ST333T LED49S 827 HMB DIA-VLC	4800	40	118.5	1.246	0.091	0.068	0.068	0.05	97.4	72.8	72.8	53.5
ST333T LED49S 827 HMB WIA	4800	40	118.5	1.246	0.091	0.068	0.068	0.05	97.4	72.8	72.8	53.5
ST333T LED49S 830 HMB PSU	5000	38	131.6	1.169	0.082	0.061	0.061	0.045	87.7	65.3	65.3	48.1
ST333T LED49S 830 HMB DIA	5000	40	123.5	1.246	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S 830 HMB DIA-VLC	5000	40	123.5	1.246	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S 830 HMB WIA	5000	40	123.5	1.246	0.087	0.065	0.065	0.048	93.1	69.5	69.5	51.4
ST333T LED49S 840 HMB PSU	5300	38	139.5	1.169	0.077	0.058	0.058	0.042	82.4	62.1	62.1	44.9
ST333T LED49S 840 HMB DIA	5300	41	129.3	1.262	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S 840 HMB DIA-VLC	5300	41	129.3	1.262	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S 840 HMB WIA	5300	41	129.3	1.262	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S PW930 HMB PSU	5000	38	133.3	1.154	0.081	0.061	0.061	0.045	86.7	65.3	65.3	48.1
ST333T LED49S PW930 HMB DIA	5000	38	129.9	1.185	0.083	0.062	0.062	0.046	88.8	66.3	66.3	49.2
ST333T LED49S PW930 HMB DIA-VLC	5000	40	125.0	1.231	0.086	0.065	0.065	0.047	92.0	69.5	69.5	50.3
ST333T LED49S PW930 HMB WIA	5000	40	126.6	1.215	0.085	0.064	0.064	0.047	91.0	68.5	68.5	50.3
ST333T LED49S PW940 HMB PSU	4900	34	146.3	1.031	0.073	0.055	0.055	0.04	78.1	58.9	58.9	42.8

ST333T LED49S PW940 HMB DIA	4900	34	142.0	1.062	0.075	0.056	0.056	0.041	80.2	59.9	59.9	43.9
ST333T LED49S PW940 HMB DIA-VLC	4900	36	136.1	1.108	0.079	0.059	0.059	0.043	84.5	63.1	63.1	46.0
ST333T LED49S PW940 HMB WIA	4900	36	138.0	1.092	0.078	0.058	0.058	0.043	83.5	62.1	62.1	46.0
ST333T LED49S PW930 UHE HMB PSU	5000	32	153.8	1.0	0.07	0.053	0.053	0.039	74.9	56.7	56.7	41.7
ST333T LED49S PW930 UHE HMB DIA	5000	35	142.9	1.077	0.075	0.056	0.056	0.041	80.2	59.9	59.9	43.9
ST333T LED49S PW930 UHE HMB DIA-VLC	5000	35	142.9	1.077	0.075	0.056	0.056	0.041	80.2	59.9	59.9	43.9
ST333T LED49S PW930 UHE HMB WIA	5000	36	140.8	1.092	0.076	0.057	0.057	0.042	81.3	61.0	61.0	44.9
ST333T LED49S PW940 UHE HMB PSU	4900	30	160.7	0.938	0.067	0.05	0.05	0.037	71.7	53.5	53.5	39.6
ST333T LED49S PW940 UHE HMB DIA	4900	33	148.5	1.015	0.072	0.054	0.054	0.04	77.0	57.8	57.8	42.8
ST333T LED49S PW940 UHE HMB DIA-VLC	4900	33	148.5	1.015	0.072	0.054	0.054	0.04	77.0	57.8	57.8	42.8
ST333T LED49S PW940 UHE HMB WIA	4900	34	144.1	1.046	0.074	0.055	0.055	0.041	79.2	58.9	58.9	43.9

*** Note that if the product is non-dimmable, only the values for "NC (No Control)" are valid; if the driver type is PSU, only the values for "NC (No Control)"and "PS (presence sensing)" for are valid.*

ANNEX

USE PHASE (B6) VALUES FOR DIFFERENT COUNTRY MIX

The table in this annex is useful for conversion and comparison of B6 values with other energy country mix. The Global Warming Potential Total (GWP tot) value is illustrated for each country. The value refers to 1 kwh.

Example on how to use the table:

This EPD was done according to a specific customer use location that can be read in the paragraph **PRODUCT USE AND MAINTENANCE (B1-B7).**

If for example the EPD was done according to EU energy mix and you want to see how the GWP total changes according to a Finland country energy mix, you can take the original value in the results table here highlighed in yellow:

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[1)]	kg CO_2e	5,88E+00	2,61E-01	-1,25E-01	6,02E+00	3,02E-01	5,41E-01	MND	MND	MND	MND	MND	4,06E+02	MND	MNR	1,77E-02	2,62E-01	1,88E-01	-1,09E+01

Divide that value according to the EU value from the following table (EU = 3.30E-01) and then multilplying for the Finland value from the same table (FINLAND = 1.50E-01).

Thus, the calculation of this example would be:

New B6 GWP tot for Finland = (4.06E-02 / 3.30E-01) x 1.5E-01 = 1.8E-02

Country	GWP tot (kg CO2 eq. per kwh)
AFRICA	7.30E-01
APAC	9.50E-01
AUSTRALIA	9.20E-01
AUSTRIA	2.30E-01
BELGIUM	2.00E-01
CHINA	1.0E+00
DENMARK	1.50E-01
EU	3.30E-01
FINLAND	1.50E-01
FRANCE	9.00E-02
GERMANY	9.90E-01
HUNGARY	3.70 -01
INDIA	1.50E+00
IRELAND	3.50E-01
ITALY	3.50E-01
LATAM	3.80E-01
NAM	4,50E-01
NETHERLANDS	3.90E-01

NORWAY	2.00E-02
POLAND	9.30E-01
PORTUGAL	2.70E-01
ROW	7.30E-01
SPAIN	2.00E-01
SWEDEN	3.00E-02
SWITZERLAND	3.00E-02
UK	2.60E-01

Source Ecoinvent 3.10.1