ENVIRONMENTAL PRODUCT DECLARATION

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

Luma Gen 2 NANO
BGP701 LED60-4S/740 I DM11 GR PSU 62
Signify N.V.

EPD HUB
Publishing date 2024-10-04

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

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR version 1.0, 1 Feb 2022
Sector	Electrical product
Category of EPD	Pre-verified 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 14025: ☑ 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	Luma Gen 2 NANO
Additional labels	BGP701 LED60-4S/740 I DM11 GR PSU 62
Product reference	910925867239
Place of production	POLAND
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	6.84 kg
GWP-fossil, A1-A3 (kgCO2e)	5,96E+01
GWP-total, A1-A3 (kgCO2e)	5,78E+01
Secondary material, inputs (%)	54.5
Secondary material, outputs (%)	63.4
Total energy use, A1-A3 (kWh)	205
Net fresh water use, A1-A3 (m3e)	0.35

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

Luma gen2 is the next generation of the Luma LED luminaire family, fully optimized to become your long-term lighting and innovation partner. While keeping the distinctive design characteristics of the first generation, Luma gen2 gives you the benefits of the latest technologies thanks to its future-proof System Ready architecture, use of optimized Ledgine LED and optical platform ensuring best in class lighting performance in a broad range of applications. It also offers improved serviceability. Installation has also become easier and faster, and thanks to the Service tag, you have access to all relevant documentations onsite. Also, the cable feed-through has been redesigned and access to the gear components is easy thanks to top down tool-less access. Luma gen2 also offers all connectivity and dimming options available today and thanks to being System Ready, it can also to be paired with lighting management systems such as Interact City or existing and upcoming sensor innovations. The Luma gen2 has been developed to optimize and simplify spare part repair and maintenance work using a new plug & play GearFlex module containing all electrical components in an easy to handle and accessible box inside the housing. As a company conscious about the impact of light on the environment and biodiversity, we also equipped the Luma gen2 with dedicated light recipes that help with maintaining the optimal ecosystems for bats or preserve a dark night sky.

Further information can be found at https://www.signify.com/global.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	75.73	EU , APAC
Minerals	9.03	EU
Fossil materials	15.24	EU
Bio-based materials	0	

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	0.324

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit
Mass per declared unit	6.84 kg
Functional unit	5340 Lumens over 100000 hours
Reference service life	100000

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.

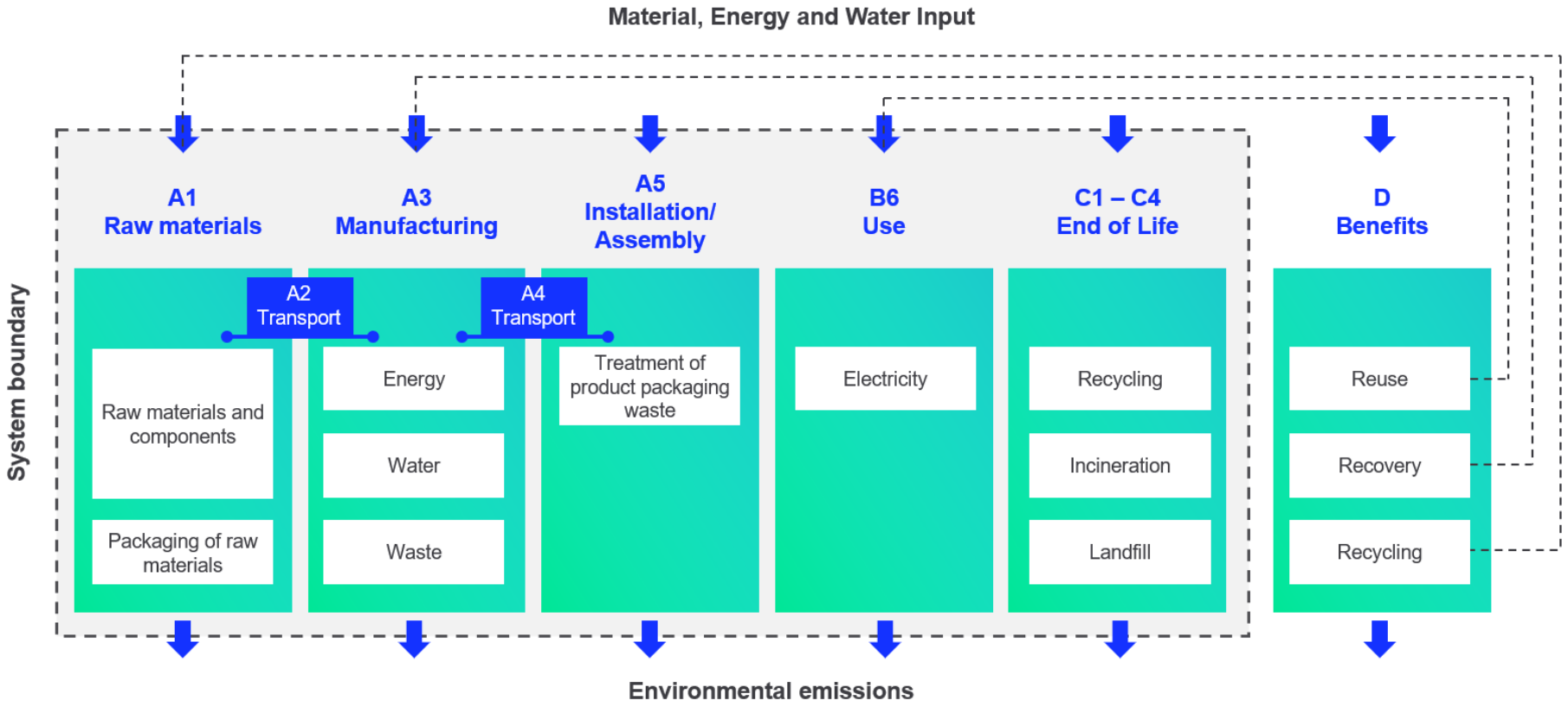
PRODUCT USE AND MAINTENANCE (B1-B7)

During the use phase, the product consumes electricity from DENMARK'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 3.8 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	5,62E+01	1,42E+00	1,78E-01	5,78E+01	1,42E+00	1,23E+00	MND	MND	MND	MND	MND	1,47E+03	MND	MNR	9,52E-02	1,03E+00	1,25E+00	-1,08E+01
GWP – fossil	kg CO_2e	5,68E+01	1,42E+00	1,34E+00	5,96E+01	1,42E+00	5,67E-02	MND	MND	MND	MND	MND	1,46E+03	MND	MNR	9,51E-02	1,03E+00	5,52E-01	-1,08E+01
GWP – biogenic	kg CO_2e	-6,99E-01	0,00E+00	-1,17E+00	-1,87E+00	5,50E-04	1,17E+00	MND	MND	MND	MND	MND	0,00E+00	MND	MNR	0,00E+00	0,00E+00	6,99E-01	-2,69E-03
GWP – LULUC	kg CO_2e	9,50E-02	8,43E-04	6,18E-03	1,02E-01	5,24E-04	1,07E-05	MND	MND	MND	MND	MND	3,42E+00	MND	MNR	3,51E-05	1,55E-04	8,38E-05	-1,44E-03
Ozone depletion pot.	kg $CFC_{-11}e$	2,99E-06	3,00E-07	1,69E-07	3,46E-06	3,27E-07	3,10E-09	MND	MND	MND	MND	MND	7,43E-05	MND	MNR	2,19E-08	1,26E-08	9,04E-09	-2,96E-07
Acidification potential	mol H^+e	3,84E-01	3,09E-02	5,53E-03	4,20E-01	6,02E-03	2,47E-04	MND	MND	MND	MND	MND	8,35E+00	MND	MNR	4,03E-04	1,35E-03	4,41E-04	-1,35E-01
EP-freshwater[2)]	kg Pe	3,66E-03	7,59E-06	5,53E-05	3,72E-03	1,16E-05	3,26E-07	MND	MND	MND	MND	MND	1,55E-01	MND	MNR	7,79E-07	4,93E-06	2,01E-06	-7,33E-04
EP-marine	kg Ne	6,05E-02	7,72E-03	2,38E-03	7,06E-02	1,79E-03	1,05E-04	MND	MND	MND	MND	MND	1,11E+00	MND	MNR	1,20E-04	3,39E-04	3,34E-04	-1,26E-02
EP-terrestrial	mol Ne	6,46E-01	8,58E-02	1,55E-02	7,47E-01	1,97E-02	1,09E-03	MND	MND	MND	MND	MND	1,26E+01	MND	MNR	1,32E-03	3,78E-03	1,52E-03	-1,50E-01
POCP ("smog")[3)]	kg NMVOCe	1,97E-01	2,27E-02	4,57E-03	2,24E-01	6,31E-03	2,72E-04	MND	MND	MND	MND	MND	3,45E+00	MND	MNR	4,23E-04	1,00E-03	4,62E-04	-4,34E-02
ADP-minerals & metals[4)]	kg Sbe	1,96E-03	2,49E-06	7,06E-06	1,97E-03	3,33E-06	1,02E-07	MND	MND	MND	MND	MND	1,37E-02	MND	MNR	2,23E-07	1,08E-05	1,81E-07	-9,40E-04
ADP-fossil resources	MJ	6,46E+02	1,92E+01	1,87E+01	6,84E+02	2,14E+01	2,43E-01	MND	MND	MND	MND	MND	3,11E+04	MND	MNR	1,43E+00	1,46E+00	8,79E-01	-1,06E+02
Water use[5)]	m^3e depr.	2,01E+01	6,93E-02	5,46E-01	2,07E+01	9,55E-02	5,73E-02	MND	MND	MND	MND	MND	8,50E+02	MND	MNR	6,39E-03	5,89E-02	5,81E-02	-8,54E-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	4,30E-06	9,00E-08	9,66E-08	4,49E-06	1,64E-07	2,27E-09	MND	MND	MND	MND	MND	2,74E-05	MND	MNR	1,10E-08	1,62E-08	7,31E-09	-6,55E-07
Ionizing radiation[6)]	kBq U235e	3,29E+00	8,97E-02	4,85E-02	3,43E+00	1,02E-01	8,71E-04	MND	MND	MND	MND	MND	8,42E+02	MND	MNR	6,80E-03	8,96E-03	4,46E-03	-6,35E-01
Ecotoxicity (freshwater)	CTUe	2,51E+03	1,43E+01	4,47E+01	2,57E+03	1,92E+01	1,64E+00	MND	MND	MND	MND	MND	2,12E+04	MND	MNR	1,29E+00	7,56E+00	4,51E+02	-4,03E+02
Human toxicity, cancer	CTUh	1,79E-07	7,08E-10	8,99E-10	1,81E-07	4,72E-10	7,64E-11	MND	MND	MND	MND	MND	6,93E-07	MND	MNR	3,16E-11	2,47E-10	6,98E-10	-4,39E-09
Human tox. non-cancer	CTUh	2,41E-06	1,17E-08	1,51E-08	2,44E-06	1,90E-08	3,20E-09	MND	MND	MND	MND	MND	2,28E-05	MND	MNR	1,27E-09	1,03E-08	4,41E-08	-7,14E-07
SQP[7)]	-	2,75E+02	1,09E+01	3,68E+01	3,22E+02	2,46E+01	1,32E-01	MND	MND	MND	MND	MND	5,63E+03	MND	MNR	1,65E+00	2,35E+00	1,26E+00	-3,08E+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 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	6,35E+01	1,68E-01	1,43E+01	7,80E+01	2,41E-01	7,92E-03	MND	MND	MND	MND	MND	6,34E+03	MND	MNR	1,61E-02	1,98E-01	3,78E-02	-2,47E+00
Renew. PER as material	MJ	6,71E+00	0,00E+00	1,03E+01	1,70E+01	0,00E+00	-1,03E+01	MND	MND	MND	MND	MND	0,00E+00	MND	MNR	0,00E+00	-1,22E-01	-6,59E+00	0,00E+00
Total use of renew. PER	MJ	7,02E+01	1,68E-01	2,46E+01	9,50E+01	2,41E-01	-1,03E+01	MND	MND	MND	MND	MND	6,34E+03	MND	MNR	1,61E-02	7,54E-02	-6,55E+00	-2,47E+00
Non-re. PER as energy	MJ	6,24E+02	1,92E+01	1,75E+01	6,61E+02	2,14E+01	2,43E-01	MND	MND	MND	MND	MND	3,10E+04	MND	MNR	1,43E+00	1,46E+00	8,80E-01	-1,06E+02
Non-re. PER as material	MJ	3,01E+01	0,00E+00	6,22E-01	3,07E+01	0,00E+00	-6,22E-01	MND	MND	MND	MND	MND	0,00E+00	MND	MNR	0,00E+00	-1,49E+01	-1,52E+01	0,00E+00
Total use of non-re. PER	MJ	6,54E+02	1,92E+01	1,81E+01	6,92E+02	2,14E+01	-3,79E-01	MND	MND	MND	MND	MND	3,10E+04	MND	MNR	1,43E+00	-1,34E+01	-1,44E+01	-1,06E+02
Secondary materials	kg	3,73E+00	7,32E-03	7,74E-01	4,51E+00	5,93E-03	2,90E-04	MND	MND	MND	MND	MND	3,20E+00	MND	MNR	3,97E-04	1,38E-03	2,46E-03	4,68E-01
Renew. secondary fuels	MJ	9,72E-02	3,64E-05	5,51E-02	1,52E-01	5,98E-05	4,68E-06	MND	MND	MND	MND	MND	2,60E-02	MND	MNR	4,00E-06	7,26E-05	1,79E-05	-6,65E-04
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	MND	MND	0,00E+00	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	3,37E-01	1,76E-03	1,48E-02	3,54E-01	2,77E-03	9,72E-04	MND	MND	MND	MND	MND	2,68E+01	MND	MNR	1,85E-04	2,01E-03	9,84E-04	-4,23E-02

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	1,00E+01	2,59E-02	6,54E-02	1,01E+01	2,83E-02	1,30E-03	MND	MND	MND	MND	MND	1,12E+02	MND	MNR	1,89E-03	9,64E-03	2,66E-02	-1,70E+00
Non-hazardous waste	kg	9,39E+01	3,01E-01	1,13E+00	9,54E+01	4,65E-01	7,88E-01	MND	MND	MND	MND	MND	7,07E+03	MND	MNR	3,11E-02	6,81E-01	2,40E+00	-3,96E+01
Radioactive waste	kg	1,36E-03	1,33E-04	2,98E-05	1,52E-03	1,43E-04	4,01E-07	MND	MND	MND	MND	MND	2,27E-01	MND	MNR	9,56E-06	5,47E-06	0,00E+00	-2,34E-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 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	2.09E+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	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	8.48E-01	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	8.76E-01	8.76E-01	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	1.86E+01	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	5,56E+01	1,41E+00	1,38E+00	5,83E+01	1,41E+00	5,52E-02	MND	MND	MND	MND	MND	1,45E+03	MND	MNR	9,42E-02	1,03E+00	6,14E-01	-1,06E+01
Ozone depletion Pot.	kg CFC_{-11}e	2,69E-06	2,37E-07	1,44E-07	3,07E-06	2,59E-07	2,71E-09	MND	MND	MND	MND	MND	6,44E-05	MND	MNR	1,73E-08	1,04E-08	7,33E-09	-2,51E-07
Acidification	kg SO_2e	3,22E-01	2,47E-02	4,10E-03	3,51E-01	4,68E-03	1,80E-04	MND	MND	MND	MND	MND	7,08E+00	MND	MNR	3,13E-04	1,07E-03	3,39E-04	-1,17E-01
Eutrophication	kg PO_4^3e	1,16E-01	2,96E-03	2,72E-03	1,22E-01	1,07E-03	1,34E-04	MND	MND	MND	MND	MND	5,45E+00	MND	MNR	7,13E-05	4,03E-04	2,59E-03	-3,04E-02
POCP (“smog”)	kg C_2H_4e	2,09E-02	6,58E-04	3,21E-04	2,19E-02	1,83E-04	5,55E-06	MND	MND	MND	MND	MND	2,90E-01	MND	MNR	1,22E-05	3,84E-05	4,01E-05	-5,49E-03
ADP-elements	kg Sbe	2,12E-03	2,43E-06	6,28E-06	2,12E-03	3,23E-06	8,02E-08	MND	MND	MND	MND	MND	1,36E-02	MND	MNR	2,16E-07	1,08E-05	1,65E-07	-9,39E-04
ADP-fossil	MJ	6,52E+02	1,92E+01	1,86E+01	6,89E+02	2,14E+01	2,43E-01	MND	MND	MND	MND	MND	3,10E+04	MND	MNR	1,43E+00	1,45E+00	8,79E-01	-1,06E+02

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
BGP701 LED8-4S/740	720.000	5.6	128.6	0.151	0.151	0.114	0.114	0.083	222.5	166.9	166.9	122.4
BGP701 LED10-4S/740	900.000	6.8	132.4	0.184	0.184	0.138	0.138	0.101	270.2	202.6	202.6	148.6
BGP701 LED12-4S/740	1080.000	7.8	138.5	0.211	0.211	0.158	0.158	0.116	309.9	232.4	232.4	170.4
BGP701 LED14-4S/740	1260.000	9.0	140.0	0.243	0.243	0.182	0.182	0.134	357.6	268.2	268.2	196.7
BGP701 LED16-4S/740	1440.000	10.2	141.2	0.276	0.276	0.207	0.207	0.152	405.2	303.9	303.9	222.9
BGP701 LED18-4S/740	1620.000	11.4	142.1	0.308	0.308	0.231	0.231	0.169	452.9	339.7	339.7	249.1
BGP701 LED20-4S/740	1800.000	12.6	142.9	0.341	0.341	0.255	0.255	0.187	500.6	375.4	375.4	275.3
BGP701 LED22-4S/740	1980.000	13.8	143.5	0.373	0.373	0.280	0.280	0.205	548.3	411.2	411.2	301.5
BGP701 LED24-4S/740	2160.000	14.4	150.0	0.389	0.389	0.292	0.292	0.214	572.1	429.1	429.1	314.7
BGP701 LED27-4S/740	2430.000	16.2	150.0	0.438	0.438	0.328	0.328	0.241	643.6	482.7	482.7	354.0
BGP701 LED30-4S/740	2700.000	17.8	151.7	0.481	0.481	0.361	0.361	0.265	707.2	530.4	530.4	389.0
BGP701 LED35-4S/740	3150.000	21.0	150.0	0.568	0.568	0.426	0.426	0.312	834.3	625.7	625.7	458.9
BGP701 LED40-4S/740	3600.000	24.0	150.0	0.649	0.649	0.486	0.486	0.357	953.5	715.1	715.1	524.4
BGP701 LED45-4S/740	4050.000	27.0	150.0	0.730	0.730	0.547	0.547	0.401	1072.7	804.5	804.5	590.0
BGP701 LED50-4S/740	4450.000	30.0	148.3	0.811	0.811	0.608	0.608	0.446	1191.9	893.9	893.9	655.5
BGP701 LED55-4S/740	4984.000	33.5	148.8	0.905	0.905	0.679	0.679	0.498	1330.9	998.2	998.2	732.0
BGP701 LED60-4S/740	5340.000	37.0	144.3	1.000	1.000	0.750	0.750	0.550	1470.0	1102.5	1102.5	808.5

BGP701 LED65-4S/740	5874.000	40.5	145.0	1.095	1.095	0.821	0.821	0.602	1609.1	1206.8	1206.8	885.0
BGP701 LED70-4S/740	6230.000	43.5	143.2	1.176	1.176	0.882	0.882	0.647	1728.2	1296.2	1296.2	950.5
BGP701 LED75-4S/740	6764.000	47.0	143.9	1.270	1.270	0.953	0.953	0.699	1867.3	1400.5	1400.5	1027.0
BGP701 LED80-4S/740	7120.000	51.0	139.6	1.378	1.378	1.034	1.034	0.758	2026.2	1519.7	1519.7	1114.4
BGP701 LED85-4S/740	7654.000	55.0	139.2	1.486	1.486	1.115	1.115	0.818	2185.1	1638.9	1638.9	1201.8
BGP701 LED90-4S/740	8010.000	59.0	135.8	1.595	1.595	1.196	1.196	0.877	2344.1	1758.0	1758.0	1289.2
BGP701 LED8-4S/757	720.000	5.6	128.6	0.151	0.151	0.114	0.114	0.083	222.5	166.9	166.9	122.4
BGP701 LED10-4S/757	900.000	6.8	132.4	0.184	0.184	0.138	0.138	0.101	270.2	202.6	202.6	148.6
BGP701 LED12-4S/757	1080.000	7.8	138.5	0.211	0.211	0.158	0.158	0.116	309.9	232.4	232.4	170.4
BGP701 LED14-4S/757	1260.000	9.0	140.0	0.243	0.243	0.182	0.182	0.134	357.6	268.2	268.2	196.7
BGP701 LED16-4S/757	1440.000	10.2	141.2	0.276	0.276	0.207	0.207	0.152	405.2	303.9	303.9	222.9
BGP701 LED18-4S/757	1620.000	11.4	142.1	0.308	0.308	0.231	0.231	0.169	452.9	339.7	339.7	249.1
BGP701 LED20-4S/757	1800.000	12.6	142.9	0.341	0.341	0.255	0.255	0.187	500.6	375.4	375.4	275.3
BGP701 LED22-4S/757	1980.000	13.8	143.5	0.373	0.373	0.280	0.280	0.205	548.3	411.2	411.2	301.5
BGP701 LED24-4S/757	2160.000	14.4	150.0	0.389	0.389	0.292	0.292	0.214	572.1	429.1	429.1	314.7
BGP701 LED27-4S/757	2430.000	16.2	150.0	0.438	0.438	0.328	0.328	0.241	643.6	482.7	482.7	354.0
BGP701 LED30-4S/757	2700.000	17.8	151.7	0.481	0.481	0.361	0.361	0.265	707.2	530.4	530.4	389.0
BGP701 LED35-4S/757	3150.000	21.0	150.0	0.568	0.568	0.426	0.426	0.312	834.3	625.7	625.7	458.9
BGP701 LED40-4S/757	3600.000	24.0	150.0	0.649	0.649	0.486	0.486	0.357	953.5	715.1	715.1	524.4
BGP701 LED45-4S/757	4050.000	27.0	150.0	0.730	0.730	0.547	0.547	0.401	1072.7	804.5	804.5	590.0
BGP701 LED50-4S/757	4450.000	30.0	148.3	0.811	0.811	0.608	0.608	0.446	1191.9	893.9	893.9	655.5
BGP701 LED55-4S/757	4984.000	33.5	148.8	0.905	0.905	0.679	0.679	0.498	1330.9	998.2	998.2	732.0
BGP701 LED60-4S/757	5340.000	37.0	144.3	1.000	1.000	0.750	0.750	0.550	1470.0	1102.5	1102.5	808.5
BGP701 LED65-4S/757	5874.000	40.5	145.0	1.095	1.095	0.821	0.821	0.602	1609.1	1206.8	1206.8	885.0

BGP701 LED70-4S/757	6230.000	43.5	143.2	1.176	1.176	0.882	0.882	0.647	1728.2	1296.2	1296.2	950.5
BGP701 LED75-4S/757	6764.000	47.0	143.9	1.270	1.270	0.953	0.953	0.699	1867.3	1400.5	1400.5	1027.0
BGP701 LED80-4S/757	7120.000	51.0	139.6	1.378	1.378	1.034	1.034	0.758	2026.2	1519.7	1519.7	1114.4
BGP701 LED85-4S/757	7654.000	55.0	139.2	1.486	1.486	1.115	1.115	0.818	2185.1	1638.9	1638.9	1201.8
BGP701 LED90-4S/757	8010.000	59.0	135.8	1.595	1.595	1.196	1.196	0.877	2344.1	1758.0	1758.0	1289.2
BGP701 LED8-4S/730	720.000	5.9	122.0	0.159	0.159	0.120	0.120	0.088	234.4	175.8	175.8	128.9
BGP701 LED10-4S/730	900.000	7.1	126.8	0.192	0.192	0.144	0.144	0.106	282.1	211.6	211.6	155.1
BGP701 LED12-4S/730	1080.000	8.2	131.7	0.222	0.222	0.166	0.166	0.122	325.8	244.3	244.3	179.2
BGP701 LED14-4S/730	1260.000	9.5	132.6	0.257	0.257	0.193	0.193	0.141	377.4	283.1	283.1	207.6
BGP701 LED16-4S/730	1440.000	10.8	133.3	0.292	0.292	0.219	0.219	0.161	429.1	321.8	321.8	236.0
BGP701 LED18-4S/730	1620.000	12.0	135.0	0.324	0.324	0.243	0.243	0.178	476.8	357.6	357.6	262.2
BGP701 LED20-4S/730	1800.000	13.4	134.3	0.362	0.362	0.272	0.272	0.199	532.4	399.3	399.3	292.8
BGP701 LED22-4S/730	1980.000	14.0	141.4	0.378	0.378	0.284	0.284	0.208	556.2	417.2	417.2	305.9
BGP701 LED24-4S/730	2160.000	15.2	142.1	0.411	0.411	0.308	0.308	0.226	603.9	452.9	452.9	332.1
BGP701 LED27-4S/730	2430.000	17.0	142.9	0.459	0.459	0.345	0.345	0.253	675.4	506.6	506.6	371.5
BGP701 LED30-4S/730	2700.000	19.0	142.1	0.514	0.514	0.385	0.385	0.282	754.9	566.1	566.1	415.2
BGP701 LED35-4S/730	3150.000	22.0	143.2	0.595	0.595	0.446	0.446	0.327	874.1	655.5	655.5	480.7
BGP701 LED40-4S/730	3600.000	25.5	141.2	0.689	0.689	0.517	0.517	0.379	1013.1	759.8	759.8	557.2
BGP701 LED45-4S/730	4050.000	28.5	142.1	0.770	0.770	0.578	0.578	0.424	1132.3	849.2	849.2	622.8
BGP701 LED50-4S/730	4450.000	32.0	139.1	0.865	0.865	0.649	0.649	0.476	1271.4	953.5	953.5	699.2
BGP701 LED55-4S/730	4984.000	35.5	140.4	0.959	0.959	0.720	0.720	0.528	1410.4	1057.8	1057.8	775.7
BGP701 LED60-4S/730	5340.000	39.5	135.2	1.068	1.068	0.801	0.801	0.587	1569.3	1177.0	1177.0	863.1
BGP701 LED65-4S/730	5874.000	43.0	136.6	1.162	1.162	0.872	0.872	0.639	1708.4	1281.3	1281.3	939.6
BGP701 LED70-4S/730	6230.000	46.5	134.0	1.257	1.257	0.943	0.943	0.691	1847.4	1385.6	1385.6	1016.1

BGP701 LED75-4S/730	6764.000	51.0	132.6	1.378	1.378	1.034	1.034	0.758	2026.2	1519.7	1519.7	1114.4
BGP701 LED80-4S/730	7120.000	55.0	129.5	1.486	1.486	1.115	1.115	0.818	2185.1	1638.9	1638.9	1201.8
BGP701 LED85-4S/730	7654.000	59.0	129.7	1.595	1.595	1.196	1.196	0.877	2344.1	1758.0	1758.0	1289.2
BGP701 LED8-4S/727	720.000	6.5	110.8	0.176	0.176	0.132	0.132	0.097	258.2	193.7	193.7	142.0
BGP701 LED10-4S/727	900.000	7.9	113.9	0.214	0.214	0.160	0.160	0.117	313.9	235.4	235.4	172.6
BGP701 LED12-4S/727	1080.000	9.1	118.7	0.246	0.246	0.184	0.184	0.135	361.5	271.2	271.2	198.8
BGP701 LED14-4S/727	1260.000	10.6	118.9	0.286	0.286	0.215	0.215	0.158	421.1	315.9	315.9	231.6
BGP701 LED16-4S/727	1440.000	11.8	122.0	0.319	0.319	0.239	0.239	0.175	468.8	351.6	351.6	257.8
BGP701 LED18-4S/727	1620.000	13.4	120.9	0.362	0.362	0.272	0.272	0.199	532.4	399.3	399.3	292.8
BGP701 LED20-4S/727	1800.000	15.0	120.0	0.405	0.405	0.304	0.304	0.223	595.9	447.0	447.0	327.8
BGP701 LED22-4S/727	1980.000	15.6	126.9	0.422	0.422	0.316	0.316	0.232	619.8	464.8	464.8	340.9
BGP701 LED24-4S/727	2160.000	17.0	127.1	0.459	0.459	0.345	0.345	0.253	675.4	506.6	506.6	371.5
BGP701 LED27-4S/727	2430.000	19.0	127.9	0.514	0.514	0.385	0.385	0.282	754.9	566.1	566.1	415.2
BGP701 LED30-4S/727	2700.000	21.0	128.6	0.568	0.568	0.426	0.426	0.312	834.3	625.7	625.7	458.9
BGP701 LED35-4S/727	3150.000	24.5	128.6	0.662	0.662	0.497	0.497	0.364	973.4	730.0	730.0	535.4
BGP701 LED40-4S/727	3600.000	28.5	126.3	0.770	0.770	0.578	0.578	0.424	1132.3	849.2	849.2	622.8
BGP701 LED45-4S/727	4005.000	32.5	123.2	0.878	0.878	0.659	0.659	0.483	1291.2	968.4	968.4	710.2
BGP701 LED50-4S/727	4450.000	36.5	121.9	0.986	0.986	0.740	0.740	0.543	1450.1	1087.6	1087.6	797.6
BGP701 LED55-4S/727	4984.000	40.5	123.1	1.095	1.095	0.821	0.821	0.602	1609.1	1206.8	1206.8	885.0
BGP701 LED60-4S/727	5340.000	44.5	120.0	1.203	1.203	0.902	0.902	0.661	1768.0	1326.0	1326.0	972.4
BGP701 LED65-4S/727	5874.000	49.0	119.9	1.324	1.324	0.993	0.993	0.728	1946.8	1460.1	1460.1	1070.7
BGP701 LED70-4S/727	6230.000	53.0	117.5	1.432	1.432	1.074	1.074	0.788	2105.7	1579.3	1579.3	1158.1
BGP701 LED75-4S/727	6764.000	58.0	116.6	1.568	1.568	1.176	1.176	0.862	2304.3	1728.2	1728.2	1267.4
BGP701 LED6-4S/830	540.000	5.1	105.9	0.138	0.138	0.103	0.103	0.076	202.6	152.0	152.0	111.4

BGP701 LED8-4S/830	720.000	6.5	110.8	0.176	0.176	0.132	0.132	0.097	258.2	193.7	193.7	142.0
BGP701 LED10-4S/830	900.000	7.7	116.9	0.208	0.208	0.156	0.156	0.114	305.9	229.4	229.4	168.3
BGP701 LED12-4S/830	1080.000	9.1	118.7	0.246	0.246	0.184	0.184	0.135	361.5	271.2	271.2	198.8
BGP701 LED14-4S/830	1260.000	10.6	118.9	0.286	0.286	0.215	0.215	0.158	421.1	315.9	315.9	231.6
BGP701 LED16-4S/830	1440.000	11.8	122.0	0.319	0.319	0.239	0.239	0.175	468.8	351.6	351.6	257.8
BGP701 LED18-4S/830	1620.000	13.4	120.9	0.362	0.362	0.272	0.272	0.199	532.4	399.3	399.3	292.8
BGP701 LED20-4S/830	1800.000	14.2	126.8	0.384	0.384	0.288	0.288	0.211	564.2	423.1	423.1	310.3
BGP701 LED22-4S/830	1980.000	15.6	126.9	0.422	0.422	0.316	0.316	0.232	619.8	464.8	464.8	340.9
BGP701 LED24-4S/830	2160.000	17.0	127.1	0.459	0.459	0.345	0.345	0.253	675.4	506.6	506.6	371.5
BGP701 LED27-4S/830	2430.000	19.0	127.9	0.514	0.514	0.385	0.385	0.282	754.9	566.1	566.1	415.2
BGP701 LED30-4S/830	2700.000	21.0	128.6	0.568	0.568	0.426	0.426	0.312	834.3	625.7	625.7	458.9
BGP701 LED35-4S/830	3150.000	24.5	128.6	0.662	0.662	0.497	0.497	0.364	973.4	730.0	730.0	535.4
BGP701 LED40-4S/830	3600.000	28.5	126.3	0.770	0.770	0.578	0.578	0.424	1132.3	849.2	849.2	622.8
BGP701 LED45-4S/830	4005.000	32.5	123.2	0.878	0.878	0.659	0.659	0.483	1291.2	968.4	968.4	710.2
BGP701 LED50-4S/830	4450.000	36.5	121.9	0.986	0.986	0.740	0.740	0.543	1450.1	1087.6	1087.6	797.6
BGP701 LED55-4S/830	4984.000	40.5	123.1	1.095	1.095	0.821	0.821	0.602	1609.1	1206.8	1206.8	885.0
BGP701 LED60-4S/830	5340.000	44.5	120.0	1.203	1.203	0.902	0.902	0.661	1768.0	1326.0	1326.0	972.4
BGP701 LED65-4S/830	5874.000	49.0	119.9	1.324	1.324	0.993	0.993	0.728	1946.8	1460.1	1460.1	1070.7
BGP701 LED70-4S/830	6230.000	53.0	117.5	1.432	1.432	1.074	1.074	0.788	2105.7	1579.3	1579.3	1158.1
BGP701 LED75-4S/830	6764.000	58.0	116.6	1.568	1.568	1.176	1.176	0.862	2304.3	1728.2	1728.2	1267.4
BGP701 LED6-4S/722	540.000	5.6	96.4	0.151	0.151	0.114	0.114	0.083	222.5	166.9	166.9	122.4
BGP701 LED8-4S/722	720.000	7.1	101.4	0.192	0.192	0.144	0.144	0.106	282.1	211.6	211.6	155.1
BGP701 LED10-4S/722	900.000	8.5	105.9	0.230	0.230	0.172	0.172	0.126	337.7	253.3	253.3	185.7
BGP701 LED12-4S/722	1080.000	10.2	105.9	0.276	0.276	0.207	0.207	0.152	405.2	303.9	303.9	222.9

BGP701 LED14-4S/722	1260.000	11.6	108.6	0.314	0.314	0.235	0.235	0.172	460.9	345.6	345.6	253.5
BGP701 LED16-4S/722	1440.000	13.4	107.5	0.362	0.362	0.272	0.272	0.199	532.4	399.3	399.3	292.8
BGP701 LED18-4S/722	1620.000	15.0	108.0	0.405	0.405	0.304	0.304	0.223	595.9	447.0	447.0	327.8
BGP701 LED20-4S/722	1800.000	15.8	113.9	0.427	0.427	0.320	0.320	0.235	627.7	470.8	470.8	345.3
BGP701 LED22-4S/722	1980.000	17.4	113.8	0.470	0.470	0.353	0.353	0.259	691.3	518.5	518.5	380.2
BGP701 LED24-4S/722	2160.000	19.0	113.7	0.514	0.514	0.385	0.385	0.282	754.9	566.1	566.1	415.2
BGP701 LED27-4S/722	2430.000	21.0	115.7	0.568	0.568	0.426	0.426	0.312	834.3	625.7	625.7	458.9
BGP701 LED30-4S/722	2700.000	23.5	114.9	0.635	0.635	0.476	0.476	0.349	933.6	700.2	700.2	513.5
BGP701 LED35-4S/722	3150.000	28.0	112.5	0.757	0.757	0.568	0.568	0.416	1112.4	834.3	834.3	611.8
BGP701 LED40-4S/722	3560.000	32.0	111.3	0.865	0.865	0.649	0.649	0.476	1271.4	953.5	953.5	699.2
BGP701 LED45-4S/722	4005.000	36.5	109.7	0.986	0.986	0.740	0.740	0.543	1450.1	1087.6	1087.6	797.6
BGP701 LED50-4S/722	4450.000	41.0	108.5	1.108	1.108	0.831	0.831	0.609	1628.9	1221.7	1221.7	895.9
BGP701 LED55-4S/722	4984.000	45.5	109.5	1.230	1.230	0.922	0.922	0.676	1807.7	1355.8	1355.8	994.2
BGP701 LED60-4S/722	5340.000	51.0	104.7	1.378	1.378	1.034	1.034	0.758	2026.2	1519.7	1519.7	1114.4
BGP701 LED65-4S/722	5874.000	59.0	99.6	1.595	1.595	1.196	1.196	0.877	2344.1	1758.0	1758.0	1289.2
BGP701 LED6-4S/840	540.000	4.9	110.2	0.132	0.132	0.099	0.099	0.073	194.7	146.0	146.0	107.1
BGP701 LED8-4S/840	720.000	6.3	114.3	0.170	0.170	0.128	0.128	0.094	250.3	187.7	187.7	137.7
BGP701 LED10-4S/840	900.000	7.5	120.0	0.203	0.203	0.152	0.152	0.111	298.0	223.5	223.5	163.9
BGP701 LED12-4S/840	1080.000	8.9	121.3	0.241	0.241	0.180	0.180	0.132	353.6	265.2	265.2	194.5
BGP701 LED14-4S/840	1260.000	10.2	123.5	0.276	0.276	0.207	0.207	0.152	405.2	303.9	303.9	222.9
BGP701 LED16-4S/840	1440.000	11.6	124.1	0.314	0.314	0.235	0.235	0.172	460.9	345.6	345.6	253.5
BGP701 LED18-4S/840	1620.000	13.0	124.6	0.351	0.351	0.264	0.264	0.193	516.5	387.4	387.4	284.1
BGP701 LED20-4S/840	1800.000	13.8	130.4	0.373	0.373	0.280	0.280	0.205	548.3	411.2	411.2	301.5
BGP701 LED22-4S/840	1980.000	15.2	130.3	0.411	0.411	0.308	0.308	0.226	603.9	452.9	452.9	332.1

BGP701 LED24-4S/840	2160.000	16.4	131.7	0.443	0.443	0.332	0.332	0.244	651.6	488.7	488.7	358.4
BGP701 LED27-4S/840	2430.000	18.4	132.1	0.497	0.497	0.373	0.373	0.274	731.0	548.3	548.3	402.1
BGP701 LED30-4S/840	2700.000	20.5	131.7	0.554	0.554	0.416	0.416	0.305	814.5	610.8	610.8	448.0
BGP701 LED35-4S/840	3150.000	24.0	131.3	0.649	0.649	0.486	0.486	0.357	953.5	715.1	715.1	524.4
BGP701 LED40-4S/840	3600.000	27.5	130.9	0.743	0.743	0.557	0.557	0.409	1092.6	819.4	819.4	600.9
BGP701 LED45-4S/840	4005.000	31.0	129.2	0.838	0.838	0.628	0.628	0.461	1231.6	923.7	923.7	677.4
BGP701 LED50-4S/840	4450.000	35.0	127.1	0.946	0.946	0.709	0.709	0.520	1390.5	1042.9	1042.9	764.8
BGP701 LED55-4S/840	4984.000	39.0	127.8	1.054	1.054	0.791	0.791	0.580	1549.5	1162.1	1162.1	852.2
BGP701 LED60-4S/840	5340.000	43.0	124.2	1.162	1.162	0.872	0.872	0.639	1708.4	1281.3	1281.3	939.6
BGP701 LED65-4S/840	5874.000	47.0	125.0	1.270	1.270	0.953	0.953	0.699	1867.3	1400.5	1400.5	1027.0
BGP701 LED70-4S/840	6230.000	51.0	122.2	1.378	1.378	1.034	1.034	0.758	2026.2	1519.7	1519.7	1114.4
BGP701 LED75-4S/840	6764.000	56.0	120.8	1.514	1.514	1.135	1.135	0.832	2224.9	1668.6	1668.6	1223.7
BGP701 LED80-4S/840	7120.000	60.0	118.7	1.622	1.622	1.216	1.216	0.892	2383.8	1787.8	1787.8	1311.1
BGP701 LED6-4S/827	540.000	5.4	100.0	0.146	0.146	0.109	0.109	0.080	214.5	160.9	160.9	118.0
BGP701 LED8-4S/827	720.000	6.9	104.3	0.186	0.186	0.140	0.140	0.103	274.1	205.6	205.6	150.8
BGP701 LED10-4S/827	900.000	8.3	108.4	0.224	0.224	0.168	0.168	0.123	329.8	247.3	247.3	181.4
BGP701 LED12-4S/827	1080.000	9.8	110.2	0.265	0.265	0.199	0.199	0.146	389.4	292.0	292.0	214.1
BGP701 LED14-4S/827	1260.000	11.2	112.5	0.303	0.303	0.227	0.227	0.166	445.0	333.7	333.7	244.7
BGP701 LED16-4S/827	1440.000	12.8	112.5	0.346	0.346	0.259	0.259	0.190	508.5	381.4	381.4	279.7
BGP701 LED18-4S/827	1620.000	14.4	112.5	0.389	0.389	0.292	0.292	0.214	572.1	429.1	429.1	314.7
BGP701 LED20-4S/827	1800.000	15.4	116.9	0.416	0.416	0.312	0.312	0.229	611.8	458.9	458.9	336.5
BGP701 LED22-4S/827	1980.000	16.8	117.9	0.454	0.454	0.341	0.341	0.250	667.5	500.6	500.6	367.1
BGP701 LED24-4S/827	2160.000	18.2	118.7	0.492	0.492	0.369	0.369	0.271	723.1	542.3	542.3	397.7
BGP701 LED27-4S/827	2430.000	20.5	118.5	0.554	0.554	0.416	0.416	0.305	814.5	610.8	610.8	448.0

BGP701 LED30-4S/827	2700.000	22.5	120.0	0.608	0.608	0.456	0.456	0.334	893.9	670.4	670.4	491.7
BGP701 LED35-4S/827	3150.000	26.5	118.9	0.716	0.716	0.537	0.537	0.394	1052.8	789.6	789.6	579.1
BGP701 LED40-4S/827	3560.000	31.0	114.8	0.838	0.838	0.628	0.628	0.461	1231.6	923.7	923.7	677.4
BGP701 LED45-4S/827	4005.000	35.0	114.4	0.946	0.946	0.709	0.709	0.520	1390.5	1042.9	1042.9	764.8
BGP701 LED50-4S/827	4450.000	39.5	112.7	1.068	1.068	0.801	0.801	0.587	1569.3	1177.0	1177.0	863.1
BGP701 LED55-4S/827	4984.000	43.5	114.6	1.176	1.176	0.882	0.882	0.647	1728.2	1296.2	1296.2	950.5
BGP701 LED60-4S/827	5340.000	48.5	110.1	1.311	1.311	0.983	0.983	0.721	1926.9	1445.2	1445.2	1059.8
BGP701 LED65-4S/827	5874.000	53.0	110.8	1.432	1.432	1.074	1.074	0.788	2105.7	1579.3	1579.3	1158.1

** 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
BGP701 LED8-4S/740	720.000	5.6	128.6	0.151	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5
BGP701 LED10-4S/740	900.000	6.8	132.4	0.184	0.071	0.054	0.054	0.039	105.1	78.8	78.8	57.8
BGP701 LED12-4S/740	1080.000	7.8	138.5	0.211	0.068	0.051	0.051	0.038	100.4	75.3	75.3	55.2
BGP701 LED14-4S/740	1260.000	9.0	140.0	0.243	0.068	0.051	0.051	0.037	99.3	74.5	74.5	54.6
BGP701 LED16-4S/740	1440.000	10.2	141.2	0.276	0.067	0.050	0.050	0.037	98.5	73.9	73.9	54.2

BGP701 LED18-4S/740	1620.000	11.4	142.1	0.308	0.067	0.050	0.050	0.037	97.9	73.4	73.4	53.8
BGP701 LED20-4S/740	1800.000	12.6	142.9	0.341	0.066	0.050	0.050	0.036	97.3	73.0	73.0	53.5
BGP701 LED22-4S/740	1980.000	13.8	143.5	0.373	0.066	0.049	0.049	0.036	96.9	72.7	72.7	53.3
BGP701 LED24-4S/740	2160.000	14.4	150.0	0.389	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED27-4S/740	2430.000	16.2	150.0	0.438	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED30-4S/740	2700.000	17.8	151.7	0.481	0.062	0.047	0.047	0.034	91.7	68.8	68.8	50.4
BGP701 LED35-4S/740	3150.000	21.0	150.0	0.568	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED40-4S/740	3600.000	24.0	150.0	0.649	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED45-4S/740	4050.000	27.0	150.0	0.730	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED50-4S/740	4450.000	30.0	148.3	0.811	0.064	0.048	0.048	0.035	93.7	70.3	70.3	51.6
BGP701 LED55-4S/740	4984.000	33.5	148.8	0.905	0.064	0.048	0.048	0.035	93.5	70.1	70.1	51.4
BGP701 LED60-4S/740	5340.000	37.0	144.3	1.000	0.066	0.049	0.049	0.036	96.3	72.3	72.3	53.0
BGP701 LED65-4S/740	5874.000	40.5	145.0	1.095	0.065	0.049	0.049	0.036	95.9	71.9	71.9	52.7
BGP701 LED70-4S/740	6230.000	43.5	143.2	1.176	0.066	0.050	0.050	0.036	97.1	72.8	72.8	53.4
BGP701 LED75-4S/740	6764.000	47.0	143.9	1.270	0.066	0.049	0.049	0.036	96.6	72.5	72.5	53.1
BGP701 LED80-4S/740	7120.000	51.0	139.6	1.378	0.068	0.051	0.051	0.037	99.6	74.7	74.7	54.8
BGP701 LED85-4S/740	7654.000	55.0	139.2	1.486	0.068	0.051	0.051	0.037	99.9	74.9	74.9	55.0
BGP701 LED90-4S/740	8010.000	59.0	135.8	1.595	0.070	0.052	0.052	0.038	102.4	76.8	76.8	56.3
BGP701 LED8-4S/757	720.000	5.6	128.6	0.151	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5
BGP701 LED10-4S/757	900.000	6.8	132.4	0.184	0.071	0.054	0.054	0.039	105.1	78.8	78.8	57.8
BGP701 LED12-4S/757	1080.000	7.8	138.5	0.211	0.068	0.051	0.051	0.038	100.4	75.3	75.3	55.2
BGP701 LED14-4S/757	1260.000	9.0	140.0	0.243	0.068	0.051	0.051	0.037	99.3	74.5	74.5	54.6
BGP701 LED16-4S/757	1440.000	10.2	141.2	0.276	0.067	0.050	0.050	0.037	98.5	73.9	73.9	54.2
BGP701 LED18-4S/757	1620.000	11.4	142.1	0.308	0.067	0.050	0.050	0.037	97.9	73.4	73.4	53.8

BGP701 LED20-4S/757	1800.000	12.6	142.9	0.341	0.066	0.050	0.050	0.036	97.3	73.0	73.0	53.5
BGP701 LED22-4S/757	1980.000	13.8	143.5	0.373	0.066	0.049	0.049	0.036	96.9	72.7	72.7	53.3
BGP701 LED24-4S/757	2160.000	14.4	150.0	0.389	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED27-4S/757	2430.000	16.2	150.0	0.438	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED30-4S/757	2700.000	17.8	151.7	0.481	0.062	0.047	0.047	0.034	91.7	68.8	68.8	50.4
BGP701 LED35-4S/757	3150.000	21.0	150.0	0.568	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED40-4S/757	3600.000	24.0	150.0	0.649	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED45-4S/757	4050.000	27.0	150.0	0.730	0.063	0.047	0.047	0.035	92.7	69.5	69.5	51.0
BGP701 LED50-4S/757	4450.000	30.0	148.3	0.811	0.064	0.048	0.048	0.035	93.7	70.3	70.3	51.6
BGP701 LED55-4S/757	4984.000	33.5	148.8	0.905	0.064	0.048	0.048	0.035	93.5	70.1	70.1	51.4
BGP701 LED60-4S/757	5340.000	37.0	144.3	1.000	0.066	0.049	0.049	0.036	96.3	72.3	72.3	53.0
BGP701 LED65-4S/757	5874.000	40.5	145.0	1.095	0.065	0.049	0.049	0.036	95.9	71.9	71.9	52.7
BGP701 LED70-4S/757	6230.000	43.5	143.2	1.176	0.066	0.050	0.050	0.036	97.1	72.8	72.8	53.4
BGP701 LED75-4S/757	6764.000	47.0	143.9	1.270	0.066	0.049	0.049	0.036	96.6	72.5	72.5	53.1
BGP701 LED80-4S/757	7120.000	51.0	139.6	1.378	0.068	0.051	0.051	0.037	99.6	74.7	74.7	54.8
BGP701 LED85-4S/757	7654.000	55.0	139.2	1.486	0.068	0.051	0.051	0.037	99.9	74.9	74.9	55.0
BGP701 LED90-4S/757	8010.000	59.0	135.8	1.595	0.070	0.052	0.052	0.038	102.4	76.8	76.8	56.3
BGP701 LED8-4S/730	720.000	5.9	122.0	0.159	0.078	0.058	0.058	0.043	113.9	85.5	85.5	62.7
BGP701 LED10-4S/730	900.000	7.1	126.8	0.192	0.075	0.056	0.056	0.041	109.7	82.3	82.3	60.3
BGP701 LED12-4S/730	1080.000	8.2	131.7	0.222	0.072	0.054	0.054	0.040	105.6	79.2	79.2	58.1
BGP701 LED14-4S/730	1260.000	9.5	132.6	0.257	0.071	0.053	0.053	0.039	104.8	78.6	78.6	57.7
BGP701 LED16-4S/730	1440.000	10.8	133.3	0.292	0.071	0.053	0.053	0.039	104.3	78.2	78.2	57.4
BGP701 LED18-4S/730	1620.000	12.0	135.0	0.324	0.070	0.053	0.053	0.039	103.0	77.3	77.3	56.7
BGP701 LED20-4S/730	1800.000	13.4	134.3	0.362	0.070	0.053	0.053	0.039	103.5	77.6	77.6	56.9

BGP701 LED22-4S/730	1980.000	14.0	141.4	0.378	0.067	0.050	0.050	0.037	98.3	73.7	73.7	54.1
BGP701 LED24-4S/730	2160.000	15.2	142.1	0.411	0.067	0.050	0.050	0.037	97.9	73.4	73.4	53.8
BGP701 LED27-4S/730	2430.000	17.0	142.9	0.459	0.066	0.050	0.050	0.036	97.3	73.0	73.0	53.5
BGP701 LED30-4S/730	2700.000	19.0	142.1	0.514	0.067	0.050	0.050	0.037	97.9	73.4	73.4	53.8
BGP701 LED35-4S/730	3150.000	22.0	143.2	0.595	0.066	0.050	0.050	0.036	97.1	72.8	72.8	53.4
BGP701 LED40-4S/730	3600.000	25.5	141.2	0.689	0.067	0.050	0.050	0.037	98.5	73.9	73.9	54.2
BGP701 LED45-4S/730	4050.000	28.5	142.1	0.770	0.067	0.050	0.050	0.037	97.9	73.4	73.4	53.8
BGP701 LED50-4S/730	4450.000	32.0	139.1	0.865	0.068	0.051	0.051	0.037	100.0	75.0	75.0	55.0
BGP701 LED55-4S/730	4984.000	35.5	140.4	0.959	0.067	0.051	0.051	0.037	99.0	74.3	74.3	54.5
BGP701 LED60-4S/730	5340.000	39.5	135.2	1.068	0.070	0.052	0.052	0.038	102.9	77.1	77.1	56.6
BGP701 LED65-4S/730	5874.000	43.0	136.6	1.162	0.069	0.052	0.052	0.038	101.8	76.3	76.3	56.0
BGP701 LED70-4S/730	6230.000	46.5	134.0	1.257	0.071	0.053	0.053	0.039	103.8	77.8	77.8	57.1
BGP701 LED75-4S/730	6764.000	51.0	132.6	1.378	0.071	0.053	0.053	0.039	104.8	78.6	78.6	57.7
BGP701 LED80-4S/730	7120.000	55.0	129.5	1.486	0.073	0.055	0.055	0.040	107.4	80.6	80.6	59.1
BGP701 LED85-4S/730	7654.000	59.0	129.7	1.595	0.073	0.055	0.055	0.040	107.2	80.4	80.4	59.0
BGP701 LED8-4S/727	720.000	6.5	110.8	0.176	0.085	0.064	0.064	0.047	125.5	94.2	94.2	69.0
BGP701 LED10-4S/727	900.000	7.9	113.9	0.214	0.083	0.062	0.062	0.046	122.1	91.5	91.5	67.1
BGP701 LED12-4S/727	1080.000	9.1	118.7	0.246	0.080	0.060	0.060	0.044	117.2	87.9	87.9	64.4
BGP701 LED14-4S/727	1260.000	10.6	118.9	0.286	0.080	0.060	0.060	0.044	117.0	87.7	87.7	64.3
BGP701 LED16-4S/727	1440.000	11.8	122.0	0.319	0.078	0.058	0.058	0.043	113.9	85.5	85.5	62.7
BGP701 LED18-4S/727	1620.000	13.4	120.9	0.362	0.078	0.059	0.059	0.043	115.0	86.3	86.3	63.3
BGP701 LED20-4S/727	1800.000	15.0	120.0	0.405	0.079	0.059	0.059	0.043	115.9	86.9	86.9	63.7
BGP701 LED22-4S/727	1980.000	15.6	126.9	0.422	0.075	0.056	0.056	0.041	109.6	82.2	82.2	60.3
BGP701 LED24-4S/727	2160.000	17.0	127.1	0.459	0.074	0.056	0.056	0.041	109.4	82.1	82.1	60.2

BGP701 LED27-4S/727	2430.000	19.0	127.9	0.514	0.074	0.055	0.055	0.041	108.7	81.5	81.5	59.8
BGP701 LED30-4S/727	2700.000	21.0	128.6	0.568	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5
BGP701 LED35-4S/727	3150.000	24.5	128.6	0.662	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5
BGP701 LED40-4S/727	3600.000	28.5	126.3	0.770	0.075	0.056	0.056	0.041	110.1	82.6	82.6	60.5
BGP701 LED45-4S/727	4005.000	32.5	123.2	0.878	0.077	0.058	0.058	0.042	112.8	84.6	84.6	62.1
BGP701 LED50-4S/727	4450.000	36.5	121.9	0.986	0.078	0.058	0.058	0.043	114.1	85.5	85.5	62.7
BGP701 LED55-4S/727	4984.000	40.5	123.1	1.095	0.077	0.058	0.058	0.042	113.0	84.7	84.7	62.1
BGP701 LED60-4S/727	5340.000	44.5	120.0	1.203	0.079	0.059	0.059	0.043	115.9	86.9	86.9	63.7
BGP701 LED65-4S/727	5874.000	49.0	119.9	1.324	0.079	0.059	0.059	0.043	116.0	87.0	87.0	63.8
BGP701 LED70-4S/727	6230.000	53.0	117.5	1.432	0.080	0.060	0.060	0.044	118.3	88.7	88.7	65.1
BGP701 LED75-4S/727	6764.000	58.0	116.6	1.568	0.081	0.061	0.061	0.045	119.2	89.4	89.4	65.6
BGP701 LED6-4S/830	540.000	5.1	105.9	0.138	0.089	0.067	0.067	0.049	131.3	98.5	98.5	72.2
BGP701 LED8-4S/830	720.000	6.5	110.8	0.176	0.085	0.064	0.064	0.047	125.5	94.2	94.2	69.0
BGP701 LED10-4S/830	900.000	7.7	116.9	0.208	0.081	0.061	0.061	0.045	119.0	89.2	89.2	65.4
BGP701 LED12-4S/830	1080.000	9.1	118.7	0.246	0.080	0.060	0.060	0.044	117.2	87.9	87.9	64.4
BGP701 LED14-4S/830	1260.000	10.6	118.9	0.286	0.080	0.060	0.060	0.044	117.0	87.7	87.7	64.3
BGP701 LED16-4S/830	1440.000	11.8	122.0	0.319	0.078	0.058	0.058	0.043	113.9	85.5	85.5	62.7
BGP701 LED18-4S/830	1620.000	13.4	120.9	0.362	0.078	0.059	0.059	0.043	115.0	86.3	86.3	63.3
BGP701 LED20-4S/830	1800.000	14.2	126.8	0.384	0.075	0.056	0.056	0.041	109.7	82.3	82.3	60.3
BGP701 LED22-4S/830	1980.000	15.6	126.9	0.422	0.075	0.056	0.056	0.041	109.6	82.2	82.2	60.3
BGP701 LED24-4S/830	2160.000	17.0	127.1	0.459	0.074	0.056	0.056	0.041	109.4	82.1	82.1	60.2
BGP701 LED27-4S/830	2430.000	19.0	127.9	0.514	0.074	0.055	0.055	0.041	108.7	81.5	81.5	59.8
BGP701 LED30-4S/830	2700.000	21.0	128.6	0.568	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5
BGP701 LED35-4S/830	3150.000	24.5	128.6	0.662	0.074	0.055	0.055	0.040	108.2	81.1	81.1	59.5

BGP701 LED40-4S/830	3600.000	28.5	126.3	0.770	0.075	0.056	0.056	0.041	110.1	82.6	82.6	60.5
BGP701 LED45-4S/830	4005.000	32.5	123.2	0.878	0.077	0.058	0.058	0.042	112.8	84.6	84.6	62.1
BGP701 LED50-4S/830	4450.000	36.5	121.9	0.986	0.078	0.058	0.058	0.043	114.1	85.5	85.5	62.7
BGP701 LED55-4S/830	4984.000	40.5	123.1	1.095	0.077	0.058	0.058	0.042	113.0	84.7	84.7	62.1
BGP701 LED60-4S/830	5340.000	44.5	120.0	1.203	0.079	0.059	0.059	0.043	115.9	86.9	86.9	63.7
BGP701 LED65-4S/830	5874.000	49.0	119.9	1.324	0.079	0.059	0.059	0.043	116.0	87.0	87.0	63.8
BGP701 LED70-4S/830	6230.000	53.0	117.5	1.432	0.080	0.060	0.060	0.044	118.3	88.7	88.7	65.1
BGP701 LED75-4S/830	6764.000	58.0	116.6	1.568	0.081	0.061	0.061	0.045	119.2	89.4	89.4	65.6
BGP701 LED6-4S/722	540.000	5.6	96.4	0.151	0.098	0.074	0.074	0.054	144.2	108.2	108.2	79.3
BGP701 LED8-4S/722	720.000	7.1	101.4	0.192	0.093	0.070	0.070	0.051	137.1	102.8	102.8	75.4
BGP701 LED10-4S/722	900.000	8.5	105.9	0.230	0.089	0.067	0.067	0.049	131.3	98.5	98.5	72.2
BGP701 LED12-4S/722	1080.000	10.2	105.9	0.276	0.089	0.067	0.067	0.049	131.3	98.5	98.5	72.2
BGP701 LED14-4S/722	1260.000	11.6	108.6	0.314	0.087	0.065	0.065	0.048	128.0	96.0	96.0	70.4
BGP701 LED16-4S/722	1440.000	13.4	107.5	0.362	0.088	0.066	0.066	0.048	129.4	97.0	97.0	71.2
BGP701 LED18-4S/722	1620.000	15.0	108.0	0.405	0.088	0.066	0.066	0.048	128.8	96.6	96.6	70.8
BGP701 LED20-4S/722	1800.000	15.8	113.9	0.427	0.083	0.062	0.062	0.046	122.1	91.5	91.5	67.1
BGP701 LED22-4S/722	1980.000	17.4	113.8	0.470	0.083	0.062	0.062	0.046	122.2	91.6	91.6	67.2
BGP701 LED24-4S/722	2160.000	19.0	113.7	0.514	0.083	0.062	0.062	0.046	122.3	91.7	91.7	67.3
BGP701 LED27-4S/722	2430.000	21.0	115.7	0.568	0.082	0.061	0.061	0.045	120.2	90.1	90.1	66.1
BGP701 LED30-4S/722	2700.000	23.5	114.9	0.635	0.082	0.062	0.062	0.045	121.0	90.8	90.8	66.6
BGP701 LED35-4S/722	3150.000	28.0	112.5	0.757	0.084	0.063	0.063	0.046	123.6	92.7	92.7	68.0
BGP701 LED40-4S/722	3560.000	32.0	111.3	0.865	0.085	0.064	0.064	0.047	125.0	93.7	93.7	68.7
BGP701 LED45-4S/722	4005.000	36.5	109.7	0.986	0.086	0.065	0.065	0.047	126.7	95.0	95.0	69.7
BGP701 LED50-4S/722	4450.000	41.0	108.5	1.108	0.087	0.065	0.065	0.048	128.1	96.1	96.1	70.5

BGP701 LED55-4S/722	4984.000	45.5	109.5	1.230	0.086	0.065	0.065	0.047	126.9	95.2	95.2	69.8
BGP701 LED60-4S/722	5340.000	51.0	104.7	1.378	0.090	0.068	0.068	0.050	132.8	99.6	99.6	73.0
BGP701 LED65-4S/722	5874.000	59.0	99.6	1.595	0.095	0.071	0.071	0.052	139.7	104.8	104.8	76.8
BGP701 LED6-4S/840	540.000	4.9	110.2	0.132	0.086	0.064	0.064	0.047	126.2	94.6	94.6	69.4
BGP701 LED8-4S/840	720.000	6.3	114.3	0.170	0.083	0.062	0.062	0.046	121.7	91.3	91.3	66.9
BGP701 LED10-4S/840	900.000	7.5	120.0	0.203	0.079	0.059	0.059	0.043	115.9	86.9	86.9	63.7
BGP701 LED12-4S/840	1080.000	8.9	121.3	0.241	0.078	0.058	0.058	0.043	114.6	85.9	85.9	63.0
BGP701 LED14-4S/840	1260.000	10.2	123.5	0.276	0.077	0.057	0.057	0.042	112.6	84.4	84.4	61.9
BGP701 LED16-4S/840	1440.000	11.6	124.1	0.314	0.076	0.057	0.057	0.042	112.0	84.0	84.0	61.6
BGP701 LED18-4S/840	1620.000	13.0	124.6	0.351	0.076	0.057	0.057	0.042	111.6	83.7	83.7	61.4
BGP701 LED20-4S/840	1800.000	13.8	130.4	0.373	0.073	0.054	0.054	0.040	106.6	80.0	80.0	58.6
BGP701 LED22-4S/840	1980.000	15.2	130.3	0.411	0.073	0.054	0.054	0.040	106.7	80.1	80.1	58.7
BGP701 LED24-4S/840	2160.000	16.4	131.7	0.443	0.072	0.054	0.054	0.040	105.6	79.2	79.2	58.1
BGP701 LED27-4S/840	2430.000	18.4	132.1	0.497	0.072	0.054	0.054	0.039	105.3	79.0	79.0	57.9
BGP701 LED30-4S/840	2700.000	20.5	131.7	0.554	0.072	0.054	0.054	0.040	105.6	79.2	79.2	58.1
BGP701 LED35-4S/840	3150.000	24.0	131.3	0.649	0.072	0.054	0.054	0.040	105.9	79.5	79.5	58.3
BGP701 LED40-4S/840	3600.000	27.5	130.9	0.743	0.072	0.054	0.054	0.040	106.2	79.7	79.7	58.4
BGP701 LED45-4S/840	4005.000	31.0	129.2	0.838	0.073	0.055	0.055	0.040	107.6	80.7	80.7	59.2
BGP701 LED50-4S/840	4450.000	35.0	127.1	0.946	0.074	0.056	0.056	0.041	109.4	82.0	82.0	60.2
BGP701 LED55-4S/840	4984.000	39.0	127.8	1.054	0.074	0.056	0.056	0.041	108.8	81.6	81.6	59.8
BGP701 LED60-4S/840	5340.000	43.0	124.2	1.162	0.076	0.057	0.057	0.042	112.0	84.0	84.0	61.6
BGP701 LED65-4S/840	5874.000	47.0	125.0	1.270	0.076	0.057	0.057	0.042	111.3	83.4	83.4	61.2
BGP701 LED70-4S/840	6230.000	51.0	122.2	1.378	0.077	0.058	0.058	0.043	113.8	85.4	85.4	62.6
BGP701 LED75-4S/840	6764.000	56.0	120.8	1.514	0.078	0.059	0.059	0.043	115.1	86.3	86.3	63.3

BGP701 LED80-4S/840	7120.000	60.0	118.7	1.622	0.080	0.060	0.060	0.044	117.2	87.9	87.9	64.4
BGP701 LED6-4S/827	540.000	5.4	100.0	0.146	0.095	0.071	0.071	0.052	139.1	104.3	104.3	76.5
BGP701 LED8-4S/827	720.000	6.9	104.3	0.186	0.091	0.068	0.068	0.050	133.3	99.9	99.9	73.3
BGP701 LED10-4S/827	900.000	8.3	108.4	0.224	0.087	0.065	0.065	0.048	128.2	96.2	96.2	70.5
BGP701 LED12-4S/827	1080.000	9.8	110.2	0.265	0.086	0.064	0.064	0.047	126.2	94.6	94.6	69.4
BGP701 LED14-4S/827	1260.000	11.2	112.5	0.303	0.084	0.063	0.063	0.046	123.6	92.7	92.7	68.0
BGP701 LED16-4S/827	1440.000	12.8	112.5	0.346	0.084	0.063	0.063	0.046	123.6	92.7	92.7	68.0
BGP701 LED18-4S/827	1620.000	14.4	112.5	0.389	0.084	0.063	0.063	0.046	123.6	92.7	92.7	68.0
BGP701 LED20-4S/827	1800.000	15.4	116.9	0.416	0.081	0.061	0.061	0.045	119.0	89.2	89.2	65.4
BGP701 LED22-4S/827	1980.000	16.8	117.9	0.454	0.080	0.060	0.060	0.044	118.0	88.5	88.5	64.9
BGP701 LED24-4S/827	2160.000	18.2	118.7	0.492	0.080	0.060	0.060	0.044	117.2	87.9	87.9	64.4
BGP701 LED27-4S/827	2430.000	20.5	118.5	0.554	0.080	0.060	0.060	0.044	117.3	88.0	88.0	64.5
BGP701 LED30-4S/827	2700.000	22.5	120.0	0.608	0.079	0.059	0.059	0.043	115.9	86.9	86.9	63.7
BGP701 LED35-4S/827	3150.000	26.5	118.9	0.716	0.080	0.060	0.060	0.044	117.0	87.7	87.7	64.3
BGP701 LED40-4S/827	3560.000	31.0	114.8	0.838	0.082	0.062	0.062	0.045	121.1	90.8	90.8	66.6
BGP701 LED45-4S/827	4005.000	35.0	114.4	0.946	0.083	0.062	0.062	0.045	121.5	91.1	91.1	66.8
BGP701 LED50-4S/827	4450.000	39.5	112.7	1.068	0.084	0.063	0.063	0.046	123.4	92.6	92.6	67.9
BGP701 LED55-4S/827	4984.000	43.5	114.6	1.176	0.083	0.062	0.062	0.045	121.4	91.0	91.0	66.8
BGP701 LED60-4S/827	5340.000	48.5	110.1	1.311	0.086	0.064	0.064	0.047	126.3	94.7	94.7	69.5
BGP701 LED65-4S/827	5874.000	53.0	110.8	1.432	0.085	0.064	0.064	0.047	125.5	94.1	94.1	69.0

*** 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 CO2e	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 = 3,96E-01) and then multilplying for the Finland value from the same table (FINLAND = 2,70E-01).

Thus, the calculation of this example would be:

New B6 GWP tot for Finland = (4,06E+02 / 3,96E-01) x 2,70E-01 = 2,76 E+02

Country	GWP tot (kg CO2 eq. per kwh)
AUSTRALIA	9,59E-01
AUSTRIA	3,37E-01
BELGIUM	2,63E-01
CHINA	1,14E+00
DENMARK	2,91E-01
EU	3,96E-01
FINLAND	2,70E-01
FRANCE	8,77E-02
GERMANY	5,32E-01
HUNGARY	4,67E-01
IRELAND	4,26E-01
ITALY	3,94E-01
LATAM	3,50E-01
NAM	4,83E-01
NETHERLANDS	5,88E-01
NORWAY	2,59E-02

POLAND	1,05E+00
PORTUGAL	4,22E-01
ROW	7,32E-01
SPAIN	3,34E-01
SWEDEN	4,95E-02
SWITZERLAND	5,38E-02
UK	3,17E-01

Source Ecoinvent 3.8