ENVIRONMENTAL PRODUCT DECLARATION

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

Philips Luma gen2 Solar

VGP704
Signify N.V.

EPD HUB
Publishing date 2024-02-14

GENERAL INFORMATION

MANUFACTURER

Manufacturer	Signify N.V.
Address	High Tech Campus 48, 5656 AE 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	Philips Luma gen2 Solar
Additional labels	VGP704 80 4S 730 48V III DM10 42/60S
Product reference	910925868313
Place of production	Poland
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of 7280 lumens over 100000 hours
Declared unit mass	10.1 kg
GWP-fossil, A1-A3 (kgCO2e)	2.28E+02
GWP-total, A1-A3 (kgCO2e)	2.26E+02
Secondary material, inputs (%)	6.86
Secondary material, outputs (%)	62.1
Total energy use, A1-A3 (kWh)	668.0
Total water use, A1-A3 (m3e)	9.92E-01

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

Meet your sustainability targets in an easy and fast way. we upgraded your most preferred luminaire Luma gen2 to be powered by Solar energy. Finless design, future-proof architecture, hustle-free maintenance and best in class lighting performance are some of the reasons we are proud of Luma gen2 Solar. Let's take a deep dive in all the characteristics we worked on to meet your lighting needs.

For more information, please visit
https://www.lighting.philips.com/link/VGP703/fam/aa/en

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	76.85	APAC , EU
Minerals	12.74	EU
Fossil materials	10.41	APAC , EU
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	0.446

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Product
Mass per declared unit	10.1 kg
Functional unit	1 unit of 7280 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 wastes 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)

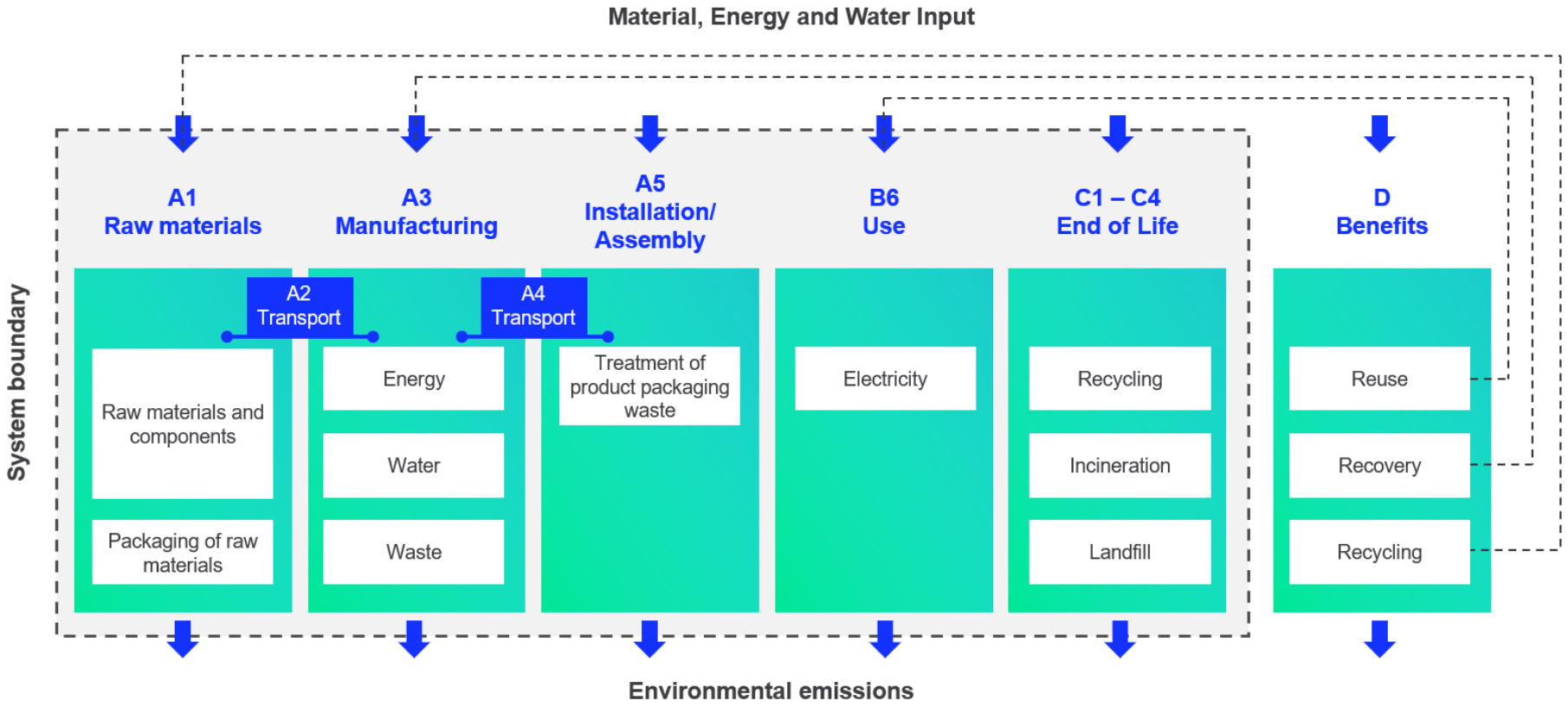
During the use phase, the product consumes electricity from Europe's electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

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	2.24E+02	2.13E+00	-1.04E-01	2.26E+02	2.13E+00	1.67E+00	MNR	MNR	MNR	MNR	MNR	1.71E+03	MNR	MNR	1.46E-01	7.96E-01	7.72E-01	-1.04E+02
GWP – fossil	kg CO_2e	2.25E+02	2.13E+00	1.50E+00	2.28E+02	2.12E+00	6.35E-02	MNR	MNR	MNR	MNR	MNR	1.71E+03	MNR	MNR	1.46E-01	7.96E-01	7.71E-01	-1.04E+02
GWP – biogenic	kg CO_2e	-7.13E-01	0.00E+00	-1.61E+00	-2.32E+00	8.22E-04	1.61E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	-1.14E-02
GWP – LULUC	kg CO_2e	3.18E-01	8.69E-04	7.13E-03	3.26E-01	7.84E-04	1.45E-05	MNR	MNR	MNR	MNR	MNR	3.99E+00	MNR	MNR	5.37E-05	2.15E-04	1.33E-04	-7.82E-03
Ozone depletion pot.	kg CFC_{-11}e	8.61E-06	4.82E-07	1.76E-07	9.27E-06	4.89E-07	4.26E-09	MNR	MNR	MNR	MNR	MNR	8.67E-05	MNR	MNR	3.35E-08	1.75E-08	1.33E-08	-2.82E-06
Acidification potential	mol H^+e	1.50E+00	1.56E-02	6.47E-03	1.52E+00	9.00E-03	3.34E-04	MNR	MNR	MNR	MNR	MNR	9.75E+00	MNR	MNR	6.17E-04	1.84E-03	6.39E-04	-1.04E+00
EP-freshwater[2)]	kg Pe	9.15E-03	1.63E-05	6.76E-05	9.24E-03	1.74E-05	4.45E-07	MNR	MNR	MNR	MNR	MNR	1.81E-01	MNR	MNR	1.19E-06	6.83E-06	3.98E-06	-6.52E-03
EP-marine	kg Ne	2.28E-01	4.25E-03	3.02E-03	2.35E-01	2.67E-03	1.42E-04	MNR	MNR	MNR	MNR	MNR	1.29E+00	MNR	MNR	1.83E-04	4.28E-04	6.67E-04	-1.16E-01
EP-terrestrial	mol Ne	2.53E+00	4.70E-02	1.88E-02	2.60E+00	2.95E-02	1.47E-03	MNR	MNR	MNR	MNR	MNR	1.47E+01	MNR	MNR	2.02E-03	4.84E-03	2.09E-03	-1.33E+00
POCP ("smog")[3)]	kg NMVOCe	7.33E-01	1.38E-02	4.62E-03	7.51E-01	9.44E-03	3.67E-04	MNR	MNR	MNR	MNR	MNR	4.03E+00	MNR	MNR	6.47E-04	1.31E-03	6.82E-04	-3.86E-01
ADP-minerals & metals[4)]	kg Sbe	2.30E-03	4.76E-06	8.02E-06	2.31E-03	4.98E-06	1.40E-07	MNR	MNR	MNR	MNR	MNR	1.59E-02	MNR	MNR	3.41E-07	1.64E-05	2.66E-07	-3.05E-04
ADP-fossil resources	MJ	2.21E+03	3.13E+01	2.02E+01	2.26E+03	3.19E+01	3.31E-01	MNR	MNR	MNR	MNR	MNR	3.63E+04	MNR	MNR	2.19E+00	1.97E+00	1.33E+00	-1.02E+03
Water use[5)]	m^3e depr.	4.24E+01	1.36E-01	5.88E-01	4.32E+01	1.43E-01	7.83E-02	MNR	MNR	MNR	MNR	MNR	9.93E+02	MNR	MNR	9.79E-03	5.69E-02	8.47E-02	-6.70E+00

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

ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, 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	1.70E-05	2.25E-07	1.17E-07	1.73E-05	2.45E-07	3.10E-09	MNR	MNR	MNR	MNR	MNR	3.20E-05	MNR	MNR	1.68E-08	2.36E-08	1.13E-08	-5.62E-06
Ionizing radiation[6)]	kBq U235e	7.09E+00	1.49E-01	5.41E-02	7.29E+00	1.52E-01	1.20E-03	MNR	MNR	MNR	MNR	MNR	9.84E+02	MNR	MNR	1.04E-02	1.19E-02	6.92E-03	-6.11E+00

Ecotoxicity (freshwater)	CTUe	6.69E+03	2.74E+01	5.74E+01	6.78E+03	2.87E+01	2.28E+00	MNR	MNR	MNR	MNR	MNR	2.47E+04	MNR	MNR	1.97E+00	9.64E+00	7.21E+02	-1.85E+03
Human toxicity, cancer	CTUh	2.60E-07	7.68E-10	1.06E-09	2.62E-07	7.05E-10	1.03E-10	MNR	MNR	MNR	MNR	MNR	8.09E-07	MNR	MNR	4.83E-11	3.02E-10	6.46E-10	5.04E-09
Human tox. non-cancer	CTUh	5.23E-06	2.65E-08	1.75E-08	5.28E-06	2.84E-08	4.30E-09	MNR	MNR	MNR	MNR	MNR	2.66E-05	MNR	MNR	1.95E-09	1.27E-08	1.06E-08	-1.84E-06
SQP[7)]	-	6.10E+02	3.31E+01	4.38E+01	6.87E+02	3.68E+01	1.80E-01	MNR	MNR	MNR	MNR	MNR	6.57E+03	MNR	MNR	2.52E+00	3.53E+00	1.91E+00	-1.86E+02

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	1.55E+02	3.40E-01	1.53E+01	1.71E+02	3.60E-01	1.09E-02	MNR	MNR	MNR	MNR	MNR	7.40E+03	MNR	MNR	2.46E-02	2.81E-01	5.90E-02	-1.32E+01
Renew. PER as material	MJ	6.58E+00	0.00E+00	1.41E+01	2.07E+01	0.00E+00	-1.41E+01	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renew. PER	MJ	1.62E+02	3.40E-01	2.94E+01	1.92E+02	3.60E-01	-1.41E+01	MNR	MNR	MNR	MNR	MNR	7.40E+03	MNR	MNR	2.46E-02	2.81E-01	5.90E-02	-1.32E+01
Non-re. PER as energy	MJ	2.18E+03	3.13E+01	1.93E+01	2.23E+03	3.19E+01	3.31E-01	MNR	MNR	MNR	MNR	MNR	3.63E+04	MNR	MNR	2.19E+00	1.97E+00	1.33E+00	-1.02E+03
Non-re. PER as material	MJ	2.37E+01	0.00E+00	5.55E-01	2.43E+01	0.00E+00	-5.55E-01	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	-8.55E+00	-8.55E+00	0.00E+00
Total use of non-re. PER	MJ	2.21E+03	3.13E+01	1.98E+01	2.26E+03	3.19E+01	-2.24E-01	MNR	MNR	MNR	MNR	MNR	3.63E+04	MNR	MNR	2.19E+00	-6.58E+00	-7.22E+00	-1.02E+03
Secondary materials	kg	6.93E-01	9.23E-03	1.10E+00	1.80E+00	8.86E-03	3.95E-04	MNR	MNR	MNR	MNR	MNR	3.74E+00	MNR	MNR	6.07E-04	1.97E-03	3.82E-03	4.26E+00
Renew. secondary fuels	MJ	1.11E-01	8.32E-05	7.82E-02	1.89E-01	8.94E-05	6.53E-06	MNR	MNR	MNR	MNR	MNR	3.03E-02	MNR	MNR	6.13E-06	1.01E-04	2.62E-05	-1.77E-03
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	9.74E-01	3.87E-03	1.40E-02	9.92E-01	4.13E-03	1.38E-03	MNR	MNR	MNR	MNR	MNR	3.13E+01	MNR	MNR	2.83E-04	1.86E-03	9.39E-04	-3.10E-01

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D

Hazardous waste	kg	4.09E+01	4.17E-02	7.64E-02	4.10E+01	4.23E-02	2.49E-04	MNR	MNR	MNR	MNR	MNR	1.30E+02	MNR	MNR	2.90E-03	1.39E-02	4.37E-03	-1.65E+01
Non-hazardous waste	kg	3.36E+02	6.52E-01	1.26E+00	3.38E+02	6.95E-01	1.11E+00	MNR	MNR	MNR	MNR	MNR	8.25E+03	MNR	MNR	4.77E-02	7.21E-01	3.66E+00	-2.95E+02
Radioactive waste	kg	3.64E-03	2.11E-04	3.39E-05	3.89E-03	2.14E-04	5.28E-07	MNR	MNR	MNR	MNR	MNR	2.65E-01	MNR	MNR	1.46E-05	8.06E-06	0.00E+00	-2.25E-03

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	6.27E+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	0.00E+00	0.00E+00	0.00E+00
Exported energy	MJ	0.00E+00	0.00E+00	3.50E-01	3.50E-01	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	5.94E+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	2.18E+02	2.10E+00	1.55E+00	2.21E+02	2.10E+00	6.16E-02	MNR	MNR	MNR	MNR	MNR	1.69E+03	MNR	MNR	1.44E-01	7.92E-01	9.74E-01	-1.02E+02
Ozone depletion Pot.	kg CFC_{-11}e	7.56E-06	3.81E-07	1.49E-07	8.09E-06	3.87E-07	3.72E-09	MNR	MNR	MNR	MNR	MNR	7.52E-05	MNR	MNR	2.65E-08	1.42E-08	1.08E-08	-2.40E-06
Acidification	kg SO_2e	1.26E+00	1.23E-02	4.69E-03	1.28E+00	6.99E-03	2.43E-04	MNR	MNR	MNR	MNR	MNR	8.27E+00	MNR	MNR	4.79E-04	1.47E-03	4.95E-04	-8.97E-01
Eutrophication	kg PO_4^3e	3.65E-01	2.09E-03	3.43E-03	3.71E-01	1.59E-03	1.81E-04	MNR	MNR	MNR	MNR	MNR	6.37E+00	MNR	MNR	1.09E-04	5.06E-04	2.23E-03	-2.53E-01

POCP (“smog”)	kg C_2H_4e	7.38E-02	3.99E-04	3.26E-04	7.46E-02	2.73E-04	7.60E-06	MNR	MNR	MNR	MNR	MNR	3.38E-01	MNR	MNR	1.87E-05	5.43E-05	7.96E-05	-4.45E-02
ADP-elements	kg Sbe	2.26E-03	4.61E-06	6.97E-06	2.27E-03	4.82E-06	1.10E-07	MNR	MNR	MNR	MNR	MNR	1.59E-02	MNR	MNR	3.31E-07	1.63E-05	2.45E-07	-2.96E-04
ADP-fossil	MJ	2.21E+03	3.13E+01	2.01E+01	2.26E+03	3.19E+01	3.31E-01	MNR	MNR	MNR	MNR	MNR	3.63E+04	MNR	MNR	2.19E+00	1.97E+00	1.33E+00	-1.02E+03

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 refernce 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
VGP704 LED26-4S/730/730	2366.0	13.0	182.0	0.301	0.301	0.226	0.226	0.166	514.7	386.5	386.5	283.9
VGP704 LED30-4S/730/730	2730.0	15.2	179.6	0.352	0.352	0.264	0.264	0.194	601.9	451.4	451.4	331.7
VGP704 LED35-4S/730/730	3185.0	18.0	176.9	0.417	0.417	0.313	0.313	0.229	713.1	535.2	535.2	391.6
VGP704 LED40-4S/730/730	3640.0	20.9	174.2	0.484	0.484	0.363	0.363	0.266	827.6	620.7	620.7	454.9
VGP704 LED45-4S/730/730	4095.0	23.7	172.8	0.549	0.549	0.412	0.412	0.302	938.8	704.5	704.5	516.4
VGP704 LED50-4S/730/730	4550.0	26.6	171.1	0.616	0.616	0.462	0.462	0.339	1053.4	790.0	790.0	579.7
VGP704 LED55-4S/730/730	5005.0	29.6	169.1	0.685	0.685	0.514	0.514	0.377	1171.4	878.9	878.9	644.7
VGP704 LED60-4S/730/730	5460.0	32.5	168.0	0.752	0.752	0.564	0.564	0.414	1285.9	964.4	964.4	707.9
VGP704 LED65-4S/730/730	5915.0	35.5	166.6	0.822	0.822	0.616	0.616	0.452	1405.6	1053.4	1053.4	772.9
VGP704 LED70-4S/730/730	6370.0	38.4	165.9	0.889	0.889	0.667	0.667	0.489	1520.2	1140.6	1140.6	836.2
VGP704 LED75-4S/730/730	6825.0	40.3	169.4	0.933	0.933	0.7	0.7	0.513	1595.4	1197.0	1197.0	877.2
VGP704 80 4S 730 48V III DM10 42/60S	7280.0	43.2	168.5	1.0	1.0	0.75	0.75	0.55	1710.0	1282.5	1282.5	940.5

VGP704 LED85-4S/730/730	7735.0	46.2	167.4	1.069	1.069	0.802	0.802	0.588	1828.0	1371.4	1371.4	1005.5
VGP704 LED90-4S/730/730	8100.0	49.1	165.0	1.137	1.137	0.853	0.853	0.625	1944.3	1458.6	1458.6	1068.8
VGP704 LED95-4S/730/730	8550.0	52.1	164.1	1.206	1.206	0.904	0.904	0.663	2062.3	1545.8	1545.8	1133.7
VGP704 LED100-4S/730/730	9000.0	55.0	163.6	1.273	1.273	0.955	0.955	0.7	2176.8	1633.0	1633.0	1197.0
VGP704 LED105-4S/730/730	9450.0	58.0	162.9	1.343	1.343	1.007	1.007	0.739	2296.5	1722.0	1722.0	1263.7
VGP704 LED110-4S/730/730	9900.0	61.0	162.3	1.412	1.412	1.059	1.059	0.777	2414.5	1810.9	1810.9	1328.7
VGP704 LED115-4S/730/730	10350.0	64.1	161.5	1.484	1.484	1.113	1.113	0.816	2537.6	1903.2	1903.2	1395.4
VGP704 LED120-4S/730/730	10800.0	65.6	164.6	1.519	1.519	1.139	1.139	0.835	2597.5	1947.7	1947.7	1427.8
VGP704 LED125-4S/730/730	11250.0	68.6	164.0	1.588	1.588	1.191	1.191	0.873	2715.5	2036.6	2036.6	1492.8
VGP704 LED130-4S/730/730	11700.0	71.5	163.6	1.655	1.655	1.241	1.241	0.91	2830.1	2122.1	2122.1	1556.1
VGP704 LED135-4S/730/730	12150.0	74.5	163.1	1.725	1.725	1.294	1.294	0.949	2949.8	2212.7	2212.7	1622.8
VGP704 LED140-4S/730/730	12460.0	77.5	160.8	1.794	1.794	1.345	1.345	0.987	3067.7	2299.9	2299.9	1687.8
VGP704 LED145-4S/730/730	12905.0	80.5	160.3	1.863	1.863	1.397	1.397	1.025	3185.7	2388.9	2388.9	1752.7
VGP704 LED150-4S/730/730	13350.0	83.5	159.9	1.933	1.933	1.45	1.45	1.063	3305.4	2479.5	2479.5	1817.7
VGP704 LED155-4S/730/730	13795.0	86.6	159.3	2.005	2.005	1.504	1.504	1.103	3428.5	2571.8	2571.8	1886.1
VGP704 LED160-4S/730/730	14240.0	89.6	158.9	2.074	2.074	1.555	1.555	1.141	3546.5	2659.0	2659.0	1951.1
VGP704 LED165-4S/730/730	14685.0	92.7	158.4	2.146	2.146	1.609	1.609	1.18	3669.7	2751.4	2751.4	2017.8
VGP704 LED170-4S/730/730	15130.0	95.8	157.9	2.218	2.218	1.663	1.663	1.22	3792.8	2843.7	2843.7	2086.2
VGP704 LED175-4S/730/730	15575.0	98.8	157.6	2.287	2.287	1.715	1.715	1.258	3910.8	2932.7	2932.7	2151.2
VGP704 LED180-4S/730/730	16020.0	101.9	157.2	2.359	2.359	1.769	1.769	1.297	4033.9	3025.0	3025.0	2217.9
VGP704 LED185-4S/730/730	16465.0	105.1	156.7	2.433	2.433	1.825	1.825	1.338	4160.4	3120.8	3120.8	2288.0
VGP704 LED190-4S/730/730	16720.0	108.2	154.5	2.505	2.505	1.879	1.879	1.378	4283.6	3213.1	3213.1	2356.4
VGP704 LED195-4S/730/730	17160.0	111.3	154.2	2.576	2.576	1.932	1.932	1.417	4405.0	3303.7	3303.7	2423.1
VGP704 LED200-4S/730/730	17600.0	114.5	153.7	2.65	2.65	1.987	1.987	1.458	4531.5	3397.8	3397.8	2493.2

VGP704 LED205-4S/730/730	18040.0	117.6	153.4	2.722	2.722	2.042	2.042	1.497	4654.6	3491.8	3491.8	2559.9
VGP704 LED210-4S/730/730	18480.0	120.8	153.0	2.796	2.796	2.097	2.097	1.538	4781.2	3585.9	3585.9	2630.0
VGP704 LED215-4S/730/730	18920.0	124.0	152.6	2.87	2.87	2.152	2.152	1.579	4907.7	3679.9	3679.9	2700.1
VGP704 LED220-4S/730/730	19360.0	127.2	152.2	2.944	2.944	2.208	2.208	1.619	5034.2	3775.7	3775.7	2768.5
VGP704 LED225-4S/730/730	19800.0	130.5	151.7	3.021	3.021	2.266	2.266	1.662	5165.9	3874.9	3874.9	2842.0
VGP704 LED228-4S/730/730	20064.0	132.4	151.5	3.065	3.065	2.299	2.299	1.686	5241.1	3931.3	3931.3	2883.1
VGP704 LED26-4S/740/740	2366.0	12.4	190.8	0.287	0.287	0.215	0.215	0.158	490.8	367.6	367.6	270.2
VGP704 LED30-4S/740/740	2730.0	14.5	188.3	0.336	0.336	0.252	0.252	0.185	574.6	430.9	430.9	316.4
VGP704 LED35-4S/740/740	3185.0	17.2	185.2	0.398	0.398	0.298	0.298	0.219	680.6	509.6	509.6	374.5
VGP704 LED40-4S/740/740	3640.0	19.9	182.9	0.461	0.461	0.346	0.346	0.254	788.3	591.7	591.7	434.3
VGP704 LED45-4S/740/740	4095.0	22.6	181.2	0.523	0.523	0.392	0.392	0.288	894.3	670.3	670.3	492.5
VGP704 LED50-4S/740/740	4550.0	25.4	179.1	0.588	0.588	0.441	0.441	0.323	1005.5	754.1	754.1	552.3
VGP704 LED55-4S/740/740	5005.0	28.2	177.5	0.653	0.653	0.49	0.49	0.359	1116.6	837.9	837.9	613.9
VGP704 LED60-4S/740/740	5460.0	31.0	176.1	0.718	0.718	0.538	0.538	0.395	1227.8	920.0	920.0	675.5
VGP704 LED65-4S/740/740	5915.0	33.8	175.0	0.782	0.782	0.587	0.587	0.43	1337.2	1003.8	1003.8	735.3
VGP704 LED70-4S/740/740	6370.0	36.7	173.6	0.85	0.85	0.637	0.637	0.468	1453.5	1089.3	1089.3	800.3
VGP704 LED75-4S/740/740	6825.0	38.5	177.3	0.891	0.891	0.668	0.668	0.49	1523.6	1142.3	1142.3	837.9
VGP704 LED80-4S/740/740	7280.0	41.3	176.3	0.956	0.956	0.717	0.717	0.526	1634.8	1226.1	1226.1	899.5
VGP704 LED85-4S/740/740	7735.0	44.0	175.8	1.019	1.019	0.764	0.764	0.56	1742.5	1306.4	1306.4	957.6
VGP704 LED90-4S/740/740	8190.0	46.9	174.6	1.086	1.086	0.815	0.815	0.597	1857.1	1393.6	1393.6	1020.9
VGP704 LED95-4S/740/740	8550.0	49.7	172.0	1.15	1.15	0.862	0.862	0.632	1966.5	1474.0	1474.0	1080.7
VGP704 LED100-4S/740/740	9000.0	52.5	171.4	1.215	1.215	0.911	0.911	0.668	2077.7	1557.8	1557.8	1142.3
VGP704 LED105-4S/740/740	9450.0	55.4	170.6	1.282	1.282	0.962	0.962	0.705	2192.2	1645.0	1645.0	1205.5
VGP704 LED110-4S/740/740	9900.0	58.2	170.1	1.347	1.347	1.01	1.01	0.741	2303.4	1727.1	1727.1	1267.1

VGP704 LED115-4S/740/740	10350.0	61.1	169.4	1.414	1.414	1.06	1.06	0.778	2417.9	1812.6	1812.6	1330.4
VGP704 LED120-4S/740/740	10800.0	62.6	172.5	1.449	1.449	1.087	1.087	0.797	2477.8	1858.8	1858.8	1362.9
VGP704 LED125-4S/740/740	11250.0	65.5	171.8	1.516	1.516	1.137	1.137	0.834	2592.4	1944.3	1944.3	1426.1
VGP704 LED130-4S/740/740	11700.0	68.3	171.3	1.581	1.581	1.186	1.186	0.87	2703.5	2028.1	2028.1	1487.7
VGP704 LED135-4S/740/740	12150.0	71.1	170.9	1.646	1.646	1.234	1.234	0.905	2814.7	2110.1	2110.1	1547.5
VGP704 LED140-4S/740/740	12600.0	74.0	170.3	1.713	1.713	1.285	1.285	0.942	2929.2	2197.3	2197.3	1610.8
VGP704 LED145-4S/740/740	12905.0	76.9	167.8	1.78	1.78	1.335	1.335	0.979	3043.8	2282.8	2282.8	1674.1
VGP704 LED150-4S/740/740	13350.0	79.8	167.3	1.847	1.847	1.385	1.385	1.016	3158.4	2368.3	2368.3	1737.4
VGP704 LED155-4S/740/740	13795.0	82.7	166.8	1.914	1.914	1.435	1.435	1.053	3272.9	2453.8	2453.8	1800.6
VGP704 LED160-4S/740/740	14240.0	85.6	166.4	1.981	1.981	1.486	1.486	1.09	3387.5	2541.1	2541.1	1863.9
VGP704 LED165-4S/740/740	14685.0	88.5	165.9	2.049	2.049	1.537	1.537	1.127	3503.8	2628.3	2628.3	1927.2
VGP704 LED170-4S/740/740	15130.0	91.4	165.5	2.116	2.116	1.587	1.587	1.164	3618.4	2713.8	2713.8	1990.4
VGP704 LED175-4S/740/740	15575.0	94.4	165.0	2.185	2.185	1.639	1.639	1.202	3736.3	2802.7	2802.7	2055.4
VGP704 LED180-4S/740/740	16020.0	97.3	164.6	2.252	2.252	1.689	1.689	1.239	3850.9	2888.2	2888.2	2118.7
VGP704 LED185-4S/740/740	16465.0	100.3	164.2	2.322	2.322	1.742	1.742	1.277	3970.6	2978.8	2978.8	2183.7
VGP704 LED190-4S/740/740	16910.0	103.3	163.7	2.391	2.391	1.793	1.793	1.315	4088.6	3066.0	3066.0	2248.7
VGP704 LED195-4S/740/740	17160.0	106.3	161.4	2.461	2.461	1.846	1.846	1.354	4208.3	3156.7	3156.7	2315.3
VGP704 LED200-4S/740/740	17600.0	109.3	161.0	2.53	2.53	1.897	1.897	1.391	4326.3	3243.9	3243.9	2378.6
VGP704 LED205-4S/740/740	18040.0	112.3	160.6	2.6	2.6	1.95	1.95	1.43	4446.0	3334.5	3334.5	2445.3
VGP704 LED210-4S/740/740	18480.0	115.3	160.3	2.669	2.669	2.002	2.002	1.468	4564.0	3423.4	3423.4	2510.3
VGP704 LED215-4S/740/740	18920.0	118.3	159.9	2.738	2.738	2.054	2.054	1.506	4682.0	3512.3	3512.3	2575.3
VGP704 LED220-4S/740/740	19360.0	121.4	159.5	2.81	2.81	2.107	2.107	1.546	4805.1	3603.0	3603.0	2643.7
VGP704 LED225-4S/740/740	19800.0	124.5	159.0	2.882	2.882	2.162	2.162	1.585	4928.2	3697.0	3697.0	2710.3
VGP704 LED228-4S/740/740	20064.0	126.3	158.9	2.924	2.924	2.193	2.193	1.608	5000.0	3750.0	3750.0	2749.7

VGP704 LED26-4S/830/830	2366.0	13.8	171.4	0.319	0.319	0.239	0.239	0.175	545.5	408.7	408.7	299.2
VGP704 LED30-4S/830/830	2730.0	16.3	167.5	0.377	0.377	0.283	0.283	0.207	644.7	483.9	483.9	354.0
VGP704 LED35-4S/830/830	3185.0	19.5	163.3	0.451	0.451	0.338	0.338	0.248	771.2	578.0	578.0	424.1
VGP704 LED40-4S/830/830	3640.0	22.7	160.4	0.525	0.525	0.394	0.394	0.289	897.8	673.7	673.7	494.2
VGP704 LED45-4S/830/830	4095.0	25.9	158.1	0.6	0.6	0.45	0.45	0.33	1026.0	769.5	769.5	564.3
VGP704 LED50-4S/830/830	4550.0	29.1	156.4	0.674	0.674	0.506	0.506	0.371	1152.5	865.3	865.3	634.4
VGP704 LED55-4S/830/830	5005.0	32.4	154.5	0.75	0.75	0.562	0.562	0.413	1282.5	961.0	961.0	706.2
VGP704 LED60-4S/830/830	5460.0	35.7	152.9	0.826	0.826	0.619	0.619	0.454	1412.5	1058.5	1058.5	776.3
VGP704 LED65-4S/830/830	5915.0	39.0	151.7	0.903	0.903	0.677	0.677	0.497	1544.1	1157.7	1157.7	849.9
VGP704 LED70-4S/830/830	6370.0	42.4	150.2	0.981	0.981	0.736	0.736	0.54	1677.5	1258.6	1258.6	923.4
VGP704 LED75-4S/830/830	6825.0	44.2	154.4	1.023	1.023	0.767	0.767	0.563	1749.3	1311.6	1311.6	962.7
VGP704 LED80-4S/830/830	7200.0	47.5	151.6	1.1	1.1	0.825	0.825	0.605	1881.0	1410.8	1410.8	1034.5
VGP704 LED85-4S/830/830	7650.0	50.8	150.6	1.176	1.176	0.882	0.882	0.647	2011.0	1508.2	1508.2	1106.4
VGP704 LED90-4S/830/830	8100.0	54.1	149.7	1.252	1.252	0.939	0.939	0.689	2140.9	1605.7	1605.7	1178.2
VGP704 LED95-4S/830/830	8550.0	57.5	148.7	1.331	1.331	0.998	0.998	0.732	2276.0	1706.6	1706.6	1251.7
VGP704 LED100-4S/830/830	9000.0	60.8	148.0	1.407	1.407	1.055	1.055	0.774	2406.0	1804.0	1804.0	1323.5
VGP704 LED105-4S/830/830	9450.0	64.2	147.2	1.486	1.486	1.115	1.115	0.817	2541.1	1906.7	1906.7	1397.1
VGP704 LED110-4S/830/830	9900.0	67.6	146.4	1.565	1.565	1.174	1.174	0.861	2676.2	2007.5	2007.5	1472.3
VGP704 LED115-4S/830/830	10235.0	71.0	144.2	1.644	1.644	1.233	1.233	0.904	2811.2	2108.4	2108.4	1545.8
VGP704 LED120-4S/830/830	10680.0	72.4	147.5	1.676	1.676	1.257	1.257	0.922	2866.0	2149.5	2149.5	1576.6
VGP704 LED125-4S/830/830	11125.0	75.8	146.8	1.755	1.755	1.316	1.316	0.965	3001.0	2250.4	2250.4	1650.1
VGP704 LED130-4S/830/830	11570.0	79.1	146.3	1.831	1.831	1.373	1.373	1.007	3131.0	2347.8	2347.8	1722.0
VGP704 LED135-4S/830/830	12015.0	82.5	145.6	1.91	1.91	1.432	1.432	1.05	3266.1	2448.7	2448.7	1795.5
VGP704 LED140-4S/830/830	12460.0	85.9	145.1	1.988	1.988	1.491	1.491	1.093	3399.5	2549.6	2549.6	1869.0

VGP704 LED145-4S/830/830	12905.0	89.3	144.5	2.067	2.067	1.55	1.55	1.137	3534.6	2650.5	2650.5	1944.3
VGP704 LED150-4S/830/830	13350.0	92.8	143.9	2.148	2.148	1.611	1.611	1.181	3673.1	2754.8	2754.8	2019.5
VGP704 LED155-4S/830/830	13640.0	96.2	141.8	2.227	2.227	1.67	1.67	1.225	3808.2	2855.7	2855.7	2094.8
VGP704 LED160-4S/830/830	14080.0	99.7	141.2	2.308	2.308	1.731	1.731	1.269	3946.7	2960.0	2960.0	2170.0
VGP704 LED165-4S/830/830	14520.0	103.2	140.7	2.389	2.389	1.792	1.792	1.314	4085.2	3064.3	3064.3	2246.9
VGP704 LED170-4S/830/830	14960.0	106.7	140.2	2.47	2.47	1.853	1.853	1.359	4223.7	3168.6	3168.6	2323.9
VGP704 LED175-4S/830/830	15400.0	110.2	139.7	2.551	2.551	1.913	1.913	1.403	4362.2	3271.2	3271.2	2399.1
VGP704 LED180-4S/830/830	15840.0	113.7	139.3	2.632	2.632	1.974	1.974	1.448	4500.7	3375.5	3375.5	2476.1
VGP704 LED185-4S/830/830	16280.0	117.3	138.8	2.715	2.715	2.036	2.036	1.493	4642.6	3481.6	3481.6	2553.0
VGP704 LED190-4S/830/830	16530.0	120.9	136.7	2.799	2.799	2.099	2.099	1.539	4786.3	3589.3	3589.3	2631.7
VGP704 LED195-4S/830/830	16965.0	124.5	136.3	2.882	2.882	2.162	2.162	1.585	4928.2	3697.0	3697.0	2710.3
VGP704 LED200-4S/830/830	17400.0	128.1	135.8	2.965	2.965	2.224	2.224	1.631	5070.1	3803.0	3803.0	2789.0
VGP704 LED205-4S/830/830	17835.0	131.7	135.4	3.049	3.049	2.287	2.287	1.677	5213.8	3910.8	3910.8	2867.7
VGP704 LED215-4S/830/830	18705.0	139.0	134.6	3.218	3.218	2.413	2.413	1.77	5502.8	4126.2	4126.2	3026.7
VGP704 LED220-4S/830/830	18920.0	142.7	132.6	3.303	3.303	2.477	2.477	1.817	5648.1	4235.7	4235.7	3107.1

** 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
VGP704 LED26-4S/730/730	2366.0	13.0	182.0	0.301	0.045	0.034	0.034	0.025	77.0	58.1	58.1	42.8

VGP704 LED30-4S/730/730	2730.0	15.2	179.6	0.352	0.045	0.034	0.034	0.025	77.0	58.1	58.1	42.8
VGP704 LED35-4S/730/730	3185.0	18.0	176.9	0.417	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED40-4S/730/730	3640.0	20.9	174.2	0.484	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED45-4S/730/730	4095.0	23.7	172.8	0.549	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED50-4S/730/730	4550.0	26.6	171.1	0.616	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED55-4S/730/730	5005.0	29.6	169.1	0.685	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED60-4S/730/730	5460.0	32.5	168.0	0.752	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED65-4S/730/730	5915.0	35.5	166.6	0.822	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED70-4S/730/730	6370.0	38.4	165.9	0.889	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED75-4S/730/730	6825.0	40.3	169.4	0.933	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 80 4S 730 48V III DM10 42/60S	7280.0	43.2	168.5	1.0	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED85-4S/730/730	7735.0	46.2	167.4	1.069	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED90-4S/730/730	8100.0	49.1	165.0	1.137	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED95-4S/730/730	8550.0	52.1	164.1	1.206	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED100-4S/730/730	9000.0	55.0	163.6	1.273	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED105-4S/730/730	9450.0	58.0	162.9	1.343	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED110-4S/730/730	9900.0	61.0	162.3	1.412	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED115-4S/730/730	10350.0	64.1	161.5	1.484	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED120-4S/730/730	10800.0	65.6	164.6	1.519	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED125-4S/730/730	11250.0	68.6	164.0	1.588	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED130-4S/730/730	11700.0	71.5	163.6	1.655	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED135-4S/730/730	12150.0	74.5	163.1	1.725	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED140-4S/730/730	12460.0	77.5	160.8	1.794	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED145-4S/730/730	12905.0	80.5	160.3	1.863	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9

VGP704 LED150-4S/730/730	13350.0	83.5	159.9	1.933	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED155-4S/730/730	13795.0	86.6	159.3	2.005	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED160-4S/730/730	14240.0	89.6	158.9	2.074	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED165-4S/730/730	14685.0	92.7	158.4	2.146	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED170-4S/730/730	15130.0	95.8	157.9	2.218	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED175-4S/730/730	15575.0	98.8	157.6	2.287	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED180-4S/730/730	16020.0	101.9	157.2	2.359	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED185-4S/730/730	16465.0	105.1	156.7	2.433	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED190-4S/730/730	16720.0	108.2	154.5	2.505	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED195-4S/730/730	17160.0	111.3	154.2	2.576	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED200-4S/730/730	17600.0	114.5	153.7	2.65	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED205-4S/730/730	18040.0	117.6	153.4	2.722	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED210-4S/730/730	18480.0	120.8	153.0	2.796	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED215-4S/730/730	18920.0	124.0	152.6	2.87	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED220-4S/730/730	19360.0	127.2	152.2	2.944	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED225-4S/730/730	19800.0	130.5	151.7	3.021	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3
VGP704 LED228-4S/730/730	20064.0	132.4	151.5	3.065	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED26-4S/740/740	2366.0	12.4	190.8	0.287	0.042	0.032	0.032	0.023	71.8	54.7	54.7	39.3
VGP704 LED30-4S/740/740	2730.0	14.5	188.3	0.336	0.043	0.032	0.032	0.024	73.5	54.7	54.7	41.0
VGP704 LED35-4S/740/740	3185.0	17.2	185.2	0.398	0.044	0.033	0.033	0.024	75.2	56.4	56.4	41.0
VGP704 LED40-4S/740/740	3640.0	19.9	182.9	0.461	0.044	0.033	0.033	0.024	75.2	56.4	56.4	41.0
VGP704 LED45-4S/740/740	4095.0	22.6	181.2	0.523	0.044	0.033	0.033	0.024	75.2	56.4	56.4	41.0
VGP704 LED50-4S/740/740	4550.0	25.4	179.1	0.588	0.045	0.034	0.034	0.025	77.0	58.1	58.1	42.8
VGP704 LED55-4S/740/740	5005.0	28.2	177.5	0.653	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8

VGP704 LED60-4S/740/740	5460.0	31.0	176.1	0.718	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED65-4S/740/740	5915.0	33.8	175.0	0.782	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED70-4S/740/740	6370.0	36.7	173.6	0.85	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED75-4S/740/740	6825.0	38.5	177.3	0.891	0.045	0.034	0.034	0.025	77.0	58.1	58.1	42.8
VGP704 LED80-4S/740/740	7280.0	41.3	176.3	0.956	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED85-4S/740/740	7735.0	44.0	175.8	1.019	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED90-4S/740/740	8190.0	46.9	174.6	1.086	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED95-4S/740/740	8550.0	49.7	172.0	1.15	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED100-4S/740/740	9000.0	52.5	171.4	1.215	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED105-4S/740/740	9450.0	55.4	170.6	1.282	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED110-4S/740/740	9900.0	58.2	170.1	1.347	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED115-4S/740/740	10350.0	61.1	169.4	1.414	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED120-4S/740/740	10800.0	62.6	172.5	1.449	0.046	0.035	0.035	0.025	78.7	59.9	59.9	42.8
VGP704 LED125-4S/740/740	11250.0	65.5	171.8	1.516	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED130-4S/740/740	11700.0	68.3	171.3	1.581	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED135-4S/740/740	12150.0	71.1	170.9	1.646	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED140-4S/740/740	12600.0	74.0	170.3	1.713	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED145-4S/740/740	12905.0	76.9	167.8	1.78	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED150-4S/740/740	13350.0	79.8	167.3	1.847	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED155-4S/740/740	13795.0	82.7	166.8	1.914	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED160-4S/740/740	14240.0	85.6	166.4	1.981	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED165-4S/740/740	14685.0	88.5	165.9	2.049	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED170-4S/740/740	15130.0	91.4	165.5	2.116	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED175-4S/740/740	15575.0	94.4	165.0	2.185	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5

VGP704 LED180-4S/740/740	16020.0	97.3	164.6	2.252	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED185-4S/740/740	16465.0	100.3	164.2	2.322	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED190-4S/740/740	16910.0	103.3	163.7	2.391	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED195-4S/740/740	17160.0	106.3	161.4	2.461	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED200-4S/740/740	17600.0	109.3	161.0	2.53	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED205-4S/740/740	18040.0	112.3	160.6	2.6	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED210-4S/740/740	18480.0	115.3	160.3	2.669	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED215-4S/740/740	18920.0	118.3	159.9	2.738	0.049	0.037	0.037	0.027	83.8	63.3	63.3	46.2
VGP704 LED220-4S/740/740	19360.0	121.4	159.5	2.81	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED225-4S/740/740	19800.0	124.5	159.0	2.882	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED228-4S/740/740	20064.0	126.3	158.9	2.924	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED26-4S/830/830	2366.0	13.8	171.4	0.319	0.047	0.035	0.035	0.026	80.4	59.9	59.9	44.5
VGP704 LED30-4S/830/830	2730.0	16.3	167.5	0.377	0.048	0.036	0.036	0.026	82.1	61.6	61.6	44.5
VGP704 LED35-4S/830/830	3185.0	19.5	163.3	0.451	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED40-4S/830/830	3640.0	22.7	160.4	0.525	0.05	0.038	0.038	0.028	85.5	65.0	65.0	47.9
VGP704 LED45-4S/830/830	4095.0	25.9	158.1	0.6	0.051	0.038	0.038	0.028	87.2	65.0	65.0	47.9
VGP704 LED50-4S/830/830	4550.0	29.1	156.4	0.674	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED55-4S/830/830	5005.0	32.4	154.5	0.75	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED60-4S/830/830	5460.0	35.7	152.9	0.826	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED65-4S/830/830	5915.0	39.0	151.7	0.903	0.053	0.04	0.04	0.029	90.6	68.4	68.4	49.6
VGP704 LED70-4S/830/830	6370.0	42.4	150.2	0.981	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3
VGP704 LED75-4S/830/830	6825.0	44.2	154.4	1.023	0.052	0.039	0.039	0.029	88.9	66.7	66.7	49.6
VGP704 LED80-4S/830/830	7200.0	47.5	151.6	1.1	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3
VGP704 LED85-4S/830/830	7650.0	50.8	150.6	1.176	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3

VGP704 LED90-4S/830/830	8100.0	54.1	149.7	1.252	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3
VGP704 LED95-4S/830/830	8550.0	57.5	148.7	1.331	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED100-4S/830/830	9000.0	60.8	148.0	1.407	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED105-4S/830/830	9450.0	64.2	147.2	1.486	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED110-4S/830/830	9900.0	67.6	146.4	1.565	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED115-4S/830/830	10235.0	71.0	144.2	1.644	0.056	0.042	0.042	0.031	95.8	71.8	71.8	53.0
VGP704 LED120-4S/830/830	10680.0	72.4	147.5	1.676	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED125-4S/830/830	11125.0	75.8	146.8	1.755	0.054	0.041	0.041	0.03	92.3	70.1	70.1	51.3
VGP704 LED130-4S/830/830	11570.0	79.1	146.3	1.831	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED135-4S/830/830	12015.0	82.5	145.6	1.91	0.055	0.041	0.041	0.03	94.0	70.1	70.1	51.3
VGP704 LED140-4S/830/830	12460.0	85.9	145.1	1.988	0.056	0.042	0.042	0.031	95.8	71.8	71.8	53.0
VGP704 LED145-4S/830/830	12905.0	89.3	144.5	2.067	0.056	0.042	0.042	0.031	95.8	71.8	71.8	53.0
VGP704 LED150-4S/830/830	13350.0	92.8	143.9	2.148	0.056	0.042	0.042	0.031	95.8	71.8	71.8	53.0
VGP704 LED155-4S/830/830	13640.0	96.2	141.8	2.227	0.058	0.044	0.044	0.032	99.2	75.2	75.2	54.7
VGP704 LED160-4S/830/830	14080.0	99.7	141.2	2.308	0.058	0.044	0.044	0.032	99.2	75.2	75.2	54.7
VGP704 LED165-4S/830/830	14520.0	103.2	140.7	2.389	0.057	0.043	0.043	0.031	97.5	73.5	73.5	53.0
VGP704 LED170-4S/830/830	14960.0	106.7	140.2	2.47	0.057	0.043	0.043	0.031	97.5	73.5	73.5	53.0
VGP704 LED175-4S/830/830	15400.0	110.2	139.7	2.551	0.059	0.044	0.044	0.032	100.9	75.2	75.2	54.7
VGP704 LED180-4S/830/830	15840.0	113.7	139.3	2.632	0.058	0.044	0.044	0.032	99.2	75.2	75.2	54.7
VGP704 LED185-4S/830/830	16280.0	117.3	138.8	2.715	0.057	0.043	0.043	0.031	97.5	73.5	73.5	53.0
VGP704 LED190-4S/830/830	16530.0	120.9	136.7	2.799	0.059	0.044	0.044	0.032	100.9	75.2	75.2	54.7
VGP704 LED195-4S/830/830	16965.0	124.5	136.3	2.882	0.061	0.046	0.046	0.034	104.3	78.7	78.7	58.1
VGP704 LED200-4S/830/830	17400.0	128.1	135.8	2.965	0.059	0.044	0.044	0.032	100.9	75.2	75.2	54.7
VGP704 LED205-4S/830/830	17835.0	131.7	135.4	3.049	0.061	0.046	0.046	0.034	104.3	78.7	78.7	58.1

VGP704 LED215-4S/830/830	18705.0	139.0	134.6	3.218	0.061	0.046	0.046	0.034	104.3	78.7	78.7	58.1
VGP704 LED220-4S/830/830	18920.0	142.7	132.6	3.303	0.059	0.044	0.044	0.032	100.9	75.2	75.2	54.7

** 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.*