ENVIRONMENTAL PRODUCT DECLARATION

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

Philips Iridium gen4

BGP502
Signify N.V.

EPD HUB
Publishing 2024-07-02

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 Iridium gen4 Medium
Additional labels	BGP502 LED120-4S/830 DW10 BL1 FG GF SRTB
Product reference	910925866571
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 10200 lumens over 100000 hours
Declared unit mass	11.921 kg
GWP-fossil, A1-A3 (kgCO2e)	1,03E+02
GWP-total, A1-A3 (kgCO2e)	1,03E+02
Secondary material, inputs (%)	50.6
Secondary material, outputs (%)	59.8
Total energy use, A1-A3 (kWh)	357
Total water use, A1-A3 (m3e)	0.67

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

Iridium gen4, the fourth generation of the Iridium family, is completely redesigned and fully optimized for visual comfort and tool-less maintenance. The Iridium gen4 provides guidance through the clear curved bowl placed in each luminaire along the road. Optional is the offer with GentleBeam. This is a textured curved glass, which reduces glare and improves visual comfort, while maintaining a good lighting distribution. The luminaire holds a new plug and play GearFlex module. This ensures a simplified maintenance and spare part repair process. The complete redesigned luminaire has a tool less opening, similar to Luma gen2, containing all electrical components in an easy to handle and accessible box inside the housing. Besides, the cable feed-through has been redesigned and access to the gear components is easy thanks to top down tool-less access. Iridium gen4 offers all connectivity and dimming options available today. As System Ready luminaire, it can be paired with lighting management systems such as Interact City or existing and upcoming sensor innovations. Also, installation has become easier and faster, and thanks to Service tag, you have access to all relevant documentations onsite. As a company conscious about the impact of light on the environment and biodiversity, the Iridium gen4 is equipped with dedicated light recipes that help with maintaining the optimal ecosystems for bats or preserve a dark night sky. Iridium gen4 is a luminaire rated as best in class regarding efficiency and light performance, compared to other luminaires in the range, in a broad range of applications.

For more information, please visit https://www.lighting.philips.com/link/BGP501/fam/aa/en

Philips Iridium gen4 Medium-BGP502

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	70.55	EUR, ASIA
Minerals	2.34	EU
Fossil materials	27.11	EUR, ASIA
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	0.009

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Product
Mass per declared unit	11.921 kg
Functional unit	1 unit of 10200 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.

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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)

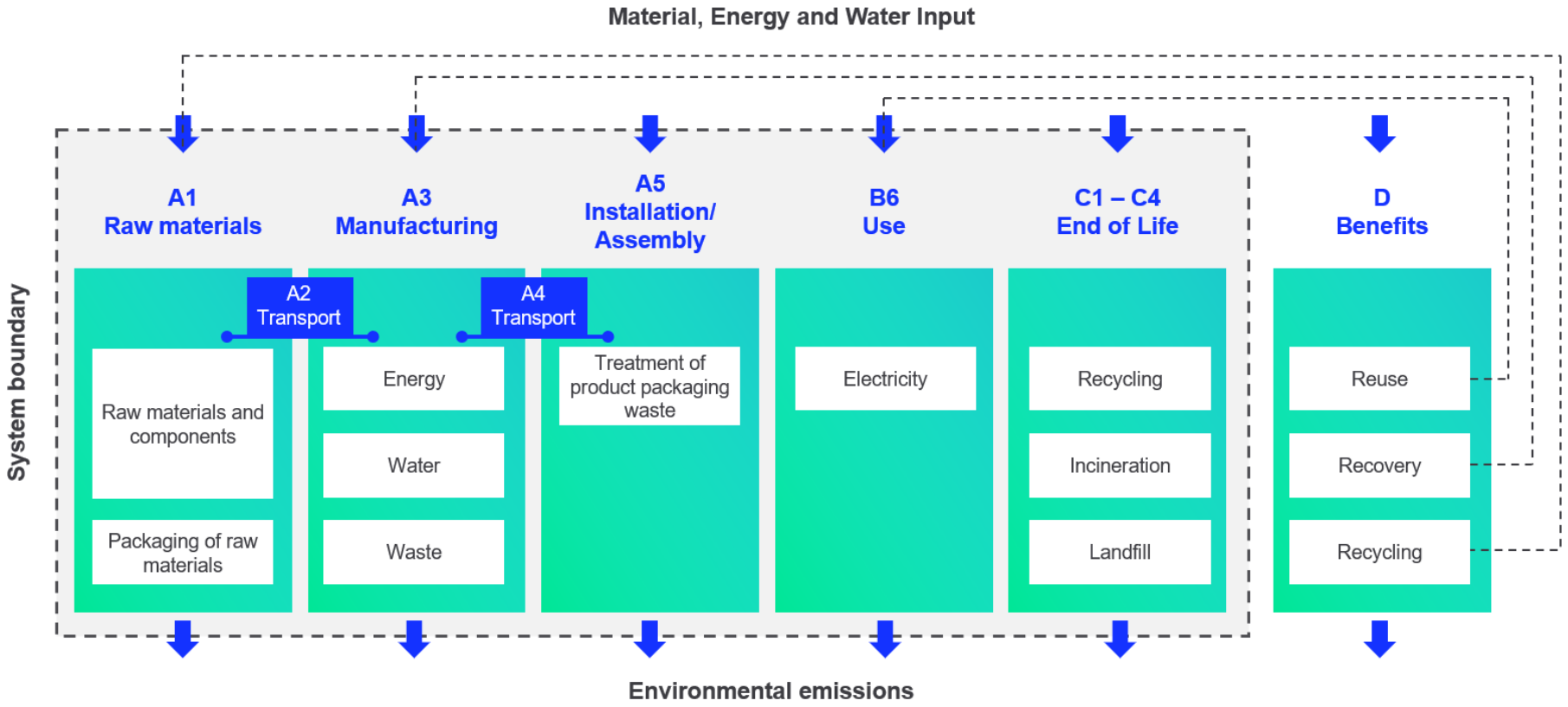
During the use phase, the product consumes electricity from Europe's electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

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
No allocation	No allocation
No allocation	Allocated by mass or volume
Allocated by mass or volume	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	9,99E+01	2,25E+00	6,95E-01	1,03E+02	2,25E+00	7,43E-02	MNR	MNR	MNR	MNR	MNR	3,17E+03	MNR	MNR	1,67E-01	3,63E+00	2,91E+00	-1,87E+01
GWP – fossil	kg CO_2e	1,01E+02	2,25E+00	7,11E-01	1,03E+02	2,25E+00	4,31E-02	MNR	MNR	MNR	MNR	MNR	3,16E+03	MNR	MNR	1,67E-01	3,63E+00	2,06E+00	-1,87E+01
GWP – biogenic	kg CO_2e	-8,38E-01	0,00E+00	-1,77E-02	-8,56E-01	8,68E-04	3,12E-02	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	0,00E+00	8,46E-01	-1,02E-02
GWP – LULUC	kg CO_2e	1,65E-01	1,12E-03	1,05E-03	1,68E-01	8,28E-04	5,27E-07	MNR	MNR	MNR	MNR	MNR	7,39E+00	MNR	MNR	6,16E-05	2,19E-04	1,47E-04	-4,37E-03
Ozone depletion pot.	kg CFC_{-11}e	2,71E-05	4,92E-07	1,07E-07	2,77E-05	5,17E-07	1,28E-10	MNR	MNR	MNR	MNR	MNR	1,61E-04	MNR	MNR	3,84E-08	2,33E-08	1,82E-08	-5,16E-07
Acidification potential	mol H^+e	7,60E-01	3,23E-02	2,12E-03	7,94E-01	9,51E-03	1,59E-05	MNR	MNR	MNR	MNR	MNR	1,81E+01	MNR	MNR	7,07E-04	2,47E-03	1,04E-03	-2,67E-01
EP-freshwater[2)]	kg Pe	5,85E-03	1,47E-05	1,55E-05	5,88E-03	1,84E-05	1,57E-08	MNR	MNR	MNR	MNR	MNR	3,35E-01	MNR	MNR	1,37E-06	7,28E-06	6,76E-06	-1,42E-03
EP-marine	kg Ne	1,09E-01	8,26E-03	5,26E-04	1,18E-01	2,83E-03	7,76E-06	MNR	MNR	MNR	MNR	MNR	2,39E+00	MNR	MNR	2,10E-04	7,30E-04	1,47E-03	-2,33E-02
EP-terrestrial	mol Ne	1,15E+00	9,17E-02	4,95E-03	1,24E+00	3,12E-02	7,86E-05	MNR	MNR	MNR	MNR	MNR	2,72E+01	MNR	MNR	2,32E-03	7,94E-03	3,83E-03	-2,82E-01
POCP ("smog")[3)]	kg NMVOCe	3,66E-01	2,50E-02	2,17E-03	3,93E-01	9,97E-03	1,92E-05	MNR	MNR	MNR	MNR	MNR	7,46E+00	MNR	MNR	7,42E-04	2,06E-03	1,22E-03	-8,07E-02
ADP-minerals & metals[4)]	kg Sbe	6,66E-03	4,49E-06	4,12E-06	6,67E-03	5,26E-06	4,26E-09	MNR	MNR	MNR	MNR	MNR	2,95E-02	MNR	MNR	3,92E-07	1,70E-05	4,19E-07	-2,53E-03
ADP-fossil resources	MJ	1,21E+03	3,18E+01	9,57E+00	1,25E+03	3,37E+01	1,31E-02	MNR	MNR	MNR	MNR	MNR	6,73E+04	MNR	MNR	2,51E+00	2,39E+00	1,75E+00	-1,84E+02
Water use[5)]	m^3e depr.	3,65E+01	1,27E-01	1,82E-01	3,68E+01	1,51E-01	2,87E-03	MNR	MNR	MNR	MNR	MNR	1,84E+03	MNR	MNR	1,12E-02	1,68E-01	1,30E-01	-2,09E+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	7,28E-06	1,91E-07	3,93E-08	7,51E-06	2,59E-07	1,14E-10	MNR	MNR	MNR	MNR	MNR	5,93E-05	MNR	MNR	1,93E-08	2,67E-08	1,36E-08	-1,27E-06
Ionizing radiation[6)]	kBq U235e	5,92E+00	1,50E-01	2,03E-02	6,09E+00	1,61E-01	3,26E-05	MNR	MNR	MNR	MNR	MNR	1,82E+03	MNR	MNR	1,19E-02	1,27E-02	8,82E-03	-1,13E+00

Ecotoxicity (freshwater)	CTUe	5,12E+03	2,59E+01	2,30E+01	5,16E+03	3,03E+01	4,60E-02	MNR	MNR	MNR	MNR	MNR	4,58E+04	MNR	MNR	2,26E+00	1,55E+01	7,22E+02	-1,16E+03
Human toxicity, cancer	CTUh	2,99E-07	9,62E-10	1,11E-09	3,01E-07	7,45E-10	4,79E-12	MNR	MNR	MNR	MNR	MNR	1,50E-06	MNR	MNR	5,54E-11	5,54E-10	2,06E-09	-1,35E-08
Human tox. non-cancer	CTUh	5,44E-06	2,34E-08	7,90E-09	5,47E-06	3,00E-08	2,36E-10	MNR	MNR	MNR	MNR	MNR	4,93E-05	MNR	MNR	2,23E-09	2,24E-08	1,22E-07	-1,67E-06
SQP[7)]	-	4,52E+02	2,63E+01	6,25E+00	4,85E+02	3,89E+01	6,28E-03	MNR	MNR	MNR	MNR	MNR	1,22E+04	MNR	MNR	2,89E+00	3,70E+00	2,40E+00	-7,02E+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	1,08E+02	3,13E-01	8,72E+00	1,17E+02	3,80E-01	2,86E-04	MNR	MNR	MNR	MNR	MNR	1,37E+04	MNR	MNR	2,83E-02	2,96E-01	7,66E-02	-7,86E+00
Renew. PER as material	MJ	7,67E+00	0,00E+00	3,07E-01	7,98E+00	0,00E+00	-3,07E-01	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	0,00E+00	-7,67E+00	0,00E+00
Total use of renew. PER	MJ	1,16E+02	3,13E-01	9,03E+00	1,25E+02	3,80E-01	-3,07E-01	MNR	MNR	MNR	MNR	MNR	1,37E+04	MNR	MNR	2,83E-02	2,96E-01	-7,60E+00	-7,86E+00
Non-re. PER as energy	MJ	1,13E+03	3,18E+01	9,10E+00	1,17E+03	3,37E+01	1,31E-02	MNR	MNR	MNR	MNR	MNR	6,71E+04	MNR	MNR	2,51E+00	2,39E+00	1,75E+00	-1,84E+02
Non-re. PER as material	MJ	8,28E+01	0,00E+00	7,96E-03	8,28E+01	0,00E+00	-7,96E-03	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	-4,04E+01	-4,21E+01	0,00E+00
Total use of non-re. PER	MJ	1,21E+03	3,18E+01	9,11E+00	1,25E+03	3,37E+01	5,15E-03	MNR	MNR	MNR	MNR	MNR	6,71E+04	MNR	MNR	2,51E+00	-3,80E+01	-4,03E+01	-1,84E+02
Secondary materials	kg	6,03E+00	1,06E-02	1,81E-02	6,06E+00	9,36E-03	1,61E-05	MNR	MNR	MNR	MNR	MNR	6,93E+00	MNR	MNR	6,97E-04	2,45E-03	4,01E-03	7,72E-01
Renew. secondary fuels	MJ	1,47E-01	7,30E-05	2,61E-04	1,47E-01	9,45E-05	1,02E-07	MNR	MNR	MNR	MNR	MNR	5,62E-02	MNR	MNR	7,03E-06	1,16E-04	3,52E-05	-1,68E-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	6,63E-01	3,45E-03	3,98E-03	6,70E-01	4,37E-03	6,63E-06	MNR	MNR	MNR	MNR	MNR	5,79E+01	MNR	MNR	3,25E-04	6,00E-03	3,29E-03	-9,31E-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	1,63E+01	4,25E-02	7,10E-02	1,64E+01	4,47E-02	7,89E-04	MNR	MNR	MNR	MNR	MNR	2,42E+02	MNR	MNR	3,33E-03	1,34E-02	7,10E-02	-2,90E+00
Non-hazardous waste	kg	1,91E+02	5,84E-01	5,08E-01	1,92E+02	7,35E-01	2,29E-02	MNR	MNR	MNR	MNR	MNR	1,53E+04	MNR	MNR	5,47E-02	1,80E+00	4,72E+00	-7,60E+01
Radioactive waste	kg	2,46E-03	2,16E-04	1,27E-05	2,69E-03	2,26E-04	2,46E-08	MNR	MNR	MNR	MNR	MNR	4,90E-01	MNR	MNR	1,68E-05	7,77E-06	0,00E+00	-4,16E-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	5,67E+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	1,46E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	0,00E+00	4,09E-01	4,09E-01	0,00E+00	0,00E+00	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	3,22E+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	9,80E+01	2,23E+00	7,13E-01	1,01E+02	2,22E+00	4,30E-02	MNR	MNR	MNR	MNR	MNR	3,13E+03	MNR	MNR	1,65E-01	3,62E+00	2,51E+00	-1,83E+01
Ozone depletion Pot.	kg CFC_{-11}e	1,92E-05	3,89E-07	9,36E-08	1,97E-05	4,09E-07	1,10E-10	MNR	MNR	MNR	MNR	MNR	1,39E-04	MNR	MNR	3,04E-08	1,95E-08	1,49E-08	-4,36E-07
Acidification	kg SO_2e	6,44E-01	2,57E-02	1,72E-03	6,71E-01	7,39E-03	1,12E-05	MNR	MNR	MNR	MNR	MNR	1,53E+01	MNR	MNR	5,50E-04	1,92E-03	7,87E-04	-2,31E-01
Eutrophication	kg PO_4^3e	2,21E-01	3,41E-03	1,01E-03	2,25E-01	1,68E-03	9,23E-06	MNR	MNR	MNR	MNR	MNR	1,18E+01	MNR	MNR	1,25E-04	8,35E-04	7,48E-03	-6,35E-02
POCP (“smog”)	kg C_2H_4e	3,82E-02	7,24E-04	1,68E-04	3,91E-02	2,88E-04	2,49E-07	MNR	MNR	MNR	MNR	MNR	6,27E-01	MNR	MNR	2,15E-05	6,37E-05	1,54E-04	-1,04E-02
ADP-elements	kg Sbe	6,64E-03	4,37E-06	4,05E-06	6,65E-03	5,10E-06	3,55E-09	MNR	MNR	MNR	MNR	MNR	2,95E-02	MNR	MNR	3,79E-07	1,69E-05	3,71E-07	-2,52E-03
ADP-fossil	MJ	1,21E+03	3,18E+01	9,57E+00	1,25E+03	3,37E+01	1,31E-02	MNR	MNR	MNR	MNR	MNR	6,71E+04	MNR	MNR	2,51E+00	2,39E+00	1,75E+00	-1,84E+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 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
BGP502 LED8-4S/757	728.0	5.6	130.0	0.07	0.07	0.053	0.053	0.039	221.9	168.0	168.0	123.6
BGP502 LED10-4S/757	910.0	6.8	133.8	0.085	0.085	0.064	0.064	0.047	269.5	202.9	202.9	149.0
BGP502 LED12-4S/757	1092.0	7.7	141.8	0.096	0.096	0.072	0.072	0.053	304.3	228.2	228.2	168.0
BGP502 LED14-4S/757	1274.0	8.9	143.1	0.111	0.111	0.083	0.083	0.061	351.9	263.1	263.1	193.4
BGP502 LED16-4S/757	1456.0	10.0	145.6	0.125	0.125	0.094	0.094	0.069	396.2	298.0	298.0	218.7
BGP502 LED18-4S/757	1620.0	11.2	144.6	0.14	0.14	0.105	0.105	0.077	443.8	332.8	332.8	244.1
BGP502 LED20-4S/757	1800.0	12.4	145.2	0.155	0.155	0.116	0.116	0.085	491.4	367.7	367.7	269.5
BGP502 LED22-4S/757	1980.0	13.6	145.6	0.17	0.17	0.128	0.128	0.094	538.9	405.8	405.8	298.0
BGP502 LED24-4S/757	2184.0	14.4	151.7	0.18	0.18	0.135	0.135	0.099	570.6	428.0	428.0	313.8
BGP502 LED27-4S/757	2457.0	16.0	153.6	0.2	0.2	0.15	0.15	0.11	634.0	475.5	475.5	348.7
BGP502 LED30-4S/757	2730.0	17.8	153.4	0.222	0.222	0.166	0.166	0.122	703.7	526.2	526.2	386.7
BGP502 LED35-4S/757	3150.0	20.5	153.7	0.256	0.256	0.192	0.192	0.141	811.5	608.6	608.6	447.0

BGP502 LED40-4S/757	3600.0	23.5	153.2	0.294	0.294	0.22	0.22	0.162	932.0	697.4	697.4	513.5
BGP502 LED45-4S/757	4050.0	26.5	152.8	0.331	0.331	0.248	0.248	0.182	1049.3	786.2	786.2	576.9
BGP502 LED50-4S/757	4500.0	30.0	150.0	0.375	0.375	0.281	0.281	0.206	1188.8	890.8	890.8	653.0
BGP502 LED55-4S/757	4984.0	33.0	151.0	0.412	0.412	0.309	0.309	0.227	1306.0	979.5	979.5	719.6
BGP502 LED60-4S/757	5340.0	36.5	146.3	0.456	0.456	0.342	0.342	0.251	1445.5	1084.1	1084.1	795.7
BGP502 LED65-4S/757	5874.0	37.0	158.8	0.462	0.462	0.347	0.347	0.254	1464.5	1100.0	1100.0	805.2
BGP502 LED70-4S/757	6160.0	40.5	152.1	0.506	0.506	0.38	0.38	0.278	1604.0	1204.6	1204.6	881.3
BGP502 LED75-4S/757	6688.0	43.5	153.7	0.544	0.544	0.408	0.408	0.299	1724.5	1293.4	1293.4	947.8
BGP502 LED80-4S/757	7040.0	46.5	151.4	0.581	0.581	0.436	0.436	0.32	1841.8	1382.1	1382.1	1014.4
BGP502 LED85-4S/757	7568.0	48.0	157.7	0.6	0.6	0.45	0.45	0.33	1902.0	1426.5	1426.5	1046.1
BGP502 LED90-4S/757	7920.0	51.0	155.3	0.638	0.638	0.479	0.479	0.351	2022.5	1518.4	1518.4	1112.7
BGP502 LED95-4S/757	8352.0	52.0	160.6	0.65	0.65	0.488	0.488	0.358	2060.5	1547.0	1547.0	1134.9
BGP502 LED100-4S/757	8700.0	55.0	158.2	0.688	0.688	0.516	0.516	0.378	2181.0	1635.7	1635.7	1198.3
BGP502 LED110-4S/757	9570.0	61.0	156.9	0.762	0.762	0.572	0.572	0.419	2415.5	1813.2	1813.2	1328.2
BGP502 LED120-4S/757	10320.0	66.0	156.4	0.825	0.825	0.619	0.619	0.454	2615.2	1962.2	1962.2	1439.2
BGP502 LED130-4S/757	11180.0	72.0	155.3	0.9	0.9	0.675	0.675	0.495	2853.0	2139.8	2139.8	1569.2
BGP502 LED140-4S/757	12040.0	79.0	152.4	0.988	0.988	0.741	0.741	0.543	3132.0	2349.0	2349.0	1721.3
BGP502 LED150-4S/757	12750.0	85.0	150.0	1.062	1.062	0.796	0.796	0.584	3366.5	2523.3	2523.3	1851.3
BGP502 LED160-4S/757	13600.0	91.0	149.5	1.138	1.138	0.853	0.853	0.626	3607.5	2704.0	2704.0	1984.4
BGP502 LED170-4S/757	14280.0	97.0	147.2	1.212	1.212	0.909	0.909	0.667	3842.0	2881.5	2881.5	2114.4
BGP502 LED180-4S/757	15120.0	104.0	145.4	1.3	1.3	0.975	0.975	0.715	4121.0	3090.8	3090.8	2266.5
BGP502 LED190-4S/757	15580.0	114.0	136.7	1.425	1.425	1.069	1.069	0.784	4517.2	3388.7	3388.7	2485.3
BGP502 LED200-4S/757	16200.0	120.0	135.0	1.5	1.5	1.125	1.125	0.825	4755.0	3566.2	3566.2	2615.2
BGP502 LED210-4S/757	17010.0	128.0	132.9	1.6	1.6	1.2	1.2	0.88	5072.0	3804.0	3804.0	2789.6
BGP502 LED8-4S/740	728.0	5.6	130.0	0.07	0.07	0.053	0.053	0.039	221.9	168.0	168.0	123.6

BGP502 LED10-4S/740	910.0	6.8	133.8	0.085	0.085	0.064	0.064	0.047	269.5	202.9	202.9	149.0
BGP502 LED12-4S/740	1092.0	7.7	141.8	0.096	0.096	0.072	0.072	0.053	304.3	228.2	228.2	168.0
BGP502 LED14-4S/740	1274.0	8.9	143.1	0.111	0.111	0.083	0.083	0.061	351.9	263.1	263.1	193.4
BGP502 LED16-4S/740	1456.0	10.0	145.6	0.125	0.125	0.094	0.094	0.069	396.2	298.0	298.0	218.7
BGP502 LED18-4S/740	1620.0	11.2	144.6	0.14	0.14	0.105	0.105	0.077	443.8	332.8	332.8	244.1
BGP502 LED20-4S/740	1800.0	12.4	145.2	0.155	0.155	0.116	0.116	0.085	491.4	367.7	367.7	269.5
BGP502 LED22-4S/740	1980.0	13.6	145.6	0.17	0.17	0.128	0.128	0.094	538.9	405.8	405.8	298.0
BGP502 LED24-4S/740	2184.0	14.4	151.7	0.18	0.18	0.135	0.135	0.099	570.6	428.0	428.0	313.8
BGP502 LED27-4S/740	2457.0	16.0	153.6	0.2	0.2	0.15	0.15	0.11	634.0	475.5	475.5	348.7
BGP502 LED30-4S/740	2730.0	17.8	153.4	0.222	0.222	0.166	0.166	0.122	703.7	526.2	526.2	386.7
BGP502 LED35-4S/740	3150.0	20.5	153.7	0.256	0.256	0.192	0.192	0.141	811.5	608.6	608.6	447.0
BGP502 LED40-4S/740	3600.0	23.5	153.2	0.294	0.294	0.22	0.22	0.162	932.0	697.4	697.4	513.5
BGP502 LED45-4S/740	4050.0	27.0	150.0	0.338	0.338	0.254	0.254	0.186	1071.5	805.2	805.2	589.6
BGP502 LED50-4S/740	4500.0	30.0	150.0	0.375	0.375	0.281	0.281	0.206	1188.8	890.8	890.8	653.0
BGP502 LED55-4S/740	4984.0	33.0	151.0	0.412	0.412	0.309	0.309	0.227	1306.0	979.5	979.5	719.6
BGP502 LED60-4S/740	5340.0	36.5	146.3	0.456	0.456	0.342	0.342	0.251	1445.5	1084.1	1084.1	795.7
BGP502 LED65-4S/740	5874.0	37.0	158.8	0.462	0.462	0.347	0.347	0.254	1464.5	1100.0	1100.0	805.2
BGP502 LED70-4S/740	6160.0	40.5	152.1	0.506	0.506	0.38	0.38	0.278	1604.0	1204.6	1204.6	881.3
BGP502 LED75-4S/740	6688.0	43.5	153.7	0.544	0.544	0.408	0.408	0.299	1724.5	1293.4	1293.4	947.8
BGP502 LED80-4S/740	7040.0	46.5	151.4	0.581	0.581	0.436	0.436	0.32	1841.8	1382.1	1382.1	1014.4
BGP502 LED85-4S/740	7568.0	48.0	157.7	0.6	0.6	0.45	0.45	0.33	1902.0	1426.5	1426.5	1046.1
BGP502 LED90-4S/740	7920.0	51.0	155.3	0.638	0.638	0.479	0.479	0.351	2022.5	1518.4	1518.4	1112.7
BGP502 LED95-4S/740	8352.0	52.0	160.6	0.65	0.65	0.488	0.488	0.358	2060.5	1547.0	1547.0	1134.9
BGP502 LED100-4S/740	8700.0	55.0	158.2	0.688	0.688	0.516	0.516	0.378	2181.0	1635.7	1635.7	1198.3
BGP502 LED110-4S/740	9570.0	61.0	156.9	0.762	0.762	0.572	0.572	0.419	2415.5	1813.2	1813.2	1328.2

BGP502 LED120-4S/740	10320.0	66.0	156.4	0.825	0.825	0.619	0.619	0.454	2615.2	1962.2	1962.2	1439.2
BGP502 LED130-4S/740	11180.0	72.0	155.3	0.9	0.9	0.675	0.675	0.495	2853.0	2139.8	2139.8	1569.2
BGP502 LED140-4S/740	12040.0	79.0	152.4	0.988	0.988	0.741	0.741	0.543	3132.0	2349.0	2349.0	1721.3
BGP502 LED150-4S/740	12750.0	85.0	150.0	1.062	1.062	0.796	0.796	0.584	3366.5	2523.3	2523.3	1851.3
BGP502 LED160-4S/740	13600.0	91.0	149.5	1.138	1.138	0.853	0.853	0.626	3607.5	2704.0	2704.0	1984.4
BGP502 LED170-4S/740	14280.0	97.0	147.2	1.212	1.212	0.909	0.909	0.667	3842.0	2881.5	2881.5	2114.4
BGP502 LED180-4S/740	15120.0	104.0	145.4	1.3	1.3	0.975	0.975	0.715	4121.0	3090.8	3090.8	2266.5
BGP502 LED190-4S/740	15580.0	114.0	136.7	1.425	1.425	1.069	1.069	0.784	4517.2	3388.7	3388.7	2485.3
BGP502 LED200-4S/740	16200.0	120.0	135.0	1.5	1.5	1.125	1.125	0.825	4755.0	3566.2	3566.2	2615.2
BGP502 LED210-4S/740	17010.0	128.0	132.9	1.6	1.6	1.2	1.2	0.88	5072.0	3804.0	3804.0	2789.6
BGP502 LED8-4S/730	728.0	5.9	123.4	0.074	0.074	0.055	0.055	0.041	234.6	174.4	174.4	130.0
BGP502 LED10-4S/730	910.0	7.1	128.2	0.089	0.089	0.067	0.067	0.049	282.1	212.4	212.4	155.3
BGP502 LED12-4S/730	1092.0	8.2	133.2	0.102	0.102	0.076	0.076	0.056	323.3	240.9	240.9	177.5
BGP502 LED14-4S/730	1274.0	9.4	135.5	0.118	0.118	0.088	0.088	0.065	374.1	279.0	279.0	206.0
BGP502 LED16-4S/730	1440.0	10.6	135.8	0.132	0.132	0.099	0.099	0.073	418.4	313.8	313.8	231.4
BGP502 LED18-4S/730	1620.0	11.8	137.3	0.148	0.148	0.111	0.111	0.081	469.2	351.9	351.9	256.8
BGP502 LED20-4S/730	1800.0	13.2	136.4	0.165	0.165	0.124	0.124	0.091	523.1	393.1	393.1	288.5
BGP502 LED22-4S/730	1980.0	14.6	135.6	0.182	0.182	0.136	0.136	0.1	576.9	431.1	431.1	317.0
BGP502 LED24-4S/730	2184.0	15.2	143.7	0.19	0.19	0.143	0.143	0.105	602.3	453.3	453.3	332.8
BGP502 LED27-4S/730	2457.0	17.0	144.5	0.212	0.212	0.159	0.159	0.117	672.0	504.0	504.0	370.9
BGP502 LED30-4S/730	2700.0	18.8	143.6	0.235	0.235	0.176	0.176	0.129	744.9	557.9	557.9	408.9
BGP502 LED35-4S/730	3150.0	22.0	143.2	0.275	0.275	0.206	0.206	0.151	871.8	653.0	653.0	478.7
BGP502 LED40-4S/730	3600.0	25.0	144.0	0.312	0.312	0.234	0.234	0.172	989.0	741.8	741.8	545.2
BGP502 LED45-4S/730	4050.0	28.5	142.1	0.356	0.356	0.267	0.267	0.196	1128.5	846.4	846.4	621.3
BGP502 LED50-4S/730	4450.0	32.0	139.1	0.4	0.4	0.3	0.3	0.22	1268.0	951.0	951.0	697.4

BGP502 LED55-4S/730	4984.0	35.5	140.4	0.444	0.444	0.333	0.333	0.244	1407.5	1055.6	1055.6	773.5
BGP502 LED60-4S/730	5340.0	36.5	146.3	0.456	0.456	0.342	0.342	0.251	1445.5	1084.1	1084.1	795.7
BGP502 LED65-4S/730	5808.0	39.5	147.0	0.494	0.494	0.37	0.37	0.272	1566.0	1172.9	1172.9	862.2
BGP502 LED70-4S/730	6160.0	43.0	143.3	0.538	0.538	0.404	0.404	0.296	1705.5	1280.7	1280.7	938.3
BGP502 LED75-4S/730	6688.0	46.0	145.4	0.575	0.575	0.431	0.431	0.316	1822.7	1366.3	1366.3	1001.7
BGP502 LED80-4S/730	6960.0	49.5	140.6	0.619	0.619	0.464	0.464	0.34	1962.2	1470.9	1470.9	1077.8
BGP502 LED85-4S/730	7568.0	51.0	148.4	0.638	0.638	0.479	0.479	0.351	2022.5	1518.4	1518.4	1112.7
BGP502 LED90-4S/730	7830.0	52.0	150.6	0.65	0.65	0.488	0.488	0.358	2060.5	1547.0	1547.0	1134.9
BGP502 LED95-4S/730	8352.0	55.0	151.9	0.688	0.688	0.516	0.516	0.378	2181.0	1635.7	1635.7	1198.3
BGP502 LED100-4S/730	8700.0	58.0	150.0	0.725	0.725	0.544	0.544	0.399	2298.2	1724.5	1724.5	1264.8
BGP502 LED110-4S/730	9570.0	65.0	147.2	0.812	0.812	0.609	0.609	0.447	2574.0	1930.5	1930.5	1417.0
BGP502 LED120-4S/730	10320.0	71.0	145.4	0.888	0.888	0.666	0.666	0.488	2815.0	2111.2	2111.2	1547.0
BGP502 LED130-4S/730	11180.0	77.0	145.2	0.962	0.962	0.722	0.722	0.529	3049.5	2288.7	2288.7	1676.9
BGP502 LED140-4S/730	11900.0	84.0	141.7	1.05	1.05	0.788	0.788	0.578	3328.5	2498.0	2498.0	1832.3
BGP502 LED150-4S/730	12750.0	90.0	141.7	1.125	1.125	0.844	0.844	0.619	3566.2	2675.5	2675.5	1962.2
BGP502 LED160-4S/730	13440.0	97.0	138.6	1.212	1.212	0.909	0.909	0.667	3842.0	2881.5	2881.5	2114.4
BGP502 LED170-4S/730	14280.0	104.0	137.3	1.3	1.3	0.975	0.975	0.715	4121.0	3090.8	3090.8	2266.5
BGP502 LED180-4S/730	14940.0	112.0	133.4	1.4	1.4	1.05	1.05	0.77	4438.0	3328.5	3328.5	2440.9
BGP502 LED190-4S/730	15390.0	122.0	126.1	1.525	1.525	1.144	1.144	0.839	4834.2	3626.5	3626.5	2659.6
BGP502 LED8-4S/727	728.0	6.5	112.0	0.081	0.081	0.061	0.061	0.045	256.8	193.4	193.4	142.6
BGP502 LED10-4S/727	900.0	7.9	113.9	0.099	0.099	0.074	0.074	0.054	313.8	234.6	234.6	171.2
BGP502 LED12-4S/727	1092.0	9.1	120.0	0.114	0.114	0.086	0.086	0.063	361.4	272.6	272.6	199.7
BGP502 LED14-4S/727	1260.0	10.4	121.2	0.13	0.13	0.098	0.098	0.072	412.1	310.7	310.7	228.2
BGP502 LED16-4S/727	1440.0	11.8	122.0	0.148	0.148	0.111	0.111	0.081	469.2	351.9	351.9	256.8
BGP502 LED18-4S/727	1620.0	13.4	120.9	0.168	0.168	0.126	0.126	0.092	532.6	399.4	399.4	291.6

BGP502 LED20-4S/727	1800.0	14.8	121.6	0.185	0.185	0.139	0.139	0.102	586.4	440.6	440.6	323.3
BGP502 LED22-4S/727	1980.0	16.4	120.7	0.205	0.205	0.154	0.154	0.113	649.8	488.2	488.2	358.2
BGP502 LED24-4S/727	2184.0	17.0	128.5	0.212	0.212	0.159	0.159	0.117	672.0	504.0	504.0	370.9
BGP502 LED27-4S/727	2430.0	19.0	127.9	0.238	0.238	0.178	0.178	0.131	754.5	564.3	564.3	415.3
BGP502 LED30-4S/727	2700.0	21.0	128.6	0.262	0.262	0.196	0.196	0.144	830.5	621.3	621.3	456.5
BGP502 LED35-4S/727	3150.0	24.5	128.6	0.306	0.306	0.229	0.229	0.168	970.0	725.9	725.9	532.6
BGP502 LED40-4S/727	3600.0	28.5	126.3	0.356	0.356	0.267	0.267	0.196	1128.5	846.4	846.4	621.3
BGP502 LED45-4S/727	4005.0	32.0	125.2	0.4	0.4	0.3	0.3	0.22	1268.0	951.0	951.0	697.4
BGP502 LED50-4S/727	4450.0	36.0	123.6	0.45	0.45	0.338	0.338	0.248	1426.5	1071.5	1071.5	786.2
BGP502 LED55-4S/727	4928.0	40.5	121.7	0.506	0.506	0.38	0.38	0.278	1604.0	1204.6	1204.6	881.3
BGP502 LED60-4S/727	5280.0	41.0	128.8	0.512	0.512	0.384	0.384	0.282	1623.0	1217.3	1217.3	893.9
BGP502 LED65-4S/727	5808.0	45.0	129.1	0.562	0.562	0.422	0.422	0.309	1781.5	1337.7	1337.7	979.5
BGP502 LED70-4S/727	6090.0	48.5	125.6	0.606	0.606	0.454	0.454	0.333	1921.0	1439.2	1439.2	1055.6
BGP502 LED75-4S/727	6612.0	52.0	127.2	0.65	0.65	0.488	0.488	0.358	2060.5	1547.0	1547.0	1134.9
BGP502 LED80-4S/727	6880.0	56.0	122.9	0.7	0.7	0.525	0.525	0.385	2219.0	1664.2	1664.2	1220.4
BGP502 LED85-4S/727	7482.0	58.0	129.0	0.725	0.725	0.544	0.544	0.399	2298.2	1724.5	1724.5	1264.8
BGP502 LED90-4S/727	7830.0	61.0	128.4	0.762	0.762	0.572	0.572	0.419	2415.5	1813.2	1813.2	1328.2
BGP502 LED95-4S/727	8352.0	62.0	134.7	0.775	0.775	0.581	0.581	0.426	2456.8	1841.8	1841.8	1350.4
BGP502 LED100-4S/727	8600.0	66.0	130.3	0.825	0.825	0.619	0.619	0.454	2615.2	1962.2	1962.2	1439.2
BGP502 LED110-4S/727	9460.0	73.0	129.6	0.912	0.912	0.684	0.684	0.502	2891.0	2168.3	2168.3	1591.3
BGP502 LED120-4S/727	10200.0	80.0	127.5	1.0	1.0	0.75	0.75	0.55	3170.0	2377.5	2377.5	1743.5
BGP502 LED130-4S/727	11050.0	87.0	127.0	1.088	1.088	0.816	0.816	0.598	3449.0	2586.7	2586.7	1895.7
BGP502 LED140-4S/727	11760.0	95.0	123.8	1.188	1.188	0.891	0.891	0.653	3766.0	2824.5	2824.5	2070.0
BGP502 LED150-4S/727	12600.0	102.0	123.5	1.275	1.275	0.956	0.956	0.701	4041.7	3030.5	3030.5	2222.2
BGP502 LED160-4S/727	12960.0	112.0	115.7	1.4	1.4	1.05	1.05	0.77	4438.0	3328.5	3328.5	2440.9

BGP502 LED170-4S/727	13600.0	122.0	111.5	1.525	1.525	1.144	1.144	0.839	4834.2	3626.5	3626.5	2659.6
BGP502 LED6-4S/722	546.0	5.6	97.5	0.07	0.07	0.053	0.053	0.039	221.9	168.0	168.0	123.6
BGP502 LED8-4S/722	728.0	7.1	102.5	0.089	0.089	0.067	0.067	0.049	282.1	212.4	212.4	155.3
BGP502 LED10-4S/722	910.0	8.5	107.1	0.106	0.106	0.08	0.08	0.058	336.0	253.6	253.6	183.9
BGP502 LED12-4S/722	1092.0	10.0	109.2	0.125	0.125	0.094	0.094	0.069	396.2	298.0	298.0	218.7
BGP502 LED14-4S/722	1260.0	11.6	108.6	0.145	0.145	0.109	0.109	0.08	459.6	345.5	345.5	253.6
BGP502 LED16-4S/722	1440.0	13.2	109.1	0.165	0.165	0.124	0.124	0.091	523.1	393.1	393.1	288.5
BGP502 LED18-4S/722	1620.0	14.8	109.5	0.185	0.185	0.139	0.139	0.102	586.4	440.6	440.6	323.3
BGP502 LED20-4S/722	1780.0	16.6	107.2	0.208	0.208	0.156	0.156	0.114	659.4	494.5	494.5	361.4
BGP502 LED22-4S/722	2002.0	17.4	115.1	0.217	0.217	0.163	0.163	0.119	687.9	516.7	516.7	377.2
BGP502 LED24-4S/722	2160.0	18.8	114.9	0.235	0.235	0.176	0.176	0.129	744.9	557.9	557.9	408.9
BGP502 LED27-4S/722	2430.0	21.0	115.7	0.262	0.262	0.196	0.196	0.144	830.5	621.3	621.3	456.5
BGP502 LED30-4S/722	2700.0	23.5	114.9	0.294	0.294	0.22	0.22	0.162	932.0	697.4	697.4	513.5
BGP502 LED35-4S/722	3150.0	27.5	114.5	0.344	0.344	0.258	0.258	0.189	1090.5	817.9	817.9	599.1
BGP502 LED40-4S/722	3560.0	32.0	111.2	0.4	0.4	0.3	0.3	0.22	1268.0	951.0	951.0	697.4
BGP502 LED45-4S/722	4005.0	36.5	109.7	0.456	0.456	0.342	0.342	0.251	1445.5	1084.1	1084.1	795.7
BGP502 LED50-4S/722	4450.0	38.0	117.1	0.475	0.475	0.356	0.356	0.261	1505.8	1128.5	1128.5	827.4
BGP502 LED55-4S/722	4928.0	42.0	117.3	0.525	0.525	0.394	0.394	0.289	1664.2	1249.0	1249.0	916.1
BGP502 LED60-4S/722	5280.0	46.0	114.8	0.575	0.575	0.431	0.431	0.316	1822.7	1366.3	1366.3	1001.7
BGP502 LED65-4S/722	5742.0	51.0	112.6	0.638	0.638	0.479	0.479	0.351	2022.5	1518.4	1518.4	1112.7
BGP502 LED70-4S/722	6020.0	55.0	109.5	0.688	0.688	0.516	0.516	0.378	2181.0	1635.7	1635.7	1198.3
BGP502 LED75-4S/722	6536.0	59.0	110.8	0.738	0.738	0.554	0.554	0.406	2339.5	1756.2	1756.2	1287.0
BGP502 LED80-4S/722	6960.0	61.0	114.1	0.762	0.762	0.572	0.572	0.419	2415.5	1813.2	1813.2	1328.2
BGP502 LED85-4S/722	7396.0	65.0	113.8	0.812	0.812	0.609	0.609	0.447	2574.0	1930.5	1930.5	1417.0
BGP502 LED90-4S/722	7740.0	69.0	112.2	0.862	0.862	0.646	0.646	0.474	2732.5	2047.8	2047.8	1502.6

BGP502 LED95-4S/722	8256.0	70.0	117.9	0.875	0.875	0.656	0.656	0.481	2773.8	2079.5	2079.5	1524.8
BGP502 LED100-4S/722	8600.0	74.0	116.2	0.925	0.925	0.694	0.694	0.509	2932.2	2200.0	2200.0	1613.5
BGP502 LED110-4S/722	9350.0	82.0	114.0	1.025	1.025	0.769	0.769	0.564	3249.2	2437.7	2437.7	1787.9
BGP502 LED120-4S/722	10200.0	90.0	113.3	1.125	1.125	0.844	0.844	0.619	3566.2	2675.5	2675.5	1962.2
BGP502 LED130-4S/722	10790.0	106.0	101.8	1.325	1.325	0.994	0.994	0.729	4200.2	3151.0	3151.0	2310.9
BGP502 LED140-4S/722	11480.0	114.0	100.7	1.425	1.425	1.069	1.069	0.784	4517.2	3388.7	3388.7	2485.3
BGP502 LED6-4S/840	546.0	5.5	99.3	0.069	0.069	0.052	0.052	0.038	218.7	164.8	164.8	120.5
BGP502 LED8-4S/840	728.0	6.3	115.6	0.079	0.079	0.059	0.059	0.043	250.4	187.0	187.0	136.3
BGP502 LED10-4S/840	900.0	7.6	118.4	0.095	0.095	0.071	0.071	0.052	301.2	225.1	225.1	164.8
BGP502 LED12-4S/840	1092.0	8.8	124.1	0.11	0.11	0.082	0.082	0.061	348.7	259.9	259.9	193.4
BGP502 LED14-4S/840	1274.0	10.2	124.9	0.128	0.128	0.096	0.096	0.07	405.8	304.3	304.3	221.9
BGP502 LED16-4S/840	1440.0	11.4	126.3	0.143	0.143	0.107	0.107	0.079	453.3	339.2	339.2	250.4
BGP502 LED18-4S/840	1620.0	12.8	126.6	0.16	0.16	0.12	0.12	0.088	507.2	380.4	380.4	279.0
BGP502 LED20-4S/840	1800.0	14.4	125.0	0.18	0.18	0.135	0.135	0.099	570.6	428.0	428.0	313.8
BGP502 LED22-4S/840	2002.0	15.0	133.5	0.188	0.188	0.141	0.141	0.103	596.0	447.0	447.0	326.5
BGP502 LED24-4S/840	2184.0	16.4	133.2	0.205	0.205	0.154	0.154	0.113	649.8	488.2	488.2	358.2
BGP502 LED27-4S/840	2457.0	18.4	133.5	0.23	0.23	0.173	0.173	0.127	729.1	548.4	548.4	402.6
BGP502 LED30-4S/840	2700.0	20.5	131.7	0.256	0.256	0.192	0.192	0.141	811.5	608.6	608.6	447.0
BGP502 LED35-4S/840	3150.0	24.0	131.2	0.3	0.3	0.225	0.225	0.165	951.0	713.2	713.2	523.1
BGP502 LED40-4S/840	3600.0	27.5	130.9	0.344	0.344	0.258	0.258	0.189	1090.5	817.9	817.9	599.1
BGP502 LED45-4S/840	4005.0	31.0	129.2	0.388	0.388	0.291	0.291	0.213	1230.0	922.5	922.5	675.2
BGP502 LED50-4S/840	4450.0	35.0	127.1	0.438	0.438	0.328	0.328	0.241	1388.5	1039.8	1039.8	764.0
BGP502 LED55-4S/840	4984.0	36.0	138.4	0.45	0.45	0.338	0.338	0.248	1426.5	1071.5	1071.5	786.2
BGP502 LED60-4S/840	5280.0	39.5	133.7	0.494	0.494	0.37	0.37	0.272	1566.0	1172.9	1172.9	862.2
BGP502 LED65-4S/840	5808.0	43.0	135.1	0.538	0.538	0.404	0.404	0.296	1705.5	1280.7	1280.7	938.3

BGP502 LED70-4S/840	6160.0	47.0	131.1	0.588	0.588	0.441	0.441	0.323	1864.0	1398.0	1398.0	1023.9
BGP502 LED75-4S/840	6612.0	51.0	129.6	0.638	0.638	0.479	0.479	0.351	2022.5	1518.4	1518.4	1112.7
BGP502 LED80-4S/840	7040.0	52.0	135.4	0.65	0.65	0.488	0.488	0.358	2060.5	1547.0	1547.0	1134.9
BGP502 LED85-4S/840	7482.0	56.0	133.6	0.7	0.7	0.525	0.525	0.385	2219.0	1664.2	1664.2	1220.4
BGP502 LED90-4S/840	7830.0	59.0	132.7	0.738	0.738	0.554	0.554	0.406	2339.5	1756.2	1756.2	1287.0
BGP502 LED95-4S/840	8352.0	60.0	139.2	0.75	0.75	0.562	0.562	0.413	2377.5	1781.5	1781.5	1309.2
BGP502 LED100-4S/840	8700.0	63.0	138.1	0.788	0.788	0.591	0.591	0.433	2498.0	1873.5	1873.5	1372.6
BGP502 LED110-4S/840	9460.0	70.0	135.1	0.875	0.875	0.656	0.656	0.481	2773.8	2079.5	2079.5	1524.8
BGP502 LED120-4S/840	10320.0	77.0	134.0	0.962	0.962	0.722	0.722	0.529	3049.5	2288.7	2288.7	1676.9
BGP502 LED130-4S/840	11050.0	84.0	131.5	1.05	1.05	0.788	0.788	0.578	3328.5	2498.0	2498.0	1832.3
BGP502 LED140-4S/840	11900.0	92.0	129.3	1.15	1.15	0.862	0.862	0.632	3645.5	2732.5	2732.5	2003.4
BGP502 LED150-4S/840	12600.0	99.0	127.3	1.238	1.238	0.928	0.928	0.681	3924.5	2941.8	2941.8	2158.8
BGP502 LED160-4S/840	13280.0	106.0	125.3	1.325	1.325	0.994	0.994	0.729	4200.2	3151.0	3151.0	2310.9
BGP502 LED170-4S/840	13770.0	126.0	109.3	1.575	1.575	1.181	1.181	0.866	4992.8	3743.8	3743.8	2745.2
BGP502 LED6-4S/830	546.0	5.1	107.1	0.064	0.064	0.048	0.048	0.035	202.9	152.2	152.2	111.0
BGP502 LED8-4S/830	728.0	6.5	112.0	0.081	0.081	0.061	0.061	0.045	256.8	193.4	193.4	142.6
BGP502 LED10-4S/830	910.0	7.7	118.2	0.096	0.096	0.072	0.072	0.053	304.3	228.2	228.2	168.0
BGP502 LED12-4S/830	1092.0	9.1	120.0	0.114	0.114	0.086	0.086	0.063	361.4	272.6	272.6	199.7
BGP502 LED14-4S/830	1274.0	10.4	122.5	0.13	0.13	0.098	0.098	0.072	412.1	310.7	310.7	228.2
BGP502 LED16-4S/830	1440.0	11.8	122.0	0.148	0.148	0.111	0.111	0.081	469.2	351.9	351.9	256.8
BGP502 LED18-4S/830	1620.0	13.4	120.9	0.168	0.168	0.126	0.126	0.092	532.6	399.4	399.4	291.6
BGP502 LED20-4S/830	1800.0	14.8	121.6	0.185	0.185	0.139	0.139	0.102	586.4	440.6	440.6	323.3
BGP502 LED22-4S/830	2002.0	15.6	128.3	0.195	0.195	0.146	0.146	0.107	618.2	462.8	462.8	339.2
BGP502 LED24-4S/830	2184.0	17.0	128.5	0.212	0.212	0.159	0.159	0.117	672.0	504.0	504.0	370.9
BGP502 LED27-4S/830	2430.0	19.0	127.9	0.238	0.238	0.178	0.178	0.131	754.5	564.3	564.3	415.3

BGP502 LED30-4S/830	2700.0	21.0	128.6	0.262	0.262	0.196	0.196	0.144	830.5	621.3	621.3	456.5
BGP502 LED35-4S/830	3150.0	24.5	128.6	0.306	0.306	0.229	0.229	0.168	970.0	725.9	725.9	532.6
BGP502 LED40-4S/830	3600.0	28.5	126.3	0.356	0.356	0.267	0.267	0.196	1128.5	846.4	846.4	621.3
BGP502 LED45-4S/830	4005.0	32.0	125.2	0.4	0.4	0.3	0.3	0.22	1268.0	951.0	951.0	697.4
BGP502 LED50-4S/830	4450.0	36.0	123.6	0.45	0.45	0.338	0.338	0.248	1426.5	1071.5	1071.5	786.2
BGP502 LED55-4S/830	4984.0	37.5	132.9	0.469	0.469	0.352	0.352	0.258	1486.7	1115.8	1115.8	817.9
BGP502 LED60-4S/830	5280.0	41.0	128.8	0.512	0.512	0.384	0.384	0.282	1623.0	1217.3	1217.3	893.9
BGP502 LED65-4S/830	5808.0	45.0	129.1	0.562	0.562	0.422	0.422	0.309	1781.5	1337.7	1337.7	979.5
BGP502 LED70-4S/830	6090.0	48.5	125.6	0.606	0.606	0.454	0.454	0.333	1921.0	1439.2	1439.2	1055.6
BGP502 LED75-4S/830	6612.0	53.0	124.8	0.662	0.662	0.497	0.497	0.364	2098.5	1575.5	1575.5	1153.9
BGP502 LED80-4S/830	7040.0	54.0	130.4	0.675	0.675	0.506	0.506	0.371	2139.8	1604.0	1604.0	1176.1
BGP502 LED85-4S/830	7482.0	58.0	129.0	0.725	0.725	0.544	0.544	0.399	2298.2	1724.5	1724.5	1264.8
BGP502 LED90-4S/830	7830.0	61.0	128.4	0.762	0.762	0.572	0.572	0.419	2415.5	1813.2	1813.2	1328.2
BGP502 LED95-4S/830	8352.0	62.0	134.7	0.775	0.775	0.581	0.581	0.426	2456.8	1841.8	1841.8	1350.4
BGP502 LED100-4S/830	8600.0	66.0	130.3	0.825	0.825	0.619	0.619	0.454	2615.2	1962.2	1962.2	1439.2
BGP502 LED110-4S/830	9460.0	73.0	129.6	0.912	0.912	0.684	0.684	0.502	2891.0	2168.3	2168.3	1591.3
BGP502 LED120-4S/830	10200.0	80.0	127.5	1.0	1.0	0.75	0.75	0.55	3170.0	2377.5	2377.5	1743.5
BGP502 LED130-4S/830	11050.0	87.0	127.0	1.088	1.088	0.816	0.816	0.598	3449.0	2586.7	2586.7	1895.7
BGP502 LED140-4S/830	11760.0	95.0	123.8	1.188	1.188	0.891	0.891	0.653	3766.0	2824.5	2824.5	2070.0
BGP502 LED150-4S/830	12600.0	102.0	123.5	1.275	1.275	0.956	0.956	0.701	4041.7	3030.5	3030.5	2222.2
BGP502 LED160-4S/830	13280.0	110.0	120.7	1.375	1.375	1.031	1.031	0.756	4358.8	3268.3	3268.3	2396.5
BGP502 LED6-4S/827	546.0	5.4	101.1	0.068	0.068	0.051	0.051	0.037	215.6	161.7	161.7	117.3
BGP502 LED8-4S/827	728.0	6.9	105.5	0.086	0.086	0.064	0.064	0.047	272.6	202.9	202.9	149.0
BGP502 LED10-4S/827	910.0	8.2	111.0	0.102	0.102	0.076	0.076	0.056	323.3	240.9	240.9	177.5
BGP502 LED12-4S/827	1092.0	9.7	112.6	0.121	0.121	0.091	0.091	0.067	383.6	288.5	288.5	212.4

BGP502 LED14-4S/827	1260.0	11.2	112.5	0.14	0.14	0.105	0.105	0.077	443.8	332.8	332.8	244.1
BGP502 LED16-4S/827	1440.0	12.8	112.5	0.16	0.16	0.12	0.12	0.088	507.2	380.4	380.4	279.0
BGP502 LED18-4S/827	1620.0	14.4	112.5	0.18	0.18	0.135	0.135	0.099	570.6	428.0	428.0	313.8
BGP502 LED20-4S/827	1800.0	16.0	112.5	0.2	0.2	0.15	0.15	0.11	634.0	475.5	475.5	348.7
BGP502 LED22-4S/827	2002.0	16.8	119.2	0.21	0.21	0.158	0.158	0.116	665.7	500.9	500.9	367.7
BGP502 LED24-4S/827	2184.0	18.2	120.0	0.227	0.227	0.17	0.17	0.125	719.6	538.9	538.9	396.2
BGP502 LED27-4S/827	2430.0	20.5	118.5	0.256	0.256	0.192	0.192	0.141	811.5	608.6	608.6	447.0
BGP502 LED30-4S/827	2700.0	22.5	120.0	0.281	0.281	0.211	0.211	0.155	890.8	668.9	668.9	491.4
BGP502 LED35-4S/827	3150.0	26.5	118.9	0.331	0.331	0.248	0.248	0.182	1049.3	786.2	786.2	576.9
BGP502 LED40-4S/827	3560.0	30.5	116.7	0.381	0.381	0.286	0.286	0.21	1207.8	906.6	906.6	665.7
BGP502 LED45-4S/827	4005.0	35.0	114.4	0.438	0.438	0.328	0.328	0.241	1388.5	1039.8	1039.8	764.0
BGP502 LED50-4S/827	4450.0	36.5	121.9	0.456	0.456	0.342	0.342	0.251	1445.5	1084.1	1084.1	795.7
BGP502 LED55-4S/827	4928.0	40.5	121.7	0.506	0.506	0.38	0.38	0.278	1604.0	1204.6	1204.6	881.3
BGP502 LED60-4S/827	5280.0	44.5	118.7	0.556	0.556	0.417	0.417	0.306	1762.5	1321.9	1321.9	970.0
BGP502 LED65-4S/827	5742.0	48.5	118.4	0.606	0.606	0.454	0.454	0.333	1921.0	1439.2	1439.2	1055.6
BGP502 LED70-4S/827	6090.0	53.0	114.9	0.662	0.662	0.497	0.497	0.364	2098.5	1575.5	1575.5	1153.9
BGP502 LED75-4S/827	6688.0	54.0	123.9	0.675	0.675	0.506	0.506	0.371	2139.8	1604.0	1604.0	1176.1
BGP502 LED80-4S/827	6960.0	58.0	120.0	0.725	0.725	0.544	0.544	0.399	2298.2	1724.5	1724.5	1264.8
BGP502 LED85-4S/827	7482.0	62.0	120.7	0.775	0.775	0.581	0.581	0.426	2456.8	1841.8	1841.8	1350.4
BGP502 LED90-4S/827	7740.0	67.0	115.5	0.838	0.838	0.628	0.628	0.461	2656.5	1990.8	1990.8	1461.4
BGP502 LED95-4S/827	8256.0	67.0	123.2	0.838	0.838	0.628	0.628	0.461	2656.5	1990.8	1990.8	1461.4
BGP502 LED100-4S/827	8600.0	71.0	121.1	0.888	0.888	0.666	0.666	0.488	2815.0	2111.2	2111.2	1547.0
BGP502 LED110-4S/827	9460.0	79.0	119.7	0.988	0.988	0.741	0.741	0.543	3132.0	2349.0	2349.0	1721.3
BGP502 LED120-4S/827	10200.0	87.0	117.2	1.088	1.088	0.816	0.816	0.598	3449.0	2586.7	2586.7	1895.7
BGP502 LED130-4S/827	10920.0	95.0	114.9	1.188	1.188	0.891	0.891	0.653	3766.0	2824.5	2824.5	2070.0

BGP502 LED140-4S/827	11480.0	114.0	100.7	1.425	1.425	1.069	1.069	0.784	4517.2	3388.7	3388.7	2485.3
BGP502 LED150-4S/827	12150.0	124.0	98.0	1.55	1.55	1.162	1.162	0.853	4913.5	3683.5	3683.5	2704.0

** 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.*

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
BGP502 LED8-4S/757	728.0	5.6	130.0	0.07	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED10-4S/757	910.0	6.8	133.8	0.085	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED12-4S/757	1092.0	7.7	141.8	0.096	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED14-4S/757	1274.0	8.9	143.1	0.111	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED16-4S/757	1456.0	10.0	145.6	0.125	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED18-4S/757	1620.0	11.2	144.6	0.14	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED20-4S/757	1800.0	12.4	145.2	0.155	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED22-4S/757	1980.0	13.6	145.6	0.17	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED24-4S/757	2184.0	14.4	151.7	0.18	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED27-4S/757	2457.0	16.0	153.6	0.2	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED30-4S/757	2730.0	17.8	153.4	0.222	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED35-4S/757	3150.0	20.5	153.7	0.256	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED40-4S/757	3600.0	23.5	153.2	0.294	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7

BGP502 LED45-4S/757	4050.0	26.5	152.8	0.331	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED50-4S/757	4500.0	30.0	150.0	0.375	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED55-4S/757	4984.0	33.0	151.0	0.412	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED60-4S/757	5340.0	36.5	146.3	0.456	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED65-4S/757	5874.0	37.0	158.8	0.462	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED70-4S/757	6160.0	40.5	152.1	0.506	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED75-4S/757	6688.0	43.5	153.7	0.544	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED80-4S/757	7040.0	46.5	151.4	0.581	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED85-4S/757	7568.0	48.0	157.7	0.6	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED90-4S/757	7920.0	51.0	155.3	0.638	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED95-4S/757	8352.0	52.0	160.6	0.65	0.027	0.02	0.02	0.015	85.6	63.4	63.4	47.6
BGP502 LED100-4S/757	8700.0	55.0	158.2	0.688	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED110-4S/757	9570.0	61.0	156.9	0.762	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED120-4S/757	10320.0	66.0	156.4	0.825	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED130-4S/757	11180.0	72.0	155.3	0.9	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED140-4S/757	12040.0	79.0	152.4	0.988	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED150-4S/757	12750.0	85.0	150.0	1.062	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED160-4S/757	13600.0	91.0	149.5	1.138	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED170-4S/757	14280.0	97.0	147.2	1.212	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED180-4S/757	15120.0	104.0	145.4	1.3	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED190-4S/757	15580.0	114.0	136.7	1.425	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED200-4S/757	16200.0	120.0	135.0	1.5	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED210-4S/757	17010.0	128.0	132.9	1.6	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED8-4S/740	728.0	5.6	130.0	0.07	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED10-4S/740	910.0	6.8	133.8	0.085	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1

BGP502 LED12-4S/740	1092.0	7.7	141.8	0.096	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED14-4S/740	1274.0	8.9	143.1	0.111	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED16-4S/740	1456.0	10.0	145.6	0.125	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED18-4S/740	1620.0	11.2	144.6	0.14	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED20-4S/740	1800.0	12.4	145.2	0.155	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED22-4S/740	1980.0	13.6	145.6	0.17	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED24-4S/740	2184.0	14.4	151.7	0.18	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED27-4S/740	2457.0	16.0	153.6	0.2	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED30-4S/740	2730.0	17.8	153.4	0.222	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED35-4S/740	3150.0	20.5	153.7	0.256	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED40-4S/740	3600.0	23.5	153.2	0.294	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED45-4S/740	4050.0	27.0	150.0	0.338	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED50-4S/740	4500.0	30.0	150.0	0.375	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED55-4S/740	4984.0	33.0	151.0	0.412	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED60-4S/740	5340.0	36.5	146.3	0.456	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED65-4S/740	5874.0	37.0	158.8	0.462	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED70-4S/740	6160.0	40.5	152.1	0.506	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED75-4S/740	6688.0	43.5	153.7	0.544	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED80-4S/740	7040.0	46.5	151.4	0.581	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED85-4S/740	7568.0	48.0	157.7	0.6	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED90-4S/740	7920.0	51.0	155.3	0.638	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED95-4S/740	8352.0	52.0	160.6	0.65	0.027	0.02	0.02	0.015	85.6	63.4	63.4	47.6
BGP502 LED100-4S/740	8700.0	55.0	158.2	0.688	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED110-4S/740	9570.0	61.0	156.9	0.762	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED120-4S/740	10320.0	66.0	156.4	0.825	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6

BGP502 LED130-4S/740	11180.0	72.0	155.3	0.9	0.028	0.021	0.021	0.015	88.8	66.6	66.6	47.6
BGP502 LED140-4S/740	12040.0	79.0	152.4	0.988	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED150-4S/740	12750.0	85.0	150.0	1.062	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED160-4S/740	13600.0	91.0	149.5	1.138	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED170-4S/740	14280.0	97.0	147.2	1.212	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED180-4S/740	15120.0	104.0	145.4	1.3	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED190-4S/740	15580.0	114.0	136.7	1.425	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED200-4S/740	16200.0	120.0	135.0	1.5	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED210-4S/740	17010.0	128.0	132.9	1.6	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED8-4S/730	728.0	5.9	123.4	0.074	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED10-4S/730	910.0	7.1	128.2	0.089	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED12-4S/730	1092.0	8.2	133.2	0.102	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED14-4S/730	1274.0	9.4	135.5	0.118	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED16-4S/730	1440.0	10.6	135.8	0.132	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED18-4S/730	1620.0	11.8	137.3	0.148	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED20-4S/730	1800.0	13.2	136.4	0.165	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED22-4S/730	1980.0	14.6	135.6	0.182	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED24-4S/730	2184.0	15.2	143.7	0.19	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED27-4S/730	2457.0	17.0	144.5	0.212	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED30-4S/730	2700.0	18.8	143.6	0.235	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED35-4S/730	3150.0	22.0	143.2	0.275	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED40-4S/730	3600.0	25.0	144.0	0.312	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED45-4S/730	4050.0	28.5	142.1	0.356	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED50-4S/730	4450.0	32.0	139.1	0.4	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED55-4S/730	4984.0	35.5	140.4	0.444	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9

BGP502 LED60-4S/730	5340.0	36.5	146.3	0.456	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED65-4S/730	5808.0	39.5	147.0	0.494	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED70-4S/730	6160.0	43.0	143.3	0.538	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED75-4S/730	6688.0	46.0	145.4	0.575	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED80-4S/730	6960.0	49.5	140.6	0.619	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED85-4S/730	7568.0	51.0	148.4	0.638	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED90-4S/730	7830.0	52.0	150.6	0.65	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED95-4S/730	8352.0	55.0	151.9	0.688	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED100-4S/730	8700.0	58.0	150.0	0.725	0.029	0.022	0.022	0.016	91.9	69.7	69.7	50.7
BGP502 LED110-4S/730	9570.0	65.0	147.2	0.812	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED120-4S/730	10320.0	71.0	145.4	0.888	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED130-4S/730	11180.0	77.0	145.2	0.962	0.03	0.022	0.022	0.016	95.1	69.7	69.7	50.7
BGP502 LED140-4S/730	11900.0	84.0	141.7	1.05	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED150-4S/730	12750.0	90.0	141.7	1.125	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED160-4S/730	13440.0	97.0	138.6	1.212	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED170-4S/730	14280.0	104.0	137.3	1.3	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED180-4S/730	14940.0	112.0	133.4	1.4	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED190-4S/730	15390.0	122.0	126.1	1.525	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED8-4S/727	728.0	6.5	112.0	0.081	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED10-4S/727	900.0	7.9	113.9	0.099	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED12-4S/727	1092.0	9.1	120.0	0.114	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED14-4S/727	1260.0	10.4	121.2	0.13	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED16-4S/727	1440.0	11.8	122.0	0.148	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED18-4S/727	1620.0	13.4	120.9	0.168	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED20-4S/727	1800.0	14.8	121.6	0.185	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4

BGP502 LED22-4S/727	1980.0	16.4	120.7	0.205	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED24-4S/727	2184.0	17.0	128.5	0.212	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED27-4S/727	2430.0	19.0	127.9	0.238	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED30-4S/727	2700.0	21.0	128.6	0.262	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED35-4S/727	3150.0	24.5	128.6	0.306	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED40-4S/727	3600.0	28.5	126.3	0.356	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED45-4S/727	4005.0	32.0	125.2	0.4	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED50-4S/727	4450.0	36.0	123.6	0.45	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED55-4S/727	4928.0	40.5	121.7	0.506	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED60-4S/727	5280.0	41.0	128.8	0.512	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED65-4S/727	5808.0	45.0	129.1	0.562	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED70-4S/727	6090.0	48.5	125.6	0.606	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED75-4S/727	6612.0	52.0	127.2	0.65	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED80-4S/727	6880.0	56.0	122.9	0.7	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED85-4S/727	7482.0	58.0	129.0	0.725	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED90-4S/727	7830.0	61.0	128.4	0.762	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED95-4S/727	8352.0	62.0	134.7	0.775	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED100-4S/727	8600.0	66.0	130.3	0.825	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED110-4S/727	9460.0	73.0	129.6	0.912	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED120-4S/727	10200.0	80.0	127.5	1.0	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED130-4S/727	11050.0	87.0	127.0	1.088	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED140-4S/727	11760.0	95.0	123.8	1.188	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED150-4S/727	12600.0	102.0	123.5	1.275	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED160-4S/727	12960.0	112.0	115.7	1.4	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED170-4S/727	13600.0	122.0	111.5	1.525	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6

BGP502 LED6-4S/722	546.0	5.6	97.5	0.07	0.045	0.034	0.034	0.025	142.6	107.8	107.8	79.2
BGP502 LED8-4S/722	728.0	7.1	102.5	0.089	0.043	0.032	0.032	0.024	136.3	101.4	101.4	76.1
BGP502 LED10-4S/722	910.0	8.5	107.1	0.106	0.041	0.031	0.031	0.023	130.0	98.3	98.3	72.9
BGP502 LED12-4S/722	1092.0	10.0	109.2	0.125	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED14-4S/722	1260.0	11.6	108.6	0.145	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED16-4S/722	1440.0	13.2	109.1	0.165	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED18-4S/722	1620.0	14.8	109.5	0.185	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED20-4S/722	1780.0	16.6	107.2	0.208	0.041	0.031	0.031	0.023	130.0	98.3	98.3	72.9
BGP502 LED22-4S/722	2002.0	17.4	115.1	0.217	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED24-4S/722	2160.0	18.8	114.9	0.235	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED27-4S/722	2430.0	21.0	115.7	0.262	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED30-4S/722	2700.0	23.5	114.9	0.294	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED35-4S/722	3150.0	27.5	114.5	0.344	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED40-4S/722	3560.0	32.0	111.2	0.4	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED45-4S/722	4005.0	36.5	109.7	0.456	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED50-4S/722	4450.0	38.0	117.1	0.475	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED55-4S/722	4928.0	42.0	117.3	0.525	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED60-4S/722	5280.0	46.0	114.8	0.575	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED65-4S/722	5742.0	51.0	112.6	0.638	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED70-4S/722	6020.0	55.0	109.5	0.688	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED75-4S/722	6536.0	59.0	110.8	0.738	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED80-4S/722	6960.0	61.0	114.1	0.762	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED85-4S/722	7396.0	65.0	113.8	0.812	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED90-4S/722	7740.0	69.0	112.2	0.862	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED95-4S/722	8256.0	70.0	117.9	0.875	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4

BGP502 LED100-4S/722	8600.0	74.0	116.2	0.925	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED110-4S/722	9350.0	82.0	114.0	1.025	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED120-4S/722	10200.0	90.0	113.3	1.125	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED130-4S/722	10790.0	106.0	101.8	1.325	0.043	0.032	0.032	0.024	136.3	101.4	101.4	76.1
BGP502 LED140-4S/722	11480.0	114.0	100.7	1.425	0.043	0.032	0.032	0.024	136.3	101.4	101.4	76.1
BGP502 LED6-4S/840	546.0	5.5	99.3	0.069	0.044	0.033	0.033	0.024	139.5	104.6	104.6	76.1
BGP502 LED8-4S/840	728.0	6.3	115.6	0.079	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED10-4S/840	900.0	7.6	118.4	0.095	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED12-4S/840	1092.0	8.8	124.1	0.11	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED14-4S/840	1274.0	10.2	124.9	0.128	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED16-4S/840	1440.0	11.4	126.3	0.143	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED18-4S/840	1620.0	12.8	126.6	0.16	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED20-4S/840	1800.0	14.4	125.0	0.18	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED22-4S/840	2002.0	15.0	133.5	0.188	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED24-4S/840	2184.0	16.4	133.2	0.205	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED27-4S/840	2457.0	18.4	133.5	0.23	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED30-4S/840	2700.0	20.5	131.7	0.256	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED35-4S/840	3150.0	24.0	131.2	0.3	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED40-4S/840	3600.0	27.5	130.9	0.344	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED45-4S/840	4005.0	31.0	129.2	0.388	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED50-4S/840	4450.0	35.0	127.1	0.438	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED55-4S/840	4984.0	36.0	138.4	0.45	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED60-4S/840	5280.0	39.5	133.7	0.494	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED65-4S/840	5808.0	43.0	135.1	0.538	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED70-4S/840	6160.0	47.0	131.1	0.588	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1

BGP502 LED75-4S/840	6612.0	51.0	129.6	0.638	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED80-4S/840	7040.0	52.0	135.4	0.65	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED85-4S/840	7482.0	56.0	133.6	0.7	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED90-4S/840	7830.0	59.0	132.7	0.738	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED95-4S/840	8352.0	60.0	139.2	0.75	0.031	0.023	0.023	0.017	98.3	72.9	72.9	53.9
BGP502 LED100-4S/840	8700.0	63.0	138.1	0.788	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED110-4S/840	9460.0	70.0	135.1	0.875	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED120-4S/840	10320.0	77.0	134.0	0.962	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED130-4S/840	11050.0	84.0	131.5	1.05	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED140-4S/840	11900.0	92.0	129.3	1.15	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED150-4S/840	12600.0	99.0	127.3	1.238	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED160-4S/840	13280.0	106.0	125.3	1.325	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED170-4S/840	13770.0	126.0	109.3	1.575	0.04	0.03	0.03	0.022	126.8	95.1	95.1	69.7
BGP502 LED6-4S/830	546.0	5.1	107.1	0.064	0.041	0.031	0.031	0.023	130.0	98.3	98.3	72.9
BGP502 LED8-4S/830	728.0	6.5	112.0	0.081	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED10-4S/830	910.0	7.7	118.2	0.096	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED12-4S/830	1092.0	9.1	120.0	0.114	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED14-4S/830	1274.0	10.4	122.5	0.13	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED16-4S/830	1440.0	11.8	122.0	0.148	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED18-4S/830	1620.0	13.4	120.9	0.168	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED20-4S/830	1800.0	14.8	121.6	0.185	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED22-4S/830	2002.0	15.6	128.3	0.195	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED24-4S/830	2184.0	17.0	128.5	0.212	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED27-4S/830	2430.0	19.0	127.9	0.238	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED30-4S/830	2700.0	21.0	128.6	0.262	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2

BGP502 LED35-4S/830	3150.0	24.5	128.6	0.306	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED40-4S/830	3600.0	28.5	126.3	0.356	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED45-4S/830	4005.0	32.0	125.2	0.4	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED50-4S/830	4450.0	36.0	123.6	0.45	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED55-4S/830	4984.0	37.5	132.9	0.469	0.033	0.025	0.025	0.018	104.6	79.2	79.2	57.1
BGP502 LED60-4S/830	5280.0	41.0	128.8	0.512	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED65-4S/830	5808.0	45.0	129.1	0.562	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED70-4S/830	6090.0	48.5	125.6	0.606	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED75-4S/830	6612.0	53.0	124.8	0.662	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED80-4S/830	7040.0	54.0	130.4	0.675	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED85-4S/830	7482.0	58.0	129.0	0.725	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED90-4S/830	7830.0	61.0	128.4	0.762	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED95-4S/830	8352.0	62.0	134.7	0.775	0.032	0.024	0.024	0.018	101.4	76.1	76.1	57.1
BGP502 LED100-4S/830	8600.0	66.0	130.3	0.825	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED110-4S/830	9460.0	73.0	129.6	0.912	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED120-4S/830	10200.0	80.0	127.5	1.0	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED130-4S/830	11050.0	87.0	127.0	1.088	0.034	0.026	0.026	0.019	107.8	82.4	82.4	60.2
BGP502 LED140-4S/830	11760.0	95.0	123.8	1.188	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED150-4S/830	12600.0	102.0	123.5	1.275	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED160-4S/830	13280.0	110.0	120.7	1.375	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED6-4S/827	546.0	5.4	101.1	0.068	0.044	0.033	0.033	0.024	139.5	104.6	104.6	76.1
BGP502 LED8-4S/827	728.0	6.9	105.5	0.086	0.041	0.031	0.031	0.023	130.0	98.3	98.3	72.9
BGP502 LED10-4S/827	910.0	8.2	111.0	0.102	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED12-4S/827	1092.0	9.7	112.6	0.121	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED14-4S/827	1260.0	11.2	112.5	0.14	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6

BGP502 LED16-4S/827	1440.0	12.8	112.5	0.16	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED18-4S/827	1620.0	14.4	112.5	0.18	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED20-4S/827	1800.0	16.0	112.5	0.2	0.039	0.029	0.029	0.021	123.6	91.9	91.9	66.6
BGP502 LED22-4S/827	2002.0	16.8	119.2	0.21	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED24-4S/827	2184.0	18.2	120.0	0.227	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED27-4S/827	2430.0	20.5	118.5	0.256	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED30-4S/827	2700.0	22.5	120.0	0.281	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED35-4S/827	3150.0	26.5	118.9	0.331	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED40-4S/827	3560.0	30.5	116.7	0.381	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED45-4S/827	4005.0	35.0	114.4	0.438	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED50-4S/827	4450.0	36.5	121.9	0.456	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED55-4S/827	4928.0	40.5	121.7	0.506	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED60-4S/827	5280.0	44.5	118.7	0.556	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED65-4S/827	5742.0	48.5	118.4	0.606	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED70-4S/827	6090.0	53.0	114.9	0.662	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED75-4S/827	6688.0	54.0	123.9	0.675	0.035	0.026	0.026	0.019	111.0	82.4	82.4	60.2
BGP502 LED80-4S/827	6960.0	58.0	120.0	0.725	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED85-4S/827	7482.0	62.0	120.7	0.775	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED90-4S/827	7740.0	67.0	115.5	0.838	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED95-4S/827	8256.0	67.0	123.2	0.838	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED100-4S/827	8600.0	71.0	121.1	0.888	0.036	0.027	0.027	0.02	114.1	85.6	85.6	63.4
BGP502 LED110-4S/827	9460.0	79.0	119.7	0.988	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED120-4S/827	10200.0	87.0	117.2	1.088	0.037	0.028	0.028	0.02	117.3	88.8	88.8	63.4
BGP502 LED130-4S/827	10920.0	95.0	114.9	1.188	0.038	0.028	0.028	0.021	120.5	88.8	88.8	66.6
BGP502 LED140-4S/827	11480.0	114.0	100.7	1.425	0.043	0.032	0.032	0.024	136.3	101.4	101.4	76.1

BGP502 LED150-4S/827	12150.0	124.0	98.0	1.55	0.045	0.034	0.034	0.025	142.6	107.8	107.8	79.2

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

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