ENVIRONMENTAL PRODUCT DECLARATION

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

DigiStreet

BGP760
Signify N.V.

EPD HUB
Publishing 2024-04-26

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	DigiStreet Micro
Additional labels	BGP760 LED14-/740 I DN10 DGR 32-48
Product reference	910925863556
Place of production	Poland
Period for data	2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	Not applicable

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of 1274 lumens over 100000 hours
Declared unit mass	6.32 kg
GWP-fossil, A1-A3 (kgCO2e)	1,28E+02
GWP-total, A1-A3 (kgCO2e)	1,27E+02
Secondary material, inputs (%)	7.43
Secondary material, outputs (%)	53.7
Total energy use, A1-A3 (kWh)	379
Total water use, A1-A3 (m3e)	0.6

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

Developed with the aim to become your long term partner ,. the system ready architecture of DigiStreet enables you to enjoy the benefits of connected lighting systems today and also gets the city ready for the innovations to come!. Its two sockets enable you to connect directly to the CityTouch system and is also prepared to connect you to the future innovations of IoT. Next to this, each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making maintenance and programming operations faster and easier, no matter what stage of the luminaire's lifetime. Digistreet is also equipped with dedicated light recipes that: 1) maintain an optimal ecosystems for bats or 2) preserve a dark night sky.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	70.31	EUR, ASIA
Minerals	7.6	EU
Fossil materials	22.09	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	0.017

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Product
Mass per declared unit	6.32 kg
Functional unit	1 unit of 1274 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)

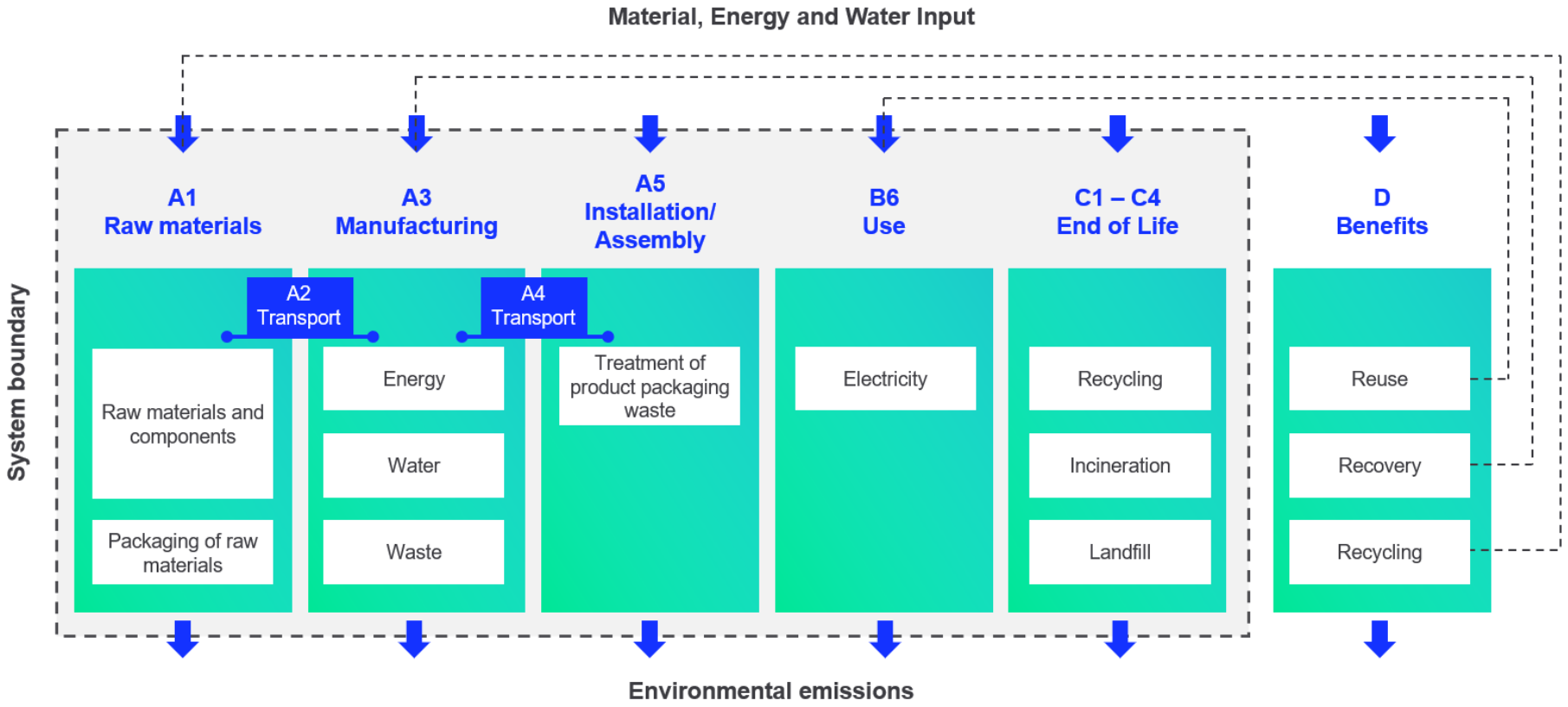
During the use phase, the product consumes electricity from Europe's electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

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
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	1,26E+02	1,20E+00	3,01E-01	1,27E+02	1,20E+00	8,38E-02	MNR	MNR	MNR	MNR	MNR	3,80E+02	MNR	MNR	7,21E-02	1,35E+00	8,91E-01	-5,71E+01
GWP – fossil	kg CO_2e	1,26E+02	1,20E+00	3,61E-01	1,28E+02	1,20E+00	2,30E-02	MNR	MNR	MNR	MNR	MNR	3,79E+02	MNR	MNR	7,21E-02	1,35E+00	8,91E-01	-5,71E+01
GWP – biogenic	kg CO_2e	-4,48E-01	0,00E+00	-6,07E-02	-5,09E-01	4,63E-04	6,08E-02	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	0,00E+00	0,00E+00	-8,86E-03
GWP – LULUC	kg CO_2e	1,66E-01	5,13E-04	7,12E-04	1,67E-01	4,41E-04	6,73E-07	MNR	MNR	MNR	MNR	MNR	8,87E-01	MNR	MNR	2,66E-05	1,37E-04	7,67E-05	-5,31E-03
Ozone depletion pot.	kg CFC_{-11}e	1,28E-05	2,69E-07	5,66E-08	1,32E-05	2,75E-07	1,83E-10	MNR	MNR	MNR	MNR	MNR	1,93E-05	MNR	MNR	1,66E-08	1,19E-08	8,88E-09	-1,55E-06
Acidification potential	mol H^+e	9,07E-01	1,07E-02	1,06E-03	9,19E-01	5,06E-03	1,73E-05	MNR	MNR	MNR	MNR	MNR	2,17E+00	MNR	MNR	3,05E-04	1,27E-03	4,64E-04	-6,03E-01
EP-freshwater[2)]	kg Pe	5,32E-03	8,88E-06	7,08E-06	5,33E-03	9,79E-06	2,03E-08	MNR	MNR	MNR	MNR	MNR	4,02E-02	MNR	MNR	5,90E-07	4,37E-06	2,02E-06	-3,67E-03
EP-marine	kg Ne	1,31E-01	2,85E-03	2,99E-04	1,34E-01	1,50E-03	7,86E-06	MNR	MNR	MNR	MNR	MNR	2,87E-01	MNR	MNR	9,07E-05	3,42E-04	3,83E-04	-6,45E-02
EP-terrestrial	mol Ne	1,45E+00	3,15E-02	2,56E-03	1,48E+00	1,66E-02	8,06E-05	MNR	MNR	MNR	MNR	MNR	3,27E+00	MNR	MNR	1,00E-03	3,77E-03	1,69E-03	-7,47E-01
POCP ("smog")[3)]	kg NMVOCe	4,29E-01	9,01E-03	1,08E-03	4,39E-01	5,31E-03	1,99E-05	MNR	MNR	MNR	MNR	MNR	8,95E-01	MNR	MNR	3,20E-04	9,89E-04	5,03E-04	-2,16E-01
ADP-minerals & metals[4)]	kg Sbe	2,64E-03	2,61E-06	1,75E-06	2,65E-03	2,80E-06	6,05E-09	MNR	MNR	MNR	MNR	MNR	3,54E-03	MNR	MNR	1,69E-07	9,42E-06	1,90E-07	-1,20E-03
ADP-fossil resources	MJ	1,28E+03	1,75E+01	5,50E+00	1,31E+03	1,80E+01	1,58E-02	MNR	MNR	MNR	MNR	MNR	8,07E+03	MNR	MNR	1,08E+00	1,34E+00	8,50E-01	-5,59E+02
Water use[5)]	m^3e depr.	2,57E+01	7,44E-02	1,03E-01	2,59E+01	8,04E-02	3,63E-03	MNR	MNR	MNR	MNR	MNR	2,21E+02	MNR	MNR	4,84E-03	6,90E-02	6,34E-02	-3,99E+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	9,29E-06	1,21E-07	1,74E-08	9,43E-06	1,38E-07	1,44E-10	MNR	MNR	MNR	MNR	MNR	7,12E-06	MNR	MNR	8,31E-09	1,45E-08	6,93E-09	-3,16E-06
Ionizing radiation[6)]	kBq U235e	4,51E+00	8,28E-02	1,03E-02	4,60E+00	8,55E-02	4,98E-05	MNR	MNR	MNR	MNR	MNR	2,19E+02	MNR	MNR	5,15E-03	8,05E-03	4,20E-03	-3,36E+00

Ecotoxicity (freshwater)	CTUe	4,12E+03	1,51E+01	7,03E+00	4,14E+03	1,62E+01	8,64E-02	MNR	MNR	MNR	MNR	MNR	5,49E+03	MNR	MNR	9,74E-01	7,48E+00	3,84E+02	-1,34E+03
Human toxicity, cancer	CTUh	1,64E-07	4,50E-10	2,41E-10	1,65E-07	3,97E-10	5,31E-12	MNR	MNR	MNR	MNR	MNR	1,80E-07	MNR	MNR	2,39E-11	2,54E-10	1,26E-09	-2,60E-09
Human tox. non-cancer	CTUh	3,63E-06	1,44E-08	2,98E-09	3,65E-06	1,60E-08	2,39E-10	MNR	MNR	MNR	MNR	MNR	5,91E-06	MNR	MNR	9,64E-10	1,04E-08	6,81E-08	-1,58E-06
SQP[7)]	-	3,60E+02	1,76E+01	4,16E+00	3,82E+02	2,07E+01	8,22E-03	MNR	MNR	MNR	MNR	MNR	1,46E+03	MNR	MNR	1,25E+00	2,06E+00	1,20E+00	-1,16E+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	8,83E+01	1,86E-01	4,82E+00	9,33E+01	2,02E-01	4,48E-04	MNR	MNR	MNR	MNR	MNR	1,64E+03	MNR	MNR	1,22E-02	1,74E-01	3,55E-02	-9,05E+00
Renew. PER as material	MJ	4,07E+00	0,00E+00	5,51E-01	4,62E+00	0,00E+00	-5,51E-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	9,23E+01	1,86E-01	5,37E+00	9,79E+01	2,02E-01	-5,51E-01	MNR	MNR	MNR	MNR	MNR	1,64E+03	MNR	MNR	1,22E-02	1,74E-01	3,55E-02	-9,05E+00
Non-re. PER as energy	MJ	1,25E+03	1,75E+01	4,81E+00	1,27E+03	1,80E+01	1,58E-02	MNR	MNR	MNR	MNR	MNR	8,06E+03	MNR	MNR	1,08E+00	1,34E+00	8,50E-01	-5,59E+02
Non-re. PER as material	MJ	3,22E+01	0,00E+00	4,45E-01	3,27E+01	0,00E+00	-4,45E-01	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	-1,30E+01	-1,31E+01	0,00E+00
Total use of non-re. PER	MJ	1,28E+03	1,75E+01	5,26E+00	1,30E+03	1,80E+01	-4,29E-01	MNR	MNR	MNR	MNR	MNR	8,06E+03	MNR	MNR	1,08E+00	-1,17E+01	-1,22E+01	-5,59E+02
Secondary materials	kg	4,70E-01	5,30E-03	3,33E-02	5,08E-01	4,99E-03	1,91E-05	MNR	MNR	MNR	MNR	MNR	8,31E-01	MNR	MNR	3,01E-04	1,27E-03	2,21E-03	2,36E+00
Renew. secondary fuels	MJ	7,20E-02	4,50E-05	2,55E-03	7,46E-02	5,03E-05	2,32E-07	MNR	MNR	MNR	MNR	MNR	6,74E-03	MNR	MNR	3,03E-06	6,53E-05	1,73E-05	-1,39E-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	6,00E-01	2,10E-03	2,48E-03	6,05E-01	2,33E-03	4,11E-05	MNR	MNR	MNR	MNR	MNR	6,95E+00	MNR	MNR	1,40E-04	2,41E-03	1,24E-03	-1,85E-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	2,24E+01	2,33E-02	1,78E-02	2,25E+01	2,38E-02	4,36E-04	MNR	MNR	MNR	MNR	MNR	2,90E+01	MNR	MNR	1,44E-03	8,29E-03	4,09E-02	-8,99E+00
Non-hazardous waste	kg	2,10E+02	3,54E-01	2,12E-01	2,11E+02	3,91E-01	4,18E-02	MNR	MNR	MNR	MNR	MNR	1,83E+03	MNR	MNR	2,36E-02	7,76E-01	2,36E+00	-1,71E+02
Radioactive waste	kg	2,16E-03	1,18E-04	6,58E-06	2,28E-03	1,20E-04	2,76E-08	MNR	MNR	MNR	MNR	MNR	5,88E-02	MNR	MNR	7,24E-06	4,74E-06	0,00E+00	-1,23E-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	3,39E+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	2,17E-01	2,17E-01	0,00E+00	0,00E+00	MNR	MNR	MNR	MNR	MNR	0,00E+00	MNR	MNR	0,00E+00	1,16E+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	1,22E+02	1,19E+00	3,60E-01	1,24E+02	1,18E+00	2,29E-02	MNR	MNR	MNR	MNR	MNR	3,76E+02	MNR	MNR	7,13E-02	1,35E+00	9,62E-01	-5,60E+01
Ozone depletion Pot.	kg CFC_{-11}e	9,50E-06	2,13E-07	4,89E-08	9,77E-06	2,18E-07	1,59E-10	MNR	MNR	MNR	MNR	MNR	1,67E-05	MNR	MNR	1,31E-08	9,88E-09	7,24E-09	-1,32E-06
Acidification	kg SO_2e	7,67E-01	8,45E-03	8,43E-04	7,76E-01	3,93E-03	1,25E-05	MNR	MNR	MNR	MNR	MNR	1,84E+00	MNR	MNR	2,37E-04	9,98E-04	3,52E-04	-5,20E-01
Eutrophication	kg PO_4^3e	2,23E-01	1,32E-03	4,71E-04	2,24E-01	8,96E-04	9,72E-06	MNR	MNR	MNR	MNR	MNR	1,41E+00	MNR	MNR	5,40E-05	4,02E-04	3,09E-03	-1,46E-01
POCP (“smog”)	kg C_2H_4e	4,47E-02	2,61E-04	8,18E-05	4,51E-02	1,54E-04	3,37E-07	MNR	MNR	MNR	MNR	MNR	7,52E-02	MNR	MNR	9,25E-06	3,48E-05	4,24E-05	-2,54E-02
ADP-elements	kg Sbe	2,62E-03	2,53E-06	1,69E-06	2,62E-03	2,71E-06	4,85E-09	MNR	MNR	MNR	MNR	MNR	3,53E-03	MNR	MNR	1,64E-07	9,39E-06	1,70E-07	-1,19E-03
ADP-fossil	MJ	1,28E+03	1,75E+01	5,50E+00	1,30E+03	1,80E+01	1,58E-02	MNR	MNR	MNR	MNR	MNR	8,06E+03	MNR	MNR	1,08E+00	1,34E+00	8,50E-01	-5,59E+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
BGP760 LED10-4S/722	910	8,8	103,4	0,978	0,978	0,733	0,733	0,538	371,6	278,7	278,7	204,4
BGP760 LED12-4S/722	1092	10,6	103,0	1,178	1,178	0,883	0,883	0,648	447,6	335,7	335,7	246,2
BGP760 LED14-4S/722	1274	11,6	109,8	1,289	1,289	0,967	0,967	0,709	489,8	367,3	367,3	269,4
BGP760 LED16-4S/722	1456	13,4	108,7	1,489	1,489	1,117	1,117	0,819	565,8	424,3	424,3	311,2
BGP760 LED18-4S/722	1638	15	109,2	1,667	1,667	1,250	1,250	0,917	633,3	475,0	475,0	348,3
BGP760 LED20-4S/722	1820	16,8	108,3	1,867	1,867	1,400	1,400	1,027	709,3	532,0	532,0	390,1
BGP760 LED22-4S/722	2002	18,6	107,6	2,067	2,067	1,550	1,550	1,137	785,3	589,0	589,0	431,9
BGP760 LED24-4S/722	2184	19	114,9	2,111	2,111	1,583	1,583	1,161	802,2	601,7	601,7	441,2
BGP760 LED27-4S/722	2457	21	117,0	2,333	2,333	1,750	1,750	1,283	886,7	665,0	665,0	487,7
BGP760 LED30-4S/722	2730	23,5	116,2	2,611	2,611	1,958	1,958	1,436	992,2	744,2	744,2	545,7
BGP760 LED34-4S/722	3060	27	113,3	3,000	3,000	2,250	2,250	1,650	1140,0	855,0	855,0	627,0
BGP760 LED35-4S/722	3150	28	112,5	3,111	3,111	2,333	2,333	1,711	1182,2	886,7	886,7	650,2
BGP760 LED39-4S/722	3510	31	113,2	3,444	3,444	2,583	2,583	1,894	1308,9	981,7	981,7	719,9
BGP760 LED40-4S/722	3600	32	112,5	3,556	3,556	2,667	2,667	1,956	1351,1	1013,3	1013,3	743,1
BGP760 LED44-4S/722	3960	35,5	111,5	3,944	3,944	2,958	2,958	2,169	1498,9	1124,2	1124,2	824,4
BGP760 LED49-4S/722	4410	40	110,3	4,444	4,444	3,333	3,333	2,444	1688,9	1266,7	1266,7	928,9

BGP760 LED6-4S/722	546	5,6	97,5	0,622	0,622	0,467	0,467	0,342	236,4	177,3	177,3	130,0
BGP760 LED8-4S/722	728	7,1	102,5	0,789	0,789	0,592	0,592	0,434	299,8	224,8	224,8	164,9
BGP760 LED10-4S/727	910	7,9	115,2	0,878	0,878	0,658	0,658	0,483	333,6	250,2	250,2	183,5
BGP760 LED12-4S/727	1092	9,5	114,9	1,056	1,056	0,792	0,792	0,581	401,1	300,8	300,8	220,6
BGP760 LED14-4S/727	1274	10,6	120,2	1,178	1,178	0,883	0,883	0,648	447,6	335,7	335,7	246,2
BGP760 LED16-4S/727	1456	11,8	123,4	1,311	1,311	0,983	0,983	0,721	498,2	373,7	373,7	274,0
BGP760 LED18-4S/727	1638	13,4	122,2	1,489	1,489	1,117	1,117	0,819	565,8	424,3	424,3	311,2
BGP760 LED20-4S/727	1820	15	121,3	1,667	1,667	1,250	1,250	0,917	633,3	475,0	475,0	348,3
BGP760 LED22-4S/727	2002	16,4	122,1	1,822	1,822	1,367	1,367	1,002	692,4	519,3	519,3	380,8
BGP760 LED24-4S/727	2184	18,2	120,0	2,022	2,022	1,517	1,517	1,112	768,4	576,3	576,3	422,6
BGP760 LED27-4S/727	2457	19	129,3	2,111	2,111	1,583	1,583	1,161	802,2	601,7	601,7	441,2
BGP760 LED30-4S/727	2730	21	130,0	2,333	2,333	1,750	1,750	1,283	886,7	665,0	665,0	487,7
BGP760 LED34-4S/727	3094	24	128,9	2,667	2,667	2,000	2,000	1,467	1013,3	760,0	760,0	557,3
BGP760 LED35-4S/727	3185	24,5	130,0	2,722	2,722	2,042	2,042	1,497	1034,4	775,8	775,8	568,9
BGP760 LED39-4S/727	3510	27,5	127,6	3,056	3,056	2,292	2,292	1,681	1161,1	870,8	870,8	638,6
BGP760 LED40-4S/727	3600	28,5	126,3	3,167	3,167	2,375	2,375	1,742	1203,3	902,5	902,5	661,8
BGP760 LED44-4S/727	3960	31,5	125,7	3,500	3,500	2,625	2,625	1,925	1330,0	997,5	997,5	731,5
BGP760 LED49-4S/727	4410	35,5	124,2	3,944	3,944	2,958	2,958	2,169	1498,9	1124,2	1124,2	824,4
BGP760 LED54-4S/727	4860	39,5	123,0	4,389	4,389	3,292	3,292	2,414	1667,8	1250,8	1250,8	917,3
BGP760 LED8-4S/727	728	6,5	112,0	0,722	0,722	0,542	0,542	0,397	274,4	205,8	205,8	150,9
BGP760 LED10-4S/730	910	7,1	128,2	0,789	0,789	0,592	0,592	0,434	299,8	224,8	224,8	164,9
BGP760 LED12-4S/730	1092	8,5	128,5	0,944	0,944	0,708	0,708	0,519	358,9	269,2	269,2	197,4
BGP760 LED14-4S/730	1274	9,5	134,1	1,056	1,056	0,792	0,792	0,581	401,1	300,8	300,8	220,6
BGP760 LED16-4S/730	1456	10,8	134,8	1,200	1,200	0,900	0,900	0,660	456,0	342,0	342,0	250,8
BGP760 LED18-4S/730	1638	12	136,5	1,333	1,333	1,000	1,000	0,733	506,7	380,0	380,0	278,7

BGP760 LED20-4S/730	1820	13,4	135,8	1,489	1,489	1,117	1,117	0,819	565,8	424,3	424,3	311,2
BGP760 LED22-4S/730	2002	14,6	137,1	1,622	1,622	1,217	1,217	0,892	616,4	462,3	462,3	339,0
BGP760 LED24-4S/730	2184	16	136,5	1,778	1,778	1,333	1,333	0,978	675,6	506,7	506,7	371,6
BGP760 LED27-4S/730	2457	17	144,5	1,889	1,889	1,417	1,417	1,039	717,8	538,3	538,3	394,8
BGP760 LED30-4S/730	2730	19	143,7	2,111	2,111	1,583	1,583	1,161	802,2	601,7	601,7	441,2
BGP760 LED34-4S/730	3094	21,5	143,9	2,389	2,389	1,792	1,792	1,314	907,8	680,8	680,8	499,3
BGP760 LED35-4S/730	3185	22	144,8	2,444	2,444	1,833	1,833	1,344	928,9	696,7	696,7	510,9
BGP760 LED39-4S/730	3549	24,5	144,9	2,722	2,722	2,042	2,042	1,497	1034,4	775,8	775,8	568,9
BGP760 LED40-4S/730	3640	25,5	142,7	2,833	2,833	2,125	2,125	1,558	1076,7	807,5	807,5	592,2
BGP760 LED44-4S/730	3960	28	141,4	3,111	3,111	2,333	2,333	1,711	1182,2	886,7	886,7	650,2
BGP760 LED49-4S/730	4410	31,5	140,0	3,500	3,500	2,625	2,625	1,925	1330,0	997,5	997,5	731,5
BGP760 LED54-4S/730	4860	35	138,9	3,889	3,889	2,917	2,917	2,139	1477,8	1108,3	1108,3	812,8
BGP760 LED60-4S/730	5400	39,5	136,7	4,389	4,389	3,292	3,292	2,414	1667,8	1250,8	1250,8	917,3
BGP760 LED8-4S/730	728	5,9	123,4	0,656	0,656	0,492	0,492	0,361	249,1	186,8	186,8	137,0
BGP760 LED10-4S/740	910	6,8	133,8	0,756	0,756	0,567	0,567	0,416	287,1	215,3	215,3	157,9
BGP760 LED12-4S/740	1092	8	136,5	0,889	0,889	0,667	0,667	0,489	337,8	253,3	253,3	185,8
BGP760 LED14-4S/740	1274	9	141,6	1,000	1,000	0,750	0,750	0,550	380,0	285,0	285,0	209,0
BGP760 LED16-4S/740	1456	10,2	142,7	1,133	1,133	0,850	0,850	0,623	430,7	323,0	323,0	236,9
BGP760 LED18-4S/740	1638	11,4	143,7	1,267	1,267	0,950	0,950	0,697	481,3	361,0	361,0	264,7
BGP760 LED20-4S/740	1820	12,6	144,4	1,400	1,400	1,050	1,050	0,770	532,0	399,0	399,0	292,6
BGP760 LED22-4S/740	2002	13,8	145,1	1,533	1,533	1,150	1,150	0,843	582,7	437,0	437,0	320,5
BGP760 LED24-4S/740	2184	15	145,6	1,667	1,667	1,250	1,250	0,917	633,3	475,0	475,0	348,3
BGP760 LED27-4S/740	2457	16	153,6	1,778	1,778	1,333	1,333	0,978	675,6	506,7	506,7	371,6
BGP760 LED30-4S/740	2730	17,8	153,4	1,978	1,978	1,483	1,483	1,088	751,6	563,7	563,7	413,4
BGP760 LED34-4S/740	3094	20	154,7	2,222	2,222	1,667	1,667	1,222	844,4	633,3	633,3	464,4

BGP760 LED35-4S/740	3185	21	151,7	2,333	2,333	1,750	1,750	1,283	886,7	665,0	665,0	487,7
BGP760 LED39-4S/740	3549	23	154,3	2,556	2,556	1,917	1,917	1,406	971,1	728,3	728,3	534,1
BGP760 LED40-4S/740	3640	23,5	154,9	2,611	2,611	1,958	1,958	1,436	992,2	744,2	744,2	545,7
BGP760 LED44-4S/740	3960	26	152,3	2,889	2,889	2,167	2,167	1,589	1097,8	823,3	823,3	603,8
BGP760 LED49-4S/740	4410	29,5	149,5	3,278	3,278	2,458	2,458	1,803	1245,6	934,2	934,2	685,1
BGP760 LED54-4S/740	4860	32,5	149,5	3,611	3,611	2,708	2,708	1,986	1372,2	1029,2	1029,2	754,7
BGP760 LED60-4S/740	5400	37	145,9	4,111	4,111	3,083	3,083	2,261	1562,2	1171,7	1171,7	859,2
BGP760 LED8-4S/740	728	5,6	130,0	0,622	0,622	0,467	0,467	0,342	236,4	177,3	177,3	130,0
BGP760 LED10-4S/757	910	6,8	133,8	0,756	0,756	0,567	0,567	0,416	287,1	215,3	215,3	157,9
BGP760 LED12-4S/757	1092	8	136,5	0,889	0,889	0,667	0,667	0,489	337,8	253,3	253,3	185,8
BGP760 LED14-4S/757	1274	9	141,6	1,000	1,000	0,750	0,750	0,550	380,0	285,0	285,0	209,0
BGP760 LED16-4S/757	1456	10,2	142,7	1,133	1,133	0,850	0,850	0,623	430,7	323,0	323,0	236,9
BGP760 LED18-4S/757	1638	11,4	143,7	1,267	1,267	0,950	0,950	0,697	481,3	361,0	361,0	264,7
BGP760 LED20-4S/757	1820	12,6	144,4	1,400	1,400	1,050	1,050	0,770	532,0	399,0	399,0	292,6
BGP760 LED22-4S/757	2002	13,8	145,1	1,533	1,533	1,150	1,150	0,843	582,7	437,0	437,0	320,5
BGP760 LED24-4S/757	2184	15,2	143,7	1,689	1,689	1,267	1,267	0,929	641,8	481,3	481,3	353,0
BGP760 LED27-4S/757	2457	16	153,6	1,778	1,778	1,333	1,333	0,978	675,6	506,7	506,7	371,6
BGP760 LED30-4S/757	2730	17,8	153,4	1,978	1,978	1,483	1,483	1,088	751,6	563,7	563,7	413,4
BGP760 LED34-4S/757	3094	20	154,7	2,222	2,222	1,667	1,667	1,222	844,4	633,3	633,3	464,4
BGP760 LED35-4S/757	3185	21	151,7	2,333	2,333	1,750	1,750	1,283	886,7	665,0	665,0	487,7
BGP760 LED39-4S/757	3549	23	154,3	2,556	2,556	1,917	1,917	1,406	971,1	728,3	728,3	534,1
BGP760 LED40-4S/757	3640	23,5	154,9	2,611	2,611	1,958	1,958	1,436	992,2	744,2	744,2	545,7
BGP760 LED44-4S/757	3960	26	152,3	2,889	2,889	2,167	2,167	1,589	1097,8	823,3	823,3	603,8
BGP760 LED49-4S/757	4410	29,5	149,5	3,278	3,278	2,458	2,458	1,803	1245,6	934,2	934,2	685,1
BGP760 LED54-4S/757	4860	32,5	149,5	3,611	3,611	2,708	2,708	1,986	1372,2	1029,2	1029,2	754,7

BGP760 LED60-4S/757	5400	37	145,9	4,111	4,111	3,083	3,083	2,261	1562,2	1171,7	1171,7	859,2
BGP760 LED8-4S/757	728	5,6	130,0	0,622	0,622	0,467	0,467	0,342	236,4	177,3	177,3	130,0
BGP760 LED10-4S/827	910	8,5	107,1	0,944	0,944	0,708	0,708	0,519	358,9	269,2	269,2	197,4
BGP760 LED12-4S/827	1092	10,2	107,1	1,133	1,133	0,850	0,850	0,623	430,7	323,0	323,0	236,9
BGP760 LED14-4S/827	1274	11,2	113,8	1,244	1,244	0,933	0,933	0,684	472,9	354,7	354,7	260,1
BGP760 LED16-4S/827	1456	12,8	113,8	1,422	1,422	1,067	1,067	0,782	540,4	405,3	405,3	297,2
BGP760 LED18-4S/827	1638	14,4	113,8	1,600	1,600	1,200	1,200	0,880	608,0	456,0	456,0	334,4
BGP760 LED20-4S/827	1820	16	113,8	1,778	1,778	1,333	1,333	0,978	675,6	506,7	506,7	371,6
BGP760 LED22-4S/827	2002	17,8	112,5	1,978	1,978	1,483	1,483	1,088	751,6	563,7	563,7	413,4
BGP760 LED24-4S/827	2184	18,2	120,0	2,022	2,022	1,517	1,517	1,112	768,4	576,3	576,3	422,6
BGP760 LED27-4S/827	2457	20,5	119,9	2,278	2,278	1,708	1,708	1,253	865,6	649,2	649,2	476,1
BGP760 LED30-4S/827	2730	22,5	121,3	2,500	2,500	1,875	1,875	1,375	950,0	712,5	712,5	522,5
BGP760 LED34-4S/827	3060	26	117,7	2,889	2,889	2,167	2,167	1,589	1097,8	823,3	823,3	603,8
BGP760 LED35-4S/827	3150	26,5	118,9	2,944	2,944	2,208	2,208	1,619	1118,9	839,2	839,2	615,4
BGP760 LED39-4S/827	3510	30	117,0	3,333	3,333	2,500	2,500	1,833	1266,7	950,0	950,0	696,7
BGP760 LED40-4S/827	3600	30,5	118,0	3,389	3,389	2,542	2,542	1,864	1287,8	965,8	965,8	708,3
BGP760 LED44-4S/827	3960	34	116,5	3,778	3,778	2,833	2,833	2,078	1435,6	1076,7	1076,7	789,6
BGP760 LED49-4S/827	4410	38,5	114,5	4,278	4,278	3,208	3,208	2,353	1625,6	1219,2	1219,2	894,1
BGP760 LED6-4S/827	546	5,4	101,1	0,600	0,600	0,450	0,450	0,330	228,0	171,0	171,0	125,4
BGP760 LED8-4S/827	728	6,9	105,5	0,767	0,767	0,575	0,575	0,422	291,3	218,5	218,5	160,2
BGP760 LED10-4S/830	910	7,9	115,2	0,878	0,878	0,658	0,658	0,483	333,6	250,2	250,2	183,5
BGP760 LED12-4S/830	1092	9,5	114,9	1,056	1,056	0,792	0,792	0,581	401,1	300,8	300,8	220,6
BGP760 LED14-4S/830	1274	10,6	120,2	1,178	1,178	0,883	0,883	0,648	447,6	335,7	335,7	246,2
BGP760 LED16-4S/830	1456	11,8	123,4	1,311	1,311	0,983	0,983	0,721	498,2	373,7	373,7	274,0
BGP760 LED18-4S/830	1638	13,4	122,2	1,489	1,489	1,117	1,117	0,819	565,8	424,3	424,3	311,2

BGP760 LED20-4S/830	1820	15	121,3	1,667	1,667	1,250	1,250	0,917	633,3	475,0	475,0	348,3
BGP760 LED22-4S/830	2002	16,4	122,1	1,822	1,822	1,367	1,367	1,002	692,4	519,3	519,3	380,8
BGP760 LED24-4S/830	2184	17	128,5	1,889	1,889	1,417	1,417	1,039	717,8	538,3	538,3	394,8
BGP760 LED27-4S/830	2457	19	129,3	2,111	2,111	1,583	1,583	1,161	802,2	601,7	601,7	441,2
BGP760 LED30-4S/830	2730	21	130,0	2,333	2,333	1,750	1,750	1,283	886,7	665,0	665,0	487,7
BGP760 LED34-4S/830	3094	24	128,9	2,667	2,667	2,000	2,000	1,467	1013,3	760,0	760,0	557,3
BGP760 LED35-4S/830	3185	24,5	130,0	2,722	2,722	2,042	2,042	1,497	1034,4	775,8	775,8	568,9
BGP760 LED39-4S/830	3510	27,5	127,6	3,056	3,056	2,292	2,292	1,681	1161,1	870,8	870,8	638,6
BGP760 LED40-4S/830	3600	28,5	126,3	3,167	3,167	2,375	2,375	1,742	1203,3	902,5	902,5	661,8
BGP760 LED44-4S/830	3960	31,5	125,7	3,500	3,500	2,625	2,625	1,925	1330,0	997,5	997,5	731,5
BGP760 LED49-4S/830	4410	35,5	124,2	3,944	3,944	2,958	2,958	2,169	1498,9	1124,2	1124,2	824,4
BGP760 LED54-4S/830	4860	39,5	123,0	4,389	4,389	3,292	3,292	2,414	1667,8	1250,8	1250,8	917,3
BGP760 LED6-4S/830	546	5,1	107,1	0,567	0,567	0,425	0,425	0,312	215,3	161,5	161,5	118,4
BGP760 LED8-4S/830	728	6,5	112,0	0,722	0,722	0,542	0,542	0,397	274,4	205,8	205,8	150,9
BGP760 LED10-4S/840	910	7,7	118,2	0,856	0,856	0,642	0,642	0,471	325,1	243,8	243,8	178,8
BGP760 LED12-4S/840	1092	9,2	118,7	1,022	1,022	0,767	0,767	0,562	388,4	291,3	291,3	213,6
BGP760 LED14-4S/840	1274	10,2	124,9	1,133	1,133	0,850	0,850	0,623	430,7	323,0	323,0	236,9
BGP760 LED16-4S/840	1456	11,6	125,5	1,289	1,289	0,967	0,967	0,709	489,8	367,3	367,3	269,4
BGP760 LED18-4S/840	1638	13	126,0	1,444	1,444	1,083	1,083	0,794	548,9	411,7	411,7	301,9
BGP760 LED20-4S/840	1820	14,4	126,4	1,600	1,600	1,200	1,200	0,880	608,0	456,0	456,0	334,4
BGP760 LED22-4S/840	2002	16	125,1	1,778	1,778	1,333	1,333	0,978	675,6	506,7	506,7	371,6
BGP760 LED24-4S/840	2184	16,4	133,2	1,822	1,822	1,367	1,367	1,002	692,4	519,3	519,3	380,8
BGP760 LED27-4S/840	2457	18,4	133,5	2,044	2,044	1,533	1,533	1,124	776,9	582,7	582,7	427,3
BGP760 LED30-4S/840	2730	20,5	133,2	2,278	2,278	1,708	1,708	1,253	865,6	649,2	649,2	476,1
BGP760 LED34-4S/840	3094	23	134,5	2,556	2,556	1,917	1,917	1,406	971,1	728,3	728,3	534,1

BGP760 LED35-4S/840	3185	24	132,7	2,667	2,667	2,000	2,000	1,467	1013,3	760,0	760,0	557,3
BGP760 LED39-4S/840	3510	27	130,0	3,000	3,000	2,250	2,250	1,650	1140,0	855,0	855,0	627,0
BGP760 LED40-4S/840	3600	27,5	130,9	3,056	3,056	2,292	2,292	1,681	1161,1	870,8	870,8	638,6
BGP760 LED44-4S/840	3960	30,5	129,8	3,389	3,389	2,542	2,542	1,864	1287,8	965,8	965,8	708,3
BGP760 LED49-4S/840	4410	34	129,7	3,778	3,778	2,833	2,833	2,078	1435,6	1076,7	1076,7	789,6
BGP760 LED54-4S/840	4860	38	127,9	4,222	4,222	3,167	3,167	2,322	1604,4	1203,3	1203,3	882,4
BGP760 LED6-4S/840	546	4,9	111,4	0,544	0,544	0,408	0,408	0,299	206,9	155,2	155,2	113,8
BGP760 LED8-4S/840	728	6,3	115,6	0,700	0,700	0,525	0,525	0,385	266,0	199,5	199,5	146,3

** 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
BGP760 LED10-4S/722	910	8,8	103,4	0,978	0,376	0,282	0,282	0,207	142,9	107,2	107,2	78,6
BGP760 LED12-4S/722	1092	10,6	103,0	1,178	0,377	0,283	0,283	0,208	143,4	107,6	107,6	78,9
BGP760 LED14-4S/722	1274	11,6	109,8	1,289	0,354	0,266	0,266	0,195	134,6	100,9	100,9	74,0
BGP760 LED16-4S/722	1456	13,4	108,7	1,489	0,358	0,268	0,268	0,197	136,0	102,0	102,0	74,8
BGP760 LED18-4S/722	1638	15	109,2	1,667	0,356	0,267	0,267	0,196	135,3	101,5	101,5	74,4
BGP760 LED20-4S/722	1820	16,8	108,3	1,867	0,359	0,269	0,269	0,197	136,4	102,3	102,3	75,0
BGP760 LED22-4S/722	2002	18,6	107,6	2,067	0,361	0,271	0,271	0,199	137,3	103,0	103,0	75,5
BGP760 LED24-4S/722	2184	19	114,9	2,111	0,338	0,254	0,254	0,186	128,6	96,4	96,4	70,7
BGP760 LED27-4S/722	2457	21	117,0	2,333	0,332	0,249	0,249	0,183	126,3	94,7	94,7	69,5
BGP760 LED30-4S/722	2730	23,5	116,2	2,611	0,335	0,251	0,251	0,184	127,2	95,4	95,4	70,0

BGP760 LED34-4S/722	3060	27	113,3	3,000	0,343	0,257	0,257	0,189	130,4	97,8	97,8	71,7
BGP760 LED35-4S/722	3150	28	112,5	3,111	0,346	0,259	0,259	0,190	131,4	98,5	98,5	72,2
BGP760 LED39-4S/722	3510	31	113,2	3,444	0,343	0,258	0,258	0,189	130,5	97,9	97,9	71,8
BGP760 LED40-4S/722	3600	32	112,5	3,556	0,346	0,259	0,259	0,190	131,4	98,5	98,5	72,2
BGP760 LED44-4S/722	3960	35,5	111,5	3,944	0,349	0,261	0,261	0,192	132,5	99,4	99,4	72,9
BGP760 LED49-4S/722	4410	40	110,3	4,444	0,353	0,265	0,265	0,194	134,0	100,5	100,5	73,7
BGP760 LED6-4S/722	546	5,6	97,5	0,622	0,399	0,299	0,299	0,219	151,6	113,7	113,7	83,4
BGP760 LED8-4S/722	728	7,1	102,5	0,789	0,379	0,284	0,284	0,209	144,1	108,1	108,1	79,3
BGP760 LED10-4S/727	910	7,9	115,2	0,878	0,338	0,253	0,253	0,186	128,3	96,2	96,2	70,6
BGP760 LED12-4S/727	1092	9,5	114,9	1,056	0,338	0,254	0,254	0,186	128,6	96,4	96,4	70,7
BGP760 LED14-4S/727	1274	10,6	120,2	1,178	0,324	0,243	0,243	0,178	123,0	92,2	92,2	67,6
BGP760 LED16-4S/727	1456	11,8	123,4	1,311	0,315	0,236	0,236	0,173	119,8	89,8	89,8	65,9
BGP760 LED18-4S/727	1638	13,4	122,2	1,489	0,318	0,239	0,239	0,175	120,9	90,7	90,7	66,5
BGP760 LED20-4S/727	1820	15	121,3	1,667	0,321	0,240	0,240	0,176	121,8	91,3	91,3	67,0
BGP760 LED22-4S/727	2002	16,4	122,1	1,822	0,319	0,239	0,239	0,175	121,1	90,8	90,8	66,6
BGP760 LED24-4S/727	2184	18,2	120,0	2,022	0,324	0,243	0,243	0,178	123,1	92,4	92,4	67,7
BGP760 LED27-4S/727	2457	19	129,3	2,111	0,301	0,226	0,226	0,165	114,3	85,7	85,7	62,9
BGP760 LED30-4S/727	2730	21	130,0	2,333	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED34-4S/727	3094	24	128,9	2,667	0,302	0,226	0,226	0,166	114,6	86,0	86,0	63,0
BGP760 LED35-4S/727	3185	24,5	130,0	2,722	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED39-4S/727	3510	27,5	127,6	3,056	0,305	0,229	0,229	0,168	115,8	86,8	86,8	63,7
BGP760 LED40-4S/727	3600	28,5	126,3	3,167	0,308	0,231	0,231	0,169	117,0	87,7	87,7	64,3
BGP760 LED44-4S/727	3960	31,5	125,7	3,500	0,309	0,232	0,232	0,170	117,6	88,2	88,2	64,7
BGP760 LED49-4S/727	4410	35,5	124,2	3,944	0,313	0,235	0,235	0,172	119,0	89,2	89,2	65,4
BGP760 LED54-4S/727	4860	39,5	123,0	4,389	0,316	0,237	0,237	0,174	120,1	90,1	90,1	66,1
BGP760 LED8-4S/727	728	6,5	112,0	0,722	0,347	0,260	0,260	0,191	131,9	99,0	99,0	72,6
BGP760 LED10-4S/730	910	7,1	128,2	0,789	0,303	0,228	0,228	0,167	115,3	86,5	86,5	63,4
BGP760 LED12-4S/730	1092	8,5	128,5	0,944	0,303	0,227	0,227	0,166	115,0	86,3	86,3	63,3
BGP760 LED14-4S/730	1274	9,5	134,1	1,056	0,290	0,217	0,217	0,159	110,2	82,6	82,6	60,6
BGP760 LED16-4S/730	1456	10,8	134,8	1,200	0,288	0,216	0,216	0,159	109,6	82,2	82,2	60,3
BGP760 LED18-4S/730	1638	12	136,5	1,333	0,285	0,214	0,214	0,157	108,3	81,2	81,2	59,5
BGP760 LED20-4S/730	1820	13,4	135,8	1,489	0,286	0,215	0,215	0,157	108,8	81,6	81,6	59,8
BGP760 LED22-4S/730	2002	14,6	137,1	1,622	0,284	0,213	0,213	0,156	107,8	80,8	80,8	59,3
BGP760 LED24-4S/730	2184	16	136,5	1,778	0,285	0,214	0,214	0,157	108,3	81,2	81,2	59,5
BGP760 LED27-4S/730	2457	17	144,5	1,889	0,269	0,202	0,202	0,148	102,2	76,7	76,7	56,2
BGP760 LED30-4S/730	2730	19	143,7	2,111	0,271	0,203	0,203	0,149	102,8	77,1	77,1	56,6
BGP760 LED34-4S/730	3094	21,5	143,9	2,389	0,270	0,203	0,203	0,149	102,7	77,0	77,0	56,5
BGP760 LED35-4S/730	3185	22	144,8	2,444	0,269	0,201	0,201	0,148	102,1	76,6	76,6	56,1
BGP760 LED39-4S/730	3549	24,5	144,9	2,722	0,268	0,201	0,201	0,148	102,0	76,5	76,5	56,1
BGP760 LED40-4S/730	3640	25,5	142,7	2,833	0,272	0,204	0,204	0,150	103,5	77,6	77,6	56,9
BGP760 LED44-4S/730	3960	28	141,4	3,111	0,275	0,206	0,206	0,151	104,5	78,4	78,4	57,5
BGP760 LED49-4S/730	4410	31,5	140,0	3,500	0,278	0,208	0,208	0,153	105,6	79,2	79,2	58,1
BGP760 LED54-4S/730	4860	35	138,9	3,889	0,280	0,210	0,210	0,154	106,4	79,8	79,8	58,5
BGP760 LED60-4S/730	5400	39,5	136,7	4,389	0,284	0,213	0,213	0,156	108,1	81,1	81,1	59,5
BGP760 LED8-4S/730	728	5,9	123,4	0,656	0,315	0,236	0,236	0,173	119,8	89,8	89,8	65,9
BGP760 LED10-4S/740	910	6,8	133,8	0,756	0,291	0,218	0,218	0,160	110,4	82,8	82,8	60,7
BGP760 LED12-4S/740	1092	8	136,5	0,889	0,285	0,214	0,214	0,157	108,3	81,2	81,2	59,5
BGP760 LED14-4S/740	1274	9	141,6	1,000	0,275	0,206	0,206	0,151	104,4	78,3	78,3	57,4
BGP760 LED16-4S/740	1456	10,2	142,7	1,133	0,272	0,204	0,204	0,150	103,5	77,6	77,6	56,9

BGP760 LED18-4S/740	1638	11,4	143,7	1,267	0,271	0,203	0,203	0,149	102,8	77,1	77,1	56,6
BGP760 LED20-4S/740	1820	12,6	144,4	1,400	0,269	0,202	0,202	0,148	102,3	76,7	76,7	56,3
BGP760 LED22-4S/740	2002	13,8	145,1	1,533	0,268	0,201	0,201	0,147	101,9	76,4	76,4	56,0
BGP760 LED24-4S/740	2184	15	145,6	1,667	0,267	0,200	0,200	0,147	101,5	76,1	76,1	55,8
BGP760 LED27-4S/740	2457	16	153,6	1,778	0,253	0,190	0,190	0,139	96,2	72,2	72,2	52,9
BGP760 LED30-4S/740	2730	17,8	153,4	1,978	0,254	0,190	0,190	0,139	96,4	72,3	72,3	53,0
BGP760 LED34-4S/740	3094	20	154,7	2,222	0,251	0,189	0,189	0,138	95,5	71,6	71,6	52,5
BGP760 LED35-4S/740	3185	21	151,7	2,333	0,256	0,192	0,192	0,141	97,4	73,1	73,1	53,6
BGP760 LED39-4S/740	3549	23	154,3	2,556	0,252	0,189	0,189	0,139	95,8	71,8	71,8	52,7
BGP760 LED40-4S/740	3640	23,5	154,9	2,611	0,251	0,188	0,188	0,138	95,4	71,6	71,6	52,5
BGP760 LED44-4S/740	3960	26	152,3	2,889	0,255	0,191	0,191	0,140	97,0	72,8	72,8	53,4
BGP760 LED49-4S/740	4410	29,5	149,5	3,278	0,260	0,195	0,195	0,143	98,9	74,1	74,1	54,4
BGP760 LED54-4S/740	4860	32,5	149,5	3,611	0,260	0,195	0,195	0,143	98,8	74,1	74,1	54,4
BGP760 LED60-4S/740	5400	37	145,9	4,111	0,266	0,200	0,200	0,147	101,3	75,9	75,9	55,7
BGP760 LED8-4S/740	728	5,6	130,0	0,622	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED10-4S/757	910	6,8	133,8	0,756	0,291	0,218	0,218	0,160	110,4	82,8	82,8	60,7
BGP760 LED12-4S/757	1092	8	136,5	0,889	0,285	0,214	0,214	0,157	108,3	81,2	81,2	59,5
BGP760 LED14-4S/757	1274	9	141,6	1,000	0,275	0,206	0,206	0,151	104,4	78,3	78,3	57,4
BGP760 LED16-4S/757	1456	10,2	142,7	1,133	0,272	0,204	0,204	0,150	103,5	77,6	77,6	56,9
BGP760 LED18-4S/757	1638	11,4	143,7	1,267	0,271	0,203	0,203	0,149	102,8	77,1	77,1	56,6
BGP760 LED20-4S/757	1820	12,6	144,4	1,400	0,269	0,202	0,202	0,148	102,3	76,7	76,7	56,3
BGP760 LED22-4S/757	2002	13,8	145,1	1,533	0,268	0,201	0,201	0,147	101,9	76,4	76,4	56,0
BGP760 LED24-4S/757	2184	15,2	143,7	1,689	0,271	0,203	0,203	0,149	102,8	77,1	77,1	56,6
BGP760 LED27-4S/757	2457	16	153,6	1,778	0,253	0,190	0,190	0,139	96,2	72,2	72,2	52,9
BGP760 LED30-4S/757	2730	17,8	153,4	1,978	0,254	0,190	0,190	0,139	96,4	72,3	72,3	53,0
BGP760 LED34-4S/757	3094	20	154,7	2,222	0,251	0,189	0,189	0,138	95,5	71,6	71,6	52,5
BGP760 LED35-4S/757	3185	21	151,7	2,333	0,256	0,192	0,192	0,141	97,4	73,1	73,1	53,6
BGP760 LED39-4S/757	3549	23	154,3	2,556	0,252	0,189	0,189	0,139	95,8	71,8	71,8	52,7
BGP760 LED40-4S/757	3640	23,5	154,9	2,611	0,251	0,188	0,188	0,138	95,4	71,6	71,6	52,5
BGP760 LED44-4S/757	3960	26	152,3	2,889	0,255	0,191	0,191	0,140	97,0	72,8	72,8	53,4
BGP760 LED49-4S/757	4410	29,5	149,5	3,278	0,260	0,195	0,195	0,143	98,9	74,1	74,1	54,4
BGP760 LED54-4S/757	4860	32,5	149,5	3,611	0,260	0,195	0,195	0,143	98,8	74,1	74,1	54,4
BGP760 LED60-4S/757	5400	37	145,9	4,111	0,266	0,200	0,200	0,147	101,3	75,9	75,9	55,7
BGP760 LED8-4S/757	728	5,6	130,0	0,622	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED10-4S/827	910	8,5	107,1	0,944	0,363	0,272	0,272	0,200	138,0	103,5	103,5	75,9
BGP760 LED12-4S/827	1092	10,2	107,1	1,133	0,363	0,272	0,272	0,200	138,0	103,5	103,5	75,9
BGP760 LED14-4S/827	1274	11,2	113,8	1,244	0,342	0,256	0,256	0,188	129,9	97,4	97,4	71,5
BGP760 LED16-4S/827	1456	12,8	113,8	1,422	0,342	0,256	0,256	0,188	129,9	97,4	97,4	71,5
BGP760 LED18-4S/827	1638	14,4	113,8	1,600	0,342	0,256	0,256	0,188	129,9	97,4	97,4	71,5
BGP760 LED20-4S/827	1820	16	113,8	1,778	0,342	0,256	0,256	0,188	129,9	97,4	97,4	71,5
BGP760 LED22-4S/827	2002	17,8	112,5	1,978	0,346	0,259	0,259	0,190	131,4	98,5	98,5	72,3
BGP760 LED24-4S/827	2184	18,2	120,0	2,022	0,324	0,243	0,243	0,178	123,1	92,4	92,4	67,7
BGP760 LED27-4S/827	2457	20,5	119,9	2,278	0,324	0,243	0,243	0,178	123,3	92,5	92,5	67,8
BGP760 LED30-4S/827	2730	22,5	121,3	2,500	0,321	0,240	0,240	0,176	121,8	91,3	91,3	67,0
BGP760 LED34-4S/827	3060	26	117,7	2,889	0,330	0,248	0,248	0,182	125,6	94,2	94,2	69,1
BGP760 LED35-4S/827	3150	26,5	118,9	2,944	0,327	0,245	0,245	0,180	124,3	93,2	93,2	68,4
BGP760 LED39-4S/827	3510	30	117,0	3,333	0,332	0,249	0,249	0,183	126,3	94,7	94,7	69,5
BGP760 LED40-4S/827	3600	30,5	118,0	3,389	0,329	0,247	0,247	0,181	125,2	93,9	93,9	68,9
BGP760 LED44-4S/827	3960	34	116,5	3,778	0,334	0,250	0,250	0,184	126,9	95,2	95,2	69,8

BGP760 LED49-4S/827	4410	38,5	114,5	4,278	0,340	0,255	0,255	0,187	129,0	96,8	96,8	71,0
BGP760 LED6-4S/827	546	5,4	101,1	0,600	0,385	0,288	0,288	0,212	146,2	109,6	109,6	80,4
BGP760 LED8-4S/827	728	6,9	105,5	0,767	0,369	0,276	0,276	0,203	140,1	105,0	105,0	77,0
BGP760 LED10-4S/830	910	7,9	115,2	0,878	0,338	0,253	0,253	0,186	128,3	96,2	96,2	70,6
BGP760 LED12-4S/830	1092	9,5	114,9	1,056	0,338	0,254	0,254	0,186	128,6	96,4	96,4	70,7
BGP760 LED14-4S/830	1274	10,6	120,2	1,178	0,324	0,243	0,243	0,178	123,0	92,2	92,2	67,6
BGP760 LED16-4S/830	1456	11,8	123,4	1,311	0,315	0,236	0,236	0,173	119,8	89,8	89,8	65,9
BGP760 LED18-4S/830	1638	13,4	122,2	1,489	0,318	0,239	0,239	0,175	120,9	90,7	90,7	66,5
BGP760 LED20-4S/830	1820	15	121,3	1,667	0,321	0,240	0,240	0,176	121,8	91,3	91,3	67,0
BGP760 LED22-4S/830	2002	16,4	122,1	1,822	0,319	0,239	0,239	0,175	121,1	90,8	90,8	66,6
BGP760 LED24-4S/830	2184	17	128,5	1,889	0,303	0,227	0,227	0,166	115,0	86,3	86,3	63,3
BGP760 LED27-4S/830	2457	19	129,3	2,111	0,301	0,226	0,226	0,165	114,3	85,7	85,7	62,9
BGP760 LED30-4S/830	2730	21	130,0	2,333	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED34-4S/830	3094	24	128,9	2,667	0,302	0,226	0,226	0,166	114,6	86,0	86,0	63,0
BGP760 LED35-4S/830	3185	24,5	130,0	2,722	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED39-4S/830	3510	27,5	127,6	3,056	0,305	0,229	0,229	0,168	115,8	86,8	86,8	63,7
BGP760 LED40-4S/830	3600	28,5	126,3	3,167	0,308	0,231	0,231	0,169	117,0	87,7	87,7	64,3
BGP760 LED44-4S/830	3960	31,5	125,7	3,500	0,309	0,232	0,232	0,170	117,6	88,2	88,2	64,7
BGP760 LED49-4S/830	4410	35,5	124,2	3,944	0,313	0,235	0,235	0,172	119,0	89,2	89,2	65,4
BGP760 LED54-4S/830	4860	39,5	123,0	4,389	0,316	0,237	0,237	0,174	120,1	90,1	90,1	66,1
BGP760 LED6-4S/830	546	5,1	107,1	0,567	0,363	0,272	0,272	0,200	138,0	103,5	103,5	75,9
BGP760 LED8-4S/830	728	6,5	112,0	0,722	0,347	0,260	0,260	0,191	131,9	99,0	99,0	72,6
BGP760 LED10-4S/840	910	7,7	118,2	0,856	0,329	0,247	0,247	0,181	125,0	93,8	93,8	68,8
BGP760 LED12-4S/840	1092	9,2	118,7	1,022	0,328	0,246	0,246	0,180	124,5	93,4	93,4	68,5
BGP760 LED14-4S/840	1274	10,2	124,9	1,133	0,311	0,234	0,234	0,171	118,3	88,7	88,7	65,1
BGP760 LED16-4S/840	1456	11,6	125,5	1,289	0,310	0,232	0,232	0,170	117,7	88,3	88,3	64,8
BGP760 LED18-4S/840	1638	13	126,0	1,444	0,309	0,231	0,231	0,170	117,3	88,0	88,0	64,5
BGP760 LED20-4S/840	1820	14,4	126,4	1,600	0,308	0,231	0,231	0,169	116,9	87,7	87,7	64,3
BGP760 LED22-4S/840	2002	16	125,1	1,778	0,311	0,233	0,233	0,171	118,1	88,6	88,6	65,0
BGP760 LED24-4S/840	2184	16,4	133,2	1,822	0,292	0,219	0,219	0,161	111,0	83,2	83,2	61,0
BGP760 LED27-4S/840	2457	18,4	133,5	2,044	0,291	0,218	0,218	0,160	110,7	83,0	83,0	60,9
BGP760 LED30-4S/840	2730	20,5	133,2	2,278	0,292	0,219	0,219	0,161	111,0	83,2	83,2	61,0
BGP760 LED34-4S/840	3094	23	134,5	2,556	0,289	0,217	0,217	0,159	109,9	82,4	82,4	60,4
BGP760 LED35-4S/840	3185	24	132,7	2,667	0,293	0,220	0,220	0,161	111,4	83,5	83,5	61,2
BGP760 LED39-4S/840	3510	27	130,0	3,000	0,299	0,224	0,224	0,165	113,7	85,3	85,3	62,5
BGP760 LED40-4S/840	3600	27,5	130,9	3,056	0,297	0,223	0,223	0,163	112,9	84,7	84,7	62,1
BGP760 LED44-4S/840	3960	30,5	129,8	3,389	0,300	0,225	0,225	0,165	113,8	85,4	85,4	62,6
BGP760 LED49-4S/840	4410	34	129,7	3,778	0,300	0,225	0,225	0,165	113,9	85,4	85,4	62,7
BGP760 LED54-4S/840	4860	38	127,9	4,222	0,304	0,228	0,228	0,167	115,5	86,7	86,7	63,6
BGP760 LED6-4S/840	546	4,9	111,4	0,544	0,349	0,262	0,262	0,192	132,6	99,5	99,5	72,9
BGP760 LED8-4S/840	728	6,3	115,6	0,700	0,337	0,252	0,252	0,185	127,9	95,9	95,9	70,3

** 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.*