

# ENVIRONMENTAL PRODUCT DECLARATION

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

**Philips UniStreet/LumiStreet gen2**

**BGP282/292/392**

Signify N.V.



EPD HUB

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## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	Signify N.V.
Address	High Tech Campus 48, 5656 AE Eindhoven, The Netherlands
Contact details	sustainability@signify.com
Website	<a href="https://www.signify.com/global">https://www.signify.com/global</a>

### 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: <input checked="" type="checkbox"/> Internal certification <input type="checkbox"/> 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 Unistreet/Lumistreet gen2 Mini
Additional labels	BGP282 LED130-4S/740 I DM10 DDF2 D18 SRG
Product reference	910770235380
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 11132 lumens over 100000 hours
Declared unit mass	5.838 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	1.35E+02
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	1.35E+02
Secondary material, inputs (%)	9.68
Secondary material, outputs (%)	54.1
Total energy use, A1-A3 (kWh)	424.0
Total water use, A1-A3 (m <sup>3</sup> e)	7.98E-01

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

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

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

### PRODUCT DESCRIPTION

Designed for large-scale ledification projects, the UniStreet/LumiStreet gen2 is the ideal 1:1 luminaire replacement for municipalities. Thanks to its high efficiency and low initial cost, the UniStreet gen2 luminaire enables a fast payback and significant savings in terms of energy consumption within a short period of time. The ease of installation and maintenance is enabled by the Philips Service tag and the Philips SR (System Ready) socket makes it future-ready and you can pair this luminaire with lighting control and software applications such as Interact City. Available with a number of different optics and lumen packages that can even be tuned further to fit exact project requirements, UniStreet gen2 is a true point-to-point replacement solution for conventional light sources. The compact luminaire, using high-quality materials is also easy to dismantle and recycle at the end of its lifetime.

For more information, please visit <https://www.lighting.philips.com/link/BGP281/fam/aa/en>

### PRODUCT RAW MATERIAL MAIN COMPOSITION

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Raw material category	Amount, mass- %	Material origin
Metals	66.97	EU , APAC
Minerals	20.12	EU , APAC
Fossil materials	12.9	EU , APAC
Bio-based materials	0	Not applicable

### BIOGENIC CARBON CONTENT

Product’s biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.001

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 Product
Mass per declared unit	5.838 kg
Functional unit	1 unit of 11132 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	Recycling

Modules not relevant = MNR.

## MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, electricity, and waste formed in the production processes at Signify’s manufacturing facilities are included in this stage.

The product is made of metals, plastics, and electronic components. All components are transported to Signify’s production facility, where the main manufacturing processes primarily are associated with assembly. The finished product is packaged with polyethylene, cardboard, and/or paper as packaging material before being sent to customers. Manufacturing loss, ancillaries and wastes are calculated according to the data that each manufacturing site is sharing with Signify. The total annual amount of waste in kg is allocated to the total annual production in kg at the specific manufacturing site responsible for the production of the studied luminaire.

Thus, it is possible to allocate it according to the weight of the product analysed in this study. Some of the wastes are due to ancillary materials used during manufacturing while the rest is due to material losses.

## TRANSPORT AND INSTALLATION (A4-A5)

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

## PRODUCT USE AND MAINTENANCE (B1-B7)

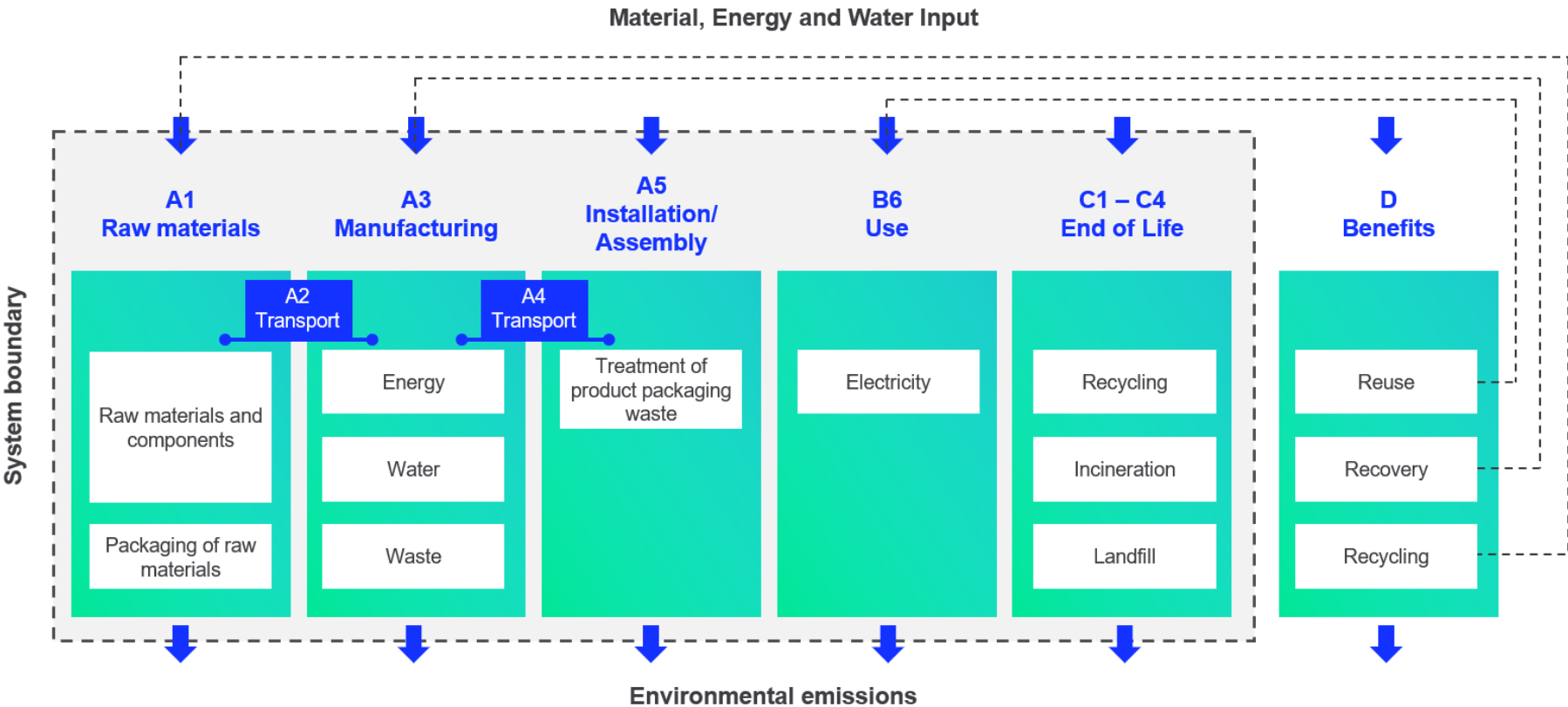
During the use phase, the product consumes electricity from Europe’s electricity grid mix (B6). The total power consumption of the reference product is calculated as follows: Wattage x Reference lifetime = kWh consumed throughout the entire use phase B6.

## PRODUCT END OF LIFE (C1-C4, D)

Consumption of energy and natural resources in demolition process is assumed to be negligible. It is assumed that the waste is collected separately and transported to the waste treatment centre. Transportation distance to treatment is assumed as 150 km and the transportation method is assumed to be lorry (C2). According to EN 50693:2019, the sequence of treatment operations occurring to the product shall include de-pollution, fractions separation and preparation (dismantling, crushing, shredding, sorting), recycling, other material recovery, energy recovery and disposal. In this study, the default values from table G.4 of EN 50693 is used for treating materials in different waste treatment methods. Due to the material and energy recovery potential of parts in the lighting system, the end-of-life product is converted into recycled raw materials, while the energy recovered from incineration displaces electricity and heat

production (D). The benefits and loads of incineration and recycling are included in Module D.

# SYSTEM BOUNDARY



# LIFE-CYCLE ASSESSMENT

## CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

## ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, ancillary materials, energy & water consumption, material loss and waste generation at the manufacturing site are attributed to the bill of materials of the products, therefore, they are allocated by partitioning the quantities on the base of the total production in kg throughout the year. Thus, allocation has been done in the following ways:

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

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

## AVERAGES AND VARIABILITY

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

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

## LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent 3.8 database was used as the source of environmental data.

# ENVIRONMENTAL IMPACT DATA

## CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total <sup>1)</sup>	kg CO <sub>2</sub> e	1.34E+02	1.10E+00	2.49E-01	1.35E+02	1.10E+00	4.17E-03	MNR	MNR	MNR	MNR	MNR	3.05E+03	MNR	MNR	8.30E-02	6.52E-01	5.27E-01	-4.87E+01
GWP – fossil	kg CO <sub>2</sub> e	1.34E+02	1.10E+00	2.52E-01	1.35E+02	1.10E+00	8.56E-04	MNR	MNR	MNR	MNR	MNR	3.04E+03	MNR	MNR	8.30E-02	6.52E-01	5.27E-01	-4.87E+01
GWP – biogenic	kg CO <sub>2</sub> e	-4.15E-01	0.00E+00	-3.23E-03	-4.18E-01	4.24E-04	3.31E-03	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	-6.44E-03
GWP – LULUC	kg CO <sub>2</sub> e	2.06E-01	6.92E-04	1.34E-04	2.07E-01	4.04E-04	4.24E-08	MNR	MNR	MNR	MNR	MNR	7.12E+00	MNR	MNR	3.06E-05	1.07E-04	7.99E-05	-4.12E-03
Ozone depletion pot.	kg CFC <sub>11</sub> e	1.00E-05	2.27E-07	4.69E-08	1.03E-05	2.52E-07	1.00E-11	MNR	MNR	MNR	MNR	MNR	1.55E-04	MNR	MNR	1.91E-08	8.99E-09	8.86E-09	-1.32E-06
Acidification potential	mol H <sup>+</sup> e	1.05E+00	2.71E-02	5.54E-04	1.08E+00	4.64E-03	9.67E-07	MNR	MNR	MNR	MNR	MNR	1.74E+01	MNR	MNR	3.51E-04	9.35E-04	4.28E-04	-5.03E-01
EP-freshwater <sup>2)</sup>	kg Pe	9.71E-03	5.32E-06	2.26E-06	9.72E-03	8.97E-06	1.12E-09	MNR	MNR	MNR	MNR	MNR	3.22E-01	MNR	MNR	6.80E-07	3.33E-06	4.23E-06	-3.10E-03
EP-marine	kg Ne	1.43E-01	6.73E-03	1.29E-04	1.50E-01	1.38E-03	4.47E-07	MNR	MNR	MNR	MNR	MNR	2.30E+00	MNR	MNR	1.04E-04	2.33E-04	8.95E-04	-5.46E-02
EP-terrestrial	mol Ne	1.60E+00	7.48E-02	1.29E-03	1.68E+00	1.52E-02	4.56E-06	MNR	MNR	MNR	MNR	MNR	2.62E+01	MNR	MNR	1.15E-03	2.60E-03	1.42E-03	-6.31E-01
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	4.71E-01	1.96E-02	5.79E-04	4.91E-01	4.87E-03	1.13E-06	MNR	MNR	MNR	MNR	MNR	7.18E+00	MNR	MNR	3.69E-04	6.95E-04	5.31E-04	-1.82E-01
ADP-minerals & metals <sup>4)</sup>	kg Sbe	8.47E-03	1.81E-06	1.13E-06	8.47E-03	2.57E-06	3.07E-10	MNR	MNR	MNR	MNR	MNR	2.84E-02	MNR	MNR	1.95E-07	7.72E-06	1.77E-07	-6.96E-04
ADP-fossil resources	MJ	1.41E+03	1.45E+01	3.62E+00	1.42E+03	1.65E+01	9.17E-04	MNR	MNR	MNR	MNR	MNR	6.48E+04	MNR	MNR	1.25E+00	9.98E-01	8.53E-01	-4.76E+02
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	3.23E+01	5.00E-02	3.30E-02	3.24E+01	7.37E-02	1.85E-04	MNR	MNR	MNR	MNR	MNR	1.77E+03	MNR	MNR	5.58E-03	3.80E-02	4.95E-02	-3.29E+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 PO<sub>4</sub>e; 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	9.44E-06	5.97E-08	8.94E-09	9.51E-06	1.26E-07	8.21E-12	MNR	MNR	MNR	MNR	MNR	5.71E-05	MNR	MNR	9.57E-09	1.15E-08	6.93E-09	-2.66E-06
Ionizing radiation <sup>6)</sup>	kBq U235e	6.94E+00	6.76E-02	4.43E-03	7.01E+00	7.84E-02	2.78E-06	MNR	MNR	MNR	MNR	MNR	1.75E+03	MNR	MNR	5.94E-03	5.96E-03	4.50E-03	-2.86E+00

Ecotoxicity (freshwater)	CTUe	6.07E+03	1.04E+01	3.88E+00	6.08E+03	1.48E+01	3.68E-03	MNR	MNR	MNR	MNR	MNR	4.41E+04	MNR	MNR	1.12E+00	5.14E+00	3.37E+02	-1.03E+03
Human toxicity, cancer	CTUh	1.79E-07	5.77E-10	1.70E-10	1.80E-07	3.64E-10	3.48E-13	MNR	MNR	MNR	MNR	MNR	1.44E-06	MNR	MNR	2.76E-11	1.67E-10	6.80E-10	-1.50E-10
Human tox. non-cancer	CTUh	5.15E-06	8.10E-09	1.62E-09	5.16E-06	1.47E-08	1.44E-11	MNR	MNR	MNR	MNR	MNR	4.74E-05	MNR	MNR	1.11E-09	6.94E-09	3.06E-08	-1.16E-06
SQP <sup>7)</sup>	-	4.52E+02	6.62E+00	1.04E+00	4.59E+02	1.90E+01	5.69E-04	MNR	MNR	MNR	MNR	MNR	1.17E+04	MNR	MNR	1.44E+00	1.70E+00	1.30E+00	-9.36E+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 <sup>8)</sup>	MJ	1.17E+02	1.20E-01	3.89E+00	1.21E+02	1.85E-01	2.11E-05	MNR	MNR	MNR	MNR	MNR	1.32E+04	MNR	MNR	1.40E-02	1.36E-01	3.61E-02	-6.94E+00
Renew. PER as material	MJ	3.77E+00	0.00E+00	3.26E-02	3.80E+00	0.00E+00	-3.26E-02	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	-8.72E-03	0.00E+00
Total use of renew. PER	MJ	1.21E+02	1.20E-01	3.93E+00	1.25E+02	1.85E-01	-3.26E-02	MNR	MNR	MNR	MNR	MNR	1.32E+04	MNR	MNR	1.40E-02	1.36E-01	2.73E-02	-6.94E+00
Non-re. PER as energy	MJ	1.39E+03	1.45E+01	3.38E+00	1.40E+03	1.65E+01	9.17E-04	MNR	MNR	MNR	MNR	MNR	6.46E+04	MNR	MNR	1.25E+00	9.98E-01	8.53E-01	-4.76E+02
Non-re. PER as material	MJ	1.72E+01	0.00E+00	1.61E-02	1.72E+01	0.00E+00	-1.61E-02	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	-4.78E+00	-4.79E+00	0.00E+00
Total use of non-re. PER	MJ	1.40E+03	1.45E+01	3.40E+00	1.42E+03	1.65E+01	-1.52E-02	MNR	MNR	MNR	MNR	MNR	6.46E+04	MNR	MNR	1.25E+00	-3.79E+00	-3.93E+00	-4.76E+02
Secondary materials	kg	5.65E-01	5.83E-03	2.17E-03	5.73E-01	4.57E-03	1.01E-06	MNR	MNR	MNR	MNR	MNR	6.67E+00	MNR	MNR	3.46E-04	9.76E-04	1.97E-03	2.00E+00
Renew. secondary fuels	MJ	7.46E-02	2.50E-05	3.90E-05	7.46E-02	4.61E-05	8.20E-09	MNR	MNR	MNR	MNR	MNR	5.41E-02	MNR	MNR	3.49E-06	4.92E-05	1.58E-05	-9.87E-04
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	m <sup>3</sup>	7.96E-01	1.23E-03	7.97E-04	7.98E-01	2.13E-03	6.56E-07	MNR	MNR	MNR	MNR	MNR	5.57E+01	MNR	MNR	1.62E-04	1.30E-03	8.06E-04	-1.52E-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
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Hazardous waste	kg	2.33E+01	1.97E-02	1.16E-02	2.33E+01	2.18E-02	8.37E-05	MNR	MNR	MNR	MNR	MNR	2.32E+02	MNR	MNR	1.65E-03	6.63E-03	1.77E-02	-7.67E+00
Non-hazardous waste	kg	2.57E+02	2.10E-01	8.02E-02	2.57E+02	3.59E-01	6.37E-04	MNR	MNR	MNR	MNR	MNR	1.47E+04	MNR	MNR	2.72E-02	4.84E-01	2.42E+00	-1.43E+02
Radioactive waste	kg	2.88E-03	1.01E-04	3.79E-06	2.98E-03	1.10E-04	2.78E-09	MNR	MNR	MNR	MNR	MNR	4.71E-01	MNR	MNR	8.34E-06	3.89E-06	0.00E+00	-1.05E-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	3.16E+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	2.00E-01	2.00E-01	0.00E+00	0.00E+00	MNR	MNR	MNR	MNR	MNR	0.00E+00	MNR	MNR	0.00E+00	5.34E+00	0.00E+00	0.00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	1.30E+02	1.09E+00	2.50E-01	1.31E+02	1.08E+00	8.49E-04	MNR	MNR	MNR	MNR	MNR	3.01E+03	MNR	MNR	8.22E-02	6.49E-01	8.63E-01	-4.77E+01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	8.15E-06	1.80E-07	4.07E-08	8.37E-06	2.00E-07	8.50E-12	MNR	MNR	MNR	MNR	MNR	1.34E-04	MNR	MNR	1.51E-08	7.37E-09	7.15E-09	-1.12E-06
Acidification	kg SO <sub>2</sub> e	8.92E-01	2.17E-02	4.51E-04	9.14E-01	3.61E-03	6.92E-07	MNR	MNR	MNR	MNR	MNR	1.47E+01	MNR	MNR	2.73E-04	7.41E-04	3.31E-04	-4.34E-01
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	2.94E-01	2.53E-03	2.56E-04	2.96E-01	8.21E-04	5.51E-07	MNR	MNR	MNR	MNR	MNR	1.13E+01	MNR	MNR	6.22E-05	2.73E-04	2.80E-03	-1.22E-01

POCP ("smog")	kg C <sub>2</sub> H <sub>4</sub> e	4.97E-02	5.70E-04	3.74E-05	5.03E-02	1.41E-04	1.77E-08	MNR	MNR	MNR	MNR	MNR	6.03E-01	MNR	MNR	1.07E-05	2.68E-05	9.75E-05	-2.13E-02
ADP-elements	kg Sbe	8.40E-03	1.77E-06	1.12E-06	8.41E-03	2.49E-06	2.48E-10	MNR	MNR	MNR	MNR	MNR	2.83E-02	MNR	MNR	1.88E-07	7.70E-06	1.64E-07	-6.91E-04
ADP-fossil	MJ	1.41E+03	1.45E+01	3.62E+00	1.42E+03	1.65E+01	9.17E-04	MNR	MNR	MNR	MNR	MNR	6.46E+04	MNR	MNR	1.25E+00	9.98E-01	8.53E-01	-4.76E+02

# APPENDIX (EPD HUB ALIGNED)

This section represents the scaling method for the **B6 module**, following the PEP EcoPassport PSR for luminaries (PSR-0014-ed2.0-EN-2023 07 13). The GWP results were scaled from a reference variant of a product family, based on various light management scenarios and power inputs of the luminaires within the same product family

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
BGP282/292/392 LED14-4S/740	1232.0	8.9	138.4	0.116	0.116	0.087	0.087	0.064	353.8	265.3	265.3	195.2
BGP282/292/392 LED16-4S/740	1408.0	10.0	140.8	0.13	0.13	0.098	0.098	0.072	396.5	298.9	298.9	219.6
BGP282/292/392 LED18-4S/740	1584.0	11.2	141.4	0.145	0.145	0.109	0.109	0.08	442.2	332.4	332.4	244.0
BGP282/292/392 LED20-4S/740	1760.0	12.4	141.9	0.161	0.161	0.121	0.121	0.089	491.1	369.1	369.1	271.4
BGP282/292/392 LED22-4S/740	1936.0	13.6	142.4	0.177	0.177	0.133	0.133	0.097	539.9	405.7	405.7	295.9
BGP282/292/392 LED25-4S/740	2200.0	14.8	148.6	0.192	0.192	0.144	0.144	0.106	585.6	439.2	439.2	323.3
BGP282/292/392 LED27-4S/740	2376.0	16.0	148.5	0.208	0.208	0.156	0.156	0.114	634.4	475.8	475.8	347.7
BGP282/292/392 LED30-4S/740	2640.0	17.8	148.3	0.231	0.231	0.173	0.173	0.127	704.6	527.6	527.6	387.4
BGP282/292/392 LED35-4S/740	3080.0	20.5	150.2	0.266	0.266	0.2	0.2	0.146	811.3	610.0	610.0	445.3
BGP282/292/392 LED40-4S/740	3520.0	23.5	149.8	0.305	0.305	0.229	0.229	0.168	930.2	698.5	698.5	512.4
BGP282/292/392 LED45-4S/740	3915.0	26.5	147.7	0.344	0.344	0.258	0.258	0.189	1049.2	786.9	786.9	576.5
BGP282/292/392 LED50-4S/740	4350.0	30.0	145.0	0.39	0.39	0.292	0.292	0.215	1189.5	890.6	890.6	655.8

BGP282/292/392 LED54-4S/740	4698.0	32.5	144.6	0.422	0.422	0.317	0.317	0.232	1287.1	966.9	966.9	707.6
BGP282/292/392 LED56-4S/740	4872.0	34.0	143.3	0.442	0.442	0.332	0.332	0.243	1348.1	1012.6	1012.6	741.1
BGP282/292/392 LED60-4S/740	5220.0	36.5	143.0	0.474	0.474	0.355	0.355	0.261	1445.7	1082.8	1082.8	796.1
BGP282/292/392 LED65-4S/740	5742.0	37.5	153.1	0.487	0.487	0.365	0.365	0.268	1485.3	1113.2	1113.2	817.4
BGP282/292/392 LED70-4S/740	6090.0	40.5	150.4	0.526	0.526	0.395	0.395	0.289	1604.3	1204.8	1204.8	881.4
BGP282/292/392 LED75-4S/740	6612.0	44.0	150.3	0.571	0.571	0.428	0.428	0.314	1741.5	1305.4	1305.4	957.7
BGP282/292/392 LED80-4S/740	6960.0	47.0	148.1	0.61	0.61	0.458	0.458	0.336	1860.5	1396.9	1396.9	1024.8
BGP282/292/392 LED85-4S/740	7482.0	50.0	149.6	0.649	0.649	0.487	0.487	0.357	1979.5	1485.3	1485.3	1088.8
BGP282/292/392 LED90-4S/740	7740.0	54.0	143.3	0.701	0.701	0.526	0.526	0.386	2138.0	1604.3	1604.3	1177.3
BGP282/292/392 LED94-4S/740	8084.0	57.0	141.8	0.74	0.74	0.555	0.555	0.407	2257.0	1692.8	1692.8	1241.3
BGP282/292/392 LED99-4S/740	8600.0	60.0	143.3	0.779	0.779	0.584	0.584	0.428	2376.0	1781.2	1781.2	1305.4
BGP282/292/392 LED109-4S/740	9460.0	63.0	150.2	0.818	0.818	0.613	0.613	0.45	2494.9	1869.6	1869.6	1372.5
BGP282/292/392 LED119-4S/740	10320.0	70.0	147.4	0.909	0.909	0.682	0.682	0.5	2772.5	2080.1	2080.1	1525.0
BGP282 LED130-4S/740 I DM10 DDF2 D18 SRG	11050.0	77.0	143.5	1.0	1.0	0.75	0.75	0.55	3050.0	2287.5	2287.5	1677.5
BGP282/292/392 LED135-4S/740	11475.0	81.0	141.7	1.052	1.052	0.789	0.789	0.579	3208.6	2406.5	2406.5	1765.9
BGP282/292/392 LED139-4S/740	11900.0	83.0	143.4	1.078	1.078	0.808	0.808	0.593	3287.9	2464.4	2464.4	1808.6
BGP282/292/392 LED149-4S/740	12750.0	90.0	141.7	1.169	1.169	0.877	0.877	0.643	3565.5	2674.8	2674.8	1961.2
BGP282/292/392 LED160-4S/740	13440.0	98.0	137.1	1.273	1.273	0.955	0.955	0.7	3882.6	2912.8	2912.8	2135.0
BGP282/292/392 LED14-4S/730	1232.0	9.4	131.1	0.122	0.122	0.091	0.091	0.067	372.1	277.6	277.6	204.4
BGP282/292/392 LED16-4S/730	1408.0	10.6	132.8	0.138	0.138	0.104	0.104	0.076	420.9	317.2	317.2	231.8
BGP282/292/392 LED18-4S/730	1584.0	11.8	134.2	0.153	0.153	0.115	0.115	0.084	466.6	350.8	350.8	256.2
BGP282/292/392 LED20-4S/730	1760.0	13.2	133.3	0.171	0.171	0.128	0.128	0.094	521.6	390.4	390.4	286.7
BGP282/292/392 LED22-4S/730	1936.0	14.6	132.6	0.19	0.19	0.143	0.143	0.105	579.5	436.1	436.1	320.2
BGP282/292/392 LED25-4S/730	2200.0	15.8	139.2	0.205	0.205	0.154	0.154	0.113	625.2	469.7	469.7	344.7

BGP282/292/392 LED27-4S/730	2376.0	17.0	139.8	0.221	0.221	0.166	0.166	0.122	674.0	506.3	506.3	372.1
BGP282/292/392 LED30-4S/730	2640.0	18.8	140.4	0.244	0.244	0.183	0.183	0.134	744.2	558.1	558.1	408.7
BGP282/292/392 LED35-4S/730	3080.0	22.0	140.0	0.286	0.286	0.214	0.214	0.157	872.3	652.7	652.7	478.9
BGP282/292/392 LED40-4S/730	3480.0	25.0	139.2	0.325	0.325	0.244	0.244	0.179	991.2	744.2	744.2	545.9
BGP282/292/392 LED45-4S/730	3915.0	28.5	137.4	0.37	0.37	0.277	0.277	0.204	1128.5	844.9	844.9	622.2
BGP282/292/392 LED50-4S/730	4350.0	32.0	135.9	0.416	0.416	0.312	0.312	0.229	1268.8	951.6	951.6	698.5
BGP282/292/392 LED54-4S/730	4698.0	34.5	136.2	0.448	0.448	0.336	0.336	0.246	1366.4	1024.8	1024.8	750.3
BGP282/292/392 LED56-4S/730	4872.0	36.0	135.3	0.468	0.468	0.351	0.351	0.257	1427.4	1070.5	1070.5	783.9
BGP282/292/392 LED60-4S/730	5220.0	39.0	133.8	0.506	0.506	0.38	0.38	0.278	1543.3	1159.0	1159.0	847.9
BGP282/292/392 LED65-4S/730	5742.0	40.0	143.6	0.519	0.519	0.389	0.389	0.285	1583.0	1186.5	1186.5	869.2
BGP282/292/392 LED70-4S/730	6090.0	43.5	140.0	0.565	0.565	0.424	0.424	0.311	1723.2	1293.2	1293.2	948.5
BGP282/292/392 LED75-4S/730	6612.0	46.5	142.2	0.604	0.604	0.453	0.453	0.332	1842.2	1381.7	1381.7	1012.6
BGP282/292/392 LED80-4S/730	6960.0	50.0	139.2	0.649	0.649	0.487	0.487	0.357	1979.5	1485.3	1485.3	1088.8
BGP282/292/392 LED85-4S/730	7396.0	54.0	137.0	0.701	0.701	0.526	0.526	0.386	2138.0	1604.3	1604.3	1177.3
BGP282/292/392 LED90-4S/730	7740.0	58.0	133.4	0.753	0.753	0.565	0.565	0.414	2296.7	1723.2	1723.2	1262.7
BGP282/292/392 LED94-4S/730	8084.0	61.0	132.5	0.792	0.792	0.594	0.594	0.436	2415.6	1811.7	1811.7	1329.8
BGP282/292/392 LED99-4S/730	8600.0	61.0	141.0	0.792	0.792	0.594	0.594	0.436	2415.6	1811.7	1811.7	1329.8
BGP282/292/392 LED109-4S/730	9460.0	68.0	139.1	0.883	0.883	0.662	0.662	0.486	2693.2	2019.1	2019.1	1482.3
BGP282/292/392 LED119-4S/730	10200.0	75.0	136.0	0.974	0.974	0.73	0.73	0.536	2970.7	2226.5	2226.5	1634.8
BGP282/292/392 LED130-4S/730	11050.0	83.0	133.1	1.078	1.078	0.808	0.808	0.593	3287.9	2464.4	2464.4	1808.6
BGP282/292/392 LED135-4S/730	11475.0	86.0	133.4	1.117	1.117	0.838	0.838	0.614	3406.8	2555.9	2555.9	1872.7
BGP282/292/392 LED139-4S/730	11900.0	89.0	133.7	1.156	1.156	0.867	0.867	0.636	3525.8	2644.3	2644.3	1939.8
BGP282/292/392 LED149-4S/730	12600.0	97.0	129.9	1.26	1.26	0.945	0.945	0.693	3843.0	2882.2	2882.2	2113.6
BGP282/292/392 LED14-4S/727	1246.0	10.6	117.5	0.138	0.138	0.104	0.104	0.076	420.9	317.2	317.2	231.8

BGP282/292/392 LED16-4S/727	1424.0	11.8	120.7	0.153	0.153	0.115	0.115	0.084	466.6	350.8	350.8	256.2
BGP282/292/392 LED18-4S/727	1602.0	13.4	119.6	0.174	0.174	0.131	0.131	0.096	530.7	399.6	399.6	292.8
BGP282/292/392 LED20-4S/727	1780.0	15.0	118.7	0.195	0.195	0.146	0.146	0.107	594.8	445.3	445.3	326.3
BGP282/292/392 LED22-4S/727	1958.0	16.4	119.4	0.213	0.213	0.16	0.16	0.117	649.6	488.0	488.0	356.9
BGP282/292/392 LED25-4S/727	2225.0	17.6	126.4	0.229	0.229	0.172	0.172	0.126	698.5	524.6	524.6	384.3
BGP282/292/392 LED27-4S/727	2403.0	19.0	126.5	0.247	0.247	0.185	0.185	0.136	753.4	564.2	564.2	414.8
BGP282/292/392 LED30-4S/727	2670.0	21.0	127.1	0.273	0.273	0.205	0.205	0.15	832.7	625.2	625.2	457.5
BGP282/292/392 LED35-4S/727	3080.0	24.5	125.7	0.318	0.318	0.238	0.238	0.175	969.9	725.9	725.9	533.8
BGP282/292/392 LED40-4S/727	3520.0	28.5	123.5	0.37	0.37	0.277	0.277	0.204	1128.5	844.9	844.9	622.2
BGP282/292/392 LED45-4S/727	3960.0	32.5	121.8	0.422	0.422	0.317	0.317	0.232	1287.1	966.9	966.9	707.6
BGP282/292/392 LED50-4S/727	4350.0	36.5	119.2	0.474	0.474	0.355	0.355	0.261	1445.7	1082.8	1082.8	796.1
BGP282/292/392 LED54-4S/727	4698.0	39.5	118.9	0.513	0.513	0.385	0.385	0.282	1564.7	1174.2	1174.2	860.1
BGP282/292/392 LED56-4S/727	4872.0	41.0	118.8	0.532	0.532	0.399	0.399	0.293	1622.6	1217.0	1217.0	893.6
BGP282/292/392 LED60-4S/727	5280.0	41.5	127.2	0.539	0.539	0.404	0.404	0.296	1644.0	1232.2	1232.2	902.8
BGP282/292/392 LED65-4S/727	5808.0	45.5	127.6	0.591	0.591	0.443	0.443	0.325	1802.5	1351.2	1351.2	991.2
BGP282/292/392 LED70-4S/727	6090.0	49.5	123.0	0.643	0.643	0.482	0.482	0.354	1961.2	1470.1	1470.1	1079.7
BGP282/292/392 LED75-4S/727	6612.0	53.0	124.8	0.688	0.688	0.516	0.516	0.378	2098.4	1573.8	1573.8	1152.9
BGP282/292/392 LED80-4S/727	6960.0	57.0	122.1	0.74	0.74	0.555	0.555	0.407	2257.0	1692.8	1692.8	1241.3
BGP282/292/392 LED85-4S/727	7396.0	62.0	119.3	0.805	0.805	0.604	0.604	0.443	2455.2	1842.2	1842.2	1351.2
BGP282/292/392 LED90-4S/727	7830.0	62.0	126.3	0.805	0.805	0.604	0.604	0.443	2455.2	1842.2	1842.2	1351.2
BGP282/292/392 LED94-4S/727	8178.0	65.0	125.8	0.844	0.844	0.633	0.633	0.464	2574.2	1930.7	1930.7	1415.2
BGP282/292/392 LED99-4S/727	8700.0	69.0	126.1	0.896	0.896	0.672	0.672	0.493	2732.8	2049.6	2049.6	1503.7
BGP282/292/392 LED109-4S/727	9460.0	77.0	122.9	1.0	1.0	0.75	0.75	0.55	3050.0	2287.5	2287.5	1677.5
BGP282/292/392 LED119-4S/727	10200.0	86.0	118.6	1.117	1.117	0.838	0.838	0.614	3406.8	2555.9	2555.9	1872.7

BGP282/292/392 LED130-4S/727	11050.0	95.0	116.3	1.234	1.234	0.925	0.925	0.679	3763.7	2821.2	2821.2	2071.0
BGP282/292/392 LED135-4S/727	11475.0	99.0	115.9	1.286	1.286	0.965	0.965	0.707	3922.3	2943.2	2943.2	2156.3
BGP282/292/392 LED139-4S/727	11900.0	102.0	116.7	1.325	1.325	0.994	0.994	0.729	4041.2	3031.7	3031.7	2223.4
BGP282/292/392 LED14-4S/722	1246.0	11.6	107.4	0.151	0.151	0.113	0.113	0.083	460.6	344.7	344.7	253.2
BGP282/292/392 LED16-4S/722	1424.0	13.4	106.3	0.174	0.174	0.131	0.131	0.096	530.7	399.6	399.6	292.8
BGP282/292/392 LED18-4S/722	1602.0	15.0	106.8	0.195	0.195	0.146	0.146	0.107	594.8	445.3	445.3	326.3
BGP282/292/392 LED20-4S/722	1780.0	16.8	106.0	0.218	0.218	0.164	0.164	0.12	664.9	500.2	500.2	366.0
BGP282/292/392 LED22-4S/722	1958.0	18.6	105.3	0.242	0.242	0.181	0.181	0.133	738.1	552.0	552.0	405.7
BGP282/292/392 LED25-4S/722	2225.0	19.8	112.4	0.257	0.257	0.193	0.193	0.141	783.9	588.6	588.6	430.0
BGP282/292/392 LED27-4S/722	2403.0	21.0	114.4	0.273	0.273	0.205	0.205	0.15	832.7	625.2	625.2	457.5
BGP282/292/392 LED30-4S/722	2670.0	23.5	113.6	0.305	0.305	0.229	0.229	0.168	930.2	698.5	698.5	512.4
BGP282/292/392 LED35-4S/722	3080.0	28.0	110.0	0.364	0.364	0.273	0.273	0.2	1110.2	832.7	832.7	610.0
BGP282/292/392 LED40-4S/722	3520.0	32.0	110.0	0.416	0.416	0.312	0.312	0.229	1268.8	951.6	951.6	698.5
BGP282/292/392 LED45-4S/722	3915.0	36.5	107.3	0.474	0.474	0.355	0.355	0.261	1445.7	1082.8	1082.8	796.1
BGP282/292/392 LED50-4S/722	4400.0	38.5	114.3	0.5	0.5	0.375	0.375	0.275	1525.0	1143.8	1143.8	838.8
BGP282/292/392 LED54-4S/722	4752.0	42.0	113.1	0.545	0.545	0.409	0.409	0.3	1662.3	1247.4	1247.4	915.0
BGP282/292/392 LED56-4S/722	4928.0	43.5	113.3	0.565	0.565	0.424	0.424	0.311	1723.2	1293.2	1293.2	948.5
BGP282/292/392 LED60-4S/722	5220.0	47.0	111.1	0.61	0.61	0.458	0.458	0.336	1860.5	1396.9	1396.9	1024.8
BGP282/292/392 LED65-4S/722	5742.0	51.0	112.6	0.662	0.662	0.497	0.497	0.364	2019.1	1515.8	1515.8	1110.2
BGP282/292/392 LED70-4S/722	6090.0	56.0	108.8	0.727	0.727	0.545	0.545	0.4	2217.3	1662.3	1662.3	1220.0
BGP282/292/392 LED75-4S/722	6536.0	60.0	108.9	0.779	0.779	0.584	0.584	0.428	2376.0	1781.2	1781.2	1305.4
BGP282/292/392 LED80-4S/722	6960.0	61.0	114.1	0.792	0.792	0.594	0.594	0.436	2415.6	1811.7	1811.7	1329.8
BGP282/292/392 LED85-4S/722	7482.0	66.0	113.4	0.857	0.857	0.643	0.643	0.471	2613.8	1961.2	1961.2	1436.5
BGP282/292/392 LED90-4S/722	7740.0	70.0	110.6	0.909	0.909	0.682	0.682	0.5	2772.5	2080.1	2080.1	1525.0

BGP282/292/392 LED94-4S/722	8084.0	74.0	109.2	0.961	0.961	0.721	0.721	0.529	2931.0	2199.0	2199.0	1613.5
BGP282/292/392 LED99-4S/722	8600.0	78.0	110.3	1.013	1.013	0.76	0.76	0.557	3089.6	2318.0	2318.0	1698.9
BGP282/292/392 LED109-4S/722	9350.0	88.0	106.2	1.143	1.143	0.857	0.857	0.629	3486.2	2613.8	2613.8	1918.5
BGP282/292/392 LED14-4S/830	1232.0	10.4	118.5	0.135	0.135	0.101	0.101	0.074	411.8	308.1	308.1	225.7
BGP282/292/392 LED16-4S/830	1408.0	11.8	119.3	0.153	0.153	0.115	0.115	0.084	466.6	350.8	350.8	256.2
BGP282/292/392 LED18-4S/830	1584.0	13.2	120.0	0.171	0.171	0.128	0.128	0.094	521.6	390.4	390.4	286.7
BGP282/292/392 LED20-4S/830	1760.0	14.8	118.9	0.192	0.192	0.144	0.144	0.106	585.6	439.2	439.2	323.3
BGP282/292/392 LED22-4S/830	1936.0	16.4	118.0	0.213	0.213	0.16	0.16	0.117	649.6	488.0	488.0	356.9
BGP282/292/392 LED25-4S/830	2200.0	17.6	125.0	0.229	0.229	0.172	0.172	0.126	698.5	524.6	524.6	384.3
BGP282/292/392 LED27-4S/830	2376.0	18.8	126.4	0.244	0.244	0.183	0.183	0.134	744.2	558.1	558.1	408.7
BGP282/292/392 LED30-4S/830	2640.0	21.0	125.7	0.273	0.273	0.205	0.205	0.15	832.7	625.2	625.2	457.5
BGP282/292/392 LED35-4S/830	3045.0	24.5	124.3	0.318	0.318	0.238	0.238	0.175	969.9	725.9	725.9	533.8
BGP282/292/392 LED40-4S/830	3480.0	28.5	122.1	0.37	0.37	0.277	0.277	0.204	1128.5	844.9	844.9	622.2
BGP282/292/392 LED45-4S/830	3915.0	32.0	122.3	0.416	0.416	0.312	0.312	0.229	1268.8	951.6	951.6	698.5
BGP282/292/392 LED50-4S/830	4350.0	36.0	120.8	0.468	0.468	0.351	0.351	0.257	1427.4	1070.5	1070.5	783.9
BGP282/292/392 LED54-4S/830	4698.0	39.5	118.9	0.513	0.513	0.385	0.385	0.282	1564.7	1174.2	1174.2	860.1
BGP282/292/392 LED56-4S/830	4872.0	38.5	126.5	0.5	0.5	0.375	0.375	0.275	1525.0	1143.8	1143.8	838.8
BGP282/292/392 LED60-4S/830	5220.0	41.5	125.8	0.539	0.539	0.404	0.404	0.296	1644.0	1232.2	1232.2	902.8
BGP282/292/392 LED65-4S/830	5742.0	45.0	127.6	0.584	0.584	0.438	0.438	0.321	1781.2	1335.9	1335.9	979.1
BGP282/292/392 LED70-4S/830	6090.0	49.0	124.3	0.636	0.636	0.477	0.477	0.35	1939.8	1454.8	1454.8	1067.5
BGP282/292/392 LED75-4S/830	6536.0	53.0	123.3	0.688	0.688	0.516	0.516	0.378	2098.4	1573.8	1573.8	1152.9
BGP282/292/392 LED80-4S/830	6880.0	57.0	120.7	0.74	0.74	0.555	0.555	0.407	2257.0	1692.8	1692.8	1241.3
BGP282/292/392 LED85-4S/830	7396.0	58.0	127.5	0.753	0.753	0.565	0.565	0.414	2296.7	1723.2	1723.2	1262.7
BGP282/292/392 LED90-4S/830	7740.0	62.0	124.8	0.805	0.805	0.604	0.604	0.443	2455.2	1842.2	1842.2	1351.2

BGP282/292/392 LED94-4S/830	8084.0	65.0	124.4	0.844	0.844	0.633	0.633	0.464	2574.2	1930.7	1930.7	1415.2
BGP282/292/392 LED99-4S/830	8600.0	69.0	124.6	0.896	0.896	0.672	0.672	0.493	2732.8	2049.6	2049.6	1503.7
BGP282/292/392 LED109-4S/830	9350.0	77.0	121.4	1.0	1.0	0.75	0.75	0.55	3050.0	2287.5	2287.5	1677.5
BGP282/292/392 LED119-4S/830	10200.0	85.0	120.0	1.104	1.104	0.828	0.828	0.607	3367.2	2525.4	2525.4	1851.3
BGP282/292/392 LED130-4S/830	10920.0	94.0	116.2	1.221	1.221	0.916	0.916	0.672	3724.1	2793.8	2793.8	2049.6
BGP282/292/392 LED135-4S/830	11205.0	99.0	113.2	1.286	1.286	0.965	0.965	0.707	3922.3	2943.2	2943.2	2156.3
BGP282/292/392 LED139-4S/830	11620.0	102.0	113.9	1.325	1.325	0.994	0.994	0.729	4041.2	3031.7	3031.7	2223.4

*\* 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 reference 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 family.

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 ( $O_{lum}$ ) and reference service lifetime ( $RSL$ ) of the product to estimate the final environmental impact. The scaled impact ( $SI_{pep}$ ) 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 ( $PGSF$ ), 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.

$$\text{Scaled GWP} = \text{GWP}_{\text{case}} * \text{TSF}$$

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
BGP282/292/392 LED14-4S/740	1232.0	8.9	138.4	0.116	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED16-4S/740	1408.0	10.0	140.8	0.13	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED18-4S/740	1584.0	11.2	141.4	0.145	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED20-4S/740	1760.0	12.4	141.9	0.161	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED22-4S/740	1936.0	13.6	142.4	0.177	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED25-4S/740	2200.0	14.8	148.6	0.192	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED27-4S/740	2376.0	16.0	148.5	0.208	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED30-4S/740	2640.0	17.8	148.3	0.231	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9

BGP282/292/392 LED35-4S/740	3080.0	20.5	150.2	0.266	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED40-4S/740	3520.0	23.5	149.8	0.305	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED45-4S/740	3915.0	26.5	147.7	0.344	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED50-4S/740	4350.0	30.0	145.0	0.39	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED54-4S/740	4698.0	32.5	144.6	0.422	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED56-4S/740	4872.0	34.0	143.3	0.442	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED60-4S/740	5220.0	36.5	143.0	0.474	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED65-4S/740	5742.0	37.5	153.1	0.487	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED70-4S/740	6090.0	40.5	150.4	0.526	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED75-4S/740	6612.0	44.0	150.3	0.571	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED80-4S/740	6960.0	47.0	148.1	0.61	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED85-4S/740	7482.0	50.0	149.6	0.649	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED90-4S/740	7740.0	54.0	143.3	0.701	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED94-4S/740	8084.0	57.0	141.8	0.74	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED99-4S/740	8600.0	60.0	143.3	0.779	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED109-4S/740	9460.0	63.0	150.2	0.818	0.03	0.022	0.022	0.017	91.5	67.1	67.1	51.9
BGP282/292/392 LED119-4S/740	10320.0	70.0	147.4	0.909	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282 LED130-4S/740 I DM10 DDF2 D18 SRG	11050.0	77.0	143.5	1.0	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED135-4S/740	11475.0	81.0	141.7	1.052	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED139-4S/740	11900.0	83.0	143.4	1.078	0.031	0.023	0.023	0.017	94.5	70.2	70.2	51.9
BGP282/292/392 LED149-4S/740	12750.0	90.0	141.7	1.169	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED160-4S/740	13440.0	98.0	137.1	1.273	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED14-4S/730	1232.0	9.4	131.1	0.122	0.035	0.026	0.026	0.019	106.8	79.3	79.3	57.9
BGP282/292/392 LED16-4S/730	1408.0	10.6	132.8	0.138	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9

BGP282/292/392 LED18-4S/730	1584.0	11.8	134.2	0.153	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED20-4S/730	1760.0	13.2	133.3	0.171	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED22-4S/730	1936.0	14.6	132.6	0.19	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED25-4S/730	2200.0	15.8	139.2	0.205	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED27-4S/730	2376.0	17.0	139.8	0.221	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED30-4S/730	2640.0	18.8	140.4	0.244	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED35-4S/730	3080.0	22.0	140.0	0.286	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED40-4S/730	3480.0	25.0	139.2	0.325	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED45-4S/730	3915.0	28.5	137.4	0.37	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED50-4S/730	4350.0	32.0	135.9	0.416	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED54-4S/730	4698.0	34.5	136.2	0.448	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED56-4S/730	4872.0	36.0	135.3	0.468	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED60-4S/730	5220.0	39.0	133.8	0.506	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED65-4S/730	5742.0	40.0	143.6	0.519	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED70-4S/730	6090.0	43.5	140.0	0.565	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED75-4S/730	6612.0	46.5	142.2	0.604	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED80-4S/730	6960.0	50.0	139.2	0.649	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED85-4S/730	7396.0	54.0	137.0	0.701	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED90-4S/730	7740.0	58.0	133.4	0.753	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED94-4S/730	8084.0	61.0	132.5	0.792	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED99-4S/730	8600.0	61.0	141.0	0.792	0.032	0.024	0.024	0.018	97.6	73.2	73.2	54.9
BGP282/292/392 LED109-4S/730	9460.0	68.0	139.1	0.883	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED119-4S/730	10200.0	75.0	136.0	0.974	0.033	0.025	0.025	0.018	100.7	76.2	76.2	54.9
BGP282/292/392 LED130-4S/730	11050.0	83.0	133.1	1.078	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9

BGP282/292/392 LED135-4S/730	11475.0	86.0	133.4	1.117	0.035	0.026	0.026	0.019	106.8	79.3	79.3	57.9
BGP282/292/392 LED139-4S/730	11900.0	89.0	133.7	1.156	0.034	0.026	0.026	0.019	103.7	79.3	79.3	57.9
BGP282/292/392 LED149-4S/730	12600.0	97.0	129.9	1.26	0.035	0.026	0.026	0.019	106.8	79.3	79.3	57.9
BGP282/292/392 LED14-4S/727	1246.0	10.6	117.5	0.138	0.039	0.029	0.029	0.021	119.0	88.5	88.5	64.0
BGP282/292/392 LED16-4S/727	1424.0	11.8	120.7	0.153	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED18-4S/727	1602.0	13.4	119.6	0.174	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED20-4S/727	1780.0	15.0	118.7	0.195	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED22-4S/727	1958.0	16.4	119.4	0.213	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED25-4S/727	2225.0	17.6	126.4	0.229	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED27-4S/727	2403.0	19.0	126.5	0.247	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED30-4S/727	2670.0	21.0	127.1	0.273	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED35-4S/727	3080.0	24.5	125.7	0.318	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED40-4S/727	3520.0	28.5	123.5	0.37	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED45-4S/727	3960.0	32.5	121.8	0.422	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED50-4S/727	4350.0	36.5	119.2	0.474	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED54-4S/727	4698.0	39.5	118.9	0.513	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED56-4S/727	4872.0	41.0	118.8	0.532	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED60-4S/727	5280.0	41.5	127.2	0.539	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED65-4S/727	5808.0	45.5	127.6	0.591	0.035	0.026	0.026	0.019	106.8	79.3	79.3	57.9
BGP282/292/392 LED70-4S/727	6090.0	49.5	123.0	0.643	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED75-4S/727	6612.0	53.0	124.8	0.688	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED80-4S/727	6960.0	57.0	122.1	0.74	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED85-4S/727	7396.0	62.0	119.3	0.805	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED90-4S/727	7830.0	62.0	126.3	0.805	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0

BGP282/292/392 LED94-4S/727	8178.0	65.0	125.8	0.844	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED99-4S/727	8700.0	69.0	126.1	0.896	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED109-4S/727	9460.0	77.0	122.9	1.0	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED119-4S/727	10200.0	86.0	118.6	1.117	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED130-4S/727	11050.0	95.0	116.3	1.234	0.039	0.029	0.029	0.021	119.0	88.5	88.5	64.0
BGP282/292/392 LED135-4S/727	11475.0	99.0	115.9	1.286	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED139-4S/727	11900.0	102.0	116.7	1.325	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED14-4S/722	1246.0	11.6	107.4	0.151	0.042	0.032	0.032	0.023	128.1	97.6	97.6	70.2
BGP282/292/392 LED16-4S/722	1424.0	13.4	106.3	0.174	0.043	0.032	0.032	0.024	131.1	97.6	97.6	73.2
BGP282/292/392 LED18-4S/722	1602.0	15.0	106.8	0.195	0.043	0.032	0.032	0.024	131.1	97.6	97.6	73.2
BGP282/292/392 LED20-4S/722	1780.0	16.8	106.0	0.218	0.043	0.032	0.032	0.024	131.1	97.6	97.6	73.2
BGP282/292/392 LED22-4S/722	1958.0	18.6	105.3	0.242	0.043	0.032	0.032	0.024	131.1	97.6	97.6	73.2
BGP282/292/392 LED25-4S/722	2225.0	19.8	112.4	0.257	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED27-4S/722	2403.0	21.0	114.4	0.273	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED30-4S/722	2670.0	23.5	113.6	0.305	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED35-4S/722	3080.0	28.0	110.0	0.364	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2
BGP282/292/392 LED40-4S/722	3520.0	32.0	110.0	0.416	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2
BGP282/292/392 LED45-4S/722	3915.0	36.5	107.3	0.474	0.042	0.032	0.032	0.023	128.1	97.6	97.6	70.2
BGP282/292/392 LED50-4S/722	4400.0	38.5	114.3	0.5	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED54-4S/722	4752.0	42.0	113.1	0.545	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED56-4S/722	4928.0	43.5	113.3	0.565	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED60-4S/722	5220.0	47.0	111.1	0.61	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2
BGP282/292/392 LED65-4S/722	5742.0	51.0	112.6	0.662	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED70-4S/722	6090.0	56.0	108.8	0.727	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2

BGP282/292/392 LED75-4S/722	6536.0	60.0	108.9	0.779	0.042	0.032	0.032	0.023	128.1	97.6	97.6	70.2
BGP282/292/392 LED80-4S/722	6960.0	61.0	114.1	0.792	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED85-4S/722	7482.0	66.0	113.4	0.857	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED90-4S/722	7740.0	70.0	110.6	0.909	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2
BGP282/292/392 LED94-4S/722	8084.0	74.0	109.2	0.961	0.041	0.031	0.031	0.023	125.1	94.5	94.5	70.2
BGP282/292/392 LED99-4S/722	8600.0	78.0	110.3	1.013	0.042	0.032	0.032	0.023	128.1	97.6	97.6	70.2
BGP282/292/392 LED109-4S/722	9350.0	88.0	106.2	1.143	0.042	0.032	0.032	0.023	128.1	97.6	97.6	70.2
BGP282/292/392 LED14-4S/830	1232.0	10.4	118.5	0.135	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED16-4S/830	1408.0	11.8	119.3	0.153	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED18-4S/830	1584.0	13.2	120.0	0.171	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED20-4S/830	1760.0	14.8	118.9	0.192	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED22-4S/830	1936.0	16.4	118.0	0.213	0.039	0.029	0.029	0.021	119.0	88.5	88.5	64.0
BGP282/292/392 LED25-4S/830	2200.0	17.6	125.0	0.229	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED27-4S/830	2376.0	18.8	126.4	0.244	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED30-4S/830	2640.0	21.0	125.7	0.273	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED35-4S/830	3045.0	24.5	124.3	0.318	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED40-4S/830	3480.0	28.5	122.1	0.37	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED45-4S/830	3915.0	32.0	122.3	0.416	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED50-4S/830	4350.0	36.0	120.8	0.468	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED54-4S/830	4698.0	39.5	118.9	0.513	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED56-4S/830	4872.0	38.5	126.5	0.5	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED60-4S/830	5220.0	41.5	125.8	0.539	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED65-4S/830	5742.0	45.0	127.6	0.584	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED70-4S/830	6090.0	49.0	124.3	0.636	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0

BGP282/292/392 LED75-4S/830	6536.0	53.0	123.3	0.688	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED80-4S/830	6880.0	57.0	120.7	0.74	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED85-4S/830	7396.0	58.0	127.5	0.753	0.035	0.026	0.026	0.019	106.8	79.3	79.3	57.9
BGP282/292/392 LED90-4S/830	7740.0	62.0	124.8	0.805	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED94-4S/830	8084.0	65.0	124.4	0.844	0.036	0.027	0.027	0.02	109.8	82.3	82.3	61.0
BGP282/292/392 LED99-4S/830	8600.0	69.0	124.6	0.896	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED109-4S/830	9350.0	77.0	121.4	1.0	0.037	0.028	0.028	0.02	112.8	85.4	85.4	61.0
BGP282/292/392 LED119-4S/830	10200.0	85.0	120.0	1.104	0.038	0.028	0.028	0.021	115.9	85.4	85.4	64.0
BGP282/292/392 LED130-4S/830	10920.0	94.0	116.2	1.221	0.039	0.029	0.029	0.021	119.0	88.5	88.5	64.0
BGP282/292/392 LED135-4S/830	11205.0	99.0	113.2	1.286	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1
BGP282/292/392 LED139-4S/830	11620.0	102.0	113.9	1.325	0.04	0.03	0.03	0.022	122.0	91.5	91.5	67.1

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

